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Monitoring and Evaluating Citizen-Agency Interactions: A Framework Developed for Adaptive Management

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As the Forest Service and the Bureau of Land Management turn toward ecosystem and adaptive models of forest stewardship, they are being called on to develop meaningful and lasting relations with citizens. These new management styles require not only improved strategies for public involvement but also methods to examine the interactions between citizens and agencies in order to learn from such experiences. Using the general principles of adaptive management-which stress monitoring, evaluation, and adjustment-this report provides a comprehensive framework to help agency personnel and citizens to work together. This report describes the adaptive management concept, summarizes research about the goals and characteristics of successful public involvement, and lays out a framework for monitoring and evaluating citizen-agency interactions. Although designed for adaptive management settings, the framework is well suited to other situations where improving these interactions is a priority.

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Abstract

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As the Forest Service and the Bureau of Land Management turn toward ecosystem and adaptive models of forest stewardship, they are being called on to develop meaningful and lasting relations with citizens. These new management styles require not only improved strategies for public involvement but also methods to examine the interactions between citizens and agencies in order to learn from such experiences. Using the general principles of adaptive management—which stress monitoring, evaluation, and adjustment—this report provides a comprehensive framework to help agency personnel and citizens to work together. This report describes the adaptive management concept, summarizes research about the goals and characteristics of successful public involvement, and lays out a framework for monitoring and evaluating citizen-agency interactions. Although designed for adaptive management settings, the framework is well suited to other situations where improving these interactions is a priority.

Keywords: Adaptive management, public involvement, monitoring, evaluation.

Summary

As laws and public interests change, the Federal land management agencies have struggled to find effective ways to interact with citizens. Particularly with the adoption of ecosystem and adaptive management models, Forest Service and Bureau of Land Management personnel are being called on to develop meaningful relations with citizens. This report addresses this persistent need to learn about and improve citizen-agency interactions. It uses the general principles of adaptive management and draws from the considerable body of public involvement research to introduce a framework for monitoring and evaluating interactions. This report is intended for agencies that are either just initiating a public engagement program or wish to improve upon an existing one. It is organized to provide public agency forest professionals with the background and framework to establish and maintain successful relations with their stakeholders.

The adaptive management process is ideally suited for citizen-agency interactions. Adaptive management involves planning, acting, monitoring, and evaluating—a continuous process where one tries to learn from experiences and adjusts actions accordingly. Communications between managers and the public do not occur in isolation from one another; they are tied to previous interactions and overlap concurrent ones. We continually adapt to one another depending on the feedback from these exchanges. The context or situational aspects of interactions also greatly influence public processes and outcomes. It is important to pay attention to the specific characteristics of the management setting and the participants involved; these are often the reasons citizens choose to become involved in the first place. It is therefore natural that in a continuing process of communication we monitor our experiences, learn from them, and adapt based on our evaluations.

To facilitate learning, this report provides an indepth review of the research on citizen-agency interactions as a primer for forest professionals. It includes recent examples from adaptive management areas (AMAs) in the Pacific Northwest that directly address the challenges of public engagement in adaptive management settings. From this synthesis, two conceptual levels emerge from which to monitor and evaluate interactions. The first involves the broad goals, or desired outcomes, of productive interactions. In general, we want to (1) improve the quality of decisions, (2) reach decisions that enjoy increased public support, (3) contribute to building long-term relations, (4) incorporate citizens' ideas and knowledge in decisions, and (5) learn, be innovative, and share results with others. The second level reflects the more specific characteristics of successful interactions. These include numerous steps, such as starting interactions early, including all relevant and interested parties in discussions, using a variety of mechanisms, providing open and sincere leadership, helping people understand how decisions are made, following through on decisions, and so on. These characteristics may be viewed as objectives for successful interaction and, as such, can be monitored and evaluated as factors to achieving broader goals. The final section of this report outlines the framework for monitoring and evaluating agency interactions with citizens. It strongly encourages the use of "up-front thinking," or what Delli Priscoli and Homenuck (1990) describe as taking place when agency personnel carefully think through and agree on a strategy for involving citizens prior to actually engaging them.

During implementation, the framework encourages thorough examination of interactions by using a questioning technique designed to provoke thought and discussion among participants. It is largely a qualitative approach based on a set of discussion points designed for each of the phases of the adaptive management process: plan, act, monitor, and evaluate. The framework is flexible in that assessment teams select discussion points relevant to the goals, objectives, and contextual situation of the public process or project. Evaluators consider each action and subsequent adjustment as part of the adaptive process, rather than as isolated activities completed and then forgotten.

We also offer six principles to guide successful application of the framework:

- Agency and citizen representatives should collaborate as an assessment team
- Processes are intended to be iterative and cumulative
- Documentation should be in a descriptive (text) format
- Documentation provides extensive details about context
- Information is recorded through multiple methods
- Information is widely shared

We expect that this monitoring and evaluation framework—in particular, the discussion points—will continue to be adjusted as citizens and agency personnel learn together over time. It has been constructed with the knowledge that there is no shortcut to effective long-term interactions. Building lasting, durable relations takes not only substantial commitment but also considerable organizational support, the allowance of mistakes, and willing participants.

Contents

Introduction

Since the 1970s, as laws and public interests have changed, Federal land management agencies such as the Forest Service and the Bureau of Land Management (BLM) have struggled to find effective ways to include citizens in planning and decisionmaking. In the past, attention often was on the relatively formal public involvement or public participation process. But, as these agencies turn toward ecosystem and adaptive management models of forest stewardship, they are being called on to develop meaningful and lasting relations with citizens. At the same time, these new management styles require improved methods to examine interactions between citizens and agency personnel in order to learn from such experiences. This report provides such a method. Using the general principles of adaptive management—which stress monitoring, evaluation, and adjustment—and drawing from the considerable body of public involvement research, we have constructed a comprehensive framework to help agency personnel and citizens work together.

This report is organized to provide public agency forestry professionals with the background and resources needed to establish and maintain successful relations. The first section, "Integrating Citizen-Agency Interactions," describes important concepts that become the foundation for the framework introduced later. It summarizes the adaptive management concept and introduces the key elements of monitoring and evaluation. It also describes the creation of adaptive management areas and their role as places to learn how to manage on an ecosystem basis.

The section, "Citizen-Agency Interactions: Goals, Characteristics, and Influential Factors," is a primer on public involvement in natural resource settings. It summarizes research about the goals and characteristics of successful interactions and discusses contextual factors that can facilitate or hinder communication with citizens. The purpose of this section is to provide forest managers with a summary of important research findings as well as anecdotal information describing situations most like their own. A list of the key characteristics of successful interactions is included as a useful reference for managers seeking ways to build a public engagement program or for those who wish to improve an existing one.

The final section builds on the previous discussion to lay out a framework, or strategy, for monitoring and evaluating interactions. It includes an explanation of the concepts behind the framework and six principles to guide its application. It also provides a practical stepwise approach for implementation and offers ideas and advice for shaping a successful monitoring and evaluation program. Although the framework is designed for adaptive management settings, it is well suited to other situations where improving citizen-agency interactions is a priority.

Integrating Citizen-Agency Interactions

Adaptive Management

The adaptive management process is defined as “an approach to natural resource policy that embodies a simple imperative: policies are experiments; learn from them” (Lee 1993:9). Adaptive management involves planning, acting, monitoring, and evaluating–a continuous process where one tries to learn from experiences and adjusts actions accordingly. Lee (1993) recognizes that managing ecosystems should rely not only on traditional science but also on civic science. Noting there are dilemmas implicit in pursuing science in a political setting, he asserts that our methods “should be irreducibly public in the way responsibilities are exercised...open to learning from errors and profiting from successes” (p. 161).

Figure 1 illustrates how an adaptive process might work. Existing knowledge, technology, inventory, and goals are used to develop plans. In the case of citizen-agency interactions, for example, existing knowledge might include information held by local citizens about a project site or the understanding by agency personnel of the social networks in the region. Existing inventory might be in the form of public comments or working groups from past projects. “Act” represents action being taken, such as holding meetings to discuss a project. “Monitor” and “evaluate” are key aspects of an adaptive management system. The results of actions are carefully monitored and evaluated so that learning takes place and progress is made. In addition, unexpected events or outcomes (surprises) likely will enter the process. This new information might require adjustment or contribute to learning. “Fundamentally, adaptive management is the application of the scientific principle of feedback and adjustment, of identifying and evaluating new information, and adjusting to improve implementation and to achieve...goals and objectives...” (USDA and USDI 1994:E-15).

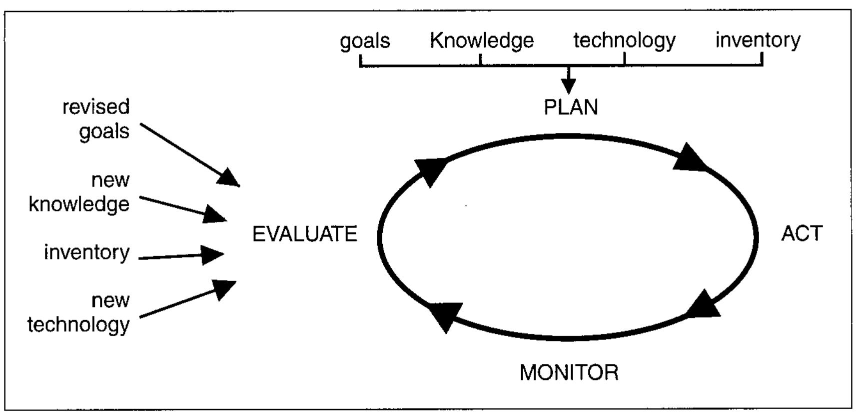

Figure 1—Adaptive management is a continuous process where one learns from experiences and adjusts actions accordingly. Source: USDA and USDI 1994:E-14.0

Although clear stages are identified in figure 1, this is not a simple linear process. Particularly with public interaction, an adaptive process may not have well-defined stages where activities are clearly separate, each with a distinct beginning and end. It is a continuous and iterative process where people experiment, learn, feed this learning back into their work, and make adjustments. A planning team may implement a plan, monitor what happens, reflect on this outcome, and decide that adjustments need to be made. This can take place quickly within a single project or across many interactions over a long time, and with many adjustments.

An adaptive management process is ideally suited for citizen-agency interactions because communications between managers and the public do not occur in isolation from one another. They are influenced by the history (occasionally called baggage) tied to previous interactions, and they overlap concurrent interactions. In a continuing process of communication, people can learn and adapt based on feedback from these exchanges. Instituting a formal monitoring and evaluation program facilitates this adaptive process.

Monitoring and evaluation—Monitoring and evaluation are distinctly separate, albeit interlocking, steps in the adaptive management process. Monitoring has been considered "the tool for obtaining...data"[1] and "an essential component of natural resource management because it provides information on the relative success of management strategies" (USDA and USDI 1994:E-1). Monitoring is a necessary but not a sufficient activity. Evaluation is the requisite companion activity and is "the tool for translating [data] into useful information" (see footnote 1). Together, monitoring and evaluation are tools that help determine whether programs are effective. They focus on measuring outcomes against predetermined goals and criteria for success. Additionally, the concept of adaptive management acknowledges the need to manage resources under circumstances that contain varying degrees of uncertainty, and the need to adjust to new information (USDA and USDI 1994). When used as part of an adaptive management system, monitoring and evaluation activities can help facilitate learning and improve the effectiveness of programs.

Although evaluation tends to focus on outcomes, it is useful also to pay attention to the process and context of interactions. This is important for two reasons. First, process involves how tasks are dealt with and often is based on group dynamics. This includes people's willingness to work together, setting objectives, and how the group organizes itself for the work ahead. Small procedural steps taken to improve an immediate planning process will contribute to larger, long-term goals. Managers might, for example, make simple changes in their interactions with citizens, such as sending out reading materials in advance of meetings so participants can be better prepared. This may improve the quality of the current planning process, and it also is likely to pay dividends in the long-term relations by contributing to trust and respect among all involved.

Second is the idea that context can influence processes and outcomes. It is important to pay attention to the situational aspects of interactions, such as a unique characteristic of the local management setting or the specific interests of the participants involved. Contextual factors are the most essential elements for citizens, often being

[1] U.S. Department of Agriculture. 1996. Inventory and monitoring research (FY 1998 budget). 2 p. Unpublished document. On file with: USDA Forest Service, Pacific Northwest Research Station, P.O. Box 3890, Portland, OR 97208.

the reason they choose to become involved. When we fail to recognize the context in which actions are taken, we may miss the point of citizen-agency interactions altogether.

Monitoring and evaluation should allow room to learn from surprises (unintended outcomes). Although being flexible and open to surprises is important, this also means that clear documentation is needed regarding intended outcomes, so that differences between what was expected and what actually happened are recognized and contribute to learning.

Success in the adaptive management context—In the adaptive management context (or in any other management setting), success can mean different things to different players (e.g., agency personnel, citizens, researchers) and can even be defined in different ways for a single situation. Most often, success is found in tangible outcomes: completing an important project or reducing the amount of appeals and litigation. Success also is found in less tangible outcomes, such as when mutual learning among the parties occurs, better relations are built with stakeholders (Wondolleck and Yaffee 1994), or trust among parties is improved. In these cases it is clear that success may not need to result in solving "the problem." Daniels and Walker's (1996) collaborative learning framework for public participation encourages reframing problems such that results are measured in terms of progress rather than by some absolute standard of success. Improvements become an important focus rather than definitive solutions.

Finally, success may materialize in unexpected ways not tied to any predetermined goal or objective. Adaptive management embraces the idea that we operate in an inherently uncertain world, so an adaptive management system is alert to and facilitates learning from surprises, as "surprises are legitimate, rather than signs of failure, in an experimental framework" (Lee 1993:65). For any given project, it may be a mistake or a failure that contributes most to overall success in terms of how much we learn. Because adaptive management is about experimentation and about learning, failures do not exist in the traditional sense (Lee 1993). In this report, we recognize these different perspectives and the many ways that success can be manifested.

Adaptive Management on Federal Lands

To end gridlock over management of the Federal forests in the Pacific Northwest, President Clinton convened a forest conference in Portland, Oregon, in spring 1993. The Forest Ecosystem Management Assessment Team (FEMAT) was asked to use an ecosystem approach to forest management to "identify management alternatives that attain the greatest economic and social contribution from the forests of the region and meet the requirements of the applicable laws and regulations" (FEMAT 1993:ii). Standards and guidelines in the resulting record of decision (ROD; USDA and USDI 1994) incorporate the concept of adaptive management. Adaptive management has since been embraced as a critical element of any ecosystem-based strategy. The concept "applies to all lands administered by the Forest Service and the BLM" (USDA and USDI 1994:E-13) in western Oregon, western Washington, and northern California.

The final plan incorporated the concept of adaptive management areas (AMAs). Ten AMAs (see fig. 2) were established on Federal lands as "specific areas dedicated primarily to the objective of development and testing of new approaches for integration and achievement of ecological and economic health, and other social objectives" (USDA and USDI 1994:E-13). The AMAs are intended to "provide a geographic focus for innovation and experimentation with the intent that such experience will be widely shared" (USDA and USDI 1994:D-2). Establishment of the AMAs recognizes the importance of citizen involvement, particularly by local communities near Federal lands. Social objectives for the AMAs are explicit in calling on local groups, land owners, and citizens to work with agency personnel to develop innovative management approaches.

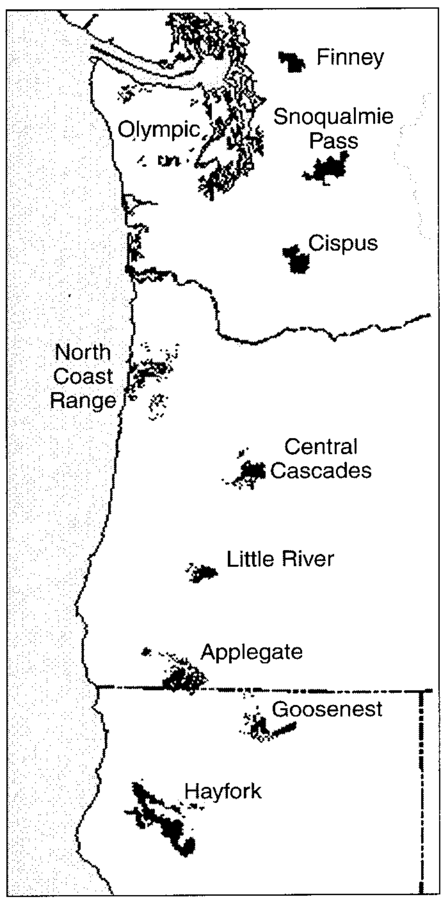

Figure 2—A system of 10 adaptive management areas (AMAs) was established in 1994, following adoption of the Northwest Forest Plan.

The Federal forests of the Pacific Northwest are the backdrop for this report, and throughout the paper we will return to examples from AMAs to illustrate points. The framework presented in the final chapter is general in nature, however, and has broad applicability across many settings.

Learning, innovation, and AMAs

The terms learning and innovation are used repeatedly in reference to adaptive management. Learning is defined by The World Publishing Company (1966) as "the acquiring of knowledge or skill," and innovation is "to alter, to make new, to introduce new methods, and devices or make changes." These definitions seem to include not only the invention of new ideas but also the application of ideas to situations where they have not been previously tried and the modification of existing methods. In addition, creativity seems to be implied by the use of the term "innovation." At AMAs, citizens and agency personnel are being called on to be creative, to take risks, to try new things–to experiment–and to acquire new knowledge and share what they have learned with others.

Citizen-Agency Interactions: Goals, Characteristics, and Influential Factors

This section provides an in-depth review of research about citizen-agency interactions. It starts with a discussion of broad goals, moves to the more specific characteristics associated with successful interactions, and then to contextual factors that either facilitate or impede interactions. It concludes with a list summarizing important elements for success. Our purposes are to provide professionals in an adaptive management setting with a common starting point to assist in formulating their own approach and to provide a context for the framework outlined in the next section.

Broad Goals

> Perhaps the issues are, as they have been from 1789 on, issues of controlling government, assuring sound and wise decisions, providing for due process, protecting minority views, establishing responsibility and responsiveness, seeking equity, and striving for the public interest.
>
> Wengert 1976:39

Before examining the specific attributes characterizing or indicating success in citizen-agency interactions, it is useful to provide a discussion of the reasons for such interactions. In a synthesis of public involvement research, Lawrence and Daniels (1996) describe goals articulated over time by different researchers, practitioners, and citizens as falling into two distinct categories: (1) to arrive at decisions that better achieve resource management goals, and (2) to come to decisions that enjoy increased public support.

In the first case, the concern is with decisions being "objectively better" (Lawrence and Daniels 1996). In other words, the quality of decisions is improved in part by giving citizens the opportunity to provide relevant information (Cuthbertson 1983). For example, involving citizens can help reveal issues of concern, lay the groundwork to understand public values associated with those issues, and provide a way to explore a full range of alternatives, along with the possible consequences of those alternatives. Thus, sharing knowledge and learning together can enhance the quality of decisions.

In the second case, decisions are perceived by participants to be "subjectively better" (Lawrence and Daniels 1996). As their distrust of bureaucracies grows, citizens are increasingly demanding opportunities to participate in decisionmaking processes. Decisions made with public participation may have increased support because people are more likely to accept the outcome of a process that they perceive as fair (Knopp and Caldbeck 1990). In contrast, Creighton (1983:4) challenges the idea that "a participative decision-making process bestows legitimacy on the context of the decisions made," noting that if the person or persons participating feel as though their survival is at stake, "no amount of participation in the decision-making process will substitute for getting the answer out of the process which that group needs to continue." This point of view might be true in extreme cases, where people are highly ideological or their livelihoods depend on the outcome of a decision. However, Lawrence and others (1997) argue that the procedures used to come to decisions, not just the decisions themselves, are important to people. They note that "regardless of outcomes, failure of procedures to comport with societal norms of fairness will result in disaffection" (p. 587). Thus, public participation (including giving citizens a chance to state their views and providing feedback to them) might not be sufficient to ensure public acceptance of decisions, but it does seem to be a necessary component.

Researchers agree that an essential overriding principle in any public process is that citizens should be able to see evidence that their comments or suggestions are incorporated into decisions, that their input is actually used in decisionmaking (Blahna and Yonts-Shepard 1989, Lyden and others 1990, Shindler and Neburka 1997). People should be able to trace the steps used in coming to a decision and, as a result, have a better understanding of it. In other words, decisionmaking should be transparent.

> A distinction is made between simply listening to the public versus actually allowing them to influence the land-use or resource allocation. This distinction is hard to establish. As long as the ultimate decisions, the tradeoffs, occur in a black box, no one on the outside can be sure that the public has any influence.
>
> Knopp and Caldbeck 1990:14

Goals for public participation often focus on outcomes related to decisionmaking. Another way to look at citizen-agency interactions is to focus on the relations built during the interaction process.

> For public agencies, the real product of planning is not the plan, but an enduring relationship with the agency's constituents, clients, and customers. Properly done, the benefits of public involvement will continue long after a plan is complete or the decision made.
>
> Shands 1992:364

There are different reasons for working to improve interactions with citizens; some are outcome oriented, and others involve processes such as building relations. Perhaps the most basic reason for agencies to interact with citizens is simply the democratic idea that "people should have the right to influence decisions that affect their lives" (FEMAT 1993:VII-99). The goals mentioned here are not incompatible: multiple goals can be pursued simultaneously, often with one providing the foundation for another; for example, building good relations over the long term improves both the quality of decisions and the level of support for these and future decisions.

Characteristics of Successful Citizen-Agency Interactions

Examples of successful public involvement can be found in wide-ranging situations and circumstances. In each case, site-specific conditions influence outcomes, so duplicating a particularly effective public process elsewhere may not be practical. Researchers, however, have identified common characteristics among successful interactions. These basic characteristics have been organized below into six categories and their merits described individually.

Inclusive—Public involvement is usually considered more successful if the processes used include all affected parties and garner broad representation (Blahna and Yonts-Shepard 1989; FEMAT 1993; Lawrence and Daniels 1996; Stankey and Shindler 1997). Having an open, easily accessible program where citizens are encouraged to speak up is important, because we cannot "assume that volunteer organizations or public interest groups will adequately or fairly represent the total spectrum of public values" and because "...there is no absolute standard by which to determine whether a fair balance has been reached" (Knopp and Caldbeck 1990:14). Thus, having a variety of mechanisms and forums for involving people is essential to reach different segments of the population who have differing abilities or resources to participate.

The notion of inclusiveness begs the question of how "inclusive" decisionmaking processes actually need to be. Some researchers even argue that broad representation may not be an essential criteria for public involvement: "In a democracy, participation is voluntary and therefore is not expected to be representative of all segments of the general public" (Cuthbertson 1983:102). The issue, however, is not whether all groups are represented, but whether those affected by or interested in the outcome of a decision are given the opportunity to participate. Creighton (1983:5) seems to concur, challenging the idea that "the failure of a significant ethnic or social group to participate is a sign of failure of a public involvement program." While acknowledging that people might not be involved because they are not fully aware of their self-interest in an issue, he asserted it could be equally argued that people are aware but choose to focus their energies on other priorities. Either way, public agencies are responsible for informing people about the effects decisions may have on them and for providing opportunities for participation.

The inclusiveness issue thus may be related more to the quality rather than the magnitude of participation. Cuthbertson (1983:105) offers this view:

> One attempt may be to evaluate public participation in terms of amount of participation or participants, but this can lead to overlooking a fundamental principle of public participation, which is that breadth and quality of the public's contributions are more important to decisionmaking than quantity. Having a large number of participants makes it more likely—but does not guarantee—that decision makers receive needed pertinent data.

Interactive and sincere leadership—Traditional public involvement in forest planning has often meant impersonal communication, such as submission of written comments or meetings conducted with one-way flow of information. But in today's politically charged climate—where trust in decisionmakers is a central issue—personal, interactive forms of public involvement are judged to be more effective (Blahna and Yonts-Shepard 1989, Lawrence and Daniels 1996, Shindler and Neburka 1997).

> Participation must mean full participation or else it is no participation in reality. The word participation does not lend itself very well to degrees.
> Bolle 1971:501

Interactive processes require strong, sincere leadership. Most successful public processes can be traced to the presence of one or two (agency) individuals who are not just good leaders but also demonstrate genuine interpersonal skills. Productive interactions begin with agency staff who understand the need to speak the public's language and learn about public concerns and ideas, rather than simply trying to "educate" people about agency programs (Brunson 1992, Magill 1991). Not only do citizens want the chance to ask questions, discuss issues, and provide input, but they also expect agency personnel to listen to what they say and to be honest, open, and respectful (Shindler and Neburka 1997).

Unfortunately, agencies often view their outreach role as solely to develop information and provide it to the public; but trying to "educate the public" is often ineffective, as Jamieson (1994:26) notes:

> Generally programs that provide information are not very successful in improving understanding or changing behavior. Serious thought must be given to what it means to educate both the public and the policy-making community, as opposed to delivering brochures or reports. People tend to respond to stories, analogies, examples, and so on. Education is more likely to occur in the context of a personal relationship than in anonymous information-provision.

Situations that promote genuine cooperation between parties and genuine are considered successful for several reasons (Wondolleck and Yaffee 1994). Sincere, interactive communication can result in mutual learning where all parties share and learn from one another (McCool and others 1986). Such interactions often result in citizens' enhanced understanding of natural resource issues, increased support for decisions, or greater ownership in a project. In turn, they can foster in agency personnel an understanding of citizens' values and ideas while building public trust in agency actions (Wondolleck and Yaffee 1994). At the most basic level, the experience of getting to know the other side provides beneficial cumulative outcomes that contribute to the group's ability to work together (Shindler and Neburka 1997, Wondolleck and Yaffee 1994).

An example from the Hayfork Adaptive Management Area in northern California, highlights the importance of interactive processes and the inadequacy of traditional one-way transmission of information. To examine the issue of trust, Cvetkovich (1995) conducted a survey of citizens attending an AMA meeting where agency researchers presented their plans for research. He found that citizens' knowledge of the proposed plans was one predictor of their trust in the researchers. But, he concluded that "...solely focusing on increasing the public's knowledge is short sighted....Words, actions, and interactions that promote a sense of shared values would seem to be more conducive of trust" (p. 26).

Wesley (1995) notes that it is often difficult to institutionalize the work of collaborations that originated through the efforts of a leader or "visionary." The endurance of such collaborations becomes a problem if the group loses its leader. For example, Wondolleck and Yaffee (1997) found that the failure of a collaborative effort often is associated with the loss of a key person; however, they also found that success could be sustained despite such a loss if care was taken to replace that individual by someone with a similar collaborative philosophy and replacement was done in a timely, well-planned fashion.

Innovative and flexible—Success has been documented in Forest Service bridging efforts when the public was involved in new and different ways. For example, Wondolleck and Yaffee (1994) found well-supported, innovative efforts across the country that included the public in more meaningful discussion, proactively established relations with local people, capitalized on the media for positive interactions, and reframed problems to meet broader objectives and interests.

Freedom to attempt innovative strategies is essential to making adaptive management work. Just before formation of the Central Cascades AMA in Oregon, the staff there used a creative process to select group members for participation in drafting a new wilderness management plan. They used a criterion-based application process conducted by interest groups rather than basing membership solely on interest group affiliation and ending up with individuals who tended to represent positions (Shindler and Neburka 1997). The criteria used included knowledge of relevant issues, willingness to actively participate, and willingness to commit to a year of meetings. Staff found it helpful to have stable, ongoing relations, where they did not have to spend time at each meeting covering old information for new members. This process was similar to one used to select task force members for a project in the Hells Canyon National Recreation Area on the Idaho-Oregon border. In that case, individuals had to be able to represent the interests of his or her constituency, be knowledgeable about the recreation area, be willing to make a substantial time commitment, and be able to work with people who held differing views (Krumpe and McCoy 1991).

Flexibility in how citizen-agency interactions are approached also is important (Sewell and Phillips 1979) and seems particularly relevant in the context of adaptive management. Public involvement can be more effective if processes are adapted in particular situations and are based on the specific objectives of a project (see "Contextual Factors That Facilitate or Impede Interactions," below, for a full discussion). For example, early public meetings for the Little River AMA, southern Oregon, were disrupted by local states' rights advocates, which led agency personnel to reevaluate the large public meeting approach. The current public involvement strategy for this AMA is an adaptation to the interests of local groups and individuals. The new strategy stresses integration of existing groups, agencies, and partners.[2]

Early plus continuous equal enduring—Bolle (1971:501) observed that public participation is an integral part of agency planning and decisionmaking, not a separate planning device:

> The decision process, which is fundamental to policy and program formulation, consists of several steps: problem identification, goal determination, identification and analysis of alternatives, decision, action, feedback and re-analysis, etc. The emphasis is on process. But note well, the question is not in which steps of the process the public should participate. To raise that query is ridiculous. If there is participation at all it must be within all the process itself—all aspects of the process or none.

When the public is consulted in a piecemeal fashion, or late in the planning process, this suggests that the agency has already made a decision or, worse, that it has something to hide. In practice, Federal agencies often have been slow to invite the public into the planning process. Either through habit, reluctance, or lack of understanding about the potential benefits, staff have not engaged the public early enough to fully incorporate ideas from citizens or gain their trust. Little public ownership accrues in decisions made through such practices.

The need to bring the public in early, however, is secondary to what Delli Priscoli and Homenuck (1990) term "up-front thinking." They argue that agencies should first dedicate internal resources to planning public participation processes, and they offer a set of questions to help personnel organize their efforts (p. 74):

> How will decisions be made?
> What do you hope to accomplish with the public?
> What does the public need to know to participate effectively?
> What do you need to know from the public?
> Who is "the public" for this issue?
> What special circumstances exist?

Carefully thinking through the public involvement process in advance can help avoid costly problems later when citizens become actively engaged. This approach suggests, of course, that a fine line exists in knowing how to balance preparatory work with ensuring that the public is invited to the process early enough to help define goals.

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[2] Personal communication. 1997. Barbara Fontaine, Umpqua National Forest, 18782 N. Umpqua Highway, Glide, OR 97443.

Agencies help to sustain successful interactions by being flexible and rewarding collaborative efforts. When Wondolleck and Yaffee (1997) revisited successful Forest Service bridging efforts, they found that good relations—including mutual understanding and trust—were more likely to have been sustained over time when there was continuity in personnel and philosophy, agency commitment, a focus for the group, and a mechanism in place to maintain communication. The authors warned, "The choice here is clear: either commit necessary resources to foster collaborative work or do not embrace collaboration as a mode of operation" (p. 20).

Designed with fundamental organizational strategies—Research suggests that success often comes from designing and implementing interactions using sound, basic organizational planning strategies. The most fundamental method involves setting good objectives. For example, Shindler and Neburka (1997) found that agency-citizen groups are much more successful when their purpose is defined and the end product is identified at the outset. Delli Priscoli and Homenuck (1990:73) point out that "a prerequisite to good public consultation...is that the agency itself understands what decisions are going to be made, by whom and in what way, and then communicates these facts to the public." Several additional successful attributes emerged from Shindler and Neburka's (1997:18-19) research in communities surrounding the Central Cascades AMA:

- Groups in which the decisionmaker has a regular presence believe their contributions are taken more seriously by the agency.
- Working with current and reliable information adds considerably to a credible process.
- The "care and feeding" of participants is important. Such things include advanced distribution of meeting materials, clearly defining forestry terms to be used, prompt and direct answers to citizens' questions by appropriate staffers, and even snacks at long meetings.

There seems to be a common message in these ideas, one recognized by both agency and citizen participants: basic organizational skills, attention to detail, commitment to constituents, and good leadership—all things people normally expect from our natural resource agencies—often mean the difference between success and frustration (Shindler and Neburka 1997).

Result in action—Citizens value the opportunity to participate in planning activities, but they also expect that something actually will result from their participation efforts. Interactions are more meaningful to both citizens and agency personnel when people can see on-the-ground progress, such as completion of a project, improvement in resource quality, or the provision of a public service (Wondolleck and Yaffee 1994). Citizens also want to know that someone at the agency is accountable for the plan or project and want to see them follow through on it (USDA 1996). Nothing speaks louder to people than seeing their efforts turn into action. When agency personnel and citizens are able to achieve small successes, building on these interactions is a natural progression that sets the foundation for long-term relations.

Contextual Factors That Facilitate or Impede Citizen-Agency Interactions

Along with identifying characteristics of success, recognizing various factors that either facilitate citizen-agency interactions or act as barriers also is important. Knowledge of these factors contributes to our understanding of the context in which citizen-agency interactions take place. By context, we mean the specific circumstances of a setting that contribute to particular outcomes, such as a community's history with certain management practices, previous agency-community relations, or the mix of newcomers and long-time residents. A synthesis of the research on contributors and impediments to effective interaction can be summarized in three categories: (1) management setting and community characteristics, (2) agencies and institutions, (3) attitudes, skills, and relations.

Management setting and community characteristics—Today, no one undertaking citizen-agency interaction efforts starts with a clean slate. Every Forest Service or BLM management unit has its own unique set of identifiable attributes, as well as a history that can be linked to surrounding communities and to Federal forests in general. A clear understanding of past and current relations can be extremely important for agency personnel who engage their stakeholders.

Examples of positive interactions should be relatively easy to identify. In their search for excellence in the Forest Service, Wondolleck and Yaffee (1994) found 230 such cases. They noted the existence of prior productive working relations is a factor in the success of agency efforts to connect with other parties (Wondolleck and Yaffee 1994). For example, the unique characteristics of the Applegate communities in Oregon, including their economic and social diversity and strong local leadership, contributed to the initial success of the Applegate partnership. A more subtle contributor to positive relationships is the degree to which agency employees have been involved in their community as individual citizens. In rural forest communities, for instance, Forest Service personnel frequently are involved in school programs, neighborhood events, or other volunteer activities where they are seen as caring, approachable people. The fact that resource professionals have traditionally acted in responsible leadership roles as "ordinary citizens" should not be overlooked; their actions contribute to how an agency is viewed locally (Shindler and others 1994).

These examples describe positive characteristics of existing situations, but other conditions may pose challenges to collaborative efforts. Some are directly related to the agencies themselves, such as previous polarization over forestry decisions or growing distrust of Federal agencies; however, others are simply artifacts of the greater community–the presence of diverse environmental and economic interests or previous attempts by "outside" organizations to stall projects. In one well-documented example, the process through which the AMAs came about is problematic for many citizens and agency personnel alike (Stankey and Shindler 1997). The AMAs were an idea born of FEMAT, and the FEMAT process has been criticized as a scientific exercise largely excluding managers and citizens. Thus, the AMAs are:

> ...problematic among citizens who played no role in establishing boundaries, who had no role in discussions about the purposes and functions of such areas, and who now are confronted with yet another "bureaucratic allocation." It is problematic for managers; AMAs were imposed on them through the FEMAT process (in which they did not participate) and forced them into new alliances (e.g., partnerships across jurisdictional lines).
>
> Stankey and Shindler 1997:8-9

This lack of ownership in the management setting (e.g., an AMA) can be a considerable barrier, especially when people (primarily managers) are being asked to be innovative and take risks.

Another example highlights the importance of boundaries, which carry considerable meaning for people. Although recognized geographic regions or existing relations offer important frames of reference for citizens, the extent to which planning or project boundaries build on these delineations differs. In the case of the AMAs, some are based on a major watershed (such as the Applegate in southern Oregon), and others are highly fragmented (such as the Olympic in Washington). The Central Cascades AMA probably carries considerable meaning for scientists and managers because of long-term relations with the H.J. Andrews Experimental Forest, which is located there. Yet, because this AMA includes several major watersheds and has access from three different state highways, it may have low recognition and few emotional attachments among citizens (Doak 1994, Stankey and Shindler 1997).

Agencies and institutions—

> Effective participation is essential by all affected publics if policy is to be determined without litigation, challenged administrative fiat, public confrontations, or the continuous process of public conflict with agency determinations that have dominated the arena within which land managers have found themselves operating. The initiative for change, in our opinion, still lies within the agencies. The changes required will come. The future will tell us whether the agencies will act as agents of change, or merely be the recipients of the changing social process that characterizes so much of American public life today. The wise foresee the future; it is our hope that public resource agencies find themselves wisely led today.
>
> Bolle 1971:504-505

It is important to remember that individual Ranger Districts, National Forests, and other land management units do not operate in a vacuum. Their personnel are part of natural resource agencies, each with a long history and a distinct, but changing, institutional culture influencing their ability to provide effective leadership. This culture has been well articulated by Cortner and others (1996) in a problem analysis on institutional barriers and incentives for ecosystem management. Several additional factors internal to our natural resource agencies are noteworthy as they affect the ability of personnel to maintain productive relations.

The level of administrative support and flexibility given to managers is critical to the success of their interactions with citizens. Reflecting a growing trend, citizen participants on the Tongass National Forest were concerned with the "top-down" management structure of the agency, which they felt interfered with the ability of the local staff to develop working relations with the public (Shindler and others 1994). More successful efforts, where agency personnel have been able to work across agency boundaries, often were the result of support from supervisors and coworkers (Wondolleck and Yaffee 1994) and included being responsive to outside ideas, requests, and needs; for example, a willingness by the agencies that stretched to "accommodate this new phenomena" contributed to the success of the Applegate partnership (Sturtevant and Lange 1995:14). A related administrative concern involves the ability of personnel to be creative and take risks, which are inherent to progressive management styles. Yet, few organizational incentives currently exist for such behavior. Accordingly, Stankey and Shindler (1997) call for a major shift in management culture toward one that encourages risk and accepts the occurrence of "failures."

Another factor is the need for each management unit to be accountable to a large, complex political system. As Wondolleck and Yaffee (1994) recognize, one barrier to successful citizen-agency interactions is political interference. In the case of the AMAs, Stankey and Shindler (1997) note the constant political pressure on agency personnel to produce results, yet they caution that successful implementation of adaptive management on the AMAs will take time. The Applegate AMA guide (USDI and USDA 1996:77-78) addresses this issue, describing how it might impact the ability of agencies to work collaboratively with citizens:

> Ideally, projects would be planned over a several year period to allow time for surveying plants, animals, cultural resources, etc. Productive interaction with neighbors would occur, and provide resource managers and concerned publics the opportunity to collaborate on landscape activities....The pressure following the completion of the Northwest Forest Plan to produce timber sales is understandable given the lack of sales for many years under the injunction. Landscape-level projects are now being produced in about one year. But the consequences of this push are significant. People are getting "burned out" with the constant aggressive pace. Relationships suffer. The quality of sale planning and community involvement suffers. Expectations are high among many residents in the Applegate watershed that they will have a number of opportunities for in-depth participation in projects over a long time. And the process for genuine collaboration takes more time than "public involvement" approaches used several years ago. Considering the short time frame of projects now being planned, the projects are very good and often reflect changes made after working with neighbors and other interested people. But in some cases the project development phase has felt extremely rushed without adequate time to interact with communities. There is concern expressed among many that this current "hand-to-mouth" project planning operation cannot be sustained. And, as a result, there is a high level of concern that the AMA objective of community participation and collaboration may not be possible in the current climate.

Another potential barrier to citizen-agency interactions is a lack of public trust in the Federal land management agencies. Issues of trust and credibility loom large for forestry professionals but are of particular concern to those attempting to include the public in management decisions.

Lack of trust is not unique to land management agencies; general distrust of the Federal Government is prevalent among American citizens (Leone 1994, Zinsmeister 1995). Concerns about trust and credibility will continue to be a primary focus for managers and their publics. Interpersonal trust—characterized in part by a person being able to believe what another says and to think that the other person is interested in joint gains, not just individual gains—is important to the functioning of groups, to decisionmaking, and to support for agencies. People also are more likely to believe information is credible if they trust the person supplying the information. Organizational trust, based on a belief that a process is fair, also is important. But, building trust is difficult; it takes time and requires many opportunities for parties to interact, to get to know one another, and for participants' voices to be heard. Trust is also fragile, requiring maintenance of contact between parties and diligent and ongoing attention (Moore 1996).

Finally, policy and administrative constraints can be inhibiting factors to successful interactions (Wondolleck and Yaffee 1994). The most notable has been the Federal Advisory Committee Act (FACA) (Sturtevant and Lange 1995, Wondolleck and Yaffee 1994). Recent concerns related to FACA began when FEMAT was challenged in court over how inclusive and representative its membership was, and it lost. Although there were no immediate impacts on the implementation of ideas from FEMAT (the agencies were allowed to proceed with implementation of the Northwest Forest Plan), there were immediate impacts in the communities where agencies were attempting to work with citizens. Agency personnel were advised to pull out of the Applegate partnership, causing significant disruption (Sturtevant and Lange 1995); over time, however, agency personnel have begun to more actively participate in the partnership (although they no longer serve on the board and are cautious to avoid potential FACA violations) (USDI and USDA 1996). The FACA is a barrier likely to need clear resolution before Federal agencies can feel secure in their actions and realize long-term success in their public planning activities (Stankey and Shindler 1997, Wondolleck and Yaffee 1994).

Attitudes, skills, and relations—Federal land management agencies are staffed by thousands of individuals having different experiences and perspectives. The attitudes and actions of these personnel affect citizen-agency interactions, indicating we should look closely at individual human resource issues, in addition to institutional ones. As noted earlier, messages from their supervising authorities (either encouraging or discouraging) are important and often set the tone for how employees approach citizen-agency interactions. Of equal importance in the adaptive management setting is the ability of individual staff members to seek out fresh, creative ideas and a willingness to try them. Wondolleck and Yaffee (1994) found that successful efforts crossing agency boundaries occurred where dedicated, open-minded Forest Service personnel were willing to try innovative approaches suited to their particular circumstances and were supported in their efforts to do so. Conversely, fears, lack of trust, and resistance to change were barriers to successful efforts.

Other researchers have assessed the ability of agency personnel to respond to evolving agency-public interactions. Magill (1991) focused on certain attitudes and behaviors of natural resource professionals as barriers to effectiveness. He recognized that the utilitarian and independent characteristics of resource professionals contribute to several problems. First is an attitude of "we know best," where professionals doubt the validity of public input and feel that the public is unknowledgeable. Second is a feeling that resource professionals are above politics. Magill states (1991:16) that "...even though foresters are not politicians, they must operate within a political world. Familiarity with certain political skills is necessary in order to make sound nonmarket decisions." Third is the use of technical jargon, which discourages "the public's expression of emotional values when presenting their views about resource management" (p. 16); for example, reactions by agency professionals to particular situations might be primarily cognitive, or intellectual, while reactions by citizens can often be affective, or emotional. Agency personnel need to understand these differences and recognize the validity of responses based on feelings for effective communication and public involvement to occur (Daniels 1997). Finally, Federal documents are sometimes simply too difficult for members of the public to comprehend. In summary, Magill asks (1991:16), "How can resource professionals serve the public if they impose certain values or are unable to communicate effectively?" He notes some evidence of recent positive change within the Forest Service, but concluded there is also continuing evidence that decisions made by natural resource personnel display legal and technical narrowness and lack of imagination when innovative decisions are required (p. 17).

It is clear that personnel with willing attitudes and interpersonal skills suited to public interaction are needed in positions where public contact is essential. Unfortunately, resource managers often are placed in these positions without adequate attention as to whether they possess the requisite skills. Blahna and Yonts-Shepard (1989:27) share a similar observation in their review of forest planning efforts:

> ...there was little agency direction on how to collect public input in a way that was relevant for designing alternatives. Most planning team members were struggling simply to understand the complex, technical, and constantly evolving planning process. How public involvement could be used in the heart of the process was never clear. This was exacerbated by the fact that many forests did not have a public affairs staff, so that the public participation activities were being handled by planning team members from staff units such as recreation and minerals.

Over time, emphasis on effective integration of agency and public efforts has only increased and grown in complexity. Today, the roles agency personnel are being asked to play are much different than in the past, when citizens' roles were minimized and scientific and technical expertise were key. Now, "civic discourse is at the heart of representative democracy, and facilitating it is forestry's new responsibility....We fear that most foresters are not well prepared to meet these challenges" (Goergen and others 1995:11-12). Doak (1994:12) comes to a similar conclusion: "Local agencies are not accustomed to working collaboratively with publics and generally lack the knowledge and skills needed to develop inclusive community-based collaborative approaches for adaptive management." In acknowledging the complexity of the managerial role, Magill (1991) notes that environmental managers have not been adequately trained to deal with value-laden questions, yet values are at the root of many of our environmental problems. Wondolleck and Yaffee (1994) concur, also citing a lack of skills, ability, and training among agency personnel.

Finally, there are fundamental questions of staffing and time. Agency personnel are faced with unprecedented demands and a shrinking work force. New programs, such as the AMAs, are open to public scrutiny and may be in peril if the agencies do not have the human and institutional resources to act constructively in response (Jamieson 1994). Agency staff are not alone in this dilemma; most citizens have limited amounts of time to dedicate to discussions about natural resources (Goergen and others 1995). Early data from the AMAs indicated concerns over potential burnout in communities where a small set of individuals was continually being asked to participate in numerous activities (Doak 1994).

Key Points

In this section, we have reviewed research perspectives on the reasons for and features of citizen-agency interactions. The following lists summarize essential goals and key characteristics of successful interactions based on their application in a variety of management settings:

Goals for citizen-agency interactions
• Improve the quality of decisions (to arrive at decisions that better achieve resource management goals) • Come to decisions that enjoy increased public support • Contribute to the building of long-term relations • Incorporate citizens' ideas and knowledge in decisions • Learn, innovate, and share

Characteristics of successful citizen-agency interactions
• Processes are inclusive and a variety of mechanisms for interacting are used • Interactions take place with all relevant and interested parties, including both local and nonlocal citizens • Processes are interactive, personal, and sincere • Agency personnel and citizens enter interactions with genuine intentions and are open, honest, and respectful • Processes are innovative and flexible • Interactions start early and are continuous • Interactions are carefully designed, with attention to detail and with purposes and end products identified up front • Decisionmakers participate in processes • Information provided is understandable, current, and reliable • Interactions are more meaningful to citizens when they result in a tangible outcome • Agency personnel follow through on decisions • Citizens are able to see how decisions are made and what information is used in making them • Public involvement is used to gain information about public values and knowledge

These two separate categories—the overall goals and the specific characteristics—suggest two "levels" from which one can monitor and evaluate success. The first list reflects five broad goals of, or desired results from, productive interactions. The list of successful characteristics are more specific and might be used as objectives to be pursued as ends in themselves. More importantly, they seem to serve as a means to attain higher level goals; for example, an agency may strive for early and continuous interactions throughout a single planning or implementation process. One could monitor and evaluate such efforts to achieve this specific objective. But on another level, the interactions may be the means to reach a larger adaptive management goal, where continuous interactions help build long-term relations and decisions enjoy increased public support. Over time, the pursuit of goals that incorporate these characteristics (objectives) work together to contribute to long-term success.

This section also included contextual factors that influence interactions. These were discussed in terms of management and community characteristics, agencies and institutions, and attitudes, skills, and relations. Awareness of these factors and a willingness to adjust approaches accordingly are important precursors to seriously engaging the public.

It seems fair to say that the natural resource agencies and the interested public share in the immense responsibility for making collaborative efforts successful. However, as the one in the leadership role, our professional agencies have the greater responsibility. Jamieson (1994:27-28) characterizes this responsibility as the need to develop competency within the Forest Service, as well as in the communities where interactions take place:

> In the bad old days there was a tendency for government agencies to dictate policy to citizens. These days there is a tendency for citizens to try to dictate policy to government agencies. There is an admission price for engaging in public dialogue. Part of the price is purely formal: to treat others with respect, to be sympathetic to alternative points of view, to strive for impartiality, and so on. Part of the admission price also involves knowing something substantive about the issues: the relevant science, the economics, the values and interests that are at stake, and so on. People do not come with a ready-made ability to engage in a constructive, deliberative dialogue. The Forest Service should do what it can to develop its own competence for engaging in this dialogue, but it also should contribute to developing the competence of those with whom it engages. Only then will the turn towards public participation be mutually educational.

Monitoring and Evaluating Citizen and Agency Interactions

> Since new things were tried while creating the AMA Guide, it is imperative that the results of these attempts be monitored, evaluated and reported so that others may learn and the process be adjusted where needed.
>
> USDA Forest Service (1996:10)

This section outlines a framework for monitoring and evaluating citizen-agency interactions. In providing this framework, we made two critical assumptions that are outlined below. We assumed that local management units have gone through an internal process to structure citizen involvement and have started a program in the communities served. Lack of action in either one of these areas means that additional planning steps will be required.

1. Prior to engaging the public, agency personnel must undertake internal planning to structure the citizen involvement process. This is what was Delli Priscoli and Homenuck (1990) call "up-front thinking" and is an essential component for success. It takes place when agency personnel carefully think through and agree on a strategy for involving citizens. It includes addressing questions, such as:

- How will decisions be made?
- What do we hope to accomplish with the public?
- What is "citizens' decision space"? (What is their specific role in decisionmaking?)
- What does the public need to know to participate effectively?
- Who is "the public" for this issue?

Internal planning is important because it forces organization personnel to question each other, identify expectations, and come to agreement about the public's role and how agency personnel will facilitate that role. Only after these discussions can staff select the appropriate techniques for public involvement and effectively address citizens' concerns (many of which were detailed in the previous section). Careful consideration of this initial step helps personnel to organize themselves for success and avoid costly problems later on.

2. There already is an ongoing citizen-agency interaction process within the management unit. Many forest managers will feel uncomfortable with this assumption. It implies that a format for public discussion exists and that a track record has been established. For some units this will not be a problem, but others will recognize the need to step into uncharted territory and organize their public interactions.

Regardless of previous efforts, this framework provides methods to (1) help establish a public involvement program or (2) improve on one already at some stage of development. Those wishing to start a meaningful program are directed back to our first assumption. In addition, the section of this report on goals, characteristics and influential factors provides useful tools for internal planning. It may be that first attempts to engage the public in monitoring and evaluation activities involve only one or two interested citizens. This is a legitimate beginning to building long-term relations.

The monitoring and evaluation framework that follows is arranged in four segments. First is the conceptual design, which introduces the concept of discussion points linked to the adaptive management model. This framework involves a qualitative approach requiring thorough examination of citizen-agency interactions. Second is a set of implementation principles that guide the monitoring and evaluating process. Third, the monitoring and evaluation process is outlined in detail. We provide a series of discussion points that allow evaluation teams to address specific, short-term objectives as well as the broader goals for building long-term success. Fourth, we examine the importance of context. Most plans, projects, and relevant contacts with citizens are unique because each takes place in a specific context that is important to stakeholders. To learn from an interaction, we must understand the environment in which it occurs.

Conceptual Framework

Findings from public participation research indicate the need to think not only about citizen-agency interactions on a single project basis, but also about interactions over time. Agency relations with citizens are shaped mainly by the cumulative nature of numerous contacts and exchanges occurring over the long term. Thus, we have adopted the circular adaptive management diagram to outline a basic framework for monitoring and evaluation (fig. 3).

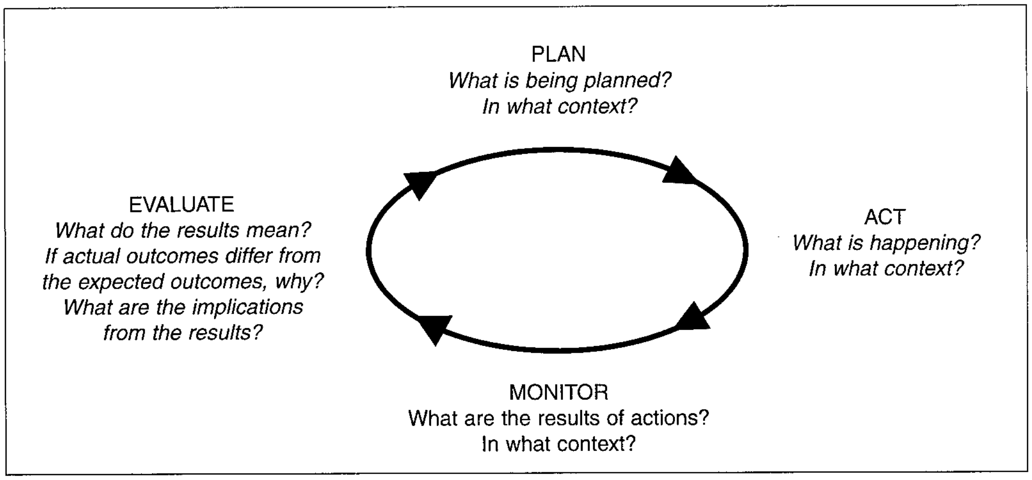

Figure 3—Monitoring and evaluation follows the continuous adaptive management process.

The framework depicted does not suggest a linear process with singular discrete steps and an end point. Instead, it represents a continuous process, where information is gathered and considered in stages and contributes to long-term learning. Evaluators are encouraged to consider each action and subsequent adjustment as part of the adaptive management process, rather than as isolated activities completed and then forgotten.

The framework outlined here encourages thorough examination of interactions by using a questioning technique—described later in this section—designed to provoke thought and discussion. Thoughtful consideration among participants is central to the evaluation process because interactions often are complex and no single formula for success exists. Thorough examination will uncover informative patterns across situations that will be useful in improving current and future interactions.

Figure 3 shows the adaptive management process with general discussion points tied to stages in the process. More specific discussion points are incorporated in "Monitoring and Evaluation Process," below. Note that this framework does not include a checklist for managers to tabulate what they have done (e.g., send newsletters, invite people to meetings, and so on); it is not a quantitative process where results are recorded as percentages or head counts. These traditional, institutional approaches to evaluation may be of little benefit in the adaptive management context, where learning and responding are essential.

By design, the discussion points are questions not quickly answered; and they are not likely to elicit easily quantifiable responses. Babbie (1995) describes the common problem in social evaluation as "measuring the unmeasurable." Others describe this challenge as "the basic paradox of evaluation: that which is most visible, and thus most easily measurable, is rarely the most essential" (North Central Regional Center for Rural Development 1995:1). Although the issues addressed in an evaluation of human interactions might be difficult to measure, tools exist for working through and resolving these situations. They are provided throughout the remainder of this document.

Six Guiding Principles

This approach for monitoring and evaluating citizen-agency interactions is primarily a qualitative one. It acknowledges that the content and quality of a process are of utmost importance and worth examining. Six general principles apply to its successful application (fig. 4).

Monitoring and evaluating
• Involves agency and citizen representatives collaborating on an assessment team. • Processes are intended to be iterative and cumulative. • Documentation should be in a descriptive (text) format. • Documentation needs to provide extensive details about context. • Information should be recorded through multiple methods. • Information should be widely shared.

Figure 4—Six guiding principles are integral to the monitoring and evaluation framework.

1. It is imperative that **agency and citizen representatives collaborate as an assessment team** in monitoring and evaluation. We recognize that agencies and citizens sometimes have different goals for interactions. An evaluation conducted by only one of the parties could provide a limited (or even biased) perspective. In addition, when an evaluation is carried out interactively among citizens and agency personnel, it becomes an important part of building relations.

2. **The process is intended to be iterative and cumulative.** This means that while personnel must monitor what has transpired for a particular project, they also must keep track of information across projects so that it can be evaluated for the long-term life of the current and ensuing processes. In short, we may take small steps but we learn from numerous successes and failures over time.

3. Documentation should be in a descriptive (text) format. In this way, interactions, activities, findings, and what was learned can be thoroughly accounted for and used by all parties. Building a written text may require more thought and time than compiling checklists or tabulations, but careful documentation will be much more valuable for subsequent evaluations.

4. Recorded information needs to provide extensive details about context. Documentation should provide the whole story (e.g., what, where, when, how, and why) so that learning can be accurately transferred to other similar—or dissimilar—situations. The section, "Understanding Situational Context," below, will be particularly useful. From a practical standpoint, evaluators need a method to maintain and organize the documentation. It will be important to identify an individual with writing skills and long-term commitment who can adequately describe what has occurred.

5. Information should be gathered through multiple methods, such as discussions with key participants, analysis of written records (e.g., public comments in agency records and newspapers), and minutes from team assessment meetings. Depending on the scale of the subject being studied, several related evaluations might take place during an extended period. In such cases, survey methods could be employed to answer certain questions and track changes over time.

6. Information should be widely shared. Sharing information supports the need for thorough, clear documentation so that citizens and agency personnel (even those in other settings) can learn from it. This suggests that essential information needs to be in a digestible format that can be widely distributed. For this purpose, one-page "learning summaries" are introduced later in this section, with an example provided in the appendix.

The quality of evaluation will depend to a great extent on the abilities of the assessment team. Specifically, evaluators need to be knowledgeable about the area they are investigating, have strong interpersonal skills, be diplomatic, and be aware of and able to temper their biases (Gordon 1991). "Evaluators must be sensitive interviewers and perceptive observers; able to take rich field notes and to write well, aware of their own biases, willing to acknowledge their predispositions, and willing to study themselves...to uncover the influences of their biases" (Williams 1986:90). It may be useful for some members of the evaluation team to have training in qualitative research techniques such as interviewing, recording, or observation skills.

Monitoring and Evaluation Process

The following process uses four sets of discussion points to help assessment teams monitor activities and evaluate progress toward their goals and objectives. These points were derived from the goals and characteristics for citizen-agency interactions (summarized in "Key Points," above) and have been organized around the adaptive management process (see fig. 3).

Evaluators should determine the appropriate times during interactions to consider each set of discussion points. The basic issues addressed at each stage are:

Plan:	What is being planned? Does it incorporate learning from previous interactions and evaluations?
Act:	What is happening in terms of programs, projects, interactions?
Monitor:	What are the results or outcomes?
Evaluate:	What do the results of planning, acting, and monitoring mean? If actual outcomes differ from expected outcomes, why? What are the implications for future interactions?

Tailoring the monitoring and evaluation process—Because no two evaluation processes will address the identical situation, it is not expected that teams will always consider every discussion point provided. Points should be chosen in part by the goals or objectives identified for the situation being evaluated. What is important is that the assessment team documents and learns from their continuous interactions and incorporates these lessons back into the adaptive management process.

As discussed thus far, monitoring and evaluation can occur at different levels. Evaluators need to be cognizant of the project-specific objectives for the situation being studied, as well as the long-term goals of citizen-agency interactions, and then tailor the evaluation accordingly. In an example used earlier, a situation might be evaluated simply in terms of a single objective being accomplished, such as whether citizens were brought in early to participate in a decisionmaking process. By focusing on this specific objective, evaluators can learn about facilitating or impeding factors. Bringing people in early to a decision process can be a useful objective by itself, but it is also a way to accomplish larger goals; for instance, it is also worth evaluating how the situation contributed to larger program goals, such as public acceptance of decisions, building long-term relations, or—for citizens—having opportunities to influence decisions. In the overall adaptive management context, this overarching, broad-level evaluation might even be the more useful one.

This process is intended to be flexible. There are various access points where people at any stage of citizen-agency relations can adapt and use the monitoring and evaluation framework. For management units where interactions are just getting underway, the discussion points can be used to start a dialogue even with just a few citizens.

Monitoring and evaluation discussion points—Four sets of discussion points are presented below; they are organized around the major themes of the adaptive management process. Evaluators will need to use their knowledge of the situation to determine the relevance and appropriateness of certain discussion points; for example, one point asks if a decisionmaker has a regular presence at events. In this case, what constitutes a "regular presence?" For this project, who is the "decisionmaker?" What are "events?" These depend on the type of decision being made, the level where processes are occurring (district, forest, etc.), and so on.

Plan**–**The following is a list of discussion points for the planning stage. These points address specific early actions that provide the means to achieving larger goals. They also help parties understand planning objectives and serve as a check to determine if the "right" problem is being addressed. Discussion points are written in the present tense so that they can be considered during the planning phase.

Plan discussion points
• What are the objectives for the project or plan? • What is the purpose for involving citizens? What is the expected outcome of this involvement? How has this information been communicated to citizens? • How well are agency personnel identifying and recognizing the legitimacy of public values, ideas? • How do plans reflect the principles that seem to characterize successful citizen-agency interactions? (e.g., Are planned processes designed to be interactive?) • What innovative things are being planned? Why are they considered innovative? • How well are the inputs to planning identified in the adaptive management process–goals, knowledge, technology, inventory–being used? • How clearly are goals articulated? • To what extent is the existing stock of knowledge held by stakeholders or personnel, public input documents, or public involvement research being tapped? • To what degree are agency personnel using experiences of others? Is information being shared? • How is learning from past actions and evaluations being incorporated? • To what degree is the public being brought in from the beginning and involved in early stages of problem identification and goal setting? • Are stakeholders encouraged to discuss issues, priorities, and concerns?

Act–The following discussion points focus on the details of interactions. They provide important feedback at a time when it is most commonly overlooked. Under the adaptive management concept, assessing actions in the early stages allows for timely adjustments that can help avoid costly problems. These discussion points also ask evaluators to consider detailed information about the situational context in which these actions were taken.

Act discussion points (implementation)
• Are the original objectives still valid?
• What activities have been undertaken thus far? Do they fit the planning objectives? To what extent are ideas from plans being used? modified?
• What are the key topics around which interactions took place?
• Characterize how the agency is providing information. Is information being presented to the public clearly written, void of rhetoric, and of high quality? Are agency personnel using stories, examples, and graphics to communicate information?
• How well are agency personnel and citizens exchanging information? To what extent do agency personnel accept the legitimacy of input from citizens. To what extent do citizens view agency information as credible?
• Describe how genuine opportunities for interaction and citizen input are being created and how participation is being encouraged.
• Is the public continuously involved in a meaningful role?
• Are inclusive interaction processes being used? What types of participation mechanisms are working? not working?
• Describe the processes in terms of innovation and flexibility.
• Are personnel honest, open, and respectful? Are they doing more than simply trying to educate people?
• Does a decisionmaker have a regular presence at events?
• How convenient are meeting times and locations?
• To what extent are personnel giving attention to details important to citizens (organization, distribution of materials in advance, adequate responses to questions)?
• How transparent are decisions? Do people understand how the decisions are being made? Can they see where their input is being used or considered?

Monitor–These discussion points ask evaluators to describe the outcome of citizen-agency interactions. They are based on the characteristics of successful interactions, which can be viewed as short-term objectives. Information gained from this part of the evaluation often contributes to long-term learning, and can be used to make adjustments in subsequent actions.

Monitor discussion points
• How did the level and scope of citizen participation change? In what forums? • Describe the breadth of participation. Did it improve? • Describe personal interactions among parties. • Describe improvements or problems in communication. • To what extent did interactions impede understanding among citizens and between citizens and agency personnel? • Describe improvements in citizen-agency understanding of resource issues. • Describe changes in how conflict arose or was handled. • Describe the tangible outcome(s) resulting from interactions. To what extent are agency personnel (or citizens, if applicable) following through?

Evaluate–These discussion points address broad, long-term goals of citizen-agency interactions and of adaptive management efforts in general. They provide an opportunity for evaluators to reflect on outcomes and on how contextual factors played a role. They also ask evaluators to draw on the richness of their experiences and consider the usefulness of what they have learned for future interactions.

Evaluate discussion points
• To what extent were ideas and knowledge from citizens incorporated in decisions? How did their participation affect decisions? • Did actions contribute to the long-term development of relations? How? Describe changes in communication style, trust, and credibility among participants. • To what extent did decisions enjoy increased public support? • To what extent did decisions result in improved resource management? How?

- How did contextual factors play a role? What barriers still exist or need to be resolved?
- What did participants learn about how to improve citizen-agency interactions? To what extent are experiences compared with their own earlier experiences or with others?
- What evidence is there of learning, innovation, sharing, and flexibility? What new knowledge did actions lead to? How was this knowledge shared and applied elsewhere?
- Were there surprises? (e.g., Were means used that were expected to result in particular outcomes, but did not have the intended effect?)
- Was it possible to incorporate new information along the way? How? What adjustments were made during the process?
- Were there disagreements among evaluators in answering some questions? What were the disagreements? Were differences respected? What implications does this have for future efforts?

Learning summaries—The importance of documentation has been noted, as has the need to share information with people in other settings. Managers of the Applegate AMA devised a simple technique to facilitate learning and sharing that they call "learning summaries." While engaged in a planning process or project, staff members are asked to document activities and findings, new procedures and techniques, and other observations in a one-page brief (see appendix for example). These short summaries are shared locally and across the network of AMAs. Evaluation teams can use the Applegate example as one form of documentation to capture learning during monitoring and evaluation. Learning summaries are not intended to supplant more thorough documentation; their usefulness is derived from the way they highlight key information and their brevity. Guidelines for completing a learning summary also are included in the appendix.

Understanding Situational Context

> ...the whole situation, background, or environment relevant to some happening; the circumstances in which a particular event occurs.
>
> definition of "context" from Webster's New World Dictionary of the American Language 1966

Before evaluating a specific process, it is important to understand the situational context in which interactions with citizens take place. Contextual information is useful for several purposes. First, examining context calls attention to a particular set of circumstances and any opportunities or barriers that may be present. Second, contextual information can be used to help describe details of a single project or case study. This builds a body of knowledge, not only useful for existing stakeholders but also providing a frame of reference for others in different settings. Third, contextual information can help highlight factors that at first did not appear relevant or important, the knowledge of which might help avoid subsequent problems. Finally, context is about the circumstances surrounding a specific place, event, or action. This is what usually prompts citizens to become involved; therefore, understanding context helps us understand people's motivations and the relevance of agency activities.

As Webster's definition suggests, contextual information should provide as complete a picture as possible. It should describe different dimensions (e.g., political, spatial, temporal), and accurately depict the people, community history, forest practices, agencies, and resources as appropriate for the situation. Evaluators should avoid temptation to compile only unidimensional or shallow contextual information. A thorough evaluation will help build organizational memory—a store of knowledge that can be referred to by all parties for various purposes.

Describing context may not be as difficult as it initially sounds. Most likely, there are existing sources of information from which evaluators can draw (e.g., previous social assessments, local histories, agency reports, or public comments). A surprising amount of information also can be gathered from factors that have influenced citizen-agency interactions in the past. Many of these factors were detailed in the previous section and are the basis for the following discussion points.

Discussion points for context

Management setting and community characteristics

- Describe the history of the situation.
- Describe any unique characteristics or assets of the land management unit or the associated communities.
- Describe involvement by agency personnel in the local community as individual citizens.
- Assess any relevant ongoing conflicts in the community. Are there polarized viewpoints regarding land management?
- Describe the relations of the community to the forest (e.g., economic, subsistence, amenity uses). What are the primary concerns of community members related to the management of the forest?
- Describe any contemporary events that might have affected the situation (e.g., attempts to stall projects).
- Do citizens and agency personnel understand agency processes?

Agencies and Institutions

- Characterize administrative support. Are efforts supported by agency leaders?
- Describe the stability, or continuity, of personnel employed in the area over time.
- Describe incentives and rewards (or disincentives) for personnel to be flexible, creative, or take risks.
- Describe any relevant policy changes that have affected the situation.
- Describe the funding situation. Has funding been a limiting factor?
- Is FACA playing a role?
- Assess the time available to complete the action being evaluated. Were there time constraints?

Attitudes, skills, and relations

- Describe agency personnel attitudes toward and commitment to citizen-agency interactions, public input, adaptive management.
- Assess agency personnel skills, experiences, and knowledge for working collaboratively with citizens.
- Describe the existing relations among citizens and agency personnel, including trust by citizens of the agencies.
- Assess citizens in terms of their knowledge, skills, or experiences related to the community, natural resources, working with agencies, working in collaborative situations.
- What citizen or agency human resources are available?

Additional information about context can be derived by comparing differences experienced across settings. Doak (1994), for example, provides useful contextual data about each AMA by describing spatial patterns and boundaries. The experiences and perspectives of citizens may prove particularly useful in this phase. It will be important to address many of the discussion points in this section again and again, as context may change over time.

Conclusion

This report provides a starting point for monitoring and evaluating citizen-agency interactions. It is an adaptive process. The set of discussion points presented are not intended to be final or exhaustive. As more is learned from these interactions, it is expected that this monitoring and evaluation framework—in particular, the discussion points—will continue to be adjusted. Many of the points represent working hypotheses about the attributes of citizen-agency interactions, or the effects of interactions, based on public involvement research and management experience. Evaluations can help test these hypotheses and eventually may challenge the validity of some of them.

We recognize that use of this framework—a question and discussion format—will involve a substantial commitment of effort over an extended time. It has been constructed with the understanding that there is no quick fix; there is no shortcut to effective long-term citizen-agency interactions. Building lasting, durable relations takes considerable time, effort, and allowance for mistakes. It also requires a substantial amount of organizational support and a willing public.

Given the nature of adaptive management, it is important that evaluators consider how a particular action contributed to the larger goals of public processes, rather than simply labeling any single action a "success" or "failure." This approach is a significant departure from the institutional culture of Federal land management agencies where outcome-oriented success or failure is counted much more than learning.[3] Effective monitoring and evaluation will require those involved at all levels (e.g., agency staff, line officers, and citizens) to accept the legitimacy of experimentation, uncertainty, and surprises. It also will require careful documentation of context and assumptions so that when surprises do arise or mistakes are made, people are able to benefit from them.

The next logical step arising from this work is to field test the suitability of the framework and discussion points in different settings. This can be done with small groups of citizens and agency personnel applying the framework to selected adaptive management situations. As with any interactive system, an effective evaluation process will emerge only through thoughtful use and adaptation by stakeholders.

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[3] Schmucker, Elizabeth F. 1996. Adaptive management from FEMAT to ROD to practice. 6 p. Unpublished document. On file with: USDA Forest Service, Pacific Northwest Research Station, 4043 Roosevelt Way NE, Seattle, WA 98105.

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Appendix

The Applegate AMA provides guidance to personnel for completing a learning summary:

> Learning summaries can include inventories, implementation, effectiveness or validation monitoring. Summaries can be observational, qualitative or quantitative. It's okay to deviate from this basic format, but please keep them to one page.
>
> **Title:** A general topic heading **Date:**
>
> **Background:** Provide a brief context for your learning summary...What was your objective? Where did the activity take place? Was there previous relevant activity? Why is this monitoring important? Provide a brief description of your methods.
>
> **Findings:** Provide the essence of your findings. Describe the factors that influenced the results.
>
> **Applications:** What is the scope of your findings? Does it apply to all sites/circumstances?
>
> **Followup**: Where do we go from here? Additional measures? Opportunities to integrate with other disciplines and sites? Can we improve operations? Future activities?
>
> **Submitted by:** Name/affiliation/date and phone number.
>
> Source: Learning summary materials provided by the USDI Bureau of Land Management Medford District and the USDA Forest Service Rogue River and Siskiyou National Forests in a letter dated July 18, 1996.

An example of a completed learning summary follows:

Applegate learning summary: Citizen Field Trips 8/1/96

Background: A number of field trips in the Applegate AMA have pointed out the difficulty in communicating technical information to a broad audience. Attempts by planners or specialists to explain such things as basal area (or percentage of canopy cover), relations between fire suppression and vegetation, or riparian areas have been challenging (and frustrating) for all parties.

Findings: The varying degrees of "success" in terms of communicating concepts seem related to several factors. Certainly background of participants makes a big difference. For example, most players in the Applegate partnership who frequently attend field trips are highly aware of many of the resource issues discussed. Whereas most neighbors attending their first meeting are not able to track the concepts as easily.

The speed and ease of understanding is greatly increased when pictures and graphics (if well done) are used. Basal area showing cross-sections of trees has been helpful. "Before" and "after" pictures of activities similar to those proposed is especially helpful (these can be actual photos or computer-generated graphics). Peter Gaulke, Galice Ranger District, developed a good set of tables showing cruise volume by size classes for what is being cut and what is being left on sites in the Walters Creek thin. Cross-section drawings of creeks that show large wood, shade, riffles, pools, etc., have worked well.

Having some general proposals to present seems more effective than taking a group out and asking, What do you think? Some people think it's a fine line between "making up our minds" about what we want to do on a project and having a general proposal. But it seems neighbors want some target to throw at, and we can describe that with genuine openness to new ideas.

The biggest challenge to many proposed projects is overcoming the "old baggage" that many neighbors feel about agency projects. One key point is that when people hear the words "timber harvest," the picture in their mind is a clearcut. We have to use a number of pictures, graphics, and field trips to existing thinnings to reframe that image. That's one reason Gaulke's graph of cruise volume is so helpful. You can see at a glance that trees are left on the site after the cut. The other aspect of baggage is to find out what, if anything, people are still mad about in that neighborhood, and see if there's some way we can mitigate that; it might be an old road closed or washed out, or a clearcut that hasn't grown in well.

Applications: All field trips with citizens can benefit from good preparation. Consider the audience, visual aids, amount of hiking and people's capabilities, who (among the specialists) can be most effective in communicating nonbureaucratic language, and how to be genuine in reaching out to people.

Followup: We need better ways to "tell our story," and it merits some professional advice. Perhaps linking with the colleges, environmental educators, visual and graphics specialists, or others may help in creating more effective communication tools all planners can use.

~ Submitted by: Su Rolle, Interagency Liaison BLM/FS (Applegate AMA)

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Using the general principles of adaptive management—which stress monitoring, evaluation, and adjustment—this report provides a comprehensive framework to help agency personnel and citizens to work together. This report describes the adaptive management concept, summarizes research about the goals and characteristics of successful public involvement, and lays out a framework for monitoring and evaluating citizen-agency interactions. Although designed for adaptive management settings, the framework is well suited to other situations where improving these interactions is a priority.

Keywords: Adaptive management, public involvement, monitoring, evaluation.

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