



#2102

Recent policy changes for the management of federal forestlands in the Pacific Northwest have called for ecosystem-based practices with greater cooperation between federal and local agencies, private forest landowners, and the general public. Impetus for these changes came out of President Clinton's 1993 Northwest Forest Conference, which addressed human and environmental needs served by federal forests. The resulting Northwest Forest Plan places an emphasis on community-oriented forestry—management that takes into account the economic and social interests of forest-proximate communities. The plan embraces Lee's (1993) ideas about adaptive management, which applies experimentation to the design and implementation of natural resource and environmental policies. Lee calls an adaptive policy one that is designed "to test clearly formulated hypotheses about the behavior of an ecosystem being changed by human use" (p. 53).

In order to facilitate forest management that is both ecosystem-based and community-oriented, the Northwest

Forest Plan has designated 10 sites in Washington, Oregon, and Northern California as adaptive management areas (AMA). These AMAs range in size from 92,000 to 500,000 acres. A central theme of the AMA experiment is to encourage management approaches that rely on the experience and ingenuity of resource managers and communities working together, rather than on the traditional, tightly prescriptive approaches generally applied to forest management (FEMAT 1993). Researchers also play a primary role in AMAs because objectives encompass scientific and technical innovation and experimentation. Thus, adaptive management is rooted in the need for responsive decisionmaking structures that incorporate scientific principles and meaningful public participation at the local community level.

Given these objectives, it seems important to understand local community interest in forests, as well as public perceptions of adaptive management concepts and their social acceptability. This paper describes opinion research

By Bruce Shindler,
Brent Steel, and Peter List

Public Judgments of Adaptive Management

A Response from Forest Communities

on ecosystem and adaptive management conducted among the communities proximate to Oregon's Central Cascades AMA in the spring of 1994, shortly after formation of the Northwest Forest Plan. Specifically, it addresses the characteristics of AMA communities, describes citizen views on current federal forest decisionmaking, and assesses public preferences for adaptive management strategies.

AMA Setting and Research Design

Jointly managed under cooperative arrangement, most of the Central Cascades AMA's 138,600 acres is under USDA Forest Service management in the Willamette National Forest, with about 15,500 acres falling under Bureau of Land Management (BLM) jurisdiction. An additional 1,660 acres includes state, tribal, and private lands. One integral component of ecosystem management is the concept that watersheds represent a physically and ecologically relevant—and socially acceptable—scale for managing forest resources. In both

physiographic and socioeconomic terms, the Central Cascades AMA communities fall within two major watersheds—the South Santiam and the McKenzie rivers (*fig. 1, p. 6*). These areas are described as having distinct transportation corridors and distinct community structures (Doak 1994).

The South Santiam River drainage to the north includes the upriver communities of Sweet Home and Lebanon, which are linked to the larger downriver town of Albany (population 29,000) by State Route 20. These communities are basically resource-extraction based, although Albany is more economically diversified. The McKenzie River Valley to the south includes a string of small unincorporated communities (e.g., McKenzie Bridge and Blue River) along State Route 126. Residents here include those employed in the natural resource economy (either extraction or recreation based), retirees, and commuters to the much larger population centers of Springfield (pop. 45,000) and Eugene (pop. 112,000). These downriver communities have a

diverse economy ranging from large lumber and pulp mill operations to the state's liberal arts university. While somewhat further from the adaptive management area, these urban centers are important because they have both a substantial interest in and effect on forest policy for nearby federal lands.

Taking a more community-oriented approach to forest management requires some understanding of the extent to which local citizens share attitudes and preferences. Geographical residence is often a quick and easy point of reference for understanding AMA communities because we can identify these places spatially on a map and visually compare them.

Some academic research suggests that the further we get away from urban areas, the more likely we are to find citizens with traditional (commodity-based) attitudes about forests (Tichenor et al. 1971; Tremblay and Dunlap 1978). For example, rural residents may support more intensive management practices and believe that forest decisions should be made by forest agency professionals. But more recent empirical research (Rasker 1993; Brunson et al. 1994) indicates other social factors are also important and may have a greater influence on public opinion than the urban/rural dichotomy. In addition to place of residence, attributes such as age, education, political beliefs, and economic dependence on the timber industry are associated with attitudes and preferences for forest management policies. Increased mobility has also contributed to shifts in where people reside or derive their economic livelihood. As public attitudes become more diverse and cross-sectional, they also become more complex and difficult to interpret.

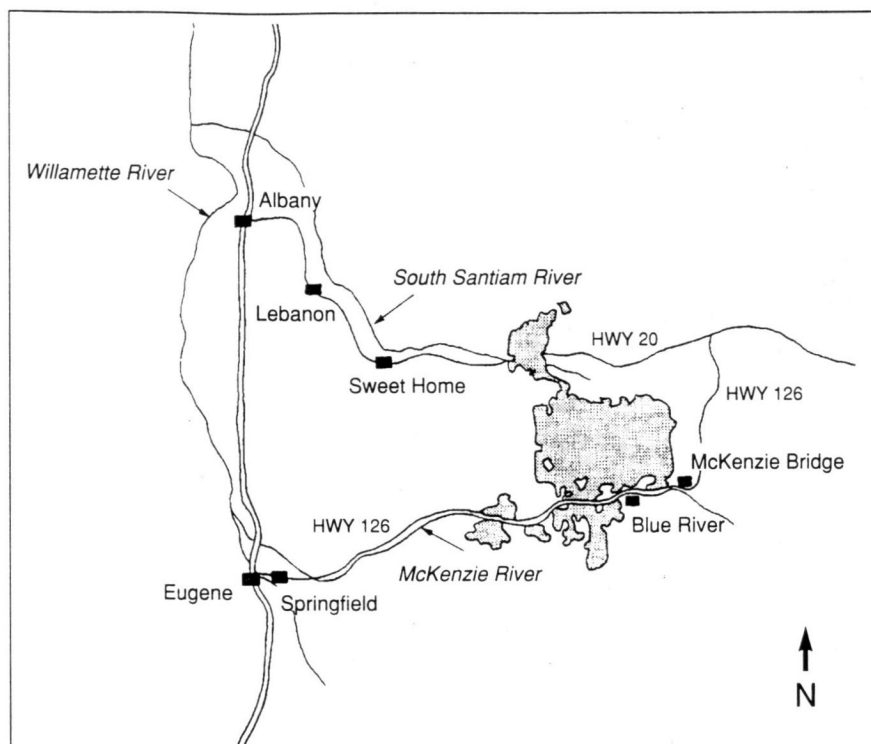


Figure 1. Central Cascades Adaptive Management Area.

Table 1. AMA-proximate community members' awareness/involvement in forestry issues.

	Eugene	Santiam	McKenzie	Chi-square
 %			
Give a moderate or high level of attention to federal forestry issues.	92	88	89	ns
Moderately or well informed about President's Northwest Forest Plan.	45	44	58	10.5*
Important information sources on federal forest management are: ¹				
Newspapers	88	84	87	ns
Television	79	78	74	ns
Radio	61	49	52	7.5*
Magazines/books	58	50	48	ns
Friends/relatives	44	40	39	ns
Interest groups	48	26	30	27.9**
Natural resource agencies	17	14	21	ns
Public's role in federal forest management should be:				45.3**
None, let USFS and BLM decide.	2	9	3	
Provide suggestions and let USFS and BLM decide.	14	21	31	
Serve on advisory review boards.	49	34	37	
Act as full and equal partner.	30	25	22	
Public should make decisions.	4	10	7	

¹ Respondents could select more than one source.

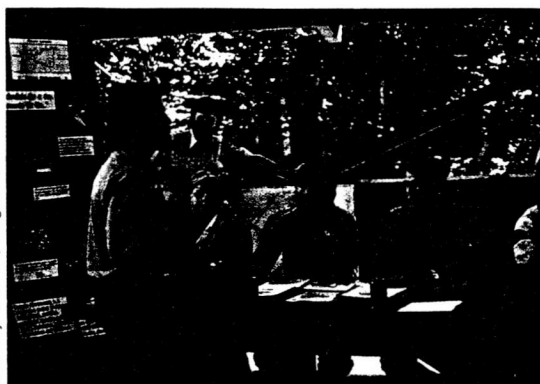
*Significantly different at $p < .05$; **significantly different at $p < .01$.

To assess public perspectives on the basic concepts of adaptive management, a random mail survey of 744 residents of the McKenzie River and South Santiam River communities was conducted. An important component of such social assessment research is to find a meaningful framework for analyzing and presenting data. In this case, data were initially stratified by zip code to analyze responses from individual AMA-proximate communities. A common practice is to aggregate data categories where practical and when central tendencies statistically allow for aggregation. ANOVA Multiple Range Analysis tests were conducted on key variables to look for similarities and differences among zip code groupings. Significance tests showed that aggregation was not only possible, but desirable as a way to interpret data. Three geographical groupings emerged: (1) communities within the South Santiam Valley drainage including Albany, Lebanon, and Sweet Home ($n = 363$); (2) communities within the McKenzie River Valley drainage, including Springfield and all points east of Eugene ($n = 183$); and (3) the city of Eugene ($n = 198$).

Community Characteristics

Research findings indicate that while the three aggregated AMA communities have socioeconomic characteristics in common, key differences exist. Residents seem fairly well entrenched in the South Santiam, McKenzie, and Eugene areas. Average length of local residence is 32 years, with only 6% of all respondents having moved into these communities in the last 5 years. Such longevity suggests that these people have a good sense of the surrounding forest landscape and may have a strong interest in how it is allocated and managed. For instance, 96% of all residents indicated they use the Willamette National Forest for some leisure activity at least once annually; many use it on a monthly or weekly basis. It is a reasonable assumption that personal attachments have formed around some of the forest's special places.

Although average annual family income is about the same for each community at \$22,000, differences are ap-



Not only do citizens closely follow forestry issues, they expect to have a role in deciding how resources are allocated.

parent in income origins. Substantially more South Santiam and McKenzie families (40%) report they are dependent on the timber industry than the households in Eugene (23%). At the same time, more retirees reside in the South Santiam and McKenzie areas—39% in each versus 29% in Eugene.

There is also a difference between the communities in political orientation, a factor which, in this study, may be larger than usual because the Northwest Forest Plan is perceived as the Clinton Forest Plan. Although all three communities described themselves as politically moderate—and Eugene does include a true mix of liberals and conservatives—the South Santiam and McKenzie areas lean toward conservative politics.

Involvement in Forest Issues

An informed citizenry is essential to publicly made resource decisions. Findings that reflect the public's general awareness of and involvement in forestry issues are reported in *table 1*. About 90% of all community residents said they give a moderate or great deal of attention to federal forestry issues. About half overall (48%) reported being moderately to well informed about the Northwest Forest Plan, even though the plan was relatively new at the time of the survey.

The most important sources of information about forestry issues tend to be newspaper and television, followed by radio, other printed materials, friends and relatives, and interest groups. Only 16% overall considered natural resource agencies to be important sources. These findings may be

particularly disconcerting to forest managers at a time when competing sources of technical information are a concern for policymakers. It could be that the traditional communication channels selected by forest agencies simply are ineffective or that the credibility of the government as an information source is being questioned. The adaptive management experiment may have to consider alternative, or even more contemporary, forms of communication. For example, interest groups on both sides of the forest debate have campaigned effectively using local television networks, and even Oregon State University's College of Forestry has introduced a series of television spots to promote forestry research.

The involvement of local publics is a central element in the formation of adaptive management sites. To validate this approach, residents were asked about the value of citizen participation in federal forest management, even if it increased government costs. *Figure 2* shows in aggregate (no differences exist between communities) that a solid majority of citizens support the public involvement approach. Knopp and Caldbeck (1990) offer two disparate reasons that ordinary citizens want to be part of resource policy decisionmaking. The first is the widely held belief that decision quality improves if the public is more effectively included, while the second is that today's informed public increasingly distrusts government bureaucracies. Some of each of these factors probably prevail in the AMA communities. But whatever the reason, there is an expectation among local citizens that they will be involved in re-

source decisions and allocation.

In a more specific line of questioning, respondents were asked what role the public should play in federal forest management. Of the models listed in *table 1*, the one that most closely resembles the National Environmental Policy Act (NEPA) process as it was used in the 1970s and 1980s occurs when the public makes suggestions and resource professionals decide what to do. Clearly that approach entails less participation than the public feels is appropriate. This is particularly evident in Eugene where more than three-fourths (79%) of the community see themselves playing a greater role. Overall, it may be encouraging to the agencies that the public's preferred approaches resemble models more suited to adaptive management.

Decisionmaking

The success of plans for adaptive management may also be influenced by how well local communities think federal forest decisionmaking has been conducted in recent years, and thus how much they believe new approaches are needed. Specifically, the authors asked citizens about their level of confidence in the ability of government organizations and public institutions to actually contribute to good forest management

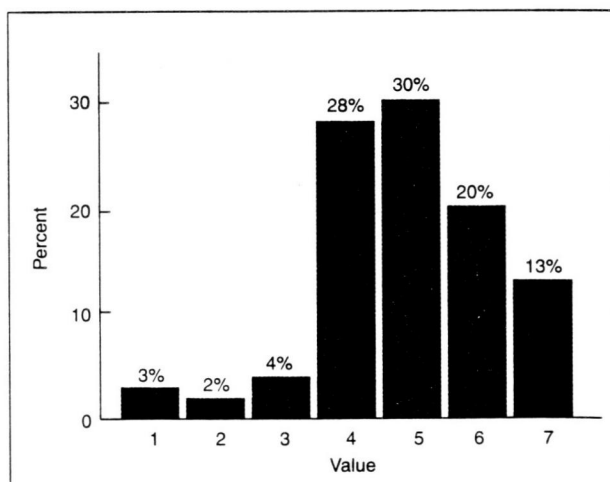


Figure 2. AMA-proximate communities' (n = 744) support for citizen participation in forest planning, taking into account government costs. Value is based on a 7-point scale: 1 = no value; 4 = neutral; and 7 = great value. Mean score = 4.9.

decisions. Because trust and credibility issues have become widespread concerns, citizens were also asked how much influence should be entrusted to such organizations. Aggregate findings are shown in *figures 3 and 4*.

The organizations and publics in which people have the most confidence include the Forest Service, the Fish and Wildlife Service, the AMA community residents themselves, and to a lesser extent the BLM and university re-

searchers. On the other end of the spectrum, little confidence was expressed for more national organizations and institutions including the Clinton administration, federal courts, national public opinion, and Congress. A similar ranking resulted when respondents were asked how much influence each of these groups should have in forest decisions (*fig. 4*). In this case, however, a stronger degree of support was given to the more highly rated organizations.

Taken together, these findings indicate that people in these AMA communities have the most confidence in, and also the highest expectations for, institutions that have traditionally had long-term involvement in federal forest management in their area. Local citizens express the least confidence in the institutions that, in the last few years, have become highly influential in the federal forest management arena—the executive branch, federal courts, and Congress—who often act in response to organized interest groups and political motives.

These beliefs likely reflect local frustration with managing forests by lawsuit and court decree, and in some measure demonstrate the effect that these federal institutions have had recently on people's lives and economic wellbeing. They also seem to affirm what we believe is now a common perception among the general public: that politics, not forest health or concern for local communities, is the driving factor in federal forest management decisions. Moreover, while local feelings and frustrations about political decisions may align with traditional forest industry or environmental group positions, few people are happy with the pace and progress of federal forest management in the Northwest.

Public concerns over the effectiveness of existing institutions are evident in opinions about who should influence federal forest policy. The AMA communities think policy should be the responsibility of federal forest agencies, above all others. But they also believe its formation should include university experts and local citizens. Regardless of their position on the issues, it may be that people recognize that our federal forest agencies—while being far from perfect—are the only organizations that can realistically carry out new forms of management in the future (Wondolleck and Yaffee 1994). The desire for inclusion of researchers and citizens in decisionmaking groups suggests an interest in three possible outcomes: better answers to ecological questions generated by the forestry debate, more local control,

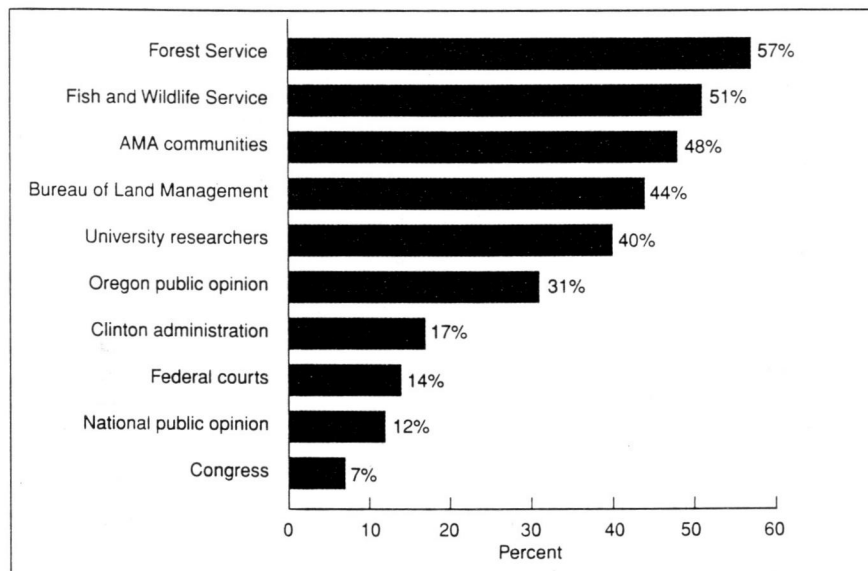


Figure 3. Public confidence in ability of organizations and institutions to contribute to good forest management decisions, as measured by a survey of Central Cascades AMA communities (n = 744).

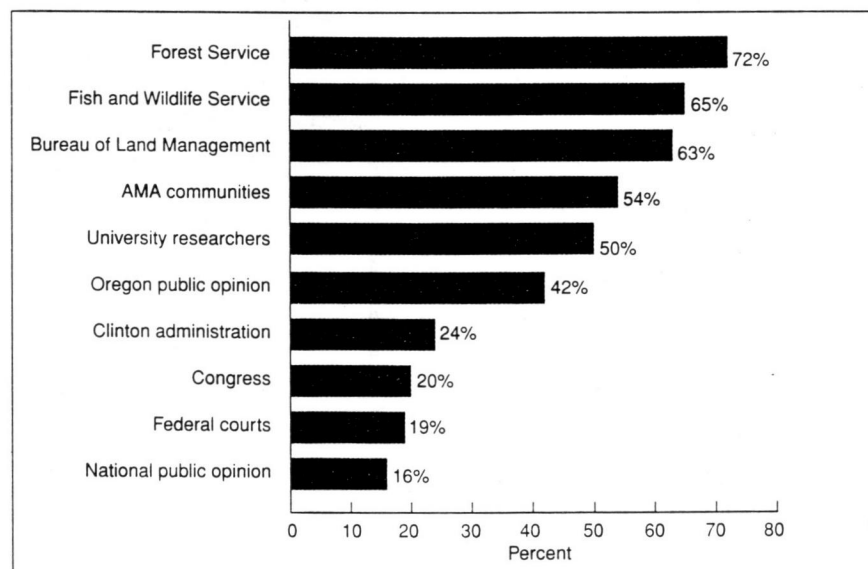


Figure 4. Organizations and institutions that should influence federal forest management, as measured by the Central Cascades AMA communities survey (n = 744).

Table 2. AMA-proximate community members' opinions regarding adaptive management.

Statement	AMA Community	Agree ¹	Neutral	Disagree ²	Chi-square ³
	%			
Reliable knowledge about forest ecosystems is lacking.	Eugene	55	16	29	28.4
	Santiam	41	33	26	
	McKenzie	47	22	31	
Scientific experimentation with ecosystems is appropriate on selected forestlands.	Eugene	63	27	10	25.5
	Santiam	54	34	12	
	McKenzie	64	22	14	
Science, not politics, should decide environmental issues.	Eugene	82	10	8	30.0
	Santiam	66	23	11	
	McKenzie	62	23	15	
Federal forest management systems need major changes, not minor adjustments.	Eugene	72	19	9	29.3
	Santiam	57	25	18	
	McKenzie	63	19	18	
Forest Service and BLM are open to public input and use it in making decisions.	Eugene	30	33	37	ns
	Santiam	29	40	31	
	McKenzie	36	33	31	
Government officials usually create plans without input from local communities.	Eugene	47	27	26	38.8
	Santiam	70	21	9	
	McKenzie	62	24	14	
I feel like I don't have much to contribute to forest planning.	Eugene	38	27	35	ns
	Santiam	39	35	26	
	McKenzie	35	32	33	
The best forest plan is one that is a compromise between all parties.	Eugene	45	9	46	38.2
	Santiam	57	18	25	
	McKenzie	51	14	35	
I would likely support a community decision, even if it's against my personal preference.	Eugene	37	31	32	25.7
	Santiam	42	37	21	
	McKenzie	45	20	35	
Survival of timber workers should be the most important goal of AMAs.	Eugene	29	19	52	38.3
	Santiam	56	13	31	
	McKenzie	51	15	34	
Private forestlands should not be part of long-term federal planning.	Eugene	33	25	42	48.5
	Santiam	55	16	29	
	McKenzie	56	12	32	
In general, AMAs seem like a responsible approach.	Eugene	77	17	6	47.2
	Santiam	50	42	8	
	McKenzie	57	36	7	

NOTE: Percentages are based on a 5-point scale.

¹Sum of "agree" and "strongly agree" responses.

²Sum of "disagree" and "strongly disagree" responses.

³Responses are significantly different at $p < .01$, except those noted (ns).

and more effective implementation of forest decisions. A critical element for successful AMAs thus will be to establish an efficient management system that more directly involves scientists and promotes local community participation without undue interference from national political actors.

Preferences for Adaptive Management

The opinion survey also provided an opportunity to ask questions specific to adaptive management. First, re-

spondents read a paragraph outlining the adaptive management approach:

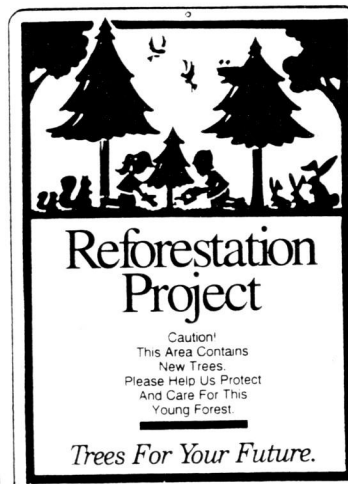
Adaptive management is based on a continuing process of planning, monitoring, and evaluation, and then adjusting actions to meet forest objectives. The plan includes provisions for 10 adaptive management areas throughout the Northwest, with one located in the Central Cascades near Blue River (see map [fig. 1, p. 6]). These areas would be used to develop and test new ideas concerning long-term forest management, economic stability, and public participation in

decisionmaking. We'd like your opinions on this approach.

A series of statements was provided and respondents were asked about their level of agreement with each item. Results are reported in table 2. A number of inferences can be drawn from these responses. First, the public in this AMA area is generally positive toward science and experimentation. Although relatively divided over whether we have enough information about our forest ecosystems, most respondents believe that experimentation is appropriate on selected federal lands. This support for research may be a product of questions (from both sides of the forest debate) about past and present land management practices, but is also indicative of greater public attention being given to forest resources in the Northwest. In any case, there is a tendency across communities to put more faith in science than in politics, suggesting that people are fed up with politics as usual and want to try another approach. If

Reforestation Signs

*An Inexpensive tool to help your
Public Relations & Forest
Protection Program*



• 11"x15" Plastic (.05g) • Green on White

Quantity	Price Each
1-19	5.00
20-49	4.25
50+	CALL

S & H outside MD - 5%

THE TREE COMPANY

Order By Phone or Fax

1-800-880-6295

Wetland Protection Signs Also In Stock!

GPS RENTALS

**You'll make money from
our investment!**

Rent all the latest
products of



Trimble
THE GPS SOLUTION

COMPETITIVE RATES - *by the week or month*

ONLY CURRENT PRODUCTS - *no old junk!*

BUILT-IN PURCHASE OPTION

If you like it you can buy it, and apply most of your
rent to the purchase price!



FIELD
EQUIPMENT
& SUPPLIES

Toll Free USA and Canada
1-800-303-1519

MEASURING COVER??

INTRODUCING THE



**GRS
DENSITOMETER**

*Finally, an effective tool
for the accurate estimation
of vegetation cover.*

For Orders or Information:
Geographic Resource Solutions
1125 16th St., Suite 213
Arcata CA 95521
(707)822-8005

this is true, and if more effective decision processes do not materialize under adaptive management, the apparent support for research and experimentation might be short-lived.

Public frustration leads to the second, rather strong belief, particularly among Eugene respondents, that federal forest management systems need major changes. If people think the old management approaches are no longer satisfactory, then adaptive management areas might satisfy their desire to see things done in a different way. Previous opinion surveys in Oregon and nationwide support a movement toward more holistic, ecosystem-based management (Shindler et al. 1993). When coupled with previous findings, these opinions provide support for forest agencies playing a leadership role as long as the experience and advice of local residents are also used. However, gaining public acceptance may be a "tough sell" since many citizens (table 2, p. 9) do not believe the agencies are open to public input. This belief is especially evident in the upriver communities where most forest decisions are carried out.

A third observation centers on compromise and consensual agreements. Each AMA community seems reluctant to relinquish too much control, either to the resource agencies or other participants in the decisionmaking process. There is not overwhelming support for compromise or community-made decisions that go against personal preferences, especially in Eugene. In sum, these responses probably reflect just how pervasive lack of trust is today—even toward communities other than one's own. The public is suspicious of how willing the federal forest agencies are to integrate local communities into the planning process. It seems clear, then, that any new approaches to forest management will have to overcome citizens' doubts about government officials. Not only will local citizens have to be taken more seriously and have a larger voice in decisions, but agencies will also have to incorporate methods that can unify constituent groups who are often divided against one another.

This last point can be illustrated by public preferences regarding economic and private landowner issues, in which support tends to follow the traditional urban/rural dichotomy. The more rural, timber-dependent, upriver communities favor policies that support the plight of timber workers and that keep federal planning decisions away from private forestlands, while Eugene residents seem to favor an environmentalist approach that takes a more holistic view. Eugene residents also seem more favorable toward scientific solutions and more receptive to the overall idea of adaptive management. This suggests that the urban community is more likely to listen to scientists and less likely to attempt compromises with their upriver counterparts. Thus, resolution of problems may be achievable only through a process that allows both citizens and scientists to help craft solutions.

Finally, one must literally read between the lines of agreement and disagreement to see that there are few decisive opinions generated by the 12 statements in table 2. This is evidenced

by the high number of neutral responses. Survey researchers usually interpret neutral responses to mean that people either do not know or do not care, but in the case of adaptive management we should probably interpret these answers to mean that people do not fully understand these complex issues and have not made up their minds about them.

For example, many people are neutral on whether the Forest Service and the BLM are open to public opinion. These tend to be people who have had little contact with forest agencies and therefore have little to base a judgment on. Similarly, the high degree of neutrality in the South Santiam and McKenzie communities about whether adaptive management is a responsible approach likely indicates uncertainty about an unproven system. On the balance, the public may be willing to allow some time for action, testing, and evaluation before they approve or disapprove. It is likely that some adap-

tive management activities and experimentation will gain support—depending on how relevant the outcomes are to public concerns—while others will not. One avenue open to resource agencies is to view this indecisiveness as an opportunity to engage local communities more directly in forest management decisions and to help shape public attitudes.

Conclusions

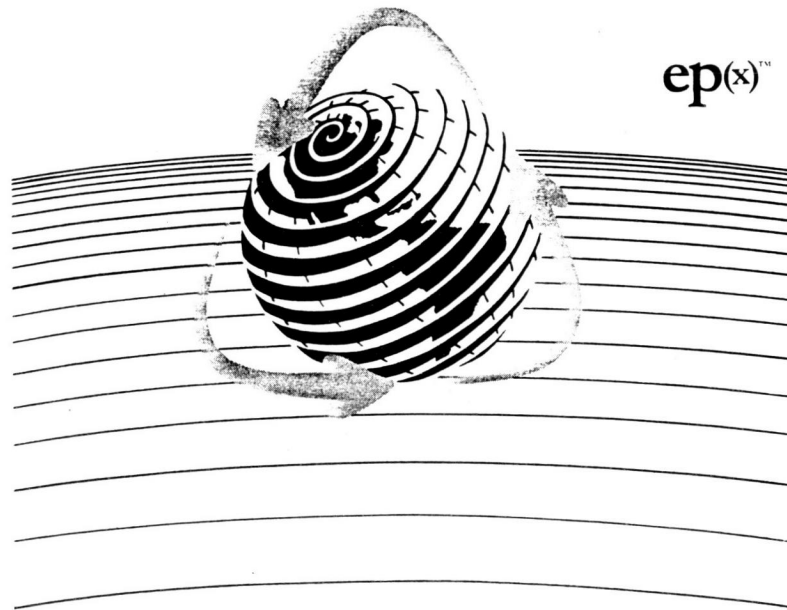
Overall, it appears that the AMA communities in central Oregon are receptive to the idea of adaptive management, but will be waiting to see how well it works locally before making final judgments. It is unlikely that many citizens would unequivocally approve of adaptive approaches without seeing what forest practices and conditions will result. If adaptive management is to succeed, it will be important to determine how to include people in real-life decisions in which the consequences of choices—and their scien-

tific uncertainty—are out on the table.

The authors believe that public support for ecosystem (and adaptive) management is related more to a group of factors rather than any single element. For example, people are more likely to find forest practices acceptable if they can visualize how they will look, understand how they will sustain both the local economy and the forest's natural characteristics, believe in the information they receive from resource agencies, and have a meaningful role in the planning process. According to Ehrenhalt (1994), for people to make a rational choice about public policy issues, they have to be given a rational menu. This means that resource managers and politicians will have to learn how to frame choices more openly and more clearly—even ones that now offer limited possibilities because we have already used up the most attractive options—in order to make difficult but necessary tradeoffs.

The adaptive management concept

ep(x)TM



**ep(x)TM = ecosystem
planning
(express)
by the
ecosystem
planning
professionals**

VESTRA 

A World of Professional GIS Solutions

962 Maraglia Street, Redding, CA 96002 USA
info@vestra.com • 916/223-2585 • www.vestra.com



**MAKE YOUR
MARK
FIRST TIME
EVERY TIME**

with the
TRECODER™ Spot Gun
Lighter, faster, easier
to use . . .

also try
TRECODER
Tree Marking Inks
and
TRECODER
Boundary Marking Inks
for a brighter,
longer lasting mark

**QUALITY
ACMI
INKS**

Forestry Products Division
American Coding and Marking Ink Co.
1220 North Avenue, Plainfield, NJ 07062
(908) 756-0373



Idrisi...
for Environmental Analysis and Management

Software
Idrisi for Windows. A powerful geographical analysis and image processing system

Educational materials
Workbooks and data sets on a variety of environmental and methodological topics

Training
May, August and January training sessions currently scheduled at Clark University. On-site training also available.

Research
Ongoing projects include
• change and time series analysis
• sustainable implementation of GIS
• algorithm development
• decision support techniques

The IDRISI Project
Clark Labs for Cartographic Technology and Geographic Analysis
Clark University
950 Main Street
Worcester, MA
01610-1477 USA
phone: +1.508.793.7526
fax: +1.508.793.8842
email: idrisi@vax.clarku.edu
http://www.idrisi.clarku.edu

appears to allow for some of this give and take, or social *jujitsu*. According to this survey, federal forest managers have a basis of public support for proceeding with AMAs. But given the general skepticism about government, technology, and bureaucracy in this country, the AMA experiment will have to win over a doubtful public through timely accomplishments and public participation. **JOF**

Literature Cited

- BRUNSON, M., B. SHINDLER, B. STEEL, and P. LIST. 1994. Consensus and dissension among rural and urban publics over forest management in the Pacific Northwest. Research paper presented at the Rural Sociology Society Conference, Portland, OR.
- DOAK, S. 1994. *Preliminary report: Adaptive management area status and needs assessment*. Research Report. Seattle, WA: USDA Forest Service.
- EHRENHALT, A. 1994. Let the people decide between spinach and broccoli. *Governing* 7(10):6-7.
- FOREST ECOSYSTEM MANAGEMENT ASSESSMENT TEAM (FEMAT). 1993. *Forest ecosystem management: An ecological, economic, and social assessment*. Washington, DC: US Government Printing Office.
- KNOPP, T.B., and E.S. CALDBECK. 1990. The role of participatory democracy in forest management. *Journal of Forestry* 88(5):13-15.
- LEE, K. 1993. *Compass and gyroscope*. Washington, DC: Island Press.
- RASKER, R. 1993. Rural development, conservation, and public policy in the greater Yellowstone ecosystem. *Society and Natural Resources* 6:109-26.
- SHINDLER, B., P. LIST, and B. STEEL. 1993. Managing federal forest: Public attitudes in Oregon and nationwide. *Journal of Forestry* 91(7):36-42.
- TICHENOR, P., G. DONAHUE, C.N. OLSEN, and J.K. BOWERS. 1971. Environment and public opinion. *Journal of Environmental Education* 2:38-42.
- TREMBLAY, K.R., and R. DUNLAP. 1978. Rural-urban residence and concern with environmental quality. *Rural Sociology* 43:474-91.
- WONDOLLECK, J., and S. YAFFEE. 1994. *Building bridges across agency boundaries: In search of excellence in the US Forest Service*. Research Report. Seattle, WA: USDA Forest Service.

ABOUT THE AUTHORS

Bruce Shindler is assistant professor, Department of Forest Resources, Oregon State University, Corvallis 97331-5703; Brent Steel is associate professor, Department of Political Science, Washington State University at Vancouver; Peter List is professor, Department of Philosophy, Oregon State University.