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Citizen Knowledge and the Use of Information Sources for Adaptive Ecosystem Management: A Case Study of Attentive and General Publics in the McKenzie Watershed

10

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Table of Contents

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1

EXECUTIVE SUMMARY	1
Introduction	1
Objectives	1
Knowledge	1
Useful Information Sources	2
Trust in Information Sources	2
Usefulness of Specific Forest Service Methods of Information Provision	2
Public Perspectives on the Blue River Landscape Study (BRLS)	2
INTRODUCTION	3
Background: Ecosystem Management and Adaptive Management Areas	3
The Blue River Landscape Study	3
Research Setting: The McKenzie Watershed	4
Research Objectives	5
LITERATURE REVIEW	7
METHODS	11
Data Collection	11
Data Analysis	13
FINDINGS	15
Respondent Demographics	15
Self-Assessed Knowledge of Forest Management	16
Knowledge of Forest Processes	18
Knowledge of Ecological Processes	19
Knowledge Summary	21
Useful Information Sources	22
Trust in Information Sources	23
Useful Methods of USFS Information Exchange	25
Public Perspectives on the Blue River Landscape Study	26
Public Involvement	27
CONCLUDING DISCUSSION	29
Knowledge	29

APPENDIX	45
REFERENCES	35
Public Involvement	34
Public Perspectives on the Blue River Landscape Study	33
Useful Methods of FS Information Exchange	33
Useful and Trustworthy Information Sources	30

EXECUTIVE SUMMARY

Introduction

The purpose of this study was to explore public knowledge of forest management, attitudes about information sources, preferences regarding methods of information exchange, and attitudes towards adaptive ecosystem management. Specifically, it focused on communities in the McKenzie watershed in Oregon and explored differences between the general public and citizens who are more actively engaged in forestry issues (attentive public). The study was designed to provide information to Forest Service and BLM personnel about their publics that would support the development of more effective communication strategies.

The study employed a mixed model research design. Several complementary qualitative and quantitative social assessment techniques were used including interviews, participant observation, a mail survey, and focus groups.

Objectives

The objectives of the project were to:

- Examine citizen knowledge of forest management and ecological processes, exploring significant differences between population subgroups and correlating knowledge with specific respondent characteristics.
- Identify which information sources the public considers useful and trustworthy.
- Measure methods of agency information exchange to determine those the public considers useful.
- Explore public perspectives on the Blue River Landscape Study.

Knowledge

In the mail survey, respondents reported their familiarity with forestry terms, projects, and organizations in the McKenzie watershed and answered two sets of questions intended to examine their knowledge of forest management. The survey revealed the following:

- Overall, the public considered themselves well informed about forest management.
- Less than half the respondents were familiar with the existing organizations or projects in the McKenzie area. The H.J. Andrews and Northwest Forest Plan were the most recognized, while the Blue River Landscape Project and the Augusta Creek Project were the least recognized.
- Overall, Respondents appeared fairly knowledgeable about forest processes and general ecology.
- No significant differences were found in knowledge levels of the upriver rural and downriver urban population in the McKenzie watershed.
- Many differences existed between the attentive and general publics. The attentive public considered themselves more knowledgeable and more attentive respondents knew the meaning of every term, organization, and project. They also gave more correct answers to questions about forest processes and general ecology.

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Useful Information Sources

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Survey respondents rated 14 information sources ranging from personal experience to the mass media to government agencies.

- Just three information sources personal experience, relatives and friends, and the Forest Service were regarded as useful by the majority of the respondents.
- About half of the respondents rated reports from TV, radio, newspaper, and environmental group sources as "not useful."
- Significant differences existed between the attentive and general publics for the usefulness of all information sources.

Trust in Information Sources

- The five most trusted information sources were personal experience, the Forest Service, OSU Extension Service, ODF, and university scientists.
- The least trusted were TV and radio reports, forest industry groups, newspaper reports, and environmental groups.
- There were significant differences in the ratings of the attentive and general publics for trust in most information sources.

Usefulness of Specific Forest Service Methods of Information Provision

Survey respondents were asked specifically about the usefulness of a dozen Forest Service information exchange methods.

- Interactive methods such as personal conversations with local Forest Service staff, guided tours or fieldtrips, information meetings, agency presentations, and small, interactive workshops were most useful.
- Technological sources such as videos and the Internet were least useful.
- The general public had a much higher percentage of "no basis for opinion" responses, indicating a lack of familiarity with many agency messages. When these "no basis for opinion" responses were removed for purposes of comparison, there were few significant differences between the attentive and general publics.

Public Perspectives on the Blue River Landscape Study (BRLS)

It appears the public is relatively supportive of adaptive management and the BRLS. Almost three-quarters of the respondents agreed, "adaptive management areas are a good idea," and well over half "support the BRLS approach." However, familiarity with the BRLS was low. Few respondents knew many specifics related to the project. Therefore, most were responding to the brief summary paragraph supplied. Another concern involves the degree to which citizens believed BRLS managers know enough about forest and stream ecosystems to plan management approaches. About a quarter did not believe they had enough knowledge, and just over a quarter had no basis to make a judgment. Although citizens may support the BRLS concept in general, the combination of low public familiarity and lukewarm confidence in managers' ability indicate a need for improved interaction with communities about such projects..

INTRODUCTION

The purpose of this study was to explore public knowledge of forest management, attitudes about information sources, preferences regarding methods of information exchange, and attitudes towards adaptive ecosystem management. Specifically, it focused on the McKenzie watershed in Oregon and explored differences between the attentive and general publics and urban and rural residents. By increasing understanding of public knowledge and attitudes, the study's aim was to provide valuable information about how land managers can interact with the public to reach more durable, supported, and long lasting management decisions.

Background: Ecosystem Management and Adaptive Management Areas

A 1992 announcement by Dale Robertson, Chief of the U.S. Forest Service (USFS), marked the agency's adoption of ecosystem management, focusing on the need to "blend the needs of people and environmental values...[to create] diverse, healthy, productive, and sustainable ecosystems" (1992: p.2). Ecosystem management considers ecological values and the role of citizens in management decisions (Bormann et al., 1994).

Adaptive management is a decision-making method suitable for situations with a tremendous amount of information and uncertainty, which are inherent in ecosystem management (Cortner and Moote, 1999). The 1993 Northwest Forest Plan created ten Adaptive Management Areas (AMA) in the Pacific Northwest. The purpose of the AMAs was to experiment with innovative management techniques and to "encourage the development and testing of technical and social approaches to achieving desired ecological, economic, and other social objectives" (FEMAT, 1993, p. D-1). The intentions were to facilitate connections between agencies and the public at the local scale and to foster the integration of local and scientific knowledge into the planning process (Stankey et al., forthcoming).

The Blue River Landscape Study

The Blue River Landscape Study (BRLS) is a long-term research project set in the McKenzie watershed, specifically in the H.J. Andrews Experimental Forest, within the Willamette National Forest. The presence of the H.J. Andrews was one of the determining factors in siting the Central Cascades AMA in the McKenzie watershed (FEMAT, 1993).

The Cascade Center for Ecosystem Management was established to integrate the historical research conducted at the H.J. Andrews Experimental Forest with current management objectives through an adaptive model that connects managers, interest groups, and the public (Cascade Center for Ecosystem Management, 2001). A series of studies were conducted at the H.J. Andrews, beginning in the 1980s. The focus was on efforts to reduce fragmentation of old-growth structures, provide connective habitat corridors, and integrate landscape and watershed objectives through historical disturbance regimes such as fire. The Augusta Creek Project was one of the studies that based landscape-level management on historical disturbance regimes. By the mid-1980s, the USFS developed a management plan to test alternative landscape patterns based on these disturbance regimes. This plan was halted when the Blue River watershed, a

3

57,000-acre area in the eastern portion of the McKenzie, was designated a Habitat Conservation Area for the northwest spotted owl (*Strix occidantalis*) in 1990. The creation of the CCAMA in 1994 revived management experimentation and gave rise to the BRLS (Cascade Center for Ecosystem Management, 1997).

Using an adaptive management model, research goals for the BRLS include addressing scientific questions, monitoring studies to test plan effectiveness, creating demonstration projects to serve as a forum for information exchange, and iteratively integrating new information learned at each research stage (Cascade Center for Ecosystem Management, 2001). While historical efforts emphasized ecological research, the H.J. Andrews and local USFS districts routinely provide tours, field trips, meetings, and nature talks for the public. In addition, a team of managers and scientists associated with the CCAMA meets regularly to address ways to improve public involvement, and the Cascade Center emphasizes that its primary product is information (Central Cascades Adaptive Management Area Public Involvement Team, 2000).

Research Setting: The McKenzie Watershed



Map courtesy of Doug Oetter and Tony Cheng

Figure 1 Research Setting: The McKenzie Watershed, Oregon

The setting for this study was the 850,000-acre (1,300 square-mile) McKenzie watershed in central, western Oregon between the crest of the Central Cascades Mountains and the confluence of the McKenzie and Willamette rivers in Eugene, Oregon (Figure 1). The population is concentrated in the Eugene/Springfield metropolitan area, and then disperses into rural areas northward along the Mohawk River towards Marcola and Mabel, and eastward along the McKenzie River through unincorporated communities from Walterville to Belknap Springs.

The dominant land use in the watershed is forestry. The western portion of the watershed is comprised mostly of private industrial and non-industrial lands, while the federal government oversees much of the eastern portion.

Though the northeastern portion of the McKenzie watershed stretches into Linn County, this section of the watershed is sparsely populated and comprises less than 10 percent of the total watershed population. Therefore, Linn County residents were not considered in the study.

Although the city of Eugene is not in the McKenzie watershed, it was included in the study. Eugene residents comprised 54 percent of a USFS mailing list of individuals interested in receiving more information about McKenzie watershed issues. One possible explanation for this involvement in the watershed may be that residents often recreate within the watershed (Shindler et al., 1996). There are many campgrounds and wilderness areas in the eastern section of the watershed within close proximity of Eugene.

Forest management in this watershed is often characterized by conflict, as evidenced by local newspaper stories presenting differing views on area resource issues, such as land use and prescribed fire in wetlands (Robertson, 1998, 1999), the connection between logging practices and landslides (Robertson, 1997a), and the causes of decline in salmon populations (Robertson, 1997b).

Research Objectives

By exploring the knowledge and preferences of different population groups, this study can help management agencies exchange relevant information with intended audiences using preferred methods and information sources. In the adaptive ecosystem management framework management agencies are being challenged to increase public involvement and ultimately to reduce conflict. Research has demonstrated that increasing public knowledge of a management practice can enhance public support for that practice (Shelby and Speaker, 1990; Shindler and Reed, 1996; Taylor and Mutch, 1985). Increased knowledge may also strengthen support for management decisions by enhancing the comprehension of considered alternatives (Shindler and Neburka, 1997). On the other hand, varied levels and types of knowledge held by different groups can lead to conflicting recommendations on appropriate natural resource management plans and this conflict can halt the implementation of even the most scientifically sound management decisions (Brunson, 1996; Cortner et al., 1998).

Specific objectives for this research, focused on the communities of the McKenzie watershed, were to:

- Examine citizen knowledge of forest management and ecological processes, exploring significant differences between population subgroups and correlating knowledge with specific respondent characteristics;
- 2) Identify what information sources the public considers useful and trustworthy;

- 3) Explore what methods of USFS information exchange the public considers useful; and
- 4) Survey public perspectives on the BRLS.

This project complements parallel work on public attitudes, perceptions, and preferences for integrated ecosystem based adaptive management in the Pacific Northwest (Shindler, 2000; Shindler and Cheek, 1999; Shindler et al., 1999; Shindler and Collson, 1998; Shindler et al., 1993; Shindler and Neburka, 1995, 1997; Shindler and O'Brian, 1997; Shindler et al., 1996; Stankey and Shindler, 1997; Shindler and Wright, 2000). Much of this work centers on some or all of the ten adaptive management areas in Washington, Oregon, and California, including the CCAMA that served as the focus of this study. As the CCAMA team developed BRLS, the opportunity arose to explore both citizen knowledge of the specific project and public perceptions of an adaptive ecosystem management approach.

2

LITERATURE REVIEW

This literature review briefly summarizes research regarding public knowledge of and preferences for adaptive ecosystem management, as well as factors relevant to judgments on resource management decisions, preferred information sources, and methods of information exchange.

Factors Correlated with Knowledge

Income, Education, and Male Gender: Positive Correlations with Knowledge

There is evidence of correlation between knowledge and education, income, and gender. Arcury (1990) found that male respondents and those with higher education and higher income levels tended to correctly answer more questions about natural resource issues. Reading et al. (1994) corroborated these findings. An earlier phone survey in Kentucky also positively correlated education, income, and male gender with environmental knowledge (Arcury et al., 1986).

Evidence of age as a characteristic associated with knowledge is weak. Wright (2000) surveyed the general public and members of the South Santiam watershed council, neighboring the McKenzie in Oregon, and found that younger residents answered more questions correctly concerning watersheds, but not questions relating to terms or general environmental issues. In a knowledge and attitude study of residents within the Greater Yellowstone Area, Reading, et al. (1994) found no correlation between age and knowledge, although he did find that younger people were less supportive of resource consumption and more supportive of protectionist views toward the environment. In a telephone survey of Kentucky residents, Arcury (1990) found weak and inconsistent correlations between age and knowledge, though he also found a correlation between youth and preservationist attitudes.

Urban and Rural Publics: Differences Not Due to Residency

Though differences might exist between urban and rural residents, factors other than residency (i.e., age, education, environmental group affiliation, political ideology, and attentiveness) better explain their different perspectives (Brunson et al., 1997, p.86). Some research correlated urban residency with higher education, income, and strong environmental convictions (Dunlap and Mertig, 1991; Jones and Dunlap, 1992). Arcury's (1990; 1986) Kentucky studies found a weak correlation between urban living and environmental knowledge, while Reading (1994) found an inverse correlation in the Greater Yellowstone Area. Wright (2000) found no differences between urban and rural residents, though she did find a significant, positive correlation between years of residence and general environmental knowledge, watershed knowledge, and knowledge of management terms.

Attentive Public: More Involved and Knowledgeable than the General Public

The attentive public is generally characterized by being more involved in government than the general public (Barber, 1984; Lunch, 1987). Little is known about differences between

the attentive and general publics concerning knowledge of natural resources, preferred methods for exchanging information, or involvement in management decisions.

Researchers found that respondents involved in Michigan politics had slightly more knowledge of issues related to acid rain than those uninvolved, and the correlation was a bit stronger for respondents in Ontario, Canada (Steger et al., 1988). Other studies found stronger correlations between knowledge and involvement in natural resource issues, i.e., attentiveness (Bennett, 1995; McGee-Brown et al., 1995; Reading et al., 1994; Shindler and Wright, 2000).

Knowledge: One Factor in Acceptance

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Several researchers found that citizens supported proposed management options more frequently when they understood the rationale, research questions, and outcomes (Shindler and Collson, 1998; Stankey, 1996; Wondolleck and Yaffee, 1994; 2000). For example, increased knowledge of fire correlated to increased preferences for fire as a management tool (Shelby and Speaker, 1990; Shindler and Reed, 1996; Taylor and Mutch, 1985). In addition, Bliss et al. (1993) confirmed that a lack of knowledge about forestry and forestry practices was correlated with opposition to these practices.

Brunson and Reiter (1996) tested the hypothesis that information influences public preferences. They briefly presented an informational talk to two treatment groups then asked the respondents to rate the acceptability of different silvicultural treatments from a slide show. Two control groups also rated acceptability without the talk. The two groups that received information before the slide viewing gave the highest preference ratings.

Government agencies can no longer simply aim to increase the public's knowledge of technical and scientific information (Cvetkovich, 1995) because public preferences "cannot be expected to change solely in response to changes in the level of technical understanding" (Stankey and Clark, 1991, p.7). Instead, preferences result from a variety of sources that include good science, personal experience, knowledge, ethical concerns, values, attitudes, and beliefs (Stankey and Clark, 1991)

Information Sources and Forms of Information Exchange

Though knowledge does play a formative role in public preferences, the method of information delivery is often equally important (Aldred Cheek et al., 1997). Natural resource management agencies can improve the delivery of relevant educational material by understanding public preferences (Steger et al., 1988). Information *sources*, such as television, newsletters, or magazines, convey information. Information *exchange* refers to interactive methods such as teaching in classrooms, discussions with friends, or public meetings.

Interactive Forms of Information Exchange Are Preferred

The public generally prefers interactive methods of information exchange (Aldred Cheek et al., 1997). Fortner and Mayer (1991) found classrooms an important information source that ranked behind television and movies in 1979, but were rated most important by 1983 and 1987.

In recent studies, friends and neighbors were also considered useful (Bennett, 1995; Steger et al., 1988). Interpersonal conversations with friends were preferred in natural resource decisionmaking settings (Aldred Cheek et al., 1997), and 41 percent of the public in the CCAMA considered them a useful information source (Shindler et al., 1996). Non-industrial private forest owners favored personal visits by agency employees (Brunson and Reiter, 1996), while the general public preferred informal contact with USFS officials, representation on decision-making bodies, field trips, and public meetings (Force and Williams, 1989).

Large public meetings were particularly disliked as a method of information exchange (Brunson and Reiter, 1996). The public generally viewed these meetings as one-way events that did not reflect the range of views held by the community because attendees were unable to share their opinions (Shindler and Collson, 1998).

Mass Media Outlets Can Be Important Information Sources

The public tends to rank mass media outlets, such as newspapers and television, as the most important sources of information (Brothers et al., 1991; Pilisuk et al., 1987; Shindler et al., 1996; Steel et al., 1990). Radios and magazines, particularly nature magazines such as National Geographic, were also important sources of natural resource information (Alaimo and Doran, 1980). However, not all studies found mass media sources of primary importance. Brunson (1995), Force and Williams (1989), and Shindler and Wright (2000) found that respondents gave low rankings to television, newspapers, and radio.

Some studies have suggested that mass media sources could serve as effective learning tools. Television and newspapers increased public knowledge of political candidates (Becker and Dunwoody, 1982) and Cousteau documentary viewers scored much higher on a knowledge quiz than a control group that did not watch the documentary (Fortner and Lyon, 1985). In addition, Fortner and Teates (1980) found that watching television and reading National Geographic accounted for 10 percent of the difference in knowledge scores of 10th grade students in Ohio. Again, this was not the case in all studies. While Steger et al. (1988) found that Canadian and American respondents ranked newspapers and television as the first and second most important sources of information; newspapers did not correlate to any knowledge indicators and television only had weak correlations.

Trustworthiness of Information Sources Is Important

Factors such as trust, risk and values also play a role in the formation of preferences. For example, the credibility of information is often based on the trustworthiness of the person distributing it (Moore, 1996). If the person distributing the information was trusted, the information was generally considered accurate and reliable. Conversely, if the public does not trust an information source due to a poor track record, the information may not be seen as reliable (Brunson and Steel, 1994; Hansis, 1995).

METHODS

This study employed a mixed model design that integrated qualitative and quantitative methods in all phases of the research, including data collection and data analysis (Tashakkori and Teddlie, 1998). Several social assessment techniques were used, including interviews, participant observation, surveys, focus groups, and analysis of primary and secondary data.

Data Collection

Data collection involved the following five techniques: research of archival material, interviews, a mail survey, focus groups, and participant observation. Each technique has distinct drawbacks and advantages. Combining several techniques within the research design led to a more robust exploration of the research question (Bliss, 1999; Bliss and Martin, 1989; Jick, 1979; Tashakkori and Teddlie, 1998; Yin, 1984).

Interviews

Fourteen exploratory interviews were conducted with a broad cross-section of stakeholders in the McKenzie watershed. The interviews were semi-structured to provide the flexibility necessary to pursue topics not previously considered and potentially relevant to the survey and research (Robson, 1997). Data from these exploratory interviews were used to make survey questions more meaningful to the residents and more relevant to current management issues in the McKenzie watershed.

Mail Survey

The mail survey (Appendix A) constituted the study's next phase.

Survey questions included the following:

- *Self-assessed knowledge of forest management*. Respondents evaluated their familiarity with forest management terms and with projects in the McKenzie watershed on a 5-point Likert scale ranging from "very well informed" to "not very well informed."
- *Knowledge of forest and ecological processes.* Respondents answered two sets of quiz questions: one asked the respondents nine true/false questions about forest processes, while the other asked seven multiple-choice questions about general ecological knowledge. Work by Pierce et al. (1989), Steger et al. (1988), Shindler et al. (1996), and Wright (2000) provided a template for the survey design and additive scales used for assessing public knowledge.
- *Useful information sources.* Respondents assessed the usefulness of 14 information sources on a 5-point Likert scale ranging from "very useful" to "not useful" with a "no basis for opinion" category.

- *Trust in information sources.* Respondents rated their level of trust in 14 information sources on a 5-point Likert scale ranging from "trust completely" to "distrust completely" with a "no basis for opinion" category.
- Useful methods of USFS information exchange. Survey respondents expressed their opinion about 12 different methods of receiving information from the USFS on a 5-point Likert scale ranging from "very useful" to "not very useful."
- *Public perspectives on the BRLS.* The survey described the CCAMA and the BRLS. Respondents were asked to rate their agreement with a number of statements. Responses ranged from "strongly agree" to "strongly disagree" on a 5-point Likert scale, with an option for "no basis for opinion."
- *Public involvement.* Respondents answered one question concerning the appropriate role for the public in natural resource management decisions.

The survey sample was drawn from residents of the McKenzie watershed and the Eugene metropolitan area. The sample was stratified into the attentive and general publics based on involvement in natural resource issues. The attentive sample came from an existing USFS list of individuals who requested information, came to field trips, submitted public comment, or were otherwise involved. Though the attentive public is a census of McKenzie residents on a USFS mailing list, it is likely that this mailing list does not represent all attentive residents in the watershed. The general public was randomly sampled from a database of telephone directories.

All individuals from the attentive and general population were then classified as urban or rural depending on zip code. Those living in the Eugene-Springfield metropolitan area were considered urban, while the rural public lived upriver in unincorporated communities such as Walterville, Vida, Leaburg, Fin Rock, Blue River or McKenzie Bridge.

Using a modified "total design method," surveys were mailed with a hand-signed cover letter and a self-addressed, stamped return envelope (Dillman, 1978; Salant and Dillman, 1994). The first mailing occurred in February 2000. Those who had not yet completed the questionnaire received two follow-up packets at three-week intervals.

Focus Groups

Structured but informal group conversations about natural resource issues in the McKenzie watershed were used to further explore the survey questions, test the survey findings, further investigate the depth of citizen knowledge, observe group interaction, and understand why the participants responded in the manner they did (Kreuger, 1994; Robson, 1997).

All focus group participants were survey respondents who identified themselves as willing to participate in a focus group by checking the appropriate box on the back of the survey.

In each meeting, a researcher served as the discussion facilitator while a note-taker monitored the tape recorder and captured key themes. The moderator worked from a list of relevant questions, though participants were free to raise other issues.

Participant Observation

In addition to the methods described above, researchers engaged in participant observation of three watershed councils during the entire project, including:

- Mary's River Watershed Council (21 meetings);
- McKenzie River Watershed Council (16 meetings); and
- Mohawk Watershed Partnership (2 meetings).

This involvement kept the research team abreast of relevant issues in the watershed and provided experience working with watershed councils, a growing method for involving citizens in making choices that affect their landscape.

Data Analysis

Interviews

Exploratory interviews occurred at different times during the research. All interviews were tape recorded and transcribed. Transcriptions were imported into a qualitative analysis workbench software package, Atlas.ti v. 4.1 (Muhr, 1997) and all data were coded into themes and grouped into thematic units for comparative analysis (Flick, 1998; Strauss, 1990). The interviews allowed for richer conversation, identified key issues of importance to watershed residents, and gave voice to these issues.

Mail Survey

A total of 287 residents responded to a mailing of 454 surveys, for a 63 percent response rate (Table 3.1). Quantitative data from the survey were analyzed with SPSS v. 10.0 statistical tools (SPSS, 1999). Several methods were used to assess the data. Independent sample T-tests, Pearson's chi-square test, Fisher's exact test, ANOVA, and Tukey-Kramer multiple comparison analysis were used for group comparison. The Wilcoxon rank-sum, also known as the Mann-Whitney test, was employed for trend analysis of ordered responses.

Table 3.1 Survey Population									
	Deliverable	Valid	Response						
Sub- sample	questionnaires	responses	rate						
attentive	175	125	70%						
- urban	97	70	72%						
- rural	78	55	71%						
general	279	162	58%						
- urban	135	69	51%						
- rural	144	93	65%						
Total	454	287	63%						

Focus Groups

All notes and transcriptions from the focus groups were imported into a qualitative analysis workbench software package, Atlas.ti v. 4.1 (Muhr, 1997). All data were coded into themes and grouped into thematic units for comparative analysis (Flick, 1998; Strauss, 1990). This provided an opportunity to check for issues that were important to the watershed residents, but were not included in the survey.

Participant Observation

Field notes from the participant observation of watershed council meetings were imported into the qualitative analysis workbench software package, Atlas.ti v. 4.1 (Muhr, 1997). Similar to the focus group transcripts, the field notes were coded into themes and grouped into thematic units for comparative analysis (Flick, 1998; Strauss, 1990). The participant observation data proved useful at different stages of the analysis, including identifying key research themes, grounding survey questions, and discovering omitted issues.

FINDINGS

Many statistically significant differences did exist between the attentive and general publics. Where comparisons were appropriate, data tables reflected these differences. Selected quotations from focus group interview participants, who were also survey respondents, provide further depth and insight into the questions of interest.

Analyses revealed few differences between the urban and rural respondents across all eight categories of inquiry. Thus, comparisons for these two groups were omitted to simplify the presentation of findings. Some comments are included within the text in selected cases. (See Appendix A for response frequencies from all population groups for each survey question.)

Respondent Demographics

Demographic characteristics are summarized in Table 4.1.

Differences Between Attentive and General Publics

Demographic differences between the attentive and general publics were statistically significant for gender, occupation, and education level. Education level had the greatest statistical difference, with 75 percent of the attentive public holding a bachelors degree or higher, in contrast to 34 percent of the general public. The attentive public also had more females, more government employees, and fewer manufacturing and service industry employees.

Perceived Differences Between Urban and Rural Publics

The focus group participants were unaware of the attentive-general and urban-rural distinctions made in the study. Although few differences between the urban and rural public proved to be statistically significant at $p \le 0.05$ (Appendix A), some focus group participants spoke of perceived differences. Some rural participants articulated a stereotypical claim that they believe distinguished the two groups:

I feel like if I'm going to live here I am a caretaker of it to some extent, and I have a responsibility, much more of a responsibility for what's going to take place in this valley than the guy down on 45th in Eugene does, because I'm here to see it and I'm living here. It's not just that it's going to affect me more than him, to me I have the responsibility to see that whatever effects of the decisions that are going to be made aren't going to impact him and blindside him two or three years from now (general public focus group respondent).

	total	attentive	general
Population group (size)	287	125	162
urban	139	70	69
rural	148	55	93
Mean years of residence in Lane County	27	24	29
Gender *			
female	23%	28%	18%
A			
Age < 35	8%	4%	10%
36 - 48	27%	30%	27%
49 - 65	38%	42%	34%
Over 65	28%	25%	30%
Level of education **			
high school	14%	4%	23%
some college	33%	20%	41%
bachelors	30%	39%	23%
graduate or professional degree	22%	36%	11%
Retired	34%	34%	36%
Occupation from which household derives			
its primary income *			
forestry industry	16%	19%	12%
agriculture	2%	1%	3%
public administration and government	18%	24%	12%
education or academics	15%	17%	13%
manufacturing and construction	16%	9%	24%
service Industry (tourism, recreation services)	15%	10%	19%
other	17%	18%	16%

Table 4.1	Characteristics	of Survey	Respondents
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* Difference between attentive and general publics significant at $p \leq 0.05$

** Difference between attentive and general publics significant at p \leq 0.01

Self-Assessed Knowledge of Forest Management

The attentive public rated themselves significantly higher in knowledge of forest management issues than the general public (Table 4.2). Sixty-eight percent of the attentive public believed they were "well informed," in contrast to only 22 percent of the general public.

Table 4.2 Sen-Assessed Knowledge of Forest Management										
	Well	Moderately	Not very							
Sub-sample	informed	informed	informed							
overall	44%	29%	27%							
attentive	68%	22%	10%							
general	22%	36%	43%							

Table 4.2 Self-Assessed Knowledge of Forest Management

Difference between attentive and general publics significant at $p \le 0.01$

More than half of all respondents indicated that they knew the meaning of nine out of twelve forest management terms. The terms in Table 4.3 are listed from best to least known, and the order is virtually the same for both groups. Respondents expressed the most knowledge of the terms watershed (87%), streamside buffer (82%), and E.I.S. (81%), while the specific pieces of legislation, 4(d) rule (20%) and 303(d) rule (20%), were the least recognized. Over 80 percent of the attentive public knew the terms forest succession, silviculture and anadromous, yet less than half of the general public reported similar knowledge.

The attentive public also indicated a greater familiarity with a range of terms, projects, and organizations associated with ecosystem management and the McKenzie watershed, though neither group's familiarity with organizations and projects was as high as familiarity with forest management terms (Table 4.3). Less than half of all respondents were knowledgeable of any organization or project. The H.J. Andrews (48%) and Northwest Forest Plan (43%) were the most recognized, while the BRLS (20%) and the Augusta Creek Project (13%) were the least.

	Know				Hear	d of, c	lon't		Never			
	n	neanin	g		know meaning			he	heard term			
Term	tot	att	gen		tot	att	gen	tot	att	gen		
watershed	87%	97%	79%		11%	3%	17%	2%	0%	3%		
streamside buffer	82%	97%	70%		9%	3%	13%	10%	1%	17%		
E.I.S.	81%	97%	66%		13%	2%	23%	6%	2%	11%		
ecosystem management	78%	94%	64%		14%	4%	23%	8%	2%	14%		
snag	78%	96%	63%		11%	3%	17%	11%	2%	20%		
riparian zone	76%	95%	59%		8%	2%	15%	15%	3%	26%		
forest succession	61%	84%	41%	1	24%	11%	36%	15%	5%	23%		
silviculture	54%	83%	30%		11%	7%	14%	35%	10%	56%		
anadromous	52%	81%	26%		16%	12%	21%	32%	7%	53%		
range of historical variability	37%	57%	20%	1	27%	24%	28%	36%	20%	53%		
4(d) rule	20%	37%	3%		19%	24%	15%	61%	39%	83%		
303(d) listing	20%	37%	2%		16%	22%	11%	64%	41%	87%		
Organizations and projects												
H.J. Andrews Experimental Forest	48%	77%	23%		16%	13%	19%	36%	10%	59%		
Northwest Forest Plan	43%	69%	20%		30%	25%	36%	27%	6%	43%		
McKenzie Watershed Council	38%	56%	19%		44%	41%	50%	18%	3%	31%		
Central Cascades AMA	28%	59%	3%	3	23%	29%	19%	49%	12%	77%		
Blue River Landscape Project	20%	35%	7%	:	37%	43%	32%	43%	22%	61%		
Augusta Creek Project	13%	24%	3%	:	25%	34%	19%	62%	42%	78%		

Table 4.3 Self-Assessed Knowledge of Terms, Organizations, and Projects

All responses for attentive and general publics are significantly different at $p \leq 0.01$

Significant differences existed between the attentive and general publics for all organizations and projects. Over half of the attentive public was knowledgeable of all but the BRLS and Augusta Creek Projects, while less than one-quarter of the general public indicated familiarity with any item. The greatest statistical difference existed in relation to the CCAMA, with 59 percent of the attentive public expressing familiarity in contrast to three percent of the general public.

Discussion with focus group participants, a subset of survey respondents, reinforced the finding that the attentive public claimed more knowledge of terms, projects, and organizations. The attentive public not only gave higher self-evaluations of their knowledge of forestry related terms, organizations and projects, they typically spoke in more detail during the focus group meetings and shared more opinions about terms such as ecosystem management and projects such as the BRLS. The following statement captures the level of informed discussion: "I think the intent of ecosystem management is key and essential... the focus is on the interrelationships and to me that's where ecosystem management is key. Before we have compartmentalized and boxed things...I think ecosystem management is an attempt to say we are all in this together, we all have to work through...I think the practice of that is in its infancy" (att). In contrast, the following statement by a general public participant was typical of the discussion of ecosystem management, "I think I know a little bit about what an ecosystem management than what I get from the words. If there is something technical here I don't know what you're talking about. I'd be interested in knowing, but I don't" (gen).

Though only about one-third of the attentive public had knowledge of the BRLS, many expressed opinions similar to the following:

I think it is a great idea to conduct these studies. My reluctance to buy into it is whether or not folks on the ground will actually use the research to make decisions based on what is discovered. I took tours up at the Andrews Forest...and I really had a lot of suspicion whether or not they were really using the information they were gathering to make really wise decisions, or if they were just paying them lip service. But I think that the idea was solid (att).

Knowledge of Forest Processes

Overall knowledge of forest processes, gauged by a true or false quiz, appeared relatively high (Table 4.4). Over half of the respondents answered each question correctly, except one concerning the need for large storms to repeatedly deposit sediment and gravel into streams. The respondents were most knowledgeable about the importance of vegetation along stream banks (92%), the desirability of large structural material in streams (88%), and the need for sunlight in Douglas fir seedling generation (70%).

Despite high rates of correct responses, some uncertainty was evident. Nearly one-quarter of all respondents indicated they were "not sure" about questions related to the focus of landscape level management, the cause of forest fire, the role fire plays in shaping the landscape, and streams needing sediment deposits.

As anticipated, the attentive public answered more questions correctly than the general public. The attentive public provided significantly more correct answers to every question except one, the cause of forest fire in the Central Cascades.

<u> </u>	correct			not sure			
Question	tot	att	gen	tot	att	gen	
Vegetation along stream banks improves water quality. (True)*	92%	97%	87%	6%	1%	9%	
Large trees, logs, etc., in streams are a barrier to fish and should be removed when possible. (False) *	88%	95%	83%	7%	4%	10%	
Douglas fir trees regenerate better in open, sunny areas than in shaded ones. (True) **	70%	78%	64%	18%	8%	24%	
Fire has played a significant role in shaping natural forests in the Blue River watershed. (True) **	69%	87%	55%	24%	8%	35%	
There are no biological differences between wild salmon and hatchery salmon. (False) **	63%	72%	56%	19%	10%	27%	
Forest fires are responsible for some of the open meadows found in the Central Cascades. (True) **	62%	72%	54%	21%	15%	25%	
Landscape level management focuses more on watersheds and ecological systems than property boundaries. (True) *	58%	80%	41%	37%	17%	52%	
Currently, humans cause most forest fires in the Central Cascades. (False)	52%	53%	50%	24%	24%	24%	
Healthy rivers in the Central Cascades require repeated deposits of sediment and gravel from large storms. (True) *	47%	57%	39%	29%	23%	34%	
Note: correct answer noted in parenthesis							

Table 4.4 Knowledge of Forest Processes

* Difference between attentive and general significant at $p \leq 0.05$

** Difference between attentive and general significant at p ≤0.01

Knowledge of Ecological Processes

Three quarters of the respondents correctly answered the general ecological processes questions regarding trees as a renewable resource, vehicles as the greatest source of carbon monoxide, a definition of biodiversity, and habitat loss as the most common reason for species extinction (Table 4.5). Over half of the respondents correctly answered a question concerning streamside alteration, and less than half knew the major source of electricity in the United States or the primary cause of erosion on forested land. A high percentage of respondents selected hydroelectric dams as the primary source of electricity generated in the United States, rather than coal, oil, and wood, indicating a possible Northwest bias. The question concerning the source of erosion received the fewest number of correct answers; 36 percent correctly answered roads, while 39 percent incorrectly selected clearcuts.

The attentive public averaged an 80 percent correct response rate across all questions as compared to the general public at 59 percent. The most significant differences concerned the understanding of biodiversity, alteration of streams, sources of power, and sources of erosion in the forests. No significant differences existed between the attentive and general publics for the two questions with the highest correct response rate: renewable resources and sources of carbon monoxide. However, the attentive public gave significantly more correct answers to all remaining questions.

Question Possible answers and response frequencies								
Which of the following is a								
renewable resource	oil	iron ore	trees	coal	not sure			
overall	0%	0%	99%	0%	1%			
attentive	0%	0%	100%	0%	0%			
general	0%	0%	99%	0%	1%			
The largest source of carbon			home	forest				
monoxide in the U.S. is	factories	vehicles	heating	fires	not sure			
overall	6%	82%	0%	0%	11%			
attentive	2%	88%	0%	0%	11%			
general	8%	78%	1%	1%	12%			
The word used to describe								
many different kinds of		bio-	socio-					
animals and plants is **	multiplicity	diversity	economics	evolution	not sure			
overall	3%	79%	0%	2%	16%			
attentive	4%	94%	0%	0%	3%			
general	2%	66%	1%	4%	28%			
The most common reason								
that plant and animal species		habitat		natural				
become extinct is *	predation	loss	competition	disasters	not sure			
overall	4%	77%	10%	1%	9%			
attentive	3%	84%	7%	1%	5%			
general	4%	71%	12%	0%	12%			
Streams and streamside areas	urban			range/				
are most altered in **	areas	farmland	forestland	pasture	not sure			
overall	57%	5%	6%	13%	19%			
attentive	68%	3%	5%	12%	11%			
general	44%	8%	6%	15%	27%			
Most electricity burned in the								
United States is generated		coal, oil		hydro				
from what source of power **	nuclear	and wood	solar	dams	not sure			
overall	0%	48%	0%	42%	9%			
attentive	0%	69%	0%	23%	7%			
general	1%	32%	0%	56%	11%			
The biggest source of erosion			unharvested	natural geog.				
from forested land is **	clearcuts	roads	forests	activity	not sure			
overall	39%	36%	0%	13%	12%			
attentive	22%	54%	0%	15%	9%			
general	51%	20%	1%	13%	15%			

Table 4.5 Knowledge of Ecological Processes

Note: correct answers are in bold. * Difference between attentive and general publics significant at $p \le 0.05$ ** Significant at $p \le 0.01$

Knowledge Summary

The attentive public rated themselves as more knowledgeable than the general public in a self-assessment and indicated that they were more familiar with all terms, projects, and organizations. They also gave significantly more correct answers to both the forest management and general ecological knowledge guizzes. Table 4.6 displays the additive scores for the attentive and general publics for each of the knowledge measures. The additive scores represent the mean number of correct answers (correct answers scored 1 and incorrect answers scored 0). Consistent with the rest of the findings, the attentive public was significantly more knowledgeable than the general public in all areas.

10.3	57
	0.1
3.2	0.8
6.9	5.3
5.6	4.1
	3.2 6.9 5.6

Table 4.6 Knowledge Measures: Mean Additive Scores

Difference between attentive and general publics for all categories significant at $p \leq 0.01$

In addition to assessing differences in knowledge between the attentive and general public, a bivariate correlation analysis was conducted to assess the relationship between different demographic factors (attentiveness, residence, education level, gender, years of residence, age, and retirement) and knowledge (Table 4.7). The analysis checked each of these seven characteristics for correlations with the five knowledge measures: 1) self-rated knowledge of forest management, 2) self-rated familiarity with management terms, 3) self-rated familiarity with projects and organizations, 4) knowledge of forest and watershed processes, and 5) general ecological knowledge.

	Self-rate	ed assessm	ients	Knowledge quiz					
Characteristics	knowledge	projects	terms	forest ecological					
rural	-0.070	0.045	-0.085	0.079 -0.022					
age	-0.224**	-0.128*	-0.120*	-0.049 -0.083					
retired	-0.272**	-0.169**	-0.229**	-0.065 -0.104					
years of Residence	0.020	-0.017	-0.026	0.158** -0.097					
female	-0.088	-0.014	-0.058	-0.170** -0.148*					
education Level	0.330**	0.367**	0.461**	0.240** 0.447**					
attentive	0.533**	0.648**	0.654**	0.344** 0.448**					

Table 4.7 Bivariate Correlations Between Knowledge Measures and Respondent Characteristics (Spearman's Correlation Coefficient)

* Correlation significant at p ≤0.05

** Correlation significant at p ≤0.01

Rural residency had no correlation with knowledge or self-rated assessments. Age and retirement, were inversely correlated with the three types of self-assessed knowledge. This means that younger, non-retired respondents indicated they were more knowledgeable, but they did not answer more questions correctly in the knowledge quizzes. By contrast, males and people who had lived longer in the watershed did not consider themselves more knowledgeable in the self-assessments. However, both answered more forest processes quiz questions correctly and males also gave more correct answers to the ecological quiz.

Only two characteristics, education and attentiveness, were positively correlated to higher self-assessments of knowledge and more correct quiz answers. The attentive public and those with higher education levels scored significantly higher across all five knowledge measures.

Useful Information Sources

Three information sources were selected as useful by over half of the respondents: personal experience (77%), relatives, friends or neighbors (51%), and the USFS (62%). All four media and interest group sources, by contrast, were rated as "not useful" by close to 50 percent of the respondents: TV and radio (63%), newspaper reports (53%), environmental groups (49%), and forest industry groups (43%) (Table 4.8).

Table 4.8 Useful Information Sources

		usefu		nc	not useful			no opinion		
Information Source	tot	att	gen	tot	att	gen	tot	att	gen	
Personal										
personal experience	77%	86%	67%	11%	8%	14%	13%	6%	19%	
relatives, friends, neighbors	51%	51%	53%	39%	47%	31%	10%	3%	17%	
Agencies										
U.S. Forest Service	62%	73%	55%	23%	25%	18%	16%	3%	27%	
OSU Extension Service	40%	47%	34%	23%	31%	15%	37%	21%	51%	
Oregon Department of Forestry	40%	38%	41%	30%	38%	24%	31%	24%	38%	
Bureau of Land Management	42%	51%	33%	31%	37%	27%	27%	12%	40%	
Scientists										
university scientists	36%	59%	18%	21%	21%	20%	42%	20%	62%	
government agency scientists	31%	52%	13%	28%	31%	26%	41%	16%	61%	
Mass Media / Interest Groups										
newspaper reports	41%	49%	36%	53%	51%	55%	6%	1%	10%	
environmental groups	30%	43%	21%	49%	49%	47%	21%	8%	33%	
TV and radio reports	29%	27%	33%	63%	69%	54%	8%	4%	12%	
forestry industry groups	28%	30%	25%	43%	58%	31%	30%	13%	44%	
Watershed Councils										
McKenzie Watershed Council	26%	34%	15%	28%	37%	21%	46%	29%	64%	
Mohawk Watershed Partnership	10%	11%	7%	18%	23%	12%	72%	67%	81%	

Responses from a 4-point scale from very useful to not useful with a no basis for opinion option.

All responses for attentive and general publics significantly different at p ≤0.01

Many respondents had limited exposure to some sources. Over 40 percent of all respondents had "no basis for opinion" concerning the Mohawk Watershed Partnership (72%), the McKenzie Watershed Council (46%) and both university (42%) and government agency scientists (41%).

Significant differences existed between the attentive and general publics for all information sources. The attentive public found each source more useful than the general public with the exception of relatives, friends or neighbors, TV and radio reports, and the Oregon Department of Forestry (ODF). The general public also had less familiarity with every information source as indicated by the higher percentage of "no basis for opinion" responses. The attentive and general publics expressed the greatest difference concerning scientists. Over 50 percent of the attentive public found university and government agency scientists useful, in contrast to less than 20 percent of the general public. In addition, over 60 percent of the general public had "no basis for opinion" concerning the usefulness of scientists as an information source.

The focus groups identified a nuance in the high usefulness ratings given to the USFS. The USFS provides a variety of information that ranges from trail maps to campground suggestions to environmental impact statements. One participant stated, "When I was asked if I get good information from the Forest Service I probably said yeah, it's useful, for what it is, sure. I get nice maps and good advice about where to go and this is fine. It's just that there is a particular kind of information [specifics about how decisions are made] that I'm not getting from the Forest Service" (gen).

Open-ended responses from survey respondents, focus group participants, interviews, and participant observation revealed a number of characteristics associated with useful information sources:

- Citizens prefer that information is comprehensive, reliable, and up-to-date, that terms used are explained, and that the information is understandable;
- Citizens like to know not only *what* an agency decides, but also *how* they came to that decision;
- Interactivity was identified as an important aspect of useful information sources (three of the information sources identified as most useful personal conversations, tours, and informational meetings all have an interactive component); and
- Trust is an important factor in the usefulness of information sources.

Trust in Information Sources

Overall, the five most trusted sources were personal experience (80%), USFS (67%), OSU Extension Service (65%), ODF (62%), and university scientists (62%) (Table 4.9). Those with the lowest trust scores were the Mohawk Watershed Partnership (22%), TV and radio reports (25%), forestry industry groups (29%), newspaper reports (29%), and environmental groups (34%). Fewer than 10 percent of all respondents had "no basis for opinion" concerning

each of these sources except the Mohawk Watershed Partnership, which was unknown to 50 percent of the respondents. A higher percentage of respondents found each information source more trustworthy than useful, except for the mass media sources (newspaper, TV, and radio reports).

Significant differences did exist between the groups for all information sources except the Mohawk Watershed Partnership and relatives, friends or neighbors. While more than half of both the attentive and general publics rated all personal sources and management agencies as trustworthy, the attentive public also included university and government scientists. The large percentage of "no basis for opinion" responses given by the general public was a major source of these differences.

Focus group participants continuously raised trust as a key issue. Trust in personal relationships at the local level was one type of trust participants considered important. One participant (gen) summarized the feeling, "as individuals (USFS) I'm pretty confident of what I hear from them. Some of the official policies, some of the statements they put out, I won't say I distrust it, I'd say I would rather listen to the individual people that are on the job."

	trust			c	distrust			no opinion		
Information Source	tot	att	gen	tot	att	gen	tot	att	gen	
Personal							10			
personal experience **	80%	88%	73%	0%	0%	1%	12%	9%	14%	
relatives, friends, neighbors	59%	58%	60%	4%	4%	1%	6%	2%	10%	
Agencies										
U.S. Forest Service *	67%	67%	67%	20%	26%	14%	5%	1%	8%	
OSU Extension Service **	65%	64%	64%	7%	13%	4%	14%	8%	20%	
Oregon Department of Forestry **	62%	56%	67%	17%	25%	10%	9%	7%	12%	
Bureau of Land Management **	58%	58%	59%	23%	32%	15%	6%	1%	11%	
Scientists										
university scientists **	62%	80%	49%	9%	7%	9%	105	2%	18%	
government agency scientists **	48%	64%	35%	22%	20%	24%	9%	4%	15%	
Mass Media & Interest Groups										
newspaper reports *	29%	275	30%	43%	49%	36%	4%	2%	7%	
environmental groups *	34%	44%	28%	48%	45%	49%	5%	1%	10%	
TV and radio reports **	25%	21%	30%	40%	48%	31%	5%	3%	7%	
forestry industry groups **	29%	27%	28%	47%	60%	36%	9%	1%	16%	
Watershed Councils										
McKenzie Watershed Council **	42%	49%	35%	9%	13%	8%	27%	21%	35%	
Mohawk Watershed Partnership	22%	14%	25%	7%	9%	6%	50%	55%	50%	

Table 4.9 Trust in Information Sources

Responses from a 4-point scale from trust completely to distrust completely with a no basis for opinion option.

* Difference between attentive and general publics significant at $p \le 0.05$

** Difference between attentive and general publics significant at p ≤0.01

Useful Methods of USFS Information Exchange

Respondents considered interactive methods of information exchange most useful (Table 4.10). Useful interactive sources included:

- Personal conversations with local USFS staff;
- Guided tours or fieldtrips;
- USFS information meetings;
- Agency presentations; and
- Small, interactive workshops.

In the written medium, the majority of respondents considered three of the four sources useful: interpretative signs along trails, USFS newsletters, and Environmental Impact Statements. Although respondents generally considered technological sources, such as videos and the Internet, the least useful, both groups appear to have less exposure to these formats as indicated by a high percentage of "no basis for opinion" responses. More than a quarter of the respondents considered every source "not useful," except personal conversations with local Forest Service staff and guided tours or fieldtrips by agency personnel.

Significant differences existed between the attentive and general publics for every source except videos (Table 4.10). Again, the "no basis for opinion" category was a large source of the differences, meaning that opinions about the sources appeared more similar when individuals had familiarity with a source. When an analysis of variance was run to compare just the "useful or very useful" responses against the "slightly useful or not useful" while excluding "no basis for opinion," significant differences existed for only one third of the methods. Still, the attentive public gave a significantly higher usefulness rating to one written medium (government scientific reports), and three interactive methods (personal conversations, guided fieldtrips and small workshops).

Tuble filo estili fieldous of est s mormation Exchange									
	(very) useful not useful no opinior					ion			
Information Types	tot	att	gen	tot	att	gen	tot	att	gen
Interactive Methods									
personal conversations with local Forest Service staff**	69%	81%	62%	19%	14%	22%	12%	4%	19%
guided tours or fieldtrips by agency personnel**	64%	75%	59%	21%	18%	22%	15%	7%	22%
Forest Service information meetings about projects or plans**	54%	57%	52%	29%	35%	22%	17%	9%	26%
agency presentations at meetings of other organizations**	51%	60%	44%	30%	29%	27%	20%	9%	30%
small, interactive workshops with agency personnel and citizens**	48%	60%	37%	28%	29%	23%	25%	12%	37%
citizen-based monitoring efforts **	42%	49%	34%	38%	39%	36%	21%	11%	30%
Written Medium									
interpretative signs or materials along trails, etc. **	65%	67%	65%	27%	31%	24%	6%	2%	10%
Forest Service newsletters **	56%	60%	53%	27%	33%	23%	15%	7%	24%
environmental impact statements **	50%	60%	44%	35%	37%	33%	14%	3%	24%
government scientific reports **	43%	61%	30%	36%	29%	38%	21%	9%	32%
Technological Medium									
World Wide Web / Internet **	43%	45%	41%	26%	31%	19%	32%	24%	40%
videos	37%	36%	38%	37%	40%	35%	26%	25%	28%

Table 4.10 Useful Methods of USFS Information Exchange

** Difference between attentive and general publics significant at $p \le 0.01$

Public Perspectives on the Blue River Landscape Study

Many respondents indicated agreement with a statement describing the BRLS (Table 4.11). Though over 20 percent of the respondents had no basis for opinion, 73 percent agreed that adaptive management areas were a good idea and 67 percent supported the BRLS approach described in the survey. Also, 62 percent of the respondents indicated they would support the BRLS if scientists critically reviewed the management plan. However, these findings need closer scrutiny.

First, it was reported earlier (Table 4.3) that public knowledge of the BRLS was low. A high percentage of the attentive (65%) and general publics (93%) had either only heard of the BRLS and did not know any specifics, or had never heard of the project at all. Thus, most individuals were responding to the brief description of the BRLS and not from personal knowledge. Second, less than half of the survey respondents (49%) believed that the BRLS managers know enough about forest and stream ecosystems to plan management, suggesting uncertainty or a lack of trust. Third, significant differences existed between the attentive and general publics for all statements. Fewer general public respondents agreed with statements that indicated support for the BRLS. The only statement receiving more general public agreement dealt with concern for the economic losses associated with specific harvesting activities that are a component of the BRLS plan. Fourth, the general public had significantly more "no basis for opinion" responses, indicating both a lack of familiarity with the project and an opportunity for the USFS to provide targeted information.

	agree			no opinion			
Statement	tot	att	gen	tot	att	gen	
Adaptive management areas are a good idea. **	73%	83%	60%	20%	8%	30%	
I support the BRLS approach described above. **	67%	75%	60%	22%	8%	33%	
Harvesting operations that leave standing dead trees and logs on the ground minimize ecological impacts. **	67%	80%	60%	14%	2%	14%	
I would support the BRLS if the management plan was critically reviewed by scientists. **	62%	71%	58%	23%	12%	30%	
I have confidence that BRLS managers know enough about forest and steam ecosystems to plan management approaches. **	49%	53%	46%	28%	16%	37%	
I am concerned about economic losses created by leaving standing dead trees and logs on the ground. **	24%	18%	27%	12%	4%	19%	

Table 4.11 Public Perspectives on the Blue River Landscape Study

** Difference between attentive and general publics significant at p \leq 0.01

One statement during the focus groups captured the overall support voiced for the Blue River Landscape Study: "We don't know if we don't measure, and the only way we can find out is to study" (att). Statements of support focused on the need for experimentation and projects to increase our knowledge base concerning ways to manage landscapes, but statements rarely focused on a specific component of the BRLS. The call for more information was widespread: "I need to know more specifics. I need to know individual programs they intend to do. Where it's at, what's the reason behind it? And probably, if it makes sense, I'll back 'em" (gen).

Public Involvement

Both the attentive and general publics gave similar responses indicating a strong desire for involvement in management decisions (Table 4.12). Three quarters of the respondents called for greater involvement and nearly one third expressed the desire to either make decisions or serve as full and equal partners with management agencies. Only about one quarter of the respondents considered the provision of suggestions to management agencies most appropriate. These findings are almost identical to those from an earlier study conducted in the McKenzie watershed (Shindler et al., 1996).

		2000	1996	
Role of Public	total	attentive	general	total
None, let professionals decide.	4%	2%	5%	2%
Provide suggestions and let resource professionals decide.	22%	26%	20%	22%
Serve on advisory boards that review and comment on decisions.	43%	37%	46%	43%
Act as a full and equal partner in making management decisions.	25%	29%	24%	26%
The public should make decisions for resource professionals to implement.	5%	6%	5%	6%

Table 4.12 Role of Public In Decision-Making

Though focus group participants echoed the desire for more opportunities to participate in natural resource management, they also expressed reservations over the practicality of increased involvement. "From a conceptual standpoint I think it would be absolutely wonderful. I couldn't think of it working any better. But from the reality standpoint, how the hell do you do it?" (att). Another individual correlated self-interest to the lack of involvement: "I think we need to keep the public informed. I don't think that most of them care until it starts to affect them, at which point it's too late" (att). A problem with lack of information was reiterated by another participant: "If the public is going to make decisions they have to have a lot of information, and I don't know how you get that to them because it's not entertainment, and not too many people will focus in on all civic matters" (gen).



CONCLUDING DISCUSSION

Knowledge

Knowledge is important for developing understanding and ultimately trust and support. An agency's ability to identify, outline, and explain the main concepts and terms that are unfamiliar to the public may be a key determinant in the success of a management plan (Shindler and Neburka, 1997). Identifying gaps in public knowledge can be an important step in providing useful information to build support for a management practice (Shindler et al., 1996). As technical language can create barriers and misunderstanding between managers and the public (Brunson, 1992), it becomes a manager's role to identify troublesome terms, clearly define them, and establish the foundation for communicating and sharing knowledge. If managers fail to clarify and reach common understanding of terms *early* in the decision-making process, the public may assume that it was done deliberately and deceptively, thereby jeopardizing trust (Shindler et al., 1999, Brunson, 1992).

Respondents in this study had a high level of knowledge, but several specific terms were still unfamiliar. Though respondents indicated they knew the meaning of many terms, many better-known terms were either somewhat self-explanatory (watershed, streamside buffer), or have made their way into more common usage as "buzzwords" (ecosystem management, riparian zone, E.I.S.). Specific terms, such as 4(d) rule and 303(d) listing, were the least well known, though they relate to regulations currently influencing many land management decisions in the McKenzie. Despite heavy publicity concerning salmon restoration activities, only 52 percent of the respondents indicated they knew the meaning of the word anadromous. Furthermore, despite the growing number of landscape management projects that base management actions on attempting to restore and remain within the "range of historical variability," only 38 percent of the public knew this term.

Concepts comprehension may be more important than term recognition. Knowledge of a specific term may not be essential for understanding basic concepts related to that term (Lupia and McCubbins, 1999; Yankelovich, 1991). For example, an individual may understand that salmon begin their life in a river, migrate to sea, then return to spawn in the same river, but may not know the term anadromous. Similarly, an individual may understand that a landscape undergoes changes in structure and resident species with the passage of time, but may not know the term "range of historical variability."

Uncertainty underscores the need to ensure concepts and terms are clearly understood. Although over half of the respondents gave correct responses to eight of nine questions concerning forest processes, over 20 percent were "not sure" about five of these questions (regarding fire, the focus of landscape level management, and the need for sediment and gravel from large storms in a stream ecosystem).

Uncertainty may indicate confusion, which can affect public opinions of appropriate forest management practices (Gobster, 1996). Respondents were either misinformed or confused about the source of erosion on forested lands; only 36 percent correctly selected roads as the main source of erosion, while 39 percent incorrectly selected clearcuts. Confusion or misinformation could contribute to conflict between groups advocating different plans for a forest because they may not have a common knowledge base to effectively communicate (Kearney et al., 1999).

These findings mirror responses from a similar study in the neighboring South Santiam Watershed (Shindler and Wright, 2000). Questions with some of the lowest scores in the McKenzie watershed also received the fewest correct answers in the South Santiam.

There were no significant differences between urban and rural publics, suggesting that the urban and rural population groups many not require different educational materials or involvement strategies, and may benefit from interaction and learn that few major differences exist between them. Though a distinction is traditionally made between the urban and rural publics (Tremblay and Dunlap, 1978), this study found no significant differences between the upriver rural and the downriver urban population in the McKenzie watershed. This finding supports the contention that an urban/rural distinction is an oversimplification of complex sociological factors (Brunson et al., 1997; Fortmann and Kusel, 1990).

Population trends in the watershed may suggest a "reverse-migration" pattern (urban residents moving up the McKenzie River), blurring distinctions between the urban and rural population groups (Blahna, 1990). The word "commutershed" emerged during the McKenzie River Watershed Council meetings, further supporting the claim that the upriver section of the watershed is a "bedroom community" for many individuals who commute to work in the cities of Eugene or Springfield.

Difference in length of residence between the urban and rural populations was small. Though the mean residence for the urban population (25.4 years) was approximately two years shorter than that of the rural residents (27.7 years), this difference was less than the five-year discrepancy between the attentive and general public. Furthermore, length of residence was not correlated with significant differences in self-assessed knowledge, or ecological knowledge, though longer-term residents did express more knowledge of forest processes.

Respondents from the attentive public were more knowledgeable and had higher education levels. The attentive public considered themselves more knowledgeable and gave significantly more correct answers to every question on the forest processes and general ecology quiz. The attentive public was also significantly more educated (75% had a bachelors degree or higher in comparison to only 44% of the general public).

Useful and Trustworthy Information Sources

Personal experience is critical. Personal experience was the most useful and trustworthy source in the McKenzie watershed, as well as the neighboring South Santiam watershed (Shindler and Wright, 2000) and across the country (Peters et al., 1997; Shindler et al., 1999). The current findings reinforce the importance of public engagement and allowing citizens to gain first-hand experience in management proposals, plans, and even implementation where appropriate. Public understanding, and ultimately acceptance, emerges from a suite of factors that are wrapped in the context of personal experience (Stankey and Shindler, 1997; Wondolleck and Yaffee, 2000).

Distrust of USFS suggests a need to foster credible relations. Although public trust in the USFS, ODF, and BLM appeared substantial, warning flags were present. Approximately 20 percent of the respondents expressed distrust in these agencies as an information source, and figures for the attentive public are even higher. This latter group is particularly important to agencies such as the USFS because it is this public who most often dictates whether planning processes flow smoothly. Trust has been a concern to resource agencies recently and these data substantiate the need for closer, improved communication with local publics to determine how to best foster credible relations.

Greater distrust of the USFS among the attentive public seems to be tied to opposition to logging and desire for more information. Much of the frustration directed at the Forest Service during the focus group interviews centered on opposition to logging. One participant responded, "When I read those EAs and EISs they just infuriate me…The whole premise was we are going to log. The Forest Service is going to log, so how can we make it palatable to the public" (att). This sentiment was more prevalent with the attentive public, and significantly more attentive public respondents distrusted the USFS than the general public.

The focus groups indicated another issue related to trust and usefulness of the USFS as an information source – lack of certain types of information. Discussion revealed that many citizens want more than just specifics about management decisions; they want specifics about *how* the Forest Service reached these decisions.

Opportunities exist for agencies to become more useful and trusted information sources. There were significant differences between the attentive and general publics concerning the usefulness of every information source and the trustworthiness of 12 out of the 14 sources. The general public gave significantly more "no basis for opinion" responses than the attentive public for every information source, save one. This indicates an opportunity for land management agencies to become trusted sources of information by increasing their exposure. This exposure is more likely to succeed if the information is targeted to address the concerns identified by the different groups.

OSU Extension has an opportunity to engage publics. OSU Extension Service appears particularly poised to engage in more personal forms of outreach, because only seven percent of respondents indicated they distrusted extension. This support is echoed in studies of Oregon coastal residents (Smith et al., 1997) and the public in the South Santiam watershed (Shindler and Wright, 2000).

Mass media is used, but filtered. Well over half of the respondents found mass media sources "not useful" and close to half also distrusted these sources. One focus group participant conveyed a prevalent concern with the bias of these sources, "I've had enough experience with the news media to know that 10 percent of what's there is factual and the rest of it is biased depending on who owns the paper" (gen).

Previous research typically has reported high ratings for mass media sources (Shindler and Reed, 1996; Smith et al., 1997; Steger et al., 1988), including the Central Cascades region (Shindler et al., 1996). However, the findings from this study indicate a potential shift in western

Oregonians' views about the media over the last few years, which was also suggested in the South Santiam watershed study (Shindler and Wright, 2000).

University and government scientists may become more useful and trusted information sources by improving their accessibility and reducing jargon. The attentive and general publics expressed different views of scientists. As in the South Santiam watershed, there was a large gap between trust and usefulness of both university and government agency scientists, with a greater percentage of respondents reporting that scientists were more trusted than useful (Shindler and Wright, 2000). Furthermore, the attentive public found both university and government agency scientists significantly more useful and trustworthy than the general public. The large discrepancy between the groups concerning "no basis for opinion" indicates that citizens may not have access to either scientists or the scientific journals that are a dominant method of information transfer for scientists. One focus group participant addressed the lack of accessibility, "The reason I would have said that university scientists are not particularly useful is because I don't hear them" (gen).

The findings may also indicate that the use of technical language is a barrier. Another focus group participant addressed the barrier created by technical language, also discussed by Brunson (1992), "Jargon – It's difficult to understand once you do get it (the information)" (att).

It is possible that if scientists or managers focus on their use of language and agree on common terminology with the public, the trustworthiness of the scientists may improve. This could make it easier for agencies to include scientific information in future debates about forest management.

Watershed councils are relatively unknown, but trusted among those who are familiar with them, and may provide opportunities for agency managers to build relationships. Both councils, the McKenzie and Mohawk Watershed Partnership received the highest number of "no basis for opinion" responses, indicating a lack of familiarity with the source. Focus group participants reiterated this lack of familiarity, "You don't hear much from them [watershed councils]. There just doesn't seem to be that much activity...Are their meetings open to the public? I don't know that" (gen).

While few respondents indicated that watershed councils were a useful information source, less than 10 percent of these same respondents indicated they distrusted the source. This allows for the possibility that with more experience the public may find this information source more useful and trustworthy.

The citizen-led, consensus based structure typical of watershed councils allows for inclusive representation in decision-making (Griffin, 1999). This face-to-face interaction can form relationships that may develop the understanding and trust that leads to collaboration (Cheng, 1999). Watershed councils have the potential to help inform public opinion through this collaborative process, and agency managers may continue to build relationships with the public through continued involvement with watershed councils. But, at this point, the jury is still out on the long-term benefits provided by such organizations.

Useful Methods of FS Information Exchange

Findings suggest that agencies should emphasize interactive methods of information exchange, along with written information. The greatest number of respondents supported a number of interactive methods, particularly personal conversations with local Forest Service staff and guided tours or fieldtrips. Many written information sources were also considered useful. Support for information meetings, agency presentations, and small, interactive workshops may increase as agency personnel encourage more dialogue and interaction between all participants. Therefore, it is likely that agencies could effectively engage citizens by continuing to distribute informational newsletters while simultaneously focusing on interactive methods of information exchange.

Extending information to non-attentive population groups, or groups that have less experience with a variety of information sources, could prove useful. At least half of all respondents found half of the USFS methods of information transfer useful. The general public again had a much higher percentage of "no basis for opinion" responses, indicating a lack of familiarity with many USFS methods of information exchange. When these "no basis for opinion" responses were removed for the purposes of comparison, the number of significant differences between the attentive and general publics dropped dramatically. Significant differences had existed between the groups for all methods of information exchange except videos. Following the removal of "no basis for opinion" responses, opinions of government scientific reports was one of only four significant differences. Despite these continued differences of opinion concerning the usefulness of scientific reports, it is possible that as individuals from either group gain exposure to an information source, they express similar opinions.

Public Perspectives on the Blue River Landscape Study

Findings indicate that the BRLS is well suited for outreach efforts. The BRLS combines years of research with on-the-ground demonstration projects that are well suited for public field trips. The fact that the majority of the respondents agreed, "adaptive management areas are a good idea," and "support the BRLS approach described," indicates a high level of support. Still, a number of concerns remain.

Familiarity with the BRLS was low. Few respondents knew many specifics related to the project. Therefore most were responding to the brief summary paragraph supplied.

Responses indicated a lack of confidence in BRLS managers. Only half of the respondents believed BRLS managers knew enough about forest and stream ecosystems to plan management approaches. The other half either did not believe they had enough knowledge or had no opinion. This lack of confidence is troublesome because research often links trust with public support for management projects (Brunson, 1996; Moore, 1996).

Few respondents understood the question concerning the tradeoff between stream reserves and harvest levels. The tradeoff is an important component of the BRLS. The project would reduce the number of stream reserves currently outlined by the Northwest Forest Plan in

favor of a reduced thinning harvest regime in patches across the landscape to mimic historic fire regime patterns. The combination of public apprehension concerning this management technique, and lukewarm confidence in the BRLS managers' ability to plan the project warrants caution by the agencies.

However, many focus group respondents did speak about the benefits of educational open houses or trips to the H.J. Andrews Experimental forest. It is possible that managers could continue to build public knowledge and support for the BRLS by continuing these activities.

Public Involvement

Citizens desire more involvement in decision-making. Enhancing the public's role in natural resource management decisions is another way to increase public knowledge and build trust in agencies (Buttolph and Doak, 2000). Not only did close to 75 percent of the respondents indicate they would like greater involvement in the decision-making process, the attentive and general publics expressed very similar perspectives. This call for more public involvement is identical to findings from an earlier study in the McKenzie watershed (Shindler et al., 1996).

Well-designed public involvement can help build knowledge. Greater public involvement, if properly structured (Shindler et al., 1999; Shindler and Neburka, 1997), works well with the iterative nature of adaptive ecosystem management (Bormann et al., 1994). As scientists, managers, and the public learn more about complex ecosystems and modify management plans to adapt to this new knowledge, well-structured public involvement has the potential to build public knowledge through mutual learning (Buttolph and Doak, 2000; Daniels and Walker, forthcoming). Indeed, many argue that the success of adaptive ecosystem management hinges on engaging the public in the decision-making process (Blahna and Yonts-Shepard 1989; Wondolleck and Yaffee 2000).

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14

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<u>APPENDIX</u> Survey Responses (All Sub-Populations)

Local Perspectives About Forest Management in the McKenzie Watershed



Frequency Report (Urban/Rural & Attentive/General)

We are interested in your opinions about forest management in the Pacific Northwest and the McKenzie watershed in particular. Please respond to all the questions. Even if you are not familiar with forest management issues, your opinions are still important to us. All responses and comments are strictly confidential.

1. How many years have you lived in Lane county?

Urban:	25.4	Years
Rural:	27.7	Years
Attentive:	24	Years
General:	28.8	Years

2. How useful have the following sources of information been to you? By "useful" we mean sources that provide good information <u>about forests and their management.</u> If you have no experience with a source, please indicate "no basis for opinion."

		VERY USEFUL	SLIGHTI USEFUL	LY USEFUL	NOT USEFUL	NO BASIS FOR OPINION
a. Bureau of Land	d Management					
	Urban:	13%	36%	22%	4%	26%
	Rural:	6	27	28	8	31
	Attentive:	14	37	32	5	12
	General:	6	27	20	7	40
b. U.S. Forest Set	rvice					
	Urban:	19%	44%	16%	2%	19%
	Rural:	22	41	17	5	15
	Attentive:	27	45	21	4	3
	General:	15	40	15	3	27
c. Oregon Depart	ment of Forestry.					
0 1	Urban:	16%	23%	22%	7%	32%
	Rural:	13	25	22	9	32
	Attentive:	16	22	26	12	24
	General:	14	27	19	5	38
d. McKenzie Wa	tershed Council					
	Urban:	4%	17%	18%	6%	56%
	Rural:	6	19	21	11	43
	Attentive:	7	27	27	10	29
	General:	3	12	14	7	64
e. Mohawk Wate	rshed Partnership					
	Urban:	1%	7%	9%	7%	77%
	Rural:	2	8	6	11	73
	Attentive:	1	10	9	14	67
	General:	2	5	7	5	81
f. Forest industry	groups or compar	nies				
	Urban:	10%	19%	20%	22%	30%
	Rural:	6	18	24	19	32
	Attentive:	11	19	29	29	13
	General:	6	19	17	14	44

USEFUL INFORMATION SOURCES cont.

2. (continued)		VERY USEFUL	UESFUL	SLIGHTI USEFUL	LY NOT USEFUL	NO BASIS FOR OPINION
g OSU Extensio	n Service					
5. 000 Extensio	Urban:	17%	22%	13%	6%	43%
	Rural:	14	26	22	4	34
	Attentive:	21	26	25	6	21
	General:	11	23	12	3	51
h. Environmenta	l groups					
	Urban:	12%	24%	31%	20%	14%
	Rural:	7	18	23	22	30
	Attentive:	16	27	25	24	8
	General:	5	16	27	19	33
: Nousenanar ran	orto					
I. Newspaper rep	Urban [.]	6%	39%	41%	9%	6%
	Rural:	7	33	40	14	6
	Attentive:	8	41	35	16	1
	General:	5	31	45	10	10
	General	0	51	10		
j. TV and radio r	eports					
	Urban:	3%	25%	50%	13%	9%
	Rural:	4	28	43	16	9
	Attentive:	4	23	48	21	4
	General:	4	29	44	10	12
k Dersonal evne	rience (farming re	ecreation	logging)			
K. Feisonal expe	I Irban	41%	35%	10%	1%	13%
	Rural:	4170	34	10/0	1	15
	Attentive:	54	32	8	0	6
	General:	32	36	12	2	19
	General.	52	50	12	2	
l. Relatives, frier	nds, neighbors					
	Urban:	14%	37%	32%	7%	10%
	Rural:	22	32	31	5	11
	Attentive:	15	36	38	9	3
	General:	21	32	27	4	17
m University so	ientists					
m. Oniversity se	Urban:	21%	24%	12%	3%	41%
	Rural:	9	19	18	6	47
	Attentive:	28	31	18	3	20
	General:	5	14	14	6	62
n. Government a	igency scientists .	120/		170/	00/	400/
	Urban:	15%	22%	1/%	9%	40%
	Kural:	17	19	22	9	43 16
	Attentive:	1 /	33	17	9	61
	General:	4	9	1 /	7	01

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3. How well informed would you say you are about forest management issues?

V	Very Vell informed	N W	Moderately Well informed		Not Very Well informed
Urban:	23%	24%	25%	16%	12%
Rural:	19	17	35	15	14
Attentive:	42	26	22	7	3
General:	6	16	36	22	21

4. How familiar are you with the following organizations or projects?

		I know this project	I've heard of this project	I've never heard of this project
a. H.J. Andrews Experime	ental Forest			
	I Inham.	400/	1 4 0 /	460/
	Drugali.	40%	1470	40 /0
	Attentive.	30	19	32
	Caparal:	22	15	10
	General:	25	19	59
b. Augusta Creek Project				
0	Urban:	12%	21%	67%
	Rural:	12	28	60
	Attentive:	24	34	42
	General:	3	19	78
Dive Diver Landsone	C 4			
c. Blue River Landscape	Urbon:	170/	280/	150/
	Dibali.	1/70	3070	4370
	Attentive:	21	33	22
	General.	33 7	32	61
	Ocheral.	7	52	01
d. Central Cascades Adap	tive Manag	ement Area		
-	Urban:	31%	19%	50%
	Rural:	23	27	50
	Attentive:	59	29	12
	General:	3	19	77
M. Kanala Watanaha I.C.	7			
e. McKenzie watersned C	Junch	270/-	48%	21%
	Dibali.	3270	4070	17
	Attentive:	56	44	3
	General	10	50	31
	Ocheral.	19	50	51
f. Northwest Forest Plan .				
	Urban:	48%	26%	27%
	Rural:	35	37	28
	Attentive:	69	25	6
	General:	20	36	43

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5. How familiar are you with the following terms?

I kr mea	now the aning of the term	I've heard the term, but I don't know the meaning	I've never heard the term
a. 303 (d) listing	C		
Urban:	18%	21%	61%
Rural:	16	11	74
Attentive:	37	22	41
General:	2	11	87
b. Riparian zone			
Urban:	75%	9%	17%
Rural:	74	10	16
Attentive:	95	2	3
General:	59	15	26
c. Ecosystem manage	ement		
Urban	79%	15%	6%
Rural:	75	15	10
Attentive:	94	4	2
General:	64	23	14
d. Range of historical	variability		
Urban	41%	24%	35%
Rural	31	28	41
Attentive:	57	24	20
General:	20	28	53
e. Streamside buffer			
Urban:	81%	9%	10%
Rural:	83	8	10
Attentive:	97	3	1
General:	70	13	17
f. Watershed			
Urban:	86%	12%	2%
Rural:	87	11	2
Attentive:	97	3	0
General:	79	17	3
g. Forest succession			
Urban:	63%	24%	13%
Rural:	57	26	17
Attentive:	84	11	5
General:	41	36	23
h. Environmental Im	pact Statement (EIS)	
Urban:	83%	12%	5%
Rural:	76	16	8
Attentive:	97	2	2
General:	66	23	11

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58

	I knov mean	v the ing of the term	I've heard the term, but I don't know the meaning	I've never heard the term
i. Snag		C	C	
-	Urban:	75%	13%	12%
	Rural:	78	10	12
	Attentive:	96	3	2
	General:	63	17	20
j. Anadı	romous			
	Urban:	52%	15%	32%
	Rural:	47	18	35
	Attentive:	81	12	8
	General:	26	21	53
k. 4(d) 1	rule			
	Urban:	21%	20%	59%
	Rural:	14	17	69
	Attentive:	37	24	39
	General:	3	15	83
1. Silvic	ulture			
	Urban:	54%	11%	36%
	Rural:	51	12	37
	Attentive:	83	7	10
	General:	30	14	56

5. (continued) How familiar are you with the following terms?

Many people have different ideas about how forest systems work. In this section we are trying to determine what citizens know or may be uncertain about regarding local forests and the Central Cascades region.

6. Please answer these questions to the best of your ability by indicating whether they are generally true, generally false, or you are not sure. Circle one number for each response.

	GENERALLY TRUE	GENERALLY FALSE	NOT SURE
a. Fire has played a sign	nificant role in shaping nat	ural forests in the Blue River	watershed
Urban:	69%	4%	28%
Rural:	69	10	21
Attentive:	87	5	8
General:	55	8	35
b. There are no biologic	al differences between wi	ld salmon and hatchery salmo	on
Urban:	18%	66%	16%
Rural:	16	61	23
Attentive:	20	72	10
General:	17	56	27

6. (continued)			
	GENERALLY	GENERALLY	NOT
a Larga traas lags ata	n streams are a harrier t	FALSE to fish and should be removed	when possible
Urban:			
Dibali.	370 7	87	570
Attentive:	2	87	0
Camaral.	2	95	4
General:	0	85	10
d Forest fires are respons	vible for some of the one	en meadows found in the Cent	ral Cascades
Urban:	60%		22%
Bural:	62	18	20
Attentive:	72	13	15
General:	54	21	25
General.	54	21	20
e Vegetation along stream	n hanks improves water	r quality	
Urban:	89%	4%	7%
Rural:	93	2	5
Attentive:	97	2	1
General:	87	4	9
General.	07		
f Healthy rivers in the Ce	entral Cascades require	repeated deposits of sediment	
and gravel from large sto	rms	repeated deposits of seament	
Urban.	47%	2.2%	32%
Rural:	46	27	28
Attentive:	57	20	23
General:	39	28	34
General.	57	20	21
a Currently humans cau	se most forest fires in th	ne Central Cascades	
g. Currentry, numans cau	27%		26%
Diban. Dural:	2770	55	2070
Attentive:	23	53	22
General:	24	50	24
Ocheral.	20	50	24
h Large forest openings	created by harvest activ	ities are detrimental to wildlife	2
Urban:	41%	44%	15%
Bural:	34	54	12
Attentive:	32	60	8
General:	40	43	17
General	10	15	
i Douglas fir trees regen	erate better in open, sun	ny areas than in shaded ones	
Urban.	66%	13%	21%
Rural:	73	12	15
Attentive:	78	14	8
General:	64	12	24
General.	04	12	21
i Landscape level manag	rement focuses more on	watersheds and ecological	
systems than property ho	undaries	materisheds and ceological	
Urhan.	54%	5%	41%
Rural	60	6	35
Attentive	80	4	17
General:	41	7	52
General.	11	/	52

51

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7. The largest source of carbon monoxide in the United States is ...

Circle one letter for each response.

n i i h

	a. Factories	b. Motor vehicles	c. Home heating	d. Forest fires	e. Not sure
Urban:	6%	82%	0%	1%	12%
Rural:	6	82	1	0	11
Attn:	2	88	11	0	11
Gen:	8	78	1	1	12

8. The most common reason that plant and animal species become extinct is ...

Circle one letter for each response.

	a. Predation	b. Habitat loss	c. Competition	d. Natural disasters	e. Not sure
Urban:	3%	76%	10%	1%	10%
Rural:	4	77	9	0	10
Attn:	3	84	7	1	5
Gen:	4	81	12	0	12

9. The biggest source of erosion from forested land is ...

Circle one letter for each response.

	a. Clearcuts	b. Roads	c. Unharvested forest	d. Geologic activity	e. Not sure
Urban:	33%	38%	1%	15%	12%
Rural:	45	32	0	10	13
Attn:	22	54	0	15	9
Gen:	51	20	1	13	15

10. Streams and streamside areas are most altered in ...

Circle one letter for each response.

	a. Urban areas	b. Farmland	c. Forestland	d. Range/Pasture lands	e. Not sure
Urban:	59%	6%	3%	16%	17%
Rural:	51	6	8	12	24
Attn:	68	3	5	12	11
Gen:	44	8	6	15	27

11. There are many different kinds of animals and plants, and they live in many different types of environments. The word used to describe this idea is ...

Circle one letter for each response.

	a. Multiplicity	b. Biodiversity	c. Socio-economics	d. Evolution	e. Not sure
Urban:	2%	80%	1%	1%	16%
Rural:	3	76	0	4	18
Attn:	4	94	0	0	3
Gen:	2	66	1	4	28

12. Which of the following is a renewable resource?

Circle one letter for each response.

	a. Oil	b. Iron ore	c. Trees	d. Coal	e. Not sure
Urban:	0%	0%	99%	0%	2%
Rural:	0	0	100	0	0
Attn:	0	0	100	0	0
Gen:	0	0	99	0	1

13. Most electricity burned in the United States is generated from what source of power?

Circle one letter for each response.

	a. Nuclear	b. Coal, oil and wood	c. Solar	d. Hydroelectric dams	e. Not sure
Urban:	0%	53%	0%	36%	9%
Rural:	1	42	0	48	9
Attn:	0	69	0	23	7
Gen:	1	32	0	56	11

14. There has been considerable debate about the role of citizens in public land management. In your opinion, a realistic role for the <u>public</u> in federal forest management should be:

	Urban	Rural	Attentive	General	
None, let resource professionals decide	2%		6	2	5
To provide suggestions and let the resource professionals decide.	23%		21	26	20
To serve on advisory boards that review and comment on decisions.	42%		44	37	46
To act as a full and equal partner in making management decisions.	30%		23	29	24
The public should make decisions for resource professionals to implement.	3%		7	6	5

15. Now we want to know how you feel about different ways of interacting with, and receiving information from the Forest Service. Please indicate how useful each of the methods listed below is to you. By "useful" we mean sources that you pay attention to and that provide good information about forest management. *Circle one number for each response.*

VERY	SLIGHTLY		NOT	NO BASIS
USEFUL	USEFUL	USEFUL	USEFUL	FOR OPINION
information meeti	ngs about projects	or plans		
9%	43%	21%	10%	18%
18	38	15	10	19
15	42	25	10	9
13	39	13	9	26
ive workshops wit	h agency personne	el and citizens		
15%	31%	22%	6%	25%
15	31	18	8	27
22	38	21	8	12
10	27	19	7	37
tations at meetings	s of other organiza	tions		
9%	44%	20%	10%	18%
15	34	15	11	25
14	46	22	9	9
11	33	15	12	30
	VERY USEFUL information meeting 9% 18 15 13 ive workshops wit 15% 15 22 10 tations at meetings 9% 15 14 11	VERYSLIGHTLYUSEFULUSEFULinformation meetings about projects 9% 43% 183815 42 1339ive workshops with agency personne 15% 31% 15 31 223810 27 tations at meetings of other organiza 9% 44% 15 34 14 46 11 33	VERY USEFUL SLIGHTLY USEFUL USEFUL USEFUL 9% 43% 21% 18 38 15 15 42 25 13 39 13 ive workshops with agency personnel and citizens 15 31% 22% 15 31 18 22 38 21 10 27 19 tations at meetings of other organizations	VERY USEFULSLIGHTLY USEFULNOT USEFULinformation meetings about projects or plans 0% 9%43%21%10%18381510154225101339139ive workshops with agency personnel and citizens15%31%22%6%153118822382181027197tations at meetings of other organizations9%44%20%10%1534144622911331512

8 1 2 9

15. (continued)					
,	VERY	SLIGHTLY		NOT	NO BASIS
	USEFUL	USEFUL	USEFUL	USEFUL	FOR OPINION
d. Environmenta	I Impact Statemen	ts	a 10/	22/	110/
Urban:	14%	43%	24%	8%	11%
Rural:	11	29	22	12	27
Attentive:	13	47	26	11	3
General:	13	31	25	8	24
e. Citizen-based	monitoring efforts				
Urban:	18%	25%	27%	14%	17%
Rural:	11	29	22	12	27
Attentive:	19	30	22	17	11
General:	10	24	26	10	30
f. Personal conve	rsations with loca	l Forest Service st	aff		
Urban:	30%	36%	15%	6%	13%
Rural:	32	40	13	4	12
Attentive:	42	40	9	5	4
General:	23	38	17	5	19
General.	20	20			
g Forest Service	newsletters				
Lirban:	14%	37%	21%	10%	18%
Dural:	1470	<i>1</i> 1	2170	3	15
Attentive:	12	41	23	6	7
General:	12	22	17	6	24
General	21	52	17	0	24
1. T. (alama tusila ata			
n. Interpretative s	signs or materials,	along trails, etc	250/	20/	
Urban:	25%	41%	25%	3%0	170
Rural:	31	37	19	/	0
Attentive:	23	44	26	5	2
General:	31	34	19	5	10
i. World Wide W	eb / Internet			5 0 (2007
Urban:	14%	33%	17%	/%	30%
Rural:	11	29	17	7	36
Attentive:	10	35	22	9	24
General:	14	27	13	6	40
j. Government ag	ency scientific rep	oorts			
Urban:	16%	31%	28%	8%	18%
Rural:	9	33	25	9	26
Attentive:	22	39	21	8	9
General:	5	25	30	8	32
k. Videos					
Urban:	9%	28%	27%	9%	27%
Rural:	10	28	28	8	26
Attentive:	7	29	30	10	25
General:	11	27	27	8	28
General.				-	
1 Guided tours of	r fieldtrins hy ager	icy personnel		and the second second second second	
Lirban [.]	30%	47%	10%	3%	15%
Dural.	26	32	23	4	16
Attentive:	35	40	15	3	7
Conorol:	22	24	10	3	22
General:	LL	34	19	5	

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16. If you could give the Forest Service ONE suggestion for improving communication with the public, what would it be?

	STRONGLY AGREE	AGREE	NEUTRAL	DISAGREE	STRONGLY	NO Opinion
T 1				DISTICILLE	DIDITOREE	01 11 10 1
a. The i	information the I	forest Service sh	ares is up-to-date a	and reliable		
Urban:	2%	42%	33%	8%	3%	12%
Rural:	4	27	23	14	4	10
Att:	3	50	30	13	3	2
Gen:	3	41	25	11	3	18
b. The l	Forest Service de	oes not provide i	nformation often e	nough		
Urban:	7%	25%	34%	18%	0%	16%
Rural:	11	32	32	13	1	11
Att	8	30	38	23	1	2
Gen	10	38	67	11	0	2
Gen.	10	56	07	11	1	22
c. Envir	ronmental Impac	t Statements and	l similar document	s are hard to read		
Urban:	14%	39%	20%	12%	1%	14%
Rural:	18	46	16	6	1	14
Att:	18	47	18	13	0	2
Gen:	14	40	17	6	1	22
J Duran						
d. Prese	entations by loca	I Forest Service	personnel are easy	to understand		
Urban:	1%	46%	21%	5%	1%	21%
Rural:	11	40	25	6	1	16
Att:	9	58	21	5	2	6
Gen:	10	32	24	6	1	27
e Llool	k at Forest Servi	ce information sl	centically because	I do not trust the a	gency	
Urban [.]	8%	25%	14%	20%	1/0/_	0.02/
Rural.	0	16	1470	2970	14/0	970
Λ ++ ·	10	22	24	20	15	8
All.	0	22	21	30	1/	1
Gen:	8	20	18	29	11	14
f. Fores	t Service inform	ation is relevant	to local concerns .			
Urban:	16%	52%	16%	5%	4%	8%
Rural:	11	45	18	14	4	9
Att:	21	46	18	10	4	2
Gen	8	49	17	0	4	12
Gen.	0		17	2	4	15
g. Diffe	erent Forest Serv	ice employees te	nd to give differen	t information		
Urban:	8%	32%	30%	5%	2%	22%
Rural:	11	40	24	7	0	18
Att:	14	43	29	4	0	10
Gen:	7	31	25	8	2	27

17. Listed below are different opinions people may hold about information provided by the Forest Service. Given your own experience, would you agree or disagree with these statements?

e 11 4

17. (coi	ntinued)					
	STRONGLY				STRONGLY	NO
	AGREE	AGREE	NEUTRAL	DISAGREE	DISAGREE	OPINION
h. Fores	st Service public n	neetings are inforr	native			
Urban:	2%	42%	25%	3%	1%	27%
Rural:	6	43	26	4	1	19
Att:	4	54	28	5	2	7
Gen:	4	35	23	3	1	34
i. Local	Forest Service in	formation is not re	liable because for	est management is	(
dictated	l from Washington	n D.C				
Urban:	7%	18%	18%	36%	5%	16%
Rural:	14	12	25	31	4	14
Att:	10	14	22	45	4	4
Gen:	4	35	23	3	1	34
j. The F	orest Service usua	ally provides too n	nuch information			
Urban:	1%	6%	24%	49%	7%	14%
Rural:	4	7	22	44	11	12
Att:	3	9	25	51	9	3
Gen:	2	6	22	42	9	20
k. I pay	little attention to	Forest Service info	ormation because	I have no effect or	their decisions	
Urban:	5%	17%	24%	36%	8%	10%
Rural:	6	14	24	36	12	8
Att:	4	14	22	44	0	15
Gen:	7	17	24	30	6	16
l. Fores	t Service informat	ion about forest p	rojects and plans a	dequately explains	S	
availabl	le options and thei	r consequences				
Urban:	2%	19%	31%	23%	4%	21%
Rural:	1	21	29	23	8	18
Att:	2	26	34	25	8	5
Gen:	3	15	27	22	4	30

People's judgments of forest management are influenced by many factors. We are interested in what affects your opinions about the way a forest should be managed.

18. Please consider the following statements carefully. Indicate how important each factor is to you when you are making judgments about current Forest Service actions.

	VERY IMPORTANT	SLIGHTLY IMPORTANT	IMPORTANT	NOT IMPORTANT
a. My knowledge of past	Forest Service action	1S		
Urban:	22%	50%	22%	7%
Rural:	32	52	8	8
Attentiv	ve: 35	51	13	1
General	: 21	51	16	12

VERY SLIGHTLY IMPORTANT Important tartion tartification tartif	18. (continued)					
IMPORTANT Important for the state of the stat	,		VERY	SLIGHTLY		NOT
b. Environmental consequences of an action Urban: 59% 33% 5% 4% Rural: 52 37 7 4 Attentive: 71 26 3 1 General: 45 41 8 6 c. Economic consequences of an action Urban: 24% 49% 21% 6% Rural: 33 48 16 4 Attentive: 30 44 23 4 General: 27 52 15 6 d. The opinions of people I respect Urban: 39% 41% 14% 6% Rural: 30 55 14 2 Attentive: 38 50 12 0 General: 31 47 15 7 e. Understanding the objectives of a proposed management action Urban: 43% 48% 6% 3% Rural: 36 50 8 7 f. My knowledge of the forest from personal experience Urban: 41% 35% 16% 9% Rural: 36 50 8 7 f. My knowledge of the forest from personal experience Urban: 41% 35% 16% 9% Rural: 41 37 13 10 g. My personal beliefs about how forests should be managed Urban: 32% 38% 19% 7% Rural: 32 47 16 5 Attentive: 37 48 14 2 General: 32 39 20 10 h. Knowing that thoughtful citizen input was used Urban: 30% 44% 20% 6% Rural: 32 47 7 16 Attentive: 32 48 18 6 General: 32 47 7 6 Attentive: 32 48 48 18 6 General: 32 47 7 Attentive: 28 48 18 6 General: 29 42 22 7			IMPORTANT	IMPORTANT	IMPORTANT	IMPORTANT
Urban: 59% 33% 5% 4% Rural: 52 37 7 4 Attentive: 71 26 3 1 General: 45 41 8 6 c. Economic consequences of an action Urban: 24% 49% 21% 6% Rural: 33 48 16 4 Attentive: 30 44 23 4 General: 27 52 15 6 d. The opinions of people I respect	b. Environmental	consequences	of an action			
Rural: 52 37 7 4 Attentive: 71 26 3 1 General: 45 41 8 6 c. Economic consequences of an action Urban: 24% 49% 21% 6% Rural: 33 48 16 4 Attentive: 30 44 23 4 General: 27 52 15 6 d. The opinions of people I respect	ci En nomini	Urban:	59%	33%	5%	4%
Attentive: 71 26 3 1 General: 45 41 8 6 c. Economic consequences of an action.		Rural:	52	37	7	4
General: 45 41 8 6 c. Economic consequences of an action Urban: 24% 49% 21% 6% Rural: 33 48 16 4 Attentive: 30 44 23 4 General: 27 52 15 6 d. The opinions of people I respect		Attentive:	71	26	3	1
c. Economic consequences of an action Urban: 24% 49% 21% 6% Rural: 33 48 16 4 Attentive: 30 44 23 4 General: 27 52 15 6 d. The opinions of people I respect Urban: 39% 41% 14% 6% Rural: 30 55 14 2 General: 31 47 15 7 e. Understanding the objectives of a proposed management action Urban: 43% 48% 6% 3% Rural: 38 50 8 5 Attentive: 45 47 7 1 General: 36 50 8 7 f. My knowledge of the forest from personal experience Urban: 41% 35% 16% 9% Rural: 47 40 9 5 Attentive: 48 39 11 3 General: 31 1 g. My personal beliefs about how forests should be managed Urban: 36% 38% 19% 7% Rural: 32 47 16 5 Attentive: 37 48 14 2 General: 32 39 20 10 h. Knowing that thoughtful citizen input was used Urban: 30% 44% 20% 6% Rural: 28 46 20 7 Attentive: 28 48 18 6 General: 29 42 22 7		General:	45	41	8	6
c. Economic consequences of an action Urban: 24% 49% 21% 6% Rural: 33 48 16 4 Attentive: 30 44 23 4 General: 27 52 15 6 d. The opinions of people I respect Urban: 39% 41% 14% 6% Rural: 30 55 14 2 Attentive: 38 50 12 0 General: 31 47 15 7 e. Understanding the objectives of a proposed management action Urban: 43% 48% 6% 3% Rural: 38 50 8 5 Attentive: 45 47 7 1 General: 36 50 8 7 f. My knowledge of the forest from personal experience Urban: 41% 35% 16% 9% Rural: 41% 35% 16% 9% Rural: 41% 35% 16% 9% Rural: 41% 35% 16% 7 f. My knowledge of the forest from personal experience Urban: 41% 35% 16% 9% Rural: 47 40 9 5 Attentive: 48 39 11 3 General: 31 0 g. My personal beliefs about how forests should be managed Urban: 36% 38% 19% 7% Rural: 32 47 16 5 Attentive: 37 48 14 2 General: 32 39 20 10 h. Knowing that thoughtful citizen input was used Urban: 30% 44% 20% 6% Rural: 28 46 20 7 Attentive: 28 48 18 6 General: 29 42 22 7						
Urban:24%49%21%6%Rural:3348164Attentive:3044234General:2752156d. The opinions of people I respectUrban:39%41%14%6%Rural:3055142Attentive:3850120General:3147157e. Understanding the objectives of a proposed management actionUrban:43%48%6%3%Rural:385085113%3%16%9%Rural:385087711General:36508771General:3650877f. My knowledge of the forest from personal experience	c. Economic cons	sequences of an	n action			
Rural:3348164Attentive:3044234General:2752156d. The opinions of people I respectUrban:39%41%14%6%Rural:3055142Attentive:3850120General:3147157e. Understanding the objectives of a proposed management actionUrban:43%48%6%3%Rural:3850855142General:3650871General:365087f. My knowledge of the forest from personal experienceUrban:41%35%16%9%Rural:474095Attentive:4839113General:41371310g. My personal beliefs about how forests should be managedUrban:36%38%19%7%Rural:3247165Attentive:3748142General:32392010h. Knowing that thoughtful citizen input was usedUrban:30%44%20%6%Rural:2848186General:2942227		Urban:	24%	49%	21%	6%
Attentive:3044234General:2752156d. The opinions of people I respectUrban:39%41%14%6%Rural:3055142Attentive:3850120General:3147157e. Understanding the objectives of a proposed management actionUrban:43%48%6%3%Rural:385085Attentive:454771General:365087f. My knowledge of the forest from personal experienceUrban:41%35%16%9%Rural:41371310g. My personal beliefs about how forests should be managedUrban:36%38%19%7%Rural:3247165Attentive:3748142General:32392010h. Knowing that thoughtful citizen input was usedUrban:30%44%20%6%Rural:2846207Attentive:2848186General:2942227		Rural:	33	48	16	4
General: 27 52 15 6 d. The opinions of people I respect Urban: 39% 41% 14% 6% Rural: 30 55 14 2 0 Attentive: 38 50 12 0 General: 31 47 15 7 e. Understanding the objectives of a proposed management action Urban: 43% 48% 6% 3% Rural: 38 50 8 5 3 Quebra in the objectives of a proposed management action Urban: 43% 48% 6% 3% Rural: 38 50 8 5 3 3% Rural: 36 50 8 7 1 General: 36 50 8 7 1 f. My knowledge of the forest from personal experience		Attentive:	30	44	23	4
d. The opinions of people I respect Urban: 39% 41% 14% 6% Rural: 30 55 14 2 Attentive: 38 50 12 0 General: 31 47 15 7 e. Understanding the objectives of a proposed management action Urban: 43% 48% 6% 3% Rural: 38 50 8 5 Attentive: 45 47 7 1 General: 36 50 8 7 1 General: 36 50 8 7 f. My knowledge of the forest from personal experience		General:	27	52	15	6
a. The opinions of people (respect	1 The entries of	f maamla I raam	aat			
Bornali:39 %41 %14 %14 %Rural:3055142Attentive:3850120General:3147157e. Understanding the objectives of a proposed management actionUrban:43%48%6%3%Rural:385085Attentive:454771General:365087f. My knowledge of the forest from personal experience	a. The opinions c	Urboni	200/		14%	6%
Rural:3033142Attentive:3850120General:3147157e. Understanding the objectives of a proposed management action		Droan.	3970	41/0	1470	2
Attentive: 38 30 12 0 General: 31 47 15 7 e. Understanding the objectives of a proposed management action		Rural:	30	50	12	0
General:3147137e. Understanding the objectives of a proposed management action		Attentive:	38	30	12	0
e. Understanding the objectives of a proposed management action Urban: 43% 48% 6% 3% Rural: 38 50 8 5 Attentive: 45 47 7 1 General: 36 50 8 7 f. My knowledge of the forest from personal experience Urban: 41% 35% 16% 9% Rural: 47 40 9 5 Attentive: 48 39 11 3 General: 41 37 13 10 g. My personal beliefs about how forests should be managed Urban: 36% 38% 19% 7% Rural: 32 47 16 5 Attentive: 37 48 14 2 General: 32 39 20 10 h. Knowing that thoughtful citizen input was used Urban: 30% 44% 20% 6% Rural: 28 46 20 7 Attentive: 28 48 18 6 General: 29 42 22 7		General:	31	47	15	/
Urban: 43% 48% 6% 3% Rural: 38 50 8 5 Attentive: 45 47 7 1 General: 36 50 8 7 f. My knowledge of the forest from personal experience	e. Understanding	the objectives	of a proposed	management action	on	
Rural:385085Attentive:454771General:365087f. My knowledge of the forest from personal experience		Urban:	43%	48%	6%	3%
Attentive:454771General:365087f. My knowledge of the forest from personal experienceUrban:41% 35% 16% 9%Rural:474095Attentive:4839113General:41371310g. My personal beliefs about how forests should be managedUrban: 36% 38% 19% 7% Rural:3247165Attentive:3748142General:32392010h. Knowing that thoughtful citizen input was usedUrban: 30% 44% 20% 6% Rural:2846207Attentive:2848186General:2942227		Rural:	38	50	8	5
General: 36 50 8 7 f. My knowledge of the forest from personal experienceUrban: 41% 35% 16% Rural: 47 40 9 Attentive: 48 39 11 3 37 36% 39 13 10 g. My personal beliefs about how forests should be managedUrban: 36% 38% 19% 7% Rural: 32 47 16 5 Attentive: 37 48 14 2 General: 32 39 20 10 h. Knowing that thoughtful citizen input was usedUrban: 30% 44% 20% 6% Rural: 28 46 20 7 Attentive: 28 48 18 6 General: 29 42 22 7		Attentive:	45	47	7	1
f. My knowledge of the forest from personal experienceUrban:41% 35% 16% 9% Rural:474095Attentive:48 39 11 3 General:41 37 13 10 g. My personal beliefs about how forests should be managed		General:	36	50	8	7
f. My knowledge of the forest from personal experience Urban: 41% 35% 16% 9% Rural: 47 40 9 5 Attentive: 48 39 11 3 General: 41 37 13 10 g. My personal beliefs about how forests should be managed Urban: 36% 38% 19% 7% Rural: 32 47 16 5 Attentive: 37 48 14 2 General: 32 39 20 10 h. Knowing that thoughful citizen input was used Urban: 30% 44% 20% 6% Rural: 28 46 20 7 Attentive: 28 48 18 6 General: 29 42 22 7						
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Rural:474095Attentive:4839113General:41371310g. My personal beliefs about how forests should be managed10g. My personal beliefs about how forests should be managed10g. My personal beliefs about how forests should be managed10g. My personal beliefs about how forests should be managed10g. My personal beliefs about how forests should be managed10h. Knowing that:324716General:32392010h. Knowing that thoughtful citizen input was usedUrban:30%44%20%Rural:284620Attentive:284818General:2942227		Urban:	41%	35%	16%	9%
Attentive:4839113General:41371310g. My personal beliefs about how forests should be managed10Urban:36%38%19%7%Rural:3247165Attentive:3748142General:32392010h. Knowing that thoughtful citizen input was used10h. Knowing that thoughtful citizen input was used6%Rural:2846207Attentive:2848186General:2942227		Rural:	47	40	9	5
General:41 37 13 10 g. My personal beliefs about how forests should be managedUrban: 36% 38% 19% 7% Rural: 32 47 16 5 Attentive: 37 48 14 2 General: 32 39 20 10 h. Knowing that thoughtful citizen input was usedUrban: 30% 44% 20% 6% Rural: 28 46 20 7 Attentive: 28 48 18 6 General: 29 42 22 7		Attentive:	48	39	11	3
g. My personal beliefs about how forests should be managed Urban: 36% 38% 19% 7% Rural: 32 47 16 5 Attentive: 37 48 14 2 General: 32 39 20 10 h. Knowing that thoughtful citizen input was used Urban: 30% 44% 20% 6% Rural: 28 46 20 7 Attentive: 28 48 18 6 General: 29 42 22 7		General:	41	37	13	10
Urban: 36% 38% 19% 7% Rural: 32 47 16 5 Attentive: 37 48 14 2 General: 32 39 20 10 h. Knowing that thoughtful citizen input was used 10 h. Knowing that thoughtful citizen input was 14% 20% 6% Rural: 28 46 20 7 Attentive: 28 48 18 6 General: 29 42 22 7	g. My personal b	eliefs about ho	ow forests shou	ld be managed		
Rural:3247165Attentive:3748142General:32392010h. Knowing that thoughtful citizen input was usedUrban: 30% 44% 20% 6% Rural:2846207Attentive:2848186General:2942227	8 J F	Urban:	36%	38%	19%	7%
Attentive: 37 48 14 2 General: 32 39 20 10 h. Knowing that thoughtful citizen input was used		Rural:	32	47	16	5
General:32392010h. Knowing that thoughtful citizen input was usedUrban: 30% 44% 20% 6% Rural:2846207Attentive:2848186General:2942227		Attentive:	37	48	14	2
h. Knowing that thoughtful citizen input was usedUrban: 30% 44% 20% 6% Rural: 28 46 20 7 Attentive: 28 48 18 6 General: 29 42 22 7		General:	32	39	20	10
h. Knowing that thoughtful citizen input was used Urban: 30% 44% 20% 6% Rural: 28 46 20 7 Attentive: 28 48 18 6 General: 29 42 22 7						
Urban: 30% 44% 20% 6% Rural: 28 46 20 7 Attentive: 28 48 18 6 General: 29 42 22 7	h. Knowing that	thoughtful citi	zen input was u	ised		
Rural: 28 46 20 7 Attentive: 28 48 18 6 General: 29 42 22 7		Urban:	30%	44%	20%	0%
Attentive: 28 48 18 6 General: 29 42 22 7		Rural:	28	46	20	1
General: 29 42 22 /		Attentive:	28	48	18	6
		General:	29	42	22	1
i The reliability of Forest Service technical or scientific information	i The reliability	of Forest Serv	ice technical or	scientific inform	nation	
Urban: 43% 40% 14% 4%	i. The rendomity	Urban:	43%	40%	14%	4%
Rural: 41 45 10 4		Rural	41	45	10	4
Attentive: 45 44 9 2		Attentive:	45	44	9	2
General: 40 41 14 6		General:	40	41	14	6

57

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18. (continued	d)				
	,	VERY IMPORTANT	SLIGHTLY IMPORTANT	IMPORTANT	NOT IMPORTANT
j. The reliabili Forest Service	ty of technical o	or scientific infor	mation from som	eone other than the	
	Urban:	36%	44%	15%	5%
	Rural:	41	45	10	4
	Attentive:	41	45	14	0
	General:	33	41	18	9
k. An understa	anding of how a	decision was ma	de		
	Urban:	41%	39%	16%	4%
	Rural:	36	53	7	4
	Attentive:	36	51	13	1
	General:	42	42	10	6

The Northwest Forest Plan identifies adaptive management areas as places where federal land managers can develop and evaluate new approaches to forest management. The Central Cascades Adaptive Management Area lies in portions of the McKenzie watershed and contains both the H.J. Andrews Experimental Forest and the Blue River Landscape Study (BRLS) area.

The BRLS proposes a landscape level approach that manages large areas such as an entire watershed or sub-basins. Managers make decisions, including planned timber harvests, based on historical disturbance events like wildfire, landslides and floods. The idea is to create various patches and openings that mimic these historical natural disturbances and, over time, determine if these forest landscapes result in fewer risks to native species and ecological processes than practices used more recently.

19. Please give us your opinions concerning adaptive management areas and the Blue River Landscape Study (BRLS). Regardless of your familiarity with these areas, your answers will help us understand everyone's point of view.

	STR A	ONGLY GREE	AGREE	DISAGREE	STRONGLY DISAGREE	NO BASIS FOR OPINION
a. I supp	oort the BRLS ap	proach describe	ed above			
	Urban:	19%	49%	10%	2%	19%
	Rural:	16	47	6	5	26
	Attentive:	24	51	13	4	8
	General:	13	47	4	3	33
b. Adapt	tive management	t areas are a goo	od idea			
	Urban:	21%	52%	4%	2%	21%
	Rural:	20	52	5	3	20
	Attentive:	30	53	5	4	8
	General:	13	52	3	2	30

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19. (continued)					
	STRONGLY AGREE	AGREE	DISAGREE	STRONGLY DISAGREE	NO BASIS For opinion
c. I have confidenc approaches	e that BRLS mana	gers know enoug	gh about forest and	stream ecosystem	ns to plan management
11					
Urban:	7%	49%	13%	6%	26%
Rural:	7	34	18	11	30
Attentive:	4	49	18	14	16
General:	10	36	14	4	37
d. I would support	the BRLS if the m	anagement plan	was critically revie	ewed by scientists.	
Urban [.]	19%	48%	9%	2%	22%
Rural:	12	46	15	3	24
Attentive:	23	47	13	5	12
General:	10	48	11	1	30
e. I would support	fewer stream reser	ves in exchange	for harvesting less		
I.I.	50/	120/	200/	120/	410/
Urban:	5%	12%	29%	1270	4170
Attentive	2	15	32	10	30
Gaparal:	2	9	24	19	14
f. No-cut forest res	erves have merit fo	or species conser	vation purposes.		
Urban:	35%	28%	18%	11%	8%
Rural:	5	15	32	11	38
Attentive:	38	32	16	13	2
General:	21	31	27	7	14
g. Harvesting oper- ecological impact.	ations that leave st	anding dead tree	s and logs on the g	round minimize	
Urban:	28%	43%	10%	6%	13%
Rural:	18	47	16	4	15
Attentive	33	47	10	4	6
General:	16	44	16	5	20
h. I am concerned	about economic lo	sses created by l	eaving standing de	ad trees and logs of	on the ground.
Urban.	8%	13%	37%	32%	11%
Rural:	7	19	30	30	15
Attentive	6	12	37	41	4
General:	8	19	31	23	19
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59

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	TRUST COMPLETELY	TRUST SOMEWHAT	NEUTRAL	DISTRUST SOMEWHAT	DISTRUST COMPLETELY	NO BASIS FOR OPINION
a Bure	au of Land Man	agement				
Urban:	12%	50%	13%	17%	4%	5%
Rural.	9	47	12	14	10	9
Att.	10	48	10	24	8	1
Gen:	10	18	14	0	6	11
Gen.	11	10	14		0	
b. U.S.	Forest Service .					
Urban:	14%	53%	8%	17%	4%	4%
Rural:	16	50	10	12	5	6
Att:	16	51	7	18	8	1
Gen:	15	52	10	12	2	8
000						
c. Oreg	on Department	of Forestry				
Urban:	15%	45%	13%	13%	5%	10%
Rural:	19	44	12	10	6	10
Att:	13	43	13	15	10	7
Gen:	20	47	11	9	1	12
1 1 6 17		10 1				
d. McK	enzie Watershe	d Council	170/	(0/	10/	260/
Urban:	9%	30%	17%	6% 7	1%	30%
Rural:	10	32	27	/	3	21
Att:	15	34	21	/	3	21
Gen:	5	30	23	/	1	35
e Moh	awk Watershed	Partnership				
Urban.	3%	19%	19%	5%	1%	54%
Rural.	4	14	22	7	2	51
Att	2	12	23	6	3	55
Gen [.]	5	20	20	5	1	50
Gen.	5	20	20		-	
f. Fores	st industry group	os or companies				
Urban:	7%	19%	16%	27%	23%	8%
Rural:	4	24	17	22	21	11
Att:	6	21	13	27	33	1
Gen:	5	23	20	23	13	16
g. OSU	Extension Serv	rice		<i>c</i> 0 <i>i</i>	00/	170/
Urban:	24%	40%	14%	6%	0%	17%
Rural:	21	43	15	7	2	13
Att:	20	44	16	10	3	8
Gen:	24	40	13	4	0	20
h Email	nonmontal anom	20				
I. Envi		33%	12%	24%	17%	6%
Dural.	6	22	13	31	22	6
	0	35	10	26	19	1
Gen [.]	6	22	14	29	20	10
Gen.	0					

20. Earlier we asked which organizations provide useful information about forest management. Now we would like to know who you trust to give you reliable information about forest management.

20. (con	tinued)					
	TRUST	TRUST		DISTRUST	DISTRUST	NO BASIS
	COMPLETELY	SOMEWHAT	NEUTRAL	SOMEWHAT	COMPLETELY	FOR OPINION
i. News	paper reports					
Urban:	2%	27%	24%	33%	9%	5%
Rural:	2	27	26	34	7	4
Att:	27	0	22	37	12	2
Gen:	3	27	27	31	5	7
j. TV an	nd radio reports					
Urban:	2%	22%	30%	31%	9%	7%
Rural:	2	25	31	30	7	4
Att:	0	21	28	36	12	3
Gen:	4	26	32	26	5	7
k Perso	nal experience	(farming recreati	ion logging)			
Urban [.]	40%	40%	5%	0%	0%	14%
Rural.	39	39	11	1	0	10
Att.	47	41	2	0	0	9
Gen:	35	38	12	1	0	14
1 Relati	ves friends ne	ighbors				
Urban:	13%	40%	38%	3%	1%	6%
Rural.	12	53	25	4	0	7
Att.	11	47	35	4	0	2
Gen:	13	47	27	1	0	10
m Unix	versity scientists					
II. Univ	10%	17%	17%	6%	1%	10%
Rural.	1970	4778	21	6	4	11
	18	62	11	4	3	2
Gen:	10	38	24	7	2	18
Gen.	11	58	24	,	2	10
n. Gove	rnment agency	scientists				
Urban:	12%	42%	19%	13%	5%	9%
Rural:	4	37	22	16	10	10
Att:	12	52	12	15	5	4
Gen:	5	30	27	15	9	15

21. Recently there has been considerable debate over efforts to increase citizen participation in federal forest management. Use the following scale to tell us your opinion regarding citizen participation in federal forest management.

Circle one number for your response.

a. Citizen participation is of <u>great value</u> even if it adds to the cost of government.			Neutral		Citizen participation is of <u>no value</u> and adds needlessly to the cost of government.
Urban:	32%	37%	16%	13%	2%
Rural:	34	39	17	8	3
Attentive:	36	37	10	13	4
General:	30	38	21	9	1

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21. (continued)

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b. Citizen participation is of <u>great value.</u>		on	Neutral	C is	Citizen participation is of <u>no value</u> .	
Urban: Rural: Attentive:	29% 30 34	35% 36 36	20% 19 12	14% 11 15	3% 4 4	
General:	26	34	26	11	3	

Before closing, we would like to ask a few questions about you. All information in this survey will remain confidential.

22. Are you?				
	Urban	Rural	Attentive	General
Male	78%	77	72	82
Female	22%	23	28	18
23. How old are you?				
	Urban	Rural	Attentive	General
18-24	2%	0	1	1
25-35	9%	3	3	9
36-48	28%	28	30	27
49-64	34%	41	42	34
65+	28%	27	25	30
24. Are you retired?				
	Urban	Rural	Attentive	General
Yes	31%	39	34	36
No	69%	61	66	64

25. From which source did/does your household derive its primary income?

	Urban	Rural	Attentive	General
Agriculture	2%	3	1	3
Construction	7%	10	4	12
Education or Academics	24%	6	17	13
Enviro Organization	2%	1	3	0
Forest Industry	12%	18	19	12
Manufacturing (non-timber industry)	9%	9	5	12
Public Admin or Government	19%	16	24	12
Service (tourism, rec., real estate, ins)	12%	17	10	19
Other	13%	21	18	16

26. What is the highest level of education you have completed?

	Urban	Rural	Attentive	General
Some high school	1%	2	2	1
High school graduate / GED	11%	15	2	22
Some College	20%	34	17	35
Associate's degree	3%	6	3	6
Bachelor's degree	22%	17	23	16
Some graduate course work	9%	12	16	7
Graduate or professional degree	33%	12	36	11
Other	2%	2	2	2

27. If you would like to make any comments regarding the topics in this mail survey, please do so in the space below.

28. More questions will arise during this project and it will be valuable to have conversations with interested citizens. If you would like to participate in any of the events listed below please mark the appropriate selections AND return your name, address and phone number on a separate piece of paper. This is <u>completely voluntary</u> and in no way required. Regardless of your selection your answers will remain completely confidential.

	Urban	Rural	Attentive	General
Yes	55%	54	57	37
No	38%	35	24	47
No Answer:	17%	10	19	16
Please inform me when and where you will present				
your findings.	62=46%	59=39%	67=55%	55=34%
I would be willing to talk with a researcher individually.	38=28%	43=29%	49=41%	33=21%
I would be willing to participate in a group discussion with other citizens.	27=20%	35=24%	40=33%	23=14%

Thank you very much for completing this survey. We know that your time is valuable. Please fold the survey in half and place it in the stamped envelope provided and mail it back to us. Thanks again!

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