1993

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Mark W. Brunson

Reprinted from the *Western Journal of Applied Forestry*, Vol. 8, No. 4, October 1993.

Technical Commentary

"Socially Acceptable" Forestry: What Does It Imply for Ecosystem Management?

Mark W. Brunson, *Department of Forest Resources, Utah State University, Logan, UT 84322-5215.*

Foresters face increasing pressure to adopt management strategies that deviate from traditional forestry practice. Responding to criticism from both within and outside the profession, ecologists and silviculturists are collaborating to develop and test innovations that they believe can protect biological diversity and sustain intact ecosystems (Swanson and Franklin 1992). These efforts may hold considerable promise for meeting the ecological challenge, but ecological problems are not the sole impetus for the "reform" movement in forestry. Dissatisfaction is instead rooted in a wide range of values which give rise to spiritual, esthetic, recreational, economic and ethical concerns as well as ecological ones.

The USDA Forest Service acknowledged this broader aspect in its New Perspectives research program, described as an initiative to develop "a scientifically sound and socially acceptable forestry of the future" (Salwasser 1990). The still-evolving product of that program, ecosystem management, has been called "a multiple-use philosophy built around ecological principles, sustainability, and a strong land stewardship ethic, with a better recognition of the spiritual values and the natural beauty of the forests" (Robertson 1991). Thus ecosystem management, like New Perspectives, is intended to address issues apart from biology—i.e., to make forestry *socially acceptable* as well as scientifically sound.

A key question regarding ecosystem management therefore must be: Do we know what makes a forestry practice or forest condition socially acceptable? A problem analysis for the social component of New Perspectives concluded that we do not. Stankey and Clark (1991) found that "there is an inadequate understanding of what constitutes 'acceptability' with regard to the practice of New Perspectives and of the associated impacts of these differing conceptions." Failure to gain that understanding can have significant ramifications in a democratic society, where public values and expectations shape natural resource policy. Consequently, the Consortium for the Social Values of Natural Resources, an interagency research cooperative based in the Pacific Northwest, initiated in 1991 a study which sought to define social acceptability in the context of the New Perspectives program. This paper presents some conclusions drawn as a result of this study and discusses their implications for the future implementation of ecosystem management strategies on public forestlands.

NOTE: Based on research conducted at Oregon State University as a project of the Consortium for the Social Values of Natural Resources. Funded by the Cascade Center for Ecosystem Management, USDA Forest Service.

A Multidisciplinary Approach

Gaining and keeping public acceptance is a necessary objective of any public agency. There are forest management strategies aimed specifically at maintaining acceptability, e.g., the Limits of Acceptable Change system (Stankey et al. 1985) for wilderness planning. Yet such strategies rarely define acceptability in any rigorous way. Nor has the term been widely adopted by mainstream social scientists, who more often make reference to concepts such as "norm," "value," "preference," or "group-mediated social control."

It is not clear which of these concepts best describes the goals of ecosystem management. Is an unacceptable forest condition one which violates a social *norm* (i.e., a widely shared standard based on an accepted measure of the condition), or simply one which fails to reflect public *preferences*? To what extent must a forest value be diminished by a practice before the condition becomes unacceptable? How do we distinguish between what is acceptable and what is desired (cf. the ecosystem management objective of achieving a *desired future condition*)? Each of these questions is relevant to a definition of social acceptability.

Developing such a definition required a synthesis of theories and concepts from the various social sciences that address acceptability-related issues in a natural resource context. Each social science discipline pursues different research questions and measures different variables. For example, social psychologists study environmental attitudes as determinants of individual behavior, but research on environmental activism—the link between attitudes and collective behavior—is the province of sociologists and political scientists. Other aspects of this complex issue may be studied by geographers, anthropologists, landscape architects, ethicists, or economists. Therefore one aspect of our study was to review research findings and integrate concepts from each of those fields.

In order to canvass such a wide range of research, the study design called not only for a traditional literature review, but also for a three-day "expert's" workshop. Scholars were recruited from a variety of forestry-related fields outside the principal investigator's area of specialization. Insights from this workshop, held at Kelso, WA, in June 1992, were analyzed along with those gained from the traditional literature review.

Additional insights came from several hundred participants in ecosystem management field tours conducted by several agencies in Oregon and Washington in 1990–1992. The tours drew agency and industry foresters, government policymakers, lobbyists, university students and researchers, environmental activists, and other interested citizens. Some participants answered surveys before, during, and after the tours; on other tours, questions and comments were recorded for subsequent content analysis. The qualitative data gathered in this way were analyzed using open and axial coding processes (Strauss and Corbin 1990) to develop a typology of reactions to ecosystem management practices, conditions, and objectives.

Seven Propositions

Based on this multidisciplinary, multimethodology investigation, seven propositions about acceptability were developed that defined the dimensions of acceptability as a resource management concept. Each of the propositions is examined briefly in this section; a subsequent section discusses in further detail their implications for ecosystem management.

1. ***Acceptability may apply to conditions, but it is a function of causes.*** People judge natural settings not only by *what* is there, but also *why* it is there. If a forest condition is believed to result from human actions, the acceptability of that condition therefore depends partly on the acceptability of the practice that created it. Moreover, the acceptability of the practice depends partly on its perceived purpose.
2. ***Conditions that arise as a result of "natural" causes are virtually always acceptable.*** Ours is a culture in which "natural" is desirable, or at least forgivable. Even a natural disaster is viewed as an "act of God," perhaps subject to lamentation but never to condemnation. Increasingly, Americans identify with environmentalist ideologies that revere nature. Whatever is natural is said to be "right" or "beautiful" by definition, as Rolston and Coufal (1991) wrote: "Forests are never ugly, they are only more or less beautiful.... Even the 'ruined' forest, regenerating itself, has positive esthetic qualities." Conversely human works are believed to have the potential—if not the probability—to be ugly or wrong.
3. ***Acceptability of a condition can only be questioned if there are feasible alternatives to that condition.*** Reality can only be judged relative to its alternatives. Psychologists suggest that normative judgments are routinely computed after a perceptual stimulus (e.g., a view or description of a forest) is encountered. Such stimuli trigger a series of parallel cognitive representations about what is, and what could be (Kahneman and Miller 1986). These "thought particles" are then aggregated to produce a norm, and if no alternative is imagined, what remains is, by definition, normal. One reason why natural causes may be acceptable, even to those who don't believe that nature knows best, is that they are generally unforeseeable and unpreventable. No option to accept or reject was offered, so the consequences lie outside the realm of acceptability judgment.
4. ***In the presence of feasible alternatives, acceptability is a function of the perceived desirability, equitability, and feasibility of those alternatives.*** When reality is compared to alternatives, judgments depend not only on one's preferences for those alternatives, but also on one's beliefs about the likelihood that those alternatives *can* occur, and about one's right to demand that they *should* occur. The imagined repertoire of alternatives is a product of personal knowledge; the preference for an alternative is influenced by personal values. Thus, for example, people who are equally knowledgeable about fire ecology may differ in their beliefs about the acceptability of the 1988 Yellowstone fires, depending upon their beliefs about the national park values that should be preserved for future generations (Sellars 1990), the National Park Service's ability to have foreseen and prevented the fires' occurrence (Buck 1989), or the government's duty to aggressively safeguard the interests of private tourist businesses that suffered while the fires were burning.
5. ***Acceptability is a function of the perceived risk associated with a condition or practice.*** The greater the risk, or the greater the uncertainty about risk potential, the less acceptable a practice or condition will be. Among factors that affect risk perceptions are: the fatality of making an error, the extent to which consequences are localized, the length of time before consequences are known, and the length of time required to recover from error (Fischhoff et al. 1981). Acceptable-risk problems are complicated by ambiguities in how to define the problem, ascertain relevant facts, decide whose values are to be represented (and how to elicit them), and account for the inevitable fallibility of experts.
6. ***Acceptability is judged within a geographic context.*** Practices and conditions that are acceptable in one setting will not be acceptable in another, depending on place meanings (whether the setting is "special" to someone), and the landscape context (whether the condition is rare or widespread within a defined landscape). The classic example of a generically acceptable practice being unacceptable in a specific locale is the so-called NIMBY (not in my backyard) syndrome, whereby a land use such as waste disposal is acknowledged to be necessary but is nonetheless unwanted locally. While typically thought of as an urban phenomenon, NIMBY-type reactions also can also occur in forests; e.g., Martinson and Baas (1992) have found that participants in roaded dispersed recreation are more critical of timber harvest if it occurs in places that they visit frequently.

7. ***Acceptability is judged within a social context.*** Individual judgments are tempered by the judgments of others in one's reference group. A person may rationally decide that a practice or condition is acceptable, yet behave as though it were unacceptable because to do so reflects the image he or she wants to project to important others. For example, Carroll (1989) points out that in the social world of a logger, anything the Forest Service does is suspect: "... negative evaluation of the Forest Service serves as an important unifying theme for loggers in the study area. One logger candidly stated, 'I'm a logger, so I'm supposed to hate the Forest Service.' " (p.101).

Ecosystem Management Implications

Ecosystem management, as defined by Robertson (1991), is intended to address the diversity of public values concerning forests. The most socially acceptable ecosystem management strategies will be those which reflect the ways in which public judgments about forests are made. The propositions described in the previous section offer some insights on how ecosystem management stands and forests will be judged.

A basic conclusion of this analysis has been that people try to discern meanings in their environments. We judge an outdoor setting not only based on what we see, but also on how it got that way, and why. If we value the primitive nature of wilderness, a backcountry trail may be more acceptable if created by crosscut saw than by chain saw. If we agree that nature has intrinsic value, a patch of bare ground in the woods may be more acceptable if it functions as an elk wallow than as a log landing. Because intact ecosystems and biodiversity are widely valued, ecosystem management may be more acceptable than traditional practice.

That may only be true, however, if people understand the purposes of ecosystem management. Many participants in the ecosystem management field tours predicted that the public would reject ecosystem management conditions on the basis of appearance. These predictions reflect the perception, which is reinforced by traditional landscape architecture practice, that a forest landscape is acceptable only if it fits traditional Western conceptions of beauty. If true, that would not bode well for ecosystem management because forests that appear somewhat tidy and pastoral, but not intensively tended, are generally judged more "beautiful" than ones that contain all of the structural elements necessary to maintain biodiversity (Gobster, 1992). However, recent research on the scenic impacts of silvicultural practices in Oregon found not only that new forestry stands were judged more acceptable than clearcuts or early commercial thinnings (Brunson and Shelby 1992), but also that acceptability judgments tended to be more positive if raters were given information about the ecological basis for the practices (Brunson 1991).

Such information won't convince everyone, however. Some will see in ecosystem management a slick scheme to liquidate the last old-growth forests (Kerr 1990). Others may be less cynical, but nonetheless take the deep ecology (Devall and Sessions 1985) view that human interference with the natural world is excessive and worsening rapidly. For them, the only acceptable forestry may be what environmental ethicist Peter List, speaking at the Kelso workshop, called "silvicultural silence"—i.e., no timber management at all.

A second basic conclusion of this study is that ecosystem management will be judged relative to its perceived alternatives. Ecosystem management is often seen as a compromise between traditional timber management and nontimber management. This may be a political advantage, but only if it occupies the proper position on the high-yield-to-no-yield spectrum. Public willingness to accept such a compromise will depend on the sum of individuals' preferences for other options, beliefs about the probability of achieving an alternative to ecosystem management that one finds preferable, and beliefs about the right to demand and expect such an alternative.

Generally speaking, ecosystem management will be most acceptable to those who can see it as a more natural approach to management. The challenge for ecosystem managers will be to convince a skeptical public that human manipulation which simulates nature is more acceptable than letting nature take its course. This task is complicated by the fact that the natural processes being simulated (disturbance regimes) carry a negative label. Natural disturbances are acceptable because there is no way to avoid them. Wind damage in an old growth stand is inevitable, and therefore acceptable. Wind damage alongside a clearcut is preventable (by not cutting, if by no other means), and is therefore less acceptable. But what of a silvicultural system that can simulate wind damage, such as group selection? Simulated disturbances cannot be accepted on the same grounds as natural ones because people choose to do the simulating. Ecosystem managers must be able to show not only that disturbances are indeed natural, but also that the consequences of *not* simulating them—whether by choosing high yield forestry or "silvicultural silence"—ultimately will be more disturbing.

Beliefs about the alternatives are therefore a function of their perceived risks. Risk and uncertainty are inversely related to acceptability. Critics of ecosystem management often point to earlier failures. As Fiedler (1992) put it, the skeptics "are unwilling to jump on the latest bandwagon, having seen the wheels come off so many wagons before." Increased risk means decreased acceptability.

Slovic (1987) has identified two dimensions of environmental risk: the extent to which it is dread, and the extent to which it is unknown. Forestry ranks low on the first factor. Its risks are not usually fatal to humans, are catastrophic locally more often than globally, and tend to decrease with the passage of time. But ecosystem management may rank high on the second factor. Because mature forest ecosystems develop slowly, many years can pass between a decision and recognition of its consequences. We can guess how an ecosystem management stand will function in 50 years based on our knowledge of past natural disturbances, but our guesses won't be confirmed for another half-century. The risks of an error in judgment are not entirely knowable and may be delayed. Thus the consequences of error fall on those who had no hand in creating the condition and no opportunity to prevent its occurrence.

One thing we do know for certain is that ecosystem management practices will not be acceptable everywhere. Forest places can be special to individuals, groups, communities, or cultures; practices that change the condition of a special place are unlikely to be acceptable to those who hold it special—even if the change produces conditions that are socially desirable in a general sense. Thinning pine stands to reduce susceptibility to beetle attack may be generally acceptable, but thinning a certain pine stand might be unacceptable to someone who regularly visits that stand because its thick foliage offers refuge from nearby civilization.

The distribution of conditions within a specific landscape can also affect acceptability. On one field tour, a representative of The Wilderness Society was asked his opinion about a New Perspectives harvest unit. He replied that while the practices he'd seen were a definite advance toward sustainable forestry, that particular watershed had already been so heavily cut over that he felt no further harvest should have been done there.

Because adaptation to local ecological conditions is a central tenet of ecosystem management (Swanson and Franklin 1992), this approach to forestry may be especially responsive to local social concerns. Sound practice of ecosystem management requires consideration of both the landscape context and the presence of critical habitat features. Questions about local acceptability should be resolvable as long as human landscapes and human habitats are routinely included in the analysis.

This discussion has focused on *individual* affective and cognitive responses to forest practices or conditions. But individual judgments are tempered by the judgments of others in one's reference group. A person may behave as if a practice were unacceptable, regardless of personal opinion, in order to project a favorable image to important others. Education about ecosystem management can help foster positive attitudes among individuals, but it is *group* positions that most often influence governments. Education can go only so far in changing attitudes at the scale of "the public." The political environment surrounding forestry is so polarized that any new initiative is likely to be viewed with suspicion—i.e., as a ploy by the "other side"—especially if it is seen as arising from the Forest Service rather than a source that may be seen as more neutral (such as the academic community).

Targets or Thresholds?

That which is acceptable is not necessarily that which is desirable. For example, the *Random House Webster's College Dictionary* offers four definitions of "acceptable." The first two of these carry positive-to-neutral connotations; the others are decidedly negative: (1) capable or worthy of being accepted; (2) pleasing to the receiver, agreeable, welcome; (3) meeting only minimum requirements, barely adequate; (4) capable of being endured, tolerable. Social acceptability thus can be used to define a target for managers to strive for, or a threshold of tolerance they dare not fall below.

In practice, if not in theory, acceptability standards often define a tolerance threshold. Governments may see themselves as successful as long as no one complains loudly enough to make life really uncomfortable for the people in charge. While a multiple-mandate forest agency must surely compromise, the temptation exists to do so by choosing the level of activity that the greatest number of people will endure. Such management may foster acceptance, but it cannot produce a *desired* future condition.

Some environmental activists believe ecosystem managers want only to find a level of timber harvest that reduces dissent to tolerable levels while adhering as closely as possible to the status quo. While that is not why most scientists are developing the new methods, the term *socially acceptable forestry* may tend to reinforce the misperception. If ecosystem managers truly seek an optimal state of forest management, a more hopeful objective than mere acceptability may prove easier for all sides of the forestry debate to accept.

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