THE DIVERSITY, COMPLEXITY, AND BREADTH OF FOREST SERVICE
RESPONSIBILITIES FOR MANAGING THE NATIONAL FORESTS ARE
GREATER THAN THE SCOPE OF RESPONSIBILITIES ASSIGNED TO ANY
OTHER FEDERAL LAND MANAGEMENT AGENCY.

**CHANGING SOCIAL AND LEGAL FORCES AFFECTING THE
MANAGEMENT OF NATIONAL FORESTS,** DAlNA DRAVNIEKS APPLE
The U.S.D.A. Forest Service has been cited as one of the best managed agencies
in the government. The Forest Service gained national respect during the Great
Depression and emerged from World War I1 expanding its mission from primarily
custodial management to supplier of natural resource commodities such as
timber. Its budget grew and so did its numbers of employees (Reich, 1962;
Sabatier, Loomis, and McCarthy, 1995). It was also a professional monoculture
largely made up of white male foresters, and was soon to encounter strong sociopolitical
pressures to accommodate environmental values and more open, democratic decision
making. As the country's largest, oldest, and most powerful land management agency,
the Forest Service has often been praised for its professionalism, effectiveness, and *esprit
de corps* (Clarke and McCool, 1985; Culhane, 1981; Kaufman, 1960). In the 1950's and
1960's the Forest Service experienced relatively little public or Congressional criticism.
Agency professionals wrote much of the legislation regulating its own behavior, such as
the Multiple Use Sustained Yield Act of 1960 (Dana and Fairfax, 1980). Forest recreation
users and environmentalists had not yet voiced their interests and the agency had rarely
been taken to court to defend its policies. But its defense of its clearcutting and other
forest management controversies on National Forests, and the passage of National
Environmental Policy Act in 1969 signalled a change. The Forest Service since 1969 has
been criticized for focusing too much on the management and development of the
national forests' commodity values, especially timber and grazing, and for insufficient
attention to noncornmodity values such as wildlife, wilderness, and recreation (Anderson,
1993-94; Twight, 1983; Wilkinson, 1987). It has also been criticized for not responding
to shifting societal demands concerning these values (Twight, 1983; Twight and Lyden,
1988; Twight and Lyden, 1989). Nevertheless, a number of observers argued that the
Forest Service had been changing (Brown and Harris, 1992; Kennedy, 1988; Tipple and
Wellman, 1991). They point to sustained pressure on the agency over the past several
decades, from growing environmental
awareness in the country and increased public attention to the national forests and
other public lands. Significant new legislation emerged during this period,
including the Wilderness Act of 1964, the National Environmental Policy Act of
1969 (NEPA), the Endangered Species Act of 1973, the National Forest Management
Act of 1976 (NFMA), and others. Some argue that these laws, as well as a
number of important court decisions, have made the Forest Service pay closer
attention to the noncommodity and environmental values of the national
forests. Such laws have also increased opportunities for the public to become
involved in, and to hold the agency accountable for, national forest planning
decisions. Very recently, several authors concluded that Forest Service planning
decisions are now more strongly influenced by local "amenity coalitions" than
even by hierarchical controls from Congress, or the Forest Service national

office (Sabatier, Loomis, and McCarthy, 1995).

These external pressures have, in turn, led to internal pressures. Interdisciplinary planning and decision making required by NEPA and NFMA, as well as affirmative action decisions made by the courts, led the agency to hire and promote greater numbers of women, minorities, and nonforestry professionals (Brown and Harris, 1993). Some argue that the increased presence of nontraditional employees has resulted in a greater diversity of ideas and perspectives, which is likely to affect the agency's world view and eventual management and policy decisions.

Background: Evolution and Impact of Forest Service Culture

The Forest Service officially began as a land management agency in 1905. In that year, the Transfer Act gave this small agency responsibility for 60 million acres of remote western land. In the years since 1905, the agency has seen its land base more than triple to 191 million acres, and its personnel increase in number to rival that of many large federal departments (full-time employees currently number just over 30,000). It also developed a reputation for being a "superstar" agency (Clarke and McCool, 1985). In 1960, Kaufman sought to answer the question of how the Forest Service overcame the multitude of "centrifugal forces," including distance, variety of settings, and an ideology of decentralization, to function as a model of bureaucratic effectiveness. He thought a high degree of unity was maintained because employees performed tasks with compliance and conformity. Kaufman described the ranger as a pivotal player in national forest administration: executive planner, the woodsman whose chief responsibility was to shape elaborate, detailed directions from above to meet the needs of the local situation. In doing so, the rangers felt as though they were exercising large amounts of discretion, yet their actions were generally approved of by the organization (Tipple and Wellman, 1991). According to Kaufman, the Forest Service successfully used administrative procedures not only for their stated administrative purposes but also to reinforce a culture of voluntary conformity. For example, he described the frequent movement of field personnel as designed to provide employees with a wide range of experience, and make rangers less subject to local pressure, in keeping with agency policy for advancement through the ranks. Yet, he noted, this had the added effect of making the Forest Service the primary factor in an individual's life, the only continuity and structure in an otherwise always changing world. To these he added standardized recruitment, selection, and staffing, reporting requirements, training, and the use of language and symbols. Yet, despite the picture of strong socialization efforts and numerous control mechanisms, Kaufman concluded that the organization remained flexible and open- to new ideas
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Line and Staff

Forest Service employees traditionally have defined themselves into two broad categories: Line and Staff. National Forest System line officers are those with policy making authority. Included in this category are the chief, associate chief, deputy chiefs, regional foresters, deputy regional foresters, forest supervisors, deputy forest supe~isors, and district rangers. Staff include all employees not

considered to be part of the management line. (The Forest Service research and state and private organization has an analogous structure, but is not included in this discussion.) Line employees have usually been in the agency longer and are more likely to hold a degree in forestry. Thus, they may be more likely than staff to be socialized into the agency's traditional norms and worldview. Additionally, line officers may face greater pressures to conform by the promotion and reward system, as there are far fewer line than staff positions in the Forest Service since only one of each 35 employees holds a line position (Mohai and Jakes, 1996).

Institutionalization
In "The Role of Institutionalization in Cultural Persistance" (1977), L.G. Zucker described institutionalization as "some sort of establishment of relative permanence of a distinctly social sort," which has to do with cultural persistence, i.e., becomes adopted as part of the mind map circumscribing behavior. He found that the greater the degree of institutionalization, the greater the uniformity, maintenance, and resistance to change of cultural understandings. The Forest Service and the forestry profession both involve commitment to a social establishment intended to do permanent things, and thus to be relatively permanent themselves. While Zucker found that institutionalization can occur in a relatively short time, forestry has had many decades to become institutionalized. The more than 90 years of forestry training and bureaucracy in this country derives from over a century and a quarter of professional and bureaucratic development in Prussia and Germany. Prussia's first forestry bureaucracy regulating government forests was established by Frederick the Great in 1740, followed about 30 years later by professional forestry schools (Brown, 1887; Fernow, 1894). The adoption of the elite organizational model used in the Prussian Forest Service was urged here in the United States, first by Baron Von Steuben at the 1882 American Forestry Congress in Cincinnati and again in 1893 at the Chicago World's Fair with its special German forestry exhibit and building. Prussian forester Bernard Fernow helped organize both of these events along with the American Forestry Association, and he wrote the 1888 Hale Bill, which proposed an organization resembling both the Prussian Forest Service and the present-day USDA Forest Service (Steen. 1976).
Gifford Pinchot not only studied the organization of the Prussian Forest Service in Germany, but corresponded at length with his old German professor Detrich Brandis about the details for instituting a U.S. Forest Service (Pinchot, 1891). Brandis's step-by-step recommendations clearly outline the establishment of a specific pattern of organizational behavior first for a single ranger district, then gradual replication of the model into additional districts. This is similar to the deliberate institutionalization pattern demonstrated by Zucker. The subsequent training of the first U.S. professional staff using German instructors, texts, and technology was also influential in cultural development and maintenance of the organization. Over time, then, both through institutional patterning and through repetition of personnel practices noted by Kaufman, Forest Service cultural persistence and uniformity became well established. The Forest Service developed into a well-run, effective agency, and continued relatively unchanged for most of its history. Each of its

first five decades was dedicated only to refining its self concept of tree-farming, with little pressure to rethink its direction or goals. Not until the rise of the environmental movement in the 1960's and 1970's did it face any serious challenges to its management or purpose.

What is Organizational Culture?

James Q. Wilson states that every organization has a culture-a persistent way of thinking about the central tasks and human relations within an organization. "Culture is to an organization what personality is to an individual. Like human culture generally, it is passed on from one generation to the next. It changes slowly, if at all" (Wilson, 1989). According to Wilson, a definition of orgpnizational culture includes: "the process of inculcating points of view fundamental attitudes, loyalties, to the organization ... that will result in subordinating individual interests ... to the good of the whole." An organization acquires a distinctive competence (what it actually does better than any other) or sense of mission when it has not only answered the question "What shall we do?'but also the question "What shall we be?' Wilson notes that this leads to the establishment of core tasks that are linked to distinctive competence of the organization. It is the core of the organization's self-concept - of what it is there to do. When an organization's goals are vague, different definitions of core tasks develop for different people. This results in the development of different subunits, and organizations can have several cultures. (While the goals of the Forest Service are clear, the priorities for achieving them often are not clear, thus leading to a similar dynamic described by Wilson.) Both Wilson and E.H. Schein (1988), discuss the powerful impact of strong founders in shaping organizational cultures. They can instill a sense of mission in an organization which confers a feeling of special worth on the members, provides a basis for recruiting and socializing new members, and enables administrators to economize on the use of other incentives. Wilson cites the creation of the Forest Service in 1905 as an example of how a leader successfully developed a sense of mission that persists to this day. The Leader, Gifford Pinchot, the first Chief of the Forest Service, was a charismatic man,
and a personal friend of President Theodore Roosevelt. After returning from France where he received professional training in forestry, and subsequent exposure to German and Swiss forestry, he founded the Forest Service in 1905 (Pinchot, 1910). The predecessor to the Forest Service, the Department of Agriculture's Division of Forestry, was created in 188 1, but had no forest lands under its management. Only with the Transfer Act of 1905 were the federal forest reserves given to the Department of Agriculture to administer under the theory that growing trees was comparable to growing agricultural crops (Steen, 1976). Pinchot recruited very selectively and considered it an elite service whose members were expected to conform to a strict code of conduct. He stated that because the agency's 350 foresters were "...so few, they should stand closely together ..." and that "...American foresters are united as probably the members of no other profession" (Pinchot, 1947). The organization was hierarchical and had strong management controls, and was able to manage millions of acres all across the United States without succumbing to local dominant political influence groups (Frome, 1984). The first Forest Service Manual was written by Gifford Pinchot and describes an agency of public responsiveness and professional service (Frome, 1984) . The manager role model in that publication was a rugged professional individual: hard working men, self-sufficient,

competent, with benign, long-term public concern. This helped to justify the Forest Service tradition of trust and decentralized power given to local Forest Service officers. Such an individualistic, experienced and benign district ranger image was dominant for most of this century, when professionalism in general, and Forest Service professionals in particular, enjoyed more blanket public trust and respect than they do currently (Frankel, 1969; Frome, 1984; Kaufman, 1960).

Importance of Loyalty
J.J. Kennedy and J.A. Mincolla (1982,1985) found the values most rewarded by the Forest Service were: loyalty to the Forest Service; production or the work ethic; and getting along with people in interdisciplinary teams (which is a value much elevated in importance since the passing of NEPA). Organizational loyalty, however, embodies potential problems when such loyalty becomes excessive and discourages questioning of agency decisions or practices. Professional versus agency loyalty issues were a bigger problem for entry level biologists than foresters, according to results of employee surveys conducted by Kennedy and Mincolla. Wildlife biologists and fisheries biologists were relatively new to the Forest Service, and were not hired because the Forest Service power structure decided it was a good idea, but because NEPA largely forced these new employees into the Forest Service to help priorities and management practices to reflect better the needs and values of post-industrial American society (Kennedy, 1985b; Kennedy, 1986). Functioning thus as agents of change, wildlife biologists and fisheries biologists often challenged agency decisions and traditions. Sometimes such behavior was perceived as disloyal. Recent Challenges to Traditional Forest Service Culture and Management The last 20 years have been a time of transformation of the Forest Service. The National Environmental Policy Act (NEPA), signed in 1969, and the National Forest Management Act of 1976 (NFMA), coincided with the most significant period of change that the Forest Service has undergone since it was established at the turn of the century. While many of the forces that have transformed the Forest Service are the same forces that led to the passage of NEPA, NFMA, and the Endangered Species Act (as well as other environmental legislation passed during the 1960's and 1970's), these three laws have accelerated and stimulated the Forest Service to change. Although Kaufman described the management of the national forests in the late 1950's as complex and guided by a multiple-use mission, legislation enacted in the 1960's, 1970's and 1980's made the challenge even more complex by expanding the agency's responsibilities. The Multiple Use-Sustained Yield Act of 1960, the Wilderness Act of 1964, the Historic Preservation Act of 1966, the Wild and Scenic Rivers Act of 1968, the National Trails System Act of 1968, the Clean Air Act amendments of 1970 and 1977, the Surface Mining and Minerals Act of 197 1, the Clean Water Act amendments of 1972 and 1977, the Endangered Species Act of 1973, and other less wellknown pieces of legislation such as the Federal Cave Protection Resources Act of 1989 all served to broaden the scope of activities and objectives for which land is to be managed. They reflect public demands, especially from the urban sector. No longer are timber, range, and fne the dominant resource concerns of the Forest Service. Nor are uses of the National Forests for recreation and wildlife management merely secondary purposes, as they were into the late 1950's. Timber, range, and fire have been fully joined by

wildlife, minerals, soils, water, air, human resources, recreation, wilderness, cultural resources, caves, and a number of other concerns. The result has been a broadening of the mission regarding national forest management from multiple-use management of a few key commodity resources, to a much broader policy of management and protection of biologically diverse areas in the National Forests. This expanded charge has greatly complicated the work of the organization. As the content areas of work have expanded, so have the processes by which the Forest Service is directed to manage them. The National Environmental Policy Act (NEPA), the Forest and Rangeland Renewable Resources Planning Act (RPA), and the National Forest Management Act (NFMA) all impose process requirements on the Forest Service that did not exist at the time of Kaufman's book. For example, NEPA requires the Forest Service to conduct analyses of proposed actions to determine their environmental consequences and to do so in a way which involves the public. Further, the Forest Service developed prescriptive management planning requirements through formal rule making and internal directives. RPA and NFMA require the Forest Service to plan at the national, regional, and forest levels, and to develop proposed long-range programs of work with full public participation. This opened up the decision making process and made it more complex. Because of these changes in mission and process, and because of external political and economic forces, the organizational culture evolved to emphasize responsiveness and representativeness as well as efficiency and economy. Field line officers, such as Forest Supervisors and Rangers, in the past interacted with the public in two primary ways: first, through information and education programs, and, second, during transactions of business that directly affected a member or group of the public, e.g., setting limits on the amount of grazing allowed on a rancher's allotment. These forms of interaction were primarily oneway and tended to portray the ranger as the expert, the local authority, and manager-in-charge. In today's post-NEPA, RPA, and NFMA era, the ranger is being asked to VOL. 18, No. 1 play a larger role. Although the ranger is still a line manager overseeing and setting policy for projects on the ground, the district ranger is also serving as facilitator of public dialogue about forest management policy within the local community. Communications have become more twoway in this era of interdisciplinary planning and extensive public involvement. Accordingly, these executives in the field must today have stronger skills in small group facilitation, negotiation, and dispute resolution than ever before (Tipple and Wellman, 1991).

Perpetual Dilemmas Initiate Signs
of Organizatiional Change
In their study of attitudes of district rangers, Twight and Lyden (1988) concluded that multiple commitments to several user constituencies are absent among Forest Service district rangers, the line officials closest to the forest users. This suggests a difficulty with production of the multiple outputs relevant to the goals of these competing groups. At the same time, the authors propose, the lack of managerial commitment to the spectrum of Forest Service constituencies suggests that citizen participation in agency planning by many of those groups may go unheeded. Organizations frequently pursue multiple, competing sets of goals and values, espoused by a variety of relevant constituency groups. They compete very directly in an organization that has what are often mutually exclusive objectives. When organizational

commitment is divided among constituencies with incompatible goals, the partial identifications with those groups among agency managers should reflect those conflicting goals. Members of the organization develop dissonant beliefs and values, and overall organizational commitment is lower (Reichers, 1985). The Forest Service, in other words, could not maintain itself in a social environment of combative constituencies without reflecting those conflicts within its own organizational culture. Consequently, the Forest Service cannot avoid exhibiting both lower organizational commitment and reduced effectiveness in achieving all the various organizational goals,-if it is actually responsive to or equitably serving groups with competing and/or incompatible goals. In their study of forest rangers, Twight and Lyden (1988) found that culturally ingrained agency socialization practices and personnel procedures yield such a high level of organizational commitment among these federal land managers that they avoid pursuing the conflicting goals of multiple constituencies. A.E Reichers' work on organizational commitment in 1985 indicates that organizations that provide services to groups that espouse goals that are in conflict with each other will exhibit decreased levels of organizational commitment. This occurs because organization members develop internal conflicts over where to direct their energies and loyalties. When two or more commitments clash in such a way that the individual must choose to endorse the goals of one constituency at the expense of another, the conflict generated by this choice may reduce the individual's commitment to the organization as a whole (Reichers, 1986). Conflict does this by lessening the member's overall identification with the organization and shifting the identification partially to a constituent group. The Mohai and Jakes study (1996) assessed employees' views about the direction in which the agency is headed, and how the agency is handling important issues addressed in its 1990 Forest and Rangeland Renewable Resources Planning Act (RPA) Strategic Plan. This plan defines the Forest Service's mission, roles, and program direction for a five-year period and addresses the most salient issues currently facing the agency. These issues include: loss of biological diversity; effects on riparian areas; maintaining water quality; global climate change; threats to wilderness areas; meeting the public's recreational needs; loss of threatened, endangered, and sensitive species; condition of national forest rangelands; loss of old-growth forests; below-cost timber sales; and clearcutting. While the majority of both Line and Staff felt that a significant change has occurred over the last 10 years, 60 percent of the Line felt that further actions on these issues are needed. Ninety percent of both Line and Staff employees believed that the agency's emphasis on wildlife and fish and recreation has increased (Mohai and Jakes, 1996). Further, the study found that more than 70 percent of both Line and Staff felt that a noncommodity use (wildlife and fish, recreation, or water) should be the most important use of the national forests, while only a minority thought timber and grazing should be. Contrasting sharply with such opinions of what employees thought should be done were their views of what they believe actually is being done-what uses the Forest Service actually sees as most important. The vast majority of employees felt that timber remains the most important land use to the agency. The researchers found the positive changes perceived as most important were: increased responsiveness to the public, and increased emphasis on commodity uses of the National Forests. Negative changes most frequently mentioned were: increasing political pressure on the agency; loss of direction/ mission; poor leadership; the agency's over-responsiveness to political pressure; insufficient funding; and on-the-job stress.

The Influence of NEPA and NFMA on Forest Service Management *Interdisciplinary Teams as Change Agents*

Specific requirements of new laws such as NEPA and NFMA pushed the Forest Service to make further organizational changes. For example, NEPA requires a detailed statement of the environmental impact of proposed actions, and challenged the past policy of keeping Forest Service decision making totally internally controlled. The environmental impact statement process opened agencies to the public, the press, interest groups, and the courts. It changed planning from linear forecasting to multiple scenario strategy planning, a much more complex and open process. It also mandated an interdisciplinary approach to ensure integrated use of natural and social sciences and the design arts (landscape architecture) in planning and decision making. This resulted in the hiring of wildlife biologists, archaeologists, and economists who were not traditionally employed by the Forest Service. These new and different professionals formed interdisciplinary teams that increased the diversity of values and skills in Forest Service planning and management, although initially few were decision makers. These new professionals also reflected the variety of National Forest values in the urbanizing American culture of the 1970's, and became voices of challenge and confrontation inside the agency (Kennedy, 1985a; Kennedy, 1986; Kennedy, 1988). The interdisciplinary teams developed forest management alternatives, which included predicting and analyzing their impacts, with involvement from the public, as required under NEPA. Agency values and conclusions were often challenged, both by employees and the public, which questioned the appropriateness of some Forest Service traditions and management practices. The Forest Service implementation of NEPA and NFMA produced not only a greater variety of professionals in the Forest Service with expertise beyond the traditional and limited forestry focus, but improved the information and analysis prepared for decisions. This resulted in better documentation of decisions, and more thoughtful consideration of impacts.

Increased Legal Challenges to Forest Service Decision Making

The National Forest Management Act (NFMA) established unprecedented specific statutory standards and procedures that directly affected the Forest Service's management of the National Forests. The scope and specificity of **NFMA** are even more remarkable considering that the statutory direction for management of the National Forests remained essentially unchanged since the passage of the Organic Act of 1897 and the Multiple-Use Sustained Yield Act of 1969. These statutes had provided little substantive direction. Over the last twenty years, there has been an increase in public awareness, public involvement, and public challenge to Forest Service decisions. The social forces that demanded increased public opportunity to participate in the management of the environment in general, and the National Forests in particular, led to expanded opportunities for the public to influence and dispute Forest Service decisions. Often, the very information NEPA and NFMA procedures made available supplied ammunition to challenge the decisions. Over time, a small but vocal fraction of the public became increasingly sophisticated at using these opportunities through public involvement, administrative appeals, lawsuits, legislative lobbying, and even influencing public

opinion (Ackerman, 1990). In response to increasing scrutiny given to Forest Service decisions and increasing legal requirements placed on agency decision making, the Forest Service consolidated authority at higher levels and standardized procedures. The purpose was to better control variations in management that created increased vulnerability to challenges that the agency had inconsistent management practices that were applied subjectively. As federal legislation established more agency-wide standards, and as Forest Service decisions became more politicized, the Forest Service's Washington Office role increased correspondingly. The agency now recognized that the key to its success was not just dealing with local interests, as in the past, but dealing with regional and national lobbying groups and pressures (Ackerman, 1990).

Use of Technical Analyses to Justify Political Decisions
These problems were compounded by the increasingly political nature of Forest Service decisions and the fundamental inability of the Forest Service decision making process (of which NEPA procedures are an integral part) to result in effective and permanent solutions to broad public issues, such as wilderness management. Similar situations may be developing currently in relation to management of the Northern Spotted Owl and adoption of forest plans for certain controversial National Forests. To the extent that these decisions involve the allocation of scarce resources, extraordinarily complex procedures, protracted preparation time, and political decisions in technical wrappings, they create a difficult problem for the agency because they do not lend themselves to manageable, easily defensible, and permanent agency decisions. When they were first established, the management of individual National Forests was based primarily on local needs and interests because of the autonomy forest supervisors held in the agency's decentralized organization and because National Forests were used almost exclusively by local people. This local focus has changed significantly in recent years. Changing political, social, and economic realities shifted the kens of Forest Service decision making from the local level to the regional and national levels. In response to these new realities, Congress placed additional constraints on how the Forest Service manages the National Forests. With the adoption of the NFMA regulations, the Forest Service was called upon to reconcile competing interests. The new statutes with their detailed attention to the proper standards for multiple resource management did not resolve questions of competing uses. Decisions about how to distribute scarce resources involve political choices and trade-offs. Yet the Forest Service is expected to address these decisions as if they were technical questions with technical solutions. While the Forest Service makes its decisions by evaluating all resources and in an analytical way optimizing their use, such a decision making process is unlikely to result in a widely accepted resolution of the allocation issues, and may eventually lead to challenges to the decisions. Because these are political decisions involving the balancing of competing public interests, they should be made in a political forum, such as Congress, or through the equivalent of a national referendum such as the 7th American Forest Congress, held in February 1996, where thousands of individuals and organizations provided input on future management of all U.S. forests-state, private, and federal. To complicate matters further, one of the main decisions in a forest plan is the establishment of the National Forest's allowable sale quantity-the maximum quantity of timber available for sale during the plan period. The stated timber sale level (i.e. quantity to be harvested), however, is subject to Congressional funding and

direction, environmental constraints, and appeals. As part of its annual appropriation process, Congress usually influenced by members from high timber producing states-directs the timber sale levels for the fiscal year with great precision. Even though consideration is given to the forest-based recommendations, Congressional sale levels sometimes differ from the levels established through either the strategic planning process or existing forest plans. Nevertheless, it is the Congressionally mandated timber sale levels established through appropriations that establish what should be harvested. A possible solution to the political and management nightmare of trying to develop and adopt a new forest plan (with its attendant reevaluation of all program decisions and new opportunities for appeal) may be to make planning decisions through incremental changes to existing direction based upon an environmental analysis that regularly identifies needed decisions through a scoping process that involves the public in identifying issues. Such a solution would shift emphasis away from the forest plan as a once-in-a-decade product (where all battles must be won or lost) toward viewing the decision making process as a means to dynamically and flexibly address issues in a more manageable, incremental and less absolute way (either there will be grazing or not; there will be timber cutting or not). In the final analysis, the decision making process may be more important than the product. The diversity, complexity, and breadth of Forest Service responsibilities for managing the National Forests are greater than the scope of responsibilities assigned to any other federal land management agency. Coupled with increasingly broad and prescriptive environmental laws, the Forest Service is currently saddled with a complex, multi-level decision making process that has taken more than a decade to produce the first level programmatic documents-forest plans. Additional time is needed to produce intermediate and project level decisions. This raises the question of whether such a decision making process can ever be effective. To be effective, the process must be more timely and final, and major programmatic planning decisions should be elevated to the political arena, and be based on the original concept of providing the greatest good for the greatest number, in the long run.

Author Daina Dravnieks Apple, below, is a natural resource economist with the USDA Forest Service, Resources Program and Assessment Staff Washington D. C. **Summary**
The Forest Service became a successful and cohesive agency in the first part of this century because it was located in rural areas, and combined the utilitarian values of a rural, industrializing American society with the progressive political ideals of scientifically trained professionals, who could objectively manage natural resources for long-term social welfare (Clarke and McCool, 1985; Hays, 1959). The agency's successful evolution developed an organizational culture with resistance to incorporating the nonutilitarian, amenity values of a postindustrial urban nation, and a reluctance to share power with the public and with other professionals (Kennedy, 1985a; Duerr, 1986). NEPA was the first major legislative challenge to these utilitarian, development values and on agency tendencies to resist change. NEPA and its personnel change consequences made.the Forest Service organizational culture more open to internal and external politics. Subsequent legislation, such as the National Forest Management Act of 1976, formalized the "rules of the game" in National Forest planning and management decisions (Cortner and Schweitzer, 1981; Mohai, 1987). Great changes in the Forest Service culture and its management guidelines also occurred since the 1950's. The

traditional respected role model then was a male forester, generally of "John Wayne" omnipotence and style, who objectively and scientifically managed forest resources for the public, and did it largely alone (Miller and Gale, 1986). This contrasts with today's "teamwork" guidelines of the Forest Service, where men and women from various professions are expected to work together and to respect the public (USDAFS, 1985). The period of the 1960's and 1970's was also a time of increasing demands on the national forests for a growing spectrum of consumptive and nonconsumptive uses; demands that cannot be met simultaneously. It was a period when users of the National Forests demanded to participate in Forest Service decision making, not only within the agency's processes, but also through administrative appeals, lawsuits, and political action. The combination of increased, often conflicting demands for goods and services from the National Forests, scrutiny of agency processes and decision making, and administrative appeals and legal challenges, all served to force the Forest Service to transform in order to survive the changing economic and social conditions of this time. And as the social climate changed, so did the Forest Service. Politically astute since the time of its first Chief, Gifford Pinchot, Forest Service administrators read the political winds and began modifying its policies in the 1950's and 1960's to react to the changing public values. In response to criticism that it was too preoccupied with managing the National Forests for timber production, the Forest Service gave increased attention to nonconsumptive resources such as recreation and protection of wildlife. The Forest Service proposed the Multiple Use Sustained Yield Act to codify agency policy, sent a signal to the grazing and the timber industry that the National Forests would be managed for resources other than timber, and countered attempts to transfer all recreational responsibilities for National Forests to the National Park Service (Dana and Fairfax, 1980). As a result of these social changes, the Forest Service emerged from an earlier isolation to find itself at the forefront of public attention, particularly in the Pacific Northwest (Ackerman, 1990). These post-NEPA changes had both advantages and disadvantages. The liability of a professionally and gender integrated agency, open to environmental values and public involvement, could become an agency without belief in itself and its mission; an organization unable to find mutual respect, trust, and cohesion within its diverse workforce. In addition, the Forest Service could become so politically and legally vulnerable as to abandon the strengths of its traditional professionalism and instead vacillate with the political winds-spending more time "looking over its shoulder " than to the horizon (Behan, 1990). In spite of these observations, others argue that change is not likely to come easily, if at all, in a large, established bureaucracy like the Forest Service. Twight and Lyden, point out in their study that the promotion and reward system and the socialization and identity-building mechanisms first described by Kaufman in his classic analysis of the administrative behavior of the Forest Service have changed little over time. These mechanisms are very effective in perpetuating conformity to established norms and traditions and in resisting external pressures on the agency. Early evidence of agency change has come from a number of recent surveys of employee attitudes and values (Brown and Harris, 1992b; McCarthy, Sabatier, and Loomis, 1991). Some researchers presumed that such attitude changes would translate, eventually, into management and policy changes. Very recently, a number of studies have analyzed quantitative indicators of agency activity to assess whether such management and policy changes have indeed occurred (Farnham and Mohai, 1995; Farnham, Taylor and

Callaway, 1995; Jones and Callaway, 1995; Thomas and Mohai, 1995). These latter studies appear to support the findings of the earlier attitude surveys, offering evidence of change. In spite of the agency's progress, the fact that its priorities are still somewhat incongruent with what employees believe they should be suggests obstacles that constrain further change. The agency and its employees are greatly influenced by Congressional mandates, executive orders, and court decisions. Organizational customs, norms, and traditions also exert powerful influences on members at all levels of the organization. Many of the challenges facing the agency **are** not likely to be easily solved. It will be important for the Forest Service to preserve its strengths while forming a new culture, as it learns to accommodate the ambiguity and complexity of a diverse and more open organizational culture to reflect the diversity in both the ecosystems it manages and the increasingly urban, post-industrial American society that it serves. Bibliography

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