Beliefs Regarding Society and Nature: A Framework for Listening in Forest and Environmental Policy

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Abstract: *At the turn of the 20th century, concepts of preservation, conservation, and development shaped policy arguments about the individual's relationship to society and nature. Recent Gallup polls show widespread and continued concern for environmental problems and broad support for the environmental movement and its goal of environmental protection. Forest policy makers, however, have tended to assume that early 20th century attitudes still dominate, creating a barrier to their understanding of the nuances of current public opinion. In this study, Q methodology was used to examine public opinion along with stratified random sampling and small sample theory for those segments of the public that tend to participate in forest policy. A complex framework was revealed of at least 4, and possibly 5, factors: New Steward, New Conservationist, Individualist, Traditional Steward, and Environmental Activist. By uncovering a wider and more current range of views than has been assumed, the analysis allows the policy analyst to redefine the forest policy agenda in greater depth. It is now possible to move beyond looking for one grand, but elusive, solution to developing a packet of responses addressing the different aspects of the policy agenda.*

Introduction

People enjoy many goods and services from forests. These include, for example, timber, fish and game, clean water, flood control, climate regulation, clean air, and a place for recreation. Worldwide, people have argued for millennia about forest policies and practices (Grove 1990; Perlin 1991). From the early days of the republic to the end of the 19th century, United States forest policy had been characterized by periods of calm interspersed with periods of conflict (Steen 1992; Wilkinson and Anderson 1985). By the early 1900s, three perspectives on forest policy had emerged: preservation, conservation, and development. Gifford Pinchot, first Chief of the Forest Service, advanced the concept of conservation as official U.S. forest policy in the early 1900s (Steen 1976, 307). Consistent with 19th century progressive

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utilitarianism, Pinchot defined conservation as the greatest good for the greatest number for the longest time. He also emphasized the value of scientific management (Hays 1959, 2; 27-48).

As development quickened following World War II, conflicts over forest use flared almost continuously (Steen 1976, 309-23; Miller 1997, 6-10). Pinchot himself in his 1947 autobiography, *Breaking New Ground*, noted that conservation had come to have many meanings (Pinchot 1947, 505). National policy began to reflect to a greater degree the preservation principles that Ralph Waldo Emerson, Henry David Thoreau, and John Muir advanced in the second half of the 1800s and Aldo Leopold championed toward the middle of the 20th Century (Leopold 1949). The urban sanitation and parks movement contributed environmental protection principles to the amalgam (Hays 1992). Since the first Earth Day in 1970, polls have shown broad support for environmental health and safety (Dunlap 2000; Ladd and Bowman 1996, 5). As concern for preservation and environmental protection has increased, recent national debates have cast the policy agenda as a moral choice, leading to an intractable situation. For example, debates such as those regarding the old growth forests in the Pacific Northwest in the late 1980s and early 1990s were framed as choices between old trees and jobs, owls and people, the environment and the economy, man and nature, government and the people, and government regulation and enlightened self-interest.

> The environmental strategies of the last 3 decades are under "moral" assault from absolutists of both the right and the left. Debates that cast environmental issues in unconditional terms, pitting humanity against nature or jobs against spotted owls, have become a regular fixture of our public life. These attacks from both extremes present a challenge that ought not be ignored, no matter how out of bounds the competing visions may seem. Environmental professionals, who tend to focus on the more technical scientific, policy, or legal concerns, ignore these broader issues at their peril. The failure to join this fundamental debate risks dooming to irrelevance the more refined pursuit of environmental reform; when zealots continue to clash, it weakens public support for all things environmental (Smith and Rivkin 1997, 19).

To reframe a policy agenda more "tractably," the policy analyst must reassess the beliefs underlying and shaping public opinion and behavior (Van Eeten 2001). A belief describes the individual's perspective of what is true about the world and his or her relationship to the world (Rokeach 1979).

Background

This study grew out of observations in the early 1980s. The State of Vermont led a debate on state forest policy using nominal group technique in which small groups generate and discuss ideas (Kinsey and Kelly 1989). During the spring of 1982, citizens voluntarily met 5 to 7 times in 19 groups of 5 to 7

individuals. County foresters acted as facilitators and recorders. The participants expressed their opinions not only about which silvicultural or resource management method should be used, but about how society, individuals, and nature should relate.

These opinions could not be captured fully in the 3-part framework of preservation-conservation-development assumed at the time as the mission of government forest agencies, major conservation organizations, and large forest products companies (Protasel 1980). As a result, county foresters, in their role as facilitators, did not always record the larger questions of governance. They wondered, often out loud, why the public had become more vocal, and in some cases more litigious, or even militant, despite the State's hesitancy to regulate forest practices. Just as often, the county foresters concluded that the public simply did not understand silvicultural practices, and proposed that the State agency undertake more public information and education programs.

The Vermont situation was not isolated. In his 1990 presidential address to the Society of American Foresters convention, Arthur Smyth observed that the forestry profession had been "engaged in a soul-searching exercise." Mr. Smyth suggested that instead of offering more and more information and education programs, "maybe we ought to look at ourselves and look at the people we ultimately serve." He recalled the words of Robert Frost: "The woods are lovely, dark and deep," and then added: "but wherever our woods are, we must occasionally come out of those deep and lovely woods … and listen to the people's concerns about those deep and lovely woods" (Smyth 1990, 31).

While the changes in forest and environmental policy have been well documented, less is known about the sources of conflict and consensus. Upon reviewing trends in polling since the early 1970s, Ladd and Bowman argued that "[t]he transformation of the environment from an issue of limited concern to one of universal concern is complete, and, today, survey after survey shows that most Americans have turned their attention to other things" (1996, 5). They noted, however, that "[a]s the environment has declined in national intensity, it has become more potent politically at the state and local levels where people are dealing with hard choices involving competing interests" (1996, 6).

In tandem with the surveys on general environmental attitudes that began after the first Earth Day, Coke and Brown applied Q methodology to the broad question of land use planning. They included in their study various opinion statements focused on decision-making processes and the locus of decision making. While the 1980 Protasel study cited above, which also used Q methodology, examined attitudes of officials from large forest products companies, forest agencies, and major conservation organizations, the Coke and Brown study included respondents with a larger variety of affiliations.

> Representatives … from various interests (local government, business, civic groups, general citizenry) residing in rural, suburban, and urban settings within each of five geographical areas of Ohio. … Special efforts were made to include individuals expected to share the developmentalist viewpoint (e.g., realtors, developers) and those expected to favor the environmentalist perspective (e.g., members of various environmental groups) (Coke and Brown 1976, 101).

In a comparative national study, Coke and Brown identified 3 belief patterns: the "Environmentalist," the "Localist," and the "Ambivalent." They anticipated to some degree the trend toward more localized conflicts observed by Ladd and Bowman (1996, 6) and the resistance to government intervention and preference for self-reliance observed by Roper (1997). In the Coke and Brown study, the "Environmentalist" favored protecting the environment as a social resource, rather than treating it as a set of commodities. While favoring government action, this group expressed some impatience with it. The "Localist," while concerned about growth and its impacts, favored local control. The "Ambivalent," though explaining a small portion of the variance, was significantly more concerned than other factors about the effect of growth on the participant's quality of life. They concluded that state land use planning agencies, while sympathetic to the "Environmentalist" point of view, were constrained by "Localist" arguments often articulated through the mission-oriented agencies. "Localists" sometimes adopt "Environmentalist" positions in their arguments to state and local legislative bodies, perhaps as a result of an intense local environmental crisis. Unless this approach is used frequently, state and local agencies will be slow to embrace the "Environmentalist" agenda, (Coke and Brown 1976, 130). Such a shift in perspective might result, for example, from an intense local environmental crisis.

Americans appear to be engaged in shaping a new vision that is neither liberal nor conservative, but reflects the theories of intellectuals as well as the practices of everyday Americans. This vision does not include a desire to return to a traditional society; rather it combines social concerns, like those of the "entrepreneur" and "town father," with such ultimate concerns as the environment, economic growth, and military defense (Bellah *et al*. 1985, 295-6).

Methods

Overview of Analytic Method

Present and earlier studies (Coke and Brown 1976; Protasel 1980) used Q methodology and by-person factor analysis of Q sorts to allow policy analysts to examine the belief structure of a group (Stephenson 1953).

> [Q methodology's] special contribution to decision making is that it helps overcome the limitations of the mind in dealing with complexity, and also serves to locate elements of consensus (if they exist) that might otherwise go unnoticed in the emotional turmoil of political debate … [and] by providing a snapshot of the structure of the group's thinking, it gives decision makers time to think and the opportunity to take the structure of their thinking into account in the next political round. (Gargan and Brown 1993, 348-9; 355)

Study Site

Connecticut was chosen as the study site because of its diverse characteristics, a long history of forest use, a varied geography, and a diverse population. It presents a wide range of forest land ownership sizes, a traditional framework of government agencies, a large number of forest-related research and educational institutions, and a highly varied forest industry. In Connecticut, federal forest and land management policies did not dominate the policy agenda, although several respondents were either experts in Federal land management policy involved in federally sponsored research, or had visited or worked in Federal public lands in the region.

Respondent Selection

For this study, respondents were selected from the forest policy "participatory public," that segment of the population likely to be attentive to and have opinions about forest issues salient to them (Cobb and Elder 1983; Lasswell 1931). Based on experience in Vermont, the participatory public interested in forest policy was defined broadly in order to include forest landowners, government officials, forest industry representatives, trade associations, foresters, scientists, academicians, leaders of conservation and other public interest groups.

The intensity of sampling depended on the size of each population category within the participatory public and the number and size of the strata within population categories. When a category or stratum within a category was too small for random sampling, assumptions of small-sample theory described in Coke and Brown 1976 were followed to ensure a wide range of views. For example, the population of male foresters was randomly sampled, whereas the entire, but small, population of female foresters was invited to participate. All officials of state agencies with jurisdiction over natural resource and related issues, all leaders of forest products trade organizations, and all identified academicians and research scientists in forestry and related fields located at Connecticut vocational schools, colleges, universities, forest research facilities, and arboretums, were invited to participate. A final group included 10 persons who did not fall into any particular category, for example,

a veterinarian who was an avid hunter, an unaffiliated environmentalist who ran a small recycling company, a medical doctor, and a divinity student.

Survey Instrument

The survey design and follow-up procedures were based on those recommended by Dillman (1978) for mail surveys. The instrument contained 4 parts: a Q sort, closed-end demographic questions, an open-ended question to allow each respondent to describe personal interests in relation to forests and nature, and the Rokeach Value Survey (1983).

Respondents

The distribution of 189 usable responses across each segment of the sample population was reviewed to determine whether any particular group was proportionately underrepresented. Forest landowners and owners and operators of forest industries had the lowest response rates (22% and 10% respectively), but these low rates had been anticipated by inviting a very high proportion of owners and operators to participate in order to obtain a representative sample. Owners and operators of forest industries who responded were well distributed by size of operation, type of operation, and a variety of secondary wood products industries. Similarly, forest landowners who responded were well distributed by region, acreage owned, and gender.

Q Statements

In the Q sort component, participants were asked to examine a set of 60 statements (e.g., "Once we exploit the wealth in the forest, if we don't plow some of it back, the forest will decline in productivity"). These statements were selected from more than 400 quotations gleaned from a broad array of literature on forest and natural resource policy. To reduce redundancy and minimize bias, the statements were grouped using 18 instrumental and 18 terminal values as developed by Rokeach (1979, 1983). Because many original statements expressed more than one value, they were either grouped according to the most prominently stated value, or simplified. Within each group, 1 or 2 statements reflecting the common idea were retained for use in the survey instrument (Fisher 1960 cited in Brown 1980, 28-9).

Q Sort

The participants were then asked to Q sort the 60 statements, relative to each other, along a scale of most uncharacteristic (-5) to most characteristic (+5) of the participant's viewpoint. The process of sorting statements is analogous to attending a large public meeting and listening to a variety of speakers before aligning one's self with others to form a group.[1] Each resulting Q sort is a

[1] For discussion of reliability and validity in Q methodology, see Fairweather (1981) and several articles and comments, including Brouwer's, in the October 1992/January 1993 issue of *Operant Subjectivity*. See also Brown (1980, 66) concerning generalization.

quantitative record of a participant's overall feelings about the collection of statements, with a few statements being ranked most characteristic and a few ranked least characteristic to the particular respondent. Since all statements are simultaneously considered relative to each other in a synthetic process (Brown 1980, 173-4), the Q sort records each participant's attitude about the relationship of the individual, society, and forests.

Q sort distribution

-4	-3	-2	-1	0	1	2	3	4	***Score***
4	5	5	5	6	5	5	5	4	***Frequency***

Analysis

When the intercorrelation matrix of Q sorts is factored, a small number of highly correlated summary sorts, or belief types, is usually made operant. The Q sorts were analyzed using principal components factor analysis with varimax rotation following Stephenson (1953; 1964) and Brown (1980).[2]

Results

In all, 512 persons were invited by letter to participate in the study. Of those invited, 295 replied by postage-paid postcards. Each consenting respondent was mailed a questionnaire package, including a cover letter and postage-paid return envelope. Those who had not returned questionnaires after several weeks were mailed up to 2 additional postcard reminders. Of the original 295 persons who had agreed to participate, 211 returned questionnaires, which included 8 unusable questionnaires and 5 completed questionnaires received too late to be used. Nine people returned the questionnaire stating that they had become too ill or were too busy at work to give it their full attention. The remaining 189 returned completed questionnaires in time for analysis, thereby producing an overall response rate of usable questionnaires of 37% of those initially invited to participate or 64% of those who had agreed to participate. Three factors emerged explaining 65% of the total variance. Upon review of the statements with the highest loading on each factor, the factors were labeled: the *New Steward* (NS), the *New Conservationist* (NC), and the *Individualist* (I). A fourth factor could also be detected which was called the *Traditional Steward* (TS). Only weak to moderate correlations were found between the factors revealed from 189 Q sorts analyzed as a group.

[2] Eigenvalues of 1 were used to limit factor extraction, i.e., the first factor extracted accounted for the greatest amount of total variance in the data, the second, the second most, and so on until no more factors could be extracted that would explain at least 1% of the total variance.

Factors	***NS***	***NC***	***I***	***TS***
NS	1.000	0.457	0.140	0.379
NC	—	1.000	0.283	0.535
I	—	—	1.000	0.260
TS	—	—	—	1.000

Using standard errors, where the SE = 1/square root of N (N=60 statements), the likelihood of a correlation coefficient of 2 Q sorts being greater than 0.333 by chance is less than $p = 0.01$ or 1% (Brown 1980, 283; 288). Of the 189 Q sorts, 146 loaded significantly on with Factor 1, 82 loaded with Factor 2, 36 with Factor 3, and 59 with Factor 4.[3]

The 4-factor solution using 189 Q sorts accounted for 75% of the variance in the Q matrix. Factor 1, *New Steward* (NS), explained 45% total variance in the data. Factor 2, *New Conservationist* (NC), explained 13% total variance. Factor 3, *Individualist* (I), accounted for 7% total variance; and Factor 4, *Traditional Steward* (TS), 10%.[4] In an approach used initially due to technological limitations, the data were divided into 4 sets and subjected to second-order factoring (Brown 1980). The first 3 factors paralleled those resulting when the entire dataset was factored. One additional factor emerged. Because this factor was logical and accounted for more than 1% of the total variance, it was retained for discussion purposes and was labeled "Environmental Activist." Characteristics, such as distinguishing statements and correlations, were not available for comparison for this factor.

The present study, using Q sort by-person factor analysis found that respondents hold at least 4, and possibly 5, significantly different viewpoints or patterns of beliefs about the relationship of the individual to society and nature. The viewpoints were labeled, based on a review of their factor scores. Each factor describes a different policy argument or concern. Distinguishing statements that characterize a factor as different from others at the $p < 0.01$ (99% confidence level) are listed and discussed to illustrate each viewpoint. The statement number in parentheses references the salient statements for each factor. See Appendix for all statements and factor scores. In the list accompanying the discussion of each factor, statements are followed by their original Q sort rankings. Differences in rankings of 2 or more points across factors are considered significant (Brown 1980).

[3] Some Q sorts loaded significantly ($p<0.01$) on 2 or more factors.

[4] The percent total variance explained is determined by the sum of the squared loadings of the respondents on a factor divided by the total number of respondents. A loading is a measure of the strength of association between each respondent's Q sort and the factor array for Q sorts.

The New Steward (NS)

Factor 1, the *New Steward*, views nature as a community. Of the 5 factors, the *New Steward* expresses the greatest empathy for nature and the broadest sense of stewardship and community (25). The *New Steward* supports an ethic that includes considerations of the mutual interests of all living organisms. Such a person believes that nature is orderly and essentially self-regulating (2). The *New Steward* tends to find in nature a connection with the larger rhythms of life (49) and believes that nature provides the context for meaning in human life (12).

Respondents on this factor are distinguished from individuals on the other factors by their deep sense of compassion for nature. The *New Steward* identifies nature as a friend (59) who deserves respect (19) and a share of resources (48, 59) rather than aggression (3, 38, 41). *New Steward* respondents tend to see nature as an example of a true community (29), and suggest that to achieve more harmonious relationships in human communities (7), changes in values are needed, beginning with actions to achieve a more harmonious relationship with nature. Representatives of all 5 belief types, are probably ambivalent about the idea that trees have interests, if not rights (39). However, the *New Steward* respondents are at least ambivalent about the idea that trees may have an inner life (22), whereas representatives on the other factors would probably reject such a concept outright. This group may also strongly reject the concept that the present generation is entitled to use all the forest resources it needs without regard for the needs of future generations or other species (31), including the option of manipulating plant and animals species to meet human ends (14). *New Steward* beliefs are likely to be reflected in part by the writings of Aldo Leopold (e.g., *A Sand County Almanac* 1949), and E.O. Wilson, (e.g., *Biophilia* 1984). The respondent whose Q sort was most highly correlated with this factor was a recycling activist who described herself as a "relative of trees."

The New Conservationist (NC)

The *New Conservationist* argues for an approach that uses scientific information, technological innovation, and negotiation to craft rational government policies that will meet the needs of society now and in the long term. The *New Conservationist* supports the principle of sustainable development while still being concerned primarily with improving the welfare of society. Specifically, NC view proponents argue that preservation and development can be integrated by relying on rational decision making processes based primarily on science, expert advice, and to some degree on public involvement (24). They also favor scientific management and tend to rely on experts (6, 21), and may to some extent resemble the "Professional" (Bellah *et al.* 1985). NC respondents, however, are ambivalent about whether

Distinguishing Statements for the New Steward

No.	*Statement*	*Rank*
19	The attitude of respect is the only appropriate attitude for us to take toward the natural world and its living inhabitants.	5
7	The value changes that will lead us to a more harmonious relationship with nature may also lead us to a more harmonious relationship with each other.	5
25	We abuse forest land because we regard it as a commodity belonging to us rather than as a community to which we belong and thus deserving of our love and respect.	4
48	We must share the beneficial resources of the Earth equally with wild animals, wild plants and other members of the Community of Life.	4
12	All that gives meaning to our human existence is made possible by the surrounding conditions of life and nature, including those of the forest.	3
29	While our world is sometimes chaotic and fragmented, Nature's is a closely-knit community, a universal symbiosis, a single complex organism that transcends all petty conflicts.	1
41	It is insulting to the universe, when we destroy trees and forests that help sustain us and other forms of life.	1
22	We can say that trees can thrive or be endangered because they have feelings and purposes or are indwelt by forms or spirits with feelings.	-1
8	In order to justify planting trees and making other long-term forest investments on private land, we need time, money, political security, and a reliable system of inheritance or property transfer.	-2
3	It is legitimate, even honorable, for us to act aggressively toward trees and forests in the name of humanity, decency, virtue, and even health and cleanliness.	-3
31	Conservation does mean provision for the future, but it means also and first of all the recognition of the right of the present generation to the fullest necessary use of all the resources with which this country is so abundantly blessed.	-3

society can deplete forests while claiming to conserve water, air, and wildlife (59). *New Conservationist* views are likely to be supported by a body of policy developed during the past decade, beginning with the report of the World Commission on Environment and Development: *Our Common Future* (1987), and expressed most recently in the 1992 report of the United Nations Conference on Environment and Development: *Agenda 21* (Sitarz 1993), and the report of the President's Council on Sustainable Development: *Sustainable America: A New Consensus for Prosperity, Opportunity, and a Healthy Environment for the Future* (1996). The 2 persons whose Q sorts were most highly correlated with a *New Conservationist* viewpoint included a professor of public policy and a natural resource professional in government service.

Distinguishing Statements for the New Conservationist

No.	*Statement*	*Rank*
6	We can eliminate poverty, foster social change, and satisfy many basic needs by managing forest resources and supporting forest industries.	3
21	Because in many cases forests have been mismanaged for so long, we should put scientists and scientifically trained experts in charge now.	1
59	The earth is our friend — we cannot deplete its forests and still conserve its waters, air, and wildlife.	0

The Individualist (I)

The *Individualist* argues for a policy that preserves a large measure of personal freedom, including, for example, private market choices to sort out conflicting preferences. The *Individualist* is primarily concerned about protecting individual freedoms to use nature as a vehicle for seeking self-actualization, rather than for demonstrating self-reliance as with the *Traditional Steward*. While the *Individualist* expresses relatively little empathy for nature or concern for the welfare of society or even the community, persons associated with this factor favor the concept of the forest as a means for therapeutic escape and restoration (11), a source of inspirational beauty (9), and a transcendental experience (49, 58).

Individualists do not agree that civilization will collapse unless we preserve natural resources (35) or that people must adapt to changes in nature (30). Instead, the "I" sorters are more apt to shape nature to satisfy personal needs (14, 10), and, relative to the other factors, are more optimistic about the ability of technology to solve problems (32). They suggest that technological dominion not only would prove the greater fitness of people but also attest to the existence of an underlying purpose (51).

Distinguishing Statements for the Individualist

No.	*Statement*	*Rank*
11	The forest restores us when we are tired and wary by offering us a therapeutic escape from the annoyances of modern civilization.	5
49	In the forest, we find joy in the feeling of our senses and, through them, the spirit, moving in rhythm to life.	5
9	We admire the trees and forests in a landscape for the same reasons that we value a work of art — they possess grace and inspirational beauty.	4
14	We must utilize plants and animals to our own advantage by eliminating the undesirables and multiplying those that are useful to us.	4
51	Our increasing technological dominion over nature, including forests, is proof of the survival of the fittest and of the reality of progress in the scheme of things.	1
30	We need not adapt ourselves to the natural environment since we can remake it to suit our own needs.	-1
35	Our civilization will collapse unless we preserve the biological and agronomic underpinnings of our society — our fields, forests, and waters.	-1
10	In managing our forests, we should touch the forest light — not tear it apart and then put it back together in a too obviously artificial tidiness.	-2
32	Material resources are unlimited since our genius for short-range technical improvisation is equal to any crisis that is likely to arise.	-2
60	The enormous number of persons who have been or could be affected by our actions toward trees or forests is overwhelming.	-2
47	The political process, for all its flaws, provides us with a better forum for discussing and determining public values regarding forests than can be found by pricing our values in the free market.	-3
52	We must foster a collective consciousness of the world's forest resources among those whose individual decisions are currently driving the whole system to ruin.	-3

Along with trusting our ability to find technological solutions, the *Individualist* appears to strongly favor reliance on enlightened self-interest (20) and private market transactions (53), and seems least likely to reject the concept of absolute property rights (46). These respondents, in turn, strongly reject government regulation (43), reliance on science and experts (21), the political process (47), and collective action (52). *Individualists* resemble most closely the "Ambivalent" type identified by Coke and Brown (1976) especially in "its support for property and its disdain for centralized government."

Individualists may tend to act individually rather than through grassroots organizations, resembling to some degree, those who form enclaves from which they emerge only when their own interests are threatened (Bellah *et al.* 1985, 179). To the extent the *Individualists* seek self-actualization, they also resemble those who speak in terms common to therapeutic counseling (Bellah *et al.* 1985, 38). The 2 people whose Q sorts most highly correlated with this factor were a biologist engaged in field research and a rural landowner. Both owned relatively large amounts of forest land in undeveloped parts of the state.

The Traditional Steward (TS)

The *Traditional Steward* would remind policy makers to respect the wisdom of local knowledge and the importance of family and community. The *Traditional Steward* advocates self-reliance through more traditional aspects of stewardship (16), preferring to concentrate on managing nature for the

Distinguishing Statements for the Traditional Steward

No.	*Statement*	*Rank*
17	We have an obligation to trees not to destroy them without a reason, that is, not to vandalize them.	5
36	Ultimately, each of us takes the interests of future generations into account when we use or make decisions about forests because we are concerned for our own descendants.	4
37	We are divine agents who must restore the forest from primeval chaos to a garden of paradise and make it more fruitful.	0
54	The most important products of the forest may not be merely timber or wildlife, but the opportunities for us to experience personal growth.	-3
57	We preserve certain trees and forest groves as a link with antiquity and as a bid for continuity, possibly immortality, for ourselves, our families, and the nation itself.	-4

benefit of the family and community, rather than society or the biosphere. In contrast to *New Steward* concern for life on Earth, the scope of TS concern is more local and consistent with its origins in feudal society centered around life on a manor. Unlike *Individualists*, TS sorters do not need nature for its therapeutic or inspirational value (54), nor do they seek immortality by preserving nature (57).

However, like the *Individualist*, the *Traditional Steward* would find direction within the self (33, 20), potentially through traditional religious inspiration. As an example, the TS viewpoint would likely express a sense of divine inspiration to create a fruitful garden (37), rather than to destroy, exploit (34), or waste (17, 5). TS sorters, more than others, would be especially concerned about the effects of forest management on family, especially their descendants (36). The local concerns would probably be similar to those of the "Localists" (Coke and Brown 1976) and the "Town Father" (Bellah *et al*. 1985). Similar concerns are evident in on-going efforts to reduce the size of the Federal government and devolve authority to the states and tribes, as well as in arguments favoring local decision-making. The person whose Q sort was most highly associated with this factor was a carpenter who owned his own wood lot.

The Environmental Activist (A)

*Environmental Activist*s believe in collective action along with *New Conservationists* and *New Stewards*, and activists are concerned about protecting society's welfare by guarding the environment (35, 6), but they prefer to use grassroots action (27) and political action (47) tools rather than rational planning (27) or adopting new ethics of respect (19). Respondents on the *Environmental Activist* factor are likely to be wary of relying on free markets for decision-making (27, 47). They appear to be compelled by a sense of public-spiritedness (33). This would probably be the only group to support Pinchot's progressive utilitarianism (15). *Environmental Activists* have a sense of urgency; they would encourage policy makers to act now using political processes, rather than base forest usage decisions on concern for the needs of future generations (36). *Environmental Activists* express little empathy or duty toward nature (e.g., 16, 59). Possibly because these respondents have less optimism as well as less empathy, this was the only factor not to reject the statement that animals must adapt or die. The *Environmental Activist* expresses to a large degree the aspects of advocacy, pragmatism, and activism found in the "Environmentalist" identified by Coke and Brown (1976). The interest of these respondents in banding together with like-minded others is consistent with the "Concerned Citizen" identified in *Habits of the Heart* and with the American tradition of forming associations to mediate between government and individuals (Bellah *et al*. 1985, 38).

Salient Statements for The Environmental Activist

No.	*Statement*	*Rank*
6	We can alleviate poverty, foster social change, and satisfy many basic needs by managing forest resources and supporting forest industries.	5
47	The political process, for all its flaws, provides us with a better forum for discussing and determining public values regarding forests than can be found by pricing our values in the free market.	5
35	Our civilization will collapse unless we preserve the biological and agronomic underpinnings of our society — our fields, forests, and waters.	4
15	We must choose the option regarding forests and forest land that creates the greatest happiness for the greatest number of people.	4
27	We organize as citizens because we are concerned about the environment, including forests, resent bureaucracies, and feel helpless against powerful business and government.	3
4	All plants and animals must adjust to our decisions or die.	0
16	We must practice the ethic of stewardship with respect to our forests as their keepers or trustees and not as their owners.	-1
33	The most important incentive for us to care for our forests in not public-spiritedness, but a personal conviction that it is the right thing to do.	-2
36	Ultimately, each of us takes the interests of future generations into account when we use or make decisions about forests because we are concerned for our own descendants.	-4

Conclusions

The broad categories within the forest policy participatory public as observed in Vermont and applied in Connecticut captured a wide array of affiliations and interests related to forests and trees within this segment of the larger public. Analysis of responses revealed the presence of at lease 4, and possibly 5, factors, distinctly different ways of viewing the relationship of nature, society, and the individual.

One of the first steps in developing a dialogue is to develop rapport. Thus, in a hypothetical meeting where persons on all these factors might be represented in the room, an analyst could probably find common ground among the *New Steward* and the *New Conservationist* first by acknowledging the deep sense of empathy for nature and desire for compassion, respect, and harmony, beliefs held strongly by *New Stewards*, and then recognizing the preference for using scientific information as a tool for integrating the goals of development and preservation since both are ideas of importance to *New Conservationists.* If an *Individualist* chose to attend the meeting, the policy analyst would need to acknowledge the *Individualist's* need for autonomy, especially to use nature in a self-defined way to find meaning, and provide opportunities for individual expression while de-emphasizing regulation imposed from the outside. From a platform of respect for values, the analyst might then be able to persuade the *Individualist* to accept the argument that some forms of manipulation may adversely affect many. Yet, if these manipulations of nature proved to be unsustainable, for example the *Individualist* loses the very aspect of nature that he or she most values, that is, nature's restorative power. Then the *Individualist* may be willing to consider market-based incentives (see, e.g., Wirth and Heinz 1988; 1991). On the other hand, if the *Traditional Steward* chose to participate in the group meeting, the analyst would need to acknowledge values in personal and moral convictions regarding stewardship, family, and community; and when engaged with *Environmental Activists*, the analyst would do well to respect their deep sense of public spiritedness and sense of frustration.

Conversations among analysts and members of the public who are interested in forest policy can use the new framework of beliefs identified in this study to redefine a policy agenda as well as commence facilitating dialogues. This study, originally built on ideas from "listening sessions" about forest policy in Vermont, was extended to citizens of Connecticut through the application of Q methodology. Essentially the same factors surfaced again. The next step, whether in New England, the Pacific Northwest, or elsewhere, will be to shape solutions that address the additional elements of the newly redefined policy agenda. The new framework could be used systematically in a decision-making process to check for potential weaknesses or oversights in proposed policies. As an example, proposed development in a known wildlife migration route should be tested against the needs of policy activists known to be concerned about wildlife needs. Similarly, community concerns about the functioning of an ecosystem, or the *Individualist's* interest in viewing or hunting wildlife, and the *Traditional Steward's* interest in managing a local wildlife population, possibly for food, all can be anticipated and reflected with sensitivity in policy development.

In a related manner, the belief framework can also be used to establish performance metrics. For example, the *New Steward*, who defines policy performance in terms of harmonious relationships with nature and among people, might ask whether the policymaker complied with wildlife laws, such as the Endangered Species Act. The *New Conservationist*, who defines policy in terms of social welfare and natural system functioning, might ask whether water quality has improved. The *Individualist* defines performance in terms of the lack of perceived constraints on individual choice, and might ask about the availability of market-based and other opportunities for self-expression. The *Traditional Steward*, concerned about the integrity of family, community, and land, might measure success as a reduction in turnover among local woodlot owners and stability in fuel wood costs. The *Environmental Activist* might ask when specific actions were taken to avert impending calamity.

The new framework of beliefs also presents new opportunities for improving the policy-making process. Follow-up studies using more familiar survey techniques should be used to determine the distribution of the factors within the larger population, including the non-participatory public. An analyst could use the data from such a survey, or, even if such data are not available, the policy framework itself, to structure a more effective public involvement strategy. Policy-making is often beset by problems in identifying and soliciting comment from potentially interested persons, sometimes over an extended period. Additional steps may be required to bring the *Individualist*, the *Traditional Steward*, and the *Environmental Activist* into the discussion, such as highlighting only the issues most salient to these factors. Further, the wide array of affiliations and interests represented among respondents suggests that the forest policy participatory public is dynamic and that the "other" category should be examined and possibly broken down into distinct categories, such as "recreationist" and "environmental professional," in future studies.

Armed with a fuller understanding of the public's varied concerns, the policy maker can suggest more concrete steps (Van Eeten 1997). Even with a new framework in hand, the policy analyst knows that the subject and context of policy making can shift. The benefit of Q methodology is its flexibility. New Q sorts can be constructed as needed. While the present study was intended as a re-examination of broad themes in forest environmental policy, future studies can build on present analysis to construct new Q sorts concentrating on the narrower discourses surrounding particular issues.

By knowing that local control and individual autonomy are still important to citizens, the analyst could apply Q methodology in a forest planning exercise to identify attitudes and goals. Working in a climate in which each voice is articulated as part of the new policy agenda, the analyst can facilitate a more collaborative approach to resolving specific issues.

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Appendix

Factor Arrays

(Distinguishing statement)*

No.	*Statement*	*NS*	*NC*	*I*	*TS*	*A*
1	We go to the woods in order to live deliberately, to confront the essential facts of life, and to learn what it has to teach.	2	-1	2	-2	-1
2	We must take seriously the idea that nature is orderly, that its order is rational, effective, and for the most part, stable and self-equilibrating.	3	0	2	1	-1
3	It is legitimate, even honorable, for us to act aggressively toward trees and forests in the name of humanity, decency, virtue, and even health and cleanliness.	-3*	-2	-1	0	1
4	All plants and animals must adjust to our decisions or die.	-4	-4	-3	-3	0
5	Once we exploit the wealth in the forest, if we don't plow some of it back in, the forest will decline in productivity.	0	4	1	5	1
6	We can eliminate poverty, foster social change, and satisfy many basic needs by managing forest resources and supporting forest industries.	-2	3*	0	-2	5
7	The value changes that will lead us to a more harmonious relationship with nature may also lead us to a more harmonious relationship with each other.	5*	-1	-1	2	2
8	In order to justify planting trees and making other long-term forest investments on private land, we need time, money, political security and a reliable system of inheritance or property transfer.	-2*	3	4	4	3
9	We admire the trees and forests in a landscape for the same reasons that we value a work of art — they possess grace and inspirational beauty.	1	3	4*	1	4
10	In managing our forests, we should touch the forest light — not tear it apart and then put it back together in a too obviously artificial tidiness.	4	3	-2*	2	4
11	The forest restores us when we are tired and wary by offering us a therapeutic escape from the annoyances of modern civilization.	2	-1	5*	1	2

No.	*Statement*	*NS*	*NC*	*I*	*TS*	*A*
12	All that gives meaning to our human existence is made possible by the surrounding conditions of life and nature, including those of the forest.	3*	0	0	0	3
13	We seek green space and rustic beauty, which the forest can provide.	2	1	4	4	2
14	We must utilize plants and animals to our own advantage by eliminating the undesirables and multiplying those that are useful to us.	-4	-2	4*	-1	-2
15	We must choose the option regarding forests and forest land that creates the greatest happiness for the greatest number of people.	-2	1	0	-2	4
16	We must practice the ethic of stewardship with respect to our forests as their keepers or trustees and not as their owners.	5	2	0	5	-1
17	We have an obligation to trees not to destroy them without a reason, that is not to vandalize them.	1	2	1	5*	-3
18	We can save forests if we insure that their productivity is maximized in perpetuity.	-1	4	0	3	0
19	The attitude of respect is the only appropriate attitude for us to take toward the natural world and its living inhabitants.	5*	1	0	-1	0
20	Enlightened self-interest is the most powerful and effective force in bettering forest land management in the long run.	-2	0	3	3	-1
21	Because in many cases forests have been mismanaged for so long, we should put scientists and scientifically trained experts in charge now.	-2	1*	-4	-5	-3
22	We can say that trees can thrive or be endangered because they have feelings and purposes or are indwelt by forms or spirits with feelings.	-1*	-4	-4	-5	-2
23	We must have a clear commitment to preserve the forest environment and promote the rational use of its resources, or there will be no sustained development or meaningful growth.	1	4	0	2	4
24	Our overall goals for forest preservation and development are the same, namely the improvement of the human quality of life or welfare for present and future generations.	-1	5	1	3	2

No.	*Statement*	*NS*	*NC*	*I*	*TS*	*A*
25	We abuse forest land because we regard it as a commodity belonging to us rather than as a community to which we belong and thus deserving of our love and respect.	4*	1	-2	1	3
26	We require trees and forests because they instill in us a character-leavening sense of majesty and awe.	0	-2	2	-1	1
27	We organize as citizens because we are concerned about the environment, including forests, resent bureaucracies, and feel helpless against powerful business and government.	0	0	1	0	3
28	Because wood is a strategic material, the prospect of a timber shortage threatens our national security.	-2	1	-5	0	0
29	While our world is sometimes chaotic and fragmented, Nature's is a closely knit community, a universal symbiosis, a single complex organism that transcends all petty conflicts.	1*	-2	-1	-4	-3
30	We need not adapt ourselves to the natural environment since we can remake it to suit our own needs.	-5	-4	-1*	-4	0
31	Conservation does mean provision for the future, but it means also and first of all the recognition of the right of the present generation to the fullest necessary use of all the resources with which this country is so abundantly blessed.	-3*	-1	2	0	0
32	Material resources are unlimited since our genius for short-range technical improvisation is equal to any crisis that is likely to arise.	-5	-5	-2*	-5	-2
33	The most important incentive for us to care for our forests in not public-spiritedness, but a personal conviction that it is the right thing to do.	1	1	3	4	-2
34	Because we are God's stewards and protectors over all of his creation, anything that exploits or harms God's creation is both sinful and disrespectful.	-1	-5	-3	2	-5
35	Our civilization will collapse unless we preserve the biological and agronomic underpinnings of our society — our fields, forests, and waters.	4	3	-1*	2	4

No.	*Statement*	*NS*	*NC*	*I*	*TS*	*A*
36	Ultimately, each of us takes the interests of future generations into account when we use or make decisions about forests because we are concerned for our own descendants.	-1	2	1	4*	-4
37	We are divine agents who must restore the forest from primeval chaos to a garden of paradise and make it more fruitful.	-4	-5	-5	0*	-3
38	Bare destruction of nature is contrary to our duty to ourselves.	3	0	-1	0	-2
39	We must recognize that trees have interests, that is, needs for sunshine, clean air and water in order to express their "treeness," even if most people cannot fully accept the idea that trees have rights.	0	-2	-2	1	1
40	The rising scarcity of certain types of wood has created financial incentives for us to plant trees and manage our forests.	-1	5	5	-2	2
41	It is insulting to the universe, when we destroy trees and forests that help sustain us and other forms of life.	1*	-3	-4	-1	-4
42	Too many of the four million individuals who own half our commercial forest land neglect its cultivation and allow glades of green junk to grow.	-3	0	-2	0	1
43	Regulation is indispensable if we are going to protect basic biological systems, such as forests.	3	5	-4	-4	5
44	The reason we own or would want to own forest land is more for profitability growing and harvesting timber and other wood products than for recreational pleasure.	-3	-1	-3	-2	-1
45	Since we are not perfectly fair to other plants and animals, we owe some measure of reparation or compensation to them as their due.	-1	-4	-4	-1	-5
46	When we own trees and forests these become merely property to be used in whatever way we like.	-4	-4	-1	-3	-4
47	The political process, for all its flaws, provides us with a better forum for discussing and determining public values regarding forests than can be found by pricing our values in the free market.	2	4	-3*	1	5

No.	*Statement*	*NS*	*NC*	*I*	*TS*	*A*
48	We must share the beneficial resources of the Earth equally with wild animals, wild plants and other members of the Community of Life.	4*	-3	0	-4	-4
49	In the forest, we find joy in the feeling of our senses and, through them, the spirit, moving in rhythm to life.	2	-1	5*	-1	-1
50	We are beings essentially different and set apart from all other sentient creatures to which we are bound by no ties of mental affinity or moral obligation.	-5	-3	-5	-3	-3
51	Our increasing technological dominion over nature, including forests, is proof of the survival of the fittest and of the reality of progress in the scheme of things.	-4	-2	1*	-3	-2
52	We must foster a collective consciousness of the world's forest resources among those whose individual decisions are currently driving the whole system to ruin.	3	2	-3*	4	0
53	The free market allows each of us to compete peaceably and negotiate with each other for the control of land on which to impose our vision of our relationship to nature.	-3	-3	4	1	-5
54	The most important products of the forest may not be merely timber or wildlife, but the opportunities for us to experience personal growth.	0	0	3	-3*	0
55	A forest is different things to each of us; each individual perspective is significant, yet each is limited, too.	0	4	3	-1	1
56	We must get foresters and landowners alike to recognize that forest preservation is a form of management of those resources that our society highly values and perceives to be in some danger.	1	2	1	3	1
57	We preserve certain trees and forest groves as a link with antiquity and as a bid for continuity, possibly immortality, for ourselves, our families and the nation itself.	0	-1	3	-4*	3
58	There is a part of each of us dwelling in the woods.	0	-3	2	-2	-1
59	The earth is our friend — we cannot deplete its forests and still conserve its waters, air and wildlife.	4	0*	2	3	-4
60	The enormous number of persons who have been or could be affected by our actions toward trees or forests is overwhelming.	2	2	-2*	2	2