Views of Old Forestry and New Among Reference Groups in the Pacific Northwest

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ABSTRACT: *A public opinion survey was conducted in Washington and Oregon. It was not a representative poll sample but instead sampled groups of people favoring forest production, those favoring forest protection, and others not aligned with either of these viewpoints. There is strong consensus across groups regarding the unpopularity of established forestry methods and the need to regulate clearcutting. The weight of the sampled groups' opinions indicated that replanting and hiding clearcuts are not enough to make them acceptable, that New Forestry should not be practiced in old growth, and that foresters should attend more to wildlife. There was no clear weight of opinion that forest harvests be eliminated or clearcutting be banned. There was passionate distrust of foresters among many protectionists and nonaligned respondents, but most of the same people support New Forestry intentions. New Forestry offers a potentially more politically acceptable and stable basis for public forestry practice and policy. West. J. Appl. For. 17(4):173–182.*

Key Words: Public opinion, forestry practices, New Forestry.

Forest policy should promote both technically sound practices toward desired goals and the discovery of achievable goals that express diverse public needs. Policy making that over-attends to technical means toward scientifically defined and measured goals, or to political interests with little regard for what nature allows, is likely to fail (Fischer 1995). Instead, a dialogue is required that allows public values and cooperation to co-evolve with changing attainable outcomes.

Democracy can facilitate such a dialogue (Gundersen 1995) but US forest policy has a history of overemphasizing technical rationality, thereby contributing to dysfunctional policy upheavals (Wondolleck 1988). This is partly because forest policy gained strength during periods of high confidence in rational government and science-based policy in the progressive era of idealistic social reform (1890–1930) and after World War II. It is also partly because the production and allocation of values from forests are biologically and socially complex and conflicted. This leads politicians to defer choices away from deliberative, legislative processes to administrative planning dominated by scientifically trained professionals and technically rarefied and constrained decisions. This deferral is especially likely if policy promises to harm popular or powerful, i.e., commercially profitable, interests and/or aid weaker or diffused, i.e., aesthetic, interests (Schneider and Ingram 1997).

The northern spotted owl controversy (Dietrich 1992) and its resolution in the Northwest Forest Plan (NFP), with its traumatic policy changes (USDA and USDI 1994), qualifies as such a complex and conflicted problem (Yaffee 1994). Congress was unable to provide a solution. The NFP was instead enacted by executive order (Clinton and Gore 1993) and is case law. The wildlife diversity mandates of the National Forest Management Act (NFMA) and the Endangered Species Act (ESA) compelled a predominantly scientific solution (Vogt et al. 1997). The result was a policy making process unusually dominated by science, where scientists were sequestered to develop options which would resolve a lawsuit (Franklin 1995).

The benefits of this process were that a defensible solution was found to a very messy problem; the social goals of ecological primacy (Dryzek 1987) embodied in the laws were technically served (Ophuls 1977); and the Federal agencies involved found a needed, new, reasonably coherent, rationally implementable, professionally defensible goal set and decision process (Schneider and Ingram 1997). The NFP also provided political cover and justification for its new policies because it came from scientists who knew best what is possible and the consequences of alternatives.

The costs of such science-dominated major policy-making lie in the loss of democratic deliberation and accountability (Stankey and Clark 1992). Elite scientists might be perceived to "commandeer the process enough to

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produce socially unsustainable policy. Instead of a public choice exploration, a few scientific issues are presumed to be everyone's values (MacRae 1979), as is demanded by the ESA. Scientists must play more than their normal role of just advising decision makers (Franklin 1995). Biological issues may have become independent of moral insight and the search for the good collective life with all its spiritual, aesthetic, material and cultural aspects (Quade 1991). Scientific consensus may have become more powerful than social or political consensus and unwittingly defined good people and bad according to how they happen to enable or stand in the way of technical solutions (Schneider and Ingram 1997). Obscure scientific considerations may have "trumped" people's everyday concerns, ethics, and sense of justice.

Now that the NFP is in force, how closely does it approximate what might have emerged from a more robust democratic process? Investigations of public opinion can provide clues. Public ethos regarding land management in the Pacific Northwest and nationally has changed toward more biocentric desires (Steel et al. 1994, Xu and Bengston 1997, Manning et al. 1999, Jones and Dunlap 1992). The NFP therefore seems in accord with general public attitudes favoring more spiritual or intrinsic values in forests (Brunson et al. 1997). But, the NFP is also a substantial policy dealing with actual land management practices, their locations, and contingencies. These are also important to the public (Heberlein 1989). The political viability of one such more technical, nearer-the-ground policy prescription, namely New Forestry, was explored in this study. Other NFP prescriptions, such as its allocation of lands, adaptive management areas, or hydrological and riparian policies, also deserve study.

New and Old Forestry

Regulated clearcutting and plantation forestry dominated regional public forests prior to the NFP. Adverse perceptions of clearcutting (Bliss 2000, Manning et al. 1999, Brunson et al. 1997, Steel et al. 1994, Hansis 1995) contributed to the spotted owl controversy, especially in contrast to old-growth forests (Yaffee 1994) and in relation to habitat impacts (Heilman 1990). The NFP does not sanction traditional clearcutting but instead adopts some elements of "New Forestry" (Franklin 1989) in prescribing such practices as retention of green trees and down wood in harvests (Franklin et al. 1997). It is hoped that these unharvested pieces of forests will seed better and allow more robust habitat recovery sooner than in clearcuts, because such incomplete harvests more nearly mimic natural disturbances (Swanson and Franklin 1992). They may also gain greater acceptance in the public's eye (Brunson and Shelby 1992, Ribe 1999). The NFP also allocates much of the landscape to another kind of New Forestry in late successional and riparian quasiwilderness reserves where forest manipulation may serve to restore or develop needed habitats (USDA and USDI 1994).

New Forestry lies between traditional clearcutting and no harvesting, in the middle range of a polarized ethical debate elucidated by Proctor (1995). It is not justified only as such a compromise. New Forestry has some technical merits of its own based on discoveries about how forest ecosystems work (Spies 1997). The choices compelled by the NFMA and ESA have focused this debate on two opposing perspectives of right and wrong that share general value claims, such as concern for wildlife and the health of nature (Kempton 1995). The differences derive from whether ecosystems hold intrinsic versus instrumental value and therefore whether an ecocentric versus an anthropocentric perspective applies to forestry decisions and methods (Steel and Lovrich 1997, Manning et al. 1999).

The NFP is substantially built on popular (Steel et al. 1994, Xu and Bengston 1997) assertions of the intrinsic value of wildlife. This view has been reinforced by the positive visual and ecological aesthetics of old-growth forests and relies on the wilderness standard of healthy nature that founds much of American environmentalism (Huth 1972, Nash 1989). The more utilitarian view sees economic valuations as among the truest justifications for making trade-offs that best meet social needs (Spash 1997). Its adherents hold nature to be readily amenable to human repair and resilient to human impacts and extinctions, while people are held not to be inherently harmful to ecosystems, to have a duty to take care of their families before nature, and a right to place more value on species that serve people's needs (Kempton et al. 1995).

Is New Forestry a compromise admitting no right or wrong for either an ecocentric or anthropocentric ethic? Or, is it a viable new ethical way that a political process might have adopted as the NFP's authors did? Most of the NFP's harvestable landscape has been actively managed and is not obviously self-sustaining wilderness that is amenable to easy ecocentric prescriptions; nor do the legal mandates driving the spotted owl controversy allow for easy anthropocentric solutions. If the public values nature, wants wildlife and wood products, and can't have more of all these, might New Forestry replace the old extremes of policy thinking?

Testing the Political Field

Support of old or New Forestry would not necessarily require a majority of citizens. Policy consensus is often a contest of interest groups and key constituencies in making and implementing law, as opposed to winning elections (Ilchman and Uphoff 1971). Elected and agency officials seek policies that gain support or acquiescence across affected groups (MacRae 1979), such as when moderate groups join with core true-believer groups or when opposing groups are split apart to create more friendly "strange bedfellow" coalitions (Alston and Freeman 1975).

Reference group analysis (Hyman and Singer 1968, Shibutani 1955), as opposed to poll sampling, is best suited to exploring for such intergroup policy consensus. Individuals' views of forestry issues are complex, nuanced, and not stereotypical (Kearney et al. 1999, Hansis 1995), but there can't be as many policies as people. The process of policy making and the main issue dimensions of each policy contest compel the formation and definition of interest groups in clarifying and testing policy options. The views of members of these reference groups can be sampled to explore for viable policy options.

The trade-offs in the spotted owl controversy defined the important polar groups "inside" the conflict with the passion to foster political resources and activism. These are the instrumental-anthropocentric versus intrinsic-ecocentric groups (Wuerthner 1991, Eckersley 1992). The remaining people "outside" this main conflict, with more moderated views or for which forest management is not a top-priority issue, can also be decisive in forming political coalitions with either inside group (Enelow and Hinich 1984). These nonaligned outsiders may be: (1) anthropocentric but feeling a duty to the needs and desires of others who are more ecocentric or to the utilitarian needs of future generations that might gain from ecocentric policies; (2) ecocentric but feeling a duty to utilitarian values in a world dominated by people and commercial systems; (3) undecided about their ethical position; or (4) from a culture that doesn't think in these ways (Beatley 1994).

New Forestry might reduce the conflict between the polarized inside groups and garner support from nonaligned outsiders. It may offer an intermediate ethical construction (Tetlock 1986) between wilderness and pure instrumentalism by asking how and why to intelligently care for and harvest from natural processes, more like gardeners than farmers, caring for all the pieces rather than favoring the most useful ones (McQuillan 1993). This anthropogenic position (Proctor 1995) might also gain nonaligned people's support by avoiding ecocentrism, through an emphasis on what is possible in sustaining nonwilderness and non-old-growth forests and also by avoiding pure anthropocentrism, through attention to the whole of natural productive processes for many and long-term human needs. These philosophical opportunities will be disciplined by how New Forestry performs in real places watched by local and regional communities (Brunson 1993).

This study explored how views of old and New Forestry play among people with different philosophies. To test effective political attitudes, more affective perceptions of policy propositions were gathered (Petty and Cacioppo 1981) instead of having respondents make more cognitive judgments, such as reacting to how different policies could work or what mix of values either type of forestry might produce. The prospects for New Forestry may not be tied to the particular value mix now offered by the NFP. The reduction in timber harvests might change in future policy without abandoning New Forestry philosophy and methods. For now, while anthropocentric and ecocentric groups have substantial and roughly equal power (Cox et al. 1993, Walker and Daniels 1996), the question is what kind of forestry offers the most viable policy.

In surveying public opinion among reference groups, there are three basic viability conditions for policy statements: (1) Consensus exists when most members of all groups agree. (2) Conflict exists when most members of opposing groups' views cluster apart from each other, for and against a policy, while fewer remaining people's views are distributed fairly evenly across that spectrum. (3) Semi-consensus can occur when opposing groups' views disagree but not passionately, when they show significant but not complete agreement, or when nonaligned people mostly agree with one polar group. These are the qualitative descriptions identified with distributions of opinion in this study.

Public Survey Process

This study was conducted in late 1995, 1996, and early 1997. It equally sampled the three needed categories of people discussed above drawn from the population of western Washington and Oregon. This was therefore not a poll sample of the general population of that region. Members of organizations were sampled, and these groups filled in a questionnaire as a special activity during meetings. The groups were recruited to capture a stratified sample of nearly equal numbers of people in three sets: (1) those with active interests in commodity production on public lands, (2) those interested in forest preservation, and (3) other groups tending toward more moderate views about environmental issues, such as those centered on outdoor recreation, neighborhood, business, and civic service interests. The respondents and their opinions were not classified or analyzed according to their membership in these groups. Instead, each individual respondent was classified according to views indicated by his or her responses to questionnaire items, as described below. The group sampling was only meant to enable inclusion of individuals with the needed perspectives toward forest policy.

The group sampling also recruited a variety of rural, suburban, and urban respondents to capture the potential range of attitudes toward land management found across such places (Tremblay and Dunlap 1978, Brunson et al. 1997). Diversity was also sought in people's relationship to the forest products industry, incomes, ages, educational attainments, and recreational preferences. The groups included natural-resource-related organizations such as logging and property rights advocates, environmental groups, civic clubs, professional organizations, outdoor recreation groups, higher-education classes, business clubs, corporate offices, granges, and neighborhood associations.

A total of 1,035 respondents from 57 groups were surveyed. At most meetings, a few people opted not to participate in the survey and were not counted, so a response rate can not be reported. Also, 85 respondents filled in some portion of their questionnaire but opted not to answer the questions for this study. To balance the sample across the three respondent categories, a running tally was kept of responses to the propositions in Table 1 about the northern spotted owl controversy. Groups were then recruited that were expected to balance the sample until that was achieved with at least 1,000 respondents. The final classification of respondents is described below, and the corresponding final number of respondents in each category is shown in Table 1.

Classifying Respondents' Viewpoints

The data found in Table 1 were not the main results of this study for investigating the policy viability of New Forestry. Instead, the respondents' answers to the five items in Table 1 were used to monitor the sampling and then to make a final classification of the respondents. The completed respondent sample was formally sorted using cluster analysis into the three subsets: (1) those with strongly resource-*productionist* attitudes, (2) those with strongly forest-*protectionist* attitudes, and (3) all others *nonaligned* with these first two polar groups.

Table 1. Distribution of responses to propositions about the northern spotted owl controversy.

Statement	Response options	All respondents (N = 1,035)	Productionists (N = 357)	Protectionists (N = 350)	Nonaligned (N = 328)
I believe the northern spotted owl is *not* really threatened with extinction.	Strongly disagree	285	13	219	53
	Disagree	297	37	110	150
	Neutral or not sure	125	61	8	56
	Agree	199	141	12	46
	Strongly agree	132	105	2	25
I believe there is *no real conflict* between saving the northern spotted owl and continuing levels of federal forest harvests like those of the 1970s and 1980s.	Strongly disagree	370	22	253	95
	Disagree	315	89	88	138
	Neutral or not sure	138	81	6	51
	Agree	151	113	1	37
	Strongly agree	63	51	3	9
I believe the northern spotted owl should be saved *only if* it can be done without eliminating jobs and significantly hurting the economies of communities.[1]	Strongly disagree	193	0	176	17
	Disagree	332	2	169	161
	Neutral or not sure	142	33	5	104
	Agree	270	228	0	42
	Strongly agree	99	94	0	5
I believe the northern spotted owl should be saved even at a high economic cost.[2]	Strongly disagree	213	176	0	37
	Disagree	241	147	0	94
	Neutral or not sure	196	26	12	158
	Agree	255	8	208	39
	Strongly agree	134	1	131	2
I believe the northern spotted owl should be saved *only if* it can be done without significantly hurting private property owners' rights and freedom of land use.[3]	Strongly disagree	155	0	130	25
	Disagree	327	3	176	148
	Neutral or not sure	161	25	37	99
	Agree	256	193	8	55
	Strongly agree	140	137	0	3

[1] Efficient clustering statement called "jobs and communities" in Table 2.
[2] Efficient clustering statement called "save owl cost" in Table 2.
[3] Efficient clustering statement called "property rights" in Table 2.

The cluster analysis sorted the respondents by their attitude toward resource production from national forests. The stepwise k-means method of nonhierarchical estimate-minimization using standardized data was used (Forgy 1965, SAS Institute 1995). This method clustered the respondents into those closest to each other in the Euclidean space defined by their answers to the spotted owl propositions (Table 1). K-means was the best method for this classification to an *a priori,* set number of groups with the data type and structure in this study (Milligan 1980) and succeeded in sorting to the expected three respondent types right away using all combinations of the spotted owl propositions.

The most efficient final clustering used the responses to the three propositions footnoted in Table 1 regarding jobs and communities, the cost of saving the owl, and property rights. That is, the clusters of respondents resulting from those three items had mean response values the furthest apart and the smallest mean distance inside the clusters (Gengerelli 1963), as described in Table 2 . An inspection of the data sorted by final clusters in Table 1 and of the cluster means in Table 2 provides a sense of the character and strong differences between these respondent clusters. That is, the distributions of responses differed substantially and in the expected ways between the two polar types of

Table 2. Statistics describing the three clusters of respondents.[1]

	Cluster			
	Productionists	Nonaligned	Protectionists	All data
Mean jobs and communities[2]	4.16	2.57	1.51	2.76
Mean save owl cost[3]	1.64	2.62	4.34	2.86
Mean property rights[4]	4.29	2.59	1.78	2.90
SD jobs & comm.[2]	0.59	0.83	0.53	1.28
SD save owl cost[3]	0.74	0.85	0.54	1.34
SD property rights[4]	0.63	0.88	0.72	1.30
Mean distance cluster points to all points	2.57	2.60	2.58	NA
Maximum distance among cluster points	2.57	2.56	1.82	6.12
Mean distance among cluster points	1.71	1.92	1.37	2.48
Mean distance among clusters' center points	NA	NA	NA	3.25

[1] All values are measured on a continuous transformation of the ordinal response scale from 1 = strongly disagree to 5 = strongly agree. Distances are measured in the three-dimensional space defined by the three clustering questions' response scales, thus transformed.
[2] See third item down in Table 1 for full text of policy proposition.
[3] See fourth item down in Table 1 for full text of policy proposition.
[4] See fifth item down in Table 1 for full text of policy proposition.

people across all five propositions, and the "leftover" nonaligned respondents had more widely distributed and more moderate views.

Spotted Owl Perspectives

The response patterns to the spotted owl propositions in Table 1 are an artifact of the way those issues were used to classify the respondents. With this in mind, there was some notable ideological crossover and interesting distributions of the nonaligned respondents' views. A significant minority of productionists join protectionists in agreeing that the owl is threatened or that harvest levels have been too high. There was no such crossover about acceptable levels of costs to liberty and local and general economies in saving the owl.

The nonaligned respondents (Table 1) tend toward agreement with protectionists on the status of the owl and excessiveness of past harvest levels, consistent with the crossover of some of the productionists. It appears that while the threat to the owl has been controversial as a critical legal trigger for the Endangered Species Act, this issue is largely settled in favor of the owl in the court of public opinion, especially among these critical "swing-voters."

The nonaligned respondents also tended to agree with protectionists in believing the spotted owl should be saved at a cost to jobs or property rights. This seems consistent with the support the owl enjoyed at the height of the nationalized controversy in spite of these well-known costs (Yaffee 1994). Conversely, the nonaligned respondents' views tend toward the productionists in opposing a high general economic cost, consistent with the NFP's maintenance of some commercial harvesting (Yaffee 1994). These two patterns together agree with the prevalent political importance of general economic prosperity and the popularity of environmental protection if the costs are acceptably low or borne by others.

Perspectives About Clearcutting

Perceptions of old forestry center on clearcutting (Hansis 1995). Six policy propositions were therefore written to reflect often-proposed approaches to regulating clearcutting, and these were offered to the respondents. The distributions of responses appear in Figure 1. The words underlined there were also underlined for the respondents.

All respondents except a small minority of productionists think clearcutting, as an economic and safety driven option, should be regulated (Figure 1a). This response pattern reflects a widely established political consensus (Hansis 1995).

There is no such consensus for outlawing clearcuts (Figure 1b). Protectionists tend to favor a clearcutting ban, productionists tend to oppose a ban, and nonaligned respondents show no strong tendency, all together producing a strong conflict pattern. A clearcutting ban is evidently not currently in prospect; and, for the present, the nonaligned respondents lean slightly against a ban. Perhaps regulations favoring green-tree retention in regeneration harvests, as in the NFP, might turn overall opinion more decisively against a clearcut ban if these are perceived and understood to be more visually and ecologically acceptable (Ribe 1999).

Another point of established consensus and common public policy is that clearcuts must be replanted. A clear majority of both protectionists and nonaligned respondents felt replanting is not enough to permit clearcuts, and half the productionists felt the same way (Figure 1c). This is a semiconsensus pattern because a substantial number of productionists feel replanting is enough. Evidently, the long-term replacement of clearcut forests is not generally perceived to be the only problem with clearcutting. Replanting requirements alone are insufficient to garner broad-based public support for old forestry. New Forestry harvests that retain and more rapidly renew attributes of preharvest forests, such as more robust habitats and some mature-forest structure, rather than just the presence of growing trees, may gain such support (Brunson and Shelby 1992).

The long debates over clearcutting that led to the National Forest Management Act of 1976 (LeMaster 1984) were resolved, in part, by allowing clearcuts only where foresters consider them optimal. Forest practices law in the Northwest has taken a similar approach (Bernstein et al. 1974). This deference to professional judgment is embodied in the proposition in Figure 1d.

The observed response pattern in Figure 1d indicates conflict, with the productionists and protectionists split apart and the nonaligned respondents distributed across the agree-disagree options. Few respondents of any kind strongly trust foresters. A substantial but weak reservoir of support for foresters consists of both productionist and nonaligned people. However, distrust of foresters is more passionate, mostly among protectionists, while productionists trust foresters regarding clearcutting, but few do so strongly. More nonaligned respondents trust foresters than do not, but their trust is also weak. This imbalance toward distrust works against continued policy granting discretion to foresters. This seems consistent with the NFP's many standards and guidelines constraining management (USDA and USDI 1994) and with a Steel et al. (1994) finding of low to moderate public trust in government natural resource professionals.

Distrust of foresters to clearcut may come from concerns about ecological impacts, so this policy issue was explored with respect to trusting all land managers—implicitly including wildlife biologists (Figure 1e). The resulting response distribution was conflicted much like that for the previous question (Figure 1d). The only significant difference in Figure 1e compared to 1d appears to be that a few protectionists and nonaligned respondents who trusted foresters' clearcutting choices do not trust managers to assess the impact of clearcuts on wildlife.

This additional weight of protectionist and nonaligned respondents' opinion against manager discretion likely is not because the public opposes attention to wildlife. Steel et al. (1994) found Oregon residents want more attention to wildlife needs. The opposition to manager discretion likely is perhaps more because members of these two groups are incredulous that clearcutting might be found not to harm wildlife. More research is needed about the actual impact of harvests on wildlife (Franklin et al. 1997), as this may affect this critical perception and change this response pattern in effecting future policy.

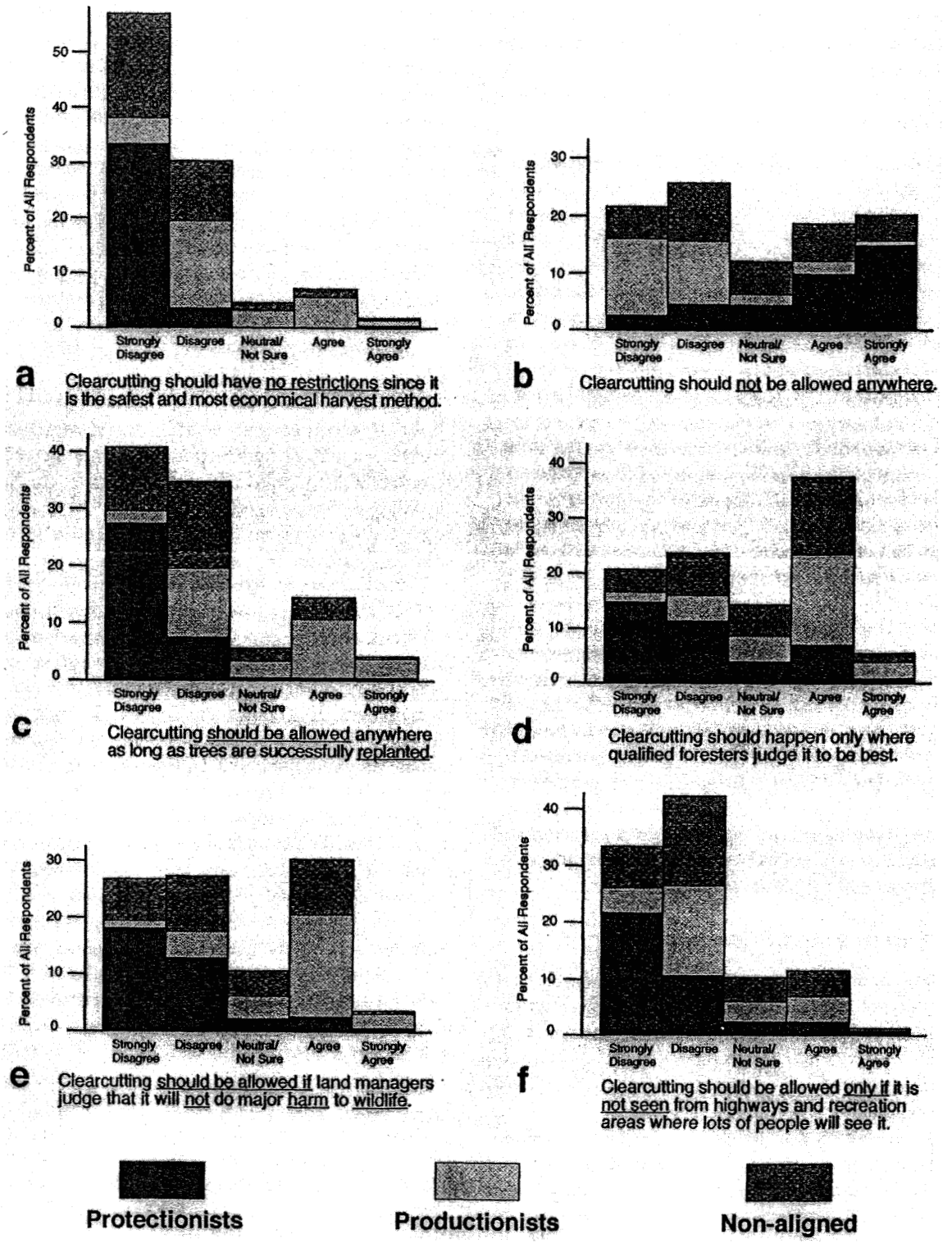

Figure 1. Response patterns to clearcutting propositions among respondent categories.

Another common basis for regulating clearcutting involves its visual rather than biological impacts. The Forest Service seeks to mitigate the scenic impact of some clearcuts to varying degrees (USDA Forest Service 1996), and many states do likewise, such as requiring buffers of standing forest between clearcuts and viewing areas like highways. The policy proposition in Figure 1f explored the adequacy of this approach to gaining public acceptance for old forestry.

The response pattern in Figure 1f indicates consensus, as a strong majority of all three respondent types disagreed with the adequacy of hiding clearcuts. The public seems not to want to be "fooled" and may prefer landscapes in which scenic beauty and "content beauty" converge (Gobster 1999, Hull et al. 2000). The public may simply dislike clearcuts irrespective of their visibility, may feel the real issues about clearcuts are not about appearances; or may not like the idea

of land managers trying to hide clearcuts. This last interpretation might not preclude forest visitors from enjoying themselves if they are not aware of the hidden clearcuts and enjoy the scenery. Research is needed to see whether the NFP may begin to offer a convergence of ecological and aesthetic acceptability by planning management in concert with watershed and ecological needs and by harvesting less frequently and intensely. Research is also needed to see which New Forestry harvests are perceived as acceptable and attractive enough so they need not be hidden.

Perspectives About New Forestry

To investigate opinions about New Forestry ideas currently offered as alternatives to clearcutting, all respondents were first read this general, nontechnical, intentional statement:

> New national forest management philosophies are being proposed called new forestry, ecological forestry, ecosystem management, or new perspectives. These generally aim to manage forests toward a more equal balance between timber harvests and wildlife habitat than traditional forestry is often viewed as doing.

With this statement in mind, the respondents were then offered the four policy propositions about New Forestry in national forests in Figure 2. These items employed a paired-question technique whereby the propositions in Figure 2a and 2b are interpreted by reference to each other, and likewise those in Figure 2c and 2d refer to each other.

There was disagreement about whether New Forestry should occur in old-growth forests. Majorities of protectionists and nonaligned respondents opposed New Forestry in old growth, while a majority of productionists favored it there, indicating a semiconsensus for such a prohibition (Figure 2a). The response pattern in Figure 2b, whereby New Forestry would be allowed in old growth, indicates a conflict causing this policy option to be less viable.

Inspection of the overall response patterns in Figure 2a and 2b indicates that productionists were mainly concerned with maintaining as much forestry as possible; protectionists were mainly concerned with saving old growth, but tended otherwise to be open to New Forestry; and nonaligned respondents held mixed views but leaned toward the protectionists' priorities. Evidently, the NFP's movement toward New Forestry while avoiding old-growth harvests is now the most politically viable approach.

There was broad consensus favoring New Forestry intentions instead of very unpopular established forestry methods (Figure 2c). There was a conflicted response pattern to the idea of completely eliminating timber harvests instead of pursuing New Forestry (Figure 2d). Looking at Figure 2c and 2d together, protectionists slightly favor no harvests over New Forestry, which they strongly favor over established forestry. A minority of productionists favor New Forestry over established methods, consistent with Gale (1991). However, ignoring neutral responses, more productionists favor New Forestry than favor established forestry. A strong majority of productionists favor New Forestry over *no* forestry. A majority of nonaligned respondents favor New Forestry over established methods while a plurality opposes no harvests. As an alternative to either old forestry or no harvesting in national forests, New Forestry evidently offers to build supporting coalitions and divide potential opposition. Further research is needed to explore what policy conditions will gain the most support for New Forestry. The propositions tested in this study do not allow for such interpretations, except that harvesting old-growth forests should be avoided.

Summary

Recent forest policy controversies in the Pacific Northwest produced technical solutions with traumatic social and economic impacts. Would more democratic processes have produced similar policies? Exploring this question starts with people's general attitudes as well as their opinions related to more technical issues. These opinions derive from different ethical viewpoints that may conflict about or coalesce around new ideas, such as those found in the Northwest Forest Plan.

This study explored the opinions of three reference groups sorted by their ethical viewpoints, namely forest production advocates, forest protection advocates, and those not strongly aligned with either of these positions. Basic findings about the viewpoints of these reference groups are:

- The threat to the northern spotted owl and the need to reduce public land harvest levels below those of the 1980s are widely acknowledged, even among some forest production advocates.
- There is a sharp division between people with primarily ecocentric forest protection views versus those with primarily anthropocentric forest production views.
- There is considerable conflict between these two groups about whether to trust forest management professionals to protect wildlife and to decide when to clearcut. Nonaligned people are split on these issues.
- There remains a reservoir of unimpassioned trust in forest management professionals found among people not strongly committed to forest protection, and this reservoir might be built upon in restoring confidence and policy discretion to forestry.
- Most people not strongly aligned with either forest production or forest protection viewpoints lean more often toward the views of forest protection advocates instead of production advocates.

Public perceptions of old forestry tend to focus on the impacts of clearcutting on wildlife, aesthetics, and other values. These impacts were a key issue in the spotted owl controversy. Findings regarding clearcutting perceptions are important as background framing perceptions of New Forestry and are:

- There is a broad consensus across all three reference groups that old forestry, especially as represented by clearcutting for economic reasons, is unpopular.
- There is no consensus across groups in favor of simply banning clearcuts.

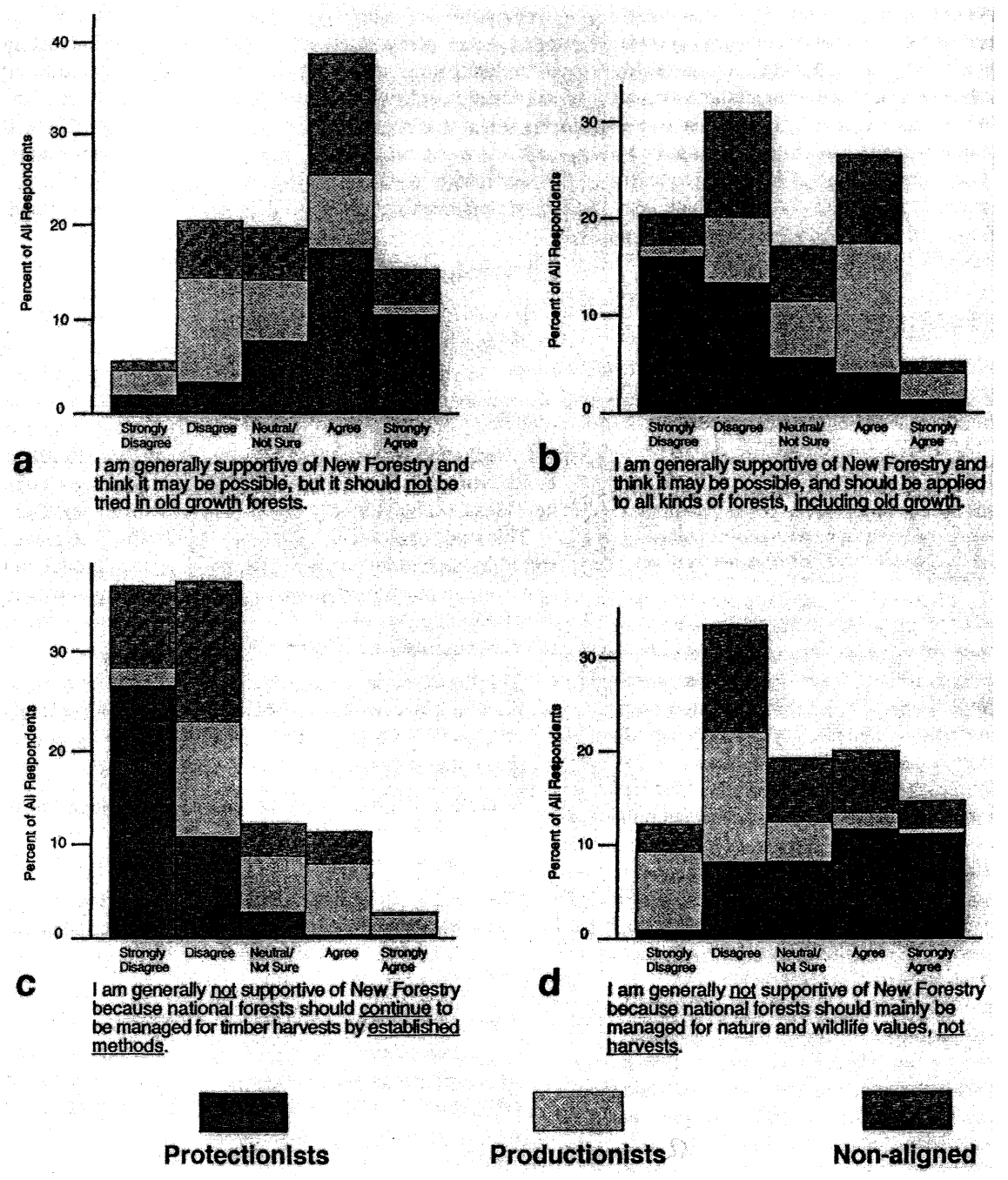

Figure 2. Response patterns to New Forestry propositions among respondent categories.

- The requirement to replant is not a sufficient amelioration of public concerns about clearcuts among forest protection advocates and nonaligned people and even among many forest production advocates.
- Hiding clearcuts from view, as an approach to rendering them acceptable, is widely unpopular.

Alternative New Forestry intentions offer to mitigate these adverse perceptions. These new ideas advocate carefully constructing forest practices, which are not as evidently simple as clearcuts, around neither a pure utilitarian nor a wilderness conceptual standard. New Forestry harvests that emphasize the retention of ecological pieces might be seen as the right thing to do outside of, or somewhere in the middle of, the anthropocentric-ecocentric ethical conflict. This possibility warrants investigation and this study began to do so with findings about the general intentions of New Forestry, rather than the particular guidelines adopted by the NFP or other policies:

- The intentions of New Forestry are strongly preferred over old forestry by forest protection advocates and nonaligned people, as well as many forest production advocates.
- New Forestry enjoys this pattern of popularity only if it is practiced outside of old-growth forests.

- There is no consensus across reference groups to ban timber harvests in national forests rather than trying New Forestry.
- New Forestry, instead of established forestry or a ban on timber harvests in second-growth national forests, has the potential to gain broad-based support across all three reference groups, albeit not among the strongest forest protection and production advocates.
- New Forestry may garner additional public trust for forest management professionals if it proves to be more broadly compatible with wildlife conservation, perhaps because of the new, multivalued, ethical constructions of nature embodied in New Forestry.
- New Forestry has the potential to tip the balance of opinion more decisively against outlawing clearcuts by convincing nonaligned people that regeneration harvests can have acceptable ecological impacts.
- New Forestry has the potential of addressing what needs to be retained in harvests, beyond a newly planted forest, to gain more acceptability.
- New Forestry might produce regeneration harvests that need not be hidden from view, eliminating a source of public tension now afflicting forestry, but this is still an uncertain prospect.

The last four of these findings need research to see if and how the suggested perceptions might be realized. Research is also needed to identify just which characteristics or achievements of New Forestry offer to garner the most public support in meeting conflicting objectives.

This study explored the state of the general political contest over forest policy in the Pacific Northwest soon after the promulgation of the Northwest Forest Plan. It did not investigate the prospects for new and old forestry at the level of conflicts among stakeholder groups and activists involved in effecting local plans and projects, nor at the level of individuals' opinions. Instead, this study demonstrates that "New Forestry" has considerable potential in establishing a socially acceptable, stable forest policy in the Pacific Northwest, especially in comparison to "old forestry."

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