The Public Debate about Roads on the National Forests

An Analysis of the News Media

Computer methods were used to analyze attitudes and beliefs expressed in a large database of news stories about roads on the US national forests. The view that forest roads are important for recreational use and access was expressed most frequently, followed by the belief that roads cause environmental damage. Analyzing the debate about forest roads as it is reflected in the news media is one way to monitor the changing context in which forest management decisions and policies need to be made.

By David N. Bengston and David P. Fan

Roads and road building on the US national forests have become the focus of intense public debate in recent years. Timber companies and others argue that forest roads are an essential transportation system for the production of commodities that society needs. Environmentalists and others reply that national forest roads constitute ecologically destructive "corporate welfare." Recreation is the main use of national forest roads (Coghlan and Sowa 1998), but recreationists sharply disagree about their appropriate role. For enthusiasts of motorized recreation, forest roads are an integral part of the recreation experience, not just a means of access. For wilderness recreationists, the mere presence of roads can be antithetical to the recreation experience.

Those and other perspectives are expressed and debated in many different forums: meetings and hearings, news conferences, protests and demonstrations, the courts, legislatures. Because the news media cover those forums, analysis of large numbers of news stories is one way to take the pulse of the public on forest roads and examine the evolution of the debate. Pollster George Gallup theorized in 1939 that the media were creating a national town meeting in which issues were debated: "The newspapers and radio conduct the debate on national issues, presenting information and argument on both sides, just as the townsfolk did in person at the old town meeting" (Smith 1997, p. 56). Communications researchers have repeatedly found a strong positive relationship between views expressed in the news media and public opinion about certain issues (Kennamer 1994; Dearing and Rogers 1996; West, in press; and studies cited therein), including natural resource and environmental issues.

This study examines beliefs about roads on the US national forests expressed in a large database of news stories, and the change in these beliefs from the fourth quarter of 1994 through 1998 It is an update and extension of a study that examined the public debate about forest roads through the third quarter of 1997 (Bengston and Fan 1999).

Beliefs about Forest Roads

Eight beliefs about national forest roads were analyzed in this study. These beliefs reflect what various stakeholders think is true about forest roads and, taken together, they summarize the main arguments in the public debate about roads The beliefs were identified by examining about 500 randomly selected news stories dealing with roads on the national forests News stories were downloaded from the LEXIS-NEXIS online commercial database (Gongla-Coppinger 1998). We continued to scrutinize news stories until we were sure we had identified all of the commonly expressed beliefs about forest roads. The eight beliefs parallel the main themes expressed in about 53,000 public comment letters received by the Forest Service (Content Analysis Enterprise Team 1998a, 1998b). Although some of the beliefs could be combined, we chose to keep them separate if they are often expressed as distinct beliefs in the news media.

Four of the beliefs indicate a favorable attitude toward national forest roads.

Recreational use and access. Roads provide access for a wide range of recreational activities, including access for senior citizens and people with disabilities. Categorizing this belief as one supporting a favorable attitude toward forest roads does not imply that everyone holding this view supports additional road construction or opposes road closures

Commodity benefits. Roads make pos-

1994–98

sible the production of commodities that society needs, such as timber, cattle, and minerals, and roads built under the purchaser credit program are needed to provide access for small timber companies that cannot pay the full cost of road construction.

Local community benefits. Roads and associated commodity production generate a variety of benefits to communities in and around national forests, including jobs, payments in lieu of taxes, community stability, and firewood gathering.

Fire protection. Roads provide access to remote areas for firefighting, various forest management activities, and rescues.

All four of those positive beliefs about forest roads are expressed in the following quote: "These benefits include employment in rural communities, road access and facilities for public recreation and protection from wildfires. The most important benefit, however, is the provision of wood as a building material and as a source of fiber for paper products" (*Houston Chronicle,* April 7, 1998).

The other four beliefs indicate an unfavorable attitude toward roads on the national forests.

Subsidy costs. Road building on national forests is a taxpayer-financed subsidy to the timber industry, often characterized as "corporate welfare." This belief is usually expressed in discussions of the purchaser credit program.

Ecological costs. Forest roads cause ecological damage, such as erosion, siltation, and destruction of wildlife habitat. The following quotation illustrates expressions of the subsidy costs and ecological costs beliefs: "This continuation of an archaic approach to bankrolling the construction of logging roads is costing taxpayers many millions of dollars every year and is wreaking havoc on the environment" (*San Francisco Chronicle,* December 29, 1997).

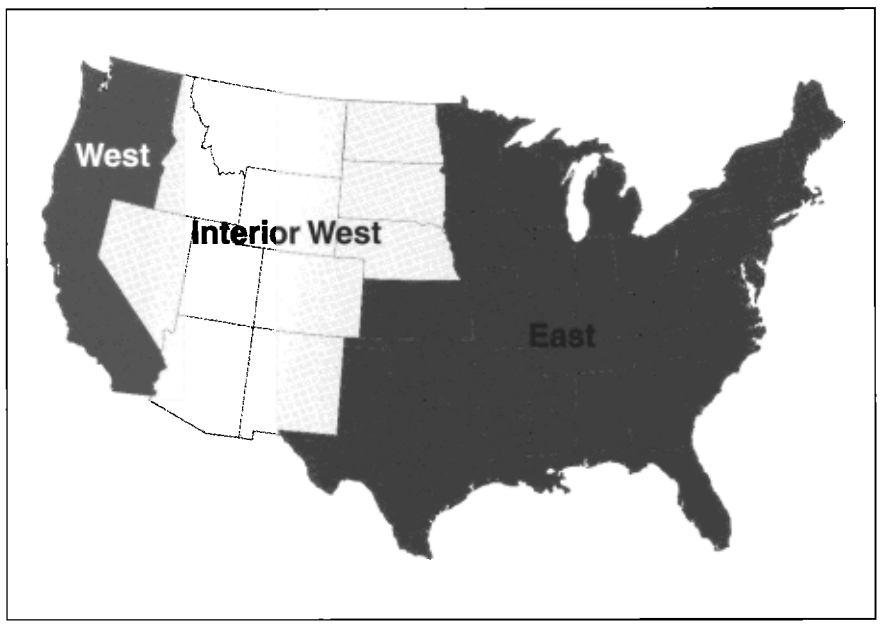


Figure 1. **Regional breakdown used in the media analysis. West comprises Forest Service regions 5 and 6; Interior West comprises regions 1, 2, 3, and 4; East comprises regions 8 and 9. News sources covering region 10 (Alaska) and Hawaii were not available online for the entire period of the study.**

Ecological benefits of roadless areas. Unroaded areas provide ecological benefits, including clean water, high-quality wildlife habitat, and greater biodiversity.

Roadless recreation. Unroaded areas provide unique recreational, aesthetic, and spiritual experiences not obtainable in roaded areas. The ecological benefits and roadless recreation beliefs are expressed in the following example: "The remaining roadless areas represent the nation's best opportunity to create additional woodland wilderness areas. Many of them also serve unique ecological functions, from critical habitat to watershed protection and flood control, while providing unique opportunities for backcountry recreation" (Minneapolis *Star Tribune,* January 19, 1998).

Methods

We used both quantitative and qualitative methods to analyze public discussion about forest roads in the news media from October 1, 1994, through December 26, 1998. The quantitative analysis employed the patented InfoTrend method and computer software (Fan 1988) and involved four main steps. First, we searched the LEXIS-NEXIS online commercial database (Gongla-Coppinger 1998) for news stories dealing with national forest roads. We searched the complete content of 74 newspapers and four newswires available online throughout the study period and downloaded 14,948 stories (of a total of 15,100) for analysis.

News stories were sorted by place of publication into three regions: East, Interior West, and West. *Figure 1*

The Question of Media Bias

The view that the news media are biased is sometimes raised as a reason not to use the media to indirectly measure public attitudes and beliefs.

Media bias has been extensively researched by communications researchers. McQuail (1994, p. 255–56) summarizes some of the best-documented generalizations about media bias as follows: Media news tends to overrepresent "official voices" in its sources; a disproportionate amount of news attention is given to members of political and social elites; the social values most emphasized are consensual and supportive of the status quo; and political news tends to be neutral or to support parties to the right of the center. This last point requires clarification, because surveys of the public reveal that many people believe the news media have a liberal political bias. In a recent study, Watts et al. (1999) found that the press is neutral in its election coverage, but frequent media quotes of conservative politicians saying that the media have a liberal bias have contributed to the view among the public that coverage has a liberal bias.

The issue of media bias is not crucial in measuring public opinion if, as the communications literature suggests, the media play a central role in influencing public attitudes and beliefs: the public will be influenced by the media regardless of bias.

shows the regional breakdown, based on groupings of Forest Service administrative regions. In addition to the three regions, news stories from four national newswires and two national newspapers were included in a database of national news sources. All types of stories about roads on the national forests were included in our database: straight news articles, opinion articles (editorials and letters to the editor), and articles from the sports, outdoors, and travel sections. Including all types of stories helped ensure that a full range of views was represented.

Second, the retrieved text was filtered to eliminate irrelevant paragraphs, using the InfoTrend computer software and its high-level Filtscor computer language. The InfoTrend software can discard paragraphs that do not fit user-specified criteria. We discarded all paragraphs that did not discuss roads on the national forests. Filtering out those paragraphs eliminated about 60 percent of the text but nevertheless left a database that was rich in discussion of national forest roads.

Third, computer instructions were developed to score the remaining paragraphs for expressions of the eight beliefs about roads on the national forests, i.e., to count the number of times each belief was expressed in the national and regional databases. Scoring was done with the InfoTrend software and its Filtscor computer language. A detailed description of these computer procedures is given in Bengston and Fan (1999).

Finally, we checked the validity of the analysis by examining a random sample of about 500 stories that were coded using our computer instructions to determine whether they could accurately identify expressions of the eight beliefs about forest roads. After final refinements in the computer instructions, the accuracy rates for the beliefs ranged from 80 percent (fire protection) to 100 percent (local community benefits, roadless recreation, and ecological benefits of roadless areas).

In addition to the quantitative analysis, we also carried out a qualitative analysis of a random sample of more than 1,000 news stories dealing with national forest roads. The qualitative analysis enabled us to explore the complex debate in greater detail and helped shed light on stakeholders' preferences. The findings of the qualitative and quantitative analyses are interwoven in the following discussion.

Discussion of Findings

The number of paragraphs per quarter in our national and regional text databases that expressed each of the eight beliefs about national forest roads is shown in *figure 2.*

The belief that national forest roads are useful for recreational access was the most frequently expressed view, accounting for 36 percent of all favorable and unfavorable beliefs over the study period. Recreational use of forest roads was discussed the most in the Interior West (44 percent of all beliefs), followed by the West (36 percent), the East (35 percent), and national news sources (17 percent).

Expressions of the recreational use and access belief in national news sources were typically direct arguments; for example: "The same roads are, for many rural residents of the West, a means of access to their public forests, whether to hunt elk, watch birds or catch trout" (*Washington Post,* March 11, 1998). In contrast, most of the regional expressions of this belief were descriptions of forest roads being used for recreation, often from newspaper sports, outdoors, or travel sections. These regional expressions typically portrayed nonmotorized recreation activities, as in the following examples: "For mountain bikers, the county has many miles of abandoned logging roads. The county is developing a map of the trails, but in the meantime, bikers can buy a map from the Forest Service" (*San Diego Union-Tribune,* May 19, 1996); "In a light snowfall, we headed out skiing down a gated logging road" (*Lewiston (ID) Morning Tribune,* December 13, 1994). The recreational use and access belief also included the less frequently expressed view that forest roads are important for motorized recreation, including motorized access for senior citizens and people with disabilities: "The Idaho Falls dentist still uses those roads to hunt wildlife with his camera. With his advancing age, 60, he said it's easier to get into the backcountry on a four-wheeler" (*Idaho Falls Post Register,* November 1, 1998).

The belief that roads cause environmental damage (ecological costs) was the second most frequently expressed, accounting for 17 percent of all expressions in all news sources over time. This belief was frequently expressed in each region, ranging from 15 percent in the

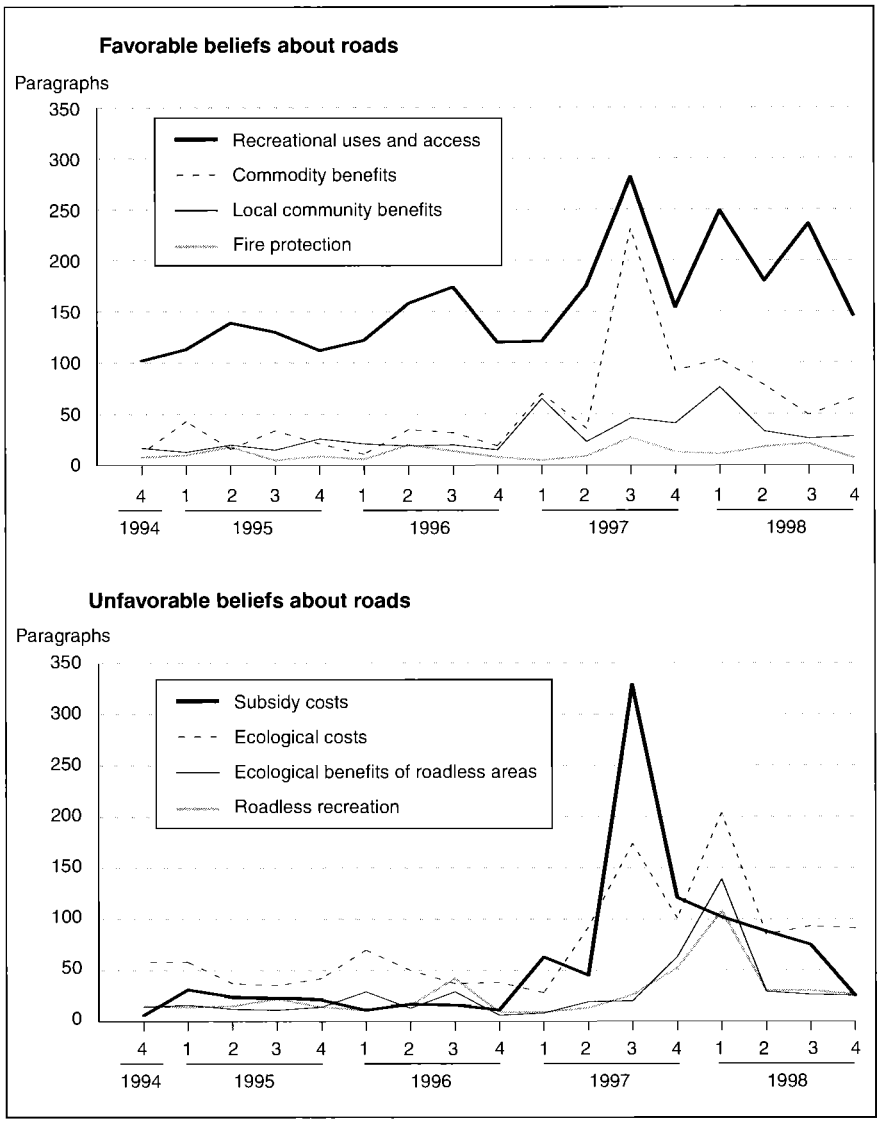


Figure 2. **Favorable and unfavorable beliefs about roads on the national forests as expressed in both national and regional news sources.**

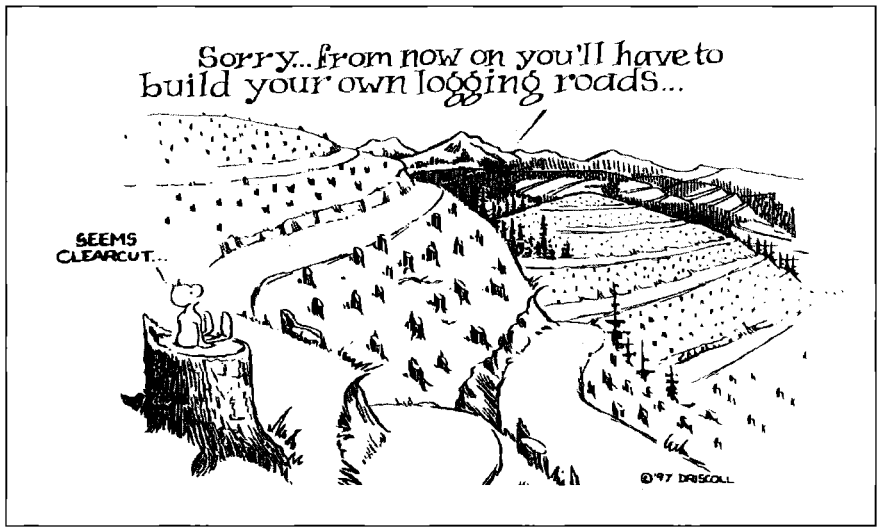
East to 20 percent in national news sources. Some expressions of this belief referred to scientific studies or reports on the environmental impacts of roads: "The study warns of environmental damage caused by logging roads, including erosion and sedimentation in streams that harm dwindling salmon populations" (*New Orleans Times-Picayune,* December 12, 1995). Other news stories pointed to specific examples of environmental damage attributed to roads and timber harvests, such as the 1995 mudslides in northern Idaho, or stated that environmental groups say logging roads cause environmental damage, as in this example: "In addition to halting new road construction, the government wants to close and wipe out old logging roads, which environmentalists say trigger landslides, allow sediment to run off into streams and endanger habitat such as elk" (*Gannett News Service,* February 26, 1998).

The other six beliefs about national forest roads were expressed less frequently. Subsidy costs accounted for 13 percent of all expressions of beliefs, followed by commodity benefits (12 percent), local community benefits (7 percent), ecological benefits of roadless areas (6 percent), roadless recreation (6 percent), and fire protection (3 percent).

A few regional differences became clear. Expressions of the subsidy costs belief were more prominent in national news sources (21 percent) and the East (16 percent), and less prominent in the West (12 percent) and Interior West (7 percent), where discussion of recreational use and access dominated the debate. Expressions of the commodity benefits belief followed an almost identical regional pattern, accounting for 21 percent of all discussion over time in national news sources, 15 percent in the East, 12 percent in the West, and 7 percent in the Interior West. The relatively large share of subsidy costs and commodity benefits in national news sources reflects more policy-oriented debate and less discussion of actual recreational activities.

A significant change in the public debate about roads occurred in 1997. Discussion of national forest roads was relatively low and stable from the fourth quarter of 1994 through most of 1996, in contrast to the greater volume of and more turbulent debate in recent years *(fig. 2).* The level of discussion of both favorable and unfavorable beliefs began to rise in 1997 and reached a dramatic peak in the third quarter. The increased volume of debate was due mainly to narrowly defeated appropriations bills in the US House of Representatives (July 11, 1997) and the US Senate (September 17, 1997) that sought to cut spending on national forest roads. During the third quarter of 1997, the belief that roads are a subsidy to the timber industry (subsidy costs) was expressed most frequently, accounting for 29 percent of all positive and negative beliefs from all news sources. In the regional breakdown, expressions of the subsidy costs belief during this quarter accounted for 34 percent of all forest roads discussion in the East, 31 percent in national news sources, 28 percent in the West, and 17 percent in the Interior West, which was dominated by discussion of recreational use and access (37 percent) and ecological costs (22 percent).

The subsidy costs belief was widely expressed by fiscal conservatives and environmentalists, as in this example: "...'corporate welfare' programs include such items as...Forest Service logging roads—that won the admiration of an environmental group called the Green Scissors Coalition" (*Boston Globe,*



In recent years, logging roads have drawn the ire of cartoonists.

November 23, 1997). This alliance between fiscal conservatives and environmental groups may have increased the political impact and persuasive power of the subsidy costs view of forest roads.

Possibly adding to the impact of the subsidy costs belief was its frequent association with the belief that forest roads are environmentally damaging, as in the following examples: "U.S. taxpayers should not be asked to continue an expensive subsidy of roads that lead nowhere but to further destruction of the nation's forests" (*Kansas City Star,* July 9, 1997); "The biggest beneficiaries of the subsidies are billion-dollar companies. By eliminating the cap, critics contend Santa has given the Forest Service a blank check to underwrite the cost of environmentally destructive roads and logging" (*Fresno Bee,* December 22, 1997); "Fiscally wasteful and environmentally destructive" (*Los Angeles Times,* July 10, 1997).

Other beliefs frequently expressed during the third quarter of 1997 were recreational use and access (25 percent of all beliefs from all news sources combined), commodity benefits (20 percent), and ecological costs (15 percent). There was little discussion of unroaded areas during this quarter: roadless recreation and ecological benefits of roadless areas each accounted for only 2 percent of all views expressed. After debate about forest roads peaked in the third quarter of 1997, the volume of discussion dropped but remained at a high level in the fourth quarter of 1997. Recreational use and access (24 percent), subsidy costs (19 percent), and ecological costs (16 percent) were the most frequently expressed views during this quarter.

On January 22, 1998, Forest Service Chief Mike Dombeck announced plans for a major overhaul of the forest road system and proposed an 18-month moratorium on road construction in most unroaded areas while the new road policy was being developed. In the Forest Service news release announcing these plans, Dombeck was quoted as saying, "These proposals are sure to cause a great deal of debate" (USDA-FS 1998, p. 3). He was correct. As shown in *figure 2,* the level of debate peaked again in the first quarter of 1998 because of widespread discussion of Dombeck's interim proposal. The reaction from individual stakeholder groups was mixed, but overall the response was mostly favorable; for example: "'We think this roadless policy has a lot to like about it,' said Steve Moyer of Trout Unlimited based in Vienna, VA... Senate Minority Leader Thomas Daschle, D-S.D., and Sen. Max Baucus, D-Mont., were among those who praised the effort to slow road-building until a comprehensive, long-term plan can be adopted" (*Dallas Morning News,* January 23, 1998); "I am pleased to see that President Bill Clinton is stopping the construction of new roads into the last wild areas in our national forests... Banning new roads in roadless areas is a good first step in the proper stewardship of what is left" (*Seattle Times,* February 9, 1998); "That is why the Clinton Administration should press vigorously and broadly its welcome intention to suspend tax-supported construction of logging roads in remote sections of national forests" (*Louisville Courier-Journal,* January 20, 1998).

Not everyone supported the Forest Service roads initiative. Many environmentalists expressed concern that the Forest Service proposal might not go far enough. For example, "In a letter to President Clinton on Tuesday, 56 environmental groups from Arizona and New Mexico called on the President to go further and protect roadless areas as small as 1,000 acres" (*Arizona Republic,* January 14, 1998). Timber industry associations consistently voiced opposition to the plan, and motorized recreation groups and others expressed concern about road closures: "Four-wheel-drive clubs, fishermen, hikers and rock hounds are getting involved, too, worried that they'll lose access to the deeper reaches of national forests as the Forest Service closes old logging roads" (*Sacramento Bee,* October 2, 1998).

The nature of the debate about forest roads changed in the first quarter of 1998, following the chief's proposal Discussion shifted from subsidy costs toward ecological costs, roadless recreation, and ecological benefits of roadless areas. The subsidy costs belief was expressed most often in the third quarter of 1997 but declined to 10 percent of all favorable and unfavorable beliefs in the first quarter of 1998. Recreational use and access was the most frequently expressed view of roads during early 1998 (25 percent), followed by ecological costs (21 percent), ecological benefits of roadless areas (14 percent), roadless recreation (11 percent), commodity benefits (10 percent), subsidy costs (10 percent), local community benefits (8 percent), and fire protection (1 percent)

The jump in discussion of roadless recreation and ecological benefits of roadless areas from 4 percent of the total in the third quarter of 1997 to 25 percent in the first quarter of 1998 is especially noteworthy. The proposed moratorium on road building spurred increased debate about the value of unroaded areas, as in the following example: "These increasingly scarce yet vital

roadless areas provide critical habitat for fish and wildlife, including many threatened and endangered species. They also serve to sustain healthy forest and aquatic ecosystems that provide us with clean water and unique outdoor recreational experiences" (*Providence Journal-Bulletin,* January 30, 1998).

For the rest of 1998, the level of discussion about forest roads in the media subsided from that first-quarter peak but remained higher than normal. The forest roads debate now appears to be winding down, at least until the next crescendo.

Conclusions and Implications

We have summarized an enormous volume of discussion and debate about roads on the national forests as reflected in the news media in recent years. The debate is complex and often discordant, with diverse stakeholders expressing a wide range of viewpoints. No simple solutions for developing a new policy for national forest roads emerge from this analysis. But two dilemmas that any forest road policy must address are evident.

First, the dominance of the recreational use and access belief among favorable views and the ecological costs belief among unfavorable views point to a potential conflict. On the one hand, the existing road system is heavily used for recreation, demand for recreation on the national forests is increasing, and virtually all types of recreation depend to some extent on road access. On the other hand, roads are widely perceived as a threat to increasingly important ecological values.

The tension between heavy recreational use of roads and concern about ecological impacts may not be intractable. Proroad recreationists are generally interested in retaining access to *existing* roads; those concerned about ecological impacts are mainly opposed to the construction of *new* roads (Blahna and Yonts-Shepard 1990). But closures or decommissioning of existing roads to achieve environmental goals will remain a point of tension between proroad recreationists and environmentalists. Conflict between the demand for new road construction (for both commodity-related uses and recreation) and concern over ecological impacts will continue. Commodity-related uses of forest roads remain an important part of the ongoing debate, as indicated by expressions of commodity benefits and local community benefits.

A second dilemma stems from the great diversity of recreationists, ranging from wilderness purists to those who visit forests in motor homes or drive all-terrain vehicles. Most recreationists view roads as a necessary means of access, but others want to get as far away from roads as possible, and still others prefer to spend most of their recreational time driving on roads. Roads are therefore both barriers and bridges to recreational opportunities, depending on the nature of the experiences that people desire. Recreationists are deeply divided about an appropriate road policy, especially over the role of off-highway vehicles (Content Analysis Enterprise Team

1998a, 1998b). Conflict between motorized and nonmotorized recreationists will likely be a growing source of contention for national forest management. Those responsible for forest road policy will have to identify who benefits and who loses from policy changes, then attempt to reconcile the tensions.

The period 1997 through early 1998 was a watershed in the public debate about forest roads. For all news sources combined, the share of the four unfavorable views of forest roads increased steadily from the first quarter of 1997 through the first quarter of 1998, when the Forest Service announced the proposed moratorium on road building and an effort to develop a new road policy. The impact of the Forest Service proposal on the forest roads debate is suggested by the fact that in 1998, for the first time in many years, a fight over appropriations for roads did not take place in Congress.

The challenge facing the Forest Service and other public land management agencies is to develop policies that reflect the diversity of attitudes, beliefs, and values held by individuals and groups in our pluralistic society, and at the same time promote sound stewardship and sustainable use of our natural resource heritage. Analyzing the social debate about forest roads that is reflected in the news media is one way to monitor the changing social context in which decisions and policies need to be made.

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