
Parcelization and Affluence: Implications for Nonindustrial Private Forests

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The quality of life we cherish is in many ways dependent on the health and accessibility of our forests. Forests provide recreational and aesthetic relief from the pressures of modern society, as well as the raw material for a multitude of wood products. Many rural communities rely heavily on economic benefits provided by timber, tourism, and other forest-related rec-

reation industries. Since approximately 85% of all timberland in the highly populated East is privately owned, these owners and the decisions they make are extremely important in maintaining quality of life and economic vitality within the region.

Ownership changes are taking place that are certain to alter the flow of forest benefits. Corporate restructurings and leveraged buyouts aimed at extracting full market value from forest properties may bring extensive forested acreage to the auction block. In addition to supplying a steady flow of timber, much of this land has been

open to the general public for recreation. The future of vast acreages, thought to be safely tucked away in long-term ownership, is now being questioned.

The threat of losing access to some large industrial holdings and increasing recreational pressure on limited public lands has focused attention on recreational use of private forests. In many respects today's landowners are different from those of the past. Today's landowners are generally more affluent, own smaller parcels, and are much less likely to be farmers. Landowner surveys reveal a number of reasons for forest ownership; speculation, homesite, recreation, and aesthetic enjoyment were frequently listed (e.g., Birch 1988, Widmann and Birch 1988). Although sometimes listed, timber production was seldom the primary reason for owning forestland.

Environmentalists, sportsmen, recreationists, and timber industries all

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fear that parcelization of the forest and changes in landownership will threaten traditional forest use (Harper et al. 1990). This report synthesizes the results of several empirical studies that delve into landowner behavior. Close attention is given to the effects of parcelization and increased affluence on timber harvesting, posting to limit access, recreational use, seeking the advice of professional foresters, and participation in voluntary property tax relief programs for forestland.

Most of the data for these analyses was originally collected by the USDA Forest Service in its periodic forest and landowner surveys of Vermont and New Hampshire. Field crews took forest measurements on sample plots distributed throughout each state, and ownership information was obtained from a 12-page questionnaire sent to the owner of each sample plot. Frieswyk and Malley (1985) and Widmann and Birch (1988) provide detailed explanations of procedures for the respective forest and ownership surveys. Regression techniques were used to analyze the various samples. Detailed descriptions of data sources, sample sizes, analytical techniques, and results may be found in Dennis (1989, 1990a, 1990b, 1990c) and Dennis and Sendak (1991a, 1991b).

DISCUSSION

Across the Northeast, private forests are being broken into smaller parcels. Figure 1 depicts changes that occurred in Vermont and New Hampshire between 1973 and 1983 (Wid-

mann and Birch 1988, Birch 1988). This trend is even more pronounced in southern New England. Numerous concerns have arisen over the effects of parcelization.

Economies of scale in timber management and harvesting, and the notion that owners of larger tracts may be more aware of timber values underlie concerns that parcelization will limit raw material availability for the region's wood products industries. Theoretical analyses support these concerns (e.g., Binkley 1981, Dennis 1989). Regression analyses yielded positive but not statistically significant (10% level) correlations between timber harvesting and ownership size for New Hampshire woodlands (Dennis 1989, 1990). Per-acre timber volumes and species composition were far more significant in explaining harvesting behavior. However, studies of Vermont's forests indicated that owners of larger parcels were more likely to contact a professional forester for assistance and had a greater propensity to enroll their woodland in Vermont's Use Value Appraisal Property Tax Program (Dennis and Sendak 1991a, 1991b). Entry into this voluntary tax program requires a forest management plan that includes scheduled harvests.

Brooks and Birch (1988) expressed concern over loss in wildlife habitat diversity accompanying the maturing of the northeastern forest. Many species require early successional forests (DeGraaf and Rudis 1986, Capen et al. 1979). They also felt that smaller ownership size would limit opportunities for using timber harvests to support

wildlife habitat management and that the increased number of owners would make dissemination of habitat management information more difficult.

Empirical analyses add credibility to concerns that parcelization of the forest will reduce opportunities for public recreation. Although size of ownership did not appear to influence whether landowners used their woodland for recreation, owners of smaller parcels were more likely to post their land to limit access (Dennis 1990b, 1990c).

Today's landowners are more educated and affluent than previous owners (Fig. 2). This change could have profound effects on the future of the region's forests. Strong correlations, all significant at the 5% level, were found between years of formal education and independent variables measuring several aspects of landowner behavior.

Strong negative correlations were found between timber harvesting and years of formal education in studies of timber supply in New Hampshire (Dennis 1989, 1990a). However, other empirical analyses indicated that more highly educated landowners were more likely to enter voluntary tax programs even if enrollment required scheduled timber harvests (Dennis and Sendak 1991). This suggests that tax incentives should prove successful in introducing forest management to landowners who may have little interest otherwise. According to Brighton (1988), 40% of participants in Vermont's Use Value Program had never worked with a forester prior to enrollment.

Recent demographic trends indicate that the demand for outdoor recreation will continue to rise. However, there has been a steady decrease in the amount of private lands open to the public; the portion of nonindustrial private lands open for public recreation decreased from 29% in 1977 to less than 20% in 1986 (USDA For. Serv. 1989). This is particularly troublesome in the highly populated East where current demands are stretching the capacity of some public lands.

Regression analyses indicated that more highly educated landowners were more likely to use their woodland for recreation but also had a greater propensity to post their land (Dennis 1990b, 1990c). In addition to increased parcelization and affluence, residential development, increasing age of owners, and a rising proportion of owners employed in white collar occupations all point to additional posting of private forests and suggest that concern over availability of private land for recreation is warranted.

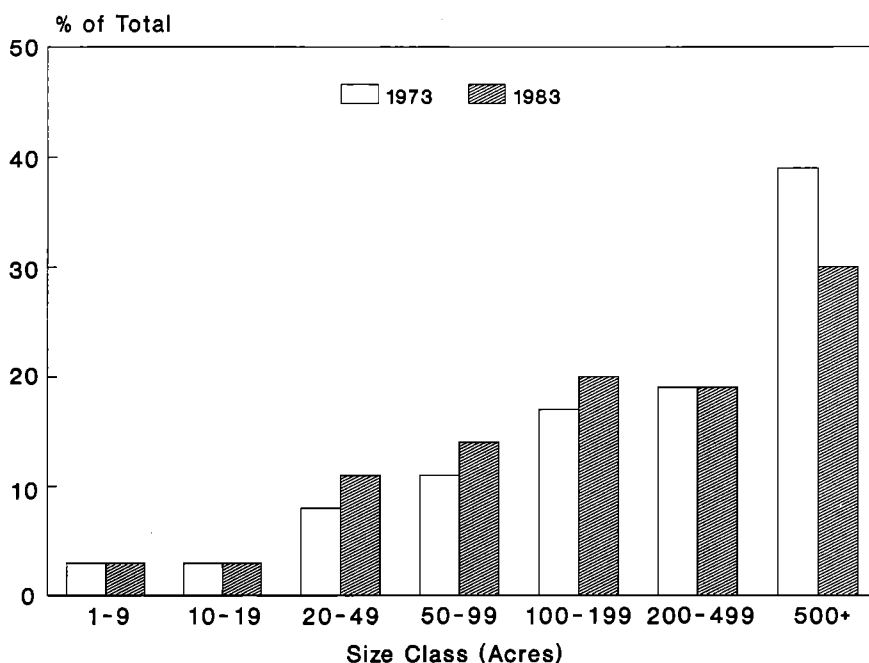


Fig. 1. Percent of forest land by size class, Vermont and New Hampshire, 1973 and 1983.

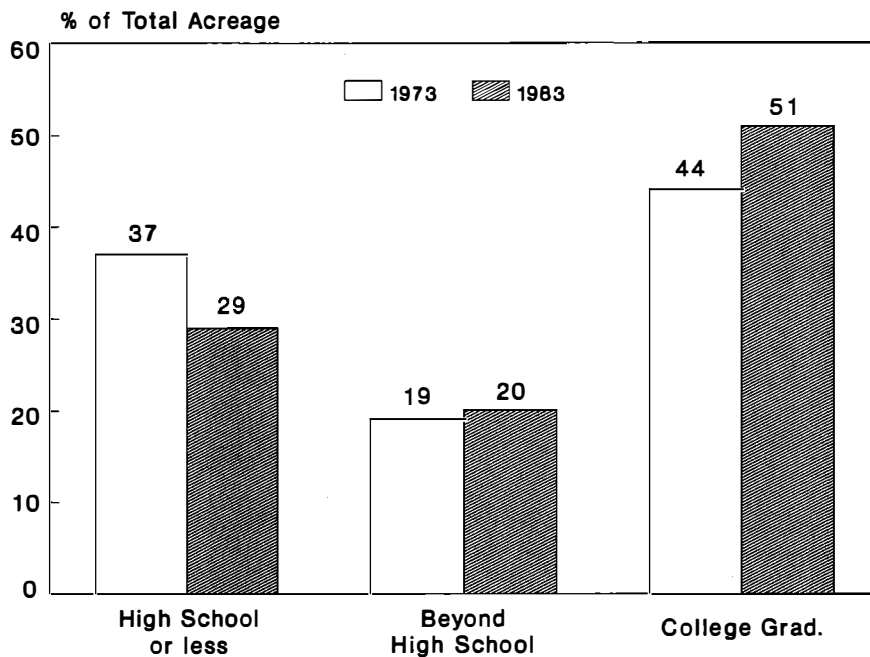


Fig. 2. Percent of forest land by education level of owner, Vermont and New Hampshire, 1973 and 1983.

CONCLUSION

Parcel size and affluence were found to be important determinants of behavior for nonindustrial private forest landowners. The results of several empirical studies suggest that a continuation of current trends will have negative impacts on the availability of both timber and access for public recreation. However, more affluent landowners were more likely to enroll in voluntary tax saving programs, even if these programs had management stip-

ulations. This suggests that these programs may be effective in motivating otherwise uninterested owners to manage their woodlands. □

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