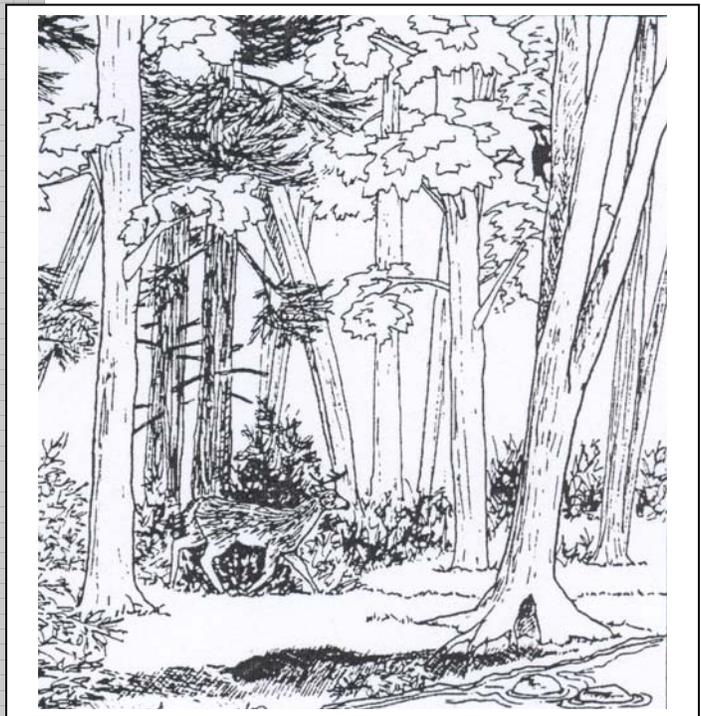

An Assessment of Family Forest Owners in New York State, 2007



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EXECUTIVE SUMMARY

The purpose of this study was to learn more about the family forest owners of New York State. Do they view themselves as managers of the land? What types of management activities are they engaged in? How many have sought educational information? What are their educational needs? How best can Cooperative Extension and other organizations meet those needs? Given this information, new and relevant educational materials can be developed and implemented in ways best suited for today's family forest owners.

A mail questionnaire was developed and sent to a sample of 2,200 landowners in February 2007. The sample was drawn from the 2006 Assessment Rolls for New York State, and included parcels of 25 or more acres and property classifications that identified the land as likely wooded and not in public or industrial ownership. The sample was divided into two strata (1,100 in each) based on property location and residence location. This stratification allowed us to compare forest owners at two ends of a rural/urban spectrum to better understand the potential diversity of owners. The rural stratum included wooded properties located in counties with less than 150 people per square mile (according to the 2000 Census) for which the property owners lived on or near (within the same county) the property. The urban stratum included wooded properties not located in the same county as the owner and for which the property owners lived in counties with 500 or more people per square mile: New York City, Nassau, Suffolk, Rockland, Westchester, Albany, Schenectady, Onondaga, Monroe, and Erie. A telephone follow-up survey was conducted with a minimum of 50 nonrespondents in each stratum to determine whether their answers to key questions differed from respondents.

Of the 2,200 questionnaires mailed, 62 were undeliverable and 1,152 completed questionnaires were returned, for an adjusted response rate of 54%. The response rate was slightly higher for the rural stratum (55%) than for the urban stratum (53%). The first question on the survey asked if the respondent owned 25 or more acres of wooded land in New York State, because we were not certain from the property tax records whether the property contained woodlands. Almost one-third of rural stratum respondents (31%) and one-quarter of urban stratum respondents (22%), for a total of 304 respondents, indicated they did not own 25 or more acres of wooded land. They were not included in any further analysis and thus, the results reported herein are based on the 848 remaining respondents.

Respondents owned on average 164 acres of which 96 (59%) were wooded. Most respondents identified nature and aesthetic values such as "to enjoy beauty or scenery" or "to protect nature and biological diversity" as being very important reasons why they own wooded land. Traditional uses were very important to about half of the respondents; these included being able to hunt on the land and pass the land onto their heirs. Utilitarian reasons such as production of firewood or timber were more important on average to rural than urban stratum respondents, but only 5% to 31% of respondents found these reasons very important.

Recommendations for Educational Programs

- Approximately two-thirds of family forest owners in New York State think their woodlands should be and are being managed (i.e., to take deliberate actions to influence the value of the land). At least half of all family forest owners have or intend to use information sources when making decisions about their wooded property. Given this, we would expect many landowners to be open to outreach efforts focused on woodland management.
- General woodlot management, timber stand improvement, and wildlife habitat improvement were topics over half of the respondents wanted information on in the future. Additional topics of strong interest include landowner liability, forest health, natural forest reproduction, tree planting, and finding additional sources of woodland income.
- The high percentage of respondents who anticipated activity related to cutting trees and the lack of time to complete some tasks suggests the need to develop educational programs that help forest owners work safely, efficiently, and productively on their property. Some related topics, such as chain saw safety, were specifically mentioned. Additionally, programs might address awareness of different types of equipment, databases of people who can provide special services, and financial options to help them acquire equipment and tools.
- The average age of respondents to our survey was almost 60 years old and 40% were already retired. This aging population likely accounts for the increasing interest in information on estate planning and perhaps on conservation easements. Educational programs on these topics are not currently available in New York. Future educational programs should strive to include the variety of options available for estate planning related to forests, and the implications of imposing various management constraints in perpetuity. The details of a binding management easement might have significant bearing on the production and services available from a property. Educational programs should include attention to considering the long-term results associated with different scenarios of future ownership and societal need.
- A very high percentage of respondents used their wooded land for hunting (70-81%). This in turn was related to a high percentage of respondents (63%) who posted their land against hunting (presumably to retain control of who hunts on the land) and a large number (55-63%) who have an interest in learning more about how to improve habitat for wildlife. Educational efforts that begin with a focus on wildlife and then expand to related topics, such as watershed or invasive species management, might be a way of expanding landowners' knowledge.
- Family forest owners desire education through various sources, interaction with professional foresters, and identified financial constraints as a barrier to activity. This suggests that programs that integrate education, technical assistance, and financial assistance are useful in stimulating management activities.
- Past users of Cooperative Extension, NYSDEC, consulting foresters, other government employees, and the New York Forest Owners Association thought these sources of information would be useful in the future. Thus, we assume some positive rapport exists between these organizations and family forest owners.

- The marketing of educational programs and resources for owners need not significantly differentiate rural and urban owners. Both strata had a high preference for brochures, fact sheets, or materials mailed directly to their home (consistent with a Northern New York survey of woodland owners conducted in 1999). Both strata also had a high preference for NYSDEC and consulting foresters, Cooperative Extension educators and web site resources. While some respondents indicated they used these sources in the past, more said they were likely to use them in the future.
- Because of a high interest in written materials for guidance in decision making, some effort at quality control is warranted. Landowners would potentially benefit from a system that identified reliable and accurate sources in contrast to potentially misleading sources.
- The Internet has been used slightly to modestly by rural and urban owners in the past (20 to 25%), but is likely to increase in use. Some rural owners identified websites (28%) and podcasts (7%) as potential future sources, whereas more urban owners identified them (websites [42%] and podcasts [11%]) as potential future sources. Thus, almost one-third of rural and one-half of urban owners may seek educational information via the Internet. Especially for urban owners, educators should commit to developing and marketing Internet resources.
- We described three types of family forest owners based on their past use of different sources of information. The educational needs of each type of forest owner thus can be targeted through different sources.
 - Unengaged family forest owners who do not participate or seek information made up 24% of our respondents. We could not conclusively identify why these family forest owners do not participate or seek information. It could be their lack of perceived benefits from educational assistance, or their lack of awareness of the availability of educational resources. We did note that they were more likely to have smaller woodlots and live further from them than those who had sought information. Distance, and perhaps woodland acreage, appear to be barriers to interest in forest management. As a group they do not think their woodland is currently or should be managed, but almost half plan to harvest firewood and a quarter plan to cut sawlogs or pulpwood. Among features of educational materials, most important to them was having a real person available. Programs such as Master Forest Owner, Cooperative Extension educators, NYSDEC technical assistance foresters all fill that need plus are recognized by respondents as useful sources of information.
 - Passive information seekers made up 22% of our respondents. One of their primary plans for the next five years was to harvest firewood from their property. They are most likely to rely on the same passive and non-technical sources of information that they have used in the past. We recommend educational efforts focus on maintaining a connection to these users through mass media outlets such as press releases and electronic list serves, and the Web. Current educational resources should be maintained and new content added (e.g., invasive species, biomass production, estate planning) as issues emerge. Mass media outlets will help these owners connect to their local Cooperative Extension educators and NYSDEC foresters, so maintaining educators' abilities to respond is important.

- Interactive information users made up the majority of our respondents (54%). The large number of interactive information users exceeded our expectations based on data related to the development of forest management plans, a common index of owner activity. Many of these users are planning some type of management activity in the next five years. They will seek information from a wide variety of sources. Over half of them would read a brochure or fact-sheet, but no one source would be used by everyone. The Conservationist might be a good outlet for educational information, as 40% of them currently read the magazine. Other recommendations for educational efforts include strategies that reduce the impact of barriers to working in woodlands. Primary barriers were time, access to equipment and the cost of operations in the woods. Educational programs could address efficiency, financial strategies, and safety with equipment.

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INTRODUCTION

Family forest owners, also known as non-industrial private forest owners, control 42% of the nation's forest land (Butler and Leatherberry, 2004). In New York State the percentage is quite a bit higher at 85% (Alerich and Drake, 1995). Society depends on family forest owners to manage their private forest lands to provide public benefits ranging from clean water and wildlife habitat to forest commodities and green space. Proper management of these lands is needed for environmental sustainability.

Forestry extension has significantly impacted the awareness and ability among family forest owners for sustainability. However, forest owners who deliberately seek educational assistance represent only an estimated 5% of family forest acres and 1% of the owners. (P. Smallidge, unpublished data). A larger percentage receives some type of timber harvesting advice. This disconnect of forest owners from educational initiatives creates the opportunity for misinformed management activities. Forest owners who act without adequate knowledge or assistance may degrade water systems, reduce the sustainable productivity of forests, and impair the ecological functioning of forest ecosystems.

The purpose of this study was to learn more about the family forest owners of New York State. Do they view themselves as managers of the land? What types of management activities are they engaged in? How many of them have sought educational information? What are their educational needs? How best can Cooperative Extension and other organizations meet those needs? Given this information, new and relevant educational materials can be developed and implemented in ways best suited for today's family forest owners.

METHODS

Both qualitative and quantitative procedures were used to profile family forest owners in New York State. Initially, qualitative telephone interviews were used to explore why owners hold woodlands, how they think of their woodlands, and whether they feel they are managing their lands. How these owners have sought information about managing their woodlands and preferred ways of reaching them with information were also explored.

From the results of these interviews, a mail questionnaire was developed and sent to forest owners in early 2007. The mail questionnaire asked specifically about their 1) attitudes toward and motivations for owning forest land, 2) interest in management, past management activities, and likely future activities, and 3) educational needs including how best to reach them with educational materials. See Appendix A for exact content and wording of the mail questionnaire.

The sample of forest owners receiving the mail questionnaire was divided into two strata based on property location and residence location. This stratification allowed us to compare forest owners at two ends of a rural/urban spectrum to better understand the potential diversity of owners. The rural stratum included wooded properties located in counties with less than 150 people per square mile (according to the 2000 Census) for which the property owners lived on or

near (within the same county) the property. The urban stratum included wooded properties not located in the same county as the owner for which property owners lived in counties with 500 or more people per square mile: New York City, Nassau, Suffolk, Rockland, Westchester, Albany, Schenectady, Onondaga, Monroe, and Erie.

The sample of 2,200 landowners (1,100 per stratum) was drawn from the 2006 Assessment Rolls for New York State, with parcels of 25 acres or more and property classifications that identified the land as likely wooded and not in public or industrial ownership. The property classification code provided by the Office of Real Property Services does not identify wooded land for all parcels. For example, a parcel might be labeled as agricultural – field crops, with most of the land in field crops but some portion in woodlands. A parcel of 100 acres could quite possibly contain 25 acres of woodland and still be classified as agricultural. For this reason, we selected parcels from the agricultural codes with more than 100 acres. Landowners with these types of parcels comprised less than 10% of our sample.

Questionnaires were mailed to the sample of 2,200 in February 2007. Up to three reminder mailings were sent over the course of the following month. A telephone follow-up survey was conducted with a minimum of 50 nonrespondents in each stratum to determine whether their answers to key questions differed from respondents.

Data were entered on the computer and analyzed using SPSS (a statistical package for the social sciences). Data were analyzed by stratum and by information user types. Chi-square and t-tests were used to test for significant differences. Factor analysis (principal components analysis with varimax rotation) and reliability tests (Cronbach's alpha) were used to categorize reasons for owning wooded property.

RESULTS AND DISCUSSION

Qualitative Interviews

The purpose of the interviews was primarily to aid in mail questionnaire development. From the interviews we found that some people referred to their wooded property as “woodland” and others used the term “forest,” so both terms were used in the questionnaire. We also found that most people would not use the term “manage” to describe the activities they do on their land, so this term was used with a definition in the questionnaire. Other questions such as motivations for owning land, activities done on the land, or sources of information yielded the expected response categories, so questions developed for previous surveys were replicated in our mail questionnaire.

Mail Survey Response and Nonrespondent Comparisons

Of the 2,200 questionnaires mailed, 62 were undeliverable and 1,152 completed questionnaires were returned, for an adjusted response rate of 54%. The response rate was slightly higher for the rural stratum (55%) than for the urban stratum (53%). The first question on the survey asked if the respondent owned 25 or more acres of wooded land in New York State, because we were not certain from the property tax records whether the property contained

woodlands. Almost one-third of rural stratum respondents (31%) and one-quarter of urban stratum respondents (22%), for a total of 304 respondents, indicated they did not own 25 or more acres of wooded land. They were not included in any further analysis and thus, the results reported herein are based on the 848 remaining respondents. Nonrespondents were just as likely as respondents to own 25 or more acres of wooded land, so it appears that owning little or no wooded property was not a reason for failing to respond to the survey.

In general, nonrespondents and respondents were very similar. They did not differ in the size of the property owned or in their participation in various management activities. They had a similar mean age, but respondents were more likely to be male than nonrespondents (85% versus 77%). We did find an important attitudinal difference, however -- respondents were more likely than nonrespondents to think that their wooded property should be managed (77% versus 65%). We also found that respondents more so than nonrespondents had used, and were more likely to use in the future, various sources of information to help them make decisions about their wooded land.

Characteristics of Family Forest Owners and Their Properties

Family forest owners ranged in age from 25 to 93 with a mean age of 59. Two-fifths (40%) of the respondents were retired. Urban stratum respondents were more educated--52% had a college degree, compared to 26% of rural stratum respondents. Those whom we selected from rural counties identified their primary residence as rural and most (82%) lived on or within one mile of their wooded property. Respondents from the urban stratum were more likely to identify their primary residence as being in a suburban area (49%) than in an urban environment (20%). They lived on average 71 miles from their wooded property. However, some members of the urban stratum (31%) said they lived in a rural area, not far from their wooded property. Some counties we defined as urban are not all urban/suburbanized so some respondents could live in more rural areas and own properties in adjacent rural counties. Thus, the urban stratum should be thought of as more of a suburbanized group of respondents who own wooded property at some moderate distance from their home.

Respondents owned on average 164 acres of which 96 (59%) were wooded. The median amount of wooded property owned was 55 acres. Respondents had owned their property for an average of 20 years (range = 1 to 75 years). There were no differences between urban and rural stratum respondents on any of these property characteristics.

Reasons for Owning Wooded Property and Recreational Uses

Using factor analysis, we identified three factors that explain why people own wooded property, and have termed them nature and aesthetic values, traditional uses, and utilitarian values. These three factors explain 53% of the variance in reasons for owning wooded property and had a relatively high reliability (Cronbach's alpha = 0.66). Most respondents identified nature and aesthetic values such as "to enjoy beauty or scenery" or "to protect nature and biological diversity" as being very important reasons why they own wooded land (Table 1).

Table 1. Reasons for owning wooded land in New York State, by urban/rural strata.		
Reasons for owning wooded land	Strata	
	Rural	Urban
	Mean Importance* (% indicating “very important”)	
<i>Factor 1: Nature and Aesthetic Values</i>		
To enjoy beauty or scenery**	4.4 (62.4)	4.6 (72.1)
To protect nature and biological diversity	4.0 (47.0)	4.1 (53.2)
For privacy**	4.3 (63.9)	4.1 (56.9)
For recreation, other than hunting or Fishing	3.9 (44.1)	4.0 (46.8)
As part of my home, vacation home, or farm**	4.5 (74.4)	4.2 (64.7)
<i>Factor 2: Traditional Uses</i>		
For hunting or fishing	3.9 (53.1)	3.7 (51.9)
To pass land on to my children or other Heirs	3.7 (47.5)	3.8 (45.9)
<i>Factor 3: Utilitarian Values</i>		
For production of firewood or biofuel (energy)**	3.4 (31.4)	2.5 (10.9)
For production of sawlogs, pulpwood, or other timber products**	3.0 (22.7)	2.4 (13.9)
For cultivation/collection of non-timber forest products (e.g., maple syrup, mushrooms)**	2.1 (7.4)	1.9 (4.3)
For land investment (I hope to sell all or part of my wooded land at a profit)**	2.1 (11.1)	2.3 (10.2)
*Importance was measured on a 5-point Likert-type scale where 1 = not at all important to 5 = very important.		
**Statistically significant difference between strata at P = 0.05 using t-test.		

Traditional uses were very important to about half of the respondents; these included being able to hunt on the land and pass the land onto their heirs. Utilitarian reasons such as production of firewood or timber were more important on average to rural than urban stratum respondents, but only 5% to 31% of respondents found these reasons very important. A respondent could have indicated important reasons for owning forest land from more than one of the factors identified. Thus, factors do not represent a profile of different owner objectives, but categories that explain the variety of reasons for how owners use and enjoy their land.

In a previous use of this list of reasons in the National Woodland Owner Survey (Butler and Leatherberry, 2004), the three top reasons for owning wooded land by Northern Family Forest Owners, which includes New York State, were among the top reasons identified in our study. These reasons (to enjoy beauty or scenery, for privacy, and to protect nature and biologic diversity) were included as part of our Nature and Aesthetic Values factor.

Hiking and hunting were the most popular recreational activities done by respondents or other household members on their forested property, with over 70% indicating someone in the household participated in the past year (Table 2). The number reporting using their land for

Table 2. Recreational activities done by respondent or other household members on their forested land in the past year, by urban/rural strata.		
Recreational Activities	Strata	
	Rural	Urban
	% participating*	
Hiking**	72.1	78.8
Hunting**	80.7	69.9
Bird watching	50.0	53.7
ATV riding**	55.3	41.5
Nature study	36.8	37.7
Skiing/snowshoeing	31.2	29.4
Fishing	26.9	23.2
Snowmobiling**	29.4	15.0
*Percentages add to more than 100% because respondents could participate in more than one activity.		
**Statistically significant difference between strata at P = 0.05 using Chi-square test.		

hunting was surprisingly high given that only an estimated 4% of New Yorkers bought a hunting license in 2004 (according to USFWS web report, 2004 and US Bureau of the Census web report, 2006). About half of the respondents did some bird watching on their wooded property. More rural than urban stratum respondents participated in hunting and mechanized forms of recreation – ATV riding and snowmobiling.

Woodland Management

As reported earlier, respondents to the mail survey were more likely than nonrespondents (77% versus 65%) to think that their wooded property should be managed (defined as “taking deliberate actions to influence the value of the land”). Therefore, among the general population of family forest owners in New York State, the proportion believing their property should be managed likely is not as high as the mail survey respondents would suggest. Mail survey respondents also were more likely than nonrespondents to say that their land was in fact being managed (76% versus 69%, although this difference was not statistically significant). More rural than urban stratum respondents felt that they were in fact managing their wooded property (Table 3). The area of a respondent’s property receiving some management activity each year ranged from 1 to more than 15 acres, with no significant pattern across this size range.

The most popular management activities among landowners were harvesting firewood for their own use, marking the boundaries of their property and posting it against hunting, and building or performing maintenance on roads or trails (Table 4). Over half of the respondents had done (or had someone do) these activities in the past 10 years. Timber management activities such as thinning or pruning and harvesting wood for firewood or sawlogs were more

Table 3. Attitude toward management and level of management activity, by urban/rural strata.		
Management Attitudes and Actions	Strata	
	Rural	Urban
	Percent	
<i>My wooded land should be managed</i>		
No	22.0	24.4
Yes	78.0	75.6
<i>My wooded land is managed*</i>		
No	18.8	28.1
Yes	81.2	71.9
<i>Size of area with management activity in an average year</i>		
0-1 acres	21.4	30.1
2-5 acres	25.8	22.7
6-15 acres	15.9	13.8
>15 acres	36.8	33.4
*Statistically significant difference between strata at P = 0.05 using Chi-square test.		

Table 4. Management activities done on wooded lands in past 10 years, by urban/rural strata.		
Management Activities	Strata	
	Rural	Urban
	% doing activity in past 10 years*	
Harvest firewood for my own use**	79.0	61.1
Post the boundaries against hunting	63.8	63.2
Build or perform maintenance on roads or trails	61.0	53.0
Mark the legal boundaries of my wooded property	57.0	56.6
Improve timber quality by thinning or pruning**	50.4	42.0
Improve wildlife habitat	44.1	43.2
Plant trees	39.2	37.5
Harvest wood for sawlogs, veneer, pulpwood**	41.8	28.9
Improve scenic values	22.8	27.0
Improve fish habitat	15.2	13.6
Reduce fire hazards	13.2	14.8
Apply herbicides, pesticides, or fertilizers	10.4	15.0
Harvest firewood for commercial sale	13.4	10.3
Harvest non-timber products for my own use	14.2	9.1
Improve a stream-side buffer	8.1	8.6
Harvest non-timber products for commercial sale	4.8	3.3
*Percentages add to more than 100% because respondents could do more than one activity.		
**Statistically significant difference between strata at P = 0.05 using Chi-square test.		

common among rural than urban stratum respondents. Harvest of non-timber products, such as maple syrup, was not very common among respondents.

When asked about major plans for their woodland in the next five years, many respondents indicated they would harvest firewood (Table 5). About one-third were planning to harvest sawlogs or pulpwood. Given the older average age of respondents, it is not surprising that about one-fifth indicated that they would give some or all of their woodland to their children or other heirs in the next five years. Twenty-eight percent of respondents indicated interest in some type of legally binding agreement, such as a conservation easement, that would assure that future owners of the property managed it as they have. One-third of the respondents plan little or no major activities related to their woodland in the next five years, and another 20% are unsure or have no specific plans. This lack of activity was more prevalent among urban than rural stratum respondents (Table 5).

Table 5. Respondents' plans for their woodland in the next five years, by urban/rural strata.		
	Strata	
	Rural	Urban
Plans for woodland in next 5 years	% checking*	
Harvest firewood**	71.1	51.4
Harvest sawlogs or pulpwood**	34.7	26.2
Give some or all of my woodland to my children or other heirs	18.8	15.7
Buy more woodland	11.6	16.0
Collect non-timber forest products (e.g., maple syrup)**	14.6	7.6
Sell some or all of my woodland	7.8	9.7
Convert another land use to woodland	4.8	3.2
Convert some or all of my woodland to another use	4.0	2.3
Divide all or part of my woodland and sell the subdivisions	1.8	2.8
Leave it as is—little or no activity**	30.9	37.7
No plans at this time/I don't know**	16.3	22.9
*Percentages add to more than 100% because more than one plan could be checked.		
**Statistically significant difference between strata at P = 0.05 using Chi-square test.		

Respondents as a group showed roughly the same likelihood of engaging in specific management activities in the next five years as in the past ten years (Tables 4 versus 6 and 7). They were most likely to engage in harvesting firewood or building or performing maintenance on roads or trails. Rural stratum respondents were slightly more likely than urban stratum respondents to plan to post their boundaries against hunting and engage in timber harvest management activities. Urban stratum respondents were more likely to plan to improve wildlife habitat, plant trees, and improve scenic values. Thus, management activities chosen by respondents follow closely their reasons for owning wooded property, with rural stratum respondents valuing utilitarian uses more highly than urban stratum respondents.

In general, urban stratum respondents were more likely than rural stratum respondents to indicate that they would hire a professional to do the management activity. Rural stratum respondents were more likely to indicate that they would work on the activity by themselves. A few in each stratum would enlist family or friends to help, especially with harvesting firewood.

Among rural stratum respondents (Table 6) the activities they would most likely contract through a professional include sawlog or pulpwood harvests (21%) and less frequently activities such as boundary marking, timber stand improvement, pruning, and commercial firewood harvesting (4% to 6%). Among urban stratum respondents (Table 7) the same general types of

Table 6. Rural strata respondents' plans for management activities on their wooded property in the next five years.				
Management Activities	In next 5 years:			
	I don't plan to work on this	I will work on this	Family, friends will help	I will hire a professional
	Percent			
Harvest firewood for my own use	53.9	23.8	20.0	2.3
Post the boundaries against hunting*	62.3	27.8	9.6	0.3
Build or perform maintenance on roads or trails*	56.2	30.1	11.9	1.8
Mark the legal boundaries of my wooded property	62.3	25.8	5.3	6.6
Improve timber quality by thinning or pruning*	59.0	24.8	9.6	6.6
Improve wildlife habitat*	68.8	23.8	6.3	1.0
Plant trees*	70.6	22.0	6.6	0.8
Harvest wood for sawlogs, veneer, pulpwood*	65.5	8.4	4.8	21.3
Improve scenic values*	80.2	16.5	3.0	0.3
Improve fish habitat	87.3	9.9	1.8	1.0
Reduce fire hazards*	86.9	11.1	2.0	0.0
Apply herbicides, pesticides, or fertilizers*	90.6	7.1	1.3	1.0
Harvest firewood for commercial sale*	82.5	8.1	4.8	4.6
Harvest non-timber products for my own use*	83.7	10.4	5.6	0.3
Improve a stream-side buffer	91.6	5.8	1.3	1.3
Harvest non-timber products for commercial sale*	93.9	4.3	1.5	0.3
*Statistically significant difference between strata (see also Table 7) at P = 0.05 using Chi-square test.				

Table 7. Urban strata respondents' plans for management activities on their wooded property in the next five years.

Management Activities	In next 5 years:			
	I don't plan to work on this	I will work on this	Family, friends will help	I will hire a professional
	Percent			
Harvest firewood for my own use	56.0	20.7	19.0	4.3
Post the boundaries against hunting*	66.3	21.4	10.2	2.1
Build or perform maintenance on roads or trails*	58.9	21.5	12.3	7.3
Mark the legal boundaries of my wooded property	66.6	20.4	5.7	7.3
Improve timber quality by thinning or pruning*	61.5	16.2	8.1	14.3
Improve wildlife habitat*	63.3	21.6	11.1	4.0
Plant trees*	65.5	20.6	10.6	3.3
Harvest wood for sawlogs, veneer, pulpwood*	68.3	4.8	1.2	25.7
Improve scenic values*	76.1	15.4	6.4	2.1
Improve fish habitat	85.0	8.6	3.1	3.3
Reduce fire hazards*	84.6	9.0	3.3	3.1
Apply herbicides, pesticides, or fertilizers*	85.7	7.6	2.6	4.1
Harvest firewood for commercial sale*	84.0	6.0	1.0	9.0
Harvest non-timber products for my own use*	84.7	9.1	3.3	2.9
Improve a stream-side buffer	90.5	6.4	1.2	1.9
Harvest non-timber products for commercial sale*	94.5	1.9	0.7	2.9

*Statistically significant difference between strata (see also Table 6) at P = 0.05 using Chi-square test.

activities would be contracted, though at a greater frequency. However, urban stratum respondents indicated they would also hire a professional for assistance with trail and road maintenance, improving wildlife habitat, and application of herbicides, pesticides, and fertilizers.

Almost half (47%) of urban stratum respondents and two-fifths (38%) of rural stratum respondents indicated they were unable to do work on their wooded land that they wanted to do. The most common things that they wanted to do but could not included trail or road improvement (28%), timber stand improvement (27%), wildlife habitat improvement (13%), and water body improvement/development (10%). Lack of time, equipment, and financial resources were the greatest barriers to doing this work (Table 8). Lack of knowledge and or access to technical expertise were the limiting factors for less than 20% of respondents who wanted to do work but could not. Family forest owners were not generally constrained in their activity by

excessive laws or unfamiliarity with laws, fear of making a mistake, not being able to find someone to do the work, or not having access to their property. There were no differences between urban and rural strata respondents in regard to reasons why they did not do the work.

Table 8. Reasons why respondents did not do work on their wooded property when they wanted to, by urban/rural strata.		
Reasons why didn't work on wooded land when wanted to	Strata	
	Rural	Urban
	% checking*	
Not enough time	57.8	58.0
Don't have the right equipment	41.5	45.1
Too expensive	36.7	34.2
My own physical health	27.9	26.9
Don't know how	13.6	18.7
Haven't tried	6.8	15.0
Can't find someone to do the work	9.5	10.4
Afraid of making a mistake	10.2	9.8
Can't find the technical expertise	6.8	11.9
Don't know the laws	5.4	10.4
Don't have adequate access to my property	4.8	9.3
Law doesn't allow	1.4	3.6
Concerned about affecting neighbors	0.7	3.1
*Percentages add to more than 100% because more than one reason could be checked.		

Educational Interests of Family Forest Owners

Determining the educational interests of family forest owners was a primary purpose of this study. We found that respondents have previously gotten information primarily on timber management activities and how to improve habitat for wildlife (Table 9). There were no real differences between urban and rural strata in terms of topics accessed in the past. Topics presumably of interest because of ownership values (Table 1) and activities (Tables 2, 4) were not represented highly as having been received as information. These included chain saw safety, forest health issues, enhancing aesthetic qualities, and timber tax liability. Even less frequently cited topics included estate planning and how to prevent or report timber theft.

On the other hand, some of these less frequently mentioned topics were more popular as potential topics for future educational programs. For example, information on estate planning was requested by almost one-third of respondents, compared to less than 10% who had accessed that information in the past. General timber and woodlot management information and how to improve habitat for wildlife were still among the most popular topics (Table 10). Also among the most important was getting information on how to increase or decrease the deer herd size. Information on a variety of timber stand improvement topics was desired by over half of the respondents. Urban stratum respondents were more likely than rural stratum respondents to indicate interest in all of the topics in Table 10, although some of the differences were not

statistically significant. Urban stratum respondents were more interested than rural stratum respondents in wildlife habitat improvement, selecting loggers and foresters, chain saw safety, timber income and tax liability, and enhancing woodland aesthetics.

Table 9. Topics respondents have gotten information on in the past, by urban/rural strata.		
Topics	Strata	
	Rural	Urban
	% checking*	
Timber and woodlot management	37.9	40.2
Improving timber quality through thinning or pruning	34.3	33.5
Improving habitat for wildlife and attracting new species of wildlife to your property	23.9	25.4
Selecting a qualified professional forester and trained logger	23.6	24.9
Tree planting	24.2	21.8
Chain saw safety	19.1	21.1
Arranging a timber sale	16.6	19.6
Increasing or decreasing deer herd size	18.3	16.7
Landowner liability	15.4	17.0
Protect trees from pests and diseases	15.2	13.2
Timber income and tax liability	15.2	13.2
Improving recreational access through trails or vegetation management	11.8	11.2
Natural reproduction of tree seedlings	12.1	8.6
Enhancing aesthetic qualities within your woodlot	7.6	10.8
Learning more about maple syrup production**	12.4	6.2
Estate planning	8.1	6.0
How to prevent or report timber theft	7.3	6.2
Finding other income sources from your woodland**	8.1	4.1
*Percentages add to more than 100% because more than one topic could be checked.		
**Statistically significant difference between strata at P = 0.05 using Chi-square test.		

Family forest owners used a wide variety of sources to obtain information that helped them make decisions about their wooded property (Table 11). Most commonly cited were brochures or fact-sheets, friends or family, or books. Someone in the forest industry, such as a logger, was also cited frequently, particularly among rural stratum respondents. About one-quarter of respondents had gotten information from consulting foresters or NYSDEC foresters or newsletters. Internet resources have not been heavily accessed to date.

Whether and what type of information sources respondents have used in the past can be an indicator of their access to accurate technical information. Opportunities to interact with a professional and validate what they know provide the greatest chance for developing a well-informed woodland owner cohort. These opportunities could come through attending a class, visiting a demonstration area, or by direct contact with a professional such as a NYSDEC or consulting forester or Cooperative Extension educator. Over half (54%) of our respondents have

had such an interactive opportunity in the past and have accessed on average two or three such sources. About one-quarter (22%) have accessed information, but from sources that lacked the opportunity for direct professional contact (e.g., newsletters, books, friends or family members). These respondents accessed on average two of these types of sources. Respondents who had accessed professionals directly had also used on average three other non-interactive sources of

Table 10. Topics respondents would like to have information on in the future—in general and the three most important, by urban/rural strata.				
Topics	Strata			
	Rural		Urban	
	% checking	3 most important	% checking	3 most important
Percent*				
Timber and woodlot management	50.8	34.8	56.2	32.9
Improving timber quality through thinning or Pruning	50.0	25.5	53.8	24.7
Improving habitat for wildlife and attracting new species of wildlife to your property**	55.3	29.6	62.9	37.5
Selecting a qualified professional forester and trained logger**	26.1	10.5	38.5	17.3
Tree planting	37.9	13.0	42.6	11.3
Chain saw safety**	14.3	2.0	19.9	1.8
Arranging a timber sale	22.5	4.0	25.6	6.7
Increasing or decreasing deer herd size	50.3	31.6	51.9	32.9
Landowner liability	47.8	21.1	52.6	16.6
Protect trees from pests and diseases	45.5	18.6	52.2	15.2
Timber income and tax liability**	38.2	8.1	45.7	11.7
Improving recreational access through trails or vegetation management	33.4	15.4	37.8	11.3
Natural reproduction of tree seedlings	41.9	11.3	43.3	8.5
Enhancing aesthetic qualities within your woodland**	34.6	8.9	43.1	13.1
Learning more about maple syrup production	18.0	4.0	22.5	4.6
Estate planning	29.8	15.4	31.8	10.2
How to prevent or report timber theft**	25.0	4.5	34.9	6.4
Finding other income sources from your woodland	41.3	18.2	42.3	22.3
*Percentages add to more than 100% because more than one topic could be checked.				
**Statistically significant difference for percent checking a topic between strata at P = 0.05 using Chi-square test.				

Table 11. Sources of information respondents have used in the past when making decisions about their wooded property, by urban/rural strata.

Sources of information	Strata	
	Rural	Urban
	% checking*	
Brochures or fact-sheets	40.7	45.3
Friends/neighbors/family members	38.8	33.4
Books	35.3	33.4
Someone in the forest industry, such as a logger, sawmill operator, or timber buyer**	37.5	27.4
Consulting forester	25.9	28.6
Periodic newsletters	27.5	27.0
DEC forester	25.3	27.2
Web site on the Internet	19.1	25.1
Cooperative Extension personnel	21.8	17.7
Other government employee (e.g., Soil and Water Conservation District, Farm Service Agency, NRCS)	20.5	16.7
Special mailing to my home	14.6	17.4
Classes or workshops	11.9	15.3
TV or radio programs	8.6	11.0
Visits to demonstration areas	9.2	10.0
Industry forester	7.0	6.7
New York Forest Owners Association	6.5	6.7
Non-profit group (e.g., Nature Conservancy)**	3.0	9.3
Video or DVD for home viewing	4.9	5.5
E-mail listserv	1.9	3.6
Cornell Master Forest Owner Volunteer	3.2	2.1
Podcast available from Internet	1.1	1.7
Other source	1.6	1.2

*Percentages add to more than 100% because more than one source could be checked.

**Statistically significant difference between strata at P = 0.05 using Chi-square test.

information. The remaining respondents (24%) have not accessed any of the 21 sources of information we listed in the questionnaire. There were no significant differences between urban and rural stratum respondents in the frequency of accessing various sources. In a later section of the report we will profile respondents based on the type of sources used to determine their unique characteristics and educational needs.

In the future, woodland owners would like to get information from a variety of sources, including the previously popular sources such as brochures, books or newsletters, and newer sources such as the Internet or DVDs (Table 12). Urban stratum respondents were more likely to say they would use many of the sources listed. For example, over 40% of urban stratum

Table 12. Sources of information respondents might use and are most likely to use in the future when making decisions about their wooded property, by urban/rural strata.

Sources of information	Strata			
	Rural		Urban	
	% checking*	Most likely to use	% checking*	Most likely to use
Brochures or fact-sheets**	36.7	5.8	50.4	5.5
Friends/neighbors/family members	27.8	11.7	28.4	7.4
Books	28.3	4.3	32.7	6.7
Someone in the forest industry, such as a logger, sawmill operator, or timber buyer	29.4	8.7	24.3	9.8
Consulting forester**	28.0	13.1	41.1	12.9
Periodic newsletters**	32.1	3.6	41.5	5.5
DEC forester**	29.1	8.7	42.7	16.1
Web site on the Internet**	28.6	10.1	42.0	8.6
Cooperative Extension personnel	28.8	6.5	34.8	6.7
Other government employee (e.g., Soil and Water Conservation District, Farm Service Agency, NRCS)	26.4	3.6	31.5	3.1
Special mailing to my home**	25.9	2.2	38.2	1.2
Classes or workshops**	23.5	5.8	30.5	3.7
TV or radio programs	11.3	0.0	13.4	0.0
Visits to demonstration areas	23.7	2.2	27.7	0.0
Industry forester	10.2	1.4	12.9	0.6
New York Forest Owners Association	17.8	2.2	22.7	1.8
Non-profit group (e.g., Nature Conservancy)**	12.9	0.7	19.6	1.8
Video or DVD for home viewing	25.1	6.5	30.1	3.1
E-mail listserv**	8.1	0.0	12.6	0.0
Cornell Master Forest Owner Volunteer	19.9	2.9	28.6	3.7
Podcast available from Internet**	6.7	0.0	11.5	0.0
Other source	0.3	0.0	2.4	1.8
*Percentages add to more than 100% because more than one source could be checked.				
**Statistically significant difference in percent checking a source between strata at P = 0.05 using Chi-square test.				

respondents said they would use consulting foresters, NYSDEC foresters, newsletters or websites, compared to around 30% of rural stratum respondents. We asked all respondents what one source would they be most likely to use and they indicated consulting foresters, friends or family members, and websites among the top three, but only half of the respondents answered this question.

Three-quarters of mail survey respondents (76%) used at least one source of information to help them make decisions about their wooded land compared to only 53% of nonrespondents. Similarly, 80% of respondents indicated they would use information sources in the future

compared to 65% of nonrespondents. However, a difference in the question wording necessitated by the different methods used (mail versus telephone) may account for some of the difference between respondents and nonrespondents. In the mail questionnaire, 21 possible sources of information were listed for respondents to consider compared to only a few examples that could be indicated over the telephone. It is likely that the average family forest owner in New York State does not use information sources to the extent indicated in the mail questionnaire, but use or intended use of information prior to making decisions about their woodlands occurs among at least half of all owners.

When choosing what mechanism to use to reach forest owners, a comparison of previous and anticipated sources of information might shed light on the best options. Compared to previous sources, rural stratum respondents were less likely to use brochures, fact-sheets, friends and family in the future (Tables 11 and 12). However, rural stratum respondents identified friends and family as the second most likely source they would anticipate using in the future, with over half indicating them to be moderately to very useful (Table 13). Compared to previous use of sources, urban stratum respondents only indicated a slight increase in the number using brochures, but a more dramatic increase in the anticipated use of Cooperative Extension educators, NYSDEC and consulting foresters, newsletters and web resources. For example, although only 17% of urban owners previously used Cooperative Extension educators, almost 34% indicate they might use them in the future.

During the qualitative interview portion of the study it came to our attention that woodland owners might view the usefulness of information from different organizations differently. To examine this using a representative sample of woodland owners, we asked in the questionnaire how useful respondents thought information from eight different sources would be. Cornell Cooperative Extension was seen as a very useful source of information by over half of the respondents (Table 13). NYSDEC, consulting foresters, and other government employees were seen as being very useful by a plurality of respondents. Other sources such as the New York Forest Owners Association and non-profit groups were likely not familiar to respondents so many had no opinion about their usefulness. Someone in the forest industry and friends or family members were viewed as less useful sources by more respondents than the other sources of information. In general, urban stratum respondents were more likely than rural stratum respondents to find the sources useful.

Among respondents who had used Cooperative Extension, NYSDEC, consulting foresters, other government employees, or the New York Forest Owners Association, the majority thought they would be very useful in the future (Table 14). Among past users, the anticipated usefulness of information was much lower from someone in the forest industry, friends or family members, and generically non-profit groups. However, more than one-third of respondents felt these groups would be very useful.

There are specific organizations with publications in New York State that might carry information about woodland management. We were interested in assessing the popularity of these publications among family forest owners as potential venues for outreach/educational efforts. However, no publication was accessed by more than half of our respondents (Table 15). The Conservationist, published by NYSDEC, was the most frequently cited. The Farm Bureau

Table 13. Respondents' views on the potential usefulness of various sources of information for questions about woodland management, by urban/rural strata.				
Source of information/Strata	Not at all or slightly useful	Moderately useful	Very useful	No opinion
	Percent			
<i>Cornell Cooperative Extension*</i>				
Rural	8.3	23.7	56.2	11.8
Urban	3.2	15.3	61.5	20.1
<i>DEC*</i>				
Rural	13.6	26.8	46.4	13.3
Urban	6.4	25.1	53.9	14.7
<i>Consulting forester*</i>				
Rural	18.4	15.1	44.8	21.7
Urban	10.1	22.5	44.5	22.8
<i>Other government employee*</i>				
Rural	14.4	28.8	36.7	20.1
Urban	15.0	20.8	35.3	28.9
<i>New York Forest Owners Association*</i>				
Rural	16.8	22.2	26.6	34.3
Urban	8.6	19.8	33.8	37.8
<i>Someone in the forest industry</i>				
Rural	28.4	25.6	30.4	15.7
Urban	24.9	27.1	26.3	21.8
<i>Friends/neighbors/family members</i>				
Rural	30.2	32.1	24.8	13.0
Urban	34.4	29.5	19.8	16.3
<i>Non-profit group*</i>				
Rural	30.7	15.9	12.8	40.5
Urban	22.6	20.6	21.4	35.4

*Statistically significant difference between strata at P = 0.05 using Chi-square test.

was more popular among rural stratum respondents and the Nature Conservancy and Audubon were more popular with urban stratum respondents. A few respondents mentioned other sources such as Cornell Cooperative Extension and NYSDEC (not The Conservationist) that we had asked about earlier. The one publication mentioned by more than a couple of people that we had not asked about previously was Northern Logger.

Source of information used in past	Anticipated usefulness			
	Not at all or slightly	Moderately	Very	No opinion
	Percent			
Cornell Cooperative Extension	3.3	18.5	75.5	2.6
DEC	5.4	22.8	68.8	3.0
Consulting forester	11.6	20.6	63.5	4.2
Other government employee	9.4	30.2	56.1	4.3
New York Forest Owners Association	5.7	19.2	73.1	1.9
Someone in the forest industry	21.4	31.9	42.4	4.2
Friends/neighbors/family members	22.1	40.1	34.1	3.7
Non-profit group	17.4	34.8	34.8	13.0

Specific organizations or publications (that might carry information about woodland management)	Strata	
	Rural	Urban
	% checking*	
The Conservationist**	26.5	39.2
New York State Farm Bureau**	20.8	11.7
The Nature Conservancy**	7.9	20.3
Adirondack Life	12.2	15.1
New York Forest Owners Association	8.6	11.7
Audubon**	3.9	10.3
Sierra Club	4.3	8.2
Northern Woodlands	3.2	2.1
Other sources	14.0	12.0

*Percentages add to more than 100% because more than one organization/publication could be checked.

**Statistically significant difference between strata at P = 0.05 using Chi-square test.

Respondents were asked what features of educational materials or programs they considered in their decision to participate. Among the most frequently cited features were having a real person to interact with, “available when I’m ready to learn,” minimal cost, and available on paper (Table 16). Availability on the Internet and access to a technical expert were more popular among urban than rural stratum respondents. While opportunities to network with others is often seen by professionals as a desirable feature of educational opportunities, less than 20% of our respondents felt it was important to them.

Table 16. Features most important when considering different educational materials and programs, by urban/rural strata.		
Features most important when considering different educational materials and programs	Strata	
	Rural	Urban
	% checking*	
A real person I can talk to	64.5	62.9
Available when I'm ready to learn	59.5	64.9
Cost needs to be minimal	54.3	48.1
Available on paper	50.6	46.1
Available from the Internet**	30.1	44.1
Direct access to a technical expert**	29.2	41.4
Program or workshop available on the Weekend	26.6	31.3
Program or workshop available during the weekday evenings	16.5	17.5
Opportunity to network with others	15.6	17.8
Other features	3.5	4.3
*Percentages add to more than 100% because more than one feature could be checked.		
**Statistically significant difference between strata at P = 0.05 using Chi-square test.		

Three Types of Family Forest Owners (Based on Their Previous Use of Educational Materials)

Respondents were grouped, as discussed previously, into three groups based on their past use of information sources when making a decision about their woodlands. Group labels refer to respondent actions relative to education and do not necessarily reflect interest or involvement on their property. We did this to see if different types of family forest owners would emerge who might have different educational interests or needs.

Unengaged Family Forest Owners

Some respondents (24%) had never accessed any of the 21 sources of information we listed in the questionnaire. These respondents owned smaller parcels of wooded land (avg. = 69 acres) and lived farther from their wooded property (avg. = 47 miles) than other respondents, but they had owned their property for a similar number of years on average. The reasons we listed for owning wooded property were generally less important to them, especially the utilitarian uses such as timber harvest (Table 17). They were less likely to believe that wooded land should be “managed” and were less likely to say they were currently managing their land (Table 18). Most had few, if any, plans for their land in the next five years (Table 19). They were less likely to be planning to harvest firewood, timber, or non-timber forest products.

Reasons for owning wooded land	Unengaged family forest owner	Passive information seekers	Interactive information users
	Mean Importance*		
<i>Factor 1: Nature and Aesthetic Values</i>			
To enjoy beauty or scenery	4.4	4.5	4.5
To protect nature and biological diversity	3.9	4.0	4.2
For privacy	4.1	4.2	4.3
For recreation, other than hunting or fishing	3.7	3.9	4.0
As part of my home, vacation home, or farm	4.1	4.3	4.4
<i>Factor 2: Traditional Uses</i>			
For hunting or fishing	3.7	4.0	3.7
To pass land on to my children or other heirs	3.6	3.8	3.8
<i>Factor 3: Utilitarian Values</i>			
For production of firewood or biofuel (energy)	2.6	3.0	3.1
For production of sawlogs, pulpwood, or other timber products	2.3	2.6	2.9
For cultivation/collection of non-timber forest products (e.g., maple syrup, mushrooms)	1.8	2.0	2.1
For land investment (I hope to sell all or part of my wooded land at a profit)	2.3	2.2	2.2
*Importance was measured on a 5-point Likert-type scale where 1 = not at all important to 5 = very important.			

Management attitudes and actions	Unengaged family forest owner	Passive information seekers	Interactive information users
	Percent		
<i>My wooded land should be managed*</i>			
No	38.5	26.1	13.6
Yes	61.5	73.9	86.4
<i>My wooded land is managed</i>			
No	36.9	22.5	16.0
Yes	63.1	77.5	84.0
*Statistically significant difference between information user types at P = 0.05 using Chi-square test.			

Table 19. Respondents' plans for their woodland in the next five years, by type of family forest owner.			
Plans for woodland in next 5 years	Unengaged family forest owner	Passive information seekers	Interactive information users
	% checking*		
Harvest firewood**	48.4	66.5	66.0
Harvest sawlogs or pulpwood**	23.9	25.6	36.1
Give some or all of my woodland to my children or other heirs	16.3	15.9	18.2
Buy more woodland**	9.8	11.9	17.2
Collect non-timber forest products (e.g., maple syrup)**	6.0	13.6	12.7
Sell some or all of my woodland	12.0	9.1	7.1
Convert another land use to woodland	3.3	3.4	5.0
Convert some or all of my woodland to another Use	1.6	3.4	4.0
Divide all or part of my woodland and sell the subdivisions	2.7	2.8	1.7
Leave it as is—little or no activity	40.8	33.5	30.9
No plans at this time/I don't know**	30.4	25.0	12.3
*Percentages add to more than 100% because more than one plan could be checked.			
**Statistically significant difference between information user types at P = 0.05 using Chi-square test.			

Given this lack of interest in management or management activities, were there any topics that might cause them to take an interest in managing their wooded property? Surprisingly, the same topics interested this group as other respondents – general timber and woodlot management, timber stand improvement, and wildlife habitat improvement. About one-third of respondents in this group said they would use passive sources such as brochures, newsletters, special mailings to their home, or the Internet and interactive sources such as consulting or NYSDEC foresters to help them make decisions about their wooded property, even though they had not used these sources in the past (Table 20). Having a real person to talk to was important to over 60% of this group and over half felt the material had to be available when they were ready to learn. The exact timing of programs or source (paper vs. Internet) was important to fewer people (Table 21).

Passive Information Seekers

This group of family forest owners (22% of respondents) have used only passive sources of information or non-technical experts (e.g., friends or family members) in the past. Their wooded property was intermediate in size (avg. = 89 acres) compared to the other two groups and they lived an intermediate distance from their property (avg. = 40 miles). Three-quarters of them felt their wooded land should be managed and that they were in fact managing it (Table 18). They are planning management activities in the future such as harvesting firewood and to a lesser extent collecting non-timber forest products such as maple syrup (Table 19). They are still

most likely to rely on non-technical sources such as friends or family members or passive sources such as brochures or newsletters for future information (Table 20). Between one-quarter and one-third would consider contacting a NYSDEC or consulting forester or a Cooperative Extension educator. Materials available on paper and to a lesser extent the Internet are important to this group (Table 21). Over half of the members of this group are concerned about the cost of materials and having them available when they are ready to learn.

Passive information seekers most closely align with unengaged owners in terms of likely use of different passive sources of information in the future. A similar percentage of passive and unengaged owners indicated they would use brochures, books, newsletters, websites, and TV or radio in the future (Table 20). Passive information seekers were less likely than either the Unengaged owners or Interactive information seekers to use DVDs or videos.

Interactive Information Users

This group, which makes up over half of our respondents (54%), has the largest woodland parcels on average (109 acres) and lives closest to their wooded property (avg. = 38 miles). They own the woodland for nature and aesthetic reasons, but are the most likely to think utilitarian values are important too (Table 17). Most members of this group think their wooded property should be managed and that they were in fact managing it (Table 18). Many of them plan to harvest firewood in the next five years and one-third are planning a timber sale (Table 19). Most of them would hire a professional to do this harvesting. Very few (12%) have no plans for their property at this time. More of these respondents were interested in some type of a legally binding agreement, such as a conservation easement than respondents in other groups (35% versus 20%).

The topics they would like to learn more about in the future are the same topics that were of interest to all respondents – general timber and woodlot management, timber stand improvement, and wildlife habitat improvement. In addition, they were more likely than other groups to be interested in learning how to enhance the aesthetic qualities of their woodland (44% versus 32-36%) and how to prevent or report timber theft (35% versus 25%).

Over one-third of these family forest owners would use one of many passive or interactive sources of information to help them in making futures decisions regarding their land (Table 20). Half would be interested in brochures or fact-sheets. Two-fifths currently get information from The Conservationist (Table 22), so this might be a good source for this audience. They have spoken with technical experts in the past and many of them continue to feel that having a real person to talk to or direct access to a technical expert is an important feature of educational exchanges (Table 21). They are also more interested than other groups in having programs on weekends or weekday evenings.

Table 20. Sources of information respondents might use and are most likely to use in the future when making decisions about their wooded property, by type of family forest owner.

Sources of information	Unengaged family forest owner		Passive information seekers		Interactive information users	
	% checking*	Most likely to use	% checking*	Most likely to use	% checking*	Most likely to use
Brochures or fact-sheets**	35.3	5.3	35.4	6.6	51.4	5.4
Friends/neighbors/family members**	19.3	10.5	32.6	21.3	30.0	4.9
Books**	23.5	5.3	20.2	4.9	38.0	6.0
Someone in the forest industry, such as a logger, sawmill operator, or timber buyer	24.1	5.3	29.2	14.8	26.8	8.7
Consulting forester**	32.6	17.4	25.3	4.9	39.9	14.0
Periodic newsletters	35.3	3.5	33.1	8.2	39.7	3.8
DEC forester	35.8	14.0	31.5	13.1	38.7	12.0
Web site on the Internet	34.2	12.3	32.0	8.2	38.0	8.7
Cooperative Extension personnel**	28.3	3.5	25.8	4.9	36.4	8.2
Other government employee (e.g., Soil and Water Conservation District, Farm Service Agency, NRCS)**	26.2	3.5	23.0	1.6	32.9	3.8
Special mailing to my home**	32.6	1.8	24.7	0.0	35.7	2.2
Classes or workshops**	16.6	0.0	22.5	1.6	34.0	7.1
TV or radio programs	10.7	0.0	11.2	0.0	13.6	0.0
Visits to demonstration areas**	20.9	1.8	21.9	0.0	29.8	1.1
Industry forester	10.7	0.0	10.7	0.0	12.4	1.6
New York Forest Owners Association	16.6	0.0	16.9	0.0	23.7	3.3
Non-profit group (e.g., Nature Conservancy)	13.4	0.0	12.4	3.3	19.5	1.1
Video or DVD for home viewing**	31.0	7.0	20.2	3.3	29.6	4.3
E-mail listserv	8.6	0.0	11.2	0.0	11.3	0.0
Cornell Master Forest Owner Volunteer	21.9	7.0	21.3	3.3	27.2	2.7
Podcast available from Internet	7.5	0.0	10.1	0.0	9.6	0.0
Other source	1.6	1.8	1.1	0.0	1.4	1.1
*Percentages add to more than 100% because more than one source could be checked.						
**Statistically significant difference in percent checking a source between information user types at P = 0.05 using Chi-square test.						

Table 21. Features most important when considering different educational materials and programs, by type of family forest owner.			
Features most important when considering different educational materials and programs	Unengaged family forest owner	Passive information seekers	Interactive information users
	% checking*		
A real person I can talk to	61.4	59.0	66.5
Available when I'm ready to learn**	53.8	60.2	67.0
Cost needs to be minimal	48.0	52.4	51.8
Available on paper**	35.7	54.8	50.9
Available from the Internet	35.1	38.6	38.4
Direct access to a technical expert	31.0	31.3	39.6
Program or workshop available on the weekend**	22.8	18.7	35.9
Program or workshop available during the weekday evenings**	10.5	15.1	20.5
Opportunity to network with others**	11.7	13.9	20.3
Other features**	2.9	0.6	5.6
*Percentages add to more than 100% because more than one feature could be checked. **Statistically significant difference between information user types at P = 0.05 using Chi-square test.			

Table 22. Organizations or publications that respondents receive information from that might carry woodland management information, by type of family forest owner.			
Features most important when considering different educational materials and programs	Unengaged family forest owner	Passive information seekers	Interactive information users
	% checking*		
The Conservationist**	21.9	27.9	40.2
New York State Farm Bureau	13.3	18.0	16.8
The Nature Conservancy**	7.6	7.2	18.6
Adirondack Life	11.4	13.5	15.5
New York Forest Owners Association**	3.8	4.5	14.3
Audubon**	2.9	5.4	9.8
Sierra Club**	3.8	0.9	9.5
Northern Woodlands	1.0	0.9	3.7
Other sources**	4.8	12.6	16.2
*Percentages add to more than 100% because more than one organization/publication could be checked. **Statistically significant difference between information user types at P = 0.05 using Chi-square test.			

CONCLUSIONS AND RECOMMENDATIONS FOR EDUCATIONAL PROGRAMS

- Approximately two-thirds of family forest owners in New York State think their woodlands should be and are being managed (i.e., to take deliberate actions to influence the value of the land). At least half of all family forest owners have or intend to use information sources when making decisions about their wooded property. Given this, we would expect many landowners to be open to outreach efforts focused on woodland management.
- We found three factors that explained why people own wooded property, and have termed them nature and aesthetic values, traditional uses, and utilitarian values. Many owners identified specific reasons for owning land within each category. Nature and aesthetic values were very important to the greatest number of people, followed by traditional uses and then utilitarian values.
- General woodlot management, timber stand improvement, and wildlife habitat improvement were topics over half of the respondents wanted information on in the future. Additional topics of strong interest include landowner liability, forest health, natural forest reproduction, tree planting, and finding additional sources of woodland income.
- The high percentage of respondents who anticipated activity related to cutting trees (Tables 6 and 7) and the lack of time to complete some tasks (Table 8) suggests the need to develop educational programs that help forest owners work safely, efficiently, and productively on their property. Some related topics, such as chain saw safety, were specifically mentioned (Table 10). Additionally, programs might address awareness of different types of equipment, databases of people who can provide special services, and financial options to help them acquire equipment and tools.
- The average age of respondents to our survey was almost 60 years old and 40% were already retired. This aging population likely accounts for the increasing interest in information on estate planning and perhaps on conservation easements. Educational programs on these topics are not currently available in New York. Future educational programs should strive to include the variety of options available for estate planning related to forests, and the implications of imposing various management constraints in perpetuity. The details of a binding management easement might have significant bearing on the production and services available from a property. Educational programs should include attention to considering the long-term results associated with different scenarios of future ownership and societal need.
- A very high percentage of respondents used their wooded land for hunting (70-81%). This in turn was related to a high percentage of respondents (63%) who posted their land against hunting (presumably to retain control of who hunts on the land) and a large number (55-63%) who have an interest in learning more about how to improve habitat for wildlife. Educational efforts that begin with a focus on wildlife and then expand to related topics, such as watershed or invasive species management, might be a way of expanding landowners' knowledge.

- Family forest owners desire education through various sources, interaction with professional foresters, and identified financial constraints as a barrier to activity. This suggests that programs that integrate education, technical assistance, and financial assistance are useful in stimulating management activities.
- Past users of Cooperative Extension, NYSDEC, consulting foresters, other government employees, and the New York Forest Owners Association thought these sources of information would be useful in the future. Thus, we assume some positive rapport exists between these organizations and family forest owners.
- The marketing of educational programs and resources for owners need not significantly differentiate rural and urban owners (Table 12). Both strata had a high preference for brochures, fact sheets, or materials mailed directly to their home (consistent with a Northern New York survey of woodland owners conducted in 1999 [Connelly et al., 2000]). Both strata also had a high preference for NYSDEC and consulting foresters, Cooperative Extension educators and web site resources. While some respondents indicated they used these sources in the past, more said they were likely to use them in the future.
- Because of a high interest in written materials for guidance in decision making, some effort at quality control is warranted. Landowners would potentially benefit from a system that identified reliable and accurate sources in contrast to potentially misleading sources.
- The Internet has been used slightly to modestly by rural and urban owners in the past (20 to 25%, Table 11), but is likely to increase in use. Some rural owners identified websites (28%) and podcasts (7%) as potential future sources, whereas more urban owners identified them (websites [42%] and podcasts [11%]) as potential future sources. Thus, almost one-third of rural and one-half of urban owners may seek educational information via the Internet. Especially for urban owners, educators should commit to developing and marketing Internet resources.
- We described three types of family forest owners based on their past use of different sources of information. The educational needs of each type of forest owner thus can be targeted through different sources.
 - Unengaged family forest owners who do not participate or seek information made up 24% of our respondents. We could not conclusively identify why these family forest owners do not participate or seek information. It could be their lack of perceived benefits from educational assistance, or their lack of awareness of the availability of educational resources. We did note that they were more likely to have smaller woodlots and live further from them than those who had sought information. Distance, and perhaps woodland acreage, appear to be barriers to interest in forest management. As a group they do not think their woodland is currently or should be managed (Table 18), but almost half plan to harvest firewood and a quarter plan to cut sawlogs or pulpwood (Table 19). Among features of educational materials, most important to them was having a real person available. Programs such as Master Forest Owner, Cooperative Extension educators, NYSDEC technical assistance foresters all fill that need plus are recognized by respondents as useful sources of information.
 - Passive information seekers made up 22% of our respondents. One of their primary plans for the next five years was to harvest firewood from their property.

They are most likely to rely on the same passive and non-technical sources of information that they have used in the past. We recommend educational efforts focus on maintaining a connection to these users through mass media outlets such as press releases and electronic list serves, and the Web. Current educational resources should be maintained and new content added (e.g., invasive species, biomass production, estate planning) as issues emerge. Mass media outlets will help these owners connect to their local Cooperative Extension educators and NYSDEC foresters, so maintaining educators' abilities to respond is important.

- Interactive information users made up the majority of our respondents (54%). The large number of interactive information users exceeded our expectations based on data related to the development of forest management plans, a common index of owner activity. Many of these users are planning some type of management activity in the next five years. They will seek information from a wide variety of sources. Over half of them would read a brochure or fact-sheet, but no one source would be used by everyone. The Conservationist might be a good outlet for educational information, as 40% of them currently read the magazine. Other recommendations for educational efforts include strategies that reduce the impact of barriers to working in woodlands. Primary barriers were time, access to equipment and the cost of operations in the woods. Educational programs could address efficiency, financial strategies, and safety with equipment.

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APPENDIX A: STUDY QUESTIONNAIRE

A SURVEY OF NEW YORK STATE FOREST LAND OWNERS

A SURVEY OF NEW YORK STATE FOREST LAND OWNERS

Research conducted by the
Human Dimensions Research Unit
Department of Natural Resources
Cornell University



The purpose of this survey is to learn more about why you own forest land, what if anything you do on your wooded property, how you make decisions about what you do or don't do, and if there is educational material you would be interested in to help you better manage and enjoy your land. Landowners will benefit from your participation in this survey because the results will help Cornell Cooperative Extension and its partners improve and develop new educational materials, services and programs to meet your needs.

Your name was randomly selected from landowners who owned more than 25 acres of potentially wooded land listed on the New York State property tax rolls. If you do not own 25 or more acres of wooded property in New York State, please answer just the first question and return the survey to us, so that we do not bother you with reminder mailings.

Please complete this questionnaire at your earliest convenience, seal it with the white resealable label provided, and drop it in any mailbox; return postage has been provided. Your participation in this survey is voluntary, but we sincerely hope you will take just a few minutes to answer our questions. The information you provide will remain strictly confidential and will never be associated with your name.

THANK YOU FOR YOUR HELP!



Cornell University
Human Dimensions Research Unit

1. Do you own 25 or more acres of wooded land in New York State?

_____ No → Thank you for your time. Please seal this questionnaire and return it to us, so we don't bother you with unnecessary reminder letters.

_____ Yes → Continue with Question 2.

2. How many acres of land do you own in New York State and how many of those acres are wooded?

_____ total acres owned

_____ acres of wooded land

3. How long have you owned your wooded land?

_____ number of years

4. How far do you live from your closest forested property?

_____ live on or within 1 mile of my forested property

_____ number of miles from forested property

5. Which of the following recreational activities have you (or your household members) done on your forested land in the past year?
(Check ALL that apply.)

_____ Hunting

_____ Fishing

_____ Bird watching

_____ Skiing / snowshoeing

_____ Hiking

_____ Snowmobiling

_____ Nature study

_____ ATV riding

6. People own wooded land for many reasons. How important are the following as reasons for why you own wooded land in New York?

(Check one box for each reason.)

How important are the following as reasons for why you own wooded land in New York?	Not at all important	Slightly important	Somewhat important	Moderately important	Very important
To enjoy beauty or scenery	<input type="checkbox"/>				
To protect nature and biological diversity	<input type="checkbox"/>				
For land investment (I hope to sell all or part of my wooded land at a profit)	<input type="checkbox"/>				
As part of my home, vacation home, or farm	<input type="checkbox"/>				
For privacy	<input type="checkbox"/>				
To pass land on to my children or other heirs	<input type="checkbox"/>				
For cultivation/collection of non-timber forest products (e.g., maple syrup, mushrooms)	<input type="checkbox"/>				
For production of firewood or biofuel (energy)	<input type="checkbox"/>				
For production of sawlogs, pulpwood, or other timber products	<input type="checkbox"/>				
For hunting or fishing	<input type="checkbox"/>				
For recreation, other than hunting or fishing	<input type="checkbox"/>				
Other (please specify): _____ _____	<input type="checkbox"/>				

7. The following are activities some landowners do on their wooded land. Please indicate if you have done (or had someone do) each of the following on your wooded land in the past 10 years. ALSO, if you plan to do any of the following activities on your wooded land in the next 5 years, please check whether you think you will work on them yourself, have help from friends or family, or hire a professional. (Check ALL that apply.)

Activities	Have done in past 10 years?	In next 5 years:		
		I will work on this	Family, friends will help	I will hire a professional
Harvest firewood for my own use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Harvest firewood for commercial sale	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Harvest wood for sawlogs, veneer, pulpwood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Harvest non-timber products for my own use (e.g., maple syrup)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Harvest non-timber products for commercial sale	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Apply herbicides, pesticides, or fertilizers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Improve timber quality by thinning or pruning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plant trees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Improve wildlife habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Improve fish habitat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Improve a stream-side buffer	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Improve scenic values	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mark the legal boundaries of my wooded property	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Post the boundaries against hunting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Reduce fire hazards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Build or perform maintenance on roads or trails	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. Do you feel that your wooded property should be managed in some way by you or others? (By "manage" we mean take deliberate actions to influence the value of the land. Some examples of management activities are harvesting firewood, marking a trail, or improving habitat for wildlife.)

_____ No
 _____ Yes

9. Do you feel that you manage (or have others manage) your wooded property?

_____ No
 _____ Yes

10. On how many acres do you conduct some type of management activity in an average year (exclusive of timber sales)?

_____ 0-1 acres
 _____ 2-5 acres
 _____ 6-15 acres
 _____ more than 15 acres

11. Are you unable to do work on your wooded land that you would like to do?

_____ No → GO TO Question 13

_____ Yes → What work do you want to do?

12a. What has prevented you from doing this work? (Check ALL that apply.)

_____ My own physical health	_____ Don't know the laws
_____ Can't find someone to do the work	_____ Law doesn't allow
_____ Don't know how	_____ Concerned about affecting neighbors
_____ Afraid of making a mistake	_____ Don't have the right equipment
_____ Can't find the technical expertise	_____ Don't have adequate access to my property
_____ Too expensive	
_____ Not enough time	_____ Haven't tried

12b. On the list above, please circle the main reason you haven't done this work.

13a. Which of the following topics have you gotten information on in the past and which might you be interested in for the future? (Check ALL that apply.)

Gotten info. Would like
in the past in the future

- | | | |
|-------|-------|--|
| _____ | _____ | Timber and woodlot management (e.g., selecting trees to remove or retain, assessing growth potential and disease hazards, skid trail design) |
| _____ | _____ | Improving timber quality through thinning or pruning |
| _____ | _____ | Protect trees from pests and diseases |
| _____ | _____ | Landowner liability |
| _____ | _____ | Improving habitat for wildlife and attracting new species of wildlife to your property |
| _____ | _____ | Natural reproduction of tree seedlings |
| _____ | _____ | Increasing or decreasing deer herd size |
| _____ | _____ | Learning more about maple syrup production |
| _____ | _____ | Finding other income sources from your woodland (e.g., ginseng or mushroom production) |
| _____ | _____ | Tree planting |
| _____ | _____ | Estate planning |
| _____ | _____ | Timber income and tax liability |
| _____ | _____ | Enhancing aesthetic qualities within your woodland |
| _____ | _____ | Selecting a qualified professional forester and trained logger |
| _____ | _____ | Arranging a timber sale |
| _____ | _____ | How to prevent or report timber theft |
| _____ | _____ | Improving recreational access through trails or vegetation management |
| _____ | _____ | Chain saw safety |

13b. Please circle the 3 topics above that are most important to you to learn about in the future.

14a. The following are sources of help and information you may have used when making decisions about your wooded land in the past, or might turn to in the future. Please indicate if you have used each of the following sources. ALSO, please indicate if you would likely use each of these sources in the future, even if you haven't used them in the past. (Check ALL that apply.)

Source of information	Have used?	Likely use in the future?
Brochures or fact-sheets	<input type="checkbox"/>	<input type="checkbox"/>
Periodic newsletters	<input type="checkbox"/>	<input type="checkbox"/>
Special mailing to my home	<input type="checkbox"/>	<input type="checkbox"/>
Classes or workshops	<input type="checkbox"/>	<input type="checkbox"/>
Visits to demonstration areas	<input type="checkbox"/>	<input type="checkbox"/>
Books	<input type="checkbox"/>	<input type="checkbox"/>
Web site on the Internet	<input type="checkbox"/>	<input type="checkbox"/>
Podcast available from Internet	<input type="checkbox"/>	<input type="checkbox"/>
E-mail listserv	<input type="checkbox"/>	<input type="checkbox"/>
Video or DVD for home viewing	<input type="checkbox"/>	<input type="checkbox"/>
Consulting forester	<input type="checkbox"/>	<input type="checkbox"/>
Industry forester	<input type="checkbox"/>	<input type="checkbox"/>
Department of Environmental Conservation (DEC) forester	<input type="checkbox"/>	<input type="checkbox"/>
Other govt. employee (e.g., Soil and Water Conservation District, Farm Service Agency, NRCS)	<input type="checkbox"/>	<input type="checkbox"/>
Cooperative Extension personnel	<input type="checkbox"/>	<input type="checkbox"/>
Cornell Master Forest Owner Volunteer	<input type="checkbox"/>	<input type="checkbox"/>
New York Forest Owners Association	<input type="checkbox"/>	<input type="checkbox"/>
Non-profit group (e.g., Nature Conservancy)	<input type="checkbox"/>	<input type="checkbox"/>
Someone in the forest industry, such as a logger, sawmill operator, or timber buyer	<input type="checkbox"/>	<input type="checkbox"/>
Friends / neighbors / family members	<input type="checkbox"/>	<input type="checkbox"/>
TV or radio programs	<input type="checkbox"/>	<input type="checkbox"/>
Other (Please specify: _____ _____)	<input type="checkbox"/>	<input type="checkbox"/>

14b. Please circle the 1 source above that you would be most likely to use in the future.

15. How useful do you think the information about woodland management is that you might get from each of the following sources? (Check one box for each source.)

Source of information	Not at all useful	Slightly useful	Moderately useful	Very useful	No Opinion
Cornell Cooperative Extension	<input type="checkbox"/>				
New York Department of Environmental Conservation (DEC)	<input type="checkbox"/>				
Other govt. employee (e.g., Soil and Water Conservation District, Farm Service Agency, NRCS)	<input type="checkbox"/>				
New York Forest Owners Association	<input type="checkbox"/>				
Non-profit group (e.g., Nature Conservancy)	<input type="checkbox"/>				
Consulting forester	<input type="checkbox"/>				
Someone in the forest industry, such as a logger, sawmill operator, or timber buyer	<input type="checkbox"/>				
Friends / neighbors / family members	<input type="checkbox"/>				

16. When you consider different educational materials and programs, what features are most important in your decision to participate? (Check ALL that apply.)

- Available when I'm ready to learn
- Opportunity to network with others
- Cost needs to be minimal
- Available from the Internet
- Available on paper
- Direct access to a technical expert
- A real person I can talk to
- Program or workshop available on the weekend
- Program or workshop available during the weekday evenings
- Other features (Please describe: _____)

17. What are your plans for your woodland in New York in the next 5 years? (Check ALL that apply.)

- Leave it as is – little or no activity
- Harvest firewood
- Harvest sawlogs or pulpwood
- Collect non-timber forest products (e.g., maple syrup)
- Sell some or all of my woodland
- Give some or all of my woodland to my children or other heirs
- Divide all or part of my woodland and sell the subdivisions
- Buy more woodland
- Convert some or all of my woodland to another use
- Convert another land use to woodland
- No plans at this time / I don't know
- Other (please specify: _____)

18. Are you interested in some type of legally binding agreement, such as a conservation easement, that would assure that future owners of your property manage it as you have?

- No
- Yes

BACKGROUND INFORMATION

Please tell us about your background so we can better understand your responses. All information is confidential.

19. Are you male or female? (Check one.)

- Male
- Female

20. In what year were you born? 19____

21. Is your primary residence: (Check one.)

- Urban
- Suburban
- Rural

22a. What is your main occupation (if retired, what was your main occupation)?

22b. Are you retired?

- No
- Yes

23. What is the highest level of formal education you have completed?

(Check one.)

- Less than high school
- High school diploma / G.E.D.
- Some college or technical school
- Associate's Degree
- College undergraduate degree (e.g., B.A., B.S.)
- Graduate degree (e.g., M.S., Ph.D., M.D.)

Hold for back cover

24. Do you receive information from any of the following organizations or publications (that might carry information about woodland management)? (Check ALL that apply.)

- Adirondack Life
- Audubon
- New York Forest Owners Association
- New York State Farm Bureau
- Northern Woodlands
- Sierra Club
- The Conservationist
- The Nature Conservancy
- Other (Please specify: _____)

25. Normally, Cornell University never associates your name with the information you provide. However, it would be extremely valuable to Cornell Cooperative Extension to be able to contact a sample of woodland owners for feedback on new educational materials they develop based on the responses to this survey. Would you be willing to be contacted by Cornell Cooperative Extension if selected? (Background information such as age and education would still be kept confidential and not associated with your name.)

No Yes

Please use the space below for any comments you wish to make.

Thank you for your time and effort!

To return this questionnaire, simply seal it with the white removable seal, and drop it in the mail (return postage has been provided).