

# Forestry Incentive Payment Recipients Ten Years Later: A Minnesota Case Study

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# FORESTRY INCENTIVE PAYMENT RECIPIENTS TEN YEARS LATER: A MINNESOTA CASE STUDY

Hans Gregersen and Barbara Walker<sup>1</sup>

## CHAPTER 1. INTRODUCTION

About 10 years ago an analysis was completed of the activities, reactions, and characteristics of about 400 Minnesota forest landowners who planted trees on their land in 1972 with the assistance of federal cost share subsidies.<sup>2</sup> The objective of this study is to identify changes in this group since the 1972 cost share funds were utilized. The study is organized as follows:

In Chapter 2, we summarize the results of the earlier study, providing information on the characteristics of the landowners and their responses to certain key questions. In Chapter 3 we analyze the results of the follow-up (1982) survey, focusing again on respondent's characteristics and reactions to changes and problems that have occurred since the initial planting.

In Chapter 4 we compare the 1972 and 1982 results, focusing particularly on the changes which have occurred and their possible causes. Finally, in Chapter 5 some conclusions are drawn and policy implications discussed for use in planning future forestry incentive programs.

## CHAPTER 2. RESULTS OF THE EARLIER STUDY

In 1972, under the Rural Environmental Assistance Program (REAP), public funds were given to about 400 nonindustrial private forest (NIPF) owners in Minnesota to help them plant red pine (Pinus resinosa). The main purpose of the program was to motivate improved timber resource management on small nonindustrial private woodlands.

To gain insight into reactions to this program, recipients of the cost share funds were asked a number of questions regarding their backgrounds and their knowledge and interest in forestry (Appendix 1).

Seventy-three percent of those surveyed responded after two separate mailings of the questionnaire. Combined responses to the questionnaire were analyzed by comparing frequencies of responses for each of the questions (Appendix 2). Chi-square tests were made on pairs of questions to determine if significant differences in responses existed between different categories of respondents. The main findings of the survey are summarized below. The reader is referred to the original study document for details.<sup>3</sup>

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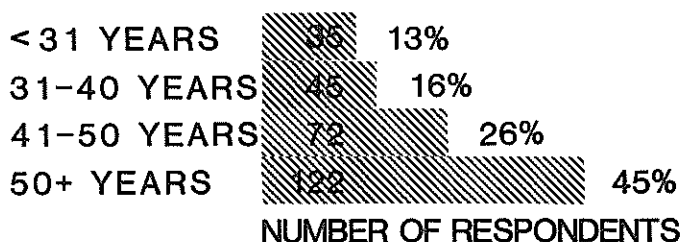
<sup>2</sup>Gregersen, H. M., et al., 1979. Economics of Public Forestry Incentive Programs: A Case Study of Cost-Sharing in Minnesota. Technical Bulletin 315, Agricultural Experiment Station, University of Minnesota. 65 pp.

<sup>3</sup>Gregersen, et al., Ibid.

Landowner Characteristics in 1972

The survey indicated that a large number of the NIPF owners surveyed were over the age of 50 (Figure 2.1). In addition, the older landowners were likely to have owned their land for over 10 years, but as a whole, a majority (56%) of the respondents had owned their property for 10 years or less. Resident landowners also comprised a majority (55%) and most owned their property for a longer period of time than absentee landowners.

**FIGURE 2.1.--AGE CLASS DISTRIBUTION OF RESPONDENTS.**



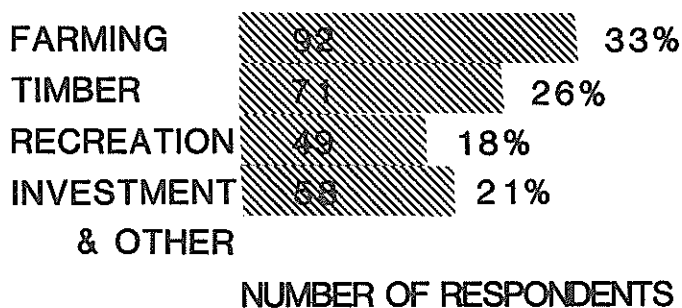
Acreage Planted

The survey also indicated that a majority (65%) of the program participants planted fewer than six acres under the program. Most of the planting was done by the landowners themselves and their families. One factor that influenced the number of acres planted was whether the landowner had received REAP funds prior to 1972. Fifty-seven percent of those responding to the question had planted under the program previously. Landowners who had planted only small acreages (less than five acres) in the past were likely to have planted smaller acreages under the 1972 program. The 43% who had not planted previously, as well as those who previously had planted a large number of acres, tended to plant a greater number of acres in 1972.

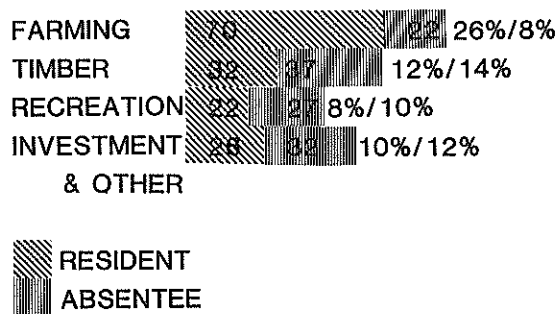
Primary Use Pattern

Most of the landowners who participated in the cost share program did not use their entire property for forestry related activities. Figure 2.2 shows that the largest number of respondents used their property for farming. If landowners are separated into residents and absentee owners, a distinct difference can be seen between primary use patterns (Figure 2.3). Resident landowners were far more likely to use their property for farming, whereas absentee owners tended to use their property primarily for timber production, recreation, or investment. Absentee owners were also more likely to plant a larger number of acres under the program.

**FIGURE 2.2.--PRIMARY USE IN 1972.**



**FIGURE 2.3.--PRIMARY USE BY RESIDENT STATUS, 1972.**



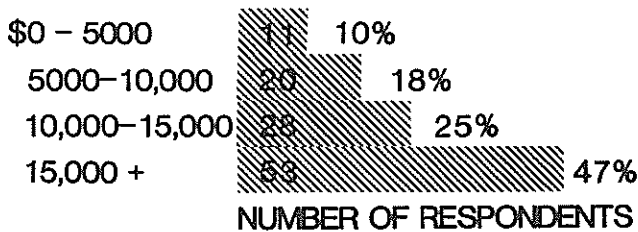
Available Funding

One question raised in evaluating the effectiveness of the REAP program was how the level of funding affected the number of acres committed to forestry activities. According to a majority (70%) of the landowners surveyed, a decrease in the amount of REAP monies available to them would not have made them plant fewer acres. Quite consistent with this result, it also turned out that, if the government would have taken on a greater portion of the cost, 37% of the landowners surveyed would have increased the number of acres planted.

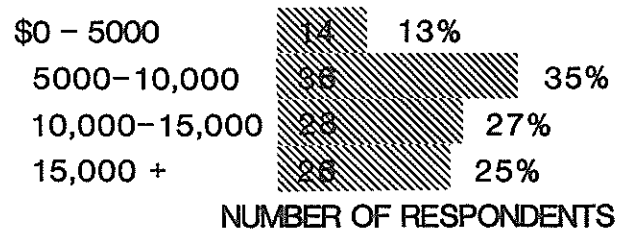
Alternative Rates of Return

NIPF owners usually are not motivated to become involved with forestry activities, either because of a lack of information or because they can receive higher rates of return elsewhere. Cost share programs were developed partly to overcome the latter problem. NIPF owners surveyed were asked what they felt was the maximum return they could get if they had funds available for investment elsewhere. The results showed that a small majority (52%) felt they could earn a nominal rate of return over 8%. A comparison between landowners' alternative rates of return (ARR) and their respective incomes revealed owners who felt they could earn high ARR's tended to earn over \$15,000 per year (Figure 2.4). NIPF owners who thought they could earn ARR's less than 6% tended to earn salaries between \$5,000 and \$10,000 annually (Figure 2.5). It is interesting to note that owners with high ARR's tended to plant higher-than-average acreages. A majority (52%) of those having ARR's of 10% or greater planted over five acres under the program.

**FIGURE 2.4.— INCOME DISTRIBUTION OF LAND-OWNERS WITH ARR'S OF 8% AND HIGHER.**



**FIGURE 2.5.— INCOME DISTRIBUTION OF LAND-OWNERS WITH ARR'S OF 7% AND LOWER.**



Timber Sales

Since NIPF owners own a majority (59%) of the commercial forest land nationally, they control a major portion of the U.S. timber supply. Thus, a natural aim of educational and cost share programs has been to increase the amount of wood these owners contribute to the nation's consumption. But it cannot be assumed that all NIPF owners involved in the REAP program planted with the long-term objective of timber production in mind. To get an indication of the extent of NIPF owners' knowledge of and interest in the production of timber, respondents were asked if they had sold pulpwood or sawtimber from their property in the five years prior to 1972. Only 17% said they had sold timber products from their land prior to the survey year. Thirty-two percent of those responding said they had not sold timber products from their land, mostly because they had no merchantable timber to sell. Thirty-seven percent did not sell because they weren't interested in selling. The remaining 14% said they did not sell due mostly to poor area markets for timber products.

It is interesting to note that even though a majority of respondents had no previous experience in the sale of forest products from their land, 60% felt timber products could readily be sold in their locality. Twenty-eight percent felt products could be sold but with some difficulty. A majority of the owners responding in this manner were absentee owners. The remaining 11% of the respondents felt timber products could not be sold at that time from their property.

## Contracting for Timber Management and Harvest

The survey respondents were asked if they would consider putting their forested acreage under long-term contract to a forestry cooperative or forest industry for an annual fee or rent. Seventy-six percent of the owners responding opposed the concept. Those who were interested in contracting their land tended to be absentee owners and to have planted a greater number of acres than average. They also had an inflated view of what they should receive in rent per acre per year, as indicated by the fact that they expected to get annual rents far in excess of the actual earning power of the land in timber production.

### CHAPTER 3. RESULTS OF THE 1982 SURVEY

In 1982, the 399 NIPF owners surveyed in the earlier study were sent another questionnaire.<sup>4</sup> Forty-five percent of the questionnaires were returned after one mailing and an additional 11% were received from a second mailing, resulting in a total response rate of 56% (226 responses). A few differences were found between respondents of the first and second mailings: proportionally, a greater number of 41- to 54-year-old landowners responded to the second mailing, and second mailing respondents were more likely to have not performed further forestry activities such as additional planting. Examination of unopened questionnaires returned by the post office showed that at least 39% of the nonrespondents had moved and left no forwarding address and 5% were deceased. Six persons who returned questionnaires had no recollection of participating in the cost share program in 1972.

The 1982 questionnaires were analyzed using the same methodology as the 1972 study. Frequency statistics were computed for each question and chi-square statistics calculated for selected pairs of questions to determine if a relationship existed. The main findings of the survey are summarized below.

#### Length of Ownership

NIPF owners often have been portrayed as sharing characteristics which tend to make the group as a whole an unpromising one for forestry investments. One such supposed characteristic is relatively short retention of property. Therefore, it was interesting to find that a vast majority (81%) of 1982 respondents still owned the land they planted with red pine under the cost share program in 1972. At the same time, most of the respondents (61%) were 55 years and older. This suggests that a majority of the NIPF owners will never see the main returns on their investment in 1972 and therefore may not have the incentive to perform any further forestry activities. When age was compared directly with future planting intentions, it was found that older respondents were less likely to intend to plant additional nonforested acres whether or not cost share funds were available. At the same time, older respondents tended to say that their property was intended for timber production or as a permanent home, although no relationship could be found between the age of the respondents and whether they had performed forestry activities (harvesting, thinning, etc.) since 1972.

#### Number of Acres Planted

NIPF properties are often too small to be efficiently managed and logged. A majority of the respondents (71%) planted 10 or fewer acres under the 1972 program. It is interesting to note that the people who had larger acreages subsidized under cost share in 1972 tended to have planted a greater number of additional acres between 1972 and 1982. No relation could be found between the number of acres planted in 1972 under the cost share program and future planting intentions with or without additional cost share funding. Landowners who planted large acreages under cost share tended

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<sup>4</sup>A copy of this questionnaire and the resulting frequency analyses are provided in Appendices 3 and 4.

to be more in favor of the concept of long-term leasing of their forest land to a forestry cooperative or forest industry. As a whole, most of the respondents (74%) were against the concept of leasing, although a number said that they did not have enough information to properly evaluate the question of leasing.

#### Resident Status

Resident owners represented a small majority (51 percent) in 1982. Far more absentee owners identified timber production as their primary land use than did resident owners. Absentee owners also identified recreation and investment as primary uses, while a majority of the resident owners identified farming as a primary use. Absentee owners tended to have planted more additional acreage since 1972 than had resident owners. Almost an equal number of resident and absentee owners were in favor of leasing their lands to a forestry cooperative or forest industry. A majority of both resident and absentee owners disapproved of the concept of leasing.

#### Problems Encountered After Planting

A majority of the respondents (55%) encountered no problems with the trees planted in 1972. The rest experienced problems such as poor initial survival, animal damage, drought, fire, and disease. A majority of those with problems (77%) sought no outside help in solving the problem. Those who did seek help were assisted by county or state foresters and were generally very satisfied with the help they received.

Ninety-one percent of the landowners said they had not received any other follow-up help or advice for the areas they planted in 1972. Some of the landowners responded that they would have liked to have received help in selling their timber, removing their weed trees, thinning, and preventing animal damage.

#### Reasons for Planting

Finally, the landowners were asked why they had planted in 1972. Their reasons were as follows:

1. Investment
2. Beauty
3. Encourage wildlife population
4. Erosion control
5. Windbreak
6. Production of Christmas trees

In general, most respondents were very satisfied with the cost share program and felt it provided the benefits they had originally anticipated. Only a few were dissatisfied with the planting stock and advice they received at the time of planting.

### CHAPTER 4. CHANGES SINCE 1972

Recognizing all the potential problems associated with surveying a given group of persons at different points in time, we can go on here to look at some of the more interesting changes which appear to have taken place for the recipients of REAP monies since 1972. These changes vary from the obvious --the participants are ten years older now--to some subtle changes in attitudes and some discrepancies between what they in 1972 said they intended to do and what they now say they have done with their properties.

We start by re-emphasizing that there is no way that we can control for differences due to characteristics of the 40 percent who did not respond to the 1982 survey. Despite the potential limitations, some interesting impressions can be gained from a comparison of the 1972 and 1982 responses.

The apparent changes or lack of changes have some policy implications that may be important enough to warrant further testing. The major comparisons are as follows:

### Living on the Property

One of the questions asked in both studies was whether individuals lived on or adjacent to the property they had planted. The 1972 response indicated that 55% lived on the property year round and 45% were absentee owners. In 1982, 52% of the respondents lived on the land, and 48% were absentee owners. The 1982 respondents were also asked to recall their situation in 1972; 54% recalled living on the land or being residents, and 46% recalled being absentee owners, so there is virtually no difference between their recollection of the situation and the actual situation in 1972.

### Primary Use

The distribution for primary use in 1972 and 1982 and the 1982 respondents' perception of 1972 are presented in Table 4.1. The percentage of respondents involved primarily in farming, in timber production, or who are holding their property for timber production, decreased, while the percentage involved in recreation and other uses increased. One possible reason is that a lot of the owners have retired and have moved to their property as a permanent residence; fewer of these people are interested in timber production and more are interested in recreation or leisure related to retirement. Of course, the fact that only 18% of the respondents in 1982 listed timber production as a primary use does not mean that they would be unwilling to sell timber off their land.

Table 4.1. Primary use by survey year.

	Farm	Timber Production	Recreation	Invest/ Other	Residence (non-farm)
	----- percent of respondents-----				
1972	34	26	18	22	NA
1982	27	18	21	10	23
1982 perception of 1972	35	19	17	11	16

that only 18% of the respondents in 1982 listed timber production as a primary use does not mean that they would be unwilling to sell timber off their land.

### Ages of Owners

As expected, the average age of respondents increased by about ten years. In 1972, 29% were 41 years of age or less, and 71% were over 41 years of age. In 1982, only 9% of the respondents were less than 41 years of age, and 91% were over 41 years of age (61% over 55 and 31% over 65 years of age).

### Continuity of Ownership

An interesting question is whether the property was kept in the family and whether in 1972 the owners intended to keep it in the family. In 1972, 84% of the respondents said that they intended to keep the property in the family. Eighty-four percent of the 1982 respondents still owned the land or had transferred it to someone in the family. Thus, 1972 intentions were borne out in practice, at least as of 1982.

### Further Planting Activity

The relationship between intentions and actions is not as close for further planting activities after 1972. In the 1972 survey, 73% of those responding said that they intended to plant in the future. In 1982, only 38% said that they had done additional planting. In addition, the figures of



actual acres planted between 1972 and 1982 show that significantly less acreage was planted per capita than indicated by the 1972 intentions (Table 4.2).

Table 4.2 Planting intentions in 1972 and the resulting actions in 1982.

	Plant 1-5 acres ----- percent of respondents -----	Plant 6+ acres	No Planting
Intend to plant after 1972	27	46	27
Actual additional planting done by 1982	22	16	62

Those who planted large acreages in 1972 had significantly higher expectations for planting in the future ( $X^2$ ,  $p = 0.01$ ). In addition, those who planted 11 or more acres under cost-share in 1972 planted significantly more acreage since 1972 than those who initially planted 10 or less acres ( $X^2$ ,  $p = 0.01$ ).

An interesting comparison can be made between additional planting activity and resident vs. absentee status of landowners. The 1972 results indicated that absentee owners intended to plant significantly more acreage per capita than resident owners ( $X^2$ ,  $p = 0.02$ ). The 1982 results show that absentee owners actually did plant significantly more acreage than resident owners ( $X^2$ ,  $p = 0.01$ ). However, as mentioned above, fewer total acres were actually planted than were indicated by intentions in the earlier survey.

The relationship between primary use and further planting activity was also compared for 1972 and 1982. The earlier study revealed no significant difference between further planting intentions and primary use for the property being sampled. However, the 1982 results indicate a significant difference ( $X^2$ ,  $p = 0.05$ ) between actual planting since 1972 and primary use: owners who listed timber production as a primary use in 1982 planted significantly more acreage since 1972 than the group as a whole. Farmers and those who use their property for recreation planted significantly fewer acres since 1972.

#### Willingness to Put Under Long-term Contract

Another comparison which is of interest is the percentage of respondents willing to put their property under long-term contract to a consulting firm, industry, or other type of cooperative timber producing group. As indicated in Table 4.3, 24% of the respondents answered in the affirmative in 1972 versus 16% in 1982. In general, these results were consistent with each other; the difference between the two percentages is not statistically significant. However, uncertainty with regard to the appropriate level of annual payment or rent under a contract is much higher in 1982 than it was in 1972. Seventy-three percent of the respondents in 1982 said that they did not know how much rent they should receive annually for their property, versus only 46% of respondents in the 1972 survey.

Table 4.3. Willingness of respondents to put NIPF land under long-term management contracts.

	Would Consider	Would not Consider or Unsure
1972	24	76
1982	16	84

much rent they should receive annually for their property, versus only 46% of respondents in the 1972 survey.

Further disaggregation of the data indicates the following:

- In both surveys, persons who planted 11 or more acres were significantly more likely to favor a long-term contract arrangement than those who planted 10 acres or less ( $X^2$ ,  $p = 0.05$ ).
- In the original survey absentee owners tended to favor contracts more than resident landowners ( $X^2$ ,  $p = 0.01$ ). In the recent survey, absentee owners were much less certain about what an appropriate rent or fee would be for their land than resident owners.

### Effect of Trees on Property Values

Finally, both surveys asked how respondents felt tree planting would affect property values. In 1972, 77% felt that planting trees would raise property values. In 1982, 75% felt that the planted trees had a positive effect on property values. However, only 49% of those who sold or otherwise disposed of their property during the 1972-1982 period felt that the trees had a positive effect on the property value. In other words, overall perceptions in 1972 and 1982 are remarkably consistent; however, there is a significant decrease among those who sold their property since 1972.

## CHAPTER 5. CONCLUSIONS

It should be pointed out at the outset that conclusions discussed below can legitimately only be suggested for the specific case studied. However, some elements emerge which might be considered in broader policy discussions concerning forestry incentive programs.

### Follow-up/Effectiveness of Plantings

In general very few of those who planted trees in 1972 received any follow-up help or advice on management of the planted trees or on markets for wood products. Almost half the recipients experienced some kind of problem with their planting since 1972, yet less than a quarter of those who did experience problems sought or received any assistance in handling the problem. On the other hand, two-thirds of those who did receive help were very satisfied with the help they did receive. In other words, very few of those who planted received any kind of further support with their problems, but those who did seemed very satisfied. This suggests that the public sector should look at means for expanding follow-up with those who do receive initial financial assistance for planting or other forestry activities.

### Continuity in Ownership

A surprising 87% of the respondents still owned the land planted with cost share funds in 1972. Thus, in this particular case worry about rapid turnover of land ownership and ownership objectives is not justified. However, there are a number of years left until the planted trees mature and the average age of the owners is quite high, so it certainly is likely that the timber ownership will have changed hands by maturity in a number of cases. It is also interesting to note that absentee owners planted significantly more acreage since 1972 than did resident owners.

### Scale Considerations

In general, if the public sector is interested in follow-up and additional activity after initial incentive payments have been made, those who plant larger acreages should receive special attention. The results of this study indicate that those who plant larger areas are more likely to carry out follow-up activities, including further planting.

APPENDIX 1. 1972 Landowner Questionnaire

1. In which county is the property located for which you received REAP/ASCS forestry funding?

\_\_\_\_\_ (name of county)

2. What is your age group?

- less than 20 years  
 20-30 years  
 31-40 years  
 41-50 years  
 over 50 years

3. On how many acres did you receive REAP (ASCS) forestry cost-sharing funds in 1972?

\_\_\_\_\_ acres

4. Did you and/or your own family do the actual planting of trees on this area?

- yes  
 no

5. Have you received REAP forestry funds in years other than 1972?

- yes (if yes, for how many acres total: \_\_\_\_\_ acres)  
 no

6. Did you in 1972 live year round on the property for which you received REAP forestry funds, or were you an "absentee" owner?

- lived on property (check one)  
 absentee owner (lived less than full-time on property)

7. How long have you owned the property for which you received REAP forestry support in 1972?

- no longer own it  
 1-5 years  
 6-10 years  
 11-20 years  
 more than 20 years

(continued)

8. What is (or was in 1972) the primary use or purpose of the total property where the forest planting site is located?

- farming
- produce forest products
- recreation (check one)
- investment
- other (specify) \_\_\_\_\_

9. What is the total acreage of the property? (including farmland, etc.)

\_\_\_\_\_ acres

10. What is the total acreage of woodland in the above property?

\_\_\_\_\_ acres

11. Have you carried out forestry activities (thinning, pruning, tree planting, etc.) on the areas other than the land for which you received REAP payments?

- yes
- no

12. What would you estimate is the average market price per acre of the land you planted with REAP forestry funding (or what did you sell it for if you no longer own it)?

\_\_\_\_\_ \$ per acre - does any of this land border on water (lake, river, etc.)?  yes  no

13. Have you sold pulpwood or timber from your property in the past five years?

- yes - if yes, what was total payment received for this period? \$ \_\_\_\_\_
- no - if no, why?  no market
- did not want to
- other (specify) \_\_\_\_\_

14. Were you satisfied with the public assistance you received from:

- A. REAP/ASCS
  - yes  no comments:
- B. Service forester
  - yes  no comments:

(continued)

15. What was the total cost per acre for the (1972) forestry activities on your REAP/ASCS supported acreage (including public and your own expenses)?

\$\_\_\_\_\_ per acre

16. If you had funds available for investment (in savings account, stocks, other property, livestock, etc.) what would you think would be the maximum rate of return or interest you could get per year?

\_\_\_\_\_ percent per year

17. If the government would have provided a greater share of the cost, would you have planted more acres than you did plant with REAP funds?

yes  no

18. If the government had provided a smaller share of the cost would you have prepared and/or planted less acres?

yes  no

19. What was the property or other tax per acre on your woodland in 1972?

\$\_\_\_\_\_ per acre annual tax

20. What were you paying in tax per acre three years ago (1969)?

\$\_\_\_\_\_ per acre per year in 1969

21. Do you think that the presence of woodlands affect the value of your property? (or affected it, if you sold since 1972)

has no effect  
 don't have any opinion  
 decreases value of property  
 increases value of property

Why?

wood value  
 recreation value  
 other \_\_\_\_\_

22. Do you intend to plant more acres on your property?

yes      How many? \_\_\_\_\_ acres over next 5 years?  
 no

(Continued)

23. Would you consider putting your woodland acreage under long-term contract to a forestry association or forest industry for an annual fee or rent? (The association or company would manage and harvest the wood when they decided it was ready. They would pay you the annual fee or rent instead of stumpage payment when wood is cut.)

yes    no

If answer is yes, what would you estimate a fair annual rental to be per acre?

\$\_\_\_\_\_ per acre per year

24. What other types of public assistance would you like to have for your woodlands in addition to REAP cost sharing and service forester advice?

25. Do you feel that in your locality woodland products can be sold:

readily  
 with some difficulty                      (check one)  
 cannot be sold now

26. If there is a market, what is the average price on the stump being paid in your area now?

\$\_\_\_\_\_ per cord

\$\_\_\_\_\_ per 1,000 board feet

\$\_\_\_\_\_ per \_\_\_\_\_ (other products)

\_\_\_\_\_ don't know

27. Do you envision that your property will be in your hands or the hands of your family when you receive the first income from your REAP funded forestry practice?

yes    no

28. What is your approximate total income per year?

less than \$5,000  
 \$5,000-10,000  
 \$10,000-12,000  
 over \$15,000

APPENDIX 2. Responses to 1972 Questionnaire

Answers to Questions

Question 2. What is your age?

	<u>N</u>	<u>Total</u>
1. less than 31 years	35	12.77%
2. 31-40 years	45	16.42%
3. 41-50 years	72	26.28%
4. over 50 years	122	44.53%
Total	274	100%

Question 3. On how many acres did you receive REAP (ASCS) forestry cost sharing funds in 1972?

	<u>N</u>	<u>Total</u>
1. 1-2 acres	97	38.65%
2. 3-5 acres	66	26.29%
3. 6-10 acres	43	17.13%
4. 11 or more	45	17.93%
Total	251	100%

Question 4. Did you and/or your own family do the actual planting of trees on this area?

	<u>N</u>	<u>Total</u>
1. yes	205	74.55%
2. no	70	25.45%
Total	275	100%

Question 5. Have you received REAP forestry funds in years other than 1972? If yes, for how many acres total?

	<u>N</u>	<u>Total</u>
1. no, 0 acres	105	42.68%
2. yes, 1-5 acres	42	17.07%
3. yes, 6-10 acres	42	17.07%
4. yes, 11+ acres	57	23.17%
Total	246	100%

Question 6. Did you in 1972 live year round on the property for which you received REAP forestry funds, or were you an "absentee" owner?

	<u>N</u>	<u>Total</u>
1. resident	152	55.27%
2. absentee	123	44.73%
Total	275	100%

Question 7. How long have you owned the property for which you received REAP forestry support in 1972?

	<u>N</u>	<u>Total</u>
1. 1-5 years	106	38.27%
2. 6-10 years	49	17.69%
3. 11-20 years	55	19.86%
4. 21+ years	67	24.19%
Total	277	100%

Question 8. What is (or was in 1972) the primary use or purpose of the total property where the forest planting site is located?

	<u>N</u>	<u>Total</u>
1. farming	92	34.07%
2. produce forest products	71	26.30%
3. recreation	49	18.15%
4. "other" (includes investment)	58	21.48%
Total	270	100%

Question 9. What is the total acreage of the property? (including farmland, etc.)

	<u>N</u>	<u>Total</u>
1. 0-40 acres	71	26.01%
2. 41-80 acres	52	19.05%
3. 81-160 acres	69	25.27%
4. 161+ acres	81	29.67%
Total	273	100%

Question 10. What is the acreage of woodland in the (above) property?

	<u>N</u>	<u>Total</u>
1. 0-15 acres	69	25.56%
2. 16-40 acres	61	22.59%
3. 41-120 acres	89	32.96%
4. 121+ acres	51	18.89%
Total	270	100%

Question 11. Have you carried out forestry activities (thinning, pruning, tree planting, etc.) on the areas **other than** the land for which you received REAP payments?

	<u>N</u>	<u>Total</u>
1. yes	121	44.65%
2. no	150	55.35%
Total	271	100%

Question 12. What would you estimate is the average market price per acre of the land you planted with REAP forestry funding (or what did you sell it for if you no longer own it)?

	<u>N</u>	<u>Total</u>
1. \$0-50	64	29.22%
2. \$51-100	51	23.29%
3. \$101-300	51	23.29%
4. \$301+	53	24.20%
Total	219	100%

Question 13. Have you sold pulpwood or timber from your property in the past five years?

	<u>N</u>	<u>Total</u>
1. yes	46	17.04%
2. no - didn't want to	101	37.41%
3. no - "other"	85	31.48%
4. no - no market, or no - no reason given	38	14.07%
Total	270	100%

Question 14A. Were you satisfied with the public assistance you received from REAP/ASCS?

	<u>N</u>	<u>Total</u>
1. yes	253	94.76%
2. no	14	5.24%
Total	267	100%

Question 14B. Were you satisfied with the public assistance you received from the service forester?

	<u>N</u>	<u>Total</u>
1. yes	245	95.33%
2. no	12	4.67%
Total	257	100%

Question 15. What was the total cost per acre for the 1972 forestry activities on your REAP/ASCS supported acreage (including public and your own expenses)? (Note: Anyone answering less than \$20 per acre was treated as a non-response.)

	<u>N</u>	<u>Total</u>
1. \$20-35	54	34.18%
2. \$36-59	56	35.44%
3. \$60+	48	30.38%
Total	158	100%

Question 16. If you had funds available for investment (in savings account, stocks, other property, live-stock, etc.) what would you think would be the maximum rate of return or interest you could get per year?

	<u>N</u>	<u>Total</u>
1. 0-6%	62	28.18%
2. 7%	43	19.55%
3. 8-9%	51	23.18%
4. 10+%	64	29.09%
Total	220	100%

Question 17. If the government would have provided a greater share of the cost, would you have planted more acres than you did plant with REAP funds?

	<u>N</u>	<u>Total</u>
1. yes	101	37.00%
2. no	172	63.00%
Total	273	100%

Question 18. If the government had provided a smaller share of the cost would you have prepared and/or planted less acres?

	<u>N</u>	<u>Total</u>
1. yes	82	30.26%
2. no	189	69.74%
Total	271	100%

Question 19. What was the property or other tax per acre on your woodland in 1972?

	<u>N</u>	<u>Total</u>
1. \$.10-\$.50	62	28.18%
2. \$.51-\$1.00	43	19.55%
3. \$1.01-\$3.00	51	23.18%
4. \$3.01+	64	29.09%
Total	220	100%

Question 20. What were you paying in tax per acre three years ago (1969)?

	<u>N</u>	<u>Total</u>
1. \$.10-\$.50	49	23.11%
2. \$.51-\$1.00	50	23.58%
3. \$1.01-\$3.00	56	26.42%
4. \$3.01+	57	26.89%
Total	212	100%

Question 21. Do you think that the presence of woodlands affect (or affected it, if you sold since 1972) the value of your property?

	<u>N</u>	<u>Total</u>
1. has no effect, or don't have any opinion, or decreases value of property	62	22.79%
2. increases value of property -- wood value	86	31.62%
3. increases value of property -- recreation value	97	35.66%
4. increases value of property -- other	27	9.93%
Total	272	100%

Question 22. Do you intend to plant more acres on your property? How many acres over the next five years?

	<u>N</u>	<u>Total</u>
1. no (0 acres)	44	26.51%
2. yes, 1-5 acres	45	27.11%
3. yes, 6-15 acres	45	27.11%
4. yes, 16+ acres	32	19.28%
Total	166	100%

Question 23. Would you consider putting your woodland acreage under long term contract to a forestry association or forest industry for an annual fee or rent?

	<u>N</u>	<u>Total</u>
1. yes	60	23.72%
2. no	193	76.28%
Total	253	100%

Question 25. Do you feel that in your locality woodland products can be sold?

	<u>N</u>	<u>Total</u>
1. readily	157	60.62%
2. with some difficulty	73	28.19%
3. cannot be sold now	29	11.20%
Total	259	100%

Question 26. Is there a market (for products)?

	<u>N</u>	<u>Total</u>
1. don't know	186	77.82%
2. do know	53	22.18%
Total	239	100%

Question 27. Do you envision that your property will be in your hands or the hands of your family when you receive the first income from your REAP funded forestry practice?

	<u>N</u>	<u>Total</u>
1. yes	205	83.67%
2. no	40	16.33%
Total	245	100%

Question 28. What is your approximate total income per year?

	<u>N</u>	<u>Total</u>
1. \$0-\$5,000	39	14.77%
2. \$5,000-\$10,000	76	28.79%
3. \$10,000-\$15,000	63	23.86%
4. \$15,000+	86	32.58%
Total	264	100%



APPENDIX 3. 1982 Minnesota Private Woodlands Study Questionnaire

1982 MINNESOTA PRIVATE WOODLANDS STUDY  
QUESTIONNAIRE

(20 minutes completion time)

1. Do you still own the property on which you planted pine with public cost-share funding in 1972?

\_\_\_\_\_ Yes

\_\_\_\_\_ No: I sold it \_\_\_\_\_  
I gave it to someone \_\_\_\_\_  
Other \_\_\_\_\_

2. In which county is the property located?

\_\_\_\_\_ (county)

3. About how many acres did you plant with the cost-share funds received in 1972?

\_\_\_\_\_ (acres)

4. Did you live on the property in 1972? \_\_\_\_\_ Yes \_\_\_\_\_ No

Do you live on the property now? \_\_\_\_\_ Yes \_\_\_\_\_ No

5. What is your age?

\_\_\_\_\_ less than 20          \_\_\_\_\_ 41-54          \_\_\_\_\_ 65 or over

\_\_\_\_\_ 20-40                  \_\_\_\_\_ 55-64

6. In 1972 what was the primary use or purpose for the total property where the forest planting site is located?

\_\_\_\_\_ farming, ranching          \_\_\_\_\_ permanent residence  
\_\_\_\_\_ recreation (second home)      \_\_\_\_\_ investment property  
\_\_\_\_\_ recreation (other)              \_\_\_\_\_ Other (specify) \_\_\_\_\_  
\_\_\_\_\_ timber production              \_\_\_\_\_

6. (continued) What is the primary use or purpose for the property now?

farming, ranching                       permanent residence  
 recreation (second home)               investment property  
 recreation (other)                       Other (specify) \_\_\_\_\_  
 timber production                      \_\_\_\_\_

7. What effect do you think the trees you planted have had on the value of the property?

more valuable  
 less valuable  
 no effect

8. Have you encountered any problems on the land planted in 1972 with cost-share funds (e.g., fire, insects, disease, frost or animal damage)?

Yes               No

IF YES, what problems? \_\_\_\_\_

IF YES, did you receive assistance in handling the problem from

- county or state (DNR) foresters?               Yes               No  
- private foresters?               Yes               No  
- Other (who)? \_\_\_\_\_

IF YES in either case, what kind of help did you receive? \_\_\_\_\_

Were you satisfied with the help you received?               Yes               No

IF NO, what was the problem? \_\_\_\_\_

9. Did you receive any other follow up help for the area planted in 1972 with cost-share funds?

Yes               No

IF YES, what help? \_\_\_\_\_

IF NO, what help would you like to have received? \_\_\_\_\_

10. Have you carried out other forestry activities on any of your property since 1972?

\_\_\_\_\_ Yes      \_\_\_\_\_ No

IF YES, please check the activities:

\_\_\_\_\_ planting \_\_\_\_\_ acres      \_\_\_\_\_ thinning (no sale of wood)  
\_\_\_\_\_ timber harvesting      \_\_\_\_\_ thinning (with sale of wood)  
\_\_\_\_\_ Christmas tree harvesting      \_\_\_\_\_ chemical treatment  
\_\_\_\_\_ Other \_\_\_\_\_

11. If you own non-forested land:

Do you plan to plant trees on some of it without public cost-share funds?

\_\_\_\_\_ Yes      \_\_\_\_\_ No

IF YES, how many acres? \_\_\_\_\_ acres.

Would you plant more acres if you received public cost-share funds?

\_\_\_\_\_ Yes      \_\_\_\_\_ No

IF YES, what percent of the total cost (say \$125/acre) would you want to receive to make it attractive to plant the additional acres?

\_\_\_\_\_ %      How many acres? \_\_\_\_\_ acres

12. Would you consider putting your woodland acreage under long-term contract to a forestry cooperative or forest industry for an annual fee or rent? (The association or company would manage and harvest the wood when they decided it was ready. They would pay you an annual fee or rent instead of a stumpage payment when wood is cut.)

\_\_\_\_\_ Yes      \_\_\_\_\_ No

IF YES, what would you estimate would be a fair annual rental per acre?

\$ \_\_\_\_\_ per acre per year.

13. Why did you plant the trees in 1972? (e.g., investment, beauty, etc.)

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Has that held true (i.e., have the trees provided the benefits you expected, or do you still expect the same benefits you expected when you planted)? \_\_\_\_\_

What is the main value of the trees for you now (e.g., investment, look nice, wildlife habitat, etc.)? \_\_\_\_\_

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14. If you have sold the property on which you planted trees with cost-share assistance in 1972,

a. What was the primary reason for selling?

- \_\_\_\_\_ taxes got too high
  - \_\_\_\_\_ moved to another area
  - \_\_\_\_\_ wanted the money
  - \_\_\_\_\_ didn't want the land anymore
  - \_\_\_\_\_ other (explain) \_\_\_\_\_
- 

b. How do you think the trees you planted in 1972 affected the price you got for the property?

- \_\_\_\_\_ price was higher than without trees
- \_\_\_\_\_ price was lower than without trees
- \_\_\_\_\_ no effect.

PLEASE ADD ANY OTHER COMMENTS YOU WISH TO MAKE.

Please return in the enclosed envelope to: Donna Byrne, Project Coordinator  
110 Green Hall  
College of Forestry  
University of Minnesota  
1530 N. Cleveland Ave.  
St. Paul, MN 55108

APPENDIX 4. Responses to 1982 Private Woodlands Study Questionnaire

1982 MINNESOTA PRIVATE WOODLANDS STUDY

Questionnaire Results

Question 1: Do you still own the property on which you planted pine with public cost share funding in 1972?

	<u>N</u>	<u>% Response</u>
1. Yes	183	81.0%
2. No, I sold it.	29	13.0%
3. No, I gave it to someone.	7	3.0%
4. No, I sold part of it.	7	3.0%
	<u>226</u>	<u>100.0%</u>

Question 3: About how many acres did you plant with cost share funds received in 1972?

	<u>N</u>	<u>% Response</u>
1. 0 - 2 acres	49	21.7%
2. 3 - 5 acres	52	23.0%
3. 6 - 10 acres	59	26.1%
4. 11 - 15 acres	9	3.9%
5. 16 - 20 acres	16	7.1%
6. 21+ acres	25	11.1%
7. Don't Remember	16	7.1%
	<u>226</u>	<u>100.0%</u>

Question 4: Did you live on the property in 1972?

	<u>N</u>	<u>% Response</u>
1. Yes	121	53.5%
2. No	105	46.5%
	<u>226</u>	<u>100.0%</u>

Do you live on the property now (1982)?

	<u>N</u>	<u>% Response</u>
1. Yes	118	52.2%
2. No	108	47.8%
	<u>226</u>	<u>100.0%</u>

Question 5: What is your age?

	<u>N</u>	<u>% Response</u>
1. Less than 20 years	0	--
2. 20 - 40	21	9.3%
3. 41 - 54	67	29.7%
4. 55 - 64	69	30.5%
5. 65 or over	69	30.5%
	<u>226</u>	<u>100.0%</u>

Question 6: In 1972, what was the primary use or purpose for the total property where the forest planting site is located?

	<u>N</u>	<u>% Response</u>
1. Farming	80	35.4%
2. Second Home	10	4.4%
3. Other Recreation	24	10.6%
4. Timber Production	42	18.6%
5. Permanent Residence	37	16.4%
6. Investment Property	22	9.7%
7. Windbreak	1	0.4%
8. Wood Lot	1	0.4%
9. Future Home	1	0.4%
10. Gravel Pit	2	0.9%
11. Horse Raising	1	0.4%
12. Wildlife Production	4	1.8%
13. No Response	1	0.4%
	<u>226</u>	<u>100.0%</u>

What is the primary use or purpose for the property now (1982)?

	<u>N</u>	<u>% Response</u>
1. Farming	62	27.4%
2. Second Home	10	4.4%
3. Other Recreation	31	13.7%
4. Timber Production	40	17.7%
5. Permanent Residence	51	22.6%
6. Investment Property	19	8.4%
7. No Response	4	1.8%
8. Wood Lot	1	0.4%
9. Horse Raising	1	0.4%
10. Wildlife	6	2.7%
11. Airport Runway	1	0.4%
	<u>226</u>	<u>100.0%</u>

Question 7: What effect do you think the trees you planted have had on the value of the property?

	<u>N</u>	<u>% Response</u>
1. More Valuable	170	75.2%
2. Less Valuable	0	--
3. No Effect	56	24.8%
	<u>226</u>	<u>100.0%</u>

Question 8: Have you encountered any problems on the land planted in 1972 with cost share funds?

	<u>N</u>	<u>% Response</u>
1. Yes	101	44.7%
2. No	125	55.3%
	<u>226</u>	<u>100.0%</u>

If yes, did you receive assistance in handling the problem from:

	<u>N</u>	<u>% Response</u>
1. County or State Forester	17	16.8%
2. Private Forester	1	1.0%
3. Fire Department	2	2.0%
4. Sought No Help	78	77.2%
5. Solved Problem Myself	3	3.0%
	<u>101</u>	<u>100.0%</u>

Were you satisfied with the help received?

	<u>N</u>	<u>% Response</u>
1. Satisfied	16	69.6%
2. Dissatisfied	7	30.4%
	<u>23</u>	<u>100.0%</u>

Question 9: Did you receive any other follow-up help for the area planted in 1972 with cost share funds?

	<u>N</u>	<u>% Response</u>
1. Yes	21	9.3%
2. No	205	90.7%
	<u>226</u>	<u>100.0%</u>

Question 10: Have you carried out other forestry activities on any of your property since 1972?

	<u>N</u>	<u>% Response</u>
1. Yes	123	54.4%
2. No	103	45.6%
	<u>226</u>	<u>100.0%</u>

If yes -

<u>Planting</u>	<u>N</u>	<u>% Response</u>
1. 1 - 5 acres	49	39.8%
2. 6 - 10 acres	15	12.2%
3. 11+ acres	21	17.1%
4. No Planting	38	30.9%
	<u>123</u>	<u>100.0%</u>

<u>Timber Harvesting</u>	<u>N</u>	<u>% Response</u>
1. Yes	26	21.1%
2. No	97	78.9%
	<u>123</u>	<u>100.0%</u>

<u>Christmas Tree Harvesting</u>	<u>N</u>	<u>% Response</u>
1. Yes	14	11.4%
2. No	109	88.6%
	<u>123</u>	<u>100.0%</u>

<u>Thinning (No sale of wood)</u>	<u>N</u>	<u>% Response</u>
1. Yes	42	34.1%
2. No	81	65.9%
	<u>123</u>	<u>100.0%</u>

<u>Thinning (Sale of wood)</u>	<u>N</u>	<u>% Response</u>
1. Yes	12	9.8%
2. No	111	90.2%
	<u>123</u>	<u>100.0%</u>

<u>Chemical Treatment</u>	<u>N</u>	<u>% Response</u>
1. Yes	12	9.8%
2. No	111	90.2%
	<u>123</u>	<u>100.0%</u>



Question 11: If you own non-forested land, do you plan to plant trees on some of it without public cost share funds?

	<u>N</u>	<u>% Response</u>
1. Yes, 1 - 5 acres	34	18.1%
2. Yes, 6 - 15 acres	12	6.4%
3. Yes, 16+ acres	13	6.9%
4. No intention of planting	<u>129</u>	<u>68.6%</u>
	188	100.0%

Would you plant more acres if you received public cost share funds?

	<u>N</u>	<u>% Response</u>
1. Yes	87	46.2%
2. No	77	41.0%
3. Don't Know	<u>24</u>	<u>12.8%</u>
	188	100.0%

If yes, what percent of the total cost (say \$125/ac.) would you want to receive to make it attractive to plant the additional acres?

	<u>N</u>	<u>% Response</u>
1. Don't Know	42	37.8%
2. 76 - 100% of cost	29	26.1%
3. 26 - 50% of cost	21	18.9%
4. 51 - 75% of cost	16	14.4%
5. 1 - 25% of cost	<u>3</u>	<u>2.8%</u>
	111	100.0%

How many additional acres would you plant?

	<u>N</u>	<u>% Response</u>
1. Don't Know	48	43.2%
2. 1 - 10 acres	37	33.3%
3. 21+ acres	15	13.5%
4. 11 - 20 acres	<u>11</u>	<u>10.0%</u>
	111	100.0%

Question 12: Would you consider putting your woodland acreage under long term contract to a forestry cooperative or a forest industry for an annual fee or rent? (The association or company would manage and harvest the wood when they decided it was ready. They would pay you an annual fee or rent instead of a stumpage payment when wood is cut.)

	<u>N</u>	<u>% Response</u>
1. Yes	35	15.5%
2. No	167	73.9%
3. Don't Know	24	10.6%
	<u>226</u>	<u>100.0%</u>

If yes, what would you estimate would be a fair annual rent per acre?

	<u>N</u>	<u>% Response</u>
1. Don't Know	44	74.6%
2. \$16 - \$20/acre	5	8.5%
3. \$6 - \$10/acre	4	6.8%
4. \$21+/acre	4	6.8%
5. \$1 - \$5/acre	2	3.3%
	<u>59</u>	<u>100.0%</u>

Question 14: If you have sold the property on which you planted trees with cost share assistance in 1972,

What was the primary reason for selling?

	<u>N</u>	<u>% Response</u>
1. Did not want the land anymore	15	34.9%
2. Wanted the money	10	23.3%
3. Moved to another area	5	11.6%
4. Taxes too high	3	7.0%
5. Divorce settlement	3	7.0%
6. Don't know	3	7.0%
7. Distance factors	2	4.7%
8. Benefit children	1	2.3%
9. Condemned by the State	1	2.3%
	<u>43</u>	<u>100.0%</u>

How do you think the trees you planted in 1972 affected the price you got for the property?

	<u>N</u>	<u>% Response</u>
1. Price was higher	21	48.8%
2. No effect	18	41.9%
3. Didn't know	3	7.0%
4. Price was lower	1	2.3%
	<u>43</u>	<u>100.0%</u>

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