



## Fundy Model Forest

### *~Partners in Sustainability~*

**Report Title:** Survey of Woodlot Owner Practices and Plans: Fundy Model Forest Case Study Area

**Author:** K.L. Runyon

**Year of project:** 1996

**Principal contact information:** Resource Economics Consulting  
Fredericton, NB

**File Name:** Management\_Planning\_1996\_Runyon\_ Survey of Woodlot Owner Practices and Plans:  
Fundy Model Forest Case Study Area

***The Fundy Model Forest...  
...Partners in Sustainability***

*“The Fundy Model Forest (FMF) is a partnership of 38 organizations that are promoting sustainable forest management practices in the Acadian Forest region.”*

Atlantic Society of Fish and Wildlife Biologists  
Canadian Institute of Forestry  
Canadian Forest Service  
City of Moncton  
Conservation Council of New Brunswick  
Fisheries and Oceans Canada  
Indian and Northern Affairs Canada  
Eel Ground First Nation  
Elgin Eco Association  
Elmhurst Outdoors  
Environment Canada  
Fawcett Lumber Company  
Fundy Environmental Action Group  
Fundy National Park  
Greater Fundy Ecosystem Research Group  
INFOR, Inc.  
J.D. Irving, Limited  
KC Irving Chair for Sustainable Development  
Maritime College of Forest Technology  
NB Department of the Environment and Local Government  
NB Department of Natural Resources  
NB Federation of Naturalists  
New Brunswick Federation of Woodlot Owners  
NB Premier's Round Table on the Environment & Economy  
New Brunswick School District 2  
New Brunswick School District 6  
Nova Forest Alliance  
Petitcodiac Sportsman's Club  
Red Bank First Nation  
Remsoft Inc.  
Southern New Brunswick Wood Cooperative Limited  
Sussex and District Chamber of Commerce  
Sussex Fish and Game Association  
Town of Sussex  
Université de Moncton  
University of NB, Fredericton - Faculty of Forestry  
University of NB - Saint John Campus  
Village of Petitcodiac  
Washademoak Environmentalists



**Survey of Woodlot Owner Practices and Plans:  
Fundy Model Forest  
Case Study Area**

**Prepared for the Planning Committee  
Fundy Model Forest  
Sussex, N.B.**

**K.L. Runyon Resource Economics Consulting  
Fredericton, N.B.  
May, 1996**

## **Abstract**

This study provides a description of the approach and an analysis of results of a survey of woodlot owners in the Fundy Model Forest Case Study Area. The purpose of the survey was to identify woodlot owner plans for management and harvesting of their properties. It was felt that this type of information would be useful in formulating an integrated management plan for the area and subsequently for the Model Forest. Questions were directed at determining goals for management, including management for timber, recreation, wildlife and a variety of other outputs. Questionnaires were completed for 157 owners. Results indicate that only about one-third of all owners have a management plan and many do not know specifically where they will harvest or practice silviculture in the future. The extent to which this information will be helpful in management planning is uncertain. Although much of the information is of a general nature, it does provide a broad indication of priorities, opportunities for assistance, and potential areas of conflict. It further serves to identify areas where results should be clarified or verified.

## **Table of Contents**

Abstract

1.0 Introduction-----1

    1.1 Background-----1

    1.2 Objectives of Woodlot Owner Survey-----1

    1.3 Purpose and Organization of this Report-----4

2.0 Survey Approach-----4

3.0 Results of Survey-----5

    3.1 Education and Information-----5

    3.2 Management Planning -----6

    3.3 Wood Supply -----9

        3.3.1 Harvesting-----9

        3.3.2 Silviculture-----10

    3.4 Recreation -----12

    3.5 Wildlife-----13

    3.6 Socio-economics -----13

    3.7 Biodiversity-----15

    3.8 Soil and Water -----16

    3.9 Community -----17

4.0 Summary and Conclusions -----17

Acknowledgments-----

Appendix

## List of Figures

Fig. 1. Location of Case Study Area within the Fundy Model Forest-----	2
Fig. 2. Land ownership within the Case Study Area -----	3

## List of Tables

Table 1. Woodlot owner survey sample size and response -----	4
Table 2. Attitudes toward education & information-----	6
Table 3. Priorities of woodlot owners-----	- 7
Table 4. Woodlot management planning-----	-8
Table 5. Harvesting plans of woodlot owners-----	10
Table 6. Silviculture plans of woodlot owners-----	11
Table 7. Recreational use of woodlots-----	-12
Table 8. Wildlife management on woodlots-----	14
Table 9. Socio-economic impacts of woodlots-----	15
Table 10. Biodiversity interests of woodlot owners-----	16
Table 11. Soil and water problems on woodlots-----	16

Table 12. Woodlot owner attitudes toward the community-----  
17

## **1.0 Introduction**

### **1.1 Background**

The Fundy Model Forest (FMF) is one of ten model forests in Canada established as part of the federal government's national Green Plan. The FMF represents the Acadian region, is located in southeastern New Brunswick (Fig. 1) and comprises about 420, 000 ha. There are four principal landowner groups within this area: private woodlots represented by the Southern N.B. Wood Co-Operative Ltd. (SNB) (63%); J.D. Irving Woodlands (JDI) (17%); N.B. Crown (15%), and: Fundy National Park (FNP) (5%).

One of the principal objectives for the FMF is to develop and implement an integrated forest resource management (IRM) plan. This means managing the forest and related resources for a broad range of needs not only for the present but also for future generations. It became apparent that formulation of a plan for an area the size of the model forest would be complex and time consuming. It was felt that a more effective approach would be to work with a pilot area or case study area which essentially mirrored the larger area in terms of diversity of forest conditions, land use and tenure, and so on. Working with a subset of the larger area would mean spending less time manipulating data and more on "--planning design and decision-making". Further, it was felt that the implementation would be simplified and that plan development was more "doable".

This pilot area or case study area (CSA) chosen comprises some 115 thousand ha located on the eastern side of the model forest. (Fig 1). Land ownership for the CSA is shown in Fig. 2. Woodlots account for about 53 000 ha or 46% of the area, while provincial crown is 23.4%, J.D. Irving is 19.9%, Fundy Park is 9.9%, and other is < 1%.

### **1.2 Objectives of Woodlot Owner Survey**

In an effort to determine woodlot owner plans and interests, a woodlot owner survey was proposed. The goal of this survey was to "---gather information from woodlot owners on their management intentions". The specific objectives were to:

- Determine the silvicultural and harvesting plans of individual woodlot owners over the next ten years;
- Ascertain recreational uses or opportunities on individual woodlots;
- Determine consumptive and non-consumptive wildlife uses and plans for individual woodlots;
- Key punch data to GIS so that cumulative management plans of woodlot owners can be shown spatially." (Study Outline)



**Fig. 1.**

**Fig. 2**

### 1.3 Purpose and Organization of this Report

The purpose of this report is to describe the woodlot owner survey for the CSA, analyze the data, present a summary of the main results and formulate conclusions. Section 2.0 describes the survey approach including identification of the population, selection of sample, development of the questionnaire and collection and tabulation of data. Section 3.0 presents the principal findings of the survey. Results are presented by major category (e.g., education and information) based on the outline of the questionnaire. The final section includes conclusions based on the findings.

### 2.0 Survey Approach

As shown above, the CSA of the FMF comprises about 115 thousand ha. Almost 50% of this is classified as private woodlots (forest land owned by individuals; this excludes government - municipal, provincial and federal lands, industrial lands). A review of the N.B. Geographic Information Corporation (N.B.GIC) data indicates that there are 1 417 parcels of woodland in the CSA owned by 922 persons. This number of owners was reduced to 810 after deducting names listed more than once (26), industrial owners (6), owners with parcels of mostly agricultural lands and less than 6 ha (80). An attempt was made to contact all 810 net eligible owners for the survey. Many of these persons could not be located due to incorrect phone listings, inaccurate addresses, and so on. Owners who could not be contacted in person were mailed a questionnaire. Many did not respond and some declined to participate. A number of those who declined to participate indicated that they did so because they felt that they had nothing to contribute or that they were too small to provide useful information. This may have biased the survey results (discussed further below). A summary of the sample size and response is shown in Table 1.

**Table 1. Woodlot owner survey sample size and response**

Total Owners on NB GIC listing	922
repeat names	26
industrial owners	6
owners with small parcels (< 6ha)	80
Net eligible owners	810
owners unable to contact	72
contacted by mail but no response	448
contacted by phone, declined	133
Total questionnaires completed	157
personal interview	91
mail in questionnaire	66

As indicated earlier, the purpose of this survey was to obtain information on woodlot management activities, interest, and plans to enable forest management planners in the

Fundy Model Forest to identify a number of possible management scenarios. This information could then be used to assist landowners in attaining the optimum integrated productivity from the forest. Principal categories within the questionnaire were identified on the basis of goals established for the model forest. These goals focus on timber, water, wildlife, biodiversity, recreation, and so on. A draft questionnaire was developed by the Planning Committee and distributed to various other committees for review and comment (there is a special committee for most of the main categories of output, e.g., biodiversity, recreation). The resulting questionnaire contained 9 sections and a total of 71 questions. Questions include yes/no, choice or priority responses, and general comments. (Appendix).

### **3.0 Results of Survey**

Results of the survey are presented by category as they appeared in the questionnaire. The majority of answers were either yes/no, ranking by priority, or comment. Results are first summarized and presented for all properties. (See appendix). An attempt was then made to determine whether responses varied by size of property. In order to evaluate this, owners were arbitrarily grouped into three categories: a) small or lowest one-third, with property size from 10 - 28 ha; b) medium or middle one-third, property size 28.5 - 58 ha, and; large or highest one-third, property size 61 - 499 ha. Each group has approximately 47 owners.

As indicated above, questionnaires were completed for 157 woodlot owners, some of whom had more than one property. Data on size of property were available for only 141 owners. Total area owned by this group amounted to 8 614 ha. Size of properties ranged from 10 ha to 499 ha and averaged slightly over 61 ha. The median size of property was 40 ha.

#### **3.1 Education and Information**

This group of questions was aimed at determining woodlot owners' knowledge of the S.N.B. Wood Co-Operative and the Fundy Model Forest (FMF) and their interest in participation in educational activities. Results show (Table 2) that the majority of owners know about S.N.B. (87%) and the FMF (59%). More than three-quarters of the respondents would like to know more about FMF projects in general and silviculture specifically.

Asked whether they would like to participate in education and information activities, only slightly more than half said "yes". Those who responded yes were interested in general activities primarily, but a number were also interested in silviculture and woodlot management. Other interests were wildlife enhancement, thinning, and recreation. A number of owners who were not interested in education and information stated that they simply did not have the time. Others said that their poor health was a factor, or that they had already taken courses.

When evaluated by size of property results show that the large owners (largest one-third of owners responding) were less familiar with S.N.B. (85%) than were the medium size (94%) and small size groups (90%). However, the medium and larger size groups were more knowledgeable about the FMF than were the smaller property owners. Larger owners tended to be more interested in forest management projects in the FMF than did small size owners. And, the larger owners were more interested in educational and information activities than were the smaller owners.

**Table 2. Attitudes toward education & information**

	<u>All Owners</u>	<u>Small</u> <u>% yes</u>	<u>Medium</u>	<u>Large</u>
Previously knew about S.N.B.?	87	90	94	85
Previously knew about FMF?	59	56	62	61
Like to know more about FMF projects?	78	73	81	82
Types of projects?	general			
	selection harvest			
	silviculture			
	all			
Like to participate in education & information activities?	55	48	58	61
Types of projects?	general			
	silviculture			
	woodlot management			
	all			

### 3.2 Management Planning

The majority of woodlot owners in the survey rank wood supply as their number one priority. Forty percent said that this was the primary interest for their woodlot. Wildlife was listed as second, recreation was next followed by financial income, ecosystem and biodiversity and specialty products. If one assumes that the ultimate purpose of wood production or supply is financial, then 54% of owners rank this as their top priority. (Table 3). Since some owners listed more than one output or use as a priority, the sum of the rankings (187) totaled more than the number of owners (157). If one eliminates the duplication, the relative ranking does not change.

Analysis of the priorities by woodlot size class indicate that wood supply is equal in priority among all size groups. Wildlife appeared to be of higher priority for the larger property owners, and recreation was rated higher among small owners. Larger property owners felt that financial income was relatively more important than did smaller owners. Interest in ecosystems and biodiversity appears to be roughly equal among size classes. And, there appears to be somewhat more interest in specialty products among the medium and larger land owners than with the smaller owners.

**Table 3. Priorities of woodlot owners**

Priority	Owners who rank # 1/a					
	<u>All Owners</u> (#)	<u>(%)</u>	<u>Small</u> # of owners	<u>Medium</u>	<u>Large</u>	<u>/a/b</u>
Wood Supply	74	(40)	22	22	22	8
Wildlife	36	(19)	9	11	12	4
Recreation	29	(16)	13	9	6	6
Financial Income	27	(14)	5	7	13	2
Ecosystem/biodiversity	12	(6)	4	3	5	-
Specialty products	9	(5)	1	4	3	1
Total	187					

a/ A number of owners ranked more than one output as a priority (there were 157 respondents; 187 ranked a product as # 1)..

b/ Property size is not available for a number of owners.

Almost 40% of the owners in this survey indicated that they had a management plan. This percentage appears to be high (personal communication with members of SNB). This may be due to a bias referred to earlier resulting from owners who declined to participate in the survey. About 15% of owners contacted by phone said they felt that their properties were too small or that their operations were not significant enough to warrant their participation. SNB staff feel that approximately 15% of all owners rather than 40% (as indicated in the survey) is a more accurate estimate of those who do have management plans.

More than 60% of woodlot owners in the survey indicated that they did not have a management plan, yet more than 68% feel that management is sustainable (will result in

sustainable output). More than three-quarters of owners personally manage their woodlots. When asked whether they would like technical advice regarding woodlot management activities, only slightly more than half (53%) responded “yes”. The principal interest of those who said yes was in general information, while others specified silviculture, reforestation, and a variety of other topics. (Table 4).

Analysis of responses by size of property show that owners with the largest properties (>60 ha) are more likely to have a management plan (44%) than those with medium (28.5 - 60 ha) (40%) or smaller properties (10 - 28 ha) (35%). As shown above, about 68% of owners feel that their management is sustainable; those with smaller properties are the most optimistic (75% feel that management is sustainable) than those with larger properties (66% for medium, and 72% for large).

Larger property owners are more likely (83%) to personally manage their woodlots than are medium (81%) or smaller ones (77%). The medium size owners (28.5 - 58 ha) are the owners most interested in technical advice (62%); the large owners are least interested (44%) followed by the small ones (54%).

**Table 4. Woodlot management planning**

	<u>All Owners</u>	<u>Small</u>	<u>Medium</u>	<u>Large</u>
	<u>% yes</u>			
Do you have a management plan?	39	35	40	44
Feel that management is sustainable?	68	75	66	72
Personally manage woodlot?	80	77	81	83
Want technical advice?	53	54	62	44
Type of technical advice?	general silviculture reforestation all types			

### **3.3 Wood Supply**

#### **3.3.1 Harvesting**

At the outset of this project it was felt that if management planners within the model forest could get a clear indication of harvesting and silvicultural intentions of woodlot owners, it would help in formulating different scenarios of management and the probable impacts not only for the CSA but also for the entire model forest. Questions were therefore designed with this objective in mind. The first set deal with harvesting plans - timing, products, and equipment. The second set of questions (in the following section) are directed at silvicultural planning.

When asked if they intended to harvest on their woodlot in the future, almost three-quarters (71%) responded “yes”. Reasons given for harvest were primarily financial/personal income, to obtain firewood, or because trees were mature or “needed to be cut”. Those who did not plan to harvest in the future said that the property had been cutover or did not need to be cut. Some responded that there were other uses such as maple sugar. Future harvest plans do not appear to vary markedly by size of property. The proportion of owners who plan to harvest in the future is somewhat lower for the medium size class (66%) than the large (74%) and small owners (71%) but whether this is significant is not clear.

Plans with respect to frequency of harvest indicate that the majority (59%) intend to harvest annually, while almost 30% said they would harvest as necessary or when required. When asked “which stands will you be harvesting?” owners indicated lot numbers or different stands based on species, or did not know. Responses to types of products to be harvested and volumes varied considerably and provided no real indication of quantities.

The preferred method of future harvests is overwhelmingly by selection cut (73%). Clearcutting is planned by only about 13 % of owners responding. This appears to indicate a change from past practices in that increased emphasis will be put on the selection form of harvesting. The preferred method of harvest does not appear to depend on size of property owned. The predominant equipment to be used for harvesting is chain saws and tractors (54%), followed by chain saw and skidders/porter (17%), and horses (11%). About two-thirds of owners plan to do their own harvesting, with about one-quarter using contractors. Those with smaller properties are more likely to conduct their own harvesting while the larger owners say they will use contractors.

While the majority of owners harvest only timber, some 15-16% produce other products such as maple syrup, Christmas trees, and fuelwood. (Table 5).



**Table 5. Harvesting plans of woodlot owners**

	<u>All Owners</u>	<u>Small</u>	<u>Medium</u>	<u>Large</u>
Do you intend to harvest on your woodlot in the future?	71	71	66	74
If no why not?	>75% because nothing ready to harvest some due to health some because of other products			
How often for harvest?	yearly (59%) as needed (28%)			
Methods of harvest?	selection (68%) clearcut (13%)			
Type of equipment?	tractor (54%) skidder/porter (17%) horse (11%)			
Who will do harvest?	<u>All Owners</u>	<u>Small</u>	<u>Medium</u>	<u>Large</u>
		(%)		
self /owner/son	75	84	73	67
contractor	23	13	23	33
don't know	2	3	3	-
Other products?	maple sugar, firewood , Christmas trees			

### 3.3.2 Silviculture

Only about one-third of the woodlot owners in the survey said that they now practice silviculture. However, the majority (83%) of those who do not said that they will in the future. The most prevalent type of silviculture work reported was thinning (62% of respondents), selection harvest (53%) and reforestation (31%). (Table 6)

The majority of owners say they will do their own silviculture work (60%), while the remainder is expected to be done by a contractor. If one looks at property size, there is a considerable difference in who will do the silviculture. More than three-quarters of small property owners plan to do their own work; they plan to rely on contractors for 21%.

Medium size owners will do about two-thirds (68%) of their silviculture and rely on contractors for the remainder. Less than half (45%) of large owners will do their silviculture work; contractors will be hired for the majority.

More than one-half of the woodlot owners surveyed said they would not practice silviculture without financial assistance. And, a number of those who said they would (>20%) said that they would practice on a smaller scale, or only if economical, or was not too expensive. One respondent said he/she would practice silviculture without financial assistance only if the product value increased. This varied by size of property owned. Smaller property owners (10-28 ha) say they will more likely practice silviculture without financial assistance (63%), than medium (28.5-58 ha) (43%) or large owners (>61 ha) (41%). A reasonable conclusion seems to be that financial assistance is important to most owners, more so for the larger ones.

Most woodlot owners (>90%) in this survey do not plan to use pesticides. Many say that they simply do not agree with their use; other main reasons are that they are concerned for wildlife, feel that control should be left to nature, or that they have real concerns for health and the environment.

**Table 6. Silviculture plans of woodlot owners**

	<u>All Owners</u>	<u>Small</u>	<u>Medium</u>	<u>Large</u>
	<u>% yes</u>			
Do you practice silviculture?	38	38	38	39
If not, do you plan to practice?	yes (83%)			
What type of silviculture?	(%)			
thinning	62			
selection harvest	53			
reforestation	31			
Who will do the work?	(%)			
self/family	60	76	56	45
contractor/SNB	37	21	37	55
other	3	3	7	-
Practice silviculture without accessing financial assistance programs?	yes (48%)	63	43	41
Plan to use pesticides?	yes (10%)			

### 3.4 Recreation

More than two-thirds of woodlot owners surveyed use their property for recreation but only about half said they intended to use it for recreation in the future. Principal uses by order of priority are for hiking, hunting, ATV's, x-country skiing, and bird watching. There are some noticeable differences in use by property size. Those with smaller woodlots say they will use property primarily for hiking and hunting. Cross country skiing is relatively more popular for medium size owners. The majority of use is personal and public; only 2 owners indicated that they use the property for commercial recreational purposes. Many of the woodlots (60%) have homes or camps (33%) on the property.

**Table 7. Recreational use of woodlots**

	<u>All Owners</u>	<u>Small</u>	<u>Medium</u>	<u>Large</u>
	<u>% yes</u>			
Use the Woodlot for recreation?	69	81	68	63
Expect to use for recreation?	55	63	55	50
Principal uses?	(%)			
hiking	53	63	49	46
hunting	47	54	47	46
ATV's	38	48	30	39
x-country skiing	31	42	77	30
bird watching	27	29	30	22
Types of uses?	(%)			
personal	80			
personal/public	18			
personal commercial	2			
Have a camp or home on woodlot?	(%)			
home	60			
camp/cottage	18			

### **3.5 Wildlife**

Almost two-thirds (62%) of woodlot owners in the survey indicated that they intend to manage for wildlife and the principal reason given is that they enjoy or like various animals such as deer and birds. (Table 8). Some of those who answered no said that they were not able to manage for wildlife because of the lack of time, because of their age, or because they are absentee owners. Smaller property owners indicate that they are more likely to manage for wildlife than are the larger owners. Types of wildlife enhancements planned include leaving snags or certain species, protection areas, through silviculture or harvesting measures, and by feeding birds. Almost all owners are aware of the types of wildlife on their properties and where they are located.

Slightly more than one-quarter of property owners post their land to control hunting. The majority (51%) use a combination of signs and yellow discs; about one-third (32%) use signs and red discs, and; the remainder use signs. The main reasons given for posting property is to protect wildlife and to control access. Some owners are concerned about safety. About 40% of the properties have abandoned agricultural land or apple orchards.

A cross check was done to determine how many of the owners who said they intended to hunt on their properties also intend to post them. Twenty six percent of those who intended to hunt said they intended to post their properties. Of those who said they did not intend to hunt, 28% said they intended to post the property.

Another comparison was done to determine whether those who ranked wildlife as a priority for management also intended to harvest. Of the 36 owners who ranked wildlife as the # 1 priority, two-thirds of them said they also intended to harvest the property. The proportion was about the same for those who ranked wildlife as # 2, but for those ranking wildlife as # 3, more than 80% said they also intended to harvest.

### **3.6 Socio-economics**

About two-thirds of woodlot owners in this survey acquired their property by purchase and the remainder by inheritance. (Table 9). A higher percentage of small property owners purchased their properties than did medium or larger owners. And, most owners (82%) plan to pass the property to their heirs.

Despite the fact that a majority of woodlot owners in this survey said that they owned the property for wood supply or financial income, only a small proportion of them actually receive any income from the woodlot. When asked whether they receive a portion of income from their woodlots, only 29% or 45 owners of 157 said "yes". Thirty of these who responded "yes" indicated the proportion of income received. Of this group almost 75% received less than 10% of total income from their woodlots (the majority of those answering this question received 5-10% of income from the woodlot). Only one person who responded to this question received 100% of his/her income from the property.

**Table 8. Wildlife management on woodlots**

	<u>All Owners</u>	<u>Small</u>	<u>Medium</u>	<u>Large</u>
	<u>% yes</u>			
Do you intend to manage for wildlife?	62	69	64	57
If no why not?	(%)			
not needed/leave to nature	39			
time/cost	22			
health	17			
absentee/too distant	11			
don't know or want more info	11			
Types of wildlife enhancements?	leave snags leave species or special areas silviculture or harvest control feed birds			
	<u>All Owners</u>	<u>Small</u>	<u>Medium</u>	<u>Large</u>
	<u>% yes</u>			
Post the land to control hunting?	27	25	30	22
signs & yellow discs	51			
signs & red discs	32			
signs	17			
Why post the land?	protect wildlife control access safety			

These results appear to be very conservative and may be misleading. Results of past surveys indicate that owners are very reluctant to provide information on income received from these types of operations. However, no specific evidence is available to indicate that this is the case in this survey.

About one-quarter of the people surveyed stated that the woodlot is part of another income generating operation. This was most commonly a farm. It is difficult to determine how much employment is derived from these woodlots. As reported above, only about 30 owners stated that they received some income from the property. It appears that at least half of these worked less than one month; about one-quarter worked part of the year, and only one said that he or she works the full year. When asked about other values from the woodlot (other than employment and income), the majority of owners indicated recreation, privacy, fuelwood and pride of ownership

**Table 9. Socio-economic impacts of woodlots**

	<u>All Owners</u>	<u>Small</u>	<u>Medium</u>	<u>Large</u>
	( % )			
How was woodlot acquired?				
purchased	66	74	68	64
inherited	28/a	23	27	27
purchase/inherited	6	2	5	9
Intend to pass to heirs?	82	75	83	87
Owner receives a portion of income from woodlot?	% who said yes			
	29	17	23	48
Is woodlot part of farm or other income generating operation?	yes (24%) primarily farm			
How much employment is generated from woodlot operation?	15 owners < one month 8 owners partial year 1 owner full year			
What are some of other values from woodlot?	recreation (29% of respondents) privacy (12%) fuelwood (10%) pride of ownership (8%)			

a/ The average for the total number of owners is different because the total includes 16 owners whose size of property is not known. These 16 owners are included in the total but not in the breakdown by size class.

### **3.7 Biodiversity**

Either there are few unique areas, features, or species on woodlots included in this survey or owners do not know about them. Only 24% of the sample indicated that there were special or unique areas on their property. These included natural springs, swamp, bog, stand of oak, and so on. Most owners, however, would make an effort to preserve special areas if they were identified. When asked if they felt it was important to keep a portion of the woodlot in an older condition to meet the needs of wildlife, almost 80% responded “yes”.

**Table 10. Biodiversity interests of woodlot owners**

Aware of any unique areas, features on woodlot?	yes (24%)
Would you make effort to preserve if there were such areas?	yes (88%)
Do you feel that it is important to keep a portion of woodlot in older condition for wildlife?	yes (80%)

### 3.8 Soil and Water

Almost three-quarters of woodlots in the survey included watercourses and about 40% included wetlands. When asked whether they take special precautions when working with wet areas a little over half the owners said yes. Almost all owners are aware of the Clean Water Act regulations and most feel that they are important or necessary. Some owners (13%) feel that they are strict or too strict. Soil erosion does not appear to be a problem on woodlots since only 5% of those surveyed indicated that they had a problem.

**Table11. Soil and water problems on woodlots**

Have watercourses on woodlot?	yes (70%)
Have wetlands on woodlot?	yes (41%)
Take precautions when working in these areas?	yes (51%)
Are you aware of Clean Water Act?	yes (92%)
Attitude toward the regulations?	(% of respondents)
agree/needed	81
strict or too strict	13
other	6
Do you have soil erosion problem?	yes (5%)

### 3.9 Community

More than half the owners surveyed in this study feel that their personal values cannot be sustained independently of what happens on the surrounding areas. And more than 85% state that they would be willing to change what they do on their woodlot if their neighbour were willing to do the same. About three-quarters of owners would be willing to change their harvesting practices to participate in a coordinated habitat and timber management program. However, a number of owners qualified their answers to say that they would change depending on the situation, or if it proved beneficial, or if income were not an issue, and so on.

**Table 12. Woodlot owner attitudes toward the community**

Can woodlot values be sustained independently of actions on surrounding land?	yes (45%)
Are you willing to change actions on woodlot to complement the neighbour' actions?	yes (86%)
Would you be willing to alter harvesting to assist in coordinated habitat and timber management program?	yes (76%)

### 4.0 Summary and Conclusions

The purpose of this survey was determine woodlot owner plans and interests in a case study area of the model forest regarding a number of management activities. This information, it was felt, would be useful in identifying and evaluating a number of management scenarios and potential impacts which would ultimately assist landowners more effectively manage their properties.

About 20% (157) of the eligible owners were interviewed or responded by mail to a questionnaire consisting of nine categories of questions. Property sizes ranged between 10 and 499 ha with the average size being about 60 ha. Results show that the majority of those surveyed are familiar with both SNB and to a lesser extent with the Fundy Model Forest. About three-quarters would like to know more about activities of the model forest but only about half (mainly larger owners) would like to participate in education and information activities.



One gets the impression that while wood supply or income is of primary importance to most owners, the properties are really valued for their multiple use. There really is no overwhelming single reason for owning a woodlot. Wood supply ranks as the most important priority for owners in the survey, and if combined with financial income about 55% of owners said that this was their # 1 interest. But, one in five owners ranked wildlife as their main concern And, recreation was almost as important. While there was interest expressed in ecosystems and biodiversity, this was not ranked as a high priority by those questioned.

There appears to be a definite opportunity for assisting owners with management plan preparation. Only slightly more than one-third of owners have a management plan, yet two-thirds of them feel that their management is sustainable! This obviously raises the question as to how they know this or why they feel this way. Most owners personally manage their property and, more than half said they would like technical advice.

Most owners are amenable to harvesting their woodlots but they do not want them clearcut.

Almost three-quarters of those surveyed said they intended to harvest their properties. Those who said no did so primarily because there is little on the property to harvest. The majority of owners intend to use a selection harvest as opposed to clearcutting. This diverges some from past practices in that clearcutting has been the main approach. As might be expected, owners of smaller properties plan to do most of their own harvesting while larger owners intend to use contractors.

There appears to be increasing interest in silviculture but financial assistance is important to many of the owners. Only about one-third of the owners say that they now practice silviculture. This is consistent with the proportion who say they have management plans. While this proportion is low now, more than 80% of owners say they will practice silviculture in the future - mainly thinning and selection harvest. Financial assistance for silviculture is important to more than half the owners and it is more critical to larger owners. A lot of the owners who said they would practice silviculture without financial assistance qualified their answer by saying that they would do less.

There is a high level of interest in woodlots for personal recreational use. The main uses by order of priority are hiking, hunting, and ATV's, however, cross country skiing and bird watching are also important. Almost two-thirds of woodlots have a home on them and about 20% have a camp. Wildlife is relatively high priority for most owners. For those who said that they did not intend to manage for wildlife, the majority felt that nature would take its course. About one in four people post their land usually with signs and yellow discs. The reasons given for posting are to protect wildlife and control access.

Socio-economic impacts of woodlots are somewhat difficult to ascertain. Only a small proportion of owners (<30%) say that they received part of their income from their property. This seems rather low and one might conclude that it is conservative or misleading especially since over half of them said that wood supply or financial income was their main priority for owning the property. Often with this type of survey respondents are reluctant to indicate an accurate financial picture because the information

is simply too personal. If information on socio-economics impacts of woodlots is important other ways of obtaining the data should be considered.

Biodiversity in woodlots is important to many owners but it is not a high priority compared to other uses or characteristics. Many owners say they would make an effort to preserve special or unique areas or species, but it must be questioned whether this effort would be made if there were a sacrifice of timber or income as a result.

Most of the woodlots included in this survey have watercourses on them and the majority of owners are familiar with the Clean Water Act regulations. Further, over 80% of the owners agree with the regulations. Over half the owners feel that they cannot sustain woodlot values independently of their neighbours; and, many of them would be willing to cooperate if it meant improving habitat and timber management programs. This does not mean there is unqualified support, but simply support in principle.

The extent to which information obtained in this survey will be helpful in management planning is uncertain. Although much of it is of a general nature, it does provide a broad indication of priorities, opportunities for assistance, and potential areas of conflict. It further serves to identify areas where results should be clarified or verified.

### **Acknowledgments**

A number of people were responsible for this study. Overall planning and coordination was provided by members of the Planning Committee for the Model Forest. Other Committees reviewed drafts of the questionnaire and provided comments. Brian Belyea and Clark Phillips with the Southern N.B. Wood Co-operative were responsible for initiating and coordinating the survey and collation of data. Jeff Dowe, Peter Ritchie, and Rob Anderson (SNB staff) conducted the interviews and collected data through the mail out of questionnaires. Lesa Critchley and Krista Spencer with SNB assisted with the data collation and tabulation. Walter Emrich (Fundy Model Forest) provided input to the sample selection and contributed the maps seen in Figs. 1 and 2. Finally, there were 157 woodlot owners who provided information on their current practices, goals, attitudes, and plans for the future.

### **Appendix**

