

## THE PRIVATE FOREST OWNERS OF EASTERN CANADA — A SURVEY

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A study to determine the effectiveness of private forestry assistance programs in Ontario, Quebec, New Brunswick and Nova Scotia was conducted among three complementary groups of individuals concerned with the private forest resource. Rural residents, members of woodlot owner associations and extension foresters in the four provinces were surveyed using three different, bilingual questionnaires. The majority of rural residents do not use forestry assistance programs. Forty-five percent of the woodlot association members responding used one or more of the several available programs. Fifty-four percent of these users had a high regard for the assistance provided. Extension foresters felt that the objectives of their respective assistance programs were being met with available resources but performance could be bettered with more staff, increased budgets and an improvement in communications. This was a first attempt to evaluate private forestry assistance programs in a Canadian context.

### Intensifying Private Forestry

Many authorities have recently underlined the need for more intensive forest management in Canada (REED 1978, CF A 1977). The problems of improving management of the Canadian forest, in general, were clearly stated at the Canadian Forestry Association's Regeneration Conference held in Quebec in 1977. The Reed report (1978) provided further precise data on regional forestry difficulties and the current imbalances between wood supply and demand for each province. Nova Scotia and New Brunswick were both found to be in a wood deficit position in 1977. Privately owned forests must be included in the renewable resources picture since they offer unusual possibilities for redressing the balance in the wood-deficit provinces, and adding significantly to production in others.

In dealing with the small private forest it must be understood that it has been neglected for many years and for many reasons. In comparison with the immensity of Canada's

public forests, private forests are small in overall extent, land values are relatively low, and annual revenues even lower. Individual private forests and farm woodlots average less than 70 hectares in all provinces, are frequently fragmented and silviculturally complex, and held by a diverse group of individuals with a vast array of objectives for owning forest land. Despite these complexities private woodlands are readily accessible for management and extraction of products, located close to sources of labour and markets for their goods and services, and mostly situated in the best growth areas (JONES and LORD 1970). MACARTHUR (1979) underlines other potential values that

"Justify serious efforts to improve... performance. Stimulation of rural and regional economies, increases in property values, production of important raw material and services, and the benefits to society at large of better use of a valuable resource all come to mind."

Table 1. Current Statistics — Farm Woodlands & Private Forests — E. Canada.

Province	Farms with woodlots <sup>1</sup>	Farms with woods	Farm Woodland area	Average Woodland per farm <sup>1</sup>	Farm Wood Production <sup>2</sup>	All Private Forests <sup>3</sup>	
						Depletion by Cutting	Annual Allowable Cut
	1000	%	1000 ha	ha	cunits	m <sup>3</sup>	m <sup>3</sup>
Ontario	51.6	54	939	18.2	365.0	(3955) <sup>4</sup>	11532
Quebec	44.4	72	1265	28.4	1035.0	6655	6900
New Brunswick	4.5	82	278	61.7	126.0	3528	6801
Nova Scotia	4.5	76	302	66.2	107.0	2621	2726

1. Statistics Canada 1973. 1971 Census of Canada — Agriculture, N. S., N. B., Que., Ont. Catalogues 96-704, 96-705, 96-706, 96-707. Tables 30; Tables 42.
2. Statistics Canada 1978 Canadian Forestry Statistics Catalogue 25-202. 1976 data year.
3. Bowen, M. G. 1978. Canada's Forest Inventory — 1976. F. M. I. Information Report. FMR-X-116. Canadian Forestry Service, Environment Canada. Tables 8, A30 and A31.
4. Armson, K. 1976. Forest Management in Ontario. (volume of wood cut from patented lands, 1974-75; 1, 396, 252 cunits).

During the last decade several methods and approaches to raise the level of management of private forests have been initiated through a wide variety of aid programs specifically designed to reach small forest owners in the eastern provinces (GILBERT 1978, MAC-ARTHUR 1978). Are these programs getting results? A 1976 study attempted to answer this question.

With the above constraints and opportunities in mind the research was established to evaluate assistance programs now available to woodland owners in Ontario, Quebec, New Brunswick, and Nova Scotia. The objectives were to:

- (i) summarize the existing data regarding non-industrial private forestry in each province,
- (ii) determine the kinds of assistance available to forest land owners,
- (iii) evaluate the effects of provincial forestry incentive programs, and
- (iv) assess the effectiveness of the survey techniques.

Existing statistical information concerning the private forest resource was found to be inadequate and incomplete. Table 1 provides an outline of current data compiled from a number of sources (BOWEN 1978, Statistics Canada 1973, 1978, ARMSON 1976) for the four eastern provinces.

### Provincial Forestry Assistance

For many years the eastern provinces have been involved, one way or another, in trying to educate their forest landowners in woodland management. These educational efforts continue and are now being augmented by more direct assistance. Table 2 lists the assistance programs available to forest owners at the time of the study (i.e. 1976-78). The backbone of forestry extension in eastern Canada has been the advisory service visit dating from before the 1950's. Over the last two decades each provincial forestry department, in some cases aided by Federal funds, has developed new forestry assistance programs for the kinds of public they serve.

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Table 2. Assistance programs for private forest owners.

Province	Program	Date in force
Ontario <sup>1</sup>	Woodlot Advisory Service	1940's
	Woodlot Improvement Act	1966
	Managed Forest Tax Reduction	1975
Quebec <sup>2</sup>	L'Aide Technique	1940's
	Le Reboisement	1942
	Le Concours du Mérite forestier	1962
	Les organismes de gestion en commun	1971
New Brunswick <sup>3</sup>	Le Credit Forestier	1976
	Woodlot Advisory Service	1950's
	Christmas Tree Program	1975
	Woodlot Roads Program	1975
	Expanded Assistance Programs	1978
	Nova Scotia <sup>4</sup> Woodlot Advisory Service	1950's
	DREE Forestry Subsidiary Agreement <sup>5</sup>	1978

1. Bernier, Hon. L. and W. D. McKeough. 1975. Managed Forest Tax Reduction Program 1975. Ministry of Natural Resources, Toronto.
2. Barrette, Y. and D. P. Langevin. 1979. Resources et Activités en Forêt Privée. Direction Générale des Forêts, Ministère des Terres et Forêts, Quebec; Morin, V. 1976. La Forêt privé et la formule de regroupement forestier. 9th Annual Woodlot Extension Specialists Seminar at Sussex, New Brunswick. Mimeo.
3. Personal communications. J. Hermelin, Fredericton, N. B., 18/10/76; 24/01/77.
4. Personal communication, G. T. C. Erns, Bridgewater, N. S., 10/12/76.
5. Anon. 1977. Forestry Subsidiary Agreement announced. Woodland Ledger — The Voice of the N. S. Woodlot Owners' and Operators' Association 77 (2): 3-6.

#### 1. Ontario

Besides its advisory service, Ontario has two recent programs available for its farm woodlot owners and tree farmers.

- (i) The Woodlot Improvement Act (W.I.A.) was initiated in 1966. It is a contractual agreement between the landowner and government with a duration of at least 15 years. The landowner must have at least five acres of woodland. It must be protected from fire, disease and insect attacks and grazing. In return the government provides free planting stock, timber stand improvement (t.s.i.) and harvesting assistance and marketing advice.
- (ii) The Managed Forest Tax Reduction Scheme commenced in 1975. In this program a landowner holding a minimum of 25 acres of forest land under a W. I. A. agreement or a forest managed under a plan prepared by a registered professional forester is entitled to a grant

equivalent to 50 per cent of the municipal, school or local roads board taxes.

#### 2. Quebec

In addition to the advisory service the Quebec Ministère des Terres et Forêts (M.T.F.) administers four aid programs for private forest owners.

- (i) Reforestation assistance has been available to Quebec landowners since 1925. In 1942 the Berthierville forest nursery was producing about three million trees annually for private land reforestation. Between 1880 and 1966 some 20 million trees were planted, mostly by large forest owners. Beginning in 1968 reforestation assistance was restructured and the number of plants distributed increased from 5 to 20 millions per year. Assistance now includes free planting stock and if the quantity is sufficient (more than 5,000 trees) and site suitable, the use of a

mechanical planter. (BARRETTE and LANGEVIN 1979).

- (ii) The Forestry Merit Award (Le Concours du Mérite forestier) was initiated in the early 1960's to recognize the outstanding efforts of individual owners of plantations, natural forests and maple stands. The reward includes a citation, a cash prize which currently ranges from \$500 to \$1500, and media coverage. Awards totalling \$27,000 for all Quebec in 1979 will identify outstanding forest owners and their holdings.
- (iii) The Groupement Forestier Program (Les organismes de gestion en commun) started in 1972. It is an attempt to consolidate private forest holdings into regional forest management units. Landowners enter into an agreement with government and amongst themselves to form a company. This agreement has a minimum duration of fifteen years. The government provides technical support, a start-up grant, and diminishing operating funds based on the profitability of the operation. The goal of the program is to stimulate regional employment opportunities and increase forest production.
- (iv) Quebec passed the Credit Forestier Act in 1976. This was to establish forestry credit based on the value of forest land. There are two types of loans available; long and short term. These loans are guaranteed by government up to 90 % of the value of the woodlot on the condition that the borrower submits his property to a plan of management that will ensure good forestry practice. Money can be used to consolidate forest holdings, machinery purchases, woodlot improvements, planting stock and other approved projects. Long term loans extend over sixty years to a maximum of \$40,000 for an individual or \$500,000 for a company. Short term loans extend over 15 years and are valued at \$25,000 for individuals or \$100,000 for companies. Requests for loans are approved by the Ministère des Terres et Forêts but funds are administered by L'Office du crédit agricole.

### 3. New Brunswick

New Brunswick had two major programs of direct assistance in effect, besides its advisory service, when the study was initiated.

- (i) The Christmas trees program provides financial assistance up to \$80 per acre for a maximum of 10 acres per year. Treatments to wild or planted stock have specific costs and thus the landowner is paid according to a scale and may not receive the total allowable assistance.
- (ii) The objective of the Woodlot Roads Program is to provide financial assistance for roads providing access for harvesting operations from private woodlands and Christmas tree farms. It is available to woodland owners who possess an approved management plan. Assistance covered 40 % of machinery costs of road building to a maximum of \$1,000 yearly. The owner provides, as his share, labour and/or cash to cover the cost of road construction. In 1978 assistance to cover road machinery costs was raised to 60 % and expansion of existing programs took place. The details of the expanded programs are available from the Department of Natural Resources in Fredericton.

### 4. Nova Scotia

Nova Scotia has had an advisory service for a good number of years. At the time of this study it was operating with only two extension foresters as the A.R.D.A. programs initiated in the 1960's terminated.

In 1978 a five-year, cost shared Federal-Provincial Forestry Subsidiary Agreement was signed.

"The program is designed to improve the management and productivity of privately-owned forest lands in Nova Scotia by providing cash incentives to owners for approved forest management operations. Individuals, partnerships, associations, companies or corporations owning or controlling a minimum of 75 acres and not more than 5000 acres of forest land are eligible to apply for the full range of assistance under this program . . . Assistance includes forest management plans, silvicultural operations, access road construction, boundary line work, fire pond construction" (Nova Scotia Lands and Forests 1978),

and other services at varying rates according to type of work, size of holding, and class of forest owner.

Table 3. Extension forester survey

#### I Groups foresters most frequently deal with—by rank<sup>1</sup>

Prov.	Non-Resident	Non-Fram	Fram	Industry	Marketing Boards	Other <sup>3</sup>
Ont.	1	2	3	4	6	5
Que.	1	5.5	3	3	5.5	3
N.B.	0	2	1	3.5	3.5	0
N.S. <sup>2</sup>	—	—	—	—	—	—

#### II Methods of Program Evaluation — by rank<sup>1</sup>

Measures of success <sup>4</sup>	Ont.	Que.	N.B.	N.S. <sup>2</sup>
Personal satisfaction of the owner	1	5	3.5	
Number of owners signed up	2	1	2	
Acres treated or under contract	3	5	5	
Number of trees planted	4.5	9	7	
Increased annual enrolment	4.5	2	3.5	
Satisfies extension worker	8.5	3	1	
Increased wood production	6.5	5	10	
Satisfies socio-economic needs of owner	8.5	7.5	6	
Budget allocated	6.5	10	8	
Miles of access road built	11.5	12	9	
Satisfies political needs of government	10	7.5	11	

<sup>1</sup> One indicates first choice

<sup>2</sup> Not ranked in survey

<sup>3</sup> Other: correspondence, telephone enquires, public meetings, etc.

<sup>4</sup> The questionnaire listed thirteen specific measures

## Developing the Surveys

Three different groups of people were contacted in Ontario, Quebec, New Brunswick and Nova Scotia. The three populations included individuals involved closely with private forest land, rural residents, selected members of woodlot owners' associations, and extension foresters in each of the four provinces.

Three questionnaires were developed to obtain information from each of the three populations. The format for the three bilingual surveys used an explanatory letter to the recipient to which was attached a copy of the appropriate questionnaire. Return postage was guaranteed in the first two surveys.

Representative counties were selected for study in each province based on; the author's familiarity with the county, a search of the

census data, the existence of a forest-owning group and the presence of a wood-using mill within 100 miles of the county.

The Extension Forester Survey was sent to all professional extension personnel in each province. Table 3 contains some of the results of this latter survey.

### 1. Rural Residents

During the spring and summer of 1977 four thousand questionnaires were distributed to rural residents in one county, selected as described above, in Ontario, Quebec, New Brunswick and Nova Scotia. Two hundred and sixty-five questionnaires were returned. Because of low returns the data received was pooled and not evaluated by individual province.

It was observed that rural residents in all four provinces were a heterogeneous group with diverse occupations, education and

interests. The groups' average age was 46. Land was owned individually and tenure ranged from 11 to 30 years in 88 % of 221 replies. These owners acquired property through a purchase which in 150 cases consisted of two or more separate blocks of land. As might be expected, rural residents have varied educational backgrounds. Grade school, high school and university were most significantly represented. It was also observed that the significant occupations were wage earner, woods employment, farm interests and professional-businessman.

Although there are varied interests within the rural community, the significant purposes of landownership were, in order of response, wood production, maple products, residence and field-horticultural crops. Two of these purposes have a forestry objective and three of the four involve land as a unit of production. The survey further revealed that among the reasons for holding a woodlot was its value as a source of wood for home use and sale, for maple products, for Christmas tree production, or because it was part of the farm. Four of the five reasons have a production objective for ownership.

In spite of this only 53 of 265 responding rural residents (20 %) carried out forestry operations between 1973 and 1976. The four-year weighted mean of production for this group was 219 cords of pulpwood and 19 cords of firewood per annum. In reply to another question 69 % of the owners (156 of 225) cutover less than 10 % of their forests annually.

In terms of forestry programs 78 of 196 respondents reported using some government assistance. However, the majority (60 %) of rural residents who replied seemed unaware of available forestry assistance. The 78 rural residents who participated in the programs found them useful.

## 2. Woodlot Owner Associations

One woodlot owners' association was selected for survey in each province, as well as an initial test group of landowners from Macdonald College. The associations' secretariats were asked to forward a list of 50 names selected at random from their memberships. Three hundred and thirteen questionnaires were sent out and 132 members replied. The average age of this

group was 48 years. One hundred and one individually-owned land. Two ownership types were discerned; the small and large owner. The average total acreage owned by the 105 small owners was 160 acres with 111 acres of woodland. The 24 large landowners held 946 acres of which 799 acres was in forest.

One hundred and four members received no income from their forests, or less than ten per cent of it. Participation in a woodlot owners' association was a significant factor in motivating the members to seek aid to improve their woodlands.

Fifty-seven respondents had requested the use of some forestry program. The maximum number of programs used by any member was three. The majority used only one program, eight used two, and two participated in three. Thirty-one had a high regard for the outcome of the programs they had selected. As with the response to the Rural Resident Survey, the sample returns were too small to be used effectively to evaluate specific provincial programs.

## 3. Extension Foresters

One hundred and thirteen questionnaires were distributed to extension foresters in Ontario, Quebec, New Brunswick and Nova Scotia. The level of Nova Scotia's extension service was greatly reduced after the ARDA program was terminated in 1972. This meant that in 1975-76 the province had only two foresters working in extension. These two individuals were contacted and provided information but did not complete the questionnaire.

The levels of response were highest in Ontario (23 of 24) and New Brunswick (15 of 23). A low return from Quebec prompted a second distribution which raised returns from three to seven from 64 mailings. In this survey 100 per cent of the respondents were male. The group's average age was 38 and the number of years of forestry experience averaged 14, most of which was spent in government service.

Extension foresters spend the majority of their time working with forest landowners. New Brunswick respondents reported 100 per cent of their time spent with, or on behalf of, woodlot owners. Ontario and Quebec foresters spent 77 and 72 per cent,

respectively, of their time dealing with landowners. Table 3-1 gives the rank according to clientele groups for the three provinces from which data was received.

The time extension foresters spend in the field and office varied between provinces. New Brunswick foresters had the highest field time (78 %) working mainly with farm woodlot owners. Ontario and Quebec spent less time in the field (41 % and 30 %) working largely with non-resident owners. The provincial differences in field-office time appeared to be a result of the type of clientele each department served and the home location of the extension worker. Fourteen of 22 in Ontario, 11 of 15 in New Brunswick were rural-based workers. The seven respondents from Quebec's extension service were urban-based.

In order to rate the relative success of their programs the survey asked foresters to choose from a submitted list of 13 specific measures. Table 3-11 ranks the range of choices by provinces. Ontario rated 'Personal satisfaction of the owner' as its first measure of success. Quebec extension workers rated the 'number of owners signed up' as its first choice with New Brunswick rating 'satisfaction of the extension forester' as number one. The three provinces responding rated

number of owners signed up as the first or second best method of evaluating a successful program. Five out of eight of the top choices of program success dealt with the foresters relationship with the landowners or their own personal satisfaction. This suggests that these workers tend to be people oriented when evaluating their assistance programs.

In Ontario extension foresters felt that 29 per cent of the woodland-owning population knew of the department's services with 24 per cent aware of the program's objectives. Quebec and New Brunswick reported 43 and 45 per cent of the woodland-owning population aware of their respective department's services and 36 and 40 per cent their objectives. The workers were asked what measures would improve their department's forestry assistance programs. The general response from all provinces was a need for increased staff and budgets, and better communications with greater public relations. It was felt that the objectives of current programs were being met with available staff and budgets. The all-male tradition of forestry extension personnel might be leavened with some female workers to match the recent trend in female graduates coming out of Canadian forestry schools.

## Review of Results

The study obtained information from three complementary groups involved with farm woodlots and private forests. The project had limited funds to achieve its objectives. Three different questionnaires were designed for each population surveyed and there was an inherent difficulty in extrapolating results from one group to another as well as from province to province. The usual difficulties with an impersonal, mailed questionnaire occurred. These included the general wariness of the rural population as to the value of the study and the trustworthiness of the researches; the problem of obtaining an adequate number of respondents; the length of the questionnaires - eleven pages was too long with two pages improving responses but lacking in detail. Because of these difficulties it was impossible to evaluate a specific

assistance program. The study was limited to assessing forestry assistance in general terms. This is the first time this has been attempted.

The findings of the rural residents and woodlot owners' association surveys can be summarized as follows:

- (i) the majority of rural landowners do not use forestry assistance programs
- (ii) the few that did use the programs found them satisfactory
- (iii) those that responded were middle-aged, near active communities, living close to their lands which are largely forested
- (iv) the size of forest held by respondents tended to be similar over the four provinces (76-100 acres).

Among the woodlot association members who responded 54 percent reported no wood sales while 36 percent who did sell wood said

it represented less than 10 percent of their gross income. In their use of aid programs 57 of 127 respondents used one of the programs, 31 of these had a high regard for the assistance provided.

The responses to the Extension Foresters Survey were more positive. It was a first attempt to study this all-male special group.

- (i) Extension foresters tend to be people-oriented when evaluating their assistance programs and the number of owners signed up was rated as the first or second-best method of measuring a successful program.
- (ii) Field and office time varied among provinces. Foresters in Ontario and Quebec spent more time in office routine dealing with non-resident landowners; whereas in New Brunswick up to 78 percent of their time was spent in the field with the rural, resident population.
- (iii) Extension foresters, in general, are satisfied with their assistance programs but feel that improvements could be

obtained with increased staff and budgets and better public relations.

- (iv) Quebec had a larger variety of assistance programs and greater funding. It was not possible to determine the relative success of the individual programs. A review of the problems relating to private forests in Quebec was undertaken by 'un groupe de travail' in 1978 BARRETTE and LANGEVIN (1979). This report should help to evaluate current assistance programs for the province.

There appears to be an urgent need to study, in greater depth, current assistance programs offered to private forest owners considering the amount of public money invested in them. A major concern of the authors was the necessity to develop more precise guidelines for aid programs that will attract the more active, younger landowners as well as increase forest production and encourage a greater intensity of forestry on these largely neglected woodlands.

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