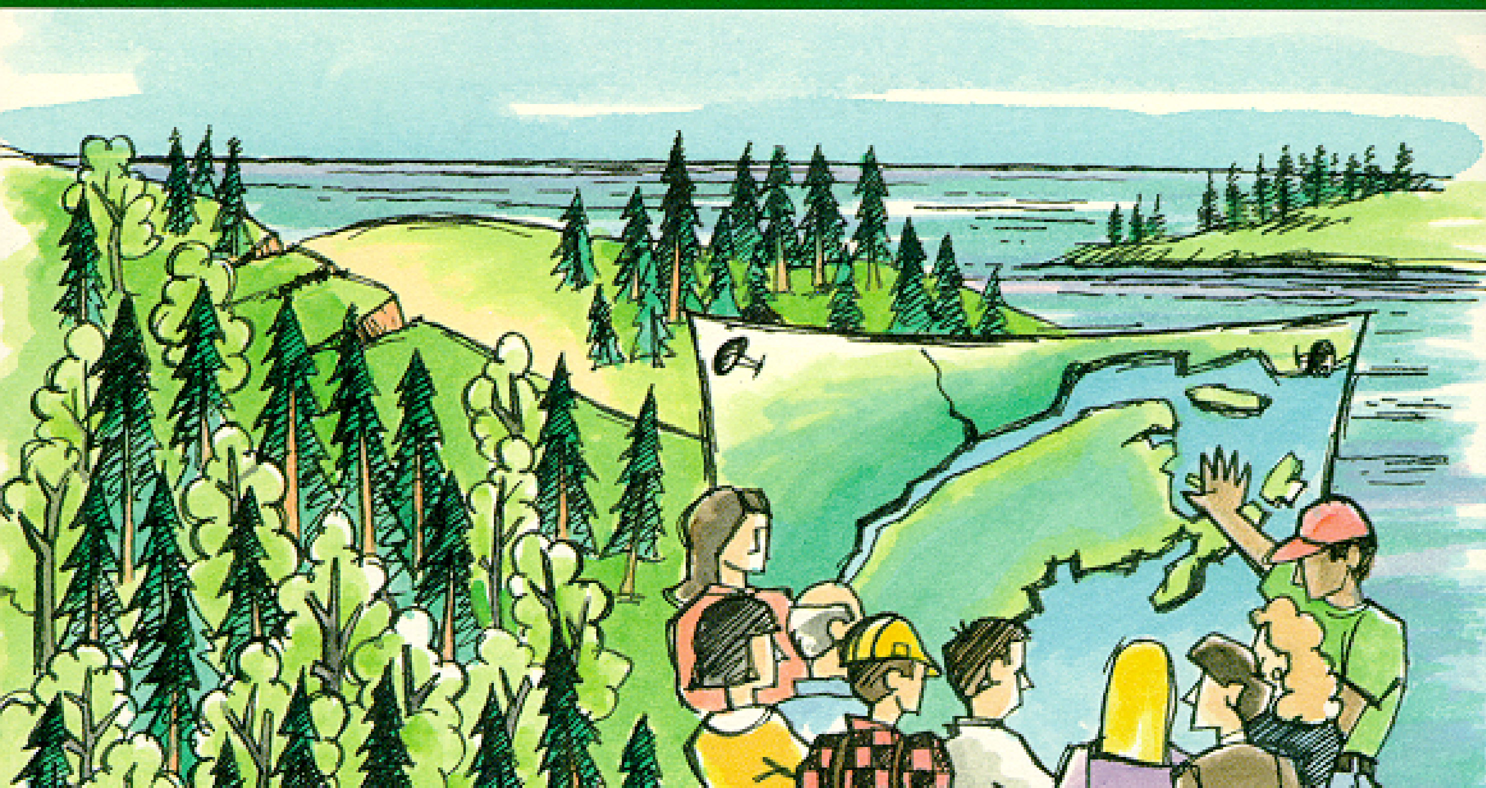
State of the Debate:

Private Woodlot Management in the Maritimes



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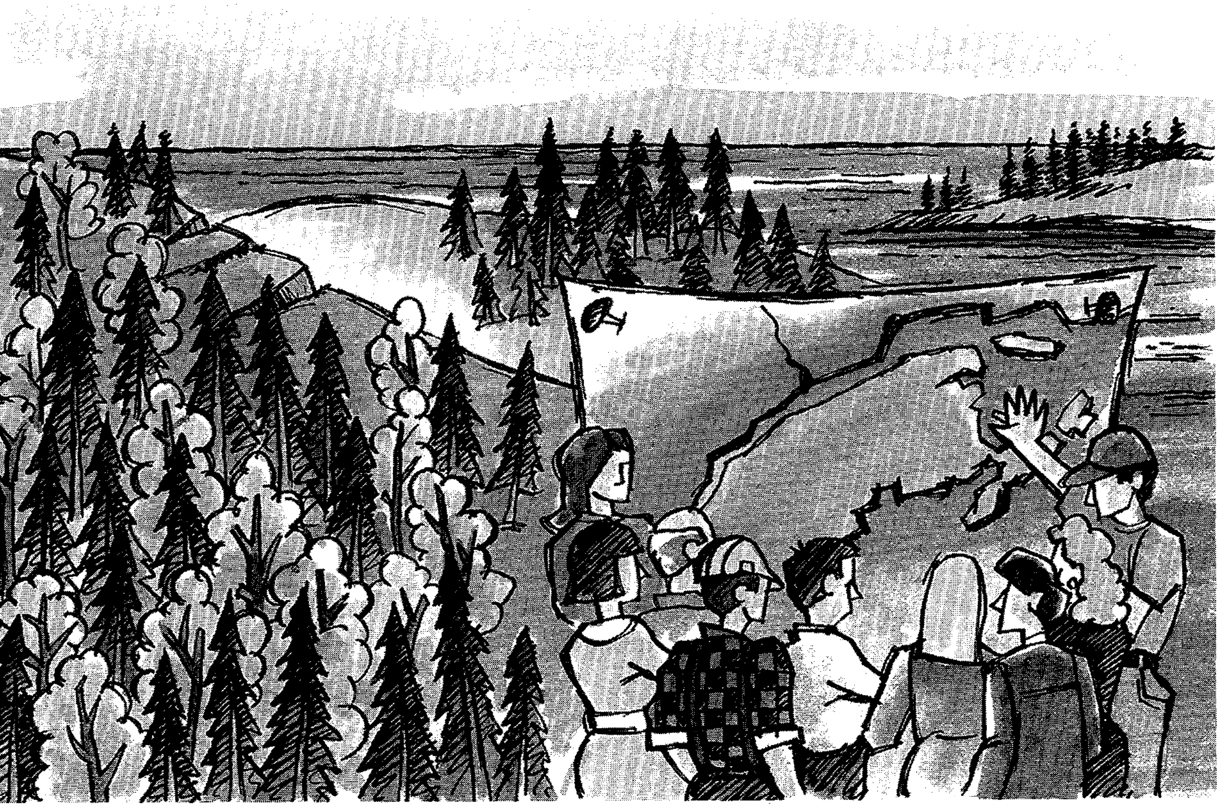
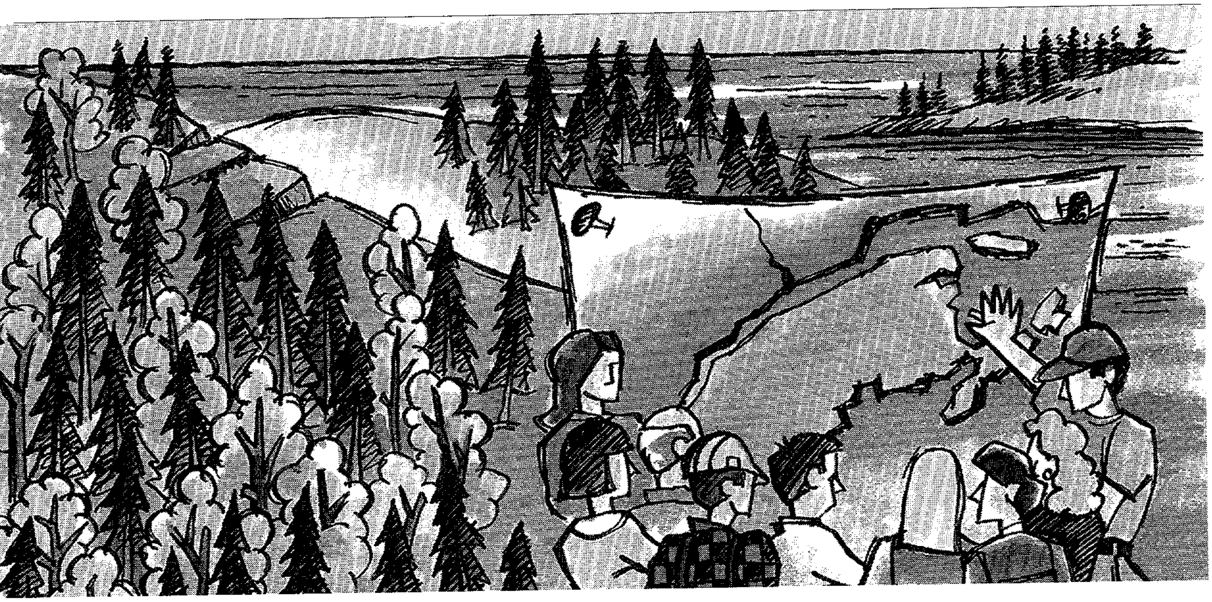


State of the Debate on the Environment and the Economy: Private Woodlot Management in the Maritimes

National Round Table on the Environment and the Economy
Table ronde nationale sur l'environnement et l'économie

Mandate



The National Round Table on the Environment and the Economy (NRTEE) was created to "play the role of catalyst in identifying, explaining and promoting, in all sectors of Canadian society and in all regions of Canada, principles and practices of sustainable development." Specifically, the agency identifies issues that have both environmental and economic implications, explores these implications, and attempts to identify actions that will balance economic prosperity with environmental preservation.

At the heart of the NRTEE's work is a commitment to improve the quality of economic and environmental policy development by providing decision makers with the information they need to make reasoned choices on a sustainable future for Canada. The agency seeks to carry out its mandate by:

- advising decision makers and opinion leaders on the best way to integrate environmental and economic considerations into decision making;
- actively seeking input from stakeholders with a vested interest in any particular issue and providing a neutral meeting ground where they can work to resolve issues and overcome barriers to sustainable development;
- analysing environmental and economic facts to identify changes that will enhance sustainability in Canada; and
- using the products of research, analysis, and national consultation to come to a conclusion on the state of the debate on the environment and the economy.

The NRTEE's *State of the Debate* reports synthesize the results of stakeholder consultations on potential opportunities for sustainable development. They summarize the extent of consensus and reasons for disagreement, review the consequences of action or inaction, and recommend steps specific stakeholders can take to promote sustainability.

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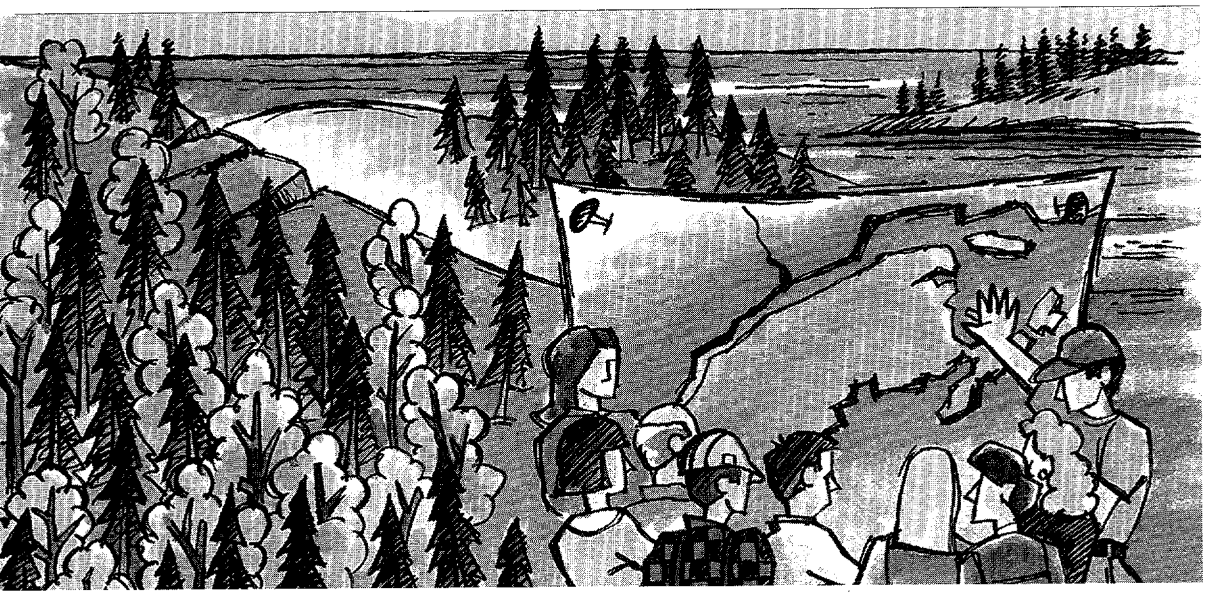

The NRTEE is composed of a Chair and up to 24 distinguished Canadians. These individuals are appointed by the Prime Minister as opinion leaders representing a variety of regions and sectors of Canadian society including business, labour, academia, environmental organizations, and First Nations. Members of the NRTEE meet as a round table four times a year to review and discuss the ongoing work of the agency, set priorities, and initiate new activities.

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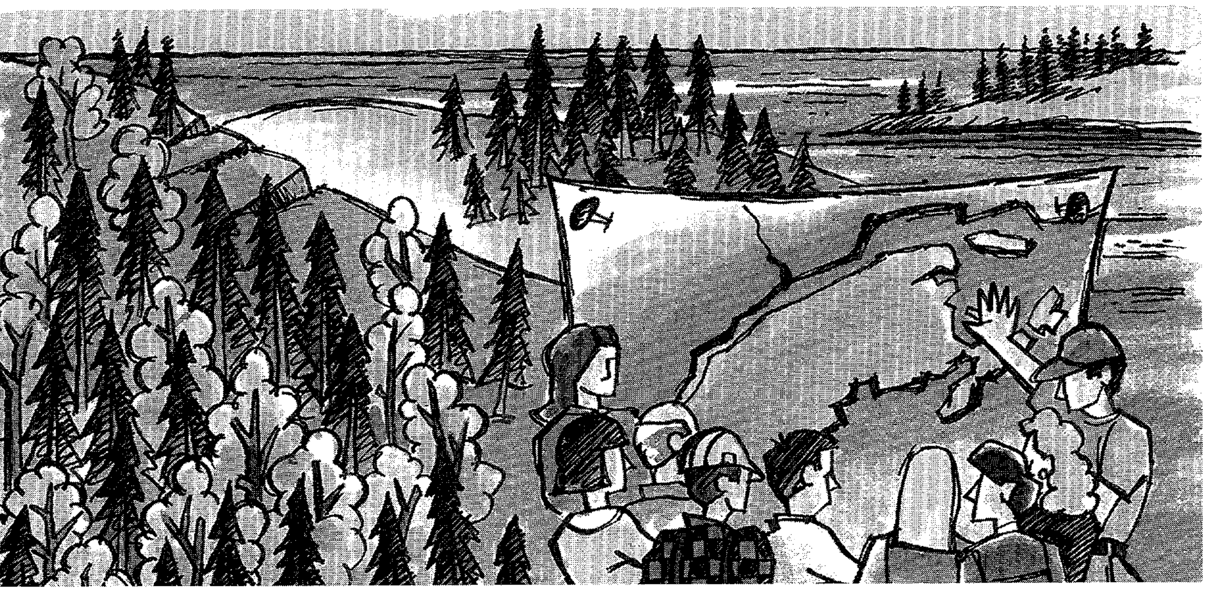
Foreword

The National Round Table on the Environment and the Economy (NRTEE) established the Private Woodlot Harvesting Program to examine key issues affecting the sustainability of current harvesting practices and levels in Canada's Maritime provinces. As Chair of the NRTEE, I am pleased to introduce this State of the Debate Report. Concluding the NRTEE's work over the past 18 months, this report is the product of extensive consultations with major stakeholders and experts in the field, as well as research documenting current practices and management initiatives already under way within industry and government.

It is our hope that the discussion and recommendations presented here will help to raise awareness about the potential impact of unsustainable management of private woodlots on the economy, social milieu and environment of Canada's Maritime provinces, and to encourage decision making in all sectors that supports sustainable woodlot management.

Stuart L. Smith, M.D.
Chair, NRTEE

Preface



This report, *Private Woodlot Management in the Maritimes*, is the second in the National Round Table on the Environment and the Economy's (NRTEE) *State of the Debate* series. Based on research and consultations among key stakeholder groups from the Maritimes, the report outlines the issues surrounding private woodlot management and puts forward recommendations to achieve sustainability of the resource in the future. The report has been prepared as a reference tool for all concerned with policy and decision making for sustainable woodlot management.

The NRTEE extends its appreciation to all who assisted with this project, especially EcoLogic & Associates for their effective facilitation work.

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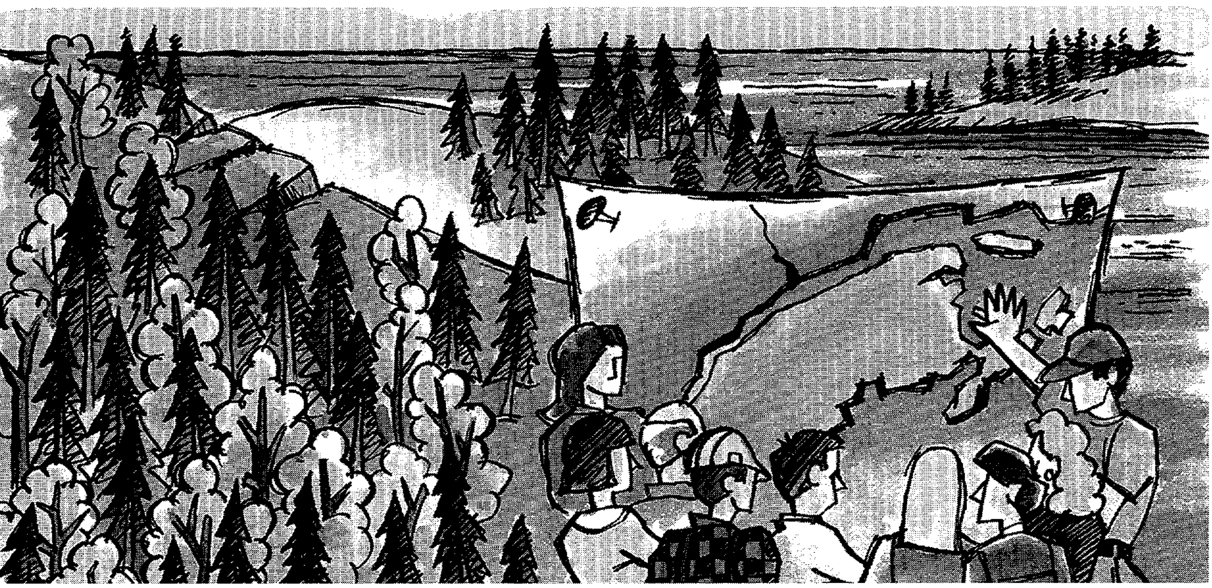
Executive Summary



Private woodlots in Canada's Maritime provinces face serious management problems. Stakeholders consulted by the National Round Table on the Environment and the Economy (NRTEE) generally agree that unsustainable management of this resource will have negative economic, social and environmental impacts. While some disagree, many argue the impacts could be swift and dramatic, challenging the very fabric of life in the region. A few liken the situation to that preceding the collapse of the Atlantic cod fishery.

Private woodlots account for a large proportion of productive forest land in the Maritimes — up to 88 per cent in Prince Edward Island. Fibre from private woodlots is essential to the region's forest industry, which in turn is a vital element in the region's economy. Private woodlots provide employment — from forestry and other activities — export earnings, stumpage income for owners and tax revenues. Non-traditional uses include berry picking, recreation/tourism and maple syrup production. Private woodlots also have ecological significance. Many encompass river and streamside areas critical for maintaining biodiversity and valuable fish and bird habitat.

At a multistakeholder meeting in Waverley, Nova Scotia, most participants agreed the problems of private woodlot management centre on overcutting of a declining resource and lack of sustainable stewardship practices. Many felt the problems flow from lack of understanding of sustainable management principles and the consequences of a forestry collapse. Others pointed to a desire to make "fast money"; the reluctance of various stakeholders, including the provinces, to work together; the lack of silviculture programs; short-sighted past practices; high unemployment; and poor government planning.

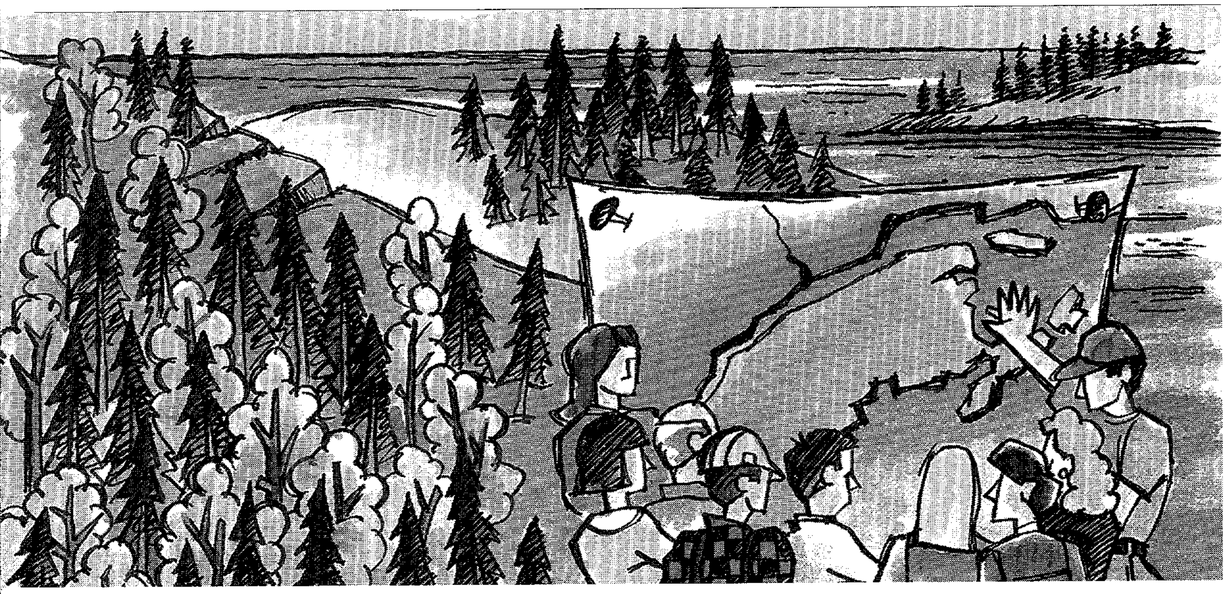
Many stakeholders believed that solutions to the problems require much more accurate forest data and economic planning information. They proposed various steps toward achieving sustainability on private woodlots including increased cooperation among stakeholder groups; more education and training for contractors, silviculture workers and woodlot owners; increased public awareness; and incentives for sustainable management.

Stakeholders remained divided on issues such as the role of legislation in addressing the problems, increased demand for forest products in causing the problems, product pricing, the role of government and public consultation, the need for more data and the protection of ecologically significant areas.

The NRTEE's consultations also show the three Maritime provinces each confront some special issues in managing the woodlot resource. Nova Scotia, for instance, probably has the least reliable information on the amount of wood harvested or its markets. Woodlots in Prince Edward Island are under pressure to convert to agricultural use because of the expanding potato industry. New Brunswick's issues include expanding demand from sawmills and an impending budworm epidemic.

At a second meeting held in Moncton, New Brunswick, stakeholders identified concrete actions to put private woodlot management on the road to sustainability. These actions — targeted at federal and provincial governments, the fibre industry, woodlot owners and provincial round tables — cover tax reform, research and development needs, cooperative efforts, supply and demand issues, licensing and training needs, certification issues and codes of practice.

I. Introduction



Background

The harvesting of Maritime woodlots as a possible issue for examination was first raised at a 1995 plenary meeting of the National Round Table on the Environment and the Economy (NRTEE). The NRTEE members were interested in exploring the issue because of its potential impact on the Maritime economy, the future of many people and communities in the region, and the possible significant impact on the environment.[1]

[1] It should be noted that the selection of private woodlots as a topic for NRTEE activity does not imply that other significant or similar problems are non-existent in other classes of land ownership in the Maritime forestry community.

The NRTEE began its work on private woodlots by commissioning a background report to determine the extent of the issues involved. To confirm the findings of this report, the NRTEE organized a panel of local experts from industry and the community to present their opinions at the NRTEE's May 1996 plenary meeting held in Miramichi, New Brunswick (see Appendix 2).

Following the Miramichi meeting, the NRTEE Task Force on Private Woodlots was formed. In an effort to determine the status of woodlot management in the three Maritime provinces and raise the profile of the issue, the Task Force convened a multistakeholder meeting in Waverley, Nova Scotia, on November 15, 1996. Approximately 40 participants representing many different sectors attended from New Brunswick, Nova Scotia and Prince Edward Island. A subsequent multistakeholder meeting to identify actions that could be recommended to stakeholders was held on February 20, 1997, in Moncton, New Brunswick. Participants in these two meetings are listed in Appendix 2. These consultations form the basis of the present report.

Woodlot Facts

Canada contains 417 million hectares of forest land, amounting to 10 per cent of all the forest land in the world. Of this forest land, more than 220 million hectares are considered capable of producing timber and other forest products, and some 119 million hectares are currently managed for timber production. Provincial governments manage 71 per cent of the nation's forests, and the federal and territorial governments oversee 23 per cent. Some 6 per cent of Canada's forest land is on private property belonging to more than 422,500 landowners (see Appendix 1, Table 1). These figures, and those that follow, are presented without reference to current or future First Nations land claims.

In Maritime Canada, a relatively large proportion of the total productive forest land is privately owned. In 1991, there were more than 82,000 small private woodlot owners in the Maritimes holding a total productive forest area of more than 4 million hectares, or more than 30 per cent of all private woodlot land area in Canada. Privately held woodlots make up 52 per cent of the productive forest land in New Brunswick, of which about 31 per cent is in the hands of the small woodlot (averaging 50 hectares in size) owners while 19 per cent is held by large companies and managed under the same guidelines as Crown land (see Appendix 1, Table 2). Eighty-eight per cent of the productive forest land in Prince Edward Island is held by small woodlot owners owning an average of 18 hectares. The remainder is held by the Prince Edward Island government. In Nova Scotia, more than 69 per cent of the productive forest land is privately owned. Of this amount, 52 per cent is retained by small private woodlot owners with an average woodlot size of approximately 45 hectares (see Appendix 1, Table 3).

In this report, a private woodlot is defined as a privately owned piece of land used for growing forest trees or suitable for growing trees, but not owned by a large corporate industry for use in commercial forestry. Such private woodlots may or may not be used as a source of revenue for the owner.

Woodlot owners are diverse but are generally Canadian residents, living on or near their woodlot property. As well as being owned by individuals, private woodlots may be owned by organizations such as small corporations, municipalities and churches. Most First Nations involvement in forestry is on reserve lands, some of which may be considered the equivalent of a "small woodlot." Woodlot sizes range from several hectares to tens of thousands of hectares, with a typical size being about 40 hectares.

Importance of Maritime Woodlots

Woodlots in the Maritimes serve important economic, social and cultural functions as well as forming a critical part of the region's forest ecology. Management of private woodlots has both positive and negative implications, affecting the long-term fibre supply for the forest products industry, employment rates, recreational uses of the forest, aesthetics, water supply, wildlife habitat and fuelwood supply.

Forest Industry Significance

The large pulp and paper and sawmill industry in the region depends heavily on wood supplied from privately owned land. While several of the larger forest products companies have their own holdings, including harvesting rights to Crown land, the viability of this industry depends upon sustainable production from small woodlots.

For example, in Nova Scotia, approximately 60 per cent of the roundwood supplied to the province's pulp and saw mills comes from privately owned land. In New Brunswick, private woodlots account for more than 25 per cent of the wood processed at mills in that province. In Prince Edward Island, all but a fraction of the commercial wood supply is harvested from private lands (see Appendix 1, Table 4). In addition to supplying domestic mills, a substantial amount of wood harvested from private land is exported to other provinces and the United States.

Private woodlots are critically important to the forest industry in Maritime Canada and that industry is vital to the region's economy. For example, in Nova Scotia, the forest industry represents one of the most important elements of the industrial economy. In New Brunswick, forestry is the largest primary industry, accounting for more than 41 per cent of the gross domestic product generated by the province's manufacturing industries. Only British Columbia is more dependent upon the forest industry as part of its manufacturing base.

The sector employs 27,000 people directly and 16,000 indirectly, in New Brunswick and Nova Scotia combined, and spends $638 million annually on wages and salaries in the region. On Prince Edward Island during 1993, approximately 1,000 people derived all or part of their living from the forest industry. Workers may be employed directly in the large mills or in the forest as foresters, contractors, silviculture workers or loggers. There are also many small family-owned and family-operated sawmills. Other economic benefits include stumpage income to owners, as well as income and property taxes to governments.

Non-traditional and Non-consumptive Uses

Private woodlots are also important for non-traditional and non-consumptive uses such as berry picking, harvesting wild edible mushrooms, and hiking. These uses, which depend to a large degree on healthy private woodlots, are particularly significant for First Nations communities.

The tourism industry in the Maritimes is an important and growing sector of the regional economy. In Nova Scotia, for example, the tourism industry encompasses more than 6,500 businesses, employs 42,000 people, and generates over $900 million to the provincial economy each year.[2] Adventure tourism, eco-tourism, and nature-based tourism are a fast growing subsector of this industry that relies heavily on a healthy forest and accessible forest land.

Fuelwood, maple syrup and ginseng production, Christmas tree growing, wreath making, and outfitting for hunting and fishing are further benefits, economic and otherwise, derived from private woodlots.

[2] Voluntary Planning, *Public Response to: Coalition of Nova Scotia Forest Interests' Discussion Paper* (Halifax, November 1996), p. 55.

Environmental Benefits

Ecologically, woodlots are important to the maintenance and protection of existing species diversity. Woodlots often encompass riparian (river or streamside) zones critical for enhancing biodiversity and preserving valuable fish and bird habitat. Some private woodlots contain important examples of the original Acadian forest mix, now much impoverished after centuries of logging.

By providing a sink for carbon dioxide, woodlots also help combat the greenhouse effect caused by the buildup of carbon dioxide and other gases:

Millions of tons of carbon are held in reservoirs of fossil fuels, forests, and in the soil. When these are burned, carbon dioxide is released. Forests are a major "carbon sink" meaning they absorb more carbon than they can release. As they grow, trees absorb carbon dioxide and release oxygen, contributing to this carbon reserve. Carbon is retained in the trees and becomes a major component in the wood of stems and branches.[3]

The environmental, ecological and recreational benefits of private woodlots, as well as the general satisfaction of knowing that such resources exist, are difficult to value. However, it is essential to include these factors when assessing the overall importance of the private woodlot. The existence of private woodlots is important for many people, including those who do not own forest property.

Woodlot Management

As forest management is a matter of provincial jurisdiction in Canada, each province is responsible for setting its own policies, programs, legislation and regulation. However, the federal government does play an important role for the forestry sector by focusing on trade and investment, national statistics, forest science and technology, Aboriginal affairs, environmental regulations and international relations.

While governments have divided responsibility over the administration of Canada's forests, private woodlots are considered freehold property to be dealt with virtually as the owner deems fit. Although many woodlot owners are capable stewards of their forestry resources, all woodlot owners are free to harvest their forests when and how they choose. There is no obligation to undertake silviculture activities or otherwise manage private woodlots to ensure sustainability. Provincial governments establish annual allowable cuts (AAC) based on their estimates of sustainable production, but often have no reliable way to measure actual harvests and have no regulatory authority to enforce the limits once they are set.

Until recently federal-provincial agreements, known as the Forest Resource Development Agreements, played an important role in shaping the extent and character of resource management on private forest land. While serious questions have been raised about the emphasis and effectiveness of the programs, it seems clear that very little, if any, silviculture would have been undertaken on private woodlots but for these bilateral agreements.

Under these agreements, tens of millions of dollars flowed into the region each year to support silviculture activities on private land. In Nova Scotia, for example, nearly 70 per cent of the funding for silviculture initiatives came from the federal government. The federal share was even greater in New Brunswick. Federal

[3] Canadian Pulp and Paper Association, *Harvest and Harmony: Managing Canada's Forests for the Future* (Montreal, 1996), p. 22.

support for these initiatives ended in 1995, leaving provincial governments and industry to fill the void.

Silviculture treatments include tree planting, weeding and pre-commercial thinning, which are intended to help young forests regenerate and grow more rapidly. Over the long term, the annual growth of most softwood and hardwood species in the Maritimes could be doubled — perhaps tripled — through the use of appropriate silvicultural practices and developing and promoting an ethic of good stewardship.

Adequate silvicultural inputs are critical to sustainability.

Adequate silvicultural inputs are critical to sustainability

Ed Bailey, former Director of Research for the Nova Scotia Department of Natural Resources, stated in 1994 that the Nova Scotia softwood AAC should be reduced by 40 per cent in the absence of silviculture programs.

Important Provincial Initiatives

The NRTEE consultative process addresses private woodlot management from a regional, multistakeholder perspective with the aim of ensuring that the issues receive broad attention within the public, private and government sectors. It is hoped that this initiative will complement and assist the various independent provincial processes currently addressing the issue of private woodlot management. These processes are outlined below.

The Coalition of Nova Scotia Forest Interests has just completed a series of public meetings discussing its new forest strategy.[4] A report on those consultations has been released to the public. The Coalition is now considering its next steps. Among other recommendations, the Coalition has proposed establishing a sustainability board in Nova Scotia. The Nova Scotia Round Table on the Environment and the Economy has identified forestry as an area of concern, and has formed a committee to research and make recommendations on this subject.

Stora Port Hawkesbury Limited and the Nova Scotia Landowners and Forest Fibre Producers Association announced in March 1997 that a collective agreement which included a Joint Management Plan had been signed. This first joint industry, landowner/supplier, and government partnership in Nova Scotia provides funding for forest management on private land. The objective of the Joint Management Plan is to support the implementation of silviculture treatments to private lands and to eventually achieve sustainability of the private forest resources in eastern Nova Scotia used to supply Stora's mills.

In New Brunswick, a woodlot round table process has been initiated by Steve Thompson (Chair, Sustainable Development, University of New Brunswick) through a series of multistakeholder meetings with the Department of Natural Resources and Energy, licensees, sublicensees, woodlot owners, environmental groups and others. In another initiative, a working group comprising industry and government representatives and woodlot owners has been formed under the sponsorship of the New Brunswick government. The group is reporting directly to the Minister of Natural Resources and Energy.

Some forest industry companies in New Brunswick are paying incentives to woodlot owners to encourage silviculture and sustainable forest management. These incentives include

[4] The Coalition of Nova Scotia Forest Interests included in March 1997 the Association of Consulting Foresters of Nova Scotia, Bowater Mersey Paper Co. Ltd., Communication, Energy and Paperworkers Union, Kimberly Clark Nova Scotia, Maritime Lumber Bureau, Nova Scotia Christmas Tree Council, Nova Scotia Forest Products Association, Nova Scotia Forestry Association, Silviculture Contractors Association of Nova Scotia, Stora Port Hawkesbury Ltd., and the Wood Product Manufacturers Association.

higher prices for wood from sustainably managed land, the setting up of trust funds solely for silviculture and forest management, seedling agreements, and allocating a percentage of the wood price to support silviculture.

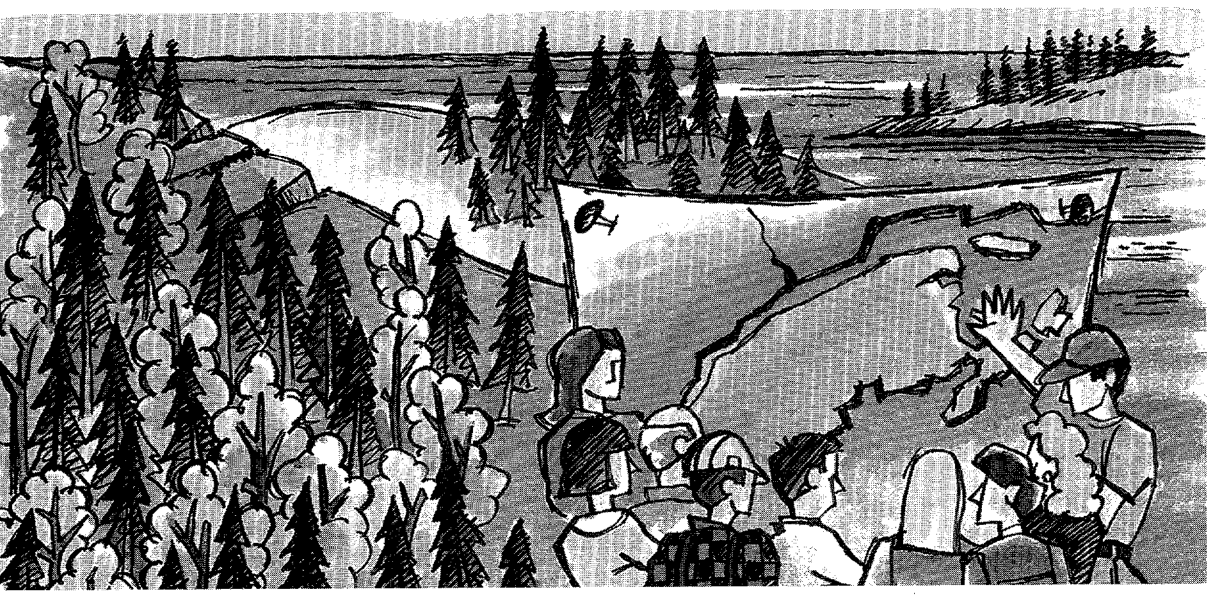
In 1994, the New Brunswick Federation of Woodlot Owners developed a code of practice. The code is a voluntary guide designed to promote the "environmentally and financially sustainable operation of working woodlots within the framework of woodlot owners' objectives."[5]

The Prince Edward Island Round Table on Resource Land Use and Stewardship has published (1996) its interim report entitled *Cultivating Island Solutions.* This report, now circulating among stakeholders on the Island, is designed to be used as a basis for discussion on future plans and changes in land use approaches. This Round Table will submit its final report in August 1997.

The Forest Partnership Council, a coalition of Prince Edward Island industry, woodlot owner and government interests, has developed a code of practice for contractors. The voluntary code came into effect on April 1, 1997. Another P.E.I. initiative began in 1996 when a forest renewal fund was established by government and industry. It requires that $2 be remitted to the fund for each cord of wood harvested and sold from Island woodlots. The McPhail Woods Ecological Forestry Program, established several years ago, is an excellent demonstration of the use of appropriate silvicultural techniques to reestablish the original Acadian forest.

5 New Brunswick Federation of Woodlot Owners, *New Brunswick Woodlot Owners' Code of Practice* (Fredericton, 1994), p. 2.

II. *Sustainability Issues*



Data Issues

The most recent annual allowable cut and harvest figures for the three Maritime provinces are contained in Appendix 1, Table 5. However, stakeholders have repeatedly questioned the accuracy of the harvest figures, since it is believed that current harvest rates are under reported.

While some data on woodlot harvesting levels are available, such as the figures presented in Tables 6 and 7 of Appendix 1, the information is incomplete. There is no precise mechanism for reporting harvest rates on private woodlots. Yet this is essential information at a time when demand for forest products is increasing. There are reports that some contractors are "liquidating" woodlots — offering woodlot owners large, lump sum payments to have their woodlots cleared. Since jobs and money are scarce in the region, this option can be attractive. Additionally, many mills, especially saw mills, are expanding significantly the use of private woodlots as a major source of fibre.

> At the NRTEE's multistakeholder meeting in Waverley, Nova Scotia, participants from New Brunswick, Nova Scotia and Prince Edward Island were asked to raise their hands if they felt the current level of harvesting was NOT sustainable. All but 2 of the 40 participants raised their hands.

The New Brunswick Department of Natural Resources conducts an annual timber utilization survey of all wood users in New Brunswick. This survey indicates that for the past three years 130 per cent of the woodlot AAC of softwood was purchased by New Brunswick mills. Based on information from Maine companies and general knowledge of the size of operations of New Brunswick contractors who sell into Maine, industry experts estimate that an additional 20 per cent is being exported to Maine. If this estimate is correct, private woodlots are being harvested in New Brunswick at a level 150 per cent (+ 10 per cent) of the AAC (see Appendix 1, Table 6).

Although there are no auditable data to support most concerns about private woodlot management, many people in the forest sector believe that harvested amounts are now exceeding the AAC in both Nova Scotia and New Brunswick and that the future is bleak unless action is taken swiftly and cohesively. The lack of precise data is one of the key issues related to sustainability of the resource.

> **Forty-Year Forecast for New Brunswick**
>
> Repap Woodlands Division forecasts that, should over cutting continue at a rate of 20 per cent for the next 20 years, at the end of that period the annual allowable cut would have to be reduced by 60 per cent for the following 20-year period.
>
> *Source: Joseph O'Neill, Vice-President, Woodlands Division, Repap New Brunswick (1997)*

Overarching Problems

Stakeholders generally agree regarding three overarching and interrelated problems relating to private woodlot management:

- the over cutting of a declining resource,
- the lack of sustainable forest management (stewardship) practices,
- the lack of incentives and knowledge, i.e., there appears to be no clear economic return on an investment toward sustainability for the woodlot owner.

The consultations reveal widespread agreement throughout the three provinces that unsustainable private woodlot management is a serious problem and the impacts could be dramatic and swift in occurring. While not all agree on the severity of the impacts, some believe over harvesting could precipitate a crisis as grave as the collapse of the cod fishery and that the ensuing impacts could be devastating to rural communities in the three Maritime provinces.

Many feel there is little public understanding or awareness of the problem and no concerted effort for a regional approach to the issue, despite the fact that actions in one province could seriously affect the situation in another.

Linked to the overall issue of sustainability is the fact that there are poor markets in some parts of Nova Scotia for low quality wood such as over mature balsam fir, which is often left standing. Some people feel that the current market structure and practices promote "high-grading" — a practice common throughout the history of forestry in the Maritimes. Highgrading removes only the biggest and best trees and has caused many of the current problems. Value-added industries, which have often been discussed as a potential way to solve some of these problems, are lacking. Consequently, wood is not always used in the best possible way.

At the NRTEE's multistakeholder meeting in Waverley, Nova Scotia, participants were asked to describe the private woodlot situation in the Maritimes using a rating system of 1 to 5 (5 equating the present situation to the collapse of the cod fishery in Atlantic Canada). Seventy-eight per cent of the participants rated the situation as a 4 or higher. Of those, 19 per cent gave a rating of 5, meaning "if we don't move quickly, impacts could be as disastrous as those in the cod fishery within the near future." None gave a ranking lower than 3.5.

Many issues surround the impact of wood production. For example, the desire of some stakeholders to see harvesting rates match a sustainable long-term annual allowable cut in part conflicts with the desire of some woodlot owners to harvest over mature wood while it still has some economic value. Various questions have been asked about how to ensure that the trees being cut bring the most economic and ecological benefit for the future.

The debate over how much and which wood to harvest is further complicated by questions over harvesting practices themselves. The Acadian forest (which is present in addition to the boreal forest in the region), with its wide variety of species, has different management options from the boreal forest, which consists mainly of spruce and fir species. The traditional labour-intensive methods of harvesting practised in the Acadian forest are seen by many to be more sustainable.

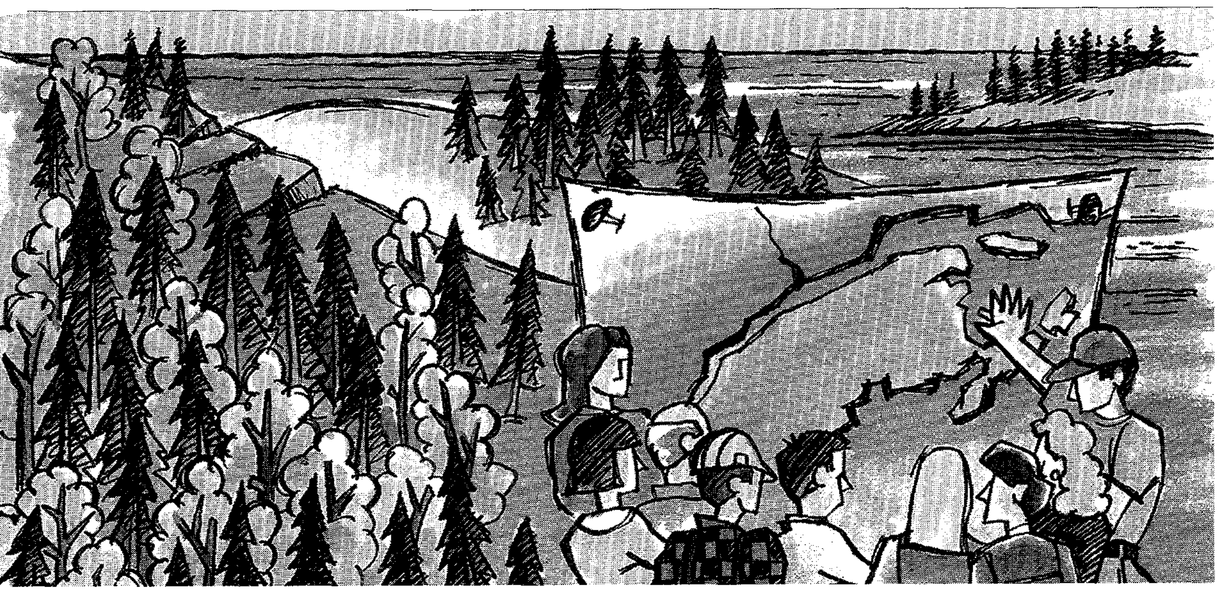
Lack of a stewardship ethic and limited commitment to sustainable forestry on the part of some owners are frequently cited as part of the problem. Other observers point to an unwillingness to take responsibility for the state of the resource or to make sacrifices in order to conserve it. Still others see the lack of opportunity for input into the development of forest management policy and the diversity of woodlot owners as contributing to the overall problems.

First Nation Issues

Regarding the state of the forest on First Nation reserves, many First Nations people state that, with some exceptions, timber stands on most reserves have not been well managed and are now nearly exhausted. Coordination and management of timber harvesting has been hampered by disputes between the federal government and First Nations. Moreover, regulations set up under the Indian Act to govern management of on-reserve timber assets are frequently ignored by Indians and non-Indians alike. In recent years, First Nations have tried to gain access and cutting rights to Crown land surrounding or close by First Nation reserves. So far, however, they have had little success.

First Nations recognize the need to revitalize on-reserve timber holdings. They feel there is a need for more woodlot management expertise, for full authority and control over their own timber assets, and for wood-harvesting training and equipment. They believe that the integration of First Nations into existing information sharing, harvesting, marketing, and processing systems is essential.

III. *Areas of Consensus*



Long-Term Impacts

Stakeholders agree that the lack of sustainable practices on private woodlots will result in negative economic, social and environmental consequences. Most people tend to focus on the economic results, arguing that the primary impact is resource depletion, which in turn will lead to socio-economic problems. Other impacts include an unbalanced forest structure, irregular wood and fibre supply, the increased probability of government control, escalating costs, fewer economic development opportunities and a bad image for the industry.

It is felt that the economic decline could be region-wide and could result in an increase in social debt as well as debates over ownership and management and possible changes in ownership patterns.

Some people say that the general public does not understand the "big picture" and that impacts will be widespread. However, most stakeholders do not appear to acknowledge the relationship between economic decline and environmental degradation.

Reasons for Poor Management Practices

It is difficult to pinpoint one main reason for the private woodlot sustainability problem in the Maritimes. There is a tendency to focus on peripheral issues, and also a feeling that all the reasons are entwined and must be addressed in an integrated way to achieve real changes. However, the prime reason often cited is lack of knowledge. Other reasons presented here are in order of importance as perceived by those present at the NRTEE multistakeholder meeting in Waverley, Nova Scotia.

A. Lack of Knowledge

The lack of knowledge extends to a lack of understanding of sustainable forest management principles and the overall consequences of a forest industry collapse. There is also limited understanding of the impact of forest product certification and what the market will require in response to certification.

> "The problem is that owners need money and this can lead to over cutting in an area. An owner has the right to sell a woodlot if he or she wants. There is a general lack of concern for the future and an assumption it is someone else's problem."
>
> — *Participant at the NRTEE multistakeholder meeting in Waverley, Nova Scotia*

B. Human Nature

There is a feeling that people, in general, have a difficult time turning down an opportunity to make money quickly and have an inability or lack of interest in understanding the long-term implications. The "greed" issue is seen to be tied to the question of education and incentives, resource pricing and market demands. Current market demands lead to highgrading, market specialization and premature harvesting. The absence of financial incentives for owners to make the "right" decision is accompanied by the desire to make "fast money." Essentially, because of poor understanding of the facts, people do not have the information that could motivate a change in their behaviour.

C. Reluctance to Work Together

There are varying degrees of distrust between the different stakeholders, who are not bound by common concerns and understandings. Some of this is due to differing values, but some arises from current government, industry and community structures, which do not allow for open dialogue or cooperation among all stakeholders.

Overall, it does not appear that the provinces are working together to address the private woodlot issue despite the fact that policy development in one province would affect that in another.

D. Lack of Silviculture Programs

Silvicultural activity in all three provinces is insufficient. While stakeholders acknowledge the benefits of and the need for silviculture, programs have not been developed to replace those discontinued with the ending of the federal-provincial agreements. Some workers who were formerly employed in silviculture programs have shifted to harvesting wood commercially, which is compounding the over cutting problem.

E. *Effects of Past Practices*

Land use practices in the past created forestry situations that are now considered problems. For example, the large areas of over mature white spruce in Nova Scotia are the result of widespread land clearing for agriculture at the turn of the century. There are few remaining examples of the original Acadian forest, which was cut without thought for the future. The stands of today are the result of economic pressures and poor planning and are evidence of the tendency to think only in the short term. There is concern that government, in particular, makes decisions based on political expediency, rather than principles of sustainability.

F. *Unemployment*

High unemployment in the Maritimes encourages over cutting because of the lack of alternative employment. It is relatively easy to become involved in logging activity, and poor practices are often applied. Training is limited and individuals looking for quick income alternatives understand neither sustainable harvest practices nor the potential overall impacts of unsustainable practices. Individual action is not considered as a cause of the problem.

> "The absence of a forest industry development strategy, including legislation, incentives, tax policy and education, is the real cause of the problem."
>
> — *Participant at the NRTEE multistakeholder meeting in Waverley, Nova Scotia*

G. *Poor Planning by Government*

Many people believe there is a lack of leadership on the private woodlot issue. When politicians have taken action there has not been thorough or effective public consultation, and often planning processes have been poor and uncoordinated. Some woodlot owners feel that they have not had adequate opportunity for input into government decision making and planning for forestry matters, and that government has not accepted the importance of their participation. Loans and grants for mechanizing timber harvesting are seen by some to be competing with smaller, more sustainable operations, and are viewed as an example of poor planning.

Information Needed

Two primary areas of consensus have emerged regarding the information required to understand the problems and develop viable solutions. These areas are the need for better data collection and dissemination, and the necessity for good economic planning information on the investment in private woodlots. Education and public awareness are also thought to be top information requirements but may be considered more as action items than information needs. This element is discussed later in this paper.

> "Data are the key: we need to see the big picture and have all the players interrelated and come up with creative solutions."
>
> — *Participant at the NRTEE multistakeholder meeting in Waverley, Nova Scotia*

> "The first thing that must be done is to get people's attention on the consequences of over harvesting."
>
> — *Participant at the NRTEE multistakeholder meeting in Waverley, Nova Scotia*

A. *Forest Data*

An accurate inventory of forest-related information is critical. This inventory should include the following items:

- amount of wood currently harvested,
- location of wood harvested,
- destination of harvested wood,
- amount of land being managed and how it is managed,
- what silviculture is required to maintain the present rate of harvest,
- accurate inventories of what is actually in the forest (quality and quantity by species),
- better information on sustainable levels of use.

The inventory should also include non-traditional data to create baseline information.

B. *Economic Information*

Often decisions are made without a proper understanding of the complete economic picture. No one seems entirely sure about the economic effects of a wood shortage on an industry or region. Accurate information on the long-range market potential of value-added products is needed, as is a better understanding of market drivers and their impact on sustainability.

C. *Information on How to Conduct Education, Awareness and Consultation Programs*

People consistently refer to the need for forest management education and training programs, public awareness campaigns and better public consultation. They also express some desire for information that will help implement these programs, for example, better information on the values and motivation of all stakeholders.

Required Action

Consensus exists regarding some of the steps that must be taken to achieve sustainability on private woodlots. The following suggestions are the direct result of input from stakeholders:

- increased cooperation,
- greater leadership,
- more education and training,
- increased public awareness,
- provision for financial and moral incentives,
- support for planning and coordination,
- better marketing and market development.

A. *Cooperation and Leadership*

Most people feel that all stakeholder groups (woodlot owners, contractors, end users, purchasers, mills, government, recreation groups, non-government organizations, environmentalists, wildlife groups and the community) will have to cooperate and make compromises in order to ensure that a viable plan of action is developed and initiated. Cooperation is also necessary among the three provinces.

Regional agreements are required so that industry and landowners respect and schedule sustainable harvest levels and implement adequate silviculture/management programs to ensure long-term sustainability. There must be leaders who will take the initiative to implement change. Market pressures for sustainably harvested products will have an impact but this will be slow to take effect. Change is needed before the market demands it.

B. *Education and Training*

Education was often mentioned throughout the consultations. Areas of concern are threefold:

- Education and training of contractors, silviculture workers and other forest workers on sustainable forestry practices. Some people feel that this should be linked to training in forest certification as well as the development of professional performance standards.

- Education of woodlot owners about sustainability and certification issues.
- Public education on sustainability issues.

These educational programs will need to be tailored for individual target groups so that suitable content and structure are designed. Industry and government will need to share information openly with other stakeholders to ensure that the education programs are unbiased and contain factual information. Many feel that current environmental education programs do not target the right topics.

C. *Public Awareness*

Public awareness is seen as a separate action from education. It should focus on ensuring that the public is aware of the economic, environmental and social importance of private woodlots, and the possible effects of mismanagement on communities. Public awareness programs should indicate both the good and bad aspects of forest management and acknowledge what has been done well.

D. *Financial and Moral Incentives*

There is considerable debate about the importance of financial and moral incentives for sustainable forest management. Many feel that changes in the income tax policy should be made to encourage woodlot owners to manage sustainably. These suggestions include tax-free stumpage and the establishment of a forest management fund with contributions from woodlot owners, contractors, processors/mills and government. Some people believe that higher taxes might lead landowners to do something positive with their land, and that they should be required to prove good stewardship in order to get a tax advantage. Whatever the solution, there is consensus that the tax implications of woodlot management should be reexamined.

Regarding moral incentives, some think that if people are educated to understand the impact of their behaviour and are recognized when they do a job well, there is a chance that social pressure will help create a more sustainable approach.

E. *Support for Planning and Coordination*

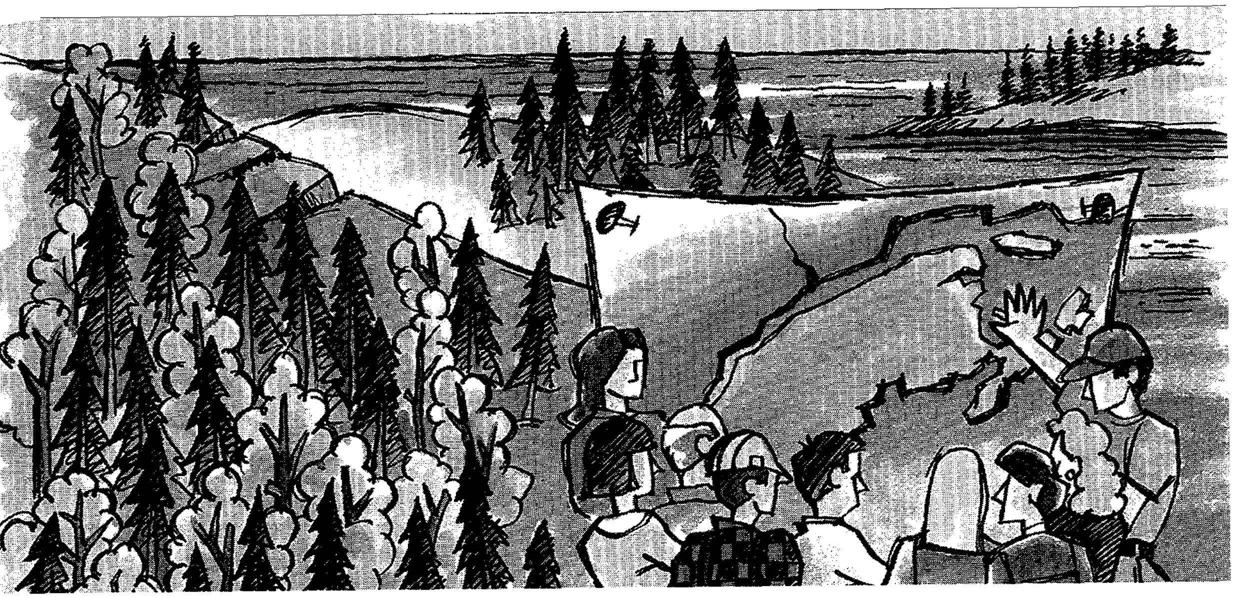
Support is needed for woodlot owners in order to ensure coordinated planning and technical and financial organization. This support should be aimed at increasing efforts to organize and promote sustainable forest management and increasing the number of woodlots with management plans.

> "People need to work together to ensure sustainability of the resource. Someone must take the responsibility to ensure it is done."
>
> — *Participant at the NRTEE multistakeholder meeting in Waverley, Nova Scotia*

F. *Better Marketing and Market Development*

Long-term steady markets are needed for lower quality species, and value-added industries should be developed to diversify employment opportunities and make better use of the forest resource. It has been suggested that a buyer-run silviculture plan should be developed and independent audits put in place. Buyers would agree or be regulated to ensure reforestation on harvested areas. Some believe that other economic uses could be developed for woodlots such as the production of ginseng.

IV. *Areas of Divergence*



The main areas of disagreement centre on how to better manage the private woodlot resource. Areas of disagreement include:

- the role of legislation in addressing the problem,
- the role of increased demand for forest products in causing the problem,
- product pricing,
- the role of public consultation,
- the role of government,
- the need for more data,
- protection of ecologically significant areas,
- the need for more research and development,
- the number of people involved in the forest industry.

A. *Role of Legislation*

Disagreement about the need for, and the role of, legislation for sustainable woodlot management is explicit. While some feel that legislation should be enacted immediately to reduce the cut and to "demand" responsible management, others believe that legislating harvest levels is impossible. Individual woodlot owners are strongly against legislated solutions because it would constrain their use of private forest resources. They point out that legislation would require policing and enforcement, and that education is an acceptable alternative to modify behaviour and ensure lasting change. Logging contractors are strongly allied with the woodlot owners against legislated controls placed on private woodlots. Much of this debate stems from uncertainty with respect to the intended and unintended consequences of any proposed legislation.

> "We need legislation to control harvest levels."
>
> "Legislation for harvest levels is not as important as standards for long-term protection of site capabilities for all values."
>
> — *Differing views from participants at the NRTEE multistakeholder meeting in Waverley, Nova Scotia*

B. *Role of Increased Demand for Forest Products*

Most stakeholders feel that free market forces will regulate and maintain a competitive environment for forest products and many shy away from an imposed control mechanism in fear of trade infringement. However, as demand increases some believe that unsustainable forestry practices will result. It is the opinion of other stakeholders that increased demand could be turned into a "positive" factor and facilitate better forest management. This split of sentiments is not generally divided along stakeholder lines.

C. *Product Pricing*

Some people believe that higher prices paid as a bonus for wood from sustainably managed woodlots would promote better management. Logging contractors, however, are divided on this issue. Some contractors feel that a bonus system would essentially place undue restrictions on harvesting. Other logging contractors believe that a bonus system would provide incentives for selective harvesting.

D. *Role of Public Consultation*

Individual woodlot owners demand involvement in discussing and recommending solutions to issues involving their private forested land. In contrast, industry and government stakeholders are divided on the role of public consultation. While some think that more and better public consultation is a way to solve the problem, others believe that this is not an effective solution because of current techniques employed, such as public hearings, which are believed to attract a certain type of stakeholder that is not truly representative of the public. It should be noted that there is a degree of consensus on the need for better information on conducting effective public consultation.

E. *Role of Government*

Disagreement exists around the role government should play. Government is seen by some as both the cause of the problem and the solution. Some woodlot owners feel government and industry influence on woodlot policies is one of the main causes of poor practices, while others believe that the causes are too synergistic to blame on governments and that everyone has a responsibility. Some community members feel that government may need to take more control as a result of public demand to serve the goals of non-forest interests as well as those of the industry. Individual woodlot owners clearly view government activity in this area as interference with their private property.

F. *Need for Data*

Most stakeholders, including professionally trained foresters in government, industry and woodlot organizations, see a desperate need for more information on forest inventories, age classes, and harvest levels in almost every region of the Maritimes. A few government representatives, however, feel that further data collection is unnecessary and that all the information required for establishing sustainable forestry practices already exists. This is an extremely contentious issue among some of the stakeholders.

G. *Protection of Ecologically Significant Areas*

Environmental stakeholders feel strongly that ecologically significant areas must be protected on private woodlots and landowners duly compensated. Most private woodlot owners are reluctant to discuss such protection. Within these groups some believe that ecological areas are already well protected, and others feel industry is insensitive to environmental issues and that environmental protection is not taking place.

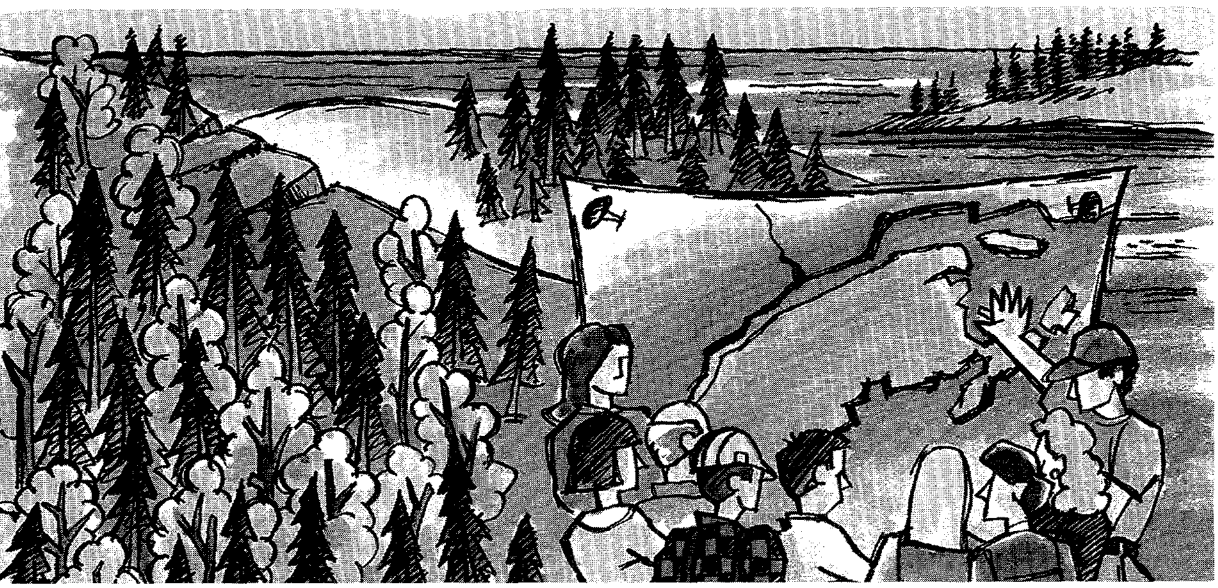
H. *Need for More Research and Development*

Industry believes strongly that more research and development is required to create innovative silvicultural practices, to explore cost-efficient non-clear-cutting harvest systems for small woodlots and to measure the impact of forest practices on the ecosystem. Other, non-defined stakeholders feel that there is sufficient research and development already under way.

I. *Number of People Involved in the Forest Industry*

Some stakeholders believe that too many people are trying to derive income from the forest resource; just as many completely disagree with this statement. Several woodlot owner organizations believe that achieving sustainability on private woodlots is impossible because of the excessive unemployment in many of the Maritime regions. Many other stakeholders believe that expansion of silviculture programs can redeploy people from harvesting into growing and developing new forests for the future.

V. *Regional Differences*



Nova Scotia

Nova Scotian stakeholders believe their province has the least reliable information regarding the true situation of the wood supply. Some feel that a large amount of roundwood is being exported out of the province, but no one is sure how much is leaving or where it is going.

Nova Scotia lacks markets for certain species (primarily hardwood) and has a larger percentage of pulpwood available. There are no organized marketing boards for raw material, such as those that exist in New Brunswick.

Prince Edward Island

Several unique problems associated with private woodlots on the Island are linked to the agricultural nature of this province. There is increasing pressure to convert forest land to agricultural use because of the expanding potato industry. This is compounded by the fact that almost 90 per cent of the resource is privately owned (the highest percentage of all the Maritime provinces).

Because production units are small and most woodlot owners are also farmers, woodlot owners are less dependent on incomes from their woodlots and less concerned about the sustainability of the resource. The woodlot owner groups are considered largely ineffective. This has a major influence on marketing, contractors' practices and government policy.

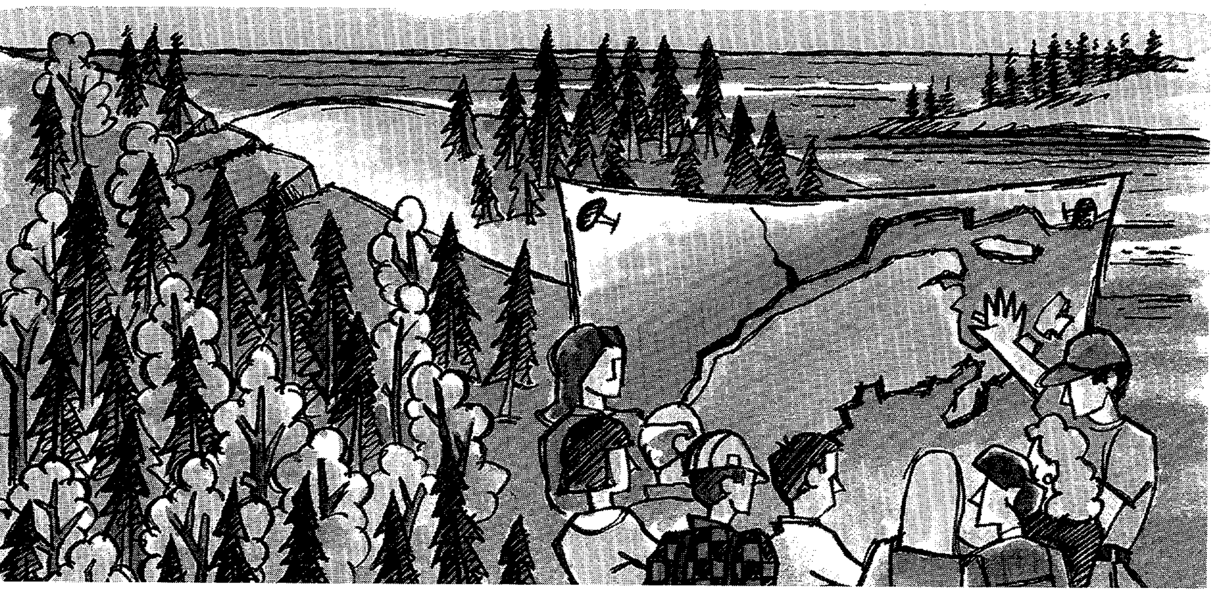
Because of the importance of the tourism industry and non-fibre values — such as landscape, recreation, aesthetics and water quality — unsustainable forest practices could severely affect the lifestyles and incomes of Island residents. As an example, the province's total dependence on ground water for drinking means that it is critical to maintain forest cover and practise sustainable forest management techniques. The building of the Confederation Bridge will also bring the Island closer to markets, which stakeholders feel could create a further threat to sustainability.

New Brunswick

A planned expansion in the sawmill industry, significant unemployment in the northeast, and an impending budworm epidemic forecast for the year 2000 are all adding to the threats already facing New Brunswick's forests. There is a general feeling that this province has the most wood being harvested above the annual allowable cut. Possible legislation in the state of Maine that would reduce or ban clear cutting will have the greatest impact on this province's resources because of its proximity to Maine.

Draft legislation in New Brunswick to restrict roadside harvesting and clear cutting on private land is seen as another potential problem. People may over cut now to avoid future ramifications of this legislation. On a more positive note, stakeholders feel that the province is the best organized in the Maritimes to deal with the situation.

VI. *Recommendations to Stakeholders*



Working toward sustainability in the management of private woodlots is a multidisciplined task involving many interested parties. Points of tension centre on regulation, administration, market demand, value systems, and science and technology. Given these factors, a coordinated response is essential to establish a structure on which to base sustainable woodlot management that will benefit the overall Maritime environment and economy.

The following recommendations to stakeholders are the outcome of a nine-month consultation process by the NRTEE that included a plenary meeting panel discussion, followed by an issues identification meeting and a recommendations-building session. The recommendations are, as far as possible, based on stakeholder consensus. Recommendations are targeted at specific groups and built upon a series of premises concerning sustainability, cooperation and communication, supply and demand, tax reform, harvesting methods, licensing, training, certification, codes of practice and silviculture. These premises are outlined below.

Sustainability

In the Maritime provinces more than anywhere else in Canada, privately owned forest resources are critical to the viability of the region's economy and ecology. In many areas of New Brunswick, Nova Scotia and Prince Edward Island, private woodlots are under such enormous pressure that current rates of harvesting are unsustainable. This means that meeting the present demand from the region's forestry sector will seriously compromise the ability of Maritime communities to remain viable in the long term.

Provincial Government Cooperation

The interconnection of the region's economy, market influences and community well-being requires provincial governments to work in coordination to ensure that problems are not exported from one Maritime province to another.

Market Forces

The looming wood supply crisis in the Maritimes requires action focused on both the supply of and demand for forest products. It is generally agreed that current forest product production levels are the crux of the problem and must be held to sustainable limits. Industry will be challenged to exercise a disciplined response to consumer demand while achieving strategic financial objectives. It is also generally agreed that voluntary self-policing and cooperation by industry is unlikely and that government regulation is likely to be politically unfeasible.

Current production levels are not sustainable. Constraining supply can be difficult politically, but all agree that the annual allowable cut should be set at sustainable levels and not be based on overly optimistic projections.

Tax Reform

Currently, the federal tax system operates as a powerful disincentive to sustainability. Most woodlot owners are considered farmers by Revenue Canada; however, their tax treatment differs. Stakeholders agree that federal and provincial inconsistencies, ambiguity and gaps in coverage make forest management difficult. Ironically, it is sometimes possible to obtain a greater tax benefit by prematurely clear cutting a woodlot than by managing it sustainably.

It is agreed that there is considerable potential for provincial property tax to influence woodlot operating practices. Areas for consideration include assessment, tax rates and special incentives for properly managed woodlots.

Harvesting by Contractors

Logging contractors and the use of mechanical equipment has caused a dramatic increase in the pace of logging on small private woodlots in the Maritimes. High unemployment in the region leads to a greater number of contractors competing for the resource.

Certification

Certification of sustainable forest products is an international trend creating significant opportunities for encouraging and rewarding ecologically sustainable practices in Maritime forests. This trend must be followed in order for Maritime businesses to remain competitive, preserve market access and meet growing public expectations.

Silviculture and Science

The termination of the federal-provincial Forest Resource Development Agreements created a substantial gap in a forest management strategy that relies heavily on silviculture. Landowners require consistent money to carry out silviculture on their land and there now are few incentives to do this. It is generally agreed that those who benefit from the resource should pay for its renewal. Ideally, this money should be generated from the selling price of the product, supplemented by contributions from the provincial government on behalf of other users.

A major part of any solution will be forestry research and applied science leading to enhanced ecological understanding and the development of technology providing both environmental and economic benefits.

Recommendations to the Federal Government

- Reform the federal tax system to treat private woodlot owners as small business owners. The tax should enable forest management investments such as silviculture to be an eligible expense against income. For example, a woodlot owner has a four-hectare patch of small young trees, so thick that growth is very slow. If the woodlot owner invests $2,500 in thinning today, the owner can double the growth of these trees over the next 25 years. Immediate employment is created in silviculture, which could reduce harvest pressure. This investment would double the value of the patch (maybe triple it) over a 25-year period. This expense for thinning should be an eligible expense against income.
- Permit intergenerational transfers of woodlot property and promote sustainable forest harvest practices through the use of capital gains tax.
- Recognize that forestry research and applied science with the development of technology can offer both environmental and economic benefits to the sector.
- Reaffirm the need for and maintain the federal government's capacity to provide scientific research and data collection through such national bodies as the Canadian Forestry Service.
- Revitalize, in consultation with First Nations, on-reserve timber holdings by supporting woodlot management initiatives that create expertise by investing in training and equipment for wood harvesting.
- Work with First Nations to vest them with full authority and control over their timber assets.

Recommendations to Provincial Governments

- Modify the property tax regimes to reward woodlot owners for good forest management and to impose penalties on owners who allow poor forest-operating practices on their land.
- Jointly organize consultations with all stakeholders to determine the best mechanisms to achieve a sustainable level of regional fibre consumption, harvest and export.

- Examine the role of marketing boards or other organizations in setting and enforcing a sustainable level of harvest.
- Develop with regional owners and buyers an accountable method for administering a sustainable forest management trust fund to ensure that funds are available for silviculture, forest management and ecological restoration work.
- Establish jointly programs for mandatory training and licensing of logging contractors.
- Continue to support efforts to develop certification for sustainable forest products such as those of the Forest Stewardship Council, the Canadian Standards Association and the International Standards Organization.

Recommendations to the Fibre Industry

- Recognize that industry's current level of harvesting is not sustainable. Further expansion will only create greater competition for the existing supply and is therefore not economically feasible.
- Initiate a self-regulating process by immediately joining in a sector forum to pursue voluntary action aimed at achieving a sustainable level of fibre consumption in balance with sustainable levels of harvesting.
- Develop mechanisms in consultation with woodlot owners to define sustainable levels of production.
- Establish with woodlot owners a trust fund, to be held by a mutually agreed-upon third party, whereby a portion of the selling price from every cord sold would be dedicated to sustainable forest management practices.
- Provide leadership through the pulp, sawmilling and other fibre-using industries and support the development of mandatory training and licensing programs for contractors.
- Develop and honour codes of practice for sustainable forest management that are tailored to local forest conditions for woodlot owners, contractors and fibre users in the Maritimes. These codes of practice, developed through a multistakeholder process, should support the overall principles of sustainable forest management and the work that has already been completed in this area such as the Code of Practice for P.E.I. Forest Contractors, the New Brunswick Woodlot Owners' Code of Practice, the Canadian Council of Forest Ministers' Criteria of Indicators, and current certification options. The codes should strive for consistency, where possible,

among the provinces. Options for implementing the codes could include all possible mechanisms from voluntary compliance through to legislation.

- Work with First Nations to help identify required skills and potential opportunities in woodlot management.

- Support efforts to develop certification for sustainable forest products such as those of the Forest Stewardship Council, the Canadian Standards Association and the International Standards Organization.

Recommendations to Woodlot Owners

- Establish with buyers a trust fund, to be held by a mutually agreed-upon third party, whereby a portion of the selling price from every cord sold would be dedicated to sustainable forest management practices.

- Develop mechanisms in consultation with buyers to define sustainable levels of production.

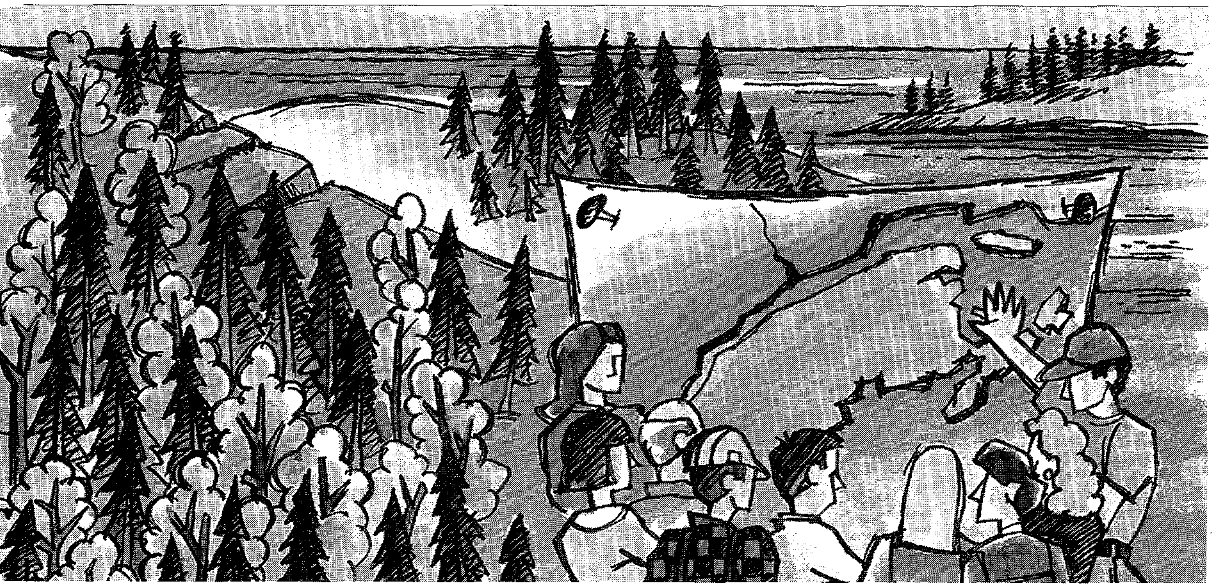
- Through the multistakeholder process, develop and honour codes of practice for sustainable forest management that are tailored to local forest conditions.

Recommendations to Provincial Round Tables

- Recognize the regional nature of the private woodlot situation and take appropriate measures to ensure that over harvesting on private woodlots remains a key topic of each organization's agenda.

- Cooperate with the other Maritime Round Tables to ensure that the present momentum is maintained.

VII. Conclusion

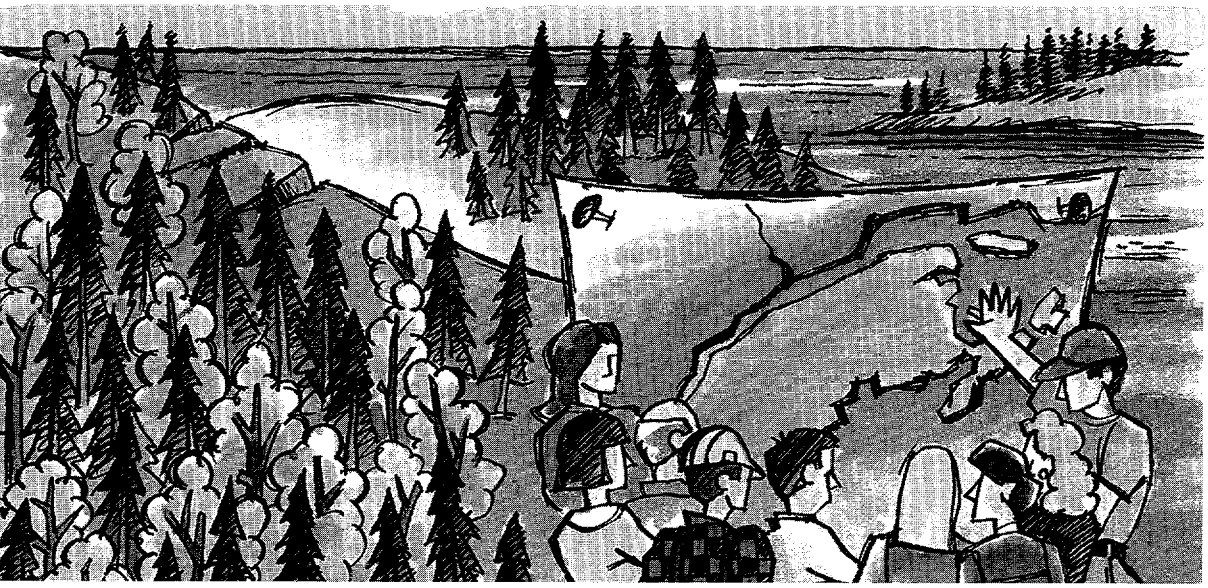


Consultations by the NRTEE reveal that government, industry, environmental and community leaders agree that current harvesting activity on Maritime private woodlots is unsustainable. Moreover, the problems associated with private woodlot management in the Maritimes require immediate attention and effective action. The NRTEE has produced this report to help stakeholders take the action needed to put private woodlot management on the road to sustainability.

While this report encapsulates the current state of the debate on private woodlot management in the Maritimes, participants in the consultation process believe there is a need to continue the dialogue. Some feel that the NRTEE is the appropriate body for continuing to convene the process and to bring people together from the different Maritime provinces. The important point is that a process is needed to ensure that the current dialogue, momentum and awareness of this issue are maintained at a regional level.

In response, the NRTEE is circulating this report as broadly as possible to communicate the urgency of the situation. As well, the NRTEE will be referring the issue of federal tax reform initiatives for private woodlots to the 1998 Greening of the Budget process.

Appendix 1: Forestry Data



Note: Some members of the NRTEE Task Force and some participants in the consultations feel that the tables on these pages do not tell the true story, since they do not reflect suspected over harvesting of sawlogs and underutilization of large quantities of lower quality wood.

Table 1: Productive Forest Areas, 1990

	Total Provincial Inventoried Productive Forest Area (000 ha)	Total Woodlot Productive Forest Area (000 ha)	Woodlot Productive Area as a % of Provincial Total	No. of Woodlot Owners
Nfld.	11,180	51.9	0.46	4,500
P.E.I.	280	257.4	91.93	16,000
N.S.	3,850	1,865.5	48.45	31,000
N.B.	6,090	1,935.6	31.78	35,000
Que.	54,790	6,185.6	11.29	120,000
Ont.	38,290	4,865.0	12.71	169,000
Man.	14,920	990.0	6.64	3,500
Sask.	15,890	389.5	2.45	15,000
Alta.	25,440	933.4	3.67	7,500
B.C.	51,100	1,961.6	3.84	21,000
Total	221,830	19,435.5	8.76	422,500

Source: Forestry Canada, *Private Woodlots in Canada*, Discussion Paper (1991)

Table 2: **Woodlot** Owners and Marketing Boards in New Brunswick

Marketing Board	No. of Owners	Area (ha)
North Shore	9,063	266,429
Northumberland	3,686	142,537
South Eastern N.B.	8,739	294,894
Southern N.B.	6,985	448,149
York-Sunbury-Charlotte	6,230	368,413
Carleton-Victoria	4,072	238,298
Madawaska	2,153	99,164
Total	40,928	1,857,884

Source: New Brunswick Federation of Private Woodlot Owners

Table 3: Private **Woodlot** Profile for Maritime Canada

	New Brunswick	Nova Scotia	Prince Edward Island
Number of woodlot owners (5 ha and more)	41,000	30,000	16,000
Size of average woodlot (ha)	50	45	18
Privately owned woodlot (% of the total productive forest area)	31	52	88
Industrial roundwood produced on woodlots (% of total)	25	62	97

Source: Based on M. Folkema, "FERIC's Role in Small-Scale Operations," in *Forestry on the Hill* (Ottawa: Canadian Forestry Association, 1994), pp. 45, 47. Revised by members of the NRTEE Task Force and other stakeholders

Table 4: **Woodlot** National Harvest, 1990

Harvest (m3)							Woodlot Harvest as	
Juris-diction	Provincial Crown Land 89-90	Woodlots (small, private) Round-wood	Woodlots (small, private) Fuelwood	Industrial Land	Federal Land	Total Provincial Land	% of Provincial Crown Harvest	% of Provincial Total
Nfld.	1,698,573	30,700	89,000	262,800	1,800	2,082,873	7.0	5.7
P.E.I.	17,950	135,000	300,000	-	100	453,050	2,423.4	96.0
N.S.	613,778	2,100,000	290,000	1,322,000	2,600	4,328,378	389.4	55.2
N.B.	4,552,000	2,827,000	300,000	2,626,000	130,700	10,435,700	68.7	30.0
Que.	25,603,365	5,286,000	2,000,000	700,000	161,600	34,290,965	30.6	22.8
Ont.	20,084,150	3,200,000	1,700,000	800,000	195,300	25,979,450	24.4	18.9
Man.	1,830,807	80,000	80,000	-	10,900	2,001,707	8.7	8.0
Sask.	3,149,843	20,000	135,000	-	18,400	3,323,243	4.9	4.7
Alta.	8,847,807	376,000	65,000	-	134,800	9,423,607	5.0	4.7
B.C.	75,621,000	6,123,000	420,000	474,000	383,200	83,021,200	8.7	7.9
Subtotal	142,019,273	20,177,700	5,379,000	6,184,800	1,039,400	175,340,173	18.4	14.9
N.W.T.	45,398	-	-	-	45,400	90,798	-	-
Yukon	-	-	-	-	130,500	130,500	-	-
Total	142,064,671	25,556,700		6,184,800	1,215,300	175,561,471	18.6	15.1

Source: Forestry Canada, *Private Woodlots in Canada*, Discussion Paper (1991)

Table 5: Annual Allowable Cut from Small Woodlots, 1994, in m^3

The annual allowable cut (AAC) in the Maritimes is the maximum amount of wood that can be cut in any given area, with the assumption that this same amount of wood (other forest values not necessarily taken into account) can be cut in perpetuity.

	Softwood		Hardwood	
	Private Woodlots	Province Total	Private Woodlots	Province Total
P.E.I. AAC	270,000	300,000	177,100	190,000
P.E.I. Harvested	354,000	368,000	148,000	151,000
N.S. AAC	1,800,000	3,750,000	650,000	1,500,000
N.S. Harvested	?	4,229,000	?	877,000
N.B. AAC	1,689,656	6,858,086	1,514,371	3,876,937
N.B. Harvested	1,980,170	7,276,000	?	1,993,000

Source: Canadian Council of Forest Ministers, *Compendium of Canadian Forestry Statistics, 1995* (Ottawa, 1996), p. 25-26, with additions by Steve Thompson, Chair, Sustainable Development, University of New Brunswick

Table 6: Small Woodlot Sales of Softwood via Marketing Boards in New Brunswick, 1991-96, and Annual Allowable Cut (AAC) from Small Woodlots, in m^3

Board Area	1991-92	1992-93	1993-94	1994-95	1995-96	Average	AAC
North Shore	234,070	162,870	226,310	372,850	491,700	297,560	255,000
Northumberland	210,660	193,270	427,360	235,990	226,010	258,660	159,000
S.E. N.B.	294,870	329,080	353,330	336,470	391,820	341,210	293,160
Southern N.B.	292,130	285,560	343,300	376,720	348,340	329,210	365,000
York-Sun-Charl.	200,230	218,560	212,030	218,900	179,360	205,820	310,000
Carl.-Victoria	136,100	145,060	81,130	95,710	93,010	110,180	140,000
Madawaska	101,920	101,160	77,030	94,520	98,700	94,670	80,000
Subtotal	1,469,980	1,435,560	1,720,490	1,731,160	1,828,940	1,637,310	1,602,160
Est. Exports	110,040	222,980	168,800	249,010	127,200	175,610	
Total, N.B.	1,580,020	1,658,540	1,889,290	1,980,170	1,956,140	1,812,920	1,602,160

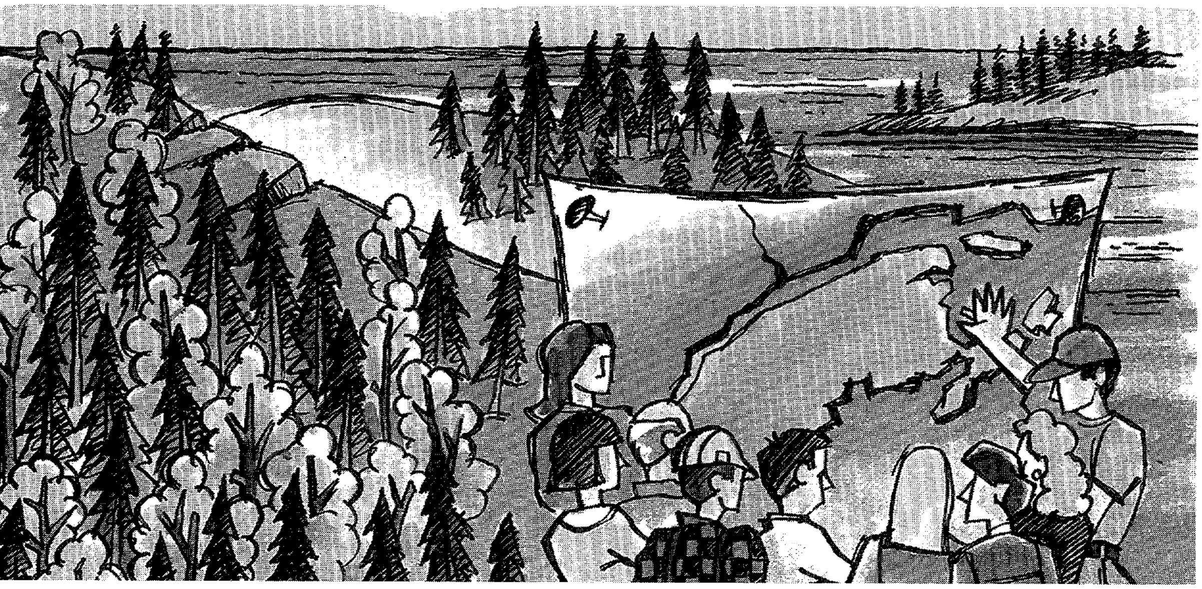
Source: New Brunswick Department of Natural Resources and Energy

Table 7: Small **Woodlot** Harvesting in Nova Scotia, 1991-96, in m^3

Category	1991	1992	1993	1994	1995
Softwood logs			700,778	1,080,920	1,207,862
Hardwood logs			27,882	35,150	42,766
Softwood pulp			1,425,192	1,555,829	1,811,359
Hardwood pulp			142,165	233,001	169,864
Total	2,315,167	2,313,220	2,296,017	2,904,900	3,231,851

Source: Nova Scotia Forest Production Surveys, 1991-95

Appendix 2: Program Participants



Private Woodlot Management in the Maritimes: Program Events and Participants

May 23-24, 1996
Newcastle, New Brunswick
Panel Discussion

Max Cater
Executive Director
New Brunswick Forest Products Association

David Coon
Policy Director
New Brunswick Conservation Council

Peter deMarsh
President
Canadian Federation of Woodlot Owners

Jack Dunlop
Bowater Mersey Paper Co. Ltd.

Keith Ellwood
Group Ventures Association

Harold Hatheway
EastWind Productions

November 15, 1996
Multistakeholder Workshop
Waverley, Nova Scotia

Facilitator

Anne Camozzi
President
EcoLogic & Associates

Jean-Paul Arsenault
Executive Director
P.E.I. Round Table on Resource Land Use and Stewardship

Elizabeth Atkinson
Policy Advisor, NRTEE

David Barrett
Barrett Lumber Co. Ltd.

Brian Brown
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Andrew Clark
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Arnold Croken
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Blair DeGrace
Forestry Services Superintendent
Fraser Papers Inc.

Peter deMarsh
President
Canadian Federation of Woodlot Owners

Patricia Dietz
Manager, Corporate Communications
Stora Port Hawkesbury Ltd.

Gérard Dupuis
General Manager
Delco Forest Products Ltd.

Keith Ellwood
Group Ventures Association

Diane Griffin
Deputy Minister
P.E.I. Environmental Resources

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EastWind Productions

Eric Hundert
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Environment Canada

Peter Jackson
C.I.F.

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Lee Nauss
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Vice-President, Woodlands Division
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John W. Roblee
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Steve Talbot
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Ken Vasiliauskas
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Wood Producers Association

Jim Verboom
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Nova Scotia Voluntary Planning

Russ Waycott
Vice-President, Woodlands
Stora Port Hawkesbury Ltd.

Robin Wilber
President
Elmsdale Lumber Co.

February 20, 1997
Multistakeholder Workshop
Moncton, New Brunswick

Facilitator

Anne Camozzi
President
EcoLogic & Associates

Jean-Paul Arsenault
Executive Director
P.E.I. Round Table on Resource Land Use and Stewardship

David Barrett
Barrett Lumber Co. Ltd.

Brian Brown
Forestry Division
P.E.I. Dept. of Agriculture, Fisheries & Forestry

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Island Trails

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