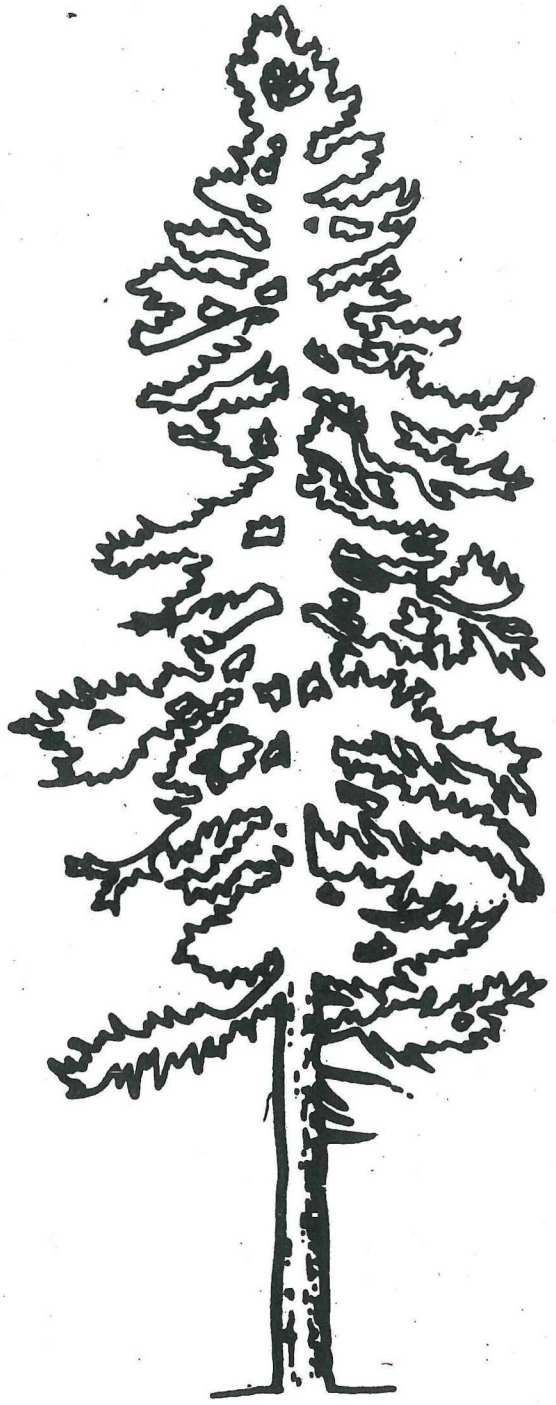

THE LAST STAND

Report of the
Ontario New Democratic Party Caucus
Task Force on Forestry
December, 1983

TASK FORCE MEMBERS:

Floyd Laughren, Chairman, MPP-Nickel Belt
Bob Rae, Leader, MPP-York South
Jack Stokes, MPP-Lake Nipigon
Jim Foulds, MPP-Port Arthur
Bud Wildman, MPP-Algoma
George Samis, MPP-Cornwall
Mel Swart, MPP-Welland Thorold

Published by the
Ontario New Democratic Party Caucus
Queen's Park, Toronto
M7A 1A2
(416)965-3700

opseu:593

REPORT OF THE NDP FORESTRY TASK FORCE

"An enlightened public on guard against unwise exploitation of its forest resources is the influence most likely to assure the perpetuation of these resources for future generations."

Report of the Ontario Royal Commission on Forestry, 1947

Introduction

Canada is a forested land. But Canadians are not a forest people. Few people can easily distinguish a black spruce from a jack pine, even though these are two of the most important commercial species in Eastern Canada.

This general lack of awareness contrasts dramatically with forestry's actual impact on our economic well-being. Approximately 18 per cent of Canadian exports are forest products, which earn more foreign currency for Canada than oil and gas, minerals, agriculture and fisheries combined.

According to the Ontario Forest Industries' Association (OFIA) 10 per cent of Canadians directly or indirectly owe their livelihood to the forest.

In Ontario, over 75,000 people working in some 1500 forest products operations produce over $7 billion worth of goods annually. Another 75,000 people are supported indirectly in ancilliary, service and transportation activities related to the forest sector. In Ontario there are 42 single-industry communities based on the forests.

Aside from their important economic aspects, the province's forests represent inestimable environmental and aesthetic values.

Forests anchor the soil, cleanse the water and the air and regulate the flows of rivers and streams. Our woodlands also provide habitat for wildlife. This is where hundreds of plant species besides trees grow and flourish. All this natural life contributes to the delicate ecological balance of the forest. The forests are a place for people to retreat from the frenzied pace of urban life, and as such support the tourist industry so crucial to many Northern Ontario communities.

In many parts of the world, excessive forest depletion has already led to serious erosion problems, shortages of firewood and loss of plant and animal species' diversity.

Continued deforestation threatens to increase the dramatic fluctuations in climate known as the "greenhouse effect". International scientific organizations have long recognized the gravity of these problems. Ontario is endowed with one of the richest forest resources in the world. Should we not be learning from mistakes elsewhere and moving to protect this natural heritage?

The recent record

Despite their importance the province's forests have been treated as a non-renewable resource -- mined -- for over 150 years. And despite warnings going back to the early part of this century that the mining of our forests would one day back-fire, successive governments have allowed the practice to continue.

The Ontario NDP has focussed attention on the need for redoubled forest management efforts in the past 10 years.

Reforestation was an election theme for the party in both 1975 and 1977, becoming a matter of public controversy after the government signed a memorandum of understanding with Reed International Ltd. in 1976. This agreement included the possible licensing of 19,000 square miles of Ontario's last remaining black spruce forest to the company responsible for poisoning the English-Wabigoon River system with mercury.

The uproar following the announcement of this deal forced the government to establish the Royal Commission on the Northern Environment (RCNE) in an effort to diffuse the issue.

Unhappily, the RCNE grinds on, now under its second chairmanship, without ever having dealt with the issue which caused its formation. But the attention which the Reed deal attracted did stimulate a great deal of public discussion about the state of Ontario's forests - including the deplorable reforestation record of the Ministry of Natural Resources (MNR).

After a major study (the Armson Report) of forest management practices in Ontario published in 1976, the government introduced major changes to the Crown Timber Act in 1979.

These changes gave the Crown the authority to sign a new type of timber licence with the major forest products companies. Through a series of forest management agreements (FMAs), the Crown was empowered to turn over responsibility for reforesting the areas cut to those who actually did the harvesting.

Many critics of the government's forest management record had pointed to the separation of reforestation and harvesting responsibilities as one of the main causes of the poor results. With the exception of the 14 years between 1948 and 1962, reforestation on Crown lands in Ontario has been the responsibility of the government.

The 1979 amendments allowed for the integration of logging and forest renewal into the hands of a single agency - the forest products corporation. The companies would receive large public subsidies and renewable tenure on their licenced areas dependent on the success of their reforestation efforts.

The 1979 Crown Timber Act debate was very difficult for the provincial Tories. During the 1977 election campaign Premier Davis had promised, in his famous Brampton Charter, "a commitment to replace at least two trees for every one harvested henceforth in Ontario, and to regenerate every acre harvested".

Taking the Premier at his word, NDP house leader Elie Martel moved the adoption of Davis' Brampton Charter promise as an amendment to the Crown Timber Act.

A memorandum from Walter J. Obelnycki, a solicitor to the then Minister of Natural Resources James Auld, stated the government's concerns quite bluntly ".... the amendment proposed by the member for Sudbury East (Davis' 1977 promise verbatim) also has implications that are simply absurd. The amendment states that the agreement shall provide that every acre harvested is regenerated".

The NDP withdrew the amendment, saving the government the embarassment of voting against the Premier's own election promise. In return the Tories promised public disclosure of reforestation efforts. An annual report on each forest management agreement (FMA) is tabled in the legislature.

A number of important initiatives on forestry were introduced during Jim Foulds' tenure as resources critic. On May 24, 1978 he introduced an eight point Reforestation Program for Ontario during debate on MNR spending estimates.

Subsequently, in June 1980 and again in May 1981, Mr. Foulds introduced a private member's bill on forest management entitled "An Act to Ensure the Regeneration and Reforestation of Forests in Ontario". This bill represented a further elaboration of NDP thinking on how our forestry resources should be managed.

In addition to enshrining "sustained yield" as Ontario's guiding principle in forest management, the bill detailed the kind of management structure essential to turning wishful thinking into practice.

The government, however, had by that time chosen to rely entirely on the FMAs to deal with the reforestation problem. They weren't interested in putting a new management system in place and blocked the progression of the bill to second reading.

Two more years have passed and the government has signed a total of 17 FMAs covering approximately 37 per cent of the productive forest.

Not satisfied with ministerial assertions that the FMAs had solved Ontario's reforestation problems, Floyd Laughren, the NDP's present resources critic, decided to review the available data in June of 1983.

The results of this review, based entirely on information obtained from the Ministry of Natural Resources, painted a picture that contrasted starkly with the government's optimistic scenario.

Not only has Ontario's reforestation effort actually declined on an area basis from the level achieved in 1977, there has also been virtually no progress toward reducing the regeneration failure rate on reforested lands.

The figures showed that Ontario was only reforesting 62 per cent of what was cut annually and that only 23 per cent of those lands receiving regeneration treatment were officially labelled as "successful", five years after the new plantations were established. We were shocked by these figures. We had to focus attention on the problem in order to stimulate action by the provincial and federal governments.

Forestry Task Force

Consultations between Floyd Laughren, the NDP resources critic, Jack Stokes, the northern affairs critic and leader Bob Rae resulted in the creation of an NDP Forestry Task Force, chaired by Floyd Laughren.

On the basis of our preliminary research we decided to focus our initial attention on the question of wood supply and the adequacy of Ontario's reforestation efforts. This is not to suggest that we do not think other forest management issues worthy of investigation. The economic importance of the forest to Ontario is such that we felt obliged to investigate the supply issue first and to branch out into other areas from there.

To that end, the task force set out to answer four questions.

1. How serious is the supply problem? What will be the impact on the workers, families and communities dependent on wood-based industry?

2. What impact will the FMA's have and how well are they working to date?

3. Is it wise to rely exclusively on the FMAs?

4. Are there alternative forest management systems that Ontario should consider?

The search for answers to those questions took task force members to Sault Ste. Marie, Timmins, Iroquois Falls, Kapuskasing, Hearst, Beardmore, Thunder Bay, Fort Frances, Dryden, Kenora, Cornwall, Welland, Huntsville, Maple, Ottawa and Toronto.

Wood supply

> "The most important issue facing the forest sector is timber supply. Local shortages of wood at a competitive cost have emerged in every province."
>
> "A Forest Sector Strategy for Canada," Canadian Forestry Service, September 1981.

Every major study on the forest sector in the last 10 years has concluded that Canada generally and Ontario, specifically, is faced with impending wood supply problems.

It is clear to the members of this task force that this gloomy fact reflects past failures on the part of both industry and government.

This past summer a fight was raging between proponents of provincial parks and industry spokesmen over "withdrawals from the productive forest" for wilderness preserves. This is graphic evidence of just how far the provincial government has allowed our once vast forest to run down. If withdrawing a further two to three per cent of the forest from industrial use will make such a difference to companies who control many thousands of square miles, things must be desperate indeed.

But are we really facing a "wood supply crisis?"

Anyone who has flown or driven across northern Ontario will say that is nothing but lakes and trees. Yet appearances are often deceiving in forestry as well as in government pronouncements.

From our investigation to date we have concluded that our wood supply problem is really a number of interrelated problems caused not so much by an absolute shortage of trees or wood fibre. We are really facing a number of problems:

- utilization rates -- how much of what's there is actually used? How much is wasted?
- availability of the desired species
- age and size of the available trees
- the quality and quantity of products being produced.

These factors are tied to one another because adequate "supply" is an economic concept. It implies that enough of the appropriate species of tree or fibre of the requisite size and quality (age) is available to be harvested and turned into products. The sale of these products will provide the company with a return on investment acceptable to its shareholders.

The fact is that companies are now forced to go further and further from their mills to obtain the fibre they require. This pushes up the cost of wood and industry analysts worry openly about competition from lower-cost regions such as the southern United States.

Companies with operations in Ontario are already making decisions to invest in the southern U.S. instead of Ontario. On the first week of our tour we visited with union and management officials from Abitibi-Price's groundwood specialty mill in Sault Ste. Marie. That mill is currently losing around half a million dollars per month and urgently requires modernization to remain in operation.

Unfortunately, it appears that the Sault mill just doesn't fit into Abitibi's corporate game plan. The company has recently joined forces with Thomson Newspapers Ltd. to modernize a paper mill in Augusta, Georgia. The total investment is nearly $300 million U.S. While Abitibi will not say if wood costs were one of its main reasons for investing in Georgia rather than in the Sault, it takes much less time to grow a commercially usable conifer in Georgia than in Northern Ontario. One suspects that Abitibi believes it can obtain a higher rate of return in the Augusta area than in Sault Ste. Marie.

The major forest products companies operating in Ontario are themselves but affiliates of much larger corporate conglomerates. International firms such as Canadian Pacific (controlling Great Lakes Forest Products), Olympia and York (controlling Abitibi-Price) and George Weston (controlling E.B. Eddy) have planning horizons which unfortunately do not include the future health of single-industry communities in Northern Ontario. Nor do these corporate plans centre on the future growth of healthy stands of spruce on cutover boreal forest sites many miles north of these communities.

But surely the government must have a plan for growing enough wood at a cost which will allow us to at least maintain the province's current market share? Or do we? The companies have the option of moving. We don't.

Does Ontario have a forest production policy?

The cornerstone of Ontario's forest management planning system is supposed to be the Forest Production Policy, adopted by cabinet in 1972. This document assumes that demand for wood-based products from Ontario will exceed our capability to supply that demand. It then goes on to suggest various reforestation levels designed to supply industry with commensurate volumes of wood.

On the basis of cost, Ontario chose a mid-range option designed to provide industry with 9.1 million cunits (1 cunit = 100 cu ft) of wood fibre on a sustainable yield basis after the year 2020. This represents a 47 per cent increase over the current harvest of 6.2 million cunits.

To meet this long-term objective Ontario must artificially reforest 380,000 acres per year by 1985 and sustain that level into the future. The target for 1981/82 fiscal year was 281,000 acres whereas the actual figure was 214,000 acres or 24 per cent below what was required to stay on schedule.

The Minister of Natural Resources, Alan Pope, made the following commitment during debate on his estimates in November of 1981:

> "The Forest Production Policy is currently being reviewed, with the intention of producing a new document by April 1983. It is expected to incorporate updated costs and technical procedures, revised regional targets, a plan for improved integration with other ministry systems and programs, a lay person's version of the document for distribution to the general public, and an annual report format and procedure for informing the legislature of the state of Ontario's Forest Management Programs year-by-year."

No update has yet been published and sources within the ministry tell us that other projects have taken priority and no revised completion date has been arrived at. There is a definite tendency in this ministry -- nowhere more pronounced than in Mr. Pope's office -- to fail to live up to promises and to withold information from the public. At the same time, the minister himself recently admitted that even under the old production policy, artificial regenerations is only at 63 per cent of target.

The importance of having an up-to-date Forest Production Policy cannot be overstated. It is the key planning document which sets the annual goals and objectives for all the regions and districts. Without an up-to-date policy, the ministry has no goals upon which to judge the progress of the reforestation effort. And industry has no basis upon which to make investment decisions knowing that the wood will be there to support additional capacity. The fact that we have now fallen significantly behind the reforestation target set out in the 1972 policy gives great cause for concern about the level of industrial output Ontario will be able to support after 2020. Since it takes from 50 to 120 years to grow a harvestable tree in Northern Ontario we had better get our act together -- and soon.

We recommend the immediate development of a forest production policy. The present policy is based upon practically doubling the current average harvest volume per acre from about 11 cunits to 20 cunits. The task force was keenly interested in how close we are to achieving that goal and we met with contradictory views when we asked if this were possible.

Some foresters felt that since we have very limited experience with intensive forest management in the boreal forest, it is simply too early to predict the results we are capable of achieving.

Most company foresters were very enthusiastic about their ability to increase yields while substantially reducing rotation periods. But in most

cases the experience they are drawing upon to make such projections is limited to less than 10 years duration. There simply isn't that much experience in growing the second forest in Ontario.

The issue is complicated, made all the more difficult given the lack of detailed studies.

At present the only reports on the forest management agreements that the minister is required to submit to the legislature are ridiculously superficial annual reports. These one-page summaries offer no information on stocking levels, survival rates or any other index of the success of regeneration efforts. They simply provide gross acreage figures on areas harvested, regenerated and tended. This reporting method is contrary to the government's stated efforts to keep the public well-informed of the activities of private corporations on public land.

The information that has been supplied by MNR reveals a disturbing trend. Over the past 10 years the area of cutover forest land classified as "not available for regeneration treatment" has jumped dramatically. This is land that has been logged out, and, due to poor soil conditions, inaccessibility or other growth, has been written off -- removed from the ministry's future silvicultural plans. More and more of Ontario's forest land is falling into this depressing category.

Year	Total Cutover Area (acres)	Area Not Available For Regeneration	Percentage
1973-74	474,000	31,000	6.54
1974-75	476,000	57,000	11.97
1975-76	486,000	98,000	20.16
1976-77	387,000	61,000	15.76
1977-78	465,000	162,000	34.84
1978-79	482,000	154,000	31.95
1979-80	540,000	169,000	31.30
1980-81	600,000	173,000	28.83
1981-82	562,000	181,000	32.21

Source: Answer to Order Paper Question #354, tabled Nov. 3, 1980
Answer to Order Paper Question #644, tabled Dec. 10, 1982

Over the same period of time the area regenerated naturally has remained relatively constant, while the area regenerated by artificial means has risen -- but not nearly so rapidly as the area written off for future productive forest growth.

What is happening to those lands that are being teated with artificial and natural regeneration? The task force did obtain some data on this

question from MNR when the Ministry was still willing to provide it. The ministry presented us with figures in the three categories it uses to assess "stocking levels", the determination of how thoroughly an area has been reforested to the desired species several years after initial treatment. The three ministry categories are satisfactory stocking, minimum stocking and NSR (not satisfactorily regenerated) stocking.

The numbers given to us by MNR clearly showed that -- by the government's own definition -- 38 per cent of the reforested areas most recently surveyed were a failure in the sense that they were not sufficiently stocked to support a second commercial harvest of the desired species. For artificially treated areas the NSR rate was 40 per cent and for areas of natural regeneration the rate was 27 per cent.

When these failure rates are applied to the total 1981-82 timber harvest so as to include the areas not available for regeneration in the first place, we learn that an astounding 58 per cent of the acreage cut is being lost to production. This represents a tragic failure. A renewable resource is simply not being renewed. Evidently, the confidence exuded by top ministry officials is misplaced.

When the task force publicized this information, pointing out that 37 acres of forest land are being written off each hour, the government reacted angrily. Mr. Pope painted our concerns as doom and gloom scenarios, denying that things were that bad in Northern Ontario. But the fact is that these lands are not growing a crop of merchantable timber which can be used in today's mills. In fact, the ministry is overseeing the creation of silvicultural slums in the north.

What's more, when the government is confronted with its own figures, it attempts to confuse things by changing the way information is presented and denying us access to the most recent data. (See appendix for the data we received from MNR on regeneration and stocking levels as well as our analysis thereof.)

Refusal to provide information

When we presented these figures to the public, various MNR spokesmen including the minister himself stated that we were misrepresenting the facts. We then asked for more detailed assessments by licenced area and were told that we couldn't have the information due to confidentiality considerations.

The task force has attempted to obtain specific information as to where and when shortages will occur so that the potential impact on workers and communities can be assessed and pressure applied on the government for remedial action. This is why we requested very detailed information from MNR on annual allowable cuts, actual harvest volumes and reforestation assessments for each licenced area held by the largest forest products corporations in Ontario. Given the refusal of MNR to release the information required to pinpoint where and when shortages will occur, it is impossible for us to identify specific problem areas.

In a recent letter to Floyd Laughren, MNR Deputy Minister W.T. Foster explained why we were being denied information on how well the ministry had been reforesting Ontario's public forests.

> "A further cause for confusion has been the use in recent years, by the ministry of three levels of stocking -- satisfactory, minimum and Not Satisafactorily Regenerated (NSR). The first two terms represented an attempt by our staff some years ago to subjectively project forward stocking values to rotation age yields. Unfortunately, these estimates were not based on any quantifiable data and therefore are misleading to say the least. Separation of regeneration data on this basis will no longer be done because of its subjective basis and misleading connotation."(emphasis added)

The ministry has now admitted that the system which it has developed and uses to evaluate reforestation data produces estimates which are "misleading to say the least" and will no longer be used. Presumably the ministry will now not only have to design an entirely new system for auditing past and future reforestation efforts, it will also have to re-evaluate its own notion as to what kind of second forest we really have growing out there.

Given that the ministry's own reforestation evaluation system is now considered by the deputy minister to be unreliable, how much faith are we to put in Mr. Foster's recent comments to the Canadian Institute of Forestry about the "new" or second forest we will be depending on in the future?

> "The new forest, on the other hand, is still something of a forester's dream. But it's far from being a pipe dream. We're not soothsayers, but we do know a great deal about the forest of the future.
>
> We know, for example, approximately where that new forest will be located, what it will contain, and when it will be available." (emphasis added)
>
> Mr. W.T. Foster, Sault Ste. Marie, October, 1983

By "we" Mr. Foster must mean top MNR bureaucrats in Toronto and forest industry executives because no one else is being let in on the secret. If the government thinks it knows so much, it should share the information with those who own the resource - the people of Ontario.

Growing the second forest

When government forest administrators talk confidently of the "old" and the "new" forest, they betray an ignorance of the implications of their analysis. In the so-called new forest -- resulting from human intervention in the form of logging - many of the best sites were cut in the period

between 1920 and 1970, an era of sheer exploitation when virtually no attention was paid to forest renewal. For most of this period the present governing party was in power. Some of the province's most productive forest sites, closest to the mills, were left alone after cutting and now support forests that do not support a merchantable crop of timber. These forests represent a backlog, a legacy of an era of neglect.

If the government of the day had listened to the Kennedy Commission and changed its ways in 1947, we might not be facing the wood shortages that loom in the years to come. It chose not to listen. If we want to be assured of a healthy second forest in the twenty-first century, we should be doing something about those backlog areas. We aren't. Instead, logging operations are moving ever-northward, cutting on ever-poorer sites that will never be available for regeneration treatment. And at the same time we hear nothing but bland predictions about the "new forest".

But some foresters, in both the private and public sectors expressed serious concerns to the Task Force about our ability to grow a second forest which will be as good, let alone better, than the first. Among their concerns were the following:

- the tendency of less desirable species to take over from desirable species after the initial harvest.
- hardwood competition suppressing conifers.
- increased number of balsam fir stands in the second forest. The more balsam fir there is, the greater the likelihood of a spruce budworm infestation.
- lower yields per acre the second time around except on the most productive of sites.
- little evidence of reduced rotation periods except, again, on the most productive sites.
- the absence of detailed knowledge of specific sites and no noticeable commitment to increase the numbers of "on-the-ground" professional foresters and forest technicians.
- increasing dependence on chemical suppression technologies at the expense of non-chemical silvicultural techniques.
- shortage of money to support intensive forest management.
- a silvicultural assessment system which provides an inflated estimate of how successfully we have regenerated areas previously cut.

With neither the money nor the human resources at our disposal to undertake an independent study of the problems, prospects and actual reforestation experience in Ontario, we are unable to deal at length with these issues. We are, however, concerned that they be examined in detail.

The level of skepticism we encountered among people with professional expertise in the area, together with MNR's refusal to release detailed information, leads us to believe that an independent investigation is urgently required. The need is made all the more urgent with the admission by MNR that its own reforestation assessment system is so misleading that it is to be replaced with a new one.

Commission of inquiry

Consequently, we are calling for the creation of a special commission of Inquiry into the state of Ontario's forests. Such a commission must include both broad representation from those groups with a direct interest in the health of our forests and also public input from those with no vested interests. Such a commission should be formed with or without the blessing and assistance of the government of Ontario.

The primary function of the commission would be to determine and publicize its best analysis of Ontario's wood supply situation together with recommendations for how we should deal with any predictable shortages.

Secondly, the commission would assess Ontario's reforestation record, the characteristics of our "new forest" and make recommendations for increasing our effectiveness in forest renewal. We would encourage the commission to examine such proposals as:

- a complete overhaul of the current forest management planning systems.
- the establishment of a Forest Renewal Fund into which a portion of forest revenues (broadly defined) would be paid as a guaranteed source of financing for reforestation.
- the creation of a Northern Forest Research Centre to investigate ways of improving reforestation efforts in the specific climatic conditions of Northern Ontario. Such a centre should be located in Northern Ontario.
- ways and means of ensuring that more foresters, technicians and technologists are actually put into the field and given a mandate to manage on a sustained yield basis.

We feel the need for such an independent commission is made all the more urgent by the fact that both MNR and the major forest products corporations have a vested interest in underestimating the problems in the forests and overestimating their ability to solve them. Both principal players in the game want very much to be seen to be doing something, to the extent that they regularly issue soothing pronouncements in the media.

"As far as my company is concerned, we're not running out of trees. We can continue the operation in perpetuity."

Charles Carter, President, Great Lakes Forest Products, CBC-Radio, 1982

"The forest management practices now in place in Ontario are up to date, well-designed and effective."

Ministry of Natural Resources, Toronto Star, 1983

The companies and the government will continue to reassure us and at the same time exploit the forest instead of renewing it. What is needed is a closer monitoring of forestry so that the public can be better informed and the powers-that-be can be held accountable. This is why we believe the formation of an independent commission of Inquiry, a kind of auditor general for the forests, is a vital necessity at this time -- before it's too late.

As part of a new commitment to getting down to the task of forest renewal -- and getting away from decades of bluff and bluster -- we recommend that the government add a simple amendment to the Crown Timber Act. This would make sustained yield forest management a statutory requirement in Ontario. In order to make sure the government adheres to this principle, we further recommend the appointment of an independent forester to scrutinize public and private reforestation efforts and report regularly to the people of Ontario on the health of this resource. This auditor general for forestry must have an adequate budget to carry out regular monitoring of existing forest conditions in all parts of the province. There are several issues that a commission should examine.

Forestry research

Forestry, like any other scientific endeavour, requires an active research effort to maintain and extend its effectiveness. When our task force visited the provincial forest research centre at Maple (The Ontario Institute for Tree Improvement and Biomass Research) we were very favourably impressed with the expertise and commitment of the staff. We learned of this world-class facility's programs in silviculture, genetic improvement, forest biomass use and a dozen other areas.

However, we also came away with a sense of unease, a feeling picked up from scientists currently looking over their shoulders with some trepidation. For the ministry stated in July, 1983, that its "research has by and large not been subjected to the budget cuts and streamlining that have been a way of life in the ministry for the last six years. However, events are now such that it is necessary to examine the ministry's role in the generation and use of scientific knowledge." The government claims that its research effort will not decline. But forest research staff are worried that the vital continuity of the programs developed over the years will suffer as MNR tries to get a bigger payoff for its research dollars.

The government says it is going to shake things up in the research field to ensure that science and technology have strong practical applications. So the ministry is considering ways of withdrawing from its direct research role and farming it out to other agencies. The implication is that the present effort at Maple is not sufficiently oriented to operations, and is overly concerned with purely theoretical matters. But the research staff at Maple emphasized to us that everything they do is aimed at solving operational problems. There is clearly a difference of perception here.

The government is leaning towards the privatization of research when the current effort needs to be expanded and upgraded -- not disrupted.

When the task force visited Northern Ontario we found some areas suffering from acute shortages of good softwood sawlogs. At the same time we were shown many areas where there was a lot of poplar and aspen growing on cutovers. At Maple we saw a research effort aimed at using species like poplar and aspen to make laminated boards and fibreboard. It makes good sense to link research into new products with what is actually growing in the province's forests. Such research efforts are one way of assuring the security of towns like Hearst and Chapleau that are currently feeling the wood supply squeeze.

Another program centred at Maple involves detailed ecosystem classification. The goal is to provide front-line foresters with detailed handbooks to guide their management activities. Since the forest is so site specific, requiring such flexible treatment, this type of systematic classification is vital to forest renewal. The lack of such a detailed appreciation of the diversity of the resource is one reason why Ontario has had such difficulty moving from the era of exploitation to that of renewal. Staff at Maple reported that their first field guide (for the Claybelt) has been quickly put to effective use by local foresters who can now easily recognize site characteristics and predict the response of vegetation to different soil types.

The cost of the Claybelt project was a relatively modest $500,000. Several other such classification projects are currently underway in Northern Ontario. This is the type of applied research the ministry says it wants to support. Clearly, it is already doing so. Slashing research budgets under the guise of efficiency is one way to disrupt such valuable initiatives.

We recommend that an Ontario Forest Research Council be formed to co-ordinate all forest research in the province. Such a council, with representatives from government, industry and the universities, could link research to management, operational requirements and product development. At the same time, it could avoid problems such as the recent government decision to locate a new Ontario Tree Improvement Council at the University of Guelph at a time when the two existing forestry faculties at Lakehead University and the University of Toronto are short of funds.

The short-term problem: stringing out the existing forest

Ontario's immediate wood supply problem is to find the means to stretch the existing forest's resources to support existing jobs and communities until the second forest reaches commercial rotation age.

The sad fact is that shortages of wood at a competitive price are already becoming apparent in various parts of the province. The federal Forest Sector Strategy for Canada report of 1981 had the following to say about the country as a whole and Ontario in particular.

> "A more systematic analysis by region quickly reveals that softwood shortages are pervasive, especially for sawlogs and veneer logs. Any softwood reserve which does exist on paper is generally characterized by remoteness, high logging costs, or less attractive grades and species.
>
> Ontario's situation is similar to that of Quebec. The AAC (annual allowable cut) is presently calculated to be above the current harvest. However, a reduction of the AAC has already been made and others are likely, in recognition of budworm and fire losses, withdrawals of timber land for single purpose use, and failure to adequately regenerate a large proportion of forest lands cutover during past decades.
>
> In addition, the AAC was deliberately set above the long run sustainable level in order to accelerate the removal of over-mature forests before decay became pronounced. The time has now arrived for setting realistic AACs for the next two decades. The Hearst and Chapleau areas are among those which are in the greatest jeopardy. Shortages will become more widespread in the 1980s unless forest renewal performance improves dramatically." (emphasis added)

When the task force visited the Hearst area, industry representatives reinforced this viewpoint. United Sawmills, for example, has only a six year supply of wood. After that, the company's future depends on the charitable granting of third party cutting rights to United by major licence holders in the vicinity.

We have also been told by informed sources that the Domtar mill at Red Rock is in desperate need of a long term supply of fibre. The recent dispute over the granting of a licence to Buchanan Forest Products on the Black Bay peninsula within the Port Arthur Crown Management Unit near Thunder Bay is another indication of how desperate the search for wood within economic distance of mills has become. One unit forester, Don MacAlpine, was fired for speaking out about his concern over wood supply in the area.

MacAlpine refused to buckle under to head office pressure because he did not believe that sufficient wood was available to justify a licence for the volumes desired by Buchanan. He has now rejoined the public service, having been vindicated by both an arbitration panel and the courts.

Forest Inventory

The MacAlpine case also illustrates another problem to which foresters and others have referred throughout the task force's travels --the inadequacy of Ontario's forest resource inventory (FRI). Canadian Forestry Service officials in the Sault told us that Ontario's FRI is among the most outdated in the country and does not provide sufficiently reliable data upon which to base forest management decisions.

Clearly this was the case with regard to the Black Bay peninsula. The FRI data indicated enough wood was available but the unit forester knew from first hand experience that the FRI was wrong. MacAlpine refused to issue a licence on the basis of the FRI until the existence of sufficient timber volumes could be confirmed by a detailed on-the-ground survey (called an operational cruise). When a survey was undertaken it showed that the quanitites, size and species Buchanan was looking for were not available.

If we don't even know what commercially harvestable wood the existing forest contains, it is impossible to make any reasoned forest management decisions. It's like trying to run a warehouse without knowing what's in stock.

The theory of sustained yield forestry -- treating the forest as a renewable resource -- is in a way based on the conception of the forest as a pool of capital. Each year we should cut only an amount of wood (the annual allowable cut, or AAC) equal to that which the forest replaces in that growing season -- its yearly "interest". Without reliable inventories, it becomes impossible to develop accurate allowable cuts. So it is impossible to sustain the yield of the forest, to renew it in perpetuity. No accurate inventory, no ability to adequately plan forest renewal. It's as simple as that.

Clearly the Ontario FRI must be updated. We recommend a complete re-evaluation of Ontario's forest resource inventory.

The confusion surrounding the amount of wood available for commercial exploitation in Ontario might be considered comical if it didn't have such serious consequences. The Ontario Forestry Association (OFA), working with MNR, has recently published data showing that Ontario's annual allowable cut (AAC) is approximately 31 million m^3. The OFA estimates show the actual cut to be approximately 17 million m^3.

At the same time the Canadian Forestry Service (CFS) has recently published data, also in conjunction with MNR, which shows that Ontario's AAC is actually 66 million m^3.

The CFS's actual cut figure is approximately 21 million m^3 for 1980. At a time when almost everyone is talking about impending shortages, two respected agencies --both working with MNR as the only data source --not only identify a huge surplus but also disagree by large measure on the size of that surplus.

Forestry personnel

Another important issue which the Black Bay peninsula controversy highlights is the importance of having enough unit foresters and technicians in the employ of the ministry who can develop an intimate knowledge of the forest. Time and time again we heard this criticism of MNR. The ministry's centralized administrative priorities apparently do not include the development of front-line silvicultural expertise.

Back in 1976 MNR's own Armson Report pointed out that the front-line unit foresters were stretched to the limit by the huge areas they were managing. Frequent staff changes at MNR were said to "ensure the perpetuation of inexperience".

Yet ministry officials have told us that they actually envisage a need for fewer forest management personnel because of the devolution of responsibility for reforestation industry under the forest management agreements. Industry, on the other hand, has told us that they do not foresee any increased need for foresters and technicians on their side.

We believe, given what MNR and industry representatives have told us, that there may very well be fewer on-the-ground forestry people in the future. Less than 10 per cent of the 1982 graduating class in forestry at Lakehead University have found permanent jobs in forestry. Such a situation can only have a negative impact on our forests and must be turned around if we are to take forest management seriously. We need more foresters actually practicing silviculture in the woodlands of this province. It has been estimated that, while there are 4,400 foresters in Canada, only 500 of these people are working in the forest. According to the Ontario Professional Foresters Association, we have one forester for every million acres of forest in this province. MNR says it has one forester actually practising forest management for every 500,000 acres of productive forest land. Whatever the ratio, in the southeastern United States -- the area most frequently cited as posing a competitive threat to traditional Ontario pulp and paper markets, there is one forester for every 50,000 acres of timberland.

We recommend that more foresters and forest technicians be employed to boost forest management efforts.

Utilization

A recent Lakehead University Report characterized the problem in the following way:

> "The absence of approved management plans for many management units and the preliminary nature of the Forest Resource Inventory volume calculations mean that allowable cuts are probably overestimated -- to an uncertain degree -- before making allowance for withdrawals of production land and underutilization of annual allowable cuts in the logging process.

> The AAC calculations assume a level of utilization that is not being achieved and, even if the utilization level assumed in AAC calculations was achieved, AAC's will decline as accelerated removals lower AAC's to the sustained levels in the future. As a result, fibre supplies are not only insufficient to support additional manufacturing capacity, they are inadequate to support existing capacity without major improvements in utilization."
>
> (emphasis added)
>
> (Lakehead University, "The Economic Future of the Forest Products Industry in Northern Ontario" RCNE, Page S-13)

Virtually everyone task force members talked to agreed that the wood resources within economic distance of mills could be stretched much further by requiring greater utilization of the fibre available. As much as 26 to 30 per cent of this wood is left to rot (e.g. aspen) because it is not of the preferred species and/or companies do not have the technological capability to use it in their mills.

Admittedly this problem is complex. It involves issues such as the nature and size of corporate investment decisions, market demand and quality specifications, as well as corporate logging practices. Technological innovations such as thermo-mechanical pulping processes (TMP), by way of example, produce a greater fibre output per unit input than more traditional pulping processes in addition to allowing for greater use of hard woods. TMP also involves large up front capital expenditures.

Many other means of encouraging greater utilization were suggested to task force members including:

- more research and development products using poplar and other currently less desirable species.
- regulations requiring or incentives encouraging greater use of wood wastes from sawmills in pulp mill furnish.
- laws to require or incentives to encourage use of biomass discarded during logging for hog fuel or methanol production.
- mandatory recycling of paper products.
- greater access to resources by users other than large licence holders via local users policies and mandatory third party utilization of surplus AAC.
- mandatory forest management planning on private lands.
- separation of control of the forests from those who own the mills.

Presumably such ideas were what the minister had in mind when he appointed a joint industry-government committee in March 1982, to develop a comprehensive policy on wood utilization practices. This committee, chaired by Mr. I.D. Bird, general manager of the Algonquin Forestry Authority, finished its report in July of 1982. The report has never been made public.

The minister has alluded to problems in obtaining a consensus with industry on this issue. Sources within MNR have intimated to us that the companies simply do not want to talk about conservation measures during recessionary times.

Is this the reason why the report has not been released?

Who really controls the province's forest management policies anyway --the forest products companies or the government? Maybe the government is incapable of making those kinds of distinctions.

Regardless of the reasons for not releasing this study, the fact remains that the forests of Ontario are largely (90 per cent) publicly owned and information pertaining to their use belongs in the public domain. Deputy minister Bill Foster says he agrees:

> "Our ministry is taking steps to become more communicative to explain the "whys" of forest management to our various audiences more effectively. So we are developing a communications plan that we expect will contribute to a more informed and enlightened level of discussion among all the participants involved in forest management."
>
> Speech to the Canadian Institute of Forestry, October 5, 1983 Sault Ste. Marie

In practice Bill Foster and Alan Pope have done everything in their power to limit the availability of data and reports absolutely essential to the "informed discussion" they claim to want.

The utilization study must be released immediately.

Secondly, the government must assume leadership and implement a comprehensive policy regardless of whether or not a consensus with the business community can be reached. If the discussion were to include labour and community-based organizations the government would find to its surprise that there is support for those with the courage to act. But until now only industry and government have been involved.

There is one issue which bears directly on the utilization problem which we fear the government will simply ignore -- control of the land base. In fact, we know this issue was not addressed in the secret utilization study.

In his landmark report, Forest Management in Ontario, (1976) Ken Armson, who is now Ontario's most powerful forestry official, put this issue as follows:

> "Two aspects of tenure are important particularly in relation to forest management; one is the size of area (under licence) and the second is the period of tenure.
>
> At present largely as a result of historical reasons related to previous lack of inventory and the raising of capital by the entrepreneur, there is a legacy of very large licensed areas. These areas, perhaps justifiable under a regime of exploitation only, cannot be justified when forest management is both possible and feasible."
>
> (emphasis added)

Armson, who is widely recognized as the architect of the new forest management agreements went on in his report to suggest that the size of licensed areas on land where the company was assuming forest management responsibilities "should be on the basis of a natural forest yield that is something less than the current mill capacity of the licensee - for example, two thirds of capacity."

In fact, however, the 17 FMAs signed to date have simply replicated the boundaries of the old licences which Armson himself admits belong to "a regime of exploitation only".

Forest management agreements (FMAs)

The second, third and fourth questions which the task force set out to find answers to all have to do with FMAs in one way or another.

As mentioned earlier, 17 FMAs have been signed with eight companies covering 28,000 square miles or about 37 per cent of the productive forest under license.

The government plans to have some 35 FMAs signed by 1985 covering about 70 per cent of the productive forest under licence.

Almost everyone whom the task force met agreed that the FMAs are not a short-term solution to wood supply shortages. Assuming that they are successful in taking Ontario out of the exploitation era and into the brave new world of forest management, FMAs will assist Ontario in meeting the goals established in the Forest Production Policy. This may be a very big assumption, however, given some of the concerns discussed in the first section of the report concerning our ability to grow a second forest to meet future needs.

To the extent that the FMAs stimulate the establishment of successful new plantations to replace the cutover natural forest, they will have an impact on the amount of wood that can be cut annually on a

sustainable basis. This is known as "the allowable cut effect", the theory being that current inventory can be depleted at a higher rate if new guranteed sources of supply are in the process of being grown and will be there when needed.

Our tours of woodland operations showed us the very impressive numbers of seedlings being planted on previously cutover areas. This is certainly laudable. The attempts by companies to integrate harvesting and silvicultural activities at the operational crew level were obviously having some positive impact on prospects for regeneration success. We were, however, struck by the fact that everyone is still experimenting, not only with different kinds of harvesting systems, but also with genetically variable growing stock. Some companies are trying to encourage natural regeneration while others are relying on artificial means.

Ontario only got at all serious about reforestation with the advent of the FMAs. As such, everyone is learning by doing rather than applying tried and true methods developed over years of experience. Since the first FMA is only four years old and an initial assessment takes roughly three years from the time an area is cut until a new crop is established, it is very difficult to measure how well FMAs are doing.

Certainly, a lot of access roads are being built and many millions of seedlings are being planted and grown. But access roads only facilitate better management -- they don't ensure it. And the fact that two trees are being planted for every one cut doesn't mean that they will all survive and reach commercial age.

It will be perhaps another 10 or 15 years until the real impact of the FMAs can be fully evaluated on the basis of hard survey data. For this reason, we are very uneasy about the government's total reliance upon FMAs to "solve the reforestation problem." The stakes are simply too high, given the impending shortages of supply, to put all of our regeneration eggs, so to speak, in one reforestation basket. Is this a chance worth taking, considering that the gamble involves such high stakes?

The most important lesson we learned from our woodland tours was that the practice of forestry involves a very intimate knowledge of specific site and soil conditions. Proper forest management cannot be practised from the front seat of a pick-up truck, let alone from some isolated boardroom or head office. It requires an army of foresters, forest technicians and silvicultural workers out in the forest who not only have the desire but the time to get to know the forest under their care.

The forest management agreements are very expensive items, with built-in public subsidies for access roads, growing stock and tending. This chart shows the current and projected levels of expenditure by the government on forest management through the year 1986.

FOREST MANAGEMENT EXPENDITURES
(projected in 1981; millions)

Year	FMA	All Other	Total
1981/82	$ 10.2*	$90.5	$100.7
1982/83	26.4	104.5	130.9
1983/84	42.0	114.5	156.5
1984/85	60.7	119.5	180.2
1985/86	82.5	118.7	201.2
1986/87	102.9	119.3*	222.2*

Source: Alan Pope, Estimates June 5, 1982
* from John Cary (MNR) Sept. 23/1983

Notes: 1) the figures assume that FMAs come on stream as expected so that by 1985 some 30 FMAs would be in place.

2) the entire impact of all 30 FMAs would felt for the first time in fiscal 1986/87.

Expenditures will have to more than double from 1981 to 1986, (in constant 1981 dollars) to meet FMA requirements and forest management needs on non-FMA areas.

Does the government have the political will to do this in an era of restraint? We must remember that highly-visible, politically-popular programs in health care and education are being cut back. There is every reason to believe that pouring money into far-off forests will be very difficult for the government. The history of forestry in Canada is littered with "new commitments". But short-term political considerations have most frequently meant that new forestry spending that will not bear fruit for 60 to 120 years gets put permanently on the back burner.

The task force also heard fears expressed both inside and outside the ministry that non-FMA related forest management activities may suffer decreases to help finance the FMAs. Given the enormous financial commitments needed to make the FMAs anywhere near effective, the task force is worried that funding for Crown Management Units outside the FMAs will suffer. As a result of the government's priorities around the FMAs signed with large corporations, what will happen to the areas logged by small operators working under Order-in-Council licences on Crown

Management Units? Since demands for money are pressing and financial resources are limited, we believe there is a distinct danger of other forest operations being bled to support FMAs.

Task force members believe that rather than place all of the emphasis on FMAs, the government should also establish a second, complementary system parallel to the FMAs.

We are recommending that no further FMAs be signed in Ontario until alternative forms of forest administration are fully investigated. Instead of FMAs, we are suggesting that harvesting and silvicultural activities be united on all forest lands currently not covered by FMAs through the establishment of forest authorities modelled on the highly-successful Algonquin Forestry Authority. These authorities would harvest and market wood from lands under their control and manage their lands on a sustained yield basis. The money earned from sales would be retained by the authorities and used to hire enough forest management personnel to ensure the highest standards of forest management. Management of the forest resource should be in the hands of an organization whose main responsibility is forest renewal. We should not expect companies whose principal goal is making a profit in the mill to see forest management as a main priority.

No longer would the financing of forest management fluctuate with the political priorities of the government or the financial priorities of forest product corporations. Staff decisions would be based upon the needs of the forest, the workers and communities dependent on the forest as well as the needs of the entire province.

We have already referred to the site specific nature of the forest resource and the need for a more varied approach to forest management. We have also pointed to the woeful shortage of trained foresters doing on-the-ground silvicultural work. Under a different system of forest authorities a more flexible and intensive silvicultural regime could flourish.

The Algonquin Forest Authority has seven foresters for 517,000 hectares of forest land. Under a more decentralized system, forestry operations could also be liberated from the dictates of mill managers who see the forest as a short-term source of fibre and forest managers whose principal job is to supply that fibre to the mills as cheaply as possible. Foresters working for a different form of forest authority would be better able to undertake block and strip cutting systems and serious forest inventory work. A true integration of logging and silviculture -- vital to effective forest management -- could be achieved. At the same time more sustained, long-term planning could be initiated with a view to the development of local management expertise and the creation of secure employment opportunities in the woods, year-in and year-out.

Decision-making power would be vested in boards elected from among the people in the communities within the authority's boundaries. It makes sense to place more of the control over this far-flung resource in

the hands of people who benefit most from a real commitment to the renewal of a renewable resource. These are also people who now stand to suffer most from continued mismanagement and exploitation.

The proposed forest authorities would, as part of their effort to diversify management techniques, have a mandate to reduce the necessity for energy-intensive and chemical-intensive forestry. In Ontario today "tending" and "cleaning" of forest sites are most often simply euphemisms for the spraying of herbicides to keep down vegetation competing with seedlings of desired species. There are widespread fears of the long term effects of chemical defoliants on natural ecosystems as well as on human health. More naturally based reforestation techniques using bigger seedlings and more diversified logging methods could help to avoid the need for herbicides. Similarly, forest authorities would have a mandate to reduce monocultures and so attempt to avoid insect infestations and the resulting tendency to resort to chemical pesticides.

These proposals are not new. A comparable system was advocated by General Howard Kennedy after his Royal Commission investigation in 1947. The Conservative government of the day chose to ignore the recommendations of its own commission, perhaps because Kennedy spoke of "emancipating" forest management from the short-sighted control of corporate executives and government administrators.

Having toured many of the same areas that the 1947 commission investigated, we concur with the General Kennedy's conclusion that "a major reversal of existing policies" is needed. Ontario's forests have been treated as a short-term source of raw material and government revenue and "the renewal of the forest resources, the lifeblood of the enterprises concerned, has been largely left to chance".

Everywhere we went we heard government and industry talking of a new commitment to sustained yield forestry. The forest management agreements allegedly represent a turning point. But, though we met many dedicated staff people in local forest areas, our main impression is that the forest looks far different up close than it does from the Whitney Block or the corner of King and Bay. This is confirmed by the government's own figures.

Those who control the forest have a stake in reassuring the people of Ontario that things are well in the woods. If we want to turn this wishful thinking into reality, we must develop structures of control that are accountable to the public. The alternative is continued exploitation covered with a veil of government evasion and secrecy. We think that this approach is deplorable in the face of a grave threat to a valuable resource.

Summary of Recommendations

There is no reason why the firms that produce pulp and paper should manage the public forests of Ontario. No further forest management agreements should be signed until alternative forms of forest administration are fully investigated. One such administrative structure already in existence is the Algonquin Forestry Authority. The principal task for these new, independent forest authorities would be to harvest and market wood from the lands under their control and manage these lands on a sustained yield basis.

An independent commission of Inquiry should be established to look into the state of Ontario's forests. The commission would develop a realistic assessment of the wood supply situation.

The commission would make specific recommendations to increase the effectiveness of renewal efforts. The commission should consider such proposals as:

- a complete re-evaluation of Ontario's forest resource inventory. (At present the government has only the most vague idea of what is actually growing in the forest.)
- a complete overhaul of current forest management planning systems.
- the establishment of a forest renewal fund into which a set proportion of forest revenues would be paid as a guaranteed source of financing for reforestation.
- getting more foresters and forest technicians into the field so that they can actually get down to the job of managing the forest.

The Crown Timber Act should be amended to make sustained yield forestry a statutory requirement in Ontario. An independent forester should be hired to scrutinize both public and private reforestation efforts. This auditor general for forestry would report regularly on the health of the resource.

The Ministry of Natural Resources should make available to the public the industry-government report on wood utilization that it received over a year ago. The government must formulate and implement a comprehensive wood utilization policy based on consultation with labour and community-based groups as well as industry.

A Northern Forest Research Centre should be established in Northern Ontario to investigate ways of improving reforestation efforts in the specific conditions in the north.

The government must immediately develop a forest production policy. This basic document should set realistic production targets and spell out in detail how they will be achieved.

There is an urgent need for more foresters to be employed doing the vital job of renewing the province's forests. More of these foresters should be engaged in field work so as to develop a body of expertise in this area.

/ml/lm opseu:593

Appendix 1

Answer to O.P. question #354 tabled Nov. 3/80.

TABLE 1

Summary of Regeneration on Crown and Patent Land in Ontario

1 Fiscal Year	2 Total cutover area Thousand acres	3 Area not available for regeneration treatment Thousand acres	4 Area regenerated naturally Thousand acres	5 Area requiring regeneration treatment Thousand acres	6 Area regenerated artificially Thousand acres	7 Area requiring treatment but not treated Thousand acres
1973-74	474	31	172	271	150	121
1974-75	476	57	151	268	182	86
1975-76	486	98	124	264	172	92
1976-77	387	61	102	224	177	47
1977-78	465	162	141	162	198	(36)*
1978-79	482	154	141	187	193	(6)*
1979-80	540	169	170	201	197	4

* Denotes areas treated in excess of areas requiring regeneration treatment.

Answer to O.P. question #644 Dec. 10/82.

1980-81	600,000	173,000	182,000	245,000	259,000	(14,000)*
1981-82	562,000	181,000	163,000	218,000	214,000	4,000

*Denotes area treated in excess of areas requiring regeneration treatment.

Column 1: Fiscal year.

Denoting the year commencing April 1 and ending March 31 following.

Column 2: Total cutover area.

Denoting the total area cut in acres during the fiscal year preceding the reporting year.

Column 3: Area not available for regeneration treatment.

Denoting that part of the total area cut which after inspection is judged to be unavailable for regeneration treatment due to:

i. Site constraints; that is, too rocky and/or too wet.

ii. Access constraints; that is, winter cuts which are inaccessible in spring and summer.

iii. Utilization constraints; that is, area with residual stands or trees which precludes the use of silvicultural equipment.

Column 4: Area regenerated naturally.

Denoting that part of the total area cut which after inspection is judged to meet the provincial regeneration standards.

Column 5: Area requiring regeneration treatment.

Denoting that part of the total area cut which after inspection is judged in need of silvicultural treatment to establish a new forest.

Column 6: Area regenerated artificially.

Denoting that part of the area indicated in column 5 which has been treated during the fiscal year.

Column 7: Area requiring treatment but not treated.

Denoting the difference in area indicated in columns 5 and 6.

Ministry of Natural Resources
Deputy Minister

Whitney Block
Queen's Park
Toronto Ontario
416/965-2704

File #194303

QUESTION TABLED ON MAY 10th, 1983

204. *Mr. Laughren*—Enquiry of the Ministry—Will the Minister of Natural Resources table the latest available 5th Year Stocking Tables for each M.N.R. region. Will he also provide a breakdown of the figures by regeneration method and working group. *May 10th, 1983.*

The attached computer generated tables show a breakdown of stocking levels by working group and regeneration method, five years after silvicultural treatments, for each of the MNR Regions in Ontario. Also attached is an explanatory sheet elaborating the standards used to establish different levels of stocking.

The figures for stocking levels are the average of three years of regeneration survey data collected during 1980 - 1982 on areas that were treated for regeneration during 1975 - 1977.

W. T. Foster
Deputy Minister

May 24, 1983

EXPLANATORY NOTES FOR LEVELS OF STOCKING

Explanation:

All stands assessed for regeneration have been rated according to the degree of success of regeneration as determined by stocking standards established for timber production for the Province of Ontario. Three levels of stocking have been established to rate the areas i.e. i) satisfactory stocking, ii) minimum stocking, and iii) N.S.R. (not sufficiently regenerated).

These levels are explained below:

1. Satisfactory Stocking:

   Satisfactory stocking is one that is expected to produce at rotation age a stand of timber having a production level of at least 80% of a stand that is fully stocked. The component of desirable species is determined by working group.

2. Minimum Stocking:

   Minimum stocking is one that is expected to produce a merchantable crop at rotation age but having much less yield than the potential productive capacity of the area.

3. N.S.R. (Not Sufficiently Regenerated) Stocking:

   An area is considered NSR if it is less than 40% stocked to the working group species and does not support a harvestable crop of timber, or else if it is supporting a crop of species that is less desirable to the one that the site is capable of producing.

NOTE: Please note that the areas under NSR in conifer working groups in the ensuing tables include areas in which the treatment is a failure, or in other words, the area is not sufficiently stocked to the desired species, although the areas may be successful as hardwood or mixed-wood stands.

SAS001 REPORT SHOWING REGENERATION SUCCESS BY WORKING GROUP, BY REGENERATION METHOD
YEAR OF ASSESSMENT: 1975-83 - 5 YEARS AFTER TREATMENT

PROVINCE SUMMARY

WORKING GROUP	REGENERATION METHOD	SATISFACTORY STOCKING (RATING 1) AREA	MINIMUM STOCKING (RATING 2) AREA	NSR STOCKING (RATING 3) AREA
BALSAM	CLEAR CUTTING	0	66	0
	NAT REGEN-NO TREATMT	0	59	0
BARREN&SCATTER	CLEAR CUTTING	0	0	1
WHITE BIRCH	BARE ROOT NURSRY STK	0	103	37
	NAT REGEN-NO TREATMT	0	27	331
YELLOW BIRCH	BARE ROOT NURSRY STK	441	0	0
	SCARIFICATION	91	0	0
	NAT REGEN-NO TREATMT	355	401	0
MIXED CONIFERS	BARE ROOT NURSRY STK	345	787	625
	CONTAINER STOCK	123	16	5
	SEEDING DIRECT	81	96	0
	SEEDG WITH SITE PREP	174	362	894
	SCARIFICATION	299	474	233
	CLEAR CUTTING	952	2,590	454
	STRIP CUTTING	0	0	173
	NAT REGEN-NO TREATMT	3,846	2,723	417
HARD MAPLE	CLEAR CUTTING	0	0	59
	STRIP CUTTING	149	0	0
	UNIFORM SHELTERWOOD	32	0	0
	NAT REGEN-NO TREATMT	1,649	31	0
OTHER HARDWOOD	CLEAR CUTTING	0	0	29
	UNIFORM SHELTERWOOD	0	30	0
	SELECTION SYSTEM	83	36	79
	NAT REGEN-NO TREATMT	0	0	9
JACK PINE	BARE ROOT NURSRY STK	1,997	3,373	1,128
	CONTAINER STOCK	877	1,494	203
	CUTTING	0	0	34
	SEEDING DIRECT	1,933	4,449	10,705
	SEEDG WITH SITE PREP	3,615	5,602	5,905
	SCARIFICATION	709	507	1,695
	CLEAR CUTTING	26	93	504
	SELECTION SYSTEM	0	0	35
	NAT REGEN-NO TREATMT	1,070	943	1,213
POPLAR	SCARIFICATION	53	0	0
	CLEAR CUTTING	0	16	52

SAS001

REPORT SHOWING REGENERATION SUCCESS BY WORKING GROUP, BY REGENERATION METHOD
YEAR OF ASSESSMENT: 1975-83. - 5 YEARS AFTER TREATMENT

PROVINCE SUMMARY

WORKING GROUP	REGENERATION METHOD	SATISFACTORY STOCKING (RATING 1) AREA	MINIMUM STOCKING (RATING 2) AREA	NSR STOCKING (RATING 3) AREA
POPLAR	NAT REGEN-NO TREATMT	156	327	1,991
RED PINE	BARE ROOT NURSRY STK	416	764	1,027
	CONTAINER STOCK	0	35	0
	SEEDG WITH SITE PREP	0	0	6
WHITE PINE	BARE ROOT NURSRY STK	29	0	333
	SEED TREE CUTTING	0	0	30
	UNIFORM SHELTERWOOD	14	0	0
	GROUP SHELTERWOOD	0	237	0
BLACK SPRUCE	BARE ROOT NURSRY STK	794	3,236	3,347
	CONTAINER STOCK	311	112	211
	SEEDING DIRECT	8	136	62
	SEEDG WITH SITE PREP	32	535	331
	SCARIFICATION	93	286	1,039
	CLEAR CUTTING	1,529	2,045	538
	SEED TREE CUTTING	30	244	480
	STRIP CUTTING	264	717	1,538
	UNIFORM SHELTERWOOD	0	0	8
	SELECTION SYSTEM	38	82	0
	NAT REGEN-NO TREATMT	1,192	2,693	1,742
		(4291) (18%)	(10086) (42.6%)	(9304) (39.3%) 23681
WHITE SPRUCE	BARE ROOT NURSRY STK	910	2,904	2,747
	CONTAINER STOCK	10	2	0
	SCARIFICATION	0	0	45
	SEED TREE CUTTING	0	0	113
	NAT REGEN-NO TREATMT	11	0	113
		24737 (23.4%)	40633 (385%)	40128 (38%)

Total Area 105498 ha
260580 acres (407.2 sq. mi)