ISO. It is hoped that through the ISO, a statement of principles and measurable standards for sustainable forest management could be developed at the global level.[40] Under this arrangement, the CSA certification process would be in conformity with ISO requirements.

The Committee was informed of another option for designing a forest management certification program. In testimony to the Committee, Professors Baskerville and Weetman called for the federal government to create an in-house Forest Management Institute which would have three functions: (a) certification of individual forests so as to ensure that these are being managed in a sustainable manner with respect to an array of values; (b) the development of certification procedures for non-timber values; and (c) periodic auditing of forest management activities.[41] The principal objective would be to ensure that the forest can "consistently deliver an array of values over a time horizon of the order of 100 years."[42]

As much as the Baskerville and Weetman proposal warrants serious examination, we tend at this time to favour the industry-led process, on the basis of cost and the fact that the current drive to develop an international certification process under the auspices of the ISO is well underway. Given that Canadian industry is heavily dependent on exports, it is also critical that any certification be acceptable internationally rather than just oriented to Canadian conditions. The ISO process should provide this international recognition. However, should the industry-driven process prove to be unacceptable to the Canadian public and/or international markets, we would then urge the federal government to assess the feasibility of developing a replacement certification process. The Committee therefore recommends:

Recommendation No. 4: That the federal government fully support current efforts to obtain domestic and international certification for Canadian forest products through the Standards Council of Canada and the International Standards Organization.

3. *Public Education*

It is generally recognized that the forestry sector suffers from a low public profile, apart from the negative publicity that the clearcutting controversy has generated. This is regrettable, given the industry's status as the country's largest, and the need for sound forest policies backed by an

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40 ISO certification requires that at least five countries be signatories to this statement.

41 Professors Weetman and Baskerville, (1994) pp. 1-2.

42 *Ibid.*, p. 3.

educated and supportive public. There is an urgent need for sensitizing all groups in society, from politicians and political leaders to the school-aged child, of the merits of our most important natural resource, and of Canada's efforts and performance in implementing sustainable forestry.

Increasingly, the Canadian public is also expressing its interest to decide how its forests are to be used and managed. The National Forest Strategy recognizes and supports this move toward greater public involvement. The Committee is also of the view that greater public involvement is an entirely appropriate objective, especially given the fact that 90% of Canadian forests are under public tenure.

In order for that decision-making to be effective, however, the public requires timely, accurate, objective and easy-to-comprehend information on the state of forests and forestry issues in Canada. According to the Canadian Forestry Association (CFA), a national federation of provincial organizations specializing in educating the public about forestry issues, "never in the history of Canada has there been a greater need for public forest education."[43]

We are whole-heartedly in agreement with this statement. Canadians need to have all of the facts regarding forest inventory, harvesting practices, other aspects related to sustainable forest management and the current state of the industry. Only then will they be in a position to make informed opinions and participate in decision-making. In this regard, it is also worth mentioning that the CFS is required by law to publish an annual State of the Forests Report. Moreover, in cooperation with provincial and territorial departments responsible for forestry, the federal government undertakes every five years a comprehensive national forest inventory. The resulting information is then made public.

The Committee would like to ensure Canadians that the information contained within these documents is authentic. It is our view that these reports be made subject to an independent review mechanism. Possible approaches, among others, could include a broadening of the Canadian Forest Inventory Committee to include an audit function, or the establishment of an ombudsman/auditor specifically for the forest sector. The Committee recommends:

Recommendation No. 5: That the federal government work with provincial and territorial governments to develop, on the basis of scientific indicators, the national data required to accurately measure and report on the achievement of sustainable forestry.

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43 Canadian Forestry Association, "*Clearcutting*," Submission to the House of Commons Standing Committee on Natural Resources, April 20, 1994, p. 2.

Recommendation No. 6: That the federal government, in conjunction with the provinces and other stakeholders, design an independent review mechanism to assess the information contained in the National Forestry Data Base and the annual Report "The State of Canada's Forest".

While the Committee's report will hopefully help in the education process, its distribution is rather limited. Fortunately, the principal mandate of the CFA itself is one of balanced and objective public education. Examples of CFA activity include the organization of forestry conferences for school teachers as well as the organization of the annual National Forest Week. We believe that the federal government could, through the CCFM, strike up an effective partnership with such a group to disseminate information about forestr he Committee therefore ecommends:

Recommendation No. 7: That the federal government, in conjunction with the provinces/territories and other major stakeholders, launch an aggressive and comprehensive public education campaign to inform Canadians about the current state of Canadian forest management as well as the economic and environmental importance of a sustainable forest resource.

4. Research & Development

R&D has always been the basis of federal action in the forestry sector. The Canadian Forest Service (CFS) undertakes a wide range of research projects both in the basic and applied fields, and it is also involved in the transfer of technology to the forest. Issues addressed include forest protection, the environment, forest utilization and production. Increasingly, research priorities are being revised to ensure that they reflect resource sustainability and environmental protection. The R&D work that the federal government conducts in forestry has allowed its scientists to become internationally recognized.

The annual R&D budget and related manpower at the CFS is in the order of $90 million and 850 staff respectively. On top of this, strategic links have also been developed with industry, universities, the provinces, other federal departments and three organizations undertaking industrial research (Forest Engineering Research Institute of Canada, Forintek, Pulp and Paper Research Institute of Canada). Even greater coordination of effort will be required in the future.

The Committee heard from a number of sources of the need for a world-class national R&D institution. A call also went out for a shift in the focus of the CFS away from traditional sustainable timber yield research towards research on the broader ecosystem and landscape management

approach referred to in Chapter 3. Finally, the Committee heard of a perceived need for greater coordination between various government and academic research arms in the transfer of information and technology to forest operations. We understand that the CFS is currently developing its new Strategic Plan for Research. As input to this important process, we would recommend:

Recommendation No. 8: That the R&D capabilities of the Canadian Forest Service be reoriented to place even greater emphasis on the sustainability of Canada's forest harvesting and regeneration practices, especially clearcutting. Special attention should be devoted to biodiversity; wildlife; and forest ecosystem and landscape management.

Recommendation No. 9: That the federal government, the provincial governments, research institutes and the academic community work together to more effectively transfer ideas and technology to stakeholders active in the forest. The Model Forests network, among others, should serve as an appropriate two-way mechanism for such a transfer of knowledge.

5. Model Forests Program

The Model Forests Program is a $54 million, six-year Green Plan program whose objective is to enable various forestry stakeholders in a region to cooperate in the development of new approaches to sustainable development of the forest. Included in the new forestry practices being examined are landscape design, a comparison of harvesting to natural disturbances and new efforts to support the natural regeneration of the forest.

Ten working models[44] of sustainable development, identified through a national competition, are spread across the five major forest eco-regions of Canada. Together, these projects cover almost six million hectares of forest land, and involve up to 250 groups. Each site is a working scale model of sustainable forest management, managed by a partnership of key interest groups relating to the forest in question.

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44 At the present time, the Long Beach Model Forest still needs to receive final approval.

An additional two model forests have been developed in conjunction with Mexico, and negotiations with Russia and Malaysia are underway to establish model forests there. Funding for this $10 million international initiative is derived from the budget of the Department of Foreign Affairs. The eventual aim is to develop an international network of projects, with funding to come from an international partnership of institutions and countries.

The Committee is quite appreciative of the effort undertaken within the model forests to test and demonstrate the best sustainable and ecologically-based forestry practices available. In our view, they represent an appropriate response to the growing sense in Canada that forest management needs to change to integrate the array of values that the forest offers. We are of the opinion, however, that the selected projects within the program be fully adaptable to the rapid evolution of forest management practices. The Committee is of the view that the Model Forests Network be expanded.

It has also come to our attention that none of the applications for Model Forests management from aboriginal groups were accepted. According to witnesses, in only one Model Forest (that at Prince Albert) is the aboriginal input into decision-making substantial. We believe it would be appropriate for the Model Forests Network to be expanded, to allow for the testing of sustainable forestry models that are suitable to the particular perspective of aboriginal people.

The Committee recommends:

Recommendation No. 10: That to contribute to the achievement of sustainable forestry, the federal government enlarge the existing network of Model Forests, and ensure that at least one additional Model Forest be totally under the management of aboriginal people.

[The Committee notes that members of the Reform Party oppose <u>any</u> expansion of the Model Forest Program pending the assembly of sufficient data from existing Model Forests to allow rational evaluation of the concept.]

6. Forest Resource Development Agreements

To promote regional forestry development, the federal and provincial governments have signed individual cost-shared Forest Resource Development Agreements (FRDAs) and such initiatives as the Eastern Quebec Forestry Development Program. These programs are designed to stimulate increased and sound forest management activity by various stakeholders such as

industry, woodlot owners, Indian bands, provinces/territories and the federal government and to provide a program of R&D and technology transfer to the areas of integrated resource management, forest management planning and silviculture. Unless extended or reconstituted in some other way, most of these will run out at the end of the 1994-95 fiscal year.

As many witnesses stressed before the Committee, the FRDAs have, over the years, provided important benefits to the forestry sector, and the Committee does not wish to see funding for the FRDAs terminated. At the same time, we would like to see future funding to be more targeted towards defined uses and to be conditional upon the demonstration of sustainable forestry practices. Recognizing that FRDAs are but one of many mechanisms to transfer federal assistance to the forest sector, the Committee recommends:

Recommendation No. 11: That the federal government negotiate a renewal of the Forest Resource Development Agreements (or equivalent arrangements) with the provinces for an additional five-year phase, and that the principal foci of the new programming be the development of forest ecosystem and landscape management techniques, and the continuation of financial assistance to private woodlot owners to encourage sounder forest management practices.

Recommendation No. 12: That in the future, the provision of assistance through reconstituted FRDA programming be conditional upon program recipients' demonstration of sustainable forestry practices. In the case of private woodlots, federal funding would be contingent upon the existence of an approved management plan.

7. Aboriginal Forestry Initiatives

For hundreds of years, the aboriginal people of Canada have held a unique bond with the forest, which has served their material, cultural and spiritual needs. In fact, the point has often been made that aboriginal people were the first stewards of Canada's forests.

Throughout this extended period of time, considerable respect for the protection of the forest for future generations has been observed within the aboriginal community. Respect for biodiversity has also been of paramount importance. This respect is derived from native peoples' long-held views that land and forests should be viewed in a holistic way.

Given this rather unique perspective, it is not surprising that the Committee heard a host of concerns from aboriginal peoples and groups on the issue of forest harvesting specifically, as well as on the broader subject of forest management. Whereas there was a modicum of support for the clearcutting method, when undertaken in appropriate circumstances, concern was expressed (most elaborately perhaps by the Crees of Northern Quebec) with the effects of forest harvesting on traditional land-based activity such as hunting and trapping. As Peggy Smith put it so simply, "it is aboriginal communities who have suffered the most from poor harvesting practices in the past."[45]

Above all else, the dominant message that the Committee received was that aboriginal peoples want greater involvement in decision-making regarding forest use. This was a point stressed by virtually all aboriginal witnesses. It is also their desire to actively participate in the forest sector and to have access to greater business development, training and educational opportunities. Finally, they stated that since the federal government has a fiduciary responsibility on reserve lands, it must continue to fund adequate forest programming on these lands generally, and particularly in the case of discontinuation of the FRDAs. The regeneration of forests on reserve lands is an issue of particular importance within the aboriginal community.

Strategic Direction No. 7 of the National Forest Strategy already commits governments to implement an aboriginal forest strategy. This strategy would address issues unique to forests on reserve lands given their legal status under the *Indian Act*, in particular the question of forest regeneration. It would also provide for enhanced aboriginal opportunity in the forest industry, an important development, given that a full 80% of all aboriginal communities are located in Canada's forest productive regions.

While the federal government has recognized the benefits of such a strategy, its implementation strategy has not yet come about. The Committee is of the view that aboriginal concerns must be dealt with in a timely fashion.

A final concern to note is the expressed need for an inventory of traditional land uses, to accompany that of the timber resource. This, it was felt, is required for aboriginal peoples to have a more informed voice in the forest management planning exercise. According to Dwayne Desjarlais,

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45 National Aboriginal Forestry Association, Submission to the House of Commons Standing Committee on Natural Resources, April 13, 1994, p. 3.

"We need to document where prime hunting, fishing and trapping areas are. We need to pinpoint specific sites traditionally used for berry picking, medicine gathering and spiritual use. Then we must get involved in the planning process at the operational level."[46]

To ensure that the aboriginal community has a greater voice in Canadian forest management, the information on traditional land use patterns on which to base its public involvement, as well as an improved position within the industry itself, the Committee recommends:

Recommendation No. 13: That the Minister of Natural Resources work together with other federal government departments and the Canadian Council of Forest Ministers to implement the aboriginal component of Canada's National Forest Strategy under strategic direction no. 7.

Recommendation No. 14: That the national forest inventory be broadened to include an inventory of traditional land use activities.

8. Concerns Regarding Private Woodlots

Almost 9% of Canada's commercial forest, in total over 19 million hectares, is privately-owned. This resource base, subdivided amongst the more than 425,000 private forest landowners, is intensively harvested to provide a full 15% of Canada's annual wood harvest. Private forests are also a good source of specialty products such as maple syrup, Christmas trees and fuelwood, and provide significant recreational and environmental benefits. The size of private forests varies greatly, ranging from small individual woodlots to the large holdings of certain forest products firms.

There appears to be considerable scope for improving the level of forest management on private lands. Recent estimates peg the proportion of private forests being managed through sound forestry practices at a mere 30%.[47] Often, the level of the private owner's resources or expertise restrict management quality. Moreover, the Committee was told that the boom in U.S. lumber markets has recently provided owners with an incentive to overcut their woodlots without having the full capacity to undertake adequate regeneration and proper forest management.

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46 *Ibid.*, p. 8.

47 Canadian Council of Forest Ministers, *Sustainable Forests: A Canadian Commitment*, March 1992, p. 43.

The key question then is how can the management of private forests be improved so as to incorporate sustainable forestry practices? In many cases, landowners have joined together to form associations or marketing boards to improve forest management and forest products marketing. The document underlying the National Strategy offers additional possibilities: development of small-scale forest management techniques; improvement in information on private forests and markets; the development of skills and knowledge, and the provision of support for models of sound forest practices on private lands.[48]

Another possibility might be the renewal and expansion of the FRDAs to include the provision of assistance programs to private woodlot owners based on satisfaction of sustainable forestry criteria. This policy measure we have already recommended, in Recommendations 11 and 12 above. The same integration of improved management objectives could also be factored into provincial assistance programs.

Both of the witnesses representing private woodlot owners, the Canadian Federation Of Private Woodlot Owners and the *Regroupement des sociétés d'aménagement forestier du Québec* (RESAM), called on the federal government to reform the tax provisions facing their members. The former group in fact presented the Committee with an 8-point list of recommendations dealing with tax issues.

In a nutshell, the Federation asked for assistance in the following areas:

- recognition of small woodlot owners as a special class of taxpayers;
- ability to access unlimited deductibility from income of forest development expenses and deductibility of the cost of timber stands in the year of woodlot purchase;
- ability to employ the cash basis of accounting, and to consider a woodlot as an income-earning asset or as a capital asset;
- capital gains eligibility; and
- access to a number of tax credits and shelters to promote woodlot purchases and forest development.

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48 *Ibid.*, pp. 44-45.

While the Committee recognizes that these requests for government support represent important initiatives for the Federation, it has regrettably determined that a thorough examination of these tax reform recommendations and their implications lies outside its current mandate. We would like to assist, however, by submitting these private woodlot owners' concerns to the federal government for review of the feasibility of such tax reform.

B. International

As was already pointed out, certain environmental groups have criticized Canada's forestry practices in key European markets. According to several witnesses, groups such as Greenpeace have been extremely successful in raising funds, upwards of $55 million per year in Germany alone. A considerable portion of this amount is specifically directed to the campaign against clearcutting. Next to this, the International Forestry Communications Program of the CCFM, the promotion campaign of the forest industry,[49] and the efforts undertaken by provincial governments pale in comparison. The Committee was told by the Canadian Ambassadors to Germany and the European Community that even individual companies should be undertaking active promotional campaigns to defend their forestry operations.

In our view, and the minister of Natural Resources concurs, there is an urgent need to develop a more effective communications/public relations campaign there and in other countries, to provide consumers with accurate information on industry's shift to ecologically sound forestry practices. **It is absolutely vital that the positive message of Canadian forestry go out to overseas markets, so that the world can discover that Canada's forestry practices are as enlightened as anywhere else.**

During her appearance before the Committee at the time of Main Estimates review, the Minister of Natural Resources announced her intention to request the Ministers of Foreign Affairs and of International Trade to accelerate their departments' efforts to properly inform European journalists and consumers. We applaud the Minister's intentions, but feel that more needs to be done.

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49 Both the CCFM and industry campaigns receive a total of $4.5 million in funding over three years, of which 50% consists of federal funds.

First, we are of the view that the various overseas campaigns employed be coordinated into a more effective bilateral response. We also believe that the organization of a high-level conference on sustainable forestry management at the level of the European Parliament or at the country level would serve to lend a higher profile to the European campaign. The Committee therefore recommends:

Recommendation No. 15: That the federal government, in conjunction with the provinces and territories, industry, environmentalists and other stakeholders, strive to consolidate the communications strategies currently employed in international markets into a single and effective campaign to promote Canada's forest management practices abroad.

Recommendation No. 16: That as part of such a revamped international communications strategy, the federal government work in concert with Canadian forestry stakeholders and their international counterparts to organize a high-profile conference on sustainable forestry at the European Community level and/or within specific countries.

As this report has stressed, Canada's forest practices are similar to, if not superior, to those adopted by other forest nations. Yet Canada continues to be the subject of international pressure regarding Canadian forest products derived from old-growth forests. Other trading nations may be similarly at risk in the future.

What is urgently needed to "level the playing field" between various forestry countries is an international agreement on principles and standards of forest management that would be both transparent and scientifically defensible. Such an International Convention on Sustainable Forestry would address the management, conservation and sustainable development of all types of forests and, in so doing, provide benchmarks against which Canada's performance could be measured objectively. In general terms, it would also help to facilitate international trade in wood products. As one of the Committee's witnesses pointed out in a June 1993 speech, the international agreement must, as a minimum, address the following topic areas:

- forestry practices, silviculture, and forest renewal;
- wilderness protection and biodiversity;
- protection of air, water and soil;
- conversion of native forests to plantation forestry with exotic species;

- conversion of forest lands to agriculture and human settlement; and
- monitoring, compliance and enforcement.[50]

In the months leading up to the Earth Summit in June 1992, delegates from forestry countries were involved in serious discussions surrounding the development of such an international agreement. Regrettably, the forests issue turned out to be among the most controversial. Consensus could not be achieved on a number of key issues, with the G-77 group of developing countries not on side with the proposals of developed nations. There did emerge, however, consensus on a non-binding Declaration of Principles dealing with forestry management, which recognized both the socio-economic and environmental value of forests.

Discussions on the convention have resumed in the two years since the breakdown of the talks at Rio. The confrontation which was so prevalent between developing and developed countries appears to have now evolved into a mood of cooperation. A good example of the new spirit of cooperation is the joint Canada/Malaysia initiative designed to provide a forum on international forest policy issues. It essentially represents a major step in the movement towards a global consensus on the pressing need to fashion an international convention on sustainable forestry.

As a precursor to international efforts to gain consensus on a forestry convention, Canada is also spearheading discussions on the development of internationally acceptable criteria for sustainable forestry. These indicators are necessary to develop common concepts and language to assist international deliberations on forestry. To this end, in the fall of 1993, it hosted a major international Seminar of Experts on Sustainable Development of Boreal and Temperate Forests under the auspices of the Conference on Security and Cooperation in Europe (CSCE), at which some 40 countries were present. This Seminar resulted in the drafting of a set of sustainable development criteria, indicators and measurement schemes for the boreal and temperate forests.

The Committee recognizes the adoption of an international forest convention to be an extremely important policy achievement. Canada's position as a global forestry superpower makes it incumbent that it show proactive leadership at these international discussions. At the same time, the Committee heard that next to other forest nations, the resources of the Canadian negotiating team were stretched to the limit. We believe that a sizeable enhancement of support is required, and thus recommend:

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50 P. Moore, written notes for a presentation to the First Global Conference on Paper and the Environment, Brussels, Belgium, June 1993, p. 7.

Recommendation No. 17: That given the critical importance to Canada and the rest of the world of achieving an International Convention on Sustainable Forestry, the federal government increase its financial and personnel support of the Canadian negotiating team leading up to the conclusion of such an agreement.

APPENDIX A

List of witnesses

Associations and Individuals	Issue	Date
Department of Natural Resources, Canadian Forest Service: Yvan Hardy, Assistant Deputy Minister; Fred C. Pollett, Science and Sustainable Development Directorate.	8	Tuesday, April 12, 1994
National Forest Strategy Coalition: Jean-Claude Mercier, Chair.	8	Tuesday, April 12, 1994
Canada's Future Forest Alliance: Colleen McCrory, Chairperson, Valhalla Society; Adriane Carr, Executive Director, Western Canada Wilderness Committee.	9	Wednesday, April 13, 1994
Canadian Federation of Woodlot Owners: John Roblee, President, Forest Group Ventures Association of Nova Scotia; Victor Brunette, Director, "Fédération des producteurs du bois du Québec".	9	Wednesday, April 13, 1994
Canadian Nature Federation: Caroline Schultz, Coordinator, Ancient Forest Program; Jim Gray, Member, (Wildlands League).	9	Wednesday, April 13, 1994
Council of Forest Industries of British Columbia (COFI): Dan Alexander, President and General Manager, Rustad Bros. & Co. Ltd.; Reid Carter, Resource Analyst, Fletcher Challenge Canada.	9	Wednesday, April 13, 1994
Forest Alliance of British Columbia: Patrick Moore, Director and Chair, Forest Practices Committee; Earl Smith, Chief, Ehattesaht Tribe; Jack Munro, Chairman.	9	Wednesday, April 13, 1994
Greenpeace Canada: Jeanne Moffatt, Executive Director; Dr. Elliott Norse, Chief Scientist, Centre for Marine Conservation (USA); Karen Mahon, Campaigner.	9	Wednesday, April 13, 1994

Associations and Individuals	Issue	Date
International Woodworkers Association of Canada: Warren Ulley, Third Vice-President; Kim Pollock, Director of Environment and Land Use.	9	Wednesday, April 13, 1994
MacMillan Bloedel Limited: Linda Coady, Director, Government Affairs; Bill Beese, Forest Ecologist.	9	Wednesday, April 13, 1994
National Aboriginal Forestry Association: Peggy Smith, Senior Advisor; Dwayne Desjarlais, Aboriginal Forest Technician.	9	Wednesday, April 13, 1994
Regroupement des sociétés d'aménagement forestier du Québec (RESAM): Pierre Courtemanche, eng., Director; Pierre Giraudo, eng., Responsible for Silviculture Programs, "Groupement forestier et agricole Beauce-Sud".	9	Wednesday, April 13, 1994
SHARE B.C.: Michael Morton, Executive Director.	9	Wednesday, April 13, 1994
Canada's Future Forest Alliance: Adrianne Carr, Executive Director, Western Canada Wilderness Committee.	10	Thursday, April 14, 1994
Canadian Federation of Woodlot Owners: Peter deMarsh, Chairperson; John Roblee, President, Forest Group Ventures Association of Nova Scotia.	10	Thursday, April 14, 1994
Council of Forest Industries of British Columbia (COFI): Dan Alexander, President and General Manager, Rustad Bros. & Co. Ltd.	10	Thursday, April 14, 1994
Forest Alliance of British Columbia: Patrick Moore, Director and Chair, Forest Practices Committee; Earl Smith, Chief, Ehattesaht Tribe.	10	Thursday, April 14, 1994
Greenpeace Canada: Dr. Elliott Norse, Chief Scientist, Centre for Marine Conservation (USA); Karen Mahon, Campaigner.	10	Thursday, April 14, 1994
International Woodworkers Association of Canada: Warren Ulley, Third Vice-President; Kim Pollock, Director of Environment and Land use.	10	Thursday, April 14, 1994

Associations and Individuals	Issue	Date
MacMillan Bloedel Limited: Bill Beese, Forest Ecologist.	10	Thursday, April 14, 1994
National Aboriginal Forestry Association: Peggy Smith, Senior Advisor; Dwayne Desjarlais, Aboriginal Forest Technician.	10	Thursday, April 14, 1994
Regroupement des sociétés d'aménagement forestier du Québec (RESAM): Pierre Courtemanche, eng., Director.	10	Thursday, April 14, 1994
As individuals:	11	Tuesday, April 19, 1994
Dr. J.P. (Hamish) Kimmins, University of British Columbia.	11	Tuesday, April 19, 1994
Dr. Reino Pulkki, Lakehead University.	11	Tuesday, April 19, 1994
Dr. Luc Bouthillier, Laval University.		
Canadian Federation of Professional Foresters Associations: Dr. Gordon Weetman, Representative; Dr. Gordon Baskerville, Representative.	12	Wednesday, April 20, 1994
Canadian Forestry Association: Glen Blouin, Executive Director.	12	Wednesday, April 20, 1994
Canadian Institute of Forestry: Dr. Peter Murphy, President; Tony Rotherham, Past President.	12	Wednesday, April 20, 1994
Forest Engineering Research Institute of Canada (FERIC): Pierre Bourdages, President and Director General; Ernest Heidersdorf, Research Director, East Division; Mark Ryans, Chief, Silviculture Operations, East Division.	12	Wednesday, April 20, 1994
L'Ordre des ingénieurs forestiers du Québec: Magella Morasse, President.	12	Wednesday, April 20, 1994
Department of Natural Resources, Canadian Forest Service: Jag Maini, Special Advisor, Sustainable Development.	18	Thursday, May 5, 1994
B.C. Intertribal Forestry Association: Harold Derickson, President; Dave Mannix, Member of the Board of Directors; Mary Thomas, Vice-President.	19	Tuesday, May 10, 1994
Grand Council of Crees of Quebec: Brian Craik, Director, Government Relations; Bill Namagoose, Executive Director.	19	Tuesday, May 10, 1994

Associations and Individuals	Issue	Date
Mitigonaabe Forest Resources Management Inc.: Willie Wilson, Chairman.	19	Tuesday, May 10, 1994
National Aboriginal Forestry Association: Harry M. Bombay, Executive Director.	19	Tuesday, May 10, 1994
Canadian Silviculture Association: Dirk Brinkman, President; Jim Verboom, Vice-President.	20	Tuesday, May 10, 1994
Sierra Club of Canada: Elizabeth May, Executive Director.	20	Tuesday, May 10, 1994
Wildlife Habitat Canada: David Neave, Executive Director; Dr. Caroline Caza, Director of Programs.	21	Tuesday, May 10, 1994
As individual: Chris Maser.	21	Wednesday, May 11, 1994
University of Moncton: Dr. Louis Lapierre.	21	Wednesday, May 11, 1994
Alberta Forest Products Association: Gary Leithead, Executive Director; Don Laishley, Forest Resource Manager, Weldwood of Canada—Hinton Division.	22	Thursday, May 12, 1994
Canadian Pulp and Paper Association: Howard Hart, President; Jean-Pierre Martel, Director, Forest Environment.	22	Thursday, May 12, 1994
New Brunswick Forest Products Association: Max Cater, Executive Director; Ian Tavise, Manager and Research Coordinator, N.B. Executive Forest Research Committee Inc.	22	Thursday, May 12, 1994
Ontario Forest Industries Association: Marie Rauter, President; Max Squires, Forester, Abitibi-Price Inc.; Ian Methven, Dean, Faculty of Forestry, University of New Brunswick.	22	Thursday, May 12, 1994
Quebec Forest Industries Association Limited: André Duchesne, President and Director General.	22	Thursday, May 12, 1994
Quebec Lumber Manufacturers' Association: Gaston Déry, President and Director General.	22	Thursday, May 12, 1994

Associations and Individuals	Issue	Date
Canadian Embassy to the Federal Republic of Germany: Paul Heinbecker, Ambassador.	23	Thursday, June 2, 1994
Mission of Canada to the European Communities: Gordon Smith, Ambassador.	23	Thursday, June 2, 1994
Department of Natural Resources: Hon. Anne McLellan Minister of Natural Resources Yvan Hardy Assistant Deputy Minister	24	Wednesday, June 8, 1994

APPENDIX B

List of Submissions Received

	Date Received
Alberta Forest Products Association	May 12, 1994
Barron, Jennie	June 16, 1994
BOUTHILLIER, Luc — Laval University	April 19, 1994
Canada's Future Forest Alliance	April 14, 1994
Canadian Federation of Private Woodlot Owners	April 13, 1994
Canadian Federation of Professional Foresters Associations	April 13, 1994
Canadian Forestry Association	April 1994
Canadian Institute of Forestry	April 20, 1994
Canadian Nature Federation	Spring 1994
Canadian Pulp & Paper Association	May 12, 1994
Council of Forest Industries of British Columbia	April 13, 1994
Conseil régional de concertation et de développement du Bas St-Laurent	March 31, 1994
Department of Natural Resources — Jag Maini, Special Advisor	May 5, 1994
Department of Natural Resources — Hon. Anne McLellan	June 8, 1994
Department of Natural Resources — Jean-Claude Mercier	April 12, 1994
Department of Natural Resources — Fred C. Pollett	April 12, 1994
East Kootenay Environmental Society	June 5, 1994
Ecoforestry Institute	May 8, 1994
Forest Alliance of British Columbia	April 13, 1994
Forest Engineering Research Institute of Canada	April 20, 1994
FRANKIN, Jerry F.	April 1994
Grand Council of the Crees of Quebec	May 10, 1994
Greenpeace Canada	April 13, 1994
HARDY, Yvan — Canadian Forest Service	April 12, 1994
International Woodworkers Association of Canada (IWA)	April 12, 1994
Intertribal Forestry Association of British Columbia	May 10, 1994
KIMMINS, J.P. (Hamish) — University of British Columbia	April 25, 1994
LaPIERRE, Louis	May 11, 1994

	Date Received
Manitoba Department of Natural Resources	May 17, 1994
MacMillan Bloedel Limited	April 13, 1994
National Aboriginal Forestry Association — Peggy Smith	April 13, 1994
National Aboriginal Forestry Association — Harry M. Bombay	May 10, 1994
New Brunswick Forest Products Association	May 12, 1994
Newfoundland & Labrador Department of Forestry & Agriculture	May 16, 1994
Ontario Forest Industries Association	May 12, 1994
Quebec Forest Industries Association	May 12, 1994
Quebec Lumber Manufacturers Association	May 4, 1994
Quebec Order of Forestry Engineers	April 20, 1994
Province of British Columbia	March 1994
PULKI, Reino — Lakehead University	April 5, 1994
RESAM — Regroupement des sociétés d'aménagement du Québec	April 25, 1994
Saskatchewan Department of Environment and Resource Management	May 10, 1994
SHARE B.C.	April 13, 1994
Silva Forest Foundation	April 26, 1994
Sierra Club of Canada	May 10, 1994
SMITH, Gordon (Mission of Canada to the European Communities)	April 21, 1994
Town of Lac la Biche (Alberta)	June 16, 1994
Wildlife Habitat Canada	May 6, 1994

Request for Government Response

Pursuant to Standing Order 109, your Committee requests that the Government table a comprehensive response to the Report within 150 days.

A copy of the relevant Minutes of Proceedings and Evidence of the Standing Committee on Natural Resources (Issues Nos. 8, 9, 10, 11, 12, 18, 19, 20, 21, 22, 23, 24 and 25 which includes this report) is tabled.

Respectfully submitted,

R. NAULT,
Chairman

JUL 27 1994

APPENDIX C

Standing Committee on Natural Resources

Report on Forestry Practices in Canada

Dissenting Opinion by Bloc Québécois MPs

Ottawa, June 1994

1. INTRODUCTION

Mr. René Canuel, MP for Matapédia—Matane, Mr. Roger Pomerleau, MP for Anjou—Rivière-des-Prairies and Mr. Bernard Deshaies, MP for Abitibi, all three representing the Bloc Québécois (BQ) on the Standing Committee on Natural Resources, listened closely to the witnesses who appeared before the Committee on the issue of clearcutting and its broader implications.

The BQ MPs carefully noted the concerns expressed to the Committee by several witnesses. They were sensitive to points including (1) the significant contribution by the forestry sector to the economies of Canada and Quebec and particularly those of many outlying regions; (2) the international problems created by a poor image of cutting practices by certain Canadian forestry companies; and (3) the importance of sustainable development as an indispensable touchstone that must guide action by all parties in the forestry sector.

This paper is the dissenting opinion by the BQ MPs.

On reading the Committee Report, the BQ MPs consider that they could have endorsed some of the Committee's recommendations. For example, they find the Committee's technical analysis relevant in some regards. In their opinion, however, since (1) only the provinces may legitimately enact legislation in this field; and (2) Quebec is not a signatory to the National Forest Strategy and the Quebec government has continually reaffirmed its full jurisdiction over natural resources including forests, they cannot accept a Report that would impose guidelines on Quebec or allow the federal government to take action or make policies without full and formal consent by Quebec.

2. UNACCEPTABLE CENTRALIZATION PROCESS

As was repeatedly stressed, the international hue and cry raised by cutting practices in British Columbia placed the issue of forest development in Canada in the spotlight.

Cutting practices in effect in B.C. cannot be compared with those in other provinces, particularly Quebec. According to some figures presented to the Committee, nearly all cutting

done in B.C. in 1992 was clearcutting without soil protection or forest renewal.[1] The BQ MPs did note recent efforts by the B.C. government to remedy the situation.

The purpose of the Committee's present deliberations was originally "to determine if clearcutting represented a sound practice within the context of sustainable forestry . . ." That purpose rapidly spread to a "broader context of forest management",[2] which is an area of exclusive provincial jurisdiction.

The BQ MPs note that the federal government intends to adopt a centralized approach in order to better mediate a problem concentrated in one province.[3]

Constitutional note

Section 92*A* of the *Constitution Act, 1982* specifies the powers of the provinces in the areas of "development, conservation and management of non-renewable natural resources and forestry resources . . . including . . . the rate of primary production therefrom".

On the other hand, using its spending power and its jurisdiction in related areas as pretexts and despite opposition from Quebec, the federal government has gradually intruded into this area of provincial jurisdiction.

Quebec's absence from the so-called national process

The BQ MPs noted that the federal government and its various departments and agencies justify their actions in the forestry sector on the basis of, for example, decisions by the Canadian Council of Forest Ministers (CCFM), the originator of the National Forest Strategy.

It must be pointed out—and this point was rarely noted by the various federal representatives at the Committee hearings—that Quebec has always rejected this process, which it finds illegitimate and centralist:

(1) Quebec opposed, in vain, the creation of Canada's Department of Forestry, rightly seeing it as an intrusion into one of its areas of exclusive jurisdiction;

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1 P.Y. Bourdages, "Presentation to the Standing Committee on Natural Resources: Clearcutting", April 20, 1994, page 5.

2 Canada: A Model Forest Nation in the Making, Report by the Standing Committee on Natural Resources, 1994, page 4.

3 "It is no secret that most of the controversy over the clearcutting issue has occurred in British Columbia." Report by the Standing Committee on Natural Resources, page 33.

(2) Quebec is not a signatory to the National Forest Strategy;[4]

(3) since 1991 and the failure of the Meech Lake Accord, no Quebec Minister has participated in the work of the CCFM;

(4) Quebec has just published its own Stratégie d'aménagement des forêts [forest development strategy], thus exercising its exclusive jurisdiction recognized in the Constitution.

Consequently, the BQ MPs cannot ratify a federal process that Quebec would not fully support.

The BQ MPs note the illegitimacy of every action taken by the federal government without unanimous formal agreement by the provinces, including Quebec. In their opinion, Quebec could confer legitimacy on such actions only by signing the National Forest Strategy and participating actively and formally in the work of the CCFM.

In light of the preceding observations, the BQ MPs must dissociate themselves from most of the Committee's recommendations.

It is therefore regrettable and very revealing that the Committee has seen fit to recommend that the federal government "adopt a more proactive national leadership role in the forest sector, notwithstanding the fact that jurisdiction over forest management lies with the provincial governments".[5]

The BQ MPs nevertheless consider that it is their responsibility to promote the interests of Quebec and the provinces in certain areas addressed by the Committee, particularly federal-provincial forest development agreements, the rights of aboriginal peoples, the national certification process, and Canada's international forestry strategy.

3. THE ISSUE OF FEDERAL-PROVINCIAL AGREEMENTS

The Quebec government has always opposed the federal government's spending power, that is, its ability to use sales and income taxes from Quebec taxpayers to invade areas of exclusive Quebec jurisdiction.

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4 The order dated December 1, 1993 (1684-93) does not authorize the CCFM to act on Quebec's behalf. In it, Quebec states that it shares the Strategy's concerns, values and objectives, and unequivocally reiterates its full jurisdiction to determine its own policies, programs and priorities in the forestry sector.

5 Report of the Standing Committee on Natural Resources, page 40.

The federal government's spending power has a series of perverse effects: (1) invasion of areas of provincial jurisdiction, which creates overlap, duplication and policy inconsistency; (2) the obligation for the provinces to commit funding equivalent to federal investments, in order to retain some control over policy; (3) the imposition of federal standards in areas of exclusive provincial jurisdiction; (4) the creation of a situation of dependence, among beneficiaries, on financial involvement by the federal government.[6]

It is this regrettable but inescapable relationship of dependence, specifically in the case of federal-provincial forest development agreements, that leads the BQ MPs to demand:

> That the federal government renegotiate these agreements with the provinces concerned, and that it renegotiate the Eastern Quebec Forestry Resources Development Program. It would be unfair for the efforts made by various parties in the forest development sector and the resulting initiatives not come to completion or not be enough in themselves due to lack of adequate funding. And need we note that Quebec does not receive its share of federal expenditures on regional development?[7]
>
> That the federal government phase out its participation in the management and development of forest development programs, and give responsibility and funding sources for them back to the provinces. The provinces could then, if they wished, give responsibility for management and development to local and regional parties.

In addition, the BQ MPs cannot accept the obligation imposed on beneficiaries of federal funding to observe federal sustainable development standards (Recommendation 11). They also consider that it is the provinces' responsibility to determine what standards will apply on their respective territories.

4. THE ISSUE OF CERTIFICATION

The BQ MPs noted the willingness by all forestry companies, in Quebec and in the rest of Canada, to set voluntary forest development standards.

These companies, in light of the situation in which they find themselves in all provinces, find the present process, initiated by private parties with the Standards Council of Canada (SCC), legitimate. However, these voluntary standards cannot then be imposed on the provinces.

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6 See, in particular, the Beaudoin-Dobbie Report, 1991, pages 72-74.

7 Calculated on expenditure per capita. Sources: (FORD-Q) (1994) and Statistics Canada publication, cat. No. 91-519.

Nevertheless, the BQ MPs consider that provinces wishing to do so must also take an active part in the work of the SCC.

5. THE INTERNATIONAL ISSUE

Under certain conditions, the international strategy proposed by the Committee appears interesting to the BQ MPs.

First, the major environmental groups must be party to Canada's certification process and agree to its main principles.

Second, the provinces must be party to the negotiation and organization of the Conference and the International Convention on Forests, since it is the provinces that will ultimately have to ratify and enforce those decisions.

In addition, there can be no "consolidat[ing of] the communications strategies currently employed in international markets into a single . . . campaign . . . ",[8] if that means that the provinces, particularly Quebec, could not themselves set up their own international promotion and defence strategies.

6. THE ABORIGINAL PEOPLES

In principle, the BQ is favourable to any proposal aimed at allowing the aboriginal peoples to participate in the management of forestry resources located on reserves.

This position by the BQ is part of its policy of recognizing greater self-determination by the aboriginal peoples in managing their own tools for development.

7. OTHER CONSIDERATIONS

The BQ MPs note that the concerns of environmental groups were not adequately taken into consideration by the Committee. They also note that the position of the large forestry companies dominated the Committee's deliberations. This point would have deserved more attention.

In addition, the BQ MPs could not help noting that the federal government feels obliged to rescue Canada's international image, but that this image was tarnished by a few large forestry companies in B.C.

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8 Recommendation No. 16, Report of the Standing Committee on Natural Resources, p. 54.

Even according to the observations by Canada's ambassadors to the Federal Republic of Germany and the European Communities,[9] these forestry companies would not have made the efforts required to defend their shares of the international market. It seems inappropriate, to say the least, that Canadian and Quebec taxpayers are the only ones to bear the burden of refurbishing Canada's image abroad. The forestry companies must also be part of the solution and make the efforts required to defend their interests internationally. The BQ MPs are very critical of the fact that the Committee Report did not express this concern.

René Canuel, MP for Matapédia—Matane
Roger Pomerleau, MP for Anjou—Rivière-des-Prairies
Bernard Deshaies, MP for Abitibi

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9 Appearance before the Standing Committee on Natural Resources, June 2, 1994.

Minutes of Proceedings

WEDNESDAY, JUNE 15, 1994
(31)

[*Text*]

The Standing Committee on Natural Resources met *in camera* at 3:30 o'clock p.m. this day, in Room 269, West Block, the Chairman, Robert Nault, presiding.

Member(s) of the Committee present: Guy Arseneault, Réginald Bélair, Cliff Breitkreuz, René Canuel, Bernard Deshaies, Jay Hill, John Loney, Lee Morrison, Robert Nault, Roger Pomerleau, Julian Reed, George Rideout, Benoît Serré, Roseanne Skoke and Peter Thalheimer.

In attendance: From the Research Branch of the Library of Parliament: Peter Berg and Jean-Luc Bourdages, Research Officers.

In accordance with Standing Order 108(2), the Committee resumed its consideration of clear-cutting. (*See Minutes of Proceedings and Evidence, dated Tuesday, April 12, 1994, Issue No. 8.*)

The Committee resumed consideration of its draft report.

At 5:54 o'clock p.m., the Committee adjourned to the call of the Chair.

THURSDAY, JUNE 16, 1994
(32)

The Standing Committee on Natural Resources met *in camera* at 9:08 o'clock a.m. this day, in Room 208, West Block, the Chairman, Robert Nault, presiding.

Member(s) of the Committee present: Guy Arseneault, Réginald Bélair, Cliff Breitkreuz, René Canuel, Bernard Deshaies, John Loney, Lee Morrison, Robert Nault, Roger Pomerleau, Julian Reed, George Rideout, Benoît Serré, Roseanne Skoke and Peter Thalheimer.

In attendance: From the Research Branch of the Library of Parliament: Peter Berg and Jean-Luc Bourdages, Research Officers.

In accordance with Standing Order 108(2), the Committee resumed its consideration of clear-cutting. (*See Minutes of Proceedings and Evidence, dated Tuesday, April 12, 1994, Issue No. 8.*)

The Committee resumed consideration of the draft report.

At 10:00 o'clock a.m., the sitting was suspended.

At 11:25 o'oclock a.m., the sitting resumed, the Vice-Chairman, Guy Arseneault, presiding.

René Canuel moved,—That, pursuant to Standing Order 108(1)(a), the Standing Committee on Natural Resources append to its report on forestry practices the dissenting opinions and recommendations of the Members of the Official Opposition.

And debate arising thereon.

Julian Reed moved,—That the motion be amended by adding at the end of it the following words "of not more than 7 pages".

After debate thereon, the question being put on the amendment, it was agreed to, on division.

After further debate, the question being put on the main motion (as amended), it was agreed to on the following division:

YEAS

Réginal Bélair	Julian Reed
John Loney	George Rideout
Lee Morrison	Roseanne Skoke—(6)

NAYS

René Canuel	Roger Pomerleau—(3)
Bernard Deshaies	

At 12:45 o'clock p.m., the Committee adjourned to the call of the Chair.

THURSDAY, JUNE 16, 1994
(33)

The Standing Committee on Natural Resources met *in camera* at 3:40 o'clock p.m. this day, in Room 208, West Block, the Chairman, Robert Nault, presiding.

Member(s) of the Committee present: Guy Arseneault, Réginald Bélair, Bernard Deshaies, Jay Hill, John Loney, Lee Morrison, Robert Nault, Julian Reed, George Rideout, Benoît Serré, and Peter Thalheimer.

In attendance: From the Research Branch of the Library of Parliament: Peter Berg and Jean-Luc Bourdages, Research Officers.

In accordance with Standing Order 108(2), the Committee resumed its consideration of clear-cutting. (*See Minutes of Proceedings and Evidence, dated Tuesday, April 12, 1994, Issue No. 8.*)

The Committee resumed consideration of its draft report.

It was agreed.— That the draft report, as amended, be adopted.

It was agreed,—That the Chair present the report, as amended, to the House at the earliest possible opportunity.

It was agreed,—That, pursuant to Standing Order 109, the Committee request that the government table a comprehensive response to this report within one hundred fifty (150) days.

It was agreed,—That the Chair be authorized to make such typographical and editorial changes as may be necessary without changing the substance of the draft report to the House.

It was agreed,—That any dissenting opinion of the Official Opposition to be appended to the Report be submitted to the Clerk of the Committee no later than 12:00 noon on Friday, June 17, 1994.

It was agreed,—That, in addition to the 550 copies printed by the House, the Committee print 1450 additional copies with a special cover, and that the additional cost be assigned to the budget of the Committee.

At 4:50 o'clock p.m., the Committee adjourned to the call of the Chair.

Roger Préfontaine
Clerk of the Committee

removal of all the trees in a single cut from a sufficiently large area that the surrounding forest no longer has any impact on the area cut. Hence, any area that is so small that the influence of the forest extends to more than half the area is not a clearcut.[7]

The second silvicultural method is modified clearcutting, which is being increasingly used particularly in Quebec and is identified as clearcutting with protection of regeneration. Modified clearcuts involve harvesting merchantable volumes while endeavouring insofar as possible to protect the natural pre-established regeneration. When natural regeneration is inadequate, it may be complemented by fill-in planting. The stand will receive appropriate tending and later undergo a final cut.

The third silvicultural system is partial cutting, which comprises the various types of treatments that do not require that all the stems in a stand be harvested. These cuts are more commonly referred to as selection cutting.[8] The major subsystems include:

- single stem selection to release a stand;
- salvage cuts or sanitation cuts to remove overmature, damaged, weak or diseased stems;
- shelterwood cuts, used to promote natural regeneration of light-intolerant species;
- group selection cuts, aimed at promoting regeneration of light-tolerant species; and
- seed tree cuts which, by leaving a specified number of seed trees per hectare, provide the seeds necessary for natural regeneration.

Some concrete examples of different types of selection cutting were brought to the Committee's attention. For instance, certain old-growth forests in the dry interior of southern British Columbia are harvested selectively by making shelterwood cuts in order to leave sufficient shade for the growth of trees which regenerate in the understory.

The industry also engages in commercial thinning in the oldest second-growth stands on the east coast of Vancouver Island. In this case, the small stems of the understory, infested or deformed trees, or trees that are too fragile to survive until the final harvest, are cut. However, it should be borne in mind that this approach makes it possible to maintain the even-age character of the stand

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7 J.P. (H) Kimmins, University of British Columbia, *Proceedings*, Issue No. 11, April 19, 1994, p. 9.

8 In this report, we distinguish between "selection" and "selective cutting" since selective cutting is synonymous with high-grading.

and, in the end, there will be a final cut or clearcut. In the uneven hardwood forests of southern Ontario and Quebec, the method primarily used is also selection cutting, whereby small patches of trees are removed so that light can reach the soil and the seedlings can get started. This type of cutting may be used in certain softwood stands.

The statistics compiled by FERIC for 1992 show a clear trend, in some provinces, toward the use of modified clearcutting on Crown land and large industrial freeholds. For example, in Nova Scotia and Quebec, 41% and 78% of cuts, respectively, were reported as modified clearcuts, hence with protection of soil and the naturally established regeneration in the understory. In addition, 18% of the cuts in Quebec were partial cuts in tolerant hardwood forests, which leaves only 4% for traditional clearcutting operations.

However, FERIC recognizes that such statistics must be viewed with caution since not all respondents designate silvicultural systems in the same way, with the result that these statistics are sometimes more reflective of the opinions of the people surveyed. For example, strip cutting is technically selection cutting, but is frequently considered clearcutting. Yet, some experts, such as Dr. Pulkki of Lakehead University, have informed the Committee that when all stems are harvested over more than two hectares, this must be considered clearcutting.

An example of statistical discrepancies lies in the data provided by Dr. Bouthillier, which indicate that only 51%, not 78%, of forests harvested in Quebec in 1992 were harvested by means of cutting with protection of regeneration and soil protection.[9]

Once the various types of cutting have been defined in terms of the silvicultural systems, the harvesting systems should be defined in terms of the type of operations that take place in the stand during cutting. FERIC identifies four major categories of harvesting systems:

- Full-tree systems, in which trees are brought with their limbs and tops to the roadside, where they are usually mechanically delimbed.
- Tree-length systems, in which, unlike the previous system, the trees are delimbed and topped in the stand and only the boles are hauled to roadside.
- Shortwood systems are similar to tree-length systems except that the boles are cut into shorter lengths in the stand and hauled to roadside as logs.

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9 L. Bouthillier, Laval University, *Proceedings*, Issue No. 11, April 19, 1994, p. 26. In their joint submission to the Committee, the Quebec Forest Industries Association and the Quebec Lumber Manufacturers Association also estimate that more than half of softwoods are harvested using this method.

- Cable systems include the same practices as those described in the two previous types of systems, but the logs and boles are moved using various cable systems.

The 1992 FERIC survey revealed that overall, the full-tree system predominates, accounting for 65% of industrially harvested wood and far exceeding this figure in New Brunswick, Quebec and Ontario. In Newfoundland, on the other hand, 72% of wood is harvested using the shortwood system and 26% by the tree-length system. The cable system is restricted almost exclusively to the coast of British Columbia, accounting for 36% of harvesting, while the other 64% is harvested using the tree-length system.

Harvesting methods are also undergoing a period of change in Canada. For instance, a certain increase has been observed in the use of tree-length systems so that the cutting residues are left on the ground, thereby ensuring better soil fertility. Some witnesses also mentioned this aspect of forest harvesting to demonstrate the extent to which public perception of a practice can influence its direction. For example, leaving the branches and tops of the trees in the cutting area emphasized the unsightly appearance of clearcutting. It was partially for this reason, but also to facilitate silvicultural work after the cut, that there was a tendency to delimb the trees at the roadside and burn the limbs. Now because this practice reduces soil fertility, it is considered preferable to leave this debris at the harvesting sites and perhaps even to reduce the residues to chips in order to accelerate decomposition.

Aside from the choice of silvicultural and harvesting systems, the equipment used will also have an impact on the forest environment. For instance, because of the growing interest in cutting with protection of regeneration and soil protection, harvesters must carefully plan the hauling roads in order to limit the movement of heavy equipment. Similarly, the use of offroad haulers instead of skidders is preferable because carrying the logs has a much lesser negative impact on regeneration than using skidders, which drag them along the ground.[10]

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10 Bouthillier (1994), *Proceedings*, Issue No. 11, p. 26.

B. Clearcutting in Other Countries

Clearcutting is not limited to Canada; in fact, it is used widely in such countries as Finland, Sweden, the United States and Russia. Of the 20.1 million hectares of forest lands in Finland,[11] for example, 100,000 hectares was clearcut in 1990.[12] This represents 0.5% of Finland's productive forest, a figure similar to that of Canada. Over the past five years, clearcutting on forest lands represented 25% of the total area harvested, although it bears noting that the individual clearcut areas are much smaller than in Canada. Clearcutting is not regulated in Finland, and relatively little research is being undertaken on the effects of clearcutting on forest fauna, biodiversity and threatened species. The other major harvesting methods used include thinning (51%), as well as seeding and shelterwood felling (11%).[13]

In Sweden, legislation governing forests requires that most forests be clearcut.[14] Indeed, a full 70% of the Swedish annual harvest is undertaken by way of clearcutting, while the remainder is accounted for by thinning. In recent years, roughly 195,000 hectares has been clearcut annually. Of this area, 70% has been planted, with the rest naturally regenerated.[15] The size of clearcut blocks is fairly strictly regulated in that country; the average area of clearcuts in Sweden is 6.3 hectares.[16] According to Professor Kimmins, Swedish forests were altered and damaged by 50 years of selective harvesting (high-grading) to such an extent that it has become absolutely vital, even in the view of a Swedish representative of the World Wildlife Fund, that mandatory clearcutting be used as one of the methods of forest harvesting in order to renew the original character of the forest and to protect biodiversity.[17]

Clearcutting is also practised in Germany, New Zealand, Australia and many countries in the Southern Hemisphere. However, the areas involved in our country and the characteristics of our forests are such that the disadvantages associated with this practice are more visible and give rise to greater criticism. Because of the size of our country and its forests, forestry activities practised here take on impressive, if not immense, proportions in the eyes of foreigners and even some

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11 Agricultural Information Centre, *Agrifacts '94 About Finland*, Helsinki, 1994, p. 23.

12 K. Heliövaara, University of Helsinki, letter to the House of Commons Standing Committee on Natural Resources, June 1, 1994. The total area clearcut in Finland's forests has been increasing rapidly, from 19,000 hectares in 1982 to 100,000 in 1990.

13 Finnish Forestry Association, *Annual Ring: Finland's Forests, Forestry and Forest Industry 1993*, Helsinki, 1994.

14 J.P. (H.) Kimmins, *Balancing Act: Environment Issues in Forestry*, UBC Press, Vancouver, 1992, 244 p., p. 76.

15 The Swedish Institute, *Fact Sheets on Sweden*, Stockholm, 1991, 4 p.

16 K. Eckerberg, *Environmental Protection in Swedish Forestry*, Avebury, Aldershot, England, Avebury Studies in Green Research, 1990, 179 p., p. 63.

17 Kimmins (1994), *Proceedings*, Issue No. 11, p. 5.

Canadians. A comparison with Europe, for example, reveals that the prevalence of clearcutting there is also quite high. However, with the size of the continuous forest much smaller than in Canada, and the European tenure system generally more oriented towards private ownership, it is not surprising that the frequency of clearcuts is less and the sizes of openings are smaller.

C. Scientific Considerations Concerning Clearcutting

Before examining the practice of clearcutting in detail, it should be borne in mind that Canada is still harvesting many of its first-growth forests and that most of them, especially in the Boreal forest, are of fairly uniform age — or even-aged to use the more technical term — and that they are frequently mature, if not overmature. It is estimated that about 98% of the commercial Canadian forest is even-aged.

This situation can be explained primarily by the fact that Canada's coniferous forests are shaped by natural events, especially fire, but also windfall, insect epidemics and disease. The Committee quickly perceived that one of the major issues surrounding the study of clearcutting was whether this wood harvesting method fairly closely mimics these catastrophic events in the evolution of forests. Supporters of clearcutting believe that it is the most appropriate practice for most forestry ecosystems found in Canada precisely because it mimics natural events to some extent. The opponents of clearcutting, on the other hand, maintain that it does not.

A number of experts, with supporting photographs or slides, illustrated to the Committee the important role which forest fires play in the overall dynamics of most forest ecosystems found in Canada. They particularly stressed the resilience and vitality of forests in order to demonstrate that Canadian forests have evolved in response to fires and other natural events. As one witness noted: "The point this makes though is that our forests have evolved under very frequent recycling through fires. They have survival strategies built in that we can emulate, in some respects, through our forest harvesting approach."[18]

Based on the frequency, area and intensity of forest fires, these experts conclude essentially that clearcutting very closely mimics what happened when there was less strict forest fire control. They agree, however, that despite the similarities between these fires and cutting, we cannot make any absolute analogy between the two, except that these two phenomena create replacement cycles and conditions which favour even-age stands.

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18 P. Murphy, Canadian Institute of Forestry, *Proceedings*, Issue No. 12, May 12, 1994, p. 13.

In the view of some experts, clearcutting cannot be compared with forest fires, because the latter seldom destroy all the trees in their path and therefore frequently have a lesser impact on forest ecosystems. In other words, forest fires never eliminate all the trees in an affected area. Similarly, insects and disease may devastate large areas but, in a natural context, the trees affected or destroyed will remain as biomass.

What are the concerns regarding the practice of clearcutting? The Committee noted that biological diversity, or biodiversity, has become a major issue in the debate over clearcutting. As the chairman of the National Forest Strategy Coalition pointed out, the question of biodiversity had barely been raised when the discussions concerning formulation of the strategy began. Yet, a few years later, this concept has become an extremely important issue. Indeed, it is now the subject of an international convention, adopted during the Earth Summit in Rio in 1992 and to which Canada is a signatory.

Consequently, much of the current criticism of clearcutting is related to biodiversity. This harvesting practice can have an impact on the structural diversity of a forest, particularly when large areas of forest of high structural variability are converted to early successional stages. Similarly, the practice of short rotations of single-species stands reduces the level of diversity of the forest structure. Indeed, many people reduce clearcutting to a harvesting method aimed essentially at implementing a system of intensive management of single-species plantations, the objective of which is to minimize the rotation time as much as possible. It is feared that, by creating forests that are relatively uniform in age and structure, the initial diversity of the forest ecosystem will be eliminated forever. Sweden is frequently cited as a case in point; it is suggested that intensive forest management practices in that country have resulted in the loss of more than 200 species of plants and animals and the decline of 800 others.[19] However, species diversity will generally be more affected by management practices such as burning, site preparation and thinning, than by the actual harvest.[20]

Although the Committee recognizes that these fears and criticisms are legitimate and that more research is called for where intensive forestry is practised, it notes that only a relatively small proportion of Canadian forests are managed intensively. On the contrary, it even notes a trend towards better protection of the natural pre-established regeneration rather than systematic use of

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19 H. Hammond, *Clearcutting: Ecological and Economic Fallacies*, Document submitted to the House of Commons Standing Committee on Natural Resources, February 1993, p. 7.

20 R.J. Keenan and J.P.(H.) Kimmins, "The Ecological Effects of Clear-Cutting," *Environmental Review*, 1 (1993), pp. 121-144, p. 134.

artificial regeneration by planting. Furthermore, where once single species were frequently planted, a more diversified approach is now being adopted and special attention is being paid to genetic quality and improvement of the seedlings planted.

In addition to these effects on biodiversity, clearcutting has also been criticized for its association with a number of ecological impacts. There have certainly been examples where this practice has had severe and lasting effects on the forest ecosystem, particularly when clearcutting is combined with other intensive management practices. However, research seems to indicate that the impacts of clearcutting are generally minor and short-lived.[21]

Without examining all the potential impacts of clearcutting, we should mention those which are most frequently criticized. For example, this harvesting method has an impact on the equilibrium of the hydrological regime, especially during the period preceding regeneration of the forest. Surface runoff may thus tend to increase, which could increase the flow and turbidity of streams near the harvested areas. On sloping sites, soil erosion may also increase and result in a higher sediment load in the watercourses. However, it must be clearly understood that erosion problems have frequently resulted from the building of logging roads and consequently this type of impact is not exclusive to the practice of clearcutting. It is necessary to re-examine the planning of these roads and the quality of their construction.

As regards wildlife, the impacts of clearcutting are more varied and can be positive or negative depending on the species or species-group. For example, it is well known that certain species of ungulates, such as deer and moose, can benefit from the abundance of food available in the years following a clearcut. However, these same species also need considerable forest cover for protection from bad weather and predators. Hence, if too large an area is cut, it can be detrimental to them. In addition, a number of species are particularly dependent on the structure of the forests and can thus be affected by clearcutting which, in general, results in a simplification of the forest structure. However, since species have different ecological requirements, some will be favoured by the edge effects created by the cuts and will replace, at least temporarily, other species which will be displaced by change in their habitat.

Regardless of the impacts associated with clearcutting, it is important to reiterate that the analysis should not be conducted solely in terms of the harvesting method, but also equally in terms of the silvicultural system of which it is a part and all the activities associated with it. For

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21 *Ibid.*, p. 137.

example, the effects on water quality will depend on the proportion of the hydrographic basin affected by the cut; the size of the cut will influence the edge effects and the degree of habitat fragmentation; the impact on the physical and chemical properties of the soil will be linked more to the type of equipment used, the roading and the subsequent maintenance of the harvested area. Hence, these are some of the effects which can be mitigated by changing or improving practices.

There is no doubt that the scientific debate over clearcutting remains complex, even confusing, in certain respects. For instance, some foresters pointed out to the Committee that the health of certain forest stands, notably those affected by mistletoe and root rot, require that they be clearcut, otherwise a partial cut would have had the effect of encouraging the infestation.[22] On the other hand, the author of a report recently made public by Environment Canada concerning biodiversity in British Columbia maintains that second-growth stands of ponderosa pine and Douglas fir seem to be more vulnerable to insect epidemics and root disease than the old stands which they replaced.[23] Consequently, there remains a great deal of ambiguity and uncertainty with respect to certain aspects of clearcutting, which fully justify more research in this field.

D. Improvement Of Clearcutting

There is no doubt that the practice of clearcutting can be greatly improved; in fact, most of those involved in forestry are already working seriously toward this end. The most notable changes involve first of all the size and shape of the clearcut areas. For instance, there is a clear trend toward much smaller cutting areas of irregular shape and orientation, somewhat like what would be observed following a forest fire. However, there is no unanimity regarding what these modifications ought to be. For instance, we continue to hear from environmentalists that by making smaller clearcuts, logging companies will have to harvest more parcels in order to attain their allowable cut level and, with various cuts made side by side over the years, in the end there will be vast disguised clearcuts.

The Committee believes that based on the evidence received from several experts, the use of smaller clearcuts in a configuration more similar to the characteristics of the environment and the aftermath of natural events must be encouraged and even become the norm. In order to deal with concerns that such a practice could result in greater fragmentation of

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22 R. Carter, Council of Forest Industries of British Columbia (COFI), *Proceedings*, Issue No. 9, April 13, 1994, pp. 9-10.

23 Cited in: Canada's Future Forest Alliance, Brief submitted to the House of Commons Standing Committee on Natural Resources, April 14, 1994.

wildlife habitats and of the forest landscape, it suggests that research on this issue be increased. The Committee is also open to the idea put forward by some witnesses that it may be preferable, in the case of certain animal species, (e.g. grizzly bears) to make fairly large clearcuts within a relatively short period of time and then proceed to road reclamation in order to ensure that the target area in question remains inaccessible for a very long period of time.

The scientific literature indicates that it is possible to adopt certain techniques which help lessen the impact of clearcutting on biodiversity, particularly species diversity. Some researchers associated with the "new forestry" concept have proposed, among other things:

- leaving intact at least 10% of management units of more than 200 hectares;
- using native species in plantations wherever possible;
- leaving corridors of vegetation along the watercourses to enhance habitat diversity, protect water quality and prevent erosion; and
- using thinning to facilitate the re-establishment of the vegetation in the understory.

Maintaining dead trees, healthy trees and non-merchantable stems in the cutting areas is also an effective means of lessening the impact on wildlife habitats. In addition, careful planning, effective maintenance of forest roads or their reclamation where appropriate can effectively help minimize many of the impacts associated with clearcutting.[24]

There seems to be agreement that clearcutting is not suitable in the case of unstable terrain, i.e. sites subject to landslides. The Committee was told that experts have long been interested in these questions in British Columbia and that, in addition to determining the areas at risk, recommendations are also being made concerning the placement of logging roads and harvesting methods. Logging at high altitudes also poses particular difficulties in that province, especially with regard to steep slopes. Since shade-tolerant species present more growth problems at altitude, other harvesting methods such as shelterwood cuts, patch clearcutting and other selection cutting techniques must be examined. During its visit to the west coast of Vancouver Island, the Committee noted changes in practices in mountainous zones, where the size of cutting areas is being reduced. Undoubtedly, additional modifications will probably be required as a result of the upcoming regulatory changes in that province.

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24 Keenan and Kimmins (1993), pp. 136-137.

The management of cutting residues is also very important. Logging companies have long used fire to eliminate the residues left at the harvesting sites. A practice unpopular with the public, controlled burning has the effect, among other things, of returning to the atmosphere a portion of the carbon accumulated in the forest biomass. As a result, this practice is becoming less and less acceptable in the eyes of decision-makers and the public. Heavy machinery is now being used to chip, scarify and level these residues. Furthermore, there is a clear trend toward leaving the residues in the cutting area to better protect the soil and return some of the nutrients to it.

The development and increasingly widespread use of more sophisticated computer tools result in improved planning of harvest operations and silvicultural work, particularly with regard to the location and scheduling of forestry activities. Consequently, it has become easier to ensure that harvesting sites are properly distributed and separated in both space and time. In this respect, the Committee was greatly impressed by the use that has been made, notably in New Brunswick, of Geographic Information System (GIS). Indeed, the Committee noted that GIS is used in that province to plan logging over a 35-year period, while limiting contiguity of sites and taking into account factors such as white-tailed deer and pine marten habitats as well as waterways and fish habitat.

The Committee understands that every technology has its limitations and is beneficial only if used wisely and properly. In this regard, GIS is essentially dependent on the quality of the data on which they are based, and attains its full potential only when other uses and values associated with the forest are included. In this sense, the Committee firmly believes that GIS should be more widely used and that the necessary research and development efforts should be devoted to it. It would be unfortunate if forest planners limited their application to the management of stands strictly for the purposes of wood production rather than for the management of forest ecosystems and landscapes!

Research and knowledge in forestry, particularly on silvicultural systems, have made great strides and provide a basis for making enlightened decisions concerning the best practices to adopt. It is necessary that research projects continue to provide a clearer and more detailed understanding of the options offered by the partial cutting and clearcutting systems. For example, we have yet to determine the actual effect of the removal of branches from stands on the nutrients found in the soil, on the chemical balance and on regeneration. Similarly, we must also endeavour to learn how the environmental parameters change depending on the size of clearcuts and what are the effects of the various types of harvesting on wildlife, notably non-game species.

In the opinion of FERIC, "the federal government needs to show continued leadership to promote the required research and development, and assure its transfer to the field for application. Partial cutting is not the panacea of silvicultural systems nor is it a miracle recipe to ensure general environmental integrity. Each site must be evaluated for its appropriate silviculture system and managed accordingly. This is the challenge facing Canada not an either/or on clearcuts or partial cuts."[25]

E. Clearcutting And Worker Safety

An extremely important issue in any assessment of whether a logging method is appropriate or not is the safety of the loggers active in the forest. Compelling testimony on this aspect of logging was received from the International Woodworkers of America (IWA) union.

Forest harvesting, particularly when it is occurring in dense timber and on steep slopes, is an extremely dangerous activity. According to the B.C. Council of Forest Industries, it is the most dangerous occupation in that province, since the mountainous terrain requires that chainsaws remain in use. In other provinces, where mechanization is more prevalent, safety is perceived to be somewhat less of a factor.

From a safety perspective, the evidence the Committee heard was that clearcutting is the preferred harvesting option in many instances. With clearcutting, everything is cut in front of the logger in question, so that trees do not get deflected by other, standing timber into the path of the workers. Far less fatalities and serious injuries occur when workers operate in an open setting, with fewer overhead hazards. Data provided to the Committee show that of 87 B.C. logging fatalities between 1981 and 1987, 34 resulted from trees getting "hung up" in others or hitting "snags" (standing dead trees).[26] The risk of the overhead hazard is deemed to be so high that the B.C. Workers' Compensation Board requires that the dead trees be felled in situations where a safety hazard is present.

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25 FERIC, Brief submitted to the House of Commons Standing Committee on Natural Resources, April 20, 1994. p. 13.

26 "Safety In The Balance," IWA-Canada Submission to the House of Commons Standing Committee on Natural Resources, April 12, 1994, p. 7.

There is no question that, as the union made clear, greater use of selection logging as opposed to clearcutting would bias the fatality results upwards. Safety is also enhanced with increased mechanization in felling techniques. As the IWA submission to the Committee points out, "it is clear that mechanized systems in clearcut settings are far and away the safest possible arrangements."[27]

F. Harvesting Costs And Employment Considerations

The fact that the Committee did not receive much evidence on the economics of forest harvesting in no way suggests that it is a trivial subject. Canadian forestry is largely export-driven. The economic health of the forest industry is therefore vitally dependent on the ability of the industry to keep operating costs as low as possible, bearing in mind the need to respect governments' regulatory requirements.

What the Committee did hear repeatedly was that clearcutting is often the most efficient and the most cost-effective form of harvesting. However, this conclusion is valid on a sustainable basis, only in forests that are capable of regenerating successfully after clearcutting. The long-term economics of the site in question would look considerably different if the clearcutting method suppressed the forest's ability to regenerate.

Under clearcutting, the logging process has traditionally been less costly than under other systems. Road construction has also been less expensive with clearcutting than with other harvesting methods such as selection cutting because fewer roads are generally required. With selection cutting, not only are more roads required, but road maintenance is also necessary over a longer period of time. The cost differential between the two forms of harvesting may, however, diminish with changes in the practice of clearcutting.

By far the most detailed information on productivity and cost issues associated with forest harvesting methods was provided by FERIC.[28] On the basis of its in-house studies, FERIC has concluded that productivity of harvesting decreases as one goes from clearcutting to partial cutting. This phenomenon occurs for two reasons: a lower volume is removed per area under partial cutting, and greater care is warranted in positioning the felled trees and in yarding/skimming

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27 *Ibid.*, p. 7.

28 FERIC (1994).

the stems. Given that direct harvesting costs are inversely proportional to productivity, it comes as no surprise to find out then that in general, the costs of clearcutting a certain volume of wood are less than the respective costs with partial cuts.

While these were the general conclusions reached by FERIC, the Committee learned that comparing the costs of various harvesting situations represents a difficult undertaking given the many variables. This is the case since there are literally hundreds of different combinations and permutations from among the following four variables: the type of silvicultural system chosen, the harvesting system selected, the different forms of harvesting equipment used, and the various characteristics of the stand under consideration.[29]

Finally, concerns were expressed by several witnesses that clearcutting is much less labour-intensive than alternative harvesting methods and that over time, technological innovation has caused a decline in forest industry employment per unit of production. According to the Sierra Club's brief, the number of direct jobs per 1,000 cubic metres of wood production in British Columbia has declined from a figure of 2.64 in the 1950s to that of 1.0 currently.[30]

The Committee has concerns with the suggestion that alternative logging methods would result in greater employment. While there is no question that clearcutting is generally less labour-intensive on an individual application basis, it is important to consider what the impact of higher-cost harvesting methods would be on the industry's overall competitiveness and resulting employment base. It also bears observing that the emerging shift to more intensive silviculture (for example, the new silviculture program announced in British Columbia) should result in greater use of labour.

G. Conclusion

As was previously mentioned, clearcutting has become a sort of scapegoat or a symbol for all the criticisms levelled against the management of Canada's forests in general. It symbolizes over-cutting, the issue of protected areas and outdoor recreational areas, protection of wilderness, the problem of old-growth forests, the issues of regeneration and silviculture, the issues associated with jobs and the survival of rural communities. It is therefore clearly a high-profile public issue, not just in Canada, but also around the world.

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29 *Ibid.*, p. 9.

30 Sierra Club, "Ecologically Sustainable Forestry: An Environmentalist's View," Submission to the House of Commons Standing Committee on Natural Resources, p. 2.

Canada has gone from an administrative approach, under which governments universally applied legislation and regulations without necessarily taking into account the intrinsic characteristics and variability of the forests, to a forest management approach based more on the ecology of tree species and on the forest environment in general. It is in this context that we must deal with questions relating to clearcutting and other wood harvesting methods. As a number of witnesses pointed out, the worst mistake would be to attempt to ban clearcutting everywhere and replace it with various forms of partial cutting that are not necessarily appropriate to all types of forests found in Canada.

The Committee notes that certain types of forests are not appropriate for clearcutting. These include areas where excessive heat, frost, or a potential rise in the water table following clearcutting may lower the probability of successful regeneration; steep, geologically unstable areas; and areas where structural variability is considered an important component of wildlife habitat.[31] On the other hand, the clearcutting silvicultural system is appropriate for most types of forest in Canada. This is the case, for example, for trembling aspen and lodgepole pine forests in Alberta, and indeed for a large part of the coniferous forest in Canada.

The Committee believes that, in an absolute sense, the fact that most of Canada's forests are even-aged should not preclude the examination of alternative harvesting options in such forests. Selection logging methods should be examined in cases where potential for significant ecological damage exists. **On balance, however, the Committee concludes that clearcutting is an ecologically appropriate silvicultural system for most forest types in Canada. It is a safe and economically-sound system that is used extensively and successfully throughout the world. The Committee stresses the necessity of using this system not only as a method of wood production and harvesting, but also as part of a comprehensive management of Canadian forests.**

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31 Keenan and Kimmins (1993), p. 137.

Cutting with soil protection and forest renewal, photographed in the summer of 1993 in the *Rivière aux Éclairs* region, Portneuf, Quebec. The Quebec government's *Stratégie de protection des forêts*, tabled in May 1994, calls for this type of modified clearcutting throughout Quebec.

Photo courtesy of Quebec Department of Natural Resources

CHAPTER 3:

TOWARDS AN IMPROVEMENT IN OVERALL FOREST MANAGEMENT

A. The Evolution Of Forestry

Since colonization, there have been three major stages in the management of Canada's forests. Until the 19th century, forests were simply cleared to make way for human settlement and to obtain firewood and timber. Subsequently, the forest industry properly speaking began, essentially in order to supply Britain and especially her navy. The first stage of forestry practices in Canada was characterized by high grading, a method whereby the best trees are harvested, leaving behind the less valuable specimens. Widely used in Europe, this practice, comparable to selective cutting, resulted in poorer quality forests since the poorer quality trees formed the basis of regeneration. In Canada, this form of cutting was a major contributing factor in the disappearance of vast forests of white pine, which characterized the St. Lawrence and Outaouais valleys in particular.

It was not until the 1930s that the first real forest management initiatives were introduced, in the form of forest inventory establishment and fire control. In the 1960s, insect control was established on a more systematic basis. The 1970s were characterized by an emphasis on access to the resource, while the 1980s were marked primarily by regeneration activities and by a growing interest in integrated forest management.

This second stage in the development of Canadian forestry is now making way for a more comprehensive approach, based on the sustainable development of our forests. Indeed, Canada's forests are no longer considered simply a reserve of wood; as was already mentioned, people are now taking an interest in all the other functions and values associated with our forests.

B. Sustainable Forestry, Not Clearcutting, Is The Issue

The Committee was told repeatedly that the real issue in forest management is not whether clearcutting is a preferred harvesting technique or not, but rather how can sustainable forestry be practised in a way that also ensures that economic benefits are derived from the forest. It bears

reiterating that clearcutting is simply a tool within a broader silvicultural system, to be used by forestry professionals in designated forest situations. The real issue then is how does one achieve long-term sustainability of the forest resource and all the environmental, social and economic values that go with it. Employing the standard definition, sustainable development implies that the use by future generations of the forest resource not be jeopardized by the use of the forest in the present.

The question then is: what is it that society is attempting to sustain? Not so long ago, the answer was quite simple: timber yield. More recently, however, forest management has moved away from a focus on sustainable timber yield towards the integration of other long-term objectives such as the preservation of wildlife and fish habitats, watersheds, biodiversity, and the diverse social uses of the forest. In this respect, the concept of sustainable forestry represents an extension of integrated forest management. In the Committee's opinion, these objectives must all be preserved for future generations of Canadians.

According to Dr. Kimmins, a number of minimum conditions must be present, for sustainable forestry to be fully realized.[32] First, forestry practices must be based on a sound ecological foundation. Obtaining adequate knowledge of various ecosystems and how these change over time is essential.

Another crucial element for sustainability is the need to have accurate inventories of both timber- and non-timber values. This input is considered to be an essential first step to sound forestry decision-making.

Third, forest managers require more highly developed tools such as Geographical Information System (GIS) and computer simulation models, with which to predict the long-term effects of forest management decisions made today.

Taken collectively, the above three conditions imply an important role for governments in enhancing R&D in the areas of ecosystem management and prediction, as well as in the development of a broader forestry data base.

The Committee also heard extensively of the need of individuals to be actively involved in decision-making processes concerning forest management. Increasingly, there is a desire on the part of the public to know about forestry practices and more importantly to participate in forest

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32 J.P. (Hamish) Kimmins, "Sustainable Forestry: Can We Use And Sustain Our Forests?", *Forest Industry Lecture No. 27*, Forest Industry Lecture Series, University of Alberta, November 21, 1991, pp. 14-16.

management. Greater public involvement is appropriate given that 90% of the forests are under public tenure, and that the public's interest in the forest has grown. Indeed, forest management has become a social issue.

With society now imposing greater demands on the public forest, industry needs to respond in a cooperative manner by building partnerships with local stakeholders. In fact, it is in industry's best interests to consult widely at the outset of a forest management plan, and allow for local decision-making input. As representatives of the Canadian Institute of Forestry noted in their submission to the Committee, "most people's concerns are greatly reduced just by having those people involved in the planning process. In most cases, soon as they are involved and have a chance to have their concerns expressed and listened to, and when various options and results of those options are explained, they are much more comfortable with the decision on which harvesting method to use."[33]

Finally, Dr. Kimmins points out that unless society is fully committed to sustainable forestry, it will not be attained. "Unless there is a commitment by all parties to move away from polarization, confrontation and rhetoric, to embrace positive change, and to proceed to find ways of achieving sustainable forestry, it is doubtful that we will achieve it."[34]

The Committee is of the view that a concrete set of guiding principles is required to direct the movement to nationwide sustainable forestry. Such principles would also be of use in the development of national and international forest management standards and certification.

The Committee understands that the National Forest Strategy contains general principles and that a number of stakeholders (e.g. Canadian Pulp and Paper Association, B.C. Forest Alliance) have independently developed sets of principles to guide forest management towards sustainable forestry. Even more recently, over 25 stakeholders agreed to a comprehensive set of principles for sustainable development as part of the Forest Round Table on Sustainable Development of the National Round Table on the Environment and the Economy.[35] These have been developed under four broad themes:

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33 Canadian Institute of Forestry, "Forest Harvesting", Submission to the House of Commons Standing Committee on Natural Resources, April 20, 1994, p. 9.

34 Kimmins (1991b), p. 16.

35 National Round Table on the Environment and the Economy, *Forest Round Table on Sustainable Development (Final Report)*, April 1994, pp. 6-8.

- Looking after the environment (e.g. ecosystem integrity, biodiversity);
- Taking care of people (e.g. public awareness and involvement, aboriginal recognition, worker and public health and safety);
- Land use (e.g. protected areas, economic evaluation); and
- Managing resources (e.g. recognition of multiple values, regulating land use on private forest land, research, competitiveness).

The Committee believes the Forest Round Table set of principles to be totally appropriate and would urge federal, provincial and territorial governments to endorse them.

C. Progress Is Being Made

There is no question in the Committee's view that Canadian government policies and forest industry practices are evolving quickly in the direction towards sustainable forestry. Indeed, this progress was demonstrated to the Committee throughout its' hearings as well as during the site tours undertaken in forestry regions.

1. Policy Development

At the policy level, perhaps the most vivid symbol of progress to date is the acceptance and adoption, by a wide range of stakeholders, of a National Forest Strategy. This is the document which is currently guiding Canada's efforts in forest management. Unique in the world, the Strategy is an aggressive five-year blueprint for change in Canada's forests.

The document contains nine broad strategic priorities, as well as a total of 96 commitments to be acted on over the five-year period ending in 1997. Moreover, the Strategy will be subjected to both a mid-term and end-of-period evaluation by a panel of independent experts of progress achieved in attaining the numerous commitments made. The implementation of the Strategy is currently being overseen by the National Forest Strategy Coalition.

The essential goal of the Strategy is to guide forestry stakeholders to sustainable forestry over the course of the five-year period in question. This it will attempt to do through the following action steps:

- accelerate knowledge of forest ecosystem management and complete the ecological classification of Canada's forest lands;

- review and alter Canada's forestry practices, including a broadening of forest inventories to include non-timber information;
- satisfy Canadians' demands for greater input;
- enhance the competitiveness of the Canadian forest products industry in world markets;
- broaden the level of scientific research;
- develop additional labour skills;
- increase involvement in forestry on the part of the aboriginal community;
- implement a stewardship ethic for private forests; and
- work towards sustainable forest management at the global level.

At the provincial level, Canada has a strong and comprehensive framework to regulate and manage its forests. Each province, as the owner and the ultimate steward of much of the forest resource, has its own forest legislation, regulations, standards and programs through which it can set policy for forest land use.

Typically, two tiers of legislation exist: a 25-year plan, updated every five years subsequent to regional public hearings; and an annual plan. On the basis of the annual plans, harvesting licenses are disbursed, confining operators to specific areas and requiring them to engage in certain duties regarding forest management (i.e. road construction, fire protection, forest regeneration). Industry activity is audited against the regulations on a regular basis, with license renewal based on past performance.

In response to public concerns and in order to comply with the commitments made under the National Strategy, many provincial and territorial governments have recently reassessed their forest management codes and practices to reflect the new emphasis on sustainable development and public participation. To respond to the public's environmental concerns, new regulations have been or are being developed with respect to such activities and/or issues as road construction, the crossing of streams, the establishment of buffer strips along waterways and the sizes of the cutblocks, to name a few. While the provinces have acted for the most part independently of each other, over time a certain amount of convergence of policy-making can be expected. What follows is a brief description of some of the provincial initiatives that have been brought to the Committee's attention.

It is no secret that most of the controversy over the clearcutting issue has occurred in British Columbia. In that province, the government has introduced a new Forest Practices Code that is arguably the most restrictive of any of its kind in Canada. The Code, once passed by the provincial legislature, will disallow the use of clearcutting in sites with unstable terrain, in sites where the visual quality of the landscape needs to be preserved, in wildlife and old-growth management areas, at streamside locations and in other sensitive sites identified in the code standards. The Code will also restrict clearcut size and establish minimum standards for green tree retention within larger cutblocks. In addition, it will regulate biodiversity requirements to protect unique ecosystems, impose tough new restrictions on road construction and strengthen soil conservation measures.

In April of this year, a Forest Renewal Plan was also introduced in the B.C. legislature. Among other things, this Plan is designed to improve reforestation and care of the forest after replanting, and to develop new environmentally-sound forest practices such as more selective logging and commercial thinning. Yet another policy undertaking is the doubling of the province's acreage set aside as protected area. The government has found all of these measures to be necessary to respond to the concerns of logging critics and the generally unfavourable perception of certain harvesting practices.

In Alberta, a two-year tripartite initiative between government, industry and environmental groups is expected to lead to a successful conclusion of that province's Forest Conservation Strategy. This consensus-building process has spun off a number of strategic working groups in the important areas of ecosystem management, forest practices, protected areas and aboriginal concerns. Moreover, community working groups have also been established. Given that the consultative process is still underway, it remains to be seen what the final balance between economic and ecosystem management will be.

Saskatchewan, for its part, is finalizing a two-year process of public consultation culminating in the release of an Integrated Forest Resource Management Plan designed to guide future forest management in that province. Sustainable development and public involvement are core ingredients in that plan. The provincial government anticipates that the plan will be implemented later this year.

Manitoba's Forest Act and Regulations calls for forest management practices to ensure long-term sustainable timber yield. In addition, a number of provincial policies and guidelines provide direction for environmental protection and the preservation of other non-timber values. Forest management must also respect the Manitoba Sustainable Development Strategy for Forests.

The Ontario forest industry's practices on Crown land are governed by the *Crown Timber Act* and related guidelines, operating and environmental manuals. Recently, the industry received a generally positive appraisal of its operating performance from the government's Class Environmental Assessment for Timber Management on Crown Lands in Ontario. This review, however, requires both industry and government to make a number of adjustments to current policies and practices.

In May of this year, the Quebec government released a progressive Forest Protection Strategy largely based on the outcome of an extensive public consultation process. The Strategy places considerable emphasis on natural as opposed to artificial regeneration, on respect of the biodiversity of the forest environment, and on public involvement in the planning of forest management activities. A principal objective is the reduction and elimination by 2001 of chemical pesticides and herbicides.

In New Brunswick, intensive forestry appears to be an important objective, particularly on the large tracts of privately held land. Artificial regeneration is the preferred option. The industry continues to operate under the 1982 forest policy, which is based on sustained timber yield and recognizes clearcutting as a useful silvicultural prescription. The policy also provides for multiple use and the protection of water courses and wildlife habitat.

In 1993, the Newfoundland Forest Service prepared its Environmental Protection Plan for Timber Resource Management (EPP). The EPP consists of environmental protection guidelines for improved forest management and mechanisms to improve knowledge on the effects of forest management activities on non-timber resources. One of the specialized planning techniques that the province plans to employ is adaptive ecosystem management, an evolving process of adapting to new ecological information.

2. *Industry's Response To The Environmental Challenge*

In response to public pressures and government regulation, industry is rapidly modifying its forestry practices to reflect changing social and environmental values and knowledge. Increasingly, forest product companies are endeavouring to make protection of the environment an integral part of day-to-day operations.

The Canadian Pulp and Paper Association brought to the Committee's attention a number of examples where existing practices are being modified.[36] These would include:

- increased matching of silvicultural prescriptions with ecological classification of the forest;
- a trend to greater use of natural regeneration;
- mitigation of impacts of forestry operations on wildlife habitat through an improved knowledge of such habitat;
- improved road and bridge construction;
- amelioration in harvesting equipment resulting in a reduction in the impact of harvesting on regeneration and soil compaction; and
- improvement in mapping and planning capability, with the use of the sophisticated Geographical Information System (GIS).

Moreover, the industry is making greater use of multistakeholder committees to consult the public on its forest management plans. In Alberta, for example, a number of mills have established public advisory committees to address all aspects of timber harvesting, planning and silviculture. These have proven to be an excellent means of minimizing conflicts in the planning stage prior to industry operations. The Committee learned first hand during its visits to Clayoquot Sound on Vancouver Island and the Hinton and Lac La Biche regions of Alberta of the merits of this open consultative process.

D. Where Do We Go From Here?

One can conclude from all the evidence that the forestry policies and practices in place in the various provinces are in a state of rapid evolution. For its part, industry is also adapting its management philosophies and practices to respond to the environmental challenge. The

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36 Canadian Pulp and Paper Association, Submission to the House of Commons Standing Committee on Natural Resources, May 12, 1994, p. 5.

Committee finds these trends encouraging, and urges policy-makers and industry to continue this adaptive process. Justifiably, Canada is being increasingly recognized as an innovator in the movement away from sustained timber yield to sustainable forestry.

At the same time, the Committee is convinced that more needs to be done if sustainable development is to truly become a reality. The Committee is particularly intrigued by the possibility of a new forest management approach undertaken at a broad landscape level (20 to 100 thousand hectares). By examining forest ecosystems from a much broader geographical perspective, and taking into account a host of non-timber values, this new approach of forest management essentially holds the promise of extending the traditional sustained yield and integrated forest management concepts to the level of sustainable forestry.

A 1993 report by Booth *et al.* provides information on this promising made-in-Canada forest management option which, according to the authors, is seen as a logical progression in the evolution of forestry and could serve as a "global standard of excellence in forest management".[37] This model, referred to as the Natural Forest Landscape (NFL) approach, is designed to examine the forest from a much broader perspective than the traditional forest stand viewpoint. Its major difference with traditional management schemes such as Integrated Forest Resource Management (IFRM) is that it manages on an ecosystem basis resources other than those which have a recognized economic value. In so doing, NFL maintains the full range of natural forest ecosystems over the entire forest landscape management area, thereby ensuring that all other land uses and activities are respected.

It does so by adopting a less intensive (and more visually appealing) silvicultural approach over a broader geographical area. Within the landscape would be "a continuum of resource uses of varying intensities, interspersed throughout the forest".[38] What this means in practical terms is that within any given forest landscape, one would find combinations of commercial forest areas, recreational use areas and habitat preservation areas. Within the commercial areas, a more gentle form of forestry would generally be practised, with an emphasis on natural regeneration, longer rotations, and the preservation of natural ecosystems. On occasion, certain areas would be designated for intensive wood harvesting.

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37 D. Booth *et al. (Natural Forest Landscape Management in Canada: Setting a Global Standard for Implementing Sustainable Development*, March 1993), 16 p.

38 *Ibid.*, p. 3

The Committee was informed of an example of where this new approach to forest management is being tested. In its tour of Alberta, the Committee had occasion to learn first-hand of Alberta-Pacific Forest Industries' (ALPAC) research program to embody the principles of ecosystem-based landscape management in the operation of its Forest Management Agreement. This management system will, among other things, utilize GIS capability to integrate all forest values, from intensive forest management to biodiversity.

This type of approach, the authors of the 1993 report claim, is particularly well suited to an extensive natural forest bearing country such as Canada. "Unlike other countries, Canadian forests are extensive, relatively intact and slow growing, and located in sparsely populated areas. Much of the intensively managed plantation in Canada requires heavy investment, often yields low social returns, and results in a forest with low biological diversity."[39] According to NFL proponents, this approach is also positive from a competitive standpoint, since it will tend to protect wood products from opposition in international markets.

Of all the forestry nations of the world, Canada has the best opportunity to maintain the natural characteristics of its forests. The Committee believes that the approach described above warrants additional attention and research. We recommend:

Recommendation No. 1: That the federal government, in cooperation with the Canadian Council of Forest Ministers, assess the economic, environmental and social feasibility of implementing a Natural Forest Landscape Management system in Canada; and

Recommendation No. 2: That should the outcome of this assessment prove to be favourable, the federal government promote Natural Forest Landscape Management as a useful planning approach for achieving sustainable forestry.

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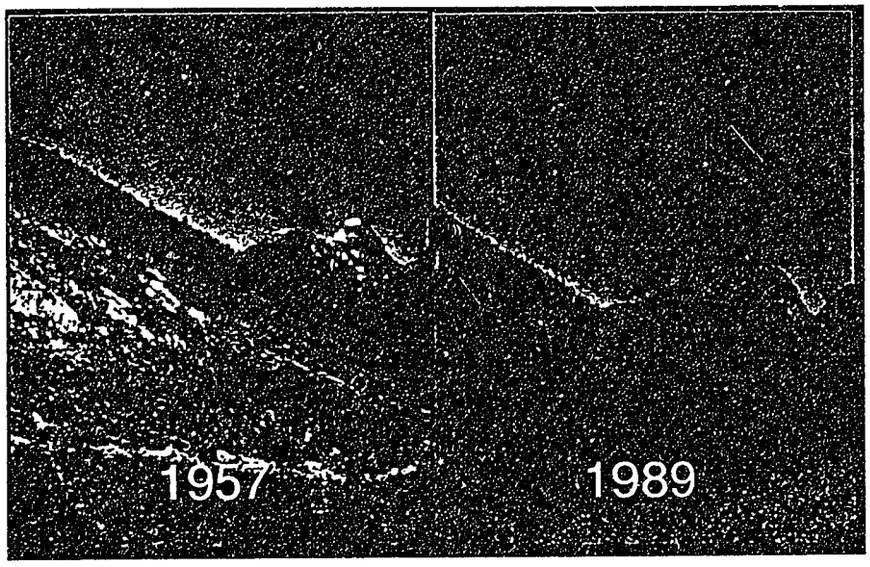
39 *Ibid.*, p. 5.



1957/1988 – Before and After

Above Franklin River Logging Camp, British Columbia, looking towards Mt. Gray. Clearcut logged in 1955, cable yarded to railway at bottom of early photo, and burned for site preparation. Parts of the cutblock were planted to Douglas fir; the rest regenerated naturally. Last railway logging operation in Franklin River Division. Stand in foreground (1957 photo) was clearcut in 1942-43 and planted to Douglas fir in 1945.

Photo – 1989

CHAPTER 4:

THE FEDERAL ROLE

The Canadian Constitution has assigned responsibility for forest management to the provinces. Each province as well as the Northwest Territories has in place a number of vehicles through which it exercises its management duties, including legislation, regulation, the imposition of standards and government programs. Responsibility for forest management in the Yukon has, up to now, remained with the federal government.

While the federal government does not exercise a direct day-to-day forest management function, its influence can be felt in the areas of industrial and regional development; international affairs including trade; research and development (R&D); the environment; and the management of forest activity on federal lands and aboriginal reserves. More specifically, the *Department of Forestry Act* assigns the following duties and functions to the Minister responsible for Forestry:

- to coordinate the development and implementation of forestry and forest resources policy;
- to enhance the development of the domestic scientific and technological base in forest management;
- to monitor and promote the development and application of forest management codes and standards;
- to take into account the integrated management and sustainable development of the forest resource; and
- to enhance the use of forest resources and the domestic and international competitiveness of Canada's forest sector.

As has already been mentioned, the federal government has also played an important role in working through the Canadian Council of Forest Ministers (CCFM) to help develop the Canada Forest Accord and the National Forest Strategy. Increasingly, however, the federal government is also being called upon, by many forestry stakeholders including the provinces, to show a more

aggressive leadership role at both the national and international levels to develop widely-recognized indicators of sustainable forest management and to work towards an international convention on forestry. It is also being asked to serve as a more effective national coordinator of R&D efforts as well as of domestic and international communications strategies.

Canada's forest management policies and practices remain the target of environmental campaigns and are still not well understood by the Canadian public. There has never been a more opportune moment for the federal government to show leadership to reverse the perception of Canadian forestry. The Committee believes that federal funds spent in the forest sector within current financial constraints represent a necessary investment, given the strategic importance of Canada's forests to the economic and environmental well-being of the nation. This Committee therefore recommends:

Recommendation No. 3: That, notwithstanding the fact that jurisdiction over forest management lies with the provincial and territorial governments, the federal government through the Canadian Forest Service adopt a more proactive national leadership role in the forest sector to coordinate governments' efforts in such areas as R&D; effective domestic and international communications; public education; the development of national forestry data and sustainable development indicators; the collection of information on sustainable forestry program and biodiversity in other countries; and the negotiation of an international forest convention.

It is this Committee's view that the Government of Canada, in cooperation with the provinces and other stakeholders, should develop strategies at both the national and international levels.

A. National

1. Development Of Sustainable Forestry Indicators

An important challenge for national policy-makers is to define, based on sound science and in measurable terms, what constitutes sustainable forest management. Only then would it be possible for all groups in society to objectively assess the quality of forest management in this country. We understand that the Canadian Forest Service, through the CCFM, has taken the lead to establish criteria and indicators for sustainable forest management, for use at both the domestic and international levels. These, it bears mentioning, are not technically national standards, but rather benchmarks on which provincial legislation and regulations can be developed.

Designed to measure and provide both quantitative and qualitative evaluation of the progress toward meeting policy objectives, the indicators will prove to be very useful in helping to measure Canada's relative progress in forest management. As will be pointed out further in this Chapter, they are also essential to the successful resolution of an international convention on sustainable forestry. **The Committee is of the view that continued federal leadership is required in this area.**

2. Support For Industry's Efforts To Derive A Certification System

International pressure has been borne on Canada to ensure, through credible means, that its forest management methods meet the important test of sustainability. An international convention on forestry will take some time to sign and ratify. There is thus, in the interim period, an urgent need to develop an effective and credible certification process, one which could be used at both the domestic and international levels. Certification is required, since consumers of Canadian forest products need to be assured that such products are derived from forests that are sustainably managed. It would also obligate forest companies to have their inventories audited on a regular basis.

To this end, the forest products industry has chosen to work through the Standards Council of Canada (SCC) to achieve both national and international certification. The SCC is the official federal government organization responsible for standards in the country, and is Canada's official representative to the International Standards Organization (ISO). The SCC has commissioned the Canadian Standards Association (CSA) to provide secretariat and coordination services for the SCC work in ISO pertaining to environmental management.

The industry has been working actively for roughly six months now with provincial and federal governments, as well as the CSA, to establish Canadian standards for certification of sustainable forest management. Ultimately, it would then be upon these standards that individual forest companies would be evaluated and judged by independent certifiers. Equivalent criteria could then be used in other forestry nations to objectively judge the performance of forestry operations elsewhere.

With the support and cooperation of the CCFM, the industry has already initiated discussions and is in the final stages of negotiation with the CSA for the development of an international certification process, to be administered under the Environmental Management Program of the