Dimensions of Power in Forest Resource Decision-Making: A Case Study of Nova Scotia's Forest Conservation Legislation.

by

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Abstract.

This study identifies power relationships within forest conservation decision-making in Nova Scotia, Canada. Rather than rely on the 'customary science' of resource conservation largely based on biological and physical parameters, this analysis is steeped in the traditions of social science and policy analysis. This study's central focus is the Forest Improvement Act (FIA): 1962-1986. Forest conservation policies and legislative initiatives developed prior to FIA enactment such as the Small Tree Act (STA): 1942 - 1965 are treated in this study as the FIA's policy gestation period. Theoretical and practical insights derived from this pre-FIA period are used in the assessment of the FIA and these combined understandings are subsequently applied to the analysis of contemporary forest conservation policy. For contemporary analysis, six case studies including the Nova Scotia Envirofor process and the St. Mary's River Landscape and Ecology Management proposal, as well as a recent provincial government initiative are examined.

This study utilises a broad range of decision-making and resource management theory to tease out understandings of the particular character of the policy process. The analysis utilises various decision-making models, theories of power, and multi-agency decision-making models as well as the Environmental Modernisation literature developed by Turner, O'Riordan and Weale and others. In addition to the investigative methodologies used generally throughout this study, the Envirofor and the St. Mary's case studies employed a 'participant observer' approach that provided otherwise unavailable insights into these conservation initiatives.

Regardless of policy content, this study shows that external forces such as woodfibre markets were key to the implementation of ground level forest conservation. Ironically, this study links the renewal of forest conservation legislation to the demand for increased forest exploitation. New forest policy initiatives were as much to do with pacifying conservation interests as they were about promoting ground level forest conservation.

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List of Abbreviations:

Bowater	Bowater's (Bowaters or Bowater) Mersey Paper Company
CIF:NS	Canadian Institute of Foresters: Nova Scotia Section
CSA	Canadian Standards Association
CSA:SFM	Canadian Standards Association: Sustainable Forest Management
DFPIB	District Forest Practices Improvement Board
DLF	(Nova Scotia) Department of Lands and Forest
d.m.	decision-making
DNR	(Nova Scotia) Department of Natural Resources
FEA	Forest Enhancement Act
FIA	Forest Improvement Act
IRM	Integrated Resource Management (Forestry)
LEM	Landscape and Ecology Management
NSFPA	Nova Scotia Forest Products Association
NSWOA	Nova Scotia Woodlot Owners Association
NSWOOA	Nova Scotia Woodlot Owners and Operators Association
PFPIB	Provincial Forest Practices Improvement Board
Scott	Scott Worldwide Incorporated, Canadian Timberlands
STA	Small Tree Act
Stora	Stora Forest Industries Limited, formerly Stora Kopparberg
WHC	Wildlife Habitat Canada

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Chapter One:
Introduction.

Whether Nova Scotians are directly involved in forestry for their livelihood or spend their leisure time in the forests, the forests are an important symbol of Nova Scotians' welfare and identity. Unfortunately, for forest policy, different forest values have given rise to different visions for the forests. One vision sees the forests primarily as an industrial installation; a contrasting view sees them as a playground. Over the years, these contrasting views of forest management have differentially affected ground level forest management and stewardship. This has resulted in recurring difficulties for policy makers in defining the forest management problem, determining the public interest, and prescribing workable forest resource management policies. To get at the heart of this dilemma, this study examines the development of forest conservation legislation and policy in Nova Scotia. This largely hindsight review identifies underlying issues and suggests possible solutions for contemporary forest managers. This study argues that the fundamental issues of forest conservation are vividly seen through a historical review and are most clearly seen by focusing on the underlying mechanisms of power and influence that impinge the forest conservation management process.

Background:

Canada's forest represent 10% of the world's total, nearly half of Canada's landscape is covered by forests--approximately 418 million hectares. Nationally 71% of forests is in provincial ownership, 23% is owned federally and only 6% are privately owned. In Canada in 1996, commercial forests represent about 53% of the total forests (about 28% of the land base). The forest sector contributed $20.6 billion to Canada's Gross Domestic Product (GDP) and contributed over $32.1 billion to the country's net balance of trade.[1] According to Wyn forestry accounted for 3% of the gross domestic product, 13% of manufacturing employment, and 21% of total exports in 1987.[2]

[1] Natural Resources Canada 1997. *The State of Canada's Forests: 1996-1997.* Ottawa, Canadian Forest Service. 102.

[2] Grant, Wyn P. *Forestry and Forest Products.* In Coleman, William D., & Skogstad, Grace (Eds.) Policy Communities and Public Policy in Canada: a structural

For the province of Nova Scotia, forestry is of proportionally greater significance than the average for Canada. As a source of employment Nova Scotia's forests are critically important, especially in rural areas. Although the population of Nova Scotia is less than one million (944,283), 11,000 jobs rely directly on forestry. An additional 5,000 are indirectly employed as a result of activity in the forestry sector. This total represents about one job in 23 compared to the national average of one in 25.[3] Total shipments of forest products were valued at $1 billion in 1996 for Nova Scotia whereas in 1994 they amounted to $800 million representing about 30% of the province's total exports.[4] Besides industrial value, Nova Scotia's forests have other important social and cultural values including hunting and fishing. In 1991, the province issued 77,000 sport fishing and 70,000 big game hunting licenses. In addition, many Nova Scotians use the forests for aesthetic pleasure and non-consumptive recreation. They retreat in large numbers to their coastal, lake, and backwoods cottages to enjoy family, friends, and nature in the summertime. A study of the importance of wildlife to Canadians estimated that 642,000 Nova Scotians over fifteen years of age (92.7%) are involved annually in wildlife activities whether at home, at the cottage, or in the countryside.[5]

In Canada, the provinces are notionally sovereign managers of natural resources. In reality, especially in so-called 'have not' provinces like Nova Scotia, external forces control much of what happens at ground level. These external forces include foreign markets, multinational investment, and federal trade and commerce policies. This external control over the destiny of forest management in Nova Scotia is not new. Outside influences have been pervasive and deep-rooted since the seventeenth century. As a colonial outpost, for example, Nova Scotia's resources were first exploited by the French and then the English. Later, in 1867 Canadian Confederation effectively transferred power

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approach. Clark Pitman, 1990, 118-140.

[3] Forestry Canada. *The State of Canada's Forests - 1991: Second Report to Parliament--Environmental, Social and Economic Indicators.* Ottawa, Canada's Green Plan, 1992, 15.

[4] Rau, Brian.*"Pulp and Paper Shuffle: NS. Mills Reorganize to Battle Recession, High Dollar, [and] Market Glut."* January 31, 1993; The Chronicle Herald, F4.

[5] Canadian Wildlife Service. *The Importance of Wildlife to Canadians: Highlights of the 1991 Survey.* Environment Canada, Ottawa, 1993.

and in time much wealth and influence up the St. Lawrence River to Upper and Lower Canada (Ontario and Quebec). In the early twentieth century reduced development interest and financial investment in Nova Scotia, especially after World War I, led to a marginal forest industry and a gradually deteriorating forest resource.[6]

Benign neglect was generally the order of the day until the nineteen forties. Then, the industry greatly accelerated forest degradation to support the Allies' World War II effort.[7] More recently, especially in the last four decades, multinational concerns from the U.K., Sweden, and the U.S.A.; and a transnational from New Brunswick, increasingly dominated the forest industry and forest management.[8] These industrial interests have more systematically and intensively exploited the forest resource than their colonial predecessors. This more recent exploitation did not come solely at the hands of multinationals. Sandberg argues, for example, that in the sixties, seventies, and eighties the provincial government acted as 'agent state' for multinational forest exploitation rather than sovereign resource steward.[9]

Although there has been a succession of forest conservation policy and legislative initiatives that date back nearly three hundred years, this study argues that little prudent forest resource management and conservation resulted. It shows instead that government's predominantly laissez-faire attitude to forest conservation in this century, although encouraging economic activity in rural areas, overwhelmingly 'sustained' profits for outside interests. This study shows the province accomplished this relative economic stability primarily by mining stock resources on commercial and Crown lands and marginalising small woodlot owners using structurally uneven bargaining.

This study also shows that governmental passivity, bolstered by a lack of public interest, characterised forest management in the first three-quarters of the twentieth century.

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[6] Johnson, Ralph S. *Forests of Nova Scotia*. Four East Publications, Halifax, NS., 1986, 127-185.

[7] Johnson, 246.

[8] Downe, Don. *Nova Scotia Forest Production Survey.* Nova Scotia Department of Natural Resources, Government of Nova Scotia, Halifax, 1994, 11.

[9] Sandberg, L. Anders ed. *Trouble in the Woods: Forest Policy and Social Conflict in Nova Scotia and New Brunswick.* Acadiensis Press, Fredericton, NB, 1992, 2.

Further, this study argues, that more recent policy formulation has engendered greater public interest that has led to increased industrial volatility and uncertainty. In fact, both environmental and labour controversy rocked the forest industry during the late seventies and early eighties. First, a major controversy arose over spruce budworm spraying, and then herbicide spraying escalated industrial acrimony. A woodfibre marketing dispute then followed between small woodlot owners and a forestry multinational. During this period of industrial unrest, Nova Scotia's environmentalists launched a concerted effort to make forest management more responsive to environmental concerns. This study shows, however, that their efforts here had little lasting impact.

More recently a number of events have tempered industrialists' cavalier attitude toward forest management and forest conservation practices. This corporate shake-up gives some reason for hope and some impetus for considering possible options to manage the forest resource sustainably. One such development was a 'wake-up call' that came in 1989 in the form of a national opinion poll commissioned by Canada's own pulp and paper industry. The results ranked the forest industry as one of Canada's least trusted as well as its worst environmental polluter.[10] Another development was a growing sensitivity to environmental matters by government and the public that was substantially an outgrowth of the Brundtland Commission Report in 1987.[11] Although this report gave immediate worldwide attention to environmental concerns, it took some time to have any impact within Canadian based forest industrialists. A third development was Canada's own "*Green Plan for a Healthy Environment"* launched in 1990.[12] This report and associated programmes seemed to signal a new seriousness by the federal government to build on environmental rhetoric with purposeful programme action.

Since about 1990 forest industrialists have shown increased sympathy toward environmental concerns and have appeared much more willing to join in the debate over environmental and forest practices. It is not easy to explain this change in behaviour as an

[10] Adams, Michael. *Attitudes of Canadians Towards Forestry.* Environics Research Group. Toronto, 1989.

[11] World Commission on Environment and Development. *Our Common Future.* Oxford University Press, Oxford, 1987.

[12] Environment Canada, *Green Plan for a Healthy Environment.* Supply and Services-Canada, Ottawa, 1990.

increased awareness and sensitivity to environmental matters. Perhaps the greatest concern for Nova Scotia's forest industry, and perhaps its greatest motivation, was its fear of European boycotts. During a press debate in 1990 Nova Scotian forest industrialists were tarred with the same brush as the old growth 'forest mining' companies of British Columbia.[13] [14] This growing corporate anxiety concerning the loss of potential markets created considerable concern and almost undoubtedly contributed to their recent 'public outreach' efforts.

If recent rhetoric is a guide, Nova Scotia's forest industry has abandoned its earlier indifference to environmental concerns to at least consider alternative forest management methods. Initiatives that provide evidence of this increased tolerance include the St. Mary's River Forestry/Wildlife Project[15] and the Nova Scotia Envirofor Process.[16] On the surface, they appear to be concerted efforts for change. Unfortunately, as this study argues in the penultimate chapter, when examined within the broader margins of industrialists' total forest management practices, there appears to be a large measure of 'business as usual'. This lack of progress raises critical questions about how serious the forest industry really is about conservation and sustainable forestry. This study suggests that the industry's interest in improved forest practices may be no more than public relations to placate environmentalists and European forest product consumers.

The general lack of progress in the Envirofor Process and the St. Mary's Project, for example, reflect an age-old problem in Nova Scotia of carrying out forest conservation policy in a diverse and politically uneven forest sector economy. This study shows that in recent decades it has been relatively easy to build a consensus on broad forest management goals, even when multiple interests are involved. Forging agreement on

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[13] "*Europe May Shun Canadian Timber: Reckless Destruction Cited."* Chronicle Herald, 25 May 1993, A3. [13] "*Canadians Counter Boycott Threat."* Vancouver Sun, August 11, 1990, C-5.

[14] "*Canadians Counter Boycott Threat."* Vancouver Sun, August 11, 1990, C-5.

[15] Hruszowy, Susan *et al. A Model Forest Green Plan Proposal for the St. Mary's River and Liscombe River Forest.* St. Mary's River Forestry/Wildlife Project Steering Committee, Halifax, N.S. 1992.

[16] Herman, Tom and Soren Bondrup-Nielsen. *Proceedings: Envirofor'92: A Provincial Dialogue on Nova Scotia's Forests.* Wolfville, NS. The Centre for Wildlife and Conservation Biology, Acadia University, 1992.

actual implementation practices, however, especially when that has meant loss of decision-making autonomy, remains elusive. For example, as early as 1965, E.D. Haliburton, the Minister of Lands and Forests, commented that although the different factions agreed a forest management problem existed, no one could agree on how to define or operationalise a solution at ground level.[17] More recently, in reference to the Envirofor Process, Clancy and Sandberg argued that "continued superficial policy debate allows industrialists to appear committed to change but provides no accountability."[18] Similarly, although the initial St. Mary's project provided some technical ground level accomplishments, disappointingly, it provided few concrete answers to the conspicuous multi-agency and multi-interest forest management problem that dominates the Nova Scotia's forestry sector (see figure 1.1).[19]

In criticising the forest industry, however, it is important to recognise the complexity of effectively applying ground level forest conservation prescriptions. One forest management option examined later in this study is 'landscape and ecology management' (LEM). On the surface, this resource management strategy seems to hold promise for sustainable forestry and protecting other forest values such as outdoor recreation and ecotourism. The LEM process advocated by Wildlife Habitat Canada (1992) frames resource management decision-making and ground level action in a broad, more sustainable, and integrated management structure.[20] While LEM is yet to be operationally defined for Nova Scotia, its fundamental precepts imply the maintenance of ecological integrity and the sustainability of other resource values. With evidence from the Envirofor

[17] Interview with E. D. Haliburton Minister of Lands and Forests, July 1959 - May 1968. Avonport, Nova Scotia. 19 April 1986.

[18] Clancy, Peter and L. Anders Sandberg 1992. *Maritime Forest Sector Development: A Question of Hard Choices.* In L. Anders Sandberg, ed., 1992.

[19] Canadian Institute of Forestry: NS Section. *St. Mary's River Forestry/Wildlife Project: Technical Reports 1-19.* Halifax, 1987-1992.

[20] Wildlife Habitat Canada Project Officer. *Habitat Conservation, Restoration and Enhancement: Programme Funding Guidelines.* Ottawa: Wildlife Habitat Canada, 1992.

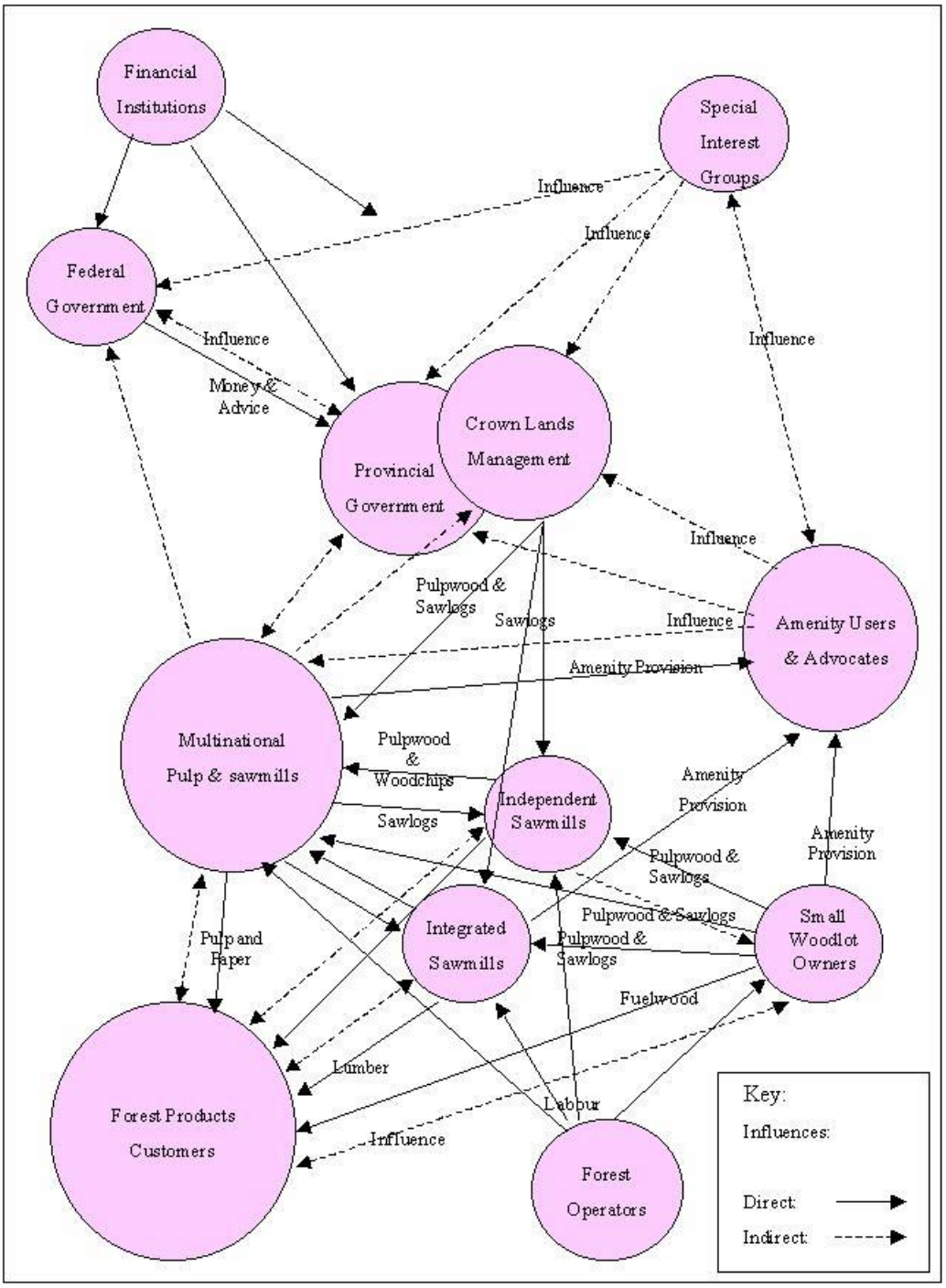

Figure 1.1: Organisational Map of the Nova Scotia Forest Sector.

Process, the St. Mary's Project and elsewhere, it is clear the forest industry concedes, at least in words, to the pre-eminence of natural processes in nurturing sustainable forest management. Evidently, although the forest industry appears willing to endorse multi-agency resource management processes like Envirofor, it has continually shied away from co-operative proposals when solid ground level commitment was required. When confronted in the St. Mary's Project, for example, with the very real prospect of more democratic decision-making, the need for greater co-operation, and the prospect of devolving decision-making powers to a multi-agency ecosystem planning process, the multinationals retreated.[21] [22]

The Study Approach.

The main purpose of this study is to identify the power relationships that exist within forest conservation decision-making in Nova Scotia and examine the potential for forest conservation in the future. Rather than rely on the 'customary science' of resource conservation that is largely based on biological and physical parameters, this study is steeped in the traditions of social science and policy decision-making analysis. It seeks insights into conservation issues and problems by focusing on resource management decision-making. This study approaches this challenge by examining the workings of Nova Scotia's forest conservation policy and legislation, focusing largely on policy initiatives developed since the second world war.

The central focus of this study is the Forest Improvement Act (FIA - 1962-1986).[23] For organisational ease, forest conservation policies and legislative initiatives developed prior to FIA enactment are considered as the FIA's gestation period. This analysis explores issues and problems that have firm roots in the Small Tree Act (STA) legislative process

[21] Bissix, Glyn. *Proceedings: St. Mary's River Project Goal Setting Workshop.* St. Mary's River Forestry/Wildlife Project Steering Committee and Wildlife Habitat Canada. Halifax, N.S., 1993.

[22] Comozzi, Anne. *Proceedings of the St. Mary's River Landscape and Ecology Management Steering Committee Second Goal Setting Workshop.* Antigonish, Nova Scotia, April 1993.

[23] Statutes of Nova Scotia, c.5, *The Forest Improvement Act,* 1962.

(1942 - 1965)[24] but also has lineage back to the eighteenth century.[25] This initial hindsight review examines the legacy of early forest conservation policies and practices. From this analysis, this study develops insights that are useful for examining and exposing the more obscure policy workings of the FIA enactment process. The theoretical and practical insights gained from the FIA's gestation process (the STA era) are used to assess the workings of the FIA. Later, this study repeats this process and combines insights from the FIA gestation and FIA legislative processes to examine contemporary conservation policy. This 'experiential' approach to analysis provides theoretical rigour as well as pragmatism.

The Study Format:

While this chapter outlines the study's overall thrust and direction, *Chapter Two: The Geography of Nova Scotia's Forest Conservation* provides a more extensive overview of forest conservation's context, problems, and challenges. This chapter sets the stage for understanding the intricacies of forest conservation policy and the mechanisms of power and decision-making. It briefly traces the history of human settlement in Nova Scotia and the relationship of human existence to its natural resources. This chapter also provides a synopsis of the forest industry and the forests as well as examines the interests of Nova Scotians that establish the need for a multiple values analysis.

Chapter Three: The Theoretical Foundations of Resource Management examines five interrelated literatures. First, this chapter reviews the theoretical foundations of renewable natural resource management and then briefly reviews aspects of the 'environmentalism' literature. The third review examines the relationship between normative theories of multiple-use forest management and actual resource policy decision-making. Fourth, an overview of ecological modernisation is made that is followed by fifth, an examination of market and state failure. Finally, special attention is given to the concept of green taxes. *Chapter Four: The Theoretical Foundations of Power and Decision-making* summarises the vast literature on policy decision-making and relates this to the literature found on policy analysis. This review provides the basis for understanding the mechanisms of power and influence in the forest conservation policy arena. Here too, the various idioms

[24] Statutes of Nova Scotia. *The Small Tree Conservation Act.* c.6, 1942.

of analysis explicated by Weale are summarised.[26] These idioms are used to help tie together the various conclusions drawn in the final chapter. *Chapter Five: Review of Methodology* overviews the research procedures used in this study and describe the initial analytical approach used to guide data collection and interpretation.

Chapter Six: The Pre FIA Era traces the roots of forest exploitation in Nova Scotia and examines successive policy initiatives aimed at forest conservation. This chapter briefly touches on the use made of forests by early settlers but focuses mainly on the workings of the Small Tree Act. *Chapter Seven: The FIA Legislative Process* documents the chronology of the FIA's legislative initiatives. It begins by peeling away various rhetorical veneers to expose much more invidious intentions. By focusing on the FIA's irresolute and shaky political beginnings rather than its legislative content, this chapter intimates that the FIA was more 'smoke and mirrors' than real legislative substance. Interestingly, however, despite its inauspicious beginnings and its lack of real progress on any definable policy front, the FIA somehow survived several rewrites and amendments. The FIA eventually became the centrepiece of forest sector acrimony. It became synonymous with various environmental and woodfibre marketing controversies that catapulted forest policy and forest management from the back halls of government to front and centre in the provincial legislature, corporate boardrooms on two continents, the forefront of public debate, and acrimoniously to the Nova Scotia Supreme Court. *Chapter Eight: Dimensions of Power in the FIA Implementation Process* builds on the chronology provided in the previous chapter to re-examine the FIA legislative process. It provides a closer focus on how power impinges on the policy formulation process and how it affects implementation.

Chapter Nine: Contemporary Forest Conservation Policy examines conservation policy in the aftermath of a highly charged period in Nova Scotia's forest management history. This chapter begins by examining the legislative package that replaced the FIA with fanfare in 1986 and briefly reviews the scant workings of the Forest Enhancement Act. It continues by drawing policy lessons from this and earlier periods of Nova Scotia's forest

[25] Johnson, 1986, 39-40.
[26] Albert Weale. *The Politics of Pollution.* Manchester University Press, 1992.

conservation history. This analysis creates a platform for evaluating various new approaches to dealing with the forest conservation problem. It concludes by briefly examining the provincial government's latest foray in forest conservation policy. In October of 1997 the Nova Scotia Department of Natural Resources circulated a new proposed forest conservation policy for public input entitled *Toward Sustainable Development.* This policy proposal represents yet another attempt to cut through the organisational complexity and acrimony that embodies the Nova Scotia forestry sector. While its demise is yet to be determined, this chapter provides critical review of its proposals in light of what has been learned from the proceeding analysis.

Chapter Ten: Summary, Conclusions and Recommendations briefly reviews the findings of this study. It overviews the various dimensions of power on resource management decision-making in the context of the various idioms of analysis proffered by Weale. This concluding chapter discusses further the promise and concern of the government's most recent forest conservation initiative and offers suggestions that can offer greater promise of success. In the context of cautious optimism, this study concludes that the industry, small woodlot owners, government and the public seem at last genuinely concerned that forest exploitation is no longer sustainable and that some substantive policy action must occur to avert impending industry catastrophe. It concludes, however, that the government must make concerted steps, ones it has avoided in the past and seems set to avoid in the future.

In general, this study builds on detailed microanalyses of the policy process using purpose-built, mid-level analytical frameworks. These provide the basis for broader macro-level analyses offering a 'condor' view of this complex policy development process. Above various micro and macro analyses, however, the key theoretical contribution of this study is to stress a mid-level but broadly based, analytical framework. This approach accounts for its multi-agency natural resource management context, its consequential historical perspectives and its continuously evolving policy phases.

Chapter Two:
The Geography of Nova Scotia's Forest Conservation.

Nova Scotia is a peninsula shaped somewhat like a souring eagle. It juts into the North Atlantic and lies east of New Brunswick and north-east of the State of Maine in the USA. It is joined to New Brunswick and continental North America by a twenty kilometre wide isthmus known as the Chignecto Marshlands and is 55,491 square kilometres in area. To the north-east of Mainland Nova Scotia lies the Island of Cape Breton that forms one of the eagle's wings; Cape Breton is joined to Nova Scotia's mainland by a causeway. Nova Scotia is fundamentally a maritime province: no location in Nova Scotia is further than fifty-six kilometres from the sea (see figure 2.1).

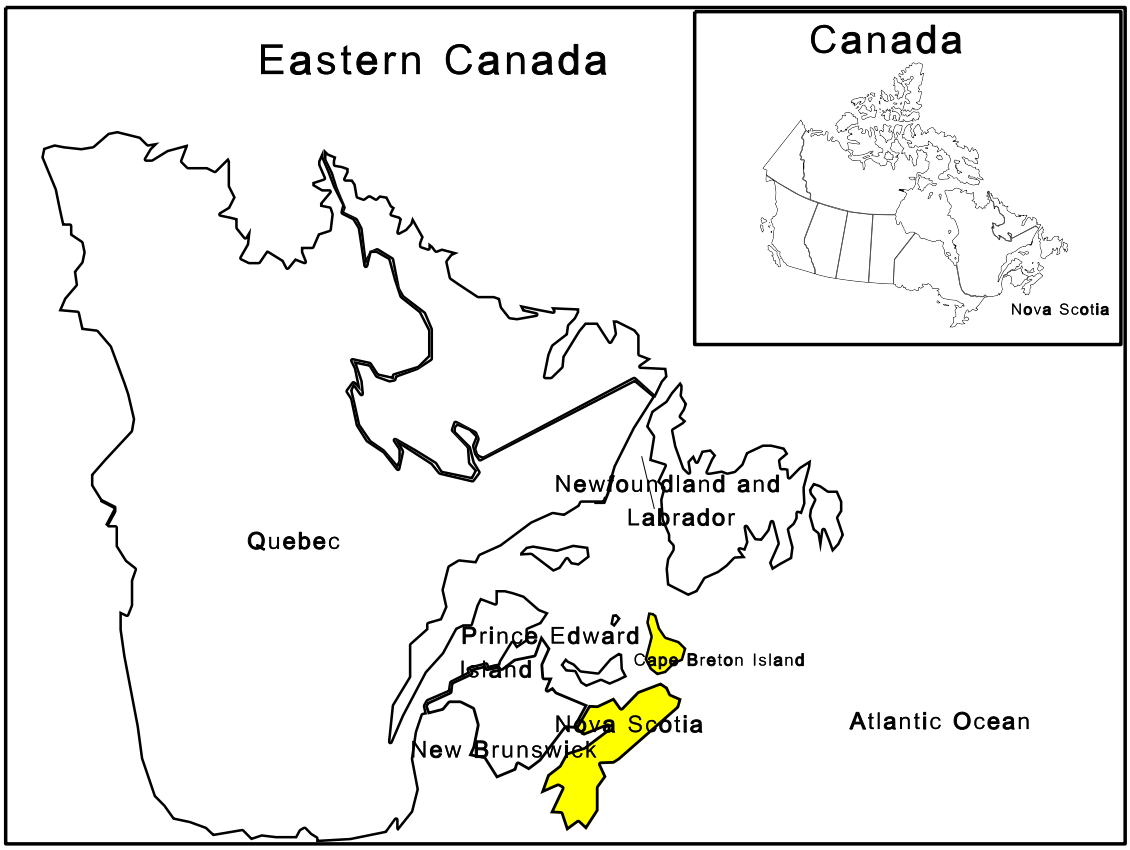

Figure 2.1: Location of Nova Scotia.

Nova Scotia's landscapes are varied and dominated by forested plateaux and gently rolling hills. In the Annapolis Valley and the Colchester-East Hants region the forests give way to fertile farmlands. Nova Scotia's shores are swept by the Atlantic to the east, the Bay of Fundy in the west, and the Northumbrian Strait and Gulf of St. Lawrence in the

north. The Northumbrian Shore's fertile slopes and sandy beaches contrast markedly with the rugged, rocky shores of the Atlantic. The Bras D'or Lakes of Cape Breton, that attracted Alexander Graham Bell to a summer home early in the century, provide a spectacular frontispiece to the Appalachian uplands known as the Northern Cape Breton Highlands.

Nova Scotia, sitting on the edge of the North American continent and straddling the 45th parallel, is geologically complex. It is made up of two remnants of distinct tectonic plates. Geologically, it is related both to the shores of Northwest Africa and to continental North America. Its soils are conditioned by high rainfall, a cool temperate and maritime climate, a predominantly forest vegetation, and highly acidic parent materials. Although its winters are cold with plenty of snow or freezing rain, the growing season is quite long. It varies from 190 days in Cape Breton to 210 days in Western Nova Scotia. In the western portions, it is possible to grow a variety of crops including tobacco, peaches, and grapes as well as corn, potatoes, and market vegetables. Agricultural soils, however, require lime and fertiliser to restore their pH and fertility to acceptable levels.

Nova Scotia is the meeting place of the boreal softwoods from the north and the temperate forests of the south. Nova Scotia represents a transitional belt of hardwoods such as maple, ash, and beech, and softwoods such as pine, fir, and spruce. While the climax forest is often a mixed forest, the Labrador Current, the Gulf Stream, and elevation generally dictate forest type while soils, disease, and local conditions determine species mix. In the Cape Breton Highlands, for example, successive fir monocultures have been ravaged by the spruce budworm and replaced by yellow birch. As a part of a naturally restoring landscape, however, the birch, in time, again give way to firs.

Nova Scotia’s population is dominated by an anglophone population with its roots in the ‘Planters’ who moved from New England during the US War of Independence, and Scottish settlers whose Gaelic tongue eventually gave way to English. The first wave of settlers to Nova Scotia were the Algonquian speaking Mi’kmaq who moved in soon after the last ice age about 10,000 years ago.[1] For the past thousand years Nova Scotia's shores

[1] Johnson 1986, 15.

have ‘welcomed’ European settlers. Norse fishermen almost certainly fished off the shores of Nova Scotia a thousand years ago, hunted its shore hinterlands, and traded with the Mi’kmaq.[2] John Cabot explored the shores of Cape Breton in 1497 and was followed by a succession of French and English explorers and settlers.[3]

During the winter of 1604 Samuel de Champlain established the *Ordre de Bon Champs* or Order of Good Cheer on Ste. Croix Island in the Bay of Fundy. The next year he built L’Habitation at Port Royal that is considered the oldest continuous permanent settlement in Canada. In these first days of European settlement Champlain established the cornerstone of Europeans’ relationship with natural resources for work and leisure--Nova Scotians still seek food, shelter, and other sustenance from the land and rely on the forests recuperative powers for leisure and cultural identity. The fall of the French Fort Louisbourg in 1758 and Quebec in 1759 ended the proprietary role of France in Nova Scotia and Canada. Although the British laid claim to Nova Scotia in 1602, they waited to establish its first lasting settlement at Halifax in 1753. To help affirm English dominance, the Crown granted 1,450 German Protestants lands around Lunenburg. In addition, pressure brought about by the Seven Years War led to the expulsion of the Acadians in 1755 from English ruled lands. Later many Acadians returned to settle in Nova Scotia and were joined by Yorkshiremen who settled mainly in Cumberland County, Scots who went to the Northumberland Shore, and 35,000 Loyalists (known as Planters) who spread throughout Nova Scotia and New Brunswick.[4] As a result of this Loyalist migration, Shelburne for a short while became the fourth largest settlement in North America after New York, Philadelphia, and Boston.

The physiography of Nova Scotia was substantially altered by the last ice age which determined the transportation patterns of early settlers. Glacial debris made inland traffic difficult but the Mi’kmaqs adapted by developing canoe routes that followed chains of

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[2] Davis, Stephen A. *Early Societies: Sequences of Change.* In Philip A. Buckner & John G. Reid (Eds.). The Atlantic Region [of Canada] to Confederation: A History. 1994, 14.

[3] Pastore, Ralph. *The Sixteenth Century: Aboriginal Peoples and European Contact.* In Buckner and Reid, 22-39.

[4] Condon, Ann Gorman. *1783-1800: Loyalist Arrival, Acadian Return, Imperial Reform.* In Buckner & Reid, 184.

lakes traversing the mainland. In contrast, European settlers concentrated their communities close to the shore and navigable rivers. At first, inter-settlement communication relied on coastal shipping and was later replaced by roads or railways that hugged the shoreline. In the last few decades the province has focused on building limited access, all-weather highways that have greatly improved road transportation but have also accelerated the demise of the railroad.

Nova Scotia was one of the four original signatures to the Confederation of Canada in 1867.[5] Canada's constitution, embodied in the United Kingdom's North America Act, divided public policy responsibilities among the provinces and the confederation. Natural resource policy became the responsibility of provincial governments. Although not obvious at the time, the allocation of trade and commerce to the federal government was not a blessing to Nova Scotia. In time, the resultant east-west trading patterns established by the USA-Canada border and import duties sucked trade and commerce, and industrial development away from Nova Scotia to the hinterlands of Ontario and Quebec.[6] Nova Scotia is now heavily dependent on federal transfer funds. Presently however, these payments, especially those for forestry are rapidly being reduced or curtailed by a cash-strapped federal government.[7]

The Forests of Nova Scotia:

The forest resources of Nova Scotia have been exploited to support settlement and exportable forest products for hundreds of years. The French, for example, started 'masting' before the turn of the eighteenth century in Acadia (the former French territory now known as Nova Scotia, New Brunswick, Prince Edward Island and northern Maine). The British similarly exploited the forests to serve British shipbuilding when it took territorial control. The French settlers of 1605, however, found a dense, largely primeval forest fragmented only by lakes, bogs, and 'burns' (the remnants of forest fires, some of

[5] Buckner, Philip A. *The Maritimes and Confederation: A Reassessment.* In Philip A. Buckner and David Frank. Frederickton, Eds., Alantic Canada before Confederation. NB., Acadiensis Press, 1990, 370-395.

[6] Buckner, Philip A. *An End and a Beginning.* In Buckner & Reid, 385.

[7] Rau, Brian. *"Forestry Sector Eyes 'Crisis' If Ottawa Doesn't Renew Pact."* Chronicle Herald, Dec 9, 1994 A5.

which burned 60-100 square kilometres).[8]

The first forest inventory was done by Titus Smith in 1801-02. He 'cruised' the hinterlands of mainland Nova Scotia during two successive summers. Since then B.E. Fernlow inventoried the forests in 1912. He was the first to cover the whole province including the Island of Cape Breton. Hawbolt and Burgess completed a third inventory under a federal/ provincial agreement from 1953-57.[9] Since then inventories have been made on cyclical bases, completing a few counties at a time. In 1981, for example, the sixth inventory was begun.[10]

After the Treaty of Paris in 1763, the British Lords of Trade instructed the Governor of Nova Scotia to make free grants of land in Mainland Nova Scotia. This order also restricted occupiers of land in Cape Breton, where French settlers had a stronger presence, to leases relinquished upon the death of the original signature. After 1784 when Cape Breton was separated administratively from Nova Scotia, a substantial influx of people settled there.[11] Although an Act to Facilitate the Perfecting of Titles in the Island of Cape Breton (known as the Squatters' Act) was passed in 1869, it is remarkable to note that many titles remained unclear until the early 1960s when the provincial government issued 'confirmatory grants'.[12]

During colonisation on mainland Nova Scotia, large townships were granted especially to the Empire Loyalists who settled in Shelburne County. Grants were regularly assigned in multiple tracts. This process more equitably shared the better and closer lands and gave rise to place names like The Forties and Lower Lake Fifties that denoted distant lands. Some granted land, although clearly differentiated from Crown land in official documents, lacked specific and individual titles. To this day controversies occur over assumed ownership and cutting privileges creating difficulties for claimants in selling

[8] Johnson, 25.

[9] Hawboldt, Lloyd S., and R.M. Bulmer. *The Forest Resources of Nova Scotia.* Halifax: Nova Scotia Department of Lands and Forests, 1958.

[10] Henley, D.L. Geo. *A Submission to the Nova Scotia Royal Commission on Forestry.* Nova Scotia Department of Lands and Forests. April 1983, 54.

[11] Johnson, 34

[12] Henley, 91-92.

'their' lands. Many lawyers refuse to sign transfers until the Crown officially relinquishes its interest. Even the management and stewardship of Crown lands was complicated by this imprecision in granting lands. Often Crown lands were isolated remnants after lands were granted and claimed, they were frequently the least accessible and the poorest quality lands around the townships. Since 1937, the Province has adopted a policy to purchase cutover lands, abandoned farmlands, and properties sold at municipal tax sales. On these lands the title is more secure. Interestingly, however, as late as 1983, the Crown's title to 121,000 ha was still in question.[13]

In 1875 the governor in Council was authorised to grant more than 800 ha to a single party for lumbering. Five years later this policy was amended to require a price of $10 per hundred acres (40 ha). This policy heralded the beginning of industrial land holdings that changed ownership and fortunes according to cycles in the forest industry. In 1899 Crown land policy was again changed by the Lease Act. This provided for large twenty-year leases at 16 cents per hectare but required no stumpage fees. The "Big Lease" in Cape Breton, for example, covered 251,100 ha in Inverness and Victoria counties, and interestingly, given the supposed maximum allowed in the legislation, was made for thirty years![14]

Nova Scotia had its own version of the southern carpetbaggers during the early twenties and the great depression of the thirties. Lean times in the early twenties resulted in large tracts and smallholdings to be sold at bargain basement prices largely to forest industry concerns in New England. Although the Great Depression began in 1929, it was not felt to any great extent in Nova Scotia until 1931 when it hit with great severity. Industrialists like Col. C.H.L. Jones and I.W. Killam of the Mersey Paper Company in Liverpool (Brooklyn) were able to exploit small landowners by buying cheap land, and in doing so consolidate larger land holdings. Woodlands in holdings of less than 400 ha were purchased for as little as $1.00 per standing cord of spruce and fir with no regard to the value of other species such as pine or hardwoods or the other forest values of the land.[15]

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[13] Connor, John *et al*. *Forestry: The Report of the Nova Scotia Royal Commission on Forestry*. Nova Scotia. Halifax. 1984, 80-102.

[14] Sandberg, L. Anders. In Sandberg, 1992, 65-66.

[15] Johnson, 235.

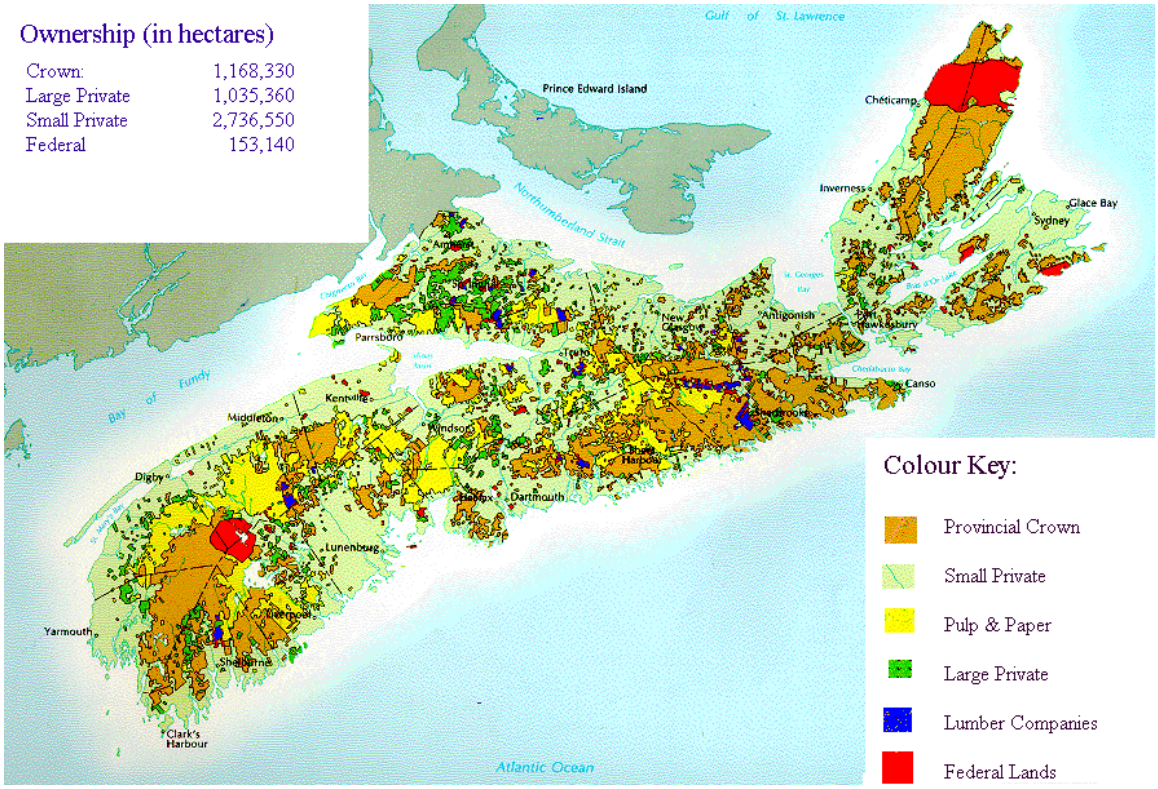
Three major land ownership groups now comprise the main bulk of forest owners in Nova Scotia. Twenty-four percent of the land is held by the province, twenty-one percent by large private or industrial concerns (holdings of over 400 hectares), fifty-two percent by small private owners (holdings of under 400 hectares), and three percent by the federal government. There are approximately 30,000 small woodlot owners owning 50,000 tracts of land, and over two thousand industrial owners.[16] Such a large proportion of private ownership is not typical in Canada. In the provinces of Saskatchewan and Ontario, for example, over 98% and 90% respectively of land is owned by the provincial Crown.[17] This uneven ownership in Nova Scotia presents many problems for developing equitable forest management policy (see figure 2.2).

Approximately 25% of Nova Scotia (1.4 million ha) is non-forested land. This includes inland lakes, bogs, barrens, agricultural land, and industrial and urban lands. Forty percent of Nova Scotia is softwood cover (2.2 m.ha), twenty-three percent mixedwood (1.2 m.ha), and twelve percent (0.7 m.ha) hardwood.[18] A major problem from a sustainable industry perspective is, however, the age structure of Nova Scotia's forests. Table 2.1 shows that 41% of the forests are in the mature (over 60 yrs.) to (so called) over mature forests with an additional 35% entering maturity before 2003. If most mature and over mature stock is harvested or decimated, there will be little to sustain the industry in subsequent years. Besides a possible onslaught from the forest industry, forest stocks are also susceptible to various natural risks. For example, over 71% of softwood volume in eastern Nova Scotia are made up of only two species--balsam fir and white spruce; and in Victoria and Inverness Counties on Cape Breton Island they comprise 90%. Both species are highly susceptible to spruce budworm infestations and vulnerable to blow-downs.

[16] Wellstead, A. and P. Brown. *1993-4 Nova Scotia Woodlot Owner Survey Report.* Halifax: Nova Scotia Department of Natural Resources, 1994.

[17] Connor *et al*., 47.

[18] Henley, 55.



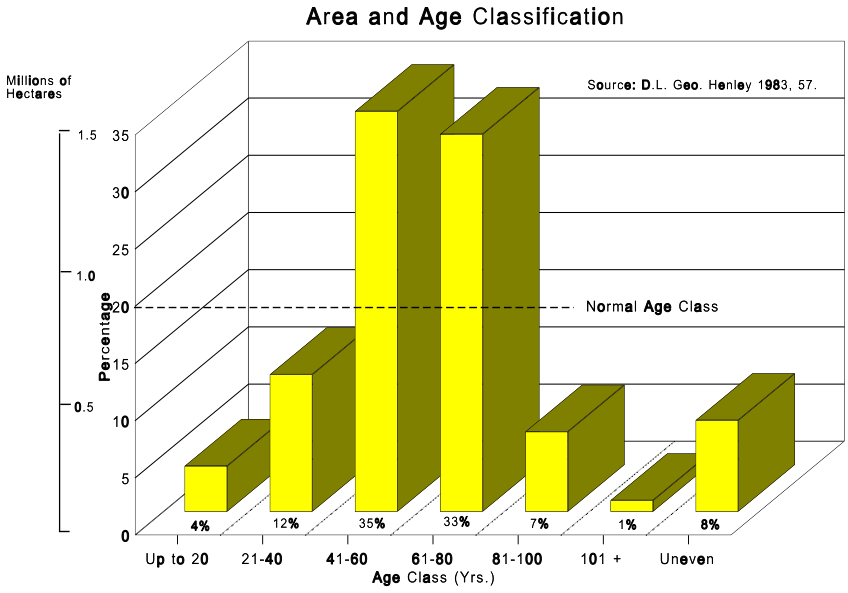
Source: Nova Scotia Resource Atlas, 1986, 13.

Figure 2.2: Land Ownership in Nova Scotia.

Although susceptible to various market cycles, forest fibre production has increased considerably since the Second World War. The production of roundwood in Nova Scotia's forest industry peaked in 1988 at 5,039,000m^3 and steadily declined to 4,211,000m^3 in 1993. Since then yearly production has increased again. The five-year harvesting average for 1991-95 has far outstripped all previous five-year averages in response to a rebounding pulp industry and increased out-of-province exports. Average production for this period stood at 4.7 million m^3.[19] In 1993 the pulp and paper segment of Nova Scotia's forestry industry comprised five mills: a Kraft pulpmill in Abercrombie Point, a sulphite pulpmill and newsprint mill in Point Tupper, a newsprint mill at

[19] Nova Scotia Department of Natural Resources. Toward Sustainable Development: A Position Paper – Working Paper, 1997-01. Halifax, Government of Nova Scotia.

Table 2.1: Age Classification of Nova Scotia's Forests.



Brooklyn, a paperboard mill at Hantsport, and a hardboard plant at East River.[20] The five-year average production of pulpwood in Nova Scotia for the 1989-9 period was 4,224,992m^3 softwood and 503,332m^3 hardwood[21] (requiring some pulpwood imports). Since 1993, the paperboard mill in Hantsport has no longer operated a groundwood division. It relies on recycled corrugated cardboard for raw materials.[22] In the sawmill sector, 254 sawmills of all types were in operation in 1993. This was down fifteen from 1992. Thirty-five firms produced over one million board feet, up three from the previous year, while 218 firms (a reduction of thirteen companies) produced less than a million. These operations produced a mix of products including lumber, boxwood, ties, mine packs, laths, staves and headings, and shingles. Sawmills produced from 1989-93 an average of 216,176m^3 softwood of which 212,934 was lumber, and 10,586m^3 hardwood of which 7,204m^3 was for lumber.[23] Statistics have been available since 1977 on expenditures on forest management: silviculture, protection, resource access, and other

[20] Nova Scotia Department of Natural Resources. *1994 Nova Scotia Forest Production Survey*. Halifax, Government of Nova Scotia, 1995, 1.

[21] *1994 Nova Scotia Forest Production Survey*, 46

[22] *"Recycling Business Interests."* Chronicle Herald. April 12, 95 C1.

[23] *1994 NS Forest Production Survey*. 46

expenditures such as inventory, research, and technology transfer. The 1977 total for Canada was slightly less than $800 million for the whole industry while the total peaked to somewhat less than $2,800 million (unadjusted $) in 1991. In Nova Scotia in 1977, the industry spent $18.9 million on forest management while the peak expenditure, again in 1991, was $53.4 million.[24]

Forest Conservation Policy in Nova Scotia:

As will be seen throughout this study, there appear to be major chasms between conservation policy rhetoric, policy intentions, and management practice. The Broad Arrow Act, for example, became policy in America at the beginning of the reign of William and Mary in 1688. It was later embodied in the charter of New Massachusetts and Maine in 1691 and applied to Nova Scotia in 1728. Its objective was to preserve pine for masts for English shipbuilding when the Baltic supply was threatened by European wars. The Surveyor of Woods in America was ordered to preserve white pine 24 inches in diameter and twelve inches from the ground. Later, in 1774, the British Government adopted a more comprehensive conservation policy of reserving the whole of Cape Breton Island for ships' masts. This policy was abandoned in 1775, however, on the eve of the War of Independence, to facilitate exports to the West Indies and accommodate refugees to Nova Scotia from New England.[25]

The Broad Arrow policy was first applied to Crown lands and extended to grant-lands in 1785--no suitable pine could be felled without a permit.[26] Its application was not without problems, however. In fact resentment over this Act contributed to the rebel uprising in New England that led to the American War of Independence. In Nova Scotia, a much greater Loyalist stronghold, pines left in the middle of cleared fields provided continued frustration and a constant reminder of the government's meddling in private land

[24] National Forestry Database Program, Natural Resources Canada. *Compendium of Canadian Forestry Statistics 1993.* Canadian Council of Forest Ministers, Ottawa, 1994, 121.

[25] Johnson, 39-40.

[26] Johnson, 39.

management affairs.[27] In another convoluted attempt at forest conservation, the government enacted the Lease Act in 1899, which was primarily an attempt to stimulate industrial development. Policy architects included a diameter limit as a conservation measure; its intent was to limit the cutting of trees of less than 10 inches. According to Otto Schierbrook, the Chief Forester in the mid-twenties, the diameter limit was not enforced. Lessees systematically disregarded this policy's conservation measure and as an added problem Schierbrook argued that revenues derived as a result of this policy were ridiculously small.[28]

While forest protection was and remained only of limited concern in Nova Scotia from early colonial times to recent times, fire protection—an important forest conservation concern-- became a much bigger interest in the early decades of this century. In 1904, legislation was introduced requiring a chief fire ranger for each municipality and a paid watchman for all portable mills. This latter provision was a consequence of numerous forest fires that resulted from these mill operations.[29] Until the sixties, when forest-fighting methods greatly improved and public education reduced the risk, fire damage remained the major concern in forest management and conservation efforts. An unlikely champion but a major booster of forest conservation was F.J.D. Barnjum. He used his forest industry wealth to crusade for forest conservation throughout North America during the late twenties and thirties.[30] To a large extent, in response to his efforts, the provincial government established a two pronged conservation programme in 1937: a programme to acquire lands and a policy to conserve forest stocks for future generations.[31] The latter policy likely had little currency in forest management decision-making at the time, however. It received no attention in Creighton's Departmental memoirs: *Forestkeeping* and received little at all in the Department of Lands and Forests review in their official *Submission to the Royal Commission on Forestry* (1983). The revision of the Small Tree Act in 1946 resulted from the increased concern of lumbermen to the rampant cutting that occurred during the Second World War. This initiative signalled the modern era of forest conservation and drew attention to the more contemporary problems of enacting workable

[27] Johnson, 40.
[28] Sandberg, *Forest Policy in Nova Scotia.* 65.
[29] Johnson, 128.
[30] Johnson, 176-7.

forest conservation policy.[32] Of some interest to this study, however, is that insect infestation became the major forest conservation problem in the sixties, seventies, and eighties. As will be seen in later chapters, this had a great bearing on raising interest among ordinary Nova Scotians in forest conservation. Presently, however, there seems to be little evidence that serious forest conservation policy exists in Nova Scotia.

In Nova Scotia, western ways of life have had a profound affect on the biophysical landscape including the forests. On the mainland of Nova Scotia, for example, the forests are heavily fragmented and on the eastern mainland, where Stora and Kimberly-Clark (formerly Scott Paper) operate pulpmills, the forests are heavily exploited. No matter where one looks, it is difficult to find twenty hectares of continuous forest type anywhere on the Mainland.[33] Currently, clearcutting almost entirely drives forest management in Nova Scotia. Despite its rampant use, minimal Crown land harvesting regulations do exist, having been established in 1989. Under these regulations clearcuts are not to exceed 50 ha without the incorporation of wildlife corridors. According to the same regulations, a wildlife corridor of at least 50m is to be left between adjacent clearcuts or alternatively regeneration in the original cut must be at least 2m tall. Streamside corridors must also be incorporated in the cutting operations and other wildlife considerations must be included in harvesting plans. Interestingly, according to a 1993 statistical compendium, the largest private operators have voluntarily adopted Crown land harvesting regulations on their own lands.[34] There is little ground level evidence, however, that these regulations add up to anything of significance. J.D. Irving, for example, the New Brunswick transnational, active in the province in this past decade, uses 'fellerbunchers'. These massive harvesting machines cut large swaths through the forests with each pass leaving little or nothing standing in their wake.[35]

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[31] Henley, 88.

[32] Creighton, Wilfred. *Forestkeeping.* Department of Lands and Forests. Halifax, 1988, 74.

[33] Mullaly, John *et al. Protecting Nova Scotia's Natural Areas: The Report of the Public Review Committee for the Proposed Systems Plan for Parks and Protected Areas in Nova Scotia.* Halifax, NS Department of Natural Resources, December 1995, 7.

[34] *1993 Compendium of Canadian Forestry Statistics*, 88.

[35] Suzuki, David. *"N.B. Epitomizes Battle Between Man, Machine."* Chronicle Herald, July 10, 1993, C2.

Despite various technological developments, however, as will become clear throughout this study, failure to implement meaningful forest conservation policy at ground level is rarely about destructive technology on its own. It is much more about political will, political economy, and management ideology. To help cut through the complexity of forest management decision-making and policy events in Nova Scotia to assess how it impacts forest conservation policy and practice, the following two chapters review the theoretical basis of renewable resource management and policy decision-making. Throughout this study this discussion is used as an analytical framework to get at the heart of underlying mechanisms of power and influence within Nova Scotia's forest conservation policy process.

Chapter Three:
The Theoretical Foundations of Natural Resource Management.

This chapter outlines the theoretical bases of natural resources management. It focuses on the nature of renewable resource management and how management affects forest conservation. This chapter explores six key themes of the resource management literature. First, 'renewable resource management' theory draws attention to important characteristics of forest conservation management. Second, the study of 'Environmentalism' focuses on policy tensions created between resource conservation and resource exploitation. Third, the theoretical implications of multiple-objective forest management are examined. Fourth, sustainability and ecological modernisation is considered. Fifth, the impact of trade liberalisation and market and state failure is examined. And lastly, the underlying applied theory of green taxes is considered.

Conceptualising Natural Resource Management.

The roots of natural resource analysis are broad; a wide range of academic traditions and disciplines are used to build its theoretical underpinnings. As a starting point it is useful to refer to Mitchell. He explains that the geographer's role in natural resource analysis is one that "seeks to understand the fundamental characteristics of natural resources and processes through which they are allocated and utilised."[1] To appreciate Mitchell's point and lay the foundation for this study's theoretical approach it is necessary to refer to Zimmerman. Zimmerman in 1933 provided an important insight into the fundamental character of natural resources that focused on its inherent subjectivity. According to Mitchell

> Zimmerman provided a functional interpretation of resources which is as relevant today as when first proposed in 1933. He argued that neither the environment as such, nor parts of the environment, are resources until they are considered to be capable of satisfying mankind's needs.[2]

This view has special significance for Canada and its forests. Initially the Canadian frontier was perceived as 'wilderness' or wasteland--an encumbrance to well being. In

[1] Mitchell, Bruce. *Geography and Resource Analysis.* London, Longman, 1979, 3.

general forests had little value, they usually impeded agricultural and urban development. One important aspect of forests as a physical entity is that they evolve and change slowly. As a 'resource', however, their valuation is in constant and sometimes rapid flux that has a marked impact on resource management decision-making. For example, neither white birch nor other hardwoods had significant resource value in Nova Scotia until the OPEC Oil Embargo of 1973. This contrived supply crisis dramatically increased the price of world oil making scrub birch more attractive as fuelwood, and new technology made white birch a useful raw material in the pulping process. No dramatic physical changes occurred within the forests only subjective valuations altered.

To better appreciate the subtleties of resource analysis, Mitchell defines the process of resource management as "the actual decisions concerning policy or practice regarding how resources are allocated and under what conditions or arrangements resources may be developed."[3] This definition embraces three important concepts. The first weighs the significance of actual decision behaviour on the resource management process. The second is the allocation process that results from these decisions, this establishes management ground rules and determines winners and losers. The third concept frames the 'conditions for development'. These are concerned with the myriad economic, environmental, technological and social influences implicit in the resource exploitation process. Although this definition is useful in explaining the processes of resource management generally, it tends to under-explain the long-term implications of forest conservation policy. For example, technological changes and demand fluctuations make projections for forest products and amenity services risky over the long-term. In the forestry context, resource management involves ground level management activities accomplished over decades and even centuries. To partially address this concern, Mitchell defines another theoretical notion. He explains resource development as "the actual exploitation or use of a resource during the transformation of 'neutral stuff' into a commodity or service to serve human needs and aspirations".[4] At first glance this definition appears to narrow explanation to physical transformations of resources but interpretations can be 'stretched' to include the more subjective resource valuations

[2] Mitchell, 1.
[3] Mitchell, 1979, 3.
[4] Mitchell, 1979, 4.

alluded to above. Although the implications of this interpretation of resource management are broad, there remains a danger of underestimating the importance of long-term implications of resource demand on forest management. Although assessing future requirement for forest commodities is critical to forest planning, forest managers' inability to accurately assess this makes strictly objective or rational forest management elusive.

Beyond these more obvious conceptual problems in objectively managing natural resources, there are a number of theoretical and practical difficulties that stem from disparate ideological views of forest management. As will be seen throughout this study, ideology is critical in understanding many of the underlying motivations of forest policy action. It will also be seen, for example, that superficial agreement on forest conservation practices often fracture because of intractable and ideologically charged forest management beliefs and values. In general in natural resource management, major operational difficulties stem from incompatible human value systems. Varying interests calculate forest benefits differently, new forest uses emerge over time and changing concerns alter valuations. Unfortunately, the roots of these value systems are hard to detect or quantify and their influence pathways difficult to discern, even though their impacts are very real. These problems are apparent for both forest managers working within the management process and analysts observing from the outside. Often analysts must uncover ideological influences indirectly--trying at one and the same time to detach their personal value systems from the analytical process.[5] [6] [7] Despite these operational problems, understanding values and management ideology are critical to understanding the workings of forest conservation policy. As a consequence, the impacts of contrasting ideological positions form a major part of this study of power and influence in resource and environmental management.

Environmentalism.

[5] Djao, A.W. *Inequality and Social Policy: The Sociology of Welfare.* Toronto, John Wiley & Sons, 1983, 7.

[6] Babbie, Earl R. *The Practice of Social Research 2nd. Edition.* Belmont, Cal., Wadsworth, 1979, 71.

[7] Macridis, Roy C. *Contemporary Political Ideologies: Movements and Regimes. 3rd. Edition.* Canada, Little, Brown and Company, 1986, 1-3.

Within environmentalism two distinct ideologies tug at natural resource management decision-making in essentially diametrical directions (see figure 3.1). The ecocentric mode as McConnell explains, rests

> upon the supposition of the natural order in which all things moved according to natural law, in which the most delicate and perfect balance was maintained up to a point at which man entered with all his ignorance and presumption.[8]

In contrast the technocentric mode, according to Hays (1959 as cited by O'Riordan) was

> the application of rational and 'value free' scientific and managerial techniques by a professional elite, who regarded the natural environment as 'neutral stuff' from which man could profitably shape his destiny.[9]

According to O'Riordan,

> ecocentrism preaches the virtues of reverence, humility, responsibility and care; it argues for low impact technology (but is not anti-technology) ... it seeks permanence and stability based upon ecological principles of diversity and homeostasis.[10]

Technocentric ideology on the other hand is arrogant. It assumes that 'man supreme' is able to understand and control events for his own purposes. O'Riordan suggests the technocentric mode is

> identified by 'rationality', which is the objective means to achieve given goals by managerial efficiency, the application of organisational and productive techniques that produce the most for the least effort, and by a sense of optimism and faith in the ability of man to understand and control physical, biological and social processes for the benefit of present and future generations.

As O'Riordan points out the common's dilemma

> drives right at the heart of environmentalism ... it raises questions about 'the important moral relationship between short-term selfishness and enlightened longer term community interest'.[11]

He goes on to say that

> progress, efficiency, rationality, and control ... form the ideology of technocentrism that downplays the sense of wonder, reverence, and moral

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[8] McConnell, G. *The Conservation Movement: Past and Present.* In I. Burton and R.W. Kates, Eds.; Readings in Resource Management and Conservation. University of Chicago Press, Chicago, 1965, 190.

[9] O'Riordan, Timothy. *Environmentalism 2nd Edition.* London, Pion Limited, 1981, 1.

[10] O'Riordan, 1.

[11] O'Riordan, 36.

obligation that are the hallmarks of the ecocentric mode.[12]

In theory these two ideologies are distinct and separable. In practice, however,

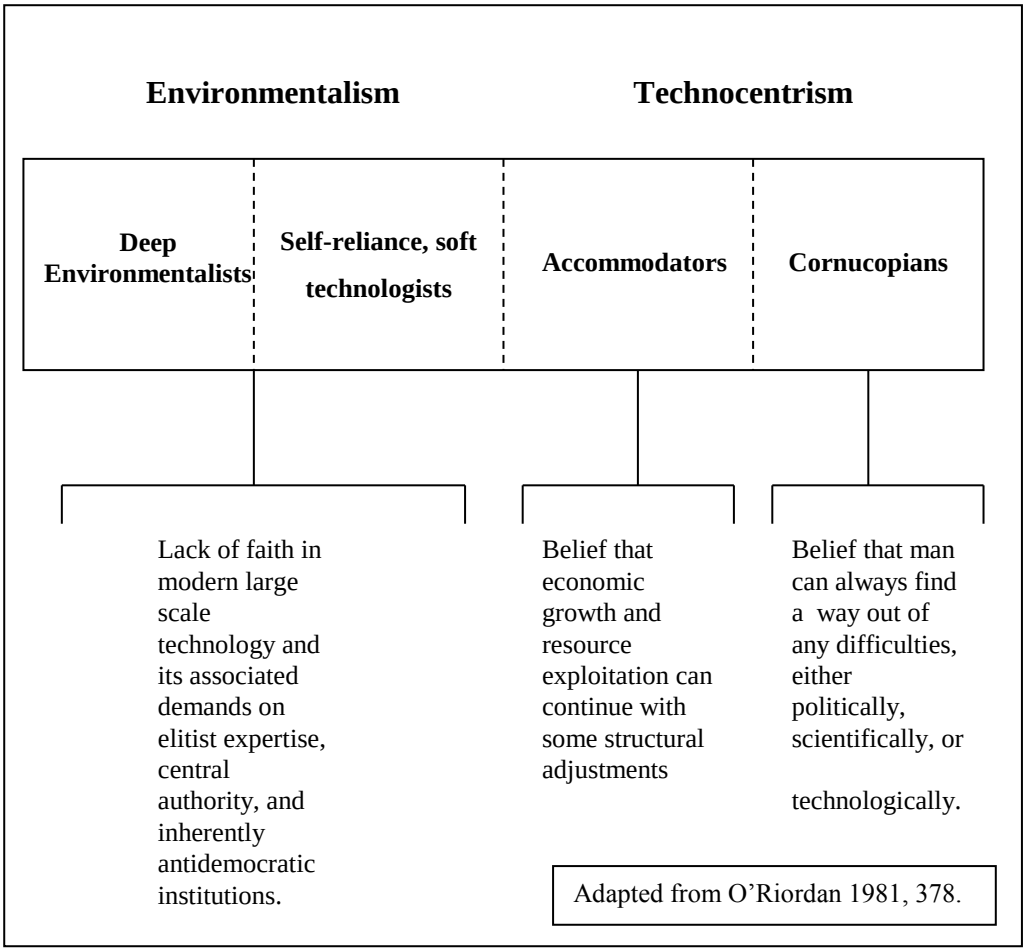

Figure: 3.1: Concepts of Environmentalism.

categorising forestry sector actors according to these ideological precepts is problematic. Most operational distinctions are blurred. In fact ideological manifestations often seem to shift over time within individuals and sub-sectors, especially as different forestry issues are examined. It will be seen in this study that when Nova Scotia's forestry sector is examined no segment holds perfectly true to one ideological position. Some small woodlot owners, for example, are reputable forest stewards while others are notorious 'high graders'. The latter selectively 'mines' the best timber for short-term profits while leaving poorer quality trees to sustain the forest. Some industrialists on the other hand, who are intuitively classed as technocentric have carefully nurtured some of their forests. They have maintained buffer zones for aesthetic and wildlife purposes, for example; and

[12] O'Riordan, 11.

have established nature reserves and implemented extensive reforestation programs. Recreationists often thought of synonymously with ecocentrism, sometimes cause forest fires and inadvertently destroy wildlife habitat.

A significant challenge to understanding the impact of ideology is the different decision rules applied by each faction. Bioethic advocates, for example, believe in the unliable rights of biotic matter. They find it difficult or impossible to bargain away such goods. This situation is exacerbated when 'biotic rights' advocates come up against market valuations. Marketers generally believe that most if not all things can be traded. The market process allows for generally free bargaining of any and all assets to secure the best possible economic and socially beneficial outcome. Marketers find negotiating with 'bioethic' individuals frustrating, as they appear highly inflexible and unwilling to compromise. A fundamental dilemma is whether the idea of man's control of the forest environment should prevail--to embrace and rely on technological innovations such as species selection and genetic engineering--or should forest management depend more on natural processes. The first option reflects confidence about man's ingenuity; the second shows caution encouraging working more closely with nature, harmonising practices to maintain natural balances.[13]

Hardin's *Tragedy of the Commons* provides a forceful critique of technocentric ideology. The 'commons' dilemma emphasises that no truly rational solution to resource management problems exists. O'Riordan insists society has two basic choices: either we relate our activities to ecological imperatives so that inputs and outputs are more or less balanced, or we must develop an acceptable code of altruism and long-sightedness to regulate our actions willingly in the wider community interest. O'Riordan notes that most ecocentrists believe we should do both. He and other environmentalists caution that this will be accomplished sooner or later by 'enlightened reason', or will be thrust upon us by catastrophe. Many ecocentrists fear that man will ultimately run out of ingenuity. Nature's dynamic balance will be stretched so far that it will be impossible to return to reasonable equilibrium. The inevitable consequence will be environmental catastrophe and widespread social upheaval.

[13] O'Riordan, 11-19.

The greatest concern for technocentrists is not so much the environmentalists' attack on specific forest practices, but their challenge to industry's basic role in society. Environmentalism's basic goal as a social-political movement is to restructure society by challenging its basic values and institutions. Four elements characterise environmentalism as a social movement. The first challenges almost every aspect of Western democratic culture; the second offers no clearcut alternative to present practice; the third is about 'conviction'; and the fourth is distinctly a politicising and reformism movement. According to O'Riordan, environmentalism as a vehicle for social reform is fuelled by two complementary anxieties. The first is that "some thing must be done about humanity's present style of using and abusing resources, and the planet". The second reflects the "growing anxiety about the future pervasive uncertainty that has all but replaced the beguiling self-confidence of the ruling elite".[14]

The second point about environmentalism as a social movement is that it offers no well formulated political/economic alternative to present modes of doing business. The third premise is that faced with the conceptual and organisational dilemma of an environmental imperative without a clear prescription, environmentalists have relied on a strong sense of conviction to guides their actions. The fourth point not only relates to the politicising of environmental matters but to the advocacy of a reformism movement. As O'Riordan stresses, this movement is all about fairness, sharing, permanence, and humility.

According to O'Riordan two scenarios purported by Falk, one of despair the other of hope, seem to pervade the policy process. In this context Lowi, and Pirages and Ehrlich conclude that the present system of liberal pluralist politics cannot be sustained over the long term for the following reasons:

1. Interest group politicking undermines long-term policy formulation in the broader public interest.
2. Political leaders rarely reach clear decisions; they frequently prevaricate in the face of conflicting evidence and issues. It generally needs a major calamity for governments to move on environmental issues, and the rush of action rarely brings about resolution of the problem at hand.

3. ‘Invisible’ lobbying and systematic regulatory practices systematically undermine legislative policies--authority is steadily eroded.
4. The ruling oligarchies of government, corporations and organised labour have no countervailing equivalents. Citizen action will only have weight if it has reasonable access to an ombudsman and/or the courts.
5. Pluralism is predicated on compromise, but scarcity encourages confrontation where the powerful not necessarily the most in need prevail.[15]

As will be seen, FIA policy was initially predicated on woodfibre scarcity but eventually gave way to conflict over amenity values. Although the multinationals acquired considerable policy power, the question remains whether the policy process served the most in need. In Nova Scotia, a major issue is whether forests are primarily an industrial asset or a social amenity. This debate is about how the forests should be utilised, what objectives should be set, and what forest management practices should be followed. This brings us to a discussion on multiple-use forest management.

Multi-objective Forest Management.

Multi-objective forestry is first and foremost a prescriptive tool that implies a broad socio-economic role for the forests. As a prescription, it is used to guide decision-making by setting output objectives, selecting management strategies, and monitoring the actual outcomes of forest management. In the context of this study, it is used primarily to establish a set of criteria to assess the impact of technocentric / ecocentric decision-making influences on the forest management process. In general, this study examines the extent to which multiple-objective principles were embodied in forest conservation legislation; how they were accepted by bureaucracy and forest managers; how they contributed to forest practices; how they contributed to legislative failure; how they affected broader forestry policy; and what relevance they have to today’s forest management. To address these questions, this study examines the normative principles of multiple-objective forest management and also considers their theoretical and practical shortcomings.

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[14] O’Riordan, 301.

Van Maaran provides a useful schema for multi-objective forest management that is adapted in this study to compare theory and actual practice.[16] There are four essential elements to Van Maaran's model (see table 3.1). The first argues for a systematic assessment of forest capacity for any given combination of multiple-objectives. The second appeals for a process for soliciting and gaining public approval of forestry objectives. The third implores that a public consensus be reached to determine how far conservation / recreation objectives be subsidised and by whom. The fourth dictates that landowners recognise forests as part of the national wealth where benefits should accrue not only to the landowner but also to all mankind.

Rees provides cutting criticism of multiple objective prescriptions. She frames this criticism within the assumption that multiple-objective management is primarily to enhance forest conservation and augment resource flow decisions. As far as flow is concerned, Rees points to considerable difficulties resulting from the application of the 'economic net benefit maximisation' concept. First, this relies heavily on abstract models of perfect competition that are impossible to mimic in actual practice. Second, it views the whole utilisation and recreation amenity question from the present perspective that assumes that present consumer preferences and behaviour will prevail. Third, even when pondering the future, 'discounting' to transform forecasted benefits and costs into present values inevitably skews resource use to the present. And fourth, using market prices to calculate benefits and costs twists the evaluation to those already able to pay.[17] In addition, Rees challenges the notion of reserving areas for recreation amenity for the future. She argues that unless costless (unlikely in practice) "it can only occur through the sacrifice of other social welfare objectives." Usually the hardest hit are the poorest and weakest segments of society which results in user benefit displacement and employment loss.

Table 3.1: Multiple Objective Forest Management in Nova Scotia: Theory and

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[15] O'Riordan, 302-303.

[16] Van Maaren, Adriaan. *Forests and Forestry in National Life.* In F.C. Hemmel, ed. Forest Policy: A Contribution to Resource Development. Martinus Nijhoff/Dr.W. Junk Publishers, The Hague, 1984, 1-19.

[17] Rees, Judith A. *Natural Resources: Allocation, Economics and Policy.* London, Methuen, 1985, 308-317.

Practical Implications.

	Theoretical Propositions	Conceptual Implications:
1a.	Systematic assessment of forest production capacity.	Equal or 'scientific' weighting of forest management objectives. Management objectives are compatible at local, regional and provincial levels. The agreed combination can be meaningfully translated into management prescriptions. Capacity can be defined objectively and uses can be meaningfully compared.
1b.	Soliciting and gaining approval.	Public approval is obtained through the political process. The public is involved sufficiently to effectively influence public policy and private sector management behaviour.
2.	Attainment of a political consensus to decide how far conservation/recreation objectives etc. should be subsidised and by whom.	Assumption that cross-subsidisation is a viable option. Assumption that conservation /recreation is a legitimate and relevant forestry sector objective.
3.	Recognition among involved land managers that forests are part of national wealth. Understanding that rights, obligations, and benefits of forest ownership go hand in hand.	Owners are not wholly rational managers maximising their own welfare. They are to some degree altruistic land stewards.

Adapted from: Van Maaren, 1984, 1-19.

Conservation in this context protects the interests of future generations by sacrificing potential benefits for the present generation. Rees also challenges the conventional economic approach to multi-objective management. She argues that while many economists insist that quality of life measures can be built into the assessment process, it is much easier said than done. Typically, in assessment processes such as cost-benefit analysis and environmental impact assessments, factors that can be easily quantified in monetary terms bias the assessment process.[18]

When viewed in the context of Rees' criticism, Van Maaren's model appears on the surface to have limited practical application. The underlying assumption of Van Maaren's

[18] Rees, 331.

schema and other multiple-objective prescriptions is an equal or constant weighting of management objectives. For instance, fibre production is considered on a par with recreation amenity, or they maintain some roughly constant valuation relationship. There is also an assumption that management objectives are somehow compatible when viewed from varying local, regional, provincial, national, and international viewpoints. Rees argues this assumption implies that 'global to local' resource use and various conceptions of spatial diversity can be easily integrated into all scales of forest management plans. It also implies that multiple-use capacities can be practically defined and applied objectively.

Van Maaren's second prescription presupposes policy approval by soliciting and involving the public. It assumes this will be done through political processes and that affected publics will impact both public and private management forest practices. Theories of power outlined in the next chapter raise serious doubt about this capacity. The third element assumes political consensus and land managers' willingness to subsidise multiple-use. This implies that politicians and forest managers share multiple-use objectives and that they can muster sufficient resources to make an effective contribution. The fourth element implores landowners to view multiple-use forest management as both a private investment in their own welfare and an uncompensated public duty. At the very least this assumption denies the classic economic notion of a rationally acting man.

As can be seen from Rees' critique, it is much easier to talk theoretically about multiple-objective management than put its principles into practice. Fortunately, it is not used in this study for that purpose. Here it is used as a yardstick or discussion point to assess how far multi-purpose principles were integrated into the decision-making process during the various legislative eras. Van Maaren's model is used primarily to uncover the ideological underpinnings of resource decision-making and indirectly measure the effectiveness of legislation to attain broad forest conservation goals.

Sustainability, Ecological Modernisation and Forestry:

While the concept of conservation infers the sacrifice of present benefits for the welfare of future generations, and multiple-use management broadens the valuation of forest

resources beyond fibre harvesting, the idea of sustainable development gives these ideas new political and public prominence. The rise in this political attention was largely the result of the World Commission on Environment and Development--the Brundtland Report. This report defined sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs".[19] According to O'Riordan, the

> Notion of 'sustainability' applies most conveniently to the replenishable use of renewable resources. The aim is to benefit from the advantages provided by such resources to the point where the rate of 'take' equals the rate of renewal, restoration or replenishment.[20]

Although O'Riordan[21] suggests that

> It is tempting to dismiss the term 'sustainable development' as an impossible ideal…[however,] the phrase has stuck. …It was the central theme in the UN Conference on Environment and Development (UNCED) held in Rio de Janeiro in June 1992 [and the follow-up New York City conference in 1997]. Like it or not, 'sustainable development' is with us for all time.

Notwithstanding this notion's broad political and public acceptance, the Dutch economist Jan Tinbergen (1952) argued that "for every independent policy goal there must be a complementary independent enabling policy instrument.[22]

Reflecting Tinbergen's point, the Brundtland statement has undergone a broad range of criticism since its first publication, largely because of its inherent vagueness and operational imprecision. It has been interpreted--likely as was intended--in numerous ways according to many ideologies and circumstances. "A large and diverse literature has emerged in recent years … many definitions of sustainable development have been suggested and debated, thereby exposing a range of approaches linked to different world views."[23] The problem is that sustainability encompasses a wide range of "multiple and interrelated goals" including social-cultural, economic, political, environmental and moral strategies.

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[19] WCED 1987, 43.

[20] Timothy O'Riordan *The Politics of Sustainability.* In Turner, 1993, 43.

[21] O'Riordan 93, 37.

[22] Cited by Turner, 1993, 5.

[23] R. Kerry Turner (Editor) 1993. *Sustainable Environmental Economics and Management: Principles and Practice.* Belhaven Press, London. 3.

Despite this inherent complexity and indistinct character, Turner suggests that the various definitions and their implications for implementation sort roughly into four sustainable typologies falling at one end of a sustainable / unsustainable continuum. The two extreme sustainable positions are labelled very weak sustainability (VWS) and 'very strong sustainability (VSS), while the two intermediary positions are weak sustainability (WS) and strong sustainability (SS).[24] Although the operational ideologies and strategies called for by these approaches vary widely, it is important to note that none to date are well represented, if at all, in practice in forestry as well as in other keys areas of sustainability. These typologies do, however, offer a useful *modus operandi* to assess present practice and to judge policy prescriptions. To fully understand these typologies, however, it is important to consider the concept of 'sustainability inheritance asset portfolio'. This suggests that the full portfolio of assets and benefits available to mankind in establishing sustainability consist of man-made capital K_m, natural capital K_n, human capital K_h, and moral or ethical capital K_e. Theoretically in each of the so-called sustainability paradigms, these assets are more or less traded-off each other.

The Very Weak Sustainability (VWS) Paradigm.

The VWS paradigm necessitates only that the overall stock of man-made, natural and human capital remains constant over time. This requires society to be as well endowed at the end of any period as it was at the start. The underlying premise is that there is perfect substitutability between capital assets. With this free-flow trading of capital assets, a nation or other jurisdiction merely has to save enough of its overall stock assets to offset depreciation. Transforming a forest by clearcutting and processing into chopsticks, for example, is justifiable under this scenario as long as the social value of the chopsticks is as great as the standing forest.

Weak Sustainability Paradigm.

Because the VWS paradigm appears to violate the basic and first law of thermodynamics: the conservation of energy, the second paradigm--the weak sustainability paradigm (WS)--modifies the first to provide both upper and lower limits to the exploitation of natural assets. This limitation accounts for the non-substitutability of certain natural capital assets

[24] Turner, 3

such as keystone species and ecological processes, and the assimilative capacity of important life support systems. This approach presupposes some level of constraint on natural resource economic activity. It also implies limits to population growth and the exploitation of natural resource stocks consistent with "ecosystem stability and resilience." The focus of this paradigm is not "preservation of specific attributes of the ecological community but rather the management of the system to meet human needs, [generally but not specifically to] support species and genetic diversity, and [to] enable the system to adapt (resilience) to changing conditions".[25] Turner also suggests that a "set of physical indicators will be required to monitor and measure biodiversity and ecosystem resilience," thus invoking a system of safe minimum standards. He points out, however, that there is no scientific consensus over how biodiversity should be measured and hence what safe minimum standards are necessary. In a scenario drawn from this typology, there is clearly a limit to the amount of clearcutting permissible, and in addition, rules are necessary to ensure that minimal ecological processes are preserved. As will be seen in this study, developing a workable consensus on minimum rules for forest practices in Nova Scotia is no easy task because of a failure to agree for one on basic scientific definitions.

Strong Sustainability Paradigm.

While the first two paradigms allow varying levels of natural resource degradation as long as other forms of capital (predominantly man-made and human) are substituted, the strong sustainability (SS) view requires that natural capital must be protected. This view is premised on the realisation that at least part of our natural capital is non-substitutable. From a practical point of view this means that natural capital must remain a constant. While fluctuations in part--within strict limits--are permissible, the overall losses in natural capital must be compensated by gains elsewhere. Rather than a set of indicators taken in isolation, the focus of this paradigm is a combination of key factors such as irreversibility and uncertainty. Whereas in the weak sustainability paradigm trading of natural assets is acceptable when the social opportunity for development is large, the strong sustainability model says "whatever the benefits forgone, [natural capital] losses

[25] Turner '93, 11

are unacceptable."[26] This model does not, in itself, argue against development, it contends, however, that gains in development must be decoupled (see below) from environmental degradation and/or is linked to meaningful strides in restoration ecology. In this scenario, forestry as an industry, is concerned with ensuring that any and all natural resource exploitation and degradation, is compensated for by gains in environmental quality and quantity elsewhere in the system. Allowing a clearcut in one area might require, for example, restoration and protected area designation elsewhere.

Very Strong Sustainability.

This fourth model of sustainability presupposes that the global macro economy has already exceeded its ecological limits necessitating strict limits on energy and mass throughput in the economy to minimise further environmental damage and stimulate global ecological restoration. This is known as the 'scale effect' and is most evident in the aggregate global impacts of the greenhouse gases, depletion of the ozone layer, and the widespread impacts of acid precipitation. This model does not presuppose the end of development but merely re-emphasises its root meaning in change of quality and function rather than growth. This steady state economy emphasises "that social preferences, community values and generalised obligations to future generations can all find full expression in the steady-state economy as it evolves. Within this paradigm considerably more emphasis is placed on 'moral capital'. It is in this context that Trainer,[27] in the process of invalidating free enterprise economics and big state socialism, offers the following observation:

> Conventional economics is totally indiscriminate. It does not care what is produced and sold. Much of what is sold is unnecessary, wasteful and luxurious. The rich countries already vastly overproduce, yet the main goal of all their economies is to increase production and consumption as fast as possible. It is very important that the 'overdeveloped' rich countries should greatly reduce their levels of production and consumption; but this is not possible in the present economic system.[28]

This more radical scenario clearly requires a reduction in forest exploitation that is not matched elsewhere with increased production. In a moral and equitable world, this can

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[26] Turner 14.

[27] Ted Trainer 1996. *Towards Sustainable Development: The Need for Fundamental Change.* Jon Carpenter / Oxford, Envirobook / Sydney.

[28] Trainer 173.

only be achieved by a substantial reduction of 'environmental' consumption by the rich countries so that the poor have some room to improve their standard of living.

Globalisation, Good Governance and Sustainable Development.

Moving to any one of the aforementioned sustainable development paradigms is, unfortunately, problematic given the present focus of global trade that fosters ever-increasing consumption to maintain financial capital growth. Trainer, for example, argues that the power of the multinationals, especially those controlling capital such as the large banks, and the conventional global investment of unearned capital (requiring largely unfettered growth) are the main forces driving unsustainable economic activity. At the heart of this issue, as Trainer insists, is the lack of incentive to recycle, conserve, and reduce, induced mainly by the failure of the marketplace to incorporate the real costs of production--largely environmental and social externalities--and the state's failure to reorient the distortions caused by the marketplace. According to O'Riordan what "we witness here is the insensitivity of power, lobbying and closed thinking".[29] O'Riordan identifies other important and related issues including the lack of effort in economic and social forecasting to offer feasible options for reducing aggregate demand, and the incestuous linkages between government, industry and regulators that continuously favour production over conservation.

In the United Nations "Agenda for Development" (1994), good government implies

> The wisdom and the historical responsibility to know when to let the market forces act, when to let civil society take the lead and when government should intervene directly.[30]

The Graz (Austria) "Seminar on Sustainable Development, Human Rights and Good Governance" in 1994 for example,

> Gave expression once more to the fact that good governance, meaning sustainable management of resources in legal, institutional, political, economic, social and ultimately cultural terms, is difficult to translate into a concrete operational programme for the world as a whole.[31]

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[29] O'Riordan 93, 42.

[30] Cited in Konrad Ginther, Erik Denters & Paul J.I.M. Waart (Editors) 1995. *Sustainable Development and Good Governance.* Martinus Nijhoff Publishers, Boston, 4

[31] Ginther, 9.

What we have in reality is on the one hand a bulldozer of political resolve and multinational corporate power dismantling social welfare reform and environmental protection policy, and on the other, at best, a wounded warrior armed with a table spoon attempting to protect environmental quality and repair damage. Unfortunately, the danger of looking narrowly at international environmental policy and conventions is to miss the significance of its juxtaposition with international trade policy. Of great import in this analysis is the significance of the Rio Conference's (the Earth Summit) "Agenda 21" commitment in 1992 to make trade and environmental management "mutually supportive". This commitment called for the "environmental content of trade to be considered and for conscious efforts to ensure that the increasingly global and unregulated marketplace would not destroy the planet."[32] Examined on the surface and taken in isolation, this measure suggests that most trade related environmental destruction would soon be a thing of the past. As the Sierra Club of Canada notes, however, at about the same time of the Rio negotiations, "the Uruguay Round of the GATT talks was grinding ahead without any concern about the profound impacts trade liberalisation would have on the environment." Overtime, according to the Sierra Club, it became increasing clear that trade liberalisation was moving much faster ahead and more effectively than any commitments made at the Earth Summit. In this general context of examining environmental policy Teeple asks whether capitalism, and by implication trade liberalisation, is indeed sustainable? In answer to his own question he remarks that

> The drive for continuous economic growth has always carried an implicit assumption, namely, the ability of nature to absorb the costs of this growth to withstand its flagrant misappropriation and irresponsible desecration. The ecological limits of industrial growth are everywhere now evident. Environmental degradation of the planet is proceeding at a pace that is not abating despite recent international accords and promises. And the effects, such as global warming, falling crop yields, desertification, deforestation, soil erosion, declining or exhausted fisheries, ozone depletion, air and water pollution, and species extinction, all have an impact on the possibility for continued economic growth.[33]

It should be noted that as part of the World Trade Organisation (WTO) deliberations, Canada and the U.S. are actively negotiating the Multilateral Agreement on Investment

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[32] Sierra Club of Canada: http://www.sierraclub.ca/national/rio/rio97-federal.html, August 1, 1997.

[33] Gary Teeple *Globilization and the Decline of Social Reform.* Toronto: Garamond Press, 1995. P140.

(MAI) concerning global trade through the OECD. According to the Sierra Club of Canada

> This agreement would extend the benefits of "like-product" trade disciplines to investments. It would be the first of the trade liberalisation agreements to explicitly convey rights to transnational corporations equivalent to rights of nation states.

Teeple is also clearly concerned about this global trend, he states that

> Another factor in this present transformation [of the political economy from national capital and the nation-state to international capital and supranationalism] can no longer be ignored. If the decline of social reform is increasingly leaving social needs unanswered, there has never been much by way of environmental reform, national or international to confront the consequences of planetary pollution caused by decades of industrial production and consumption. … While critics agree that these effects can no longer be ignored, governments seek to minimize their import, mouthing concern but doing little to clean up or prevent further destruction; and corporations resist the idea of accepting responsibility for the external costs of their industrial processes.[34]

Despite any local, provincial, national efforts to curb corporate destruction and clean up the environment then, there is the more pervasive and over-riding detrimental impact of world trade. In this light the Sierra Club argues that global trade rules have tended to undermine domestic environmental protection, for example, stripping some US Clean Air Act regulations to conform with GATT rules that have increased air pollution.

And Teele elaborates that

> Despite the growing consciousness, protest, and resistance, the trends of planetary pollution worsen, and this continued degeneration brings the question of the sustainability of capitalism to the fore. The underlying issue is easily definable: unreformed capitalism destroys the bases of its own existence, namely, the reproduction of nature and labour power. The system has no inherent means of preventing this destruction, and in the past reforms have had to be imposed to save capitalism from its destruction of nature and labour power.[35]

Although the federal role in forest management is indirect, having a particular mandate for science, research, data collection and international negotiations, it is on the international front that its influence is critical to forest enhancement or degradation. Recently, on the international front, Canada seemed proactive promoting a global forest convention before the IUCN. This initiative proved highly problematic with

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[34] Gary Teeple *Globilization and the Decline of Social Reform.* Toronto: Garamond Press, 1995. P73.

[35] Teeple, 140.

environmental groups, however. Prior to the Rio convention, the environmental community in Canada favoured a worldwide convention on forest practices but as time went on, and the Government of Canada's true intentions became more transparent, they retreated from this position. It became clear that Canada had very little interest in improving global forest practices including their own, but was focused firmly on protecting Canada's trade interests. The Sierra Club notes the remarks of Anne McLellan, former Canadian Minister of Natural Resources were particular illustrative.

> The negotiations leading to the report of the Intergovernmental Panel on Forests to the UN Commission on Sustainable Development were immediately preceded by unfortunate remarks by [Mclellan]. In response to U.S. industry opposition to a Forest Convention, Minister Mclellan said the convention was needed in order to prevent Canadian trade being "held hostage to environmental terrorism".[36]

Although she later attempted to distance those remarks from environmental groups she did explain that her remarks were aimed at nation states who might use environmental criteria to hamper free trade in forest products.

In their 'report card' five years after the Rio conference released on June 19, 1997, the Sierra Club of Canada, quoting Maude Barlow, Chairperson of the Council of Canadians, said:

> Canada has pursued one agenda relentlessly since Rio … But that agenda had nothing to do with the environment and everything to do with globalization of trade, loss of Canadian jobs and democratic rights. In hindsight, Canada's Rio promises to make trade and environment mutually supporting are laughable.

In the light of sustainable development models and the reality of global-wide neo-liberalism, it is interesting to review what can be done so that forest policy in Nova Scotia and its conservation practices can be put into perspective. The following overviews the theory and practice of decoupling environmental degradation from development and the development of more specific strategies to abate environmental destruction.

Decoupling Development and Environmental Degradation.

It is clear that the forces degrading the environment are much stronger than those attempting to maintain or restore it. As will be seen in this case study, there appears to be

[36] Mclellan. Cited in Sierra Club of Canada Home Page: http://www.sierraclub.ca/

a strong link between increased development, forest exploitation, production and environmental degradation. Pearce[37] argues, nevertheless, that it is indeed possible to decouple the seemingly inseparable connection between economic growth and increased environmental impact. As one example he cites the reduction in energy requirements of certain OECD countries that accompanied real growth in GDP between 1970 and 1987.[38] He also describes several incentives for sustainable development. He includes incentive systems, pricing mechanisms, fiscal policies and information programmes.

Incentive systems.

Pearce supports incentive systems such as those financial subventions that reduce uncertainty about the future and also those that "send out the correct price and quality signals in the marketplace." In the forestry sector, for example, many larger companies make considerable effort to reduce uncertainty with vertical integration and various other strategies nurturing self-serving monopsonies. For the Nova Scotia forestry situation, Pearce infers greater security of tenure as one way to increase sustainability. While these may be important to developing countries, it will be seen in this study, when considering Crown land licenses and their application by commercial operators, that long-term licenses have had disappointing results regarding forest practices and sustainability.

Prices as incentives.

Pearce emphasises that market failure has two underlying causes: goods rarely reflect the private costs of production because of inappropriate subsidies; and many goods, important for sustainable development and the maintenance of environmental quality, are not traded in conventional markets.[39] This second factor is especially important in establishing sustainable processes, it means for consumers to make appropriate choices regarding the value of goods, artificial prices must be created for non-traded environmental services and benefits. To account for regular price distortions Pearce argues that as a first step price should be freed from inappropriate subsidies that artificially inflate demand. This artificial demand results in unnecessary use of natural resources and creates unnecessarily increases

[37] Pearce, 1993, 90.

[38] D.W. Pearce. *Sustainable Development and Developing Country Economies.* In Turner 76-7.

[39] Pearce, 94.

in environmental destruction. This approach, he suggests, will move prices closer to the firm's private marginal costs of production. As a second step prices should be moved closer to the marginal social and environmental costs of production which captures important externalities within the selling price. Although it is difficult to argue with Pearce's general thesis, this study highlights the difficulty of implementing such principles when they must overcome entrenched socio-political inertia favouring Crown subsidy.

Fiscal Policies.

Since price is instrumental in changing consumer behaviour, it follows according to Pearce, that taxation policy (which indirectly affects price) will also be an important influence and can be applied by the state in a general or more specific way. As consumer behaviour ultimately impacts the exploitation of natural resources, this will in the end affect the quality of the environment. Pearce argues that "the scope for pollution taxes in developing countries is likely to grow in the future", although, he points out that "taxes in the sense of damage-related charges are a rarity in the developed world." He emphasises that although "present taxation policies are capable of adjustment" and "existing policies frequently discriminate against the environment", governments frequently fail to act to

capture adequate rents from, for example, "existing valuable resources such as forests."[40] Harvesting, for instance, might remove amenity--these assets are rarely traded in the conventional market and are rarely captured by the resource owner. Whether the removal of amenity, previously uncompensated, can be considered an act of pollution to be subject to tax when the resource manager is unable to exploit these resource assets for profit--when in place--is a matter of debate.

Information Systems:

Pearce additionally argues that information is a major influence in sustainable development and suggests two important information strategies. The first modifies the "presentation of environmental and economic statistics so that environmental impacts of economic change can be discerned, and the 'services' of the environment highlighted". The most important action in this regard is to build into a 'GNPlike' index that includes a negative calculation reflecting the depletion of natural assets as a result of the exploitation/production process. The second strategy involves the revising of "systems of appraisal for investments and policies so that they adequately reflect and integrate environmental impacts." This will naturally be management resource intensive requiring a greater role for the state or for supranational organisations.

Lessons regarding the environment-economy connection?

According to Pearce one important lesson to be learned is that "environmental damage matters" it impacts the psyche of individuals, organisations, communities and nations. It adversely effects the non-economic welfare of the public. They lose amenity, health, and incur real costs in clean up and loss of value to their acquired wealth. Clearcutting, for example, can have very real impacts on the less tangible social-cultural welfare of an area. Neighbours may well feel a loss but little can be calculated in real monetary terms. Perhaps most importantly, from the viewpoint of selling sustainable development to mainstream industry, firms experience recognisable additional costs to production either from their own environmental misdeeds or those of others. From this Pearce deduces that "policies need to integrate the environment at all levels". There is a "need to analyse under what conditions optimal growth coincides with sustainable growth". And finally

[40] Pearce, 96-97.

and most significantly for the ultimate 'welfare' of sustainable development strategies, any question of "raising per capita growth must require decoupling growth from its environmental impacts."

To conclude this discussion of sustainability and its relationship to forestry, it can be inferred from Pearce that priority policy areas lie in the following areas:

- in the short-term, private cost pricing reform of existing tax policy is necessary;
- in the medium-term, resource rights and land tenure must be clarified;
- in the long term, social cost pricing must be instituted; and
- as a continuous theme, there must also be a concerted information flow on sustainable development for households, productive units and government.

Ecological Modernisation:

The growing interest in sustainable development emanates from two social failures. The first is the failure of the market to limit environmental degradation (especially those activities that aggregate to destroy global life support systems such as clean air, potable water, stable climate, etc.). The second is the failure of the state to adequately monitor, control and remedy the market's indiscretions (see Chapter Four). Despite these failures remedial and preventive environmental management have been tried by both the market and the state. It is possible to ascertain three rather distinct phases in the development of public policy concerning these efforts.

The first phase, according to Weale, occurred in the late sixties and early seventies.[41] This phase was characterised by 'end-of-pipe' strategies that served to clean up industrial damage after the fact rather than try to avoid problems in the first place. Administratively, environmental policy was considered an add-on function rather than one necessarily integrated through all facets of public policy. Typically agencies or departments of the 'environment' focused on specific pollutants using command and control, or other regulatory strategies. Some aspects of forest conservation policy can be seen in this light. Once an area is clearcut, for example, and the soil base denuded by erosion, leaching and

[41] Weale, 29-32.

hard panning, attempts are made to restore the forest with plantings, fertilisers, chemical weeding, and insect control. Whether in the forests or other areas of resource and environmental management, these add-on, after-the-fact strategies (whether voluntary or regulated) were largely ineffective on the broader scale because gains made on a per unit basis were often cancelled by continuously expanding, unrestrained exploitation elsewhere.

The second phase which is termed by Weale as 'ecological modernisation', grew out the first phase but was based on the need in the 1980s for a more integrative approach that recognised the new scale of the pollution and environmental degradation problem. This new approach, which began to gel in the late eighties and early nineties, acknowledged the international dimensions of the pollution problem. It built on the emerging patterns of interactions among newly co-ordinated policy communities. This broadening and integration of the economy and environment grew in much the same way as advocated in the Bruntland Report. In time this provided "new intellectual and ideological conceptions of environmental policy issues". This more integrative approach is epitomised in forestry by, for example, the ecosystem management philosophy.

Ecological modernisation contends that

> Serious environmental problems are frequently not obvious and the link from cause to effect is often long and indirect. Fundamental problems of environmental protection cannot be dealt with by end-of-pipe technologies but need to be tackled at source. One reason for this is that from the perspective of the mass balance approach to pollution the solution of one disposal problem will merely displace the problem into another medium.[42]

Weale contends that if anything forms the core of the modernist's critique of the 1970s environmental policy, it is that the adopted policy strategies frequently resulted in problem transfer "across time and place, rather than problem solution." A number of themes conceptualise ecological modernisation and the link between environment and economy, they are:

- If the 'costs' of environmental protection are avoided the effect is frequently to save money for present generations at the price of an increased burden for future generations. In other words, the costs do not disappear they are merely pushed forward

and possibly magnified in the process. Thus, a failure to regulate industrial waste disposal or agricultural pesticide use in one generation will simply have the effect of creating soil clean-up costs for future generations.

- Instead of seeing environmental protection as a burden upon the economy the ecological modernist sees it as a potential source for future growth. Since environmental amenity is a superior good, the demand for pollution control is likely to increase and there is therefore a considerable advantage to an economy to have the technical and production capacity to produce low polluting goods or pollution control technology.
- This account of the relationship between economic competitiveness and environmental regulation is also linked to a view about the proper role of the public authorities in ensuring the condition for economic development. Public intervention, along with other decision processes, is an essential part of ensuring a progressive relationship between industry and the environment.[43]

In discussing ecological modernisation it is also important to discuss the concepts of market and state failure, for it is these that have led to a movement of ecological modernisation in the first place. In discussing these concepts it is first useful to consider the characteristics of the market and the state as properly functioning institutions.

Market and State Failure:

A healthy market--largely hypothetical--produces goods and services usually for private demand at a reasonable price and quality, and distributes them in a more or less equitable way to all sectors of society to meet the need for a satisfactory quality of life. A healthy state (again largely hypothetical) produces collective goods such as security and public health, as well as maintains environmental attributes required by society that the market have no consistent interest or capability in producing. It does so at a reasonable price and quality, and distributes these goods equitably among its citizens.

In contrast to this cornucopian world, state failure as Janicke puts it, “presupposes

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[42] Weale, 76.
[43] Weale, 76-78.

previous market failure"[44]--market failure creates environmental problems and social needs and transfers the problems of production to the state. In this less than ideal world, environmental degradation and pollution are functions of both market and state failure. As will be seen in the following discussion, the state is invariably caught in an escalating cycle of attempting to address inherited problems. It often does so by expanding its bureaucracy to tackle these problems, spurring industrial growth to pay for this expansion that in turns creates new environmental and social problems for the state. The state is caught in a cycle where it is both a victim of market failure and a contributor of its own failed destiny.

Market Failure.

According to Janicke the market has "manifest imperfections" as society's primary steering mechanism:

- The market is frequently dominated by outmoded industries that are frequently monopolistic. Market forces, even those notionally responsive to contemporary society, have great difficulty in overcoming the inertia of established industries that have past their social optimum. A feature of established industry is its propensity to capture public sector subsidies at the expense of innovation and sustainable development. In Nova Scotia's forest management this is seen, as this study suggests, by the continued support of forest practices that among other things continue to encourage disease susceptible monocultures and extensive clearcutting that is increasingly abhorrent to the contemporary marketplace.
- When the market does provide direction it is often the result of crisis. This means, especially concerning environmental matters, that redirection comes too late, too bluntly, and with unreasonable social costs. In Nova Scotia's forest management, the truth of forest practices is more of 'crisis delayed' than on crisis alone. Projections for wood supply and demand at present industrial capacity, inevitably means a substantial shakeout in the early decades of the twenty-first century and with it coincident employment fallout and social costs.
- The market predictably has a medium-term outlook mirroring the business cycle. This

[44] Janicke, Martin. *State Failure.* The Pennsylvania State Press. University Park,

myopic view is especially problematic in the forest industry. As such, the market fails to account for future, longer-term communal requirements. The relatively short investment cycles of three to five years of the typical business cycle fall considerably short of the time horizon necessary to sustain forests and forestry. In culturally shaping the forest through economically efficient harvesting techniques, and in species selection and distribution, the industry encounters the problem of adequately anticipating future generations' needs.

- With its focus on private demand and willingness (ability) to pay, the market continually fails to meet the public's collective needs that cannot be efficiently traded in the traditional marketplace.[45] This point is particularly relevant in forestry. The industry continually views the forest as an industrial installation--a source of raw woodfibre--while the public increasingly broadens its expectations for more far-reaching amenity and environmental benefits.

The failure of the market is closely related to the nature of industry and its underlying driving forces. Industry, as an institution, is fundamentally concerned with mass production requiring for continuance, a constantly expanding market. The twin axioms of industry--efficiency and effectiveness--necessitate a constant reduction in the ratio of expenditures over revenue, and the need for continuous innovation to create increasingly attractive products. The outcome of these elemental forces is the continued creation of fresh demand and the centralisation of capital that creates new problems for the state in promoting social equity and dealing with the fallout of an ever-expanding industry.

A special feature of the dynamic of industrialism, according to Janicke, "is its bias towards external and internal totalisation". Externally this is nurtured through the creation of global markets ("internationalisation") while internal bias results from the "universalisation of industrial principles"--more efficient processes based upon short-term private, consumer assessment processes that replace traditional production methods that may be more socially and environmentally sustainable. Janicke argues that because industry has no centre, no focal point of responsibility and accountability, it is dispositioned to ignore ambient social conditions and the "consequences of its capital,

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PA. 1990, 15.

labour and technology policy practices". The state, in contrast, is constantly saddled with its aftermath. Industrial power, especially in its international context, poses problems to sovereign entities. Nation states (and in this case study, the province) find it increasingly difficult to tackle problems created by international industries where such organisation reduces autonomy.[46]

The State's Function and the State's Failure.

According to Janicke there are two key functions of the state. They are the services it provides in advance of, and as a consequence of industrial development. The state has a number of key roles, many of which are derived from market failure. Primarily the state has a regulatory, a legitimisation, an infrastructure, and a nuisance abatement role. As industry specialises, so the connections between its respective parts become more complex requiring increasing regulation and legislation. As industry thrives on stability and predictability, created in large part by regulatory control, the state provides a major impetus for industrial growth. As industry grows, it increasingly transfers the problems it creates to the state. Perhaps unfairly, the government's political wing is held accountable so reducing much of its essential role to legitimising what happens in industry--with its failures, and what happens with the civil service--and its shortcomings. Janicke emphasises that politicians usually have only a legitimising role in policy decision-making, they neither design or implement policy but nevertheless bear responsibility for the process, justifying the decisions, and for the mistakes of civil servants. By and large it is the private sector, namely industry, that make most of the important guiding decisions in society but politicians generally get the blame for problems and failure in the economy.[47]

Beyond this often rather shallow legitimisation role, the state nevertheless plays an important part in infrastructure provision. With the increased specialisation of industrial units, industry is, however, often unequipped or unwilling to produce many of its essential prerequisites such as skilled labour, basic research, transportation networks, and

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[45] Janicke, 115.
[46] Janicke, 7-9.
[47] Janicke, 24-28.

financing. In terms of industry's role in nuisance abatement, this is not always a case of industrial ineptitude. It is often rather one of reluctance to accept responsibility for the ill effects of the industrial process such as displaced labour, pollution, the inequitable distribution of wealth; and its indirect consequences such as crime, social alienation, and the intensifying need for job retraining.

While the market is clearly unable or unwilling to provide all society's requirements, the functional characteristics of the state, in its responsibility, show considerable failings.

- It suffers from lack of sophistication in intervening in the marketplace to minimise the market's failures.
- It too adopts a medium-term horizon corresponding to the election cycle, which in the case of forestry falls far short of reasonable forest renewal planning cycles.
- It fails to adequately foresee and avoid devastating culturally induced experiences such as wars, environmental catastrophes or wanton corruption.[48]

The Public Interest.

As Janicke affirms, in social analysis of the market, the impact of only two steering mechanisms in capitalist industrial systems is usually considered--the market and the state. In this context, the overriding conclusion is that the market fails to adapt and the state fails to act effectively in compensation. In these analyses, the polity or the public interest usually acts on the periphery of the political system to counter market and state failures. As Janicke suggests, the work of this third dimension "has a certain reflex action on the other two". Despite this present marginalised role of the public, Janicke sees the need for a substantially elevated role for civics and decentralisation in future socio-economic processes:

> Only thoroughgoing innovations in society will avail to overcome the present 'institutional sclerosis', and the most of these innovations will consist in comprehensively strengthening the decentralised level in the Western constitutional states adumbrated here and giving it entrenched institutional form.[49]

This subject has a central place in this case study's analysis as it documents decades of

[48] Janicke, 115.
[49] Janicke, 30.

failed experience in bringing about a more decentralised decision-making process in forest practices policy. Mostly, as this study attests, this failure to effectively decentralise decision-making (with accompanying sustainable forest practices) is because policy-makers failed to address the entrenched inertia of corporate power. In the more contemporary analyses of the later chapters of this study the normative idea of decentralised decision-making is visited once more, but with a stronger vision of what constitutes a sustainable forest management regime.

Green Taxes.

The message in the '*Tragedy of the Commons'* was "one for government coercion".[50] Twenty-five years ago when Hardin wrote the "Commons" paper, according to Anderson, there was confidence in the ability of government to control pollution". The more recent history of market and state failure, however, paints a rather different picture suggesting that growth in the economy almost invariably accompanies ecological degradation and unfortunately, the state seems ill equipped to do much about it. However, Anderson believes, as Pearce inferred above in his optimism concerning the need for decoupling development and environmental degradation, "there is a growing understanding of both the necessity of and the options for a more positive integration". He points out that both concepts: economy and ecology derive from the same etymological root: the Greek word Oikos meaning home.[51] One way he believes this link is being renewed and strengthened is with green taxes. According to Anderson, the interest in the use of economic instruments and green taxes to address pollution problems has increased with the rise of neo-liberalism.[52] Increased interest is also no doubt, a result of the more enlightened efforts in sustainable development to decouple economic growth from environment degradation.

Although green taxes have enjoyed considerable support in economic textbooks, Anderson notes there is yet to be found a coherent theoretical understanding of how they

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[50] Mikael Skou Anderson 1994. *Governance by Green Taxes: Making Pollution Prevention Pay.* Manchester University Press, New York, 10.

[51] Mikael Skou Anderson. *Governance by Green Taxes: Making Pollution Prevention Pay.* New York : Saint-Martin's-Press-Incorporated, 1994, 9.

can be applied in the world of existing regulatory policy. Neo-classical economists theoretically place a tax on externalities commensurate with the size of damage caused by pollution. If it is possible to accurately estimate the cost of pollution then it is possible to set a reasonable green tax. And for each firm it is then possible to estimate the break-even point where too much pollution results in unbearable costs to the firm. Acting rationally, it then takes steps to reduce pollution thereby reducing taxes to a more optimal level. The practical difficulty in applying neo-classical economics is the problem of accurately identifying 'ever fluctuating' values of the environment. In revisiting the work of the economist Pigou--credited with the market externality concept--Anderson suggests that he always envisioned the market acting within the context of a state regulatory framework. Pigou appeared to advocate, as Anderson argues, a pragmatic 'earmarked tax' where revenue is dedicated specifically to measures that reduce pollution.

Political scientists, Anderson points out, are especially sceptical about economists' assumptions. Anderson suggests that economists' starting point, the 'failed market', is a false premise. It is not just the free market that explains accumulated pollution but the complicated interplay between the market and the state. He continues, applying Janicke's thesis of state failure that the eco-industrial complexes that have evolved from the entrenched regulatory regime tend "to help maintain rather than prevent pollution". This and other forms of policy inertia will certainly be, he contends, a formidable force in applying more enlightened pollution abatement strategies in the future.[53]

The earmarked tax, Anderson argues, avoids the problem of precisely calculating the value of the environment in each pollution context. Instead, it simply offers a tax that improves the pollution problem by sending the right directional signals to the firm while providing dedicated funds to directly combat the pollution source. Anderson also argues, citing evidence from a series of case studies, that it makes a difference what combination of policy instruments are adopted and whether economic instruments such as green taxes are included in the policy mix.[54] Anderson cautions, however, that without hard evidence from the real world as to what precisely works and what does not, a blend of different

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[52] Anderson, 1.
[53] Anderson, 3.
[54] Anderson, 7-8.

strategies should be explored including sector studies as applied experiments or demonstration projects. He argues that comprehensive policy designs that include regulatory, fiscal green taxes, and dedicated green tax methods "may turn out to be more effective than those that do not" because the market distortions already apparent in environmentally sensitive sectors render the outcome of green taxes alone, uncertain.

A serious complication in considering forestry as a candidate for green taxes is the relationship of forests and the industry to pollution. The standing forest is, in itself, an environmental good--a positive externality. It provides a broad set of communal benefits (not easily priced and sold in the conventional marketplace) that accrue in addition to any industrial (private) value. The forest provides, for example, air purification and clean water, it regulates water flow and has spiritual, cultural, aesthetic, recreation, wildlife and biodiversity values. The removal of a tree, forest stand, or forest does not in the regular sense cause pollution but there is nevertheless, a loss of environmental benefit. The question that looms in forestry is therefore, to what extent should a private forest manager be expected to provide environmental services (common goods) at the expense of private gain from woodfibre exploitation? A second related question is should, and if so, how can a forest manager be compensated for providing these communal goods? Anderson appeals indirectly to this issue when he states: "In the case of pollution, the problem is that the environment is a public good to which there is free access." Anderson advises, when considering the broader issues of the interplay between the environment, the market and the state, that government intervention alone often fails to address the pollution problem at the source. Two frequent examples are displacement and dilution. In forestry, pinpointing the source of pollution is especially problematic because of the forests' production of environmental benefits. Forest product consumers (pulp producers, fuelwood users, etc.) obviously produce pollution whereas the actual extraction process on site, using appropriate forest practices, may have negligible direct impact (on soil erosion, stream siltation, etc.). There will, nevertheless, be a loss of environmental quality because of lost capacity to produce environmental benefits--trees, a positive externality. In this case reduced demand can have positive effects on the environment--fewer trees are harvested. Often, however, the 'pollution' source is considered within the forest itself and the loss of positive externality is often the issue that stirs controversy.

In considering the problems of dilution and displacement in forestry it is again useful to consider the controversial forest practice of clearcutting. In general a green tax on clearcutting, because it causes identifiable pollution and environmental loss, may in time deter clearcutting in a heavily taxed jurisdiction but encourage other forms of forest practices such as selection cutting to maintain production. This tax may very well reduce the direct pollution problems associated with clearcutting in the immediate area but simply displace production, pollution and environmental services loss to a broader forest region through dilution. The broader area needed for production will require increased forest roads and harvesters will incur extra extraction costs. The clearcutting problem may also be displaced to other jurisdictions that apply less punitive restrictions on clearcutting as in the recent migration of forestry activity from British Columbia to Alberta. In summary then, restrictions on clearcutting may be seen as a failure in pollution reduction because of dilution (spreading the cut over a wider area) and/or displacement (moving to other jurisdictions or changing its form).

In pursuing remedies to the perceived pollution problem there is little or no agreement within the Nova Scotia's forestry sector on what actually constitutes pollution (forest degradation). Concerning the broader environmental policy arena, Anderson notes that government rarely follows a rational process (from science to decision-making) in establishing pollution control.

> Rather, strategies of government intervention have been changed as a result of sudden catastrophes, when years of state failure have accumulated pollutants to the level where the balance of the environment has tipped.

Table 3.2 shows the four basic means that governments have at their disposal in pollution control. This conceptualisation illustrates the problem of comparing forest practices and forest degradation with other forms of pollution.

Table 3.2: Environmental Management Strategies--principal types and examples (adapted from Anderson p18.).

REMOVAL		**PREVENTION**	
Dilution	**End-of-Pipe Strategies**	**Cleaner Technologies**	**Structural Changes**
Sewer Networks	Sewer Treatment	Water Recycling	Dry Processes
High-stack Policy	Fluid-bed	Energy Efficiency	Demand Policy
Waste Sites	Incinerator	Recycling	Packaging Policy
Forest Practices			
?	?	?	?

As Anderson notes, the early phase of environmental policy (especially in the late sixties and early seventies) focused largely on the most obvious forms of pollution--the point sources of effluents. Then later in the eighties, attention was given to the more serious non-point, plural sources of pollution. In a sense, Nova Scotia's forest conservation has had a similar but asynchronous development. Forest conservation legislation was in Colonial times first concerned with individual trees--the Broad Arrow Act. Then concern moved more to forest stands with the Small Tree Act and the Forest Improvement Act but concern remained largely with point sources. And more recently, attention has moved more broadly to three-dimensional concerns of larger ecosystems. As will be seen in this study, environmental quality *per se* is a relatively recent concern of forest conservation policy. Unlike early pollution abatement strategies most of Nova Scotia's forest

conservation legislation focused on the prevention of woodfibre quality and quantity loss rather than was concerned with environmental degradation or reduced amenity. In comparison most forest policy (as opposed to legislation), especially that associated with subsidies, was concerned with ameliorating strategies after the damage was done using poor forest practices.

In a similar vein, Anderson emphasises a point relevant in applying forest conservation legislation to Nova Scotia's forestry sector. It is that "preventative policies are difficult to standardise". He states:

> To prevent pollution requires detailed insight into the technologies of the various sectors of industries. Such insight has only rarely been available in the environmental administration, and it has been absent as well in considerable sectors of industry.

Citing Majone, Anderson adds that the fundamental problem of acceptance with green taxes is that they must be accepted by the same political system that embraced command and control policies. They must also be implemented in a political system heavily influenced by those most likely to be adversely affected by such taxes. This is the point where the problem of forest practices is reduced to one largely of power: who has it and how is it wielded? This leads to the discussion of the theory of decision-making that follows in the next chapter.

Chapter Four:
Theoretical Foundations of Power and Decision-making.

Given the complexities of natural resources management and the intricacies of the legislative and policy process, it is critical to grasp the way decisions are made in this management process. It is important to know, for instance, how the legislative framework impacts the decision-making process at various levels and conversely, how various resource management decisions impact the legislative process. To facilitate this process, this chapter overviews theory on power and decision-making. In conjunction with the theory on natural resources presented in Chapter Three, these theories are used throughout this study to help explain policy-making during the various eras of Nova Scotia's forest conservation legislative process.

Decision-making Models:

There are four prevalent theoretical models that help explain the decision-making process. Although they see decision-making quite differently, they can be usefully viewed as complementary rather than competing models. Two 'rational' models emphasise individual or 'individual like' decision-making; they contrast with the more discordant models of 'organisational' and 'political bargaining' decision-making (for a summary see Tables 4.1a & b and Appendix A1).

The Basic Rational Decision-Making Model.

The basic rational decision-making model implies key assumptions about the unit of analysis and factors that guide decision actor behaviour. McGrew and Wilson explain that "For a decision to be rational implies that it can be both explained and justified relating it to the objective of the decision maker".[1]

[1] McGrew, Anthony G. and M.J. Wilson, eds. *Decision-Making: Approaches and Analysis*, Manchester: Manchester University Press, 1982, 7.

Table 4.1a: Decision-Making Models: General Concepts.

Rational Models	Procedural Rational Models	Organisational Processes Models	Political Bargaining Models
Singular Coherent Unit	Rational within Bounds	Emphasises Differences between Individuals and Organisations	Implicit Rules of Bargaining
Purposeful Behaviour	Objective Setting Fundamentally Subjective	Assumes no 'super individual', No single definable goal	Search for Politically Viable Solutions
Maximises Benefits - Minimises Costs	Goals are Dynamic	Decisions are Fragmented	Intricately Linked Issues
Includes Reason Why, What and How.	Decision Makers 'Satisfice'	Profoundly Different to Individual Decision-making	Informal Power
Disregards Constraints	Adverse to Risk	Emphasises importance of Groups	Outcome Generally Supported by Elites
Groups Simply Redefined as if an Individual		Sub-unit Complexity	Neither Rational nor Routine
Conscious Choice for a Calculated Objective		Recognises Individual Goals	
Prioritisation of Objectives		Sub-unit Control of Resources	
		Disjointedness and Bias affects Feasibility	
		Appears to be Non-rational	

Table 4.1b: Comparison of Decision-Making Characteristics.

Model Type --->	Rational Models	Procedural Rational Models	Organisational Processes Models	Political Bargaining Models
Key Variables	**Characteristics**			
Unit of Analysis	Individual	Individual	Organisational Structures	Power
Key Behaviour Determinants	Objectively Set Goals	Bounded Goals	Individual & Organisational Survival	Self Interests
Nature of Decision-Making Process	Goal Directed	Goal Directed	Fragmented	Concentrated within Elites
Role of Individuals	Professionalism Emphasised	Blend of Professionalism & Bureaucratism	Bureaucratism Predominates	Elites Predominate
Level of Routines	High	Moderately High	Moderate	Low
Information Management	Available & Open	Generally Open & Available	Selective Disclosure & Gathering	Used as Basis for Bargaining
Inducement for Change	Radical	Radical - Conservative	Conservative	Conservative
Prevailing Ideology	Professional	Realism	Bureaucratic	Market Driven
Non-competing Models	Many Features are Incommensurate.			

For an individual resource manager this implies that when faced with a problem, the manager ranks his/her objectives and examines all possible means to achieve desired goals. The decision-making process either maximises outcomes or minimises the costs of failure. In practice, this model's greatest weakness is its implied assumption that a collection of individuals, whether a group, organisation, government, or a set of inter-relating agencies make decisions in much the same way that an individual does. The rational model simply redefines the collective process as a monolithic and coherent entity with a single, individual consciousness. It assumes that individuals share common motivations, use similar methods of analysis, have similar goal setting procedures, and invoke similar methods of implementation. Decisions tend to be explained as a unified conscious choice to attain a single calculated objective.[2]

This basic rational model is fundamentally a normative model and often is advocated as the process of choice for management decision-making. The evidence from the descriptive literature, however, paints a rather different picture from that found in many business management textbooks. This evidence argues that such an idealised process is impossible to achieve in practice, and is most obvious when decisions are more complex than simple routines. In Nova Scotia's forest conservation policy arena, for example, the decision-making process is highly complex involving a broad array of actors, agencies, and decision influences. In such circumstances rational decision-making is rare, and as will be seen, the following decision models have greater currency for Nova Scotia's forest conservation policy situation.

The Procedural Rationality Models:

Because the basic rational model tends to idealise decision-making, the scientific literature has explored more descriptive models. Simon, Lindblom, and others, for example, conducted an extended debate in the scientific literature concerning the nature of actual policy decision-making.[3] [4] [5] While they substantially concurred on the nature of

[2] McGrew and Wilson, 8.
[3] Simon, H.A. *Administrative Behaviour*. N.Y.: MacMillan, 1947.

actual decision-making practice they differed on ways decisions ought to be made. In general they stressed that decision-makers' skills, technical knowledge, and habitual modes of thought bound rationality. They emphasised that goals were dynamic and set subjectively based on values, experience, and knowledge. Simon emphasised that goals and expectations were lowered with policy experience, while Lindblom stressed that policy makers simply muddled through.

While the idealised rational model suggests a whole host of possible solutions should be considered in formulating a decision, procedural rationality models stress that only a narrow range of options are ever considered. Policy alternatives are limited by the decision-maker's training, areas of interest, and conventional modes of operation. Bounded rational models on the other hand reflect more accurately the actual policy decision-making context. For example, risk is avoided if possible throughout the decision process and potential consequences are ignored or underestimated. Typically politicians advocate incremental changes to present practice while professionals rely on established codes of conduct and rules of thumb. Each, however, seeks compromise to limit the type of solutions implemented. In resource management such limiting behaviour tends to favour physical solutions to most social problems. Decision-makers less frequently consider behavioural change as a possible policy option. Decision-making practice suggests that limited effort be made to find the best solution. It is more often confined to selecting a solution that will do--in essence—'satisficing'.[6]

Organisational Models:

The organisational models infer profound differences in individual and collective decision-making behaviour. Unlike the rational models there is no implied assumption that a group acts as a 'super' individual capable of greater information handling and

[4] Simon, H.A. *A Behavioural Model of Rational Choice.* Quarterly Journal of Economics Feb. 1955, 69.

[5] Lindblom, C.E. *The Science of "Muddling Through".* Public Administration Review, 19, 1959, 79-99.

[6] Rees, Judith A. *Natural Resources: Allocation, Economics and Policy.* London: Methuen Press, 1985, 387.

calculation than an individual acting alone. There is neither an implication of a single set of goals, or agreed upon priorities and procedural means. Rather, the decision process is conceptualised as an aggregate of disjointed actions dispersed unevenly throughout the organisation. The organisational models stress that within a group, different processes and influences come into play. These processes lead to substantially different decisions and very different results from those made by individuals. Because groups within organisations or between organisations deal with society's most important issues, it is vital to distinguish between the way individuals and groups, different individuals within groups, and different groups within different sectors make decisions. As group complexity increases, either through size or administrative intricacy, it is increasingly problematic to assume that sub-units will share priorities or agreed methods. Organisational officers, for example: senior managers, field supervisors, and ground level workers tend to value more personal goals such as security, professional status, recognition, and professional networking as well as personal risk avoidance above organisational goals. These personal motivations interfere with and shape organisational decisions. To complicate matters further bureaucracies rarely officially recognise such decision-making influences even though agency members know consciously or subconsciously of their importance. From an analytical perspective it is important to recognise the capacity of individuals to control, manage, suppress, and otherwise distort decision-making processes within an organisation.

Political Bargaining Models:

Both the rational and organisational models neglect the impact of political bargaining with its own implicit rules on the decision process. This process gives rise to political bargaining models. Political bargaining outcomes are determined by the relative policy resources applied by each individual unit to the achievement of some 'individually satisfactory' solution. Although individuals or separate decision-making units may define their position in the policy process by some rational calculation or by organisational criteria, the decision in fact rarely utilises the most advantageous methods and procedures to reach policy objectives. The final outcome of a collective decision is dependent on the interplay of power and what amounts to a politically viable solution. The underlying principle of the political bargaining decision process, whether concerned with individuals,

groups, organisations, or nations is that each has self-defined interests to protect. Bargaining continues at all levels for as long as possible to ensure that individual or unit interests are least compromised by the final decision. The major forces acting on the decision process and its final outcome are the underlying informal structure of power, the resources that individuals are willing to devote to the issue and the negotiating skills that each bargainer possesses. The potency of each is contingent upon the identification of 'key issues' and a general process of trade-offs between participants. Political bargaining, once the analysis is broadened beyond the scope of the individual or isolated decision, rarely is rational nor does it appear to follow established routines.[7] Bargaining clearly adds a new dimension to the decision process placing considerable emphasis on individuals within an organisation or unit and the informal power that an individual or unit holds. Because of this continued bargaining process, all manner of distortions can be expected to affect a decision throughout its life which frequently leads to concerns about policy or decision-making consistency. Substantial inconsistencies can be expected even with decisions in relatively small organisations and seemingly straightforward policy areas.

Multi-agency Decision-Making.

Notwithstanding this intra-organisational complexity, the distortions found within organisations seem minor compared to those where decisions flow across organisational boundaries. This is especially so in multi-agency policy environments such as those in Nova Scotia's forestry sector. The relative autonomy or interdependency that one agency holds in relation to others has considerable bearing on the nature of the decision-making process (see table 4.2).[8] While none of the foregoing models explicitly preclude multi-agency decision-making as a context for policy development, each on its own fails to adequately explain its complexity.

There are few multi-agency decision-making models in the scientific literature, although

[7] McGrew and Wilson, 7.

[8] O'Toole, Lawrence J. and Robert S. Montjoy. *Interorganisational Policy Implementation: A Theoretical Perspective.* Public Administration Review, Nov/Dec 1984, 491-503.

in the late eighties-early nineties the strategic planning literature paid greater attention to this decision-making situation. Bozeman and Straussman, for example, provide an overview of factors affecting inter-organisational management processes.[9] They first focus on 'alternative inter-organisational relations' by examining the impacts of competition, coercion, collusion, and co-operation. They also look at 'barriers to effective inter-organisational relations' and examine the concepts of resource allocation, mission conflict and ambiguity, sectoral differences in inter-dependence as well as political obstacles to co-ordination such as partisanship. They also consider the management tensions among political executives and civil servants, legal and constitutional barriers to effective policy, and the impact of statutory restrictions. They offer possible strategies to address these management difficulties. They consider the advantages of 'creative collusion', the principles of 'comparative advantage', 'creative turf defence', the 'paradox of dependency', and conceptualising the 'payoff matrix'. As prescriptive guidelines they suggest mapping the inter-organisational environment, evaluating the need for co-ordination across organisations, creating linkages with the most compatible network partners, providing adequate support for joint ventures, working for quick tangible results, anticipating negative co-ordination side effects, and recognising limits to co-ordination.

A more in-depth review of the multi-agency milieu is given by Mandell, 1989.[10] She emphasises that

> the idea of having to manage within a network of organisations means that managers must be able to deal with the patterns of interactions within an entire set of organisations. Strategic management under such circumstances requires the ability to manage interdependencies so that both the goals of the individual organisation and the goals of the network as a whole can be achieved.[11]

[9] Bozeman, Barry and Jeffrey D. Straussman. *Public Management Strategies: Guidelines for Managerial Effectiveness.* San Francisco: Jossey-Bass Publishers, 1991.

[10] Mandell, Myrna P. *Organisational Networking: Collective Organisational Strategies.* In Jack Rabin, Gerald J. Miller and W. Bartley Hildreth, Eds., Handbook of Strategic Management. Marcel Dekker, Inc., New York, 1989, 141-165.

[11] Mandell, 142.

Table 4.2: The Multi-agency Analytical Framework

Multi-agency Component:	Component Description:
Agency Character:	Concerns an agency's internal workings and its impact on the outside world. This includes autonomy, goal centrality, authority, internal decision style, resource control, and managerial style. The multi-agency context is concerned with the aggregate impact of constituent agencies and organisations.
Agency inter-relations.	Involves the dynamics between two or more agencies. Associated variables include information management and communications, relationship propriety, delegation, co-option, corporatism, agency capture, relationship stage, resource flow, and communication patterns.
Multi-agency Ecology.	Concerned with the broader policy environment, especially how agencies inter-relate in a complex resource management sector. This includes field complexity--the quantity and the diversity of agencies involved; programme and policy complexity; and the sector's dominant ideology, traditions, and policy inertia.
External and Environmental Factors.	These influences include myriad pre-conditioning factors and *ex post* changes, especially political changes, paradigm shifts, and natural resource transformations impacting policy workings.

In reviewing the multi-agency literature Mandell quotes Van de Ven *et al* who describe three basic analytical perspectives.[12] First the management environment is treated as an external constraint where an "organisation is seen as a largely autonomous entity needing to manage relations with external contingencies." At the second level, the management environment is seen as a "collection of interacting organisations, groups, and persons." The analysis is centred on a focal organisation and all interactive analyses are referred to that agency. At the third level, the multi-agency environment is viewed broadly as a social system:

[12] Van de Ven, A.H., D.C. Emmett, and R. Koenig Jr. *Framework for InterOrganisational Analysis, Organisational Theory and InterOrganisational Analysis.* In A.R. Negandi, ed., Comparitive Administration Research Institute, Kent State University, Ohio, 1973, 19-38, cited in Mandell, 141.

> Studies at this level focus on behaviour 'within and among' collectives of organisations functioning as social systems within the aggregate environment. At this level there is a shift away from 'relationships between agencies' to 'relationships among agencies'.[13]

This third approach is most useful in examining Nova Scotia's forestry sector. It treats the Department of Natural Resources as one of several key agencies and sub-sectors in the policy development process. In Nova Scotia, conservation legislative and policy decisions must be implemented if not always formulated through a myriad of diverse and interacting agencies. This creates a policy decision complex with unique characteristics and policy processes. Although the Nova Scotia provincial government ostensibly has sovereign power over forest resources management, in reality power is devolved unevenly among landowners, forest operators, wood product processors, forest users and the government. Market dynamics dominate much of the decision milieu and form an important aspect of Nova Scotia's forestry multi-agency decision-making environment. Government apparatus responds reactively to market and other external political pressures. This process is consistent with the notion of state failure explained in Chapter Three. The extent to which decisions can or even appear to be rational as implied in rational decision-making models is highly problematic within this multi-agency environment. The amount to which individuals or individual agencies, with the possible exception of the large multinationals can control the policy process as implied in the organisational decision-making models, is quite insubstantial. Similarly, bargaining processes as emphasised in basic political bargaining models are often muted in the complexities of the multi-agency decision-making apparatus. This complexity renders decision-making in Nova Scotia's forest sector particularly problematic. Identifiable patterns of decision-making and ground level influence by government are often blurred and appear in broad analysis to have little goal-oriented direction. From the broader analytical perspective however, there are overarching processes that help define the policy process. The following section considers three macro theories of decision-making and power. Each is scrutinised here for its usefulness in analysing the multi-agency decision-making and forest conservation policy environment found in Nova Scotia.

[13] Mandell, 143.

Power and the Decision-making Process.

Earlier in the chapter decision-making was viewed from the perspective of a normative/rational model and three largely complementary descriptive models: the procedural-rational, organisational, and political bargaining models. Political scientists have however, considered decision-making from a more 'macro-oriented' perspective that takes account of the way power impacts the broader policy process. While early policy studies focused on legislative and regulatory content to explain the decision process, their general failure to account for informal power and implementation distortions led to the emergence of several competing theories of power and influence. There are three fundamental groups of theories: the pluralist, elitist, and structuralist theories of power (see table 4.3 and appendix A2).

Pluralism as advocated by Dahl and others postulates power as a subjective preference.[14] [15] [16] It assumes that individuals, groups, and social movements have the capacity to shape the policy process by gaining access to decision-making apparatus through open and responsive policy mechanisms. Elitism while recognising subjective interests, concedes that real power is concentrated among powerful groups in society.[17] The power of elites, 'elitists' argue, derives from superior resources such as economic wealth and class position. Elites gain special access to government's decision-making apparatus by using their superior policy resources. In exerting power they often claim to represent the broader interests of society although this is rarely justified by case evidence. They are usually over-represented in the middle and upper classes and are generally unable or unwilling to act on behalf of the under-classes.

[14] Dahl, Robert A. *Modern Political Analysis, 4th. ed.* Prentice-Hall, New Jersey, 1984.

[15] Polsby, Nelson. *Community Power and Political Theory.* Yale University Press, New Haven, 1980.

[16] McFarland, Andrew S. *Power and Leadership in Pluralists Systems.* Stanford University Press, Stanford, Calif., 1969.

[17] Mills, C. Wright. *The Power Elite*, Oxford University Press, New York, 1959.

Structuralism views power and influence from a rather different perspective. Structuralism is not only a descriptive theory, explaining how power impacts the decision process, it is also prescriptive: it implores decision-makers to pay attention to the objective and inequitable outcomes of the policy process.[18] Structuralists appeal to decision-makers to make policy adjustments to ensure the under-classes receive their fair share of policy benefits. Structuralism, both as a theory and a prescription is concerned with how various ruling class interests serve themselves by exploiting available policy machinery. Structuralism is especially interested in the way power percolates through the capitalists' system from international, national, regional, and local political economies to ensure that society's most powerful receive more than their 'reasonable' share of public policy outcomes.

Assessing decision-making processes from a multiple theoretical perspectives provides augmenting rather competing explanations of power. This approach promoted by Blowers in the early eighties in his analysis of air quality problems created by the London Brick Company,[19] contends that single analytical perspectives used in earlier studies were based on rather narrow and value laden analytical positions. As a consequence Blowers argued that the resultant interpretations failed to recognise important aspects of the policy decision-making process. He maintained that a multi-theoretical approach treats these theories as more or less complementary views of the policy process. They provide a 'more' neutral perspective and perceptive view of the policy process than any single theoretical analysis can provide.

As a multifaceted technique Blowers' analytical approach teases out policy dynamics that otherwise might be left obscure or hidden. Despite this analytical advance, Blowers' study anchored his investigation on a succession of rather isolated policy events that tended to under-explain various shifts in policy influence over time. This study consequently puts greater emphasis on transitional policy phases and processes continually relating the

[18] Sandbach, F. *Environment, Ideology and Policy*, Oxford: Blackwell, 1980, 135.
[19] Blowers, Andrew. *Something in the Air: Corporate Power and the Environment*. London: Harper & Row, Publishers, 1984, 8-9.

Table 4.3: Dominant Macro-Theories of Power: a Comparison.

	Pluralism	Elitism	Structuralism
Dominant Assumptions & Concerns	Broad access to policy decision-making.	Concentrated power, Non-representative leadership.	Class interests, capital & power links.
Focus and Character	Observable events, concrete decisions.	Limited input, disproportionate elite control & continuity of power.	Objective needs and outcomes.
Socio-political Dynamics	Political mediation of aggregated interests.	Non-visible key issues, bias by d.m. rules, safe visible policies.	Class power, influence of capital, limited local influence.
Nature of Power	Shared among an interested and involved community.	Usually brokered behind closed doors.	Class rather than expressed interests--outcomes concealed.
Functional Underpinnings of Political Style	Identifiable preferences, active participation, representational & responsive.	Favours already powerful, able to withstand challenges by controlling rules.	Neo-Marxism, the autonomous state & intertwined political economy.
Political Strategies	Responsive administration, open & democratic decision-making.	Prevention/ suppression of issues and corporatism.	Business defines overt & covert agendas, capital benefits disproportionately.
Policy Outcomes & Conclusions	Power is diffuse, relative equality, no lasting bias.	Influence beyond public arena--a compromise of elites.	Preferences change, obscure & imperfectly communicated--need for prescription.
Theoretical Limitations	Skirts disproportionate distribution of power, ignores non-decisions.	Non-decisions are latent issues that eventually arouse public interest.	If business is all-powerful, then its effects should be easily discernible.
Research Strategies	Documents explicit decisions of the state--identifies winners & losers.	Conceptual dilemma: objective needs vs. subjective preferences.	Documenting the role of capital in social policy.

evidence to continuing fluxes in policy conditions. The major advantage in this study's approach is that power is explained both as reflecting changing policy and environmental conditions, and is an agent of change.

Idioms of Analysis.

According to Weale the literature on power and decision-making has been applied in many ways in resource management over the past couple of decades.[20] He suggests that these approaches fall into four general groups of inquiry that he calls 'idioms of analysis'; each idiom provides a rather broad-brush view of the resource management policy process. In applying these idioms generally Weale notes that

> We cannot hope to understand these changes [policy developments] in their full detail, so we shall inevitably have to simplify the story and abstract from this complexity. … An idiom is a way of speaking, comprising a set of terms structured into various patterns of relationships. … Idioms provide a way of talking about, and therefore understanding political processes, but there is no assumption in referring to an idiom that its component parts are particularly tight or elaborate.[21]

While Weale suggests that "there is no perfect fit between the account given by an idiom and our observations of how policy is in practice made",[22] they are, nevertheless, useful ways of viewing the policy world. They are used in this study as complementary approaches to analysis drawn from more detailed micro and meso-analyses.

Rational Choice-Public Choice Theory.

The rational choice idiom can concern a range of individual entities from the individual actor to the individual firm, province, or nation. Consistent with the rational models of decision-making, this idiom of analysis assumes that each 'individual' has specific preferences and acts (essentially) rationally to optimize its own welfare while all other singular agents attempt to rationalize theirs. Fundamentally, an invisible hand that accounts for the outcomes of complex, aggregate dynamics explains interaction between agents. A rational choice is seen as the course of action that most efficiently allows an individual agent to attain its desired outcomes. Given this backdrop for rational choice decision-making, Weale explains further that two questions are typically posed concerning environmental protection policy. The first asks why there is a politics of pollution in the first place--why is it necessary to have the political system intervene in the

[20] Weale, 1992.
[21] Weale, 37-38.

market to maintain environmental quality? The second question inquires that "given that there is a politics of pollution, why does it take the form that it does?"[23]

To help explain the first question it is necessary to look at the hypothetical world of neo-classical economics. In this largely hypothetical economy a Pareto optimum is achieved when market players reach an equilibrium where no additional trading makes any player better off. In real world markets, however, factors such as transaction costs and externalities hamper optimal conditions. While transaction costs refer to the costs of doing business, externalities are those byproducts of trading that create third party costs or benefits; for example, pollution or improved flowerbeds resulting from a neighbor's beehives. Such externalities, because the benefits are not traded in the conventional marketplace lead to market failure. In environmental management the greatest concern is with the negative aspects of market failure. As Weale suggests, it is tempting to think that communities, for example, a group of small woodlot owners would rally to combat a common threat to amenity. But, according to Weale, "it is at this point that the characteristic logic of rational choice theory comes into play."[24] Combating pollution, say to improve forest practices to reduce stream siltation--a public good, gives rise to the 'free-rider' effect.

The free rider invokes the logic of the "prisoners' dilemma" where separate strategies within a community of interest can lead to joint losses, or individual gains at the expense of neighbors, or mutual gains resulting from cost-incurring co-operation.[25] Typically the free rider effect encourages some if not most to rely on neighbors to do the right thing by incurring the costs of pollution abatement. The problem is, as far as stopping stream siltation is concerned, that a critical mass of potential participants are unlikely to subscribe to cleanup measures thinking that enough others will do so to get the job done. Left to market forces then everyone is left to suffer from continued exposure to pollution because everyone is acting to rationalize their own costs. The likely prospect that a critical

[22] Weale, 60.
[23] Weale, 39.
[24] Weale, 41.
[25] Deutsch, M. *Trust and Suspicion.* Journal of Conflict Resolution, 2, 265-279. Cited in Johnson, David W. and Johnson, Frank P. *Joining Together: Group Theory and Group Skills.* Allyn & Bacon. Needham Heights, Ma., 1997, 366.

mass cannot be persuaded to participate in pollution abatement--because they are acting rationally--provides the raison d'etre for a ‘politics of pollution’. Even when expected failure move some to seek state intervention, there is no assurance that these ‘movers’ will agree on an appropriate form of intervention. Such disunion leads to a discussion of ‘public choice’ theory.

According to Weale, the most natural way to pose the question of how seemingly rational agents would structure state intervention to correct market inadequacies is to “ask how we should expect rational agents to behave when they participate in policy-making processes in liberal democracies.” Weale considers the following groups: politicians, the citizenry, industry, environmental advocacy groups, and government bureaucrats. He suggests that no matter how altruistic politicians may be initially they tend to focus in the end on ensuring their own re-election.[26] They are not generally interested in issues for their own sake but mostly as a means to win future votes. Politicians are, however, sensitive to public opinion but never commit fully to any one issue should the public change its mind. Consequently there is little utility for politicians in supporting one narrow set of issues such as the environment; they are more likely to find success in supporting “a package of policy measures”.

Citizens too are less interested in environmental issues that have broad application and implications, much because of the free-rider effect. The benefits of energy expended by interested citizens on broad issues will be however, if successful, distributed broadly to include those who provided little if any support during the policy formulation stage. Lamentably for the typical citizen, there is little potential to influence broad national and international issues. It makes greater ‘rational’ sense at this level to take a ‘free ride’. In general then, citizens are more likely to become involved in environmental issues with a narrow, local interest that suggests a rewriting of the environmental adage of ‘thinking globally and acting locally’ to construct a more realistic maxim of ‘think locally and act locally’!

Weale suggests that those most likely involved in the details of policy are producer groups

[26] Weale, 42.

(industry) who are likely to be faced with increased costs and reduced profits as a result of strengthened environmental policy. Because they are fewer in number they are, according to Weale, less likely to experience collective opposition than the citizenry. Adam Smith summarized the firm's motivations when he wrote that its interest is always different and regularly opposite that of the general public. He argued that for politicians to uncritically follow the will of the firm results in "an absurd tax upon the rest of their fellow citizens". Smith cautioned that any recommendation forthcoming from industry should be scrupulously and suspiciously examined![27]

Weale continues to explain that other interest groups, for example, environmental advocates, also suffer from the free rider effect; and as a general rule have far less capacity to influence the policy process directly. Frequently they depend on highly motivated individuals, and as Weale refers to them, political entrepreneurs who seek out vote producing issues. Consistent with the model of organisational processes, the final group, bureaucrats and public officials, are motivated most by a need to protect their territory and expand it. They do this in the pursuit of status and salary, and not as it might be hoped by the heavily taxed polity, in the pursuit of cost-effective policy. Weale argues that typically bureaucrats are assumed to raise the size of bureaucracy above a social optimum but this of late seems less relevant. Many western democracies including the Canadian and Nova Scotian governments have substantially reduced their bureaucracies over the past five years or so in the interests of efficiency.

According to Weale these rational motivations of various actor groups coalesce into a more or less general account of the politics of pollution. This politic concerns agenda formation, policy development, and policy implementation. The agenda depends upon some interdependence between public preferences and political opportunities available. Within the rational choice idiom it can be expected that environmental issues will have relatively low salience for the general electorate.[28] At the policy formulation stage the range of actors change and with it, their basic motivations. Here rational choice typically infers that policy choice will be heavily symbolic rather than focussed necessarily on important issues--little account will be taken of social opportunity costs that can avoid

[27] Cited in Weale, 44.

"perverse or counterproductive effects". In policy implementation "firms have an incentive to resist profit reduction" and will pursue a course that minimises individual loss within the limits of policy design."[29]

Social Systems Idiom.

A second broad view of the policy process is the social systems idiom. This approach sees the complex interaction of policy forces from various subsystem perspectives; the most obvious of which are the economic subsystem, the political/administrative subsystem, and the normative or civic subsystem. This second idiom of analysis then examines the interrelationships of various systems as they impact the policy decision process. Weale asserts that in a democracy the political system must continuously relate to the normative claims of society in order to achieve or maintain legitimacy. Another of its major functions is to manage public expenditures. Here it must balance the public's demand for economic and social security with the seemingly contradictory public expectation to bridle tax expenditures. A third function is to regulate or guide the market. As is seeks to do this however, there is the recurring problem of over-regulation as the political system attempts to exert its influence over economic agents. The crucial challenge for the political system however, as seen by the systems approach, is concerned with the fundamental origin of environmental problems. The main source of these problems "is to be found in the contradiction between the private ownership of the means of production and the social nature of production." This incongruity pits the needs of capital against social needs where typically the needs of capital dominate.

In the political system's function of managing the environment, it must continually deal with the problem of private actors: householders, manufacturers, travelers, etc., 'expropriating' common goods such as clean air and water for their own private purposes. A second problem stems from a tendency for economic agents to transfer what is essentially a political decision to one of technical rationality. In attempting both to serve capital and to maintain political legitimacy, governments typically fall in line with economic agents to redefine and present problems of political values as one of technical

[28] Weale, 45.

rationality. This is most clearly seen in this study in the Forest Improvement Act's implementation process. As will be seen, the policy actors' continually sought 'scientific measures' to solve the forest conservation problem when the conservation problem could best be defined as a political issue--a problem of conflicting political values rather than clashing scientific theories.

An important perspective of the systems idiom is its window on industrial/government relations. Frequently it identifies close links between industry and government that tend to shield key environmental issues from public scrutiny. These links influence the programs designed to combat environmental degradation: the state invariable selects subsidies over polluter pay strategies. If as Weale explains, the state by chance selects strong legislation, as might be presumed in the 1965 FIA, then implementation will be predictably weak. A second key feature is that environmental representatives are regularly marginalised in setting environmental standards. This study illustrates this as a recurring feature in Nova Scotia's forest conservation policy history. This theme was also interestingly most symbolic in the recent attempt by the forest industry, aided by the provincial government, to make an 'end run' around environmental interests in 1996. Their goal, in this latter case, was to codify weak conservation practices in the hope of placating foreign markets. Despite this failure to shape government policy in this instance, Weale contends that the fundamental conclusion of this neo-Marxists' analysis remains which is that any attempt to environmentally regulate will be bounded by the influence and power in the prevailing political economy.[30]

The Idiom of Institutions:

Whereas the rational choice analysis focuses on individuals and is concerned with their interactions, and the systems approach first takes a broad view of the whole social system and then examines its interrelated components; the institutional analysis provides an intermediate level of analysis. According to Weale institutions are present in the two aforementioned analyses but appear "obliquely". For rational choice theorists institutions are seen as 'aggregated preferences', they serve to constrain the behavioural options available to office seekers (politicians), bureaucrats, and industry. From the systems

[29] Weale, 46.
[30] Weale, 51.

perspective, institutions are seen as the component parts of a broader set of interrelationships. Their significance is explained by their role in that wider political system. In the case of Nova Scotia's forest management, land ownership may be seen as an overarching institution while small woodlot owners, multinationals, commercial owners and the Crown may be seen as lower order institutions with their own dominant set of roles and preferences. A glaring omission using other modes of analysis, according to institutional analysts, is that institutional "motivational characteristics assert an independent role on the nature and form of public policy." In its broader sense then an institution is "a system of rules governing electoral practices, the practices of investment and market exchange, regimes of international cooperation governing the use of resources".[31] In the Nova Scotia forestry context this can be seen as rules governing the policy development process, the mechanisms by which constituent institutions exchange political and market resources, and the ways that they cooperate or co-exist to impact the use of forest resources.

Young (cited by Weale) emphasises "that institutions should be distinguished from organisations that 'are material entities'." Those favouring the institution approach argue that "public policies need to be understood in the light of the specific configuration of institutions and organisations that exist within the political system." Some institutions, as the argument goes, create conditions that lead to one type of policy configuration while another pattern of institutions leads to others. The case is made in this study that the particular configuration of land management and its associated capital and political-economic influence created a policy environment where both policy makers and policy influencers were circumspect. They were always mindful of the capitalists' potential (the multinational institution) to flee 'over-regulated' policy conditions at the expense of socioeconomic disruption. The multi-agency analysis outlined earlier in this chapter mimics much of the thrust of this institutional idiom but maintains a greater emphasis on the interactions of component actors, agencies, organisations and sub-sectors.

The Idiom of Policy Discourse.

The discourse idiom views the policy world quite differently from the push and pull of key policy actors, institutions, or systems. Without dismissing the analytical approaches

[31] Weale, 52.

of the forgoing idioms, policy discourse focuses its explanation of the policy process on the cognitive developments, key understandings, or social learning that leads to new or different approaches to problem solving. Within discourse theory there will be policy actors with different points of view but their motivations will centre on beliefs rather than self-interests. In this sense we see policy solutions explained best by the dominant beliefs systems of the era. Neo-classical theory, for example, dominated economic policy between the two wars. In environmental management end-of-pipe strategies guided late sixties policy. In contrast more integrated approaches were used in the late eighties; and now in the late-nineties, ecosystem approaches begin to influence forest policy and land management largely because, as this idiom would suggest, of a better understanding of the importance of biodiversity and global pollution processes. Why policy discourse theory may be more amenable in environmental theory in general is because of the field's heavy reliance on science to explicate key policy conditions. Weale[32] explains for example, that good science was required to understand the effects of acid precipitation in Northern Europe, it was not necessarily explainable by rational choice, social systems or institutions. And as will be seen later in this study, understanding the migration of the spruce budworm in Nova Scotia challenged the efficacy of a 'natural' budworm control policy. But in addition, the science that documented the incomplete eradication of the budworm from chemical spraying also brought into question that policy's validity.

The danger of an idiomatic approach to analysis, whether one mode is explored or whether a number are integrated, is that the case study evidence when broadly interpreted can be 'forced' to fit the model rather than allow that data speak for itself (see Chapter Five). Even in combination with the decision-models and the macro-theoretical approaches to power outlined in the beginning of this chapter, the idiom approach under-represents the nuances of the complex interactions between policy, the policy phases, and the policy sector. These, as will be seen in the subsequent chapters, are critical in understanding the policy process. In general, these postulates fail to provide the firm anchors upon which this study's data, analysis and methodology can be built. This idiomatic approach to analysis is seen, however, as a useful way to draw the conclusions of this study together. The remainder of this chapter describes in some detail various

[32] Weale, 60.

approaches to policy analysis that in the end, form the main theoretical and procedural structure of this study.

The Policy Process:

Having discussed at some length the decision-making process and various mechanisms of power, it is useful to focus attention on the very nature of policy itself. Kruger and Mitchell integrate three dimensions of natural resource policy analysis (see figure 4.1).[33] They recommend an examination of relevant biophysical and socio-economic factors. They also focus on the interplay of local, regional, national, international, and global influences and an examination of changing policy influences over time. O'Riordan takes a complementary tact that highlights three crucial policy components that is largely consistent with the institutional idiom of analysis previously outlined (see figure 4.2). First, O'Riordan emphasises policy actor personalities and their various interactions. He points to the way key actors conceptualise the management problem, especially how they deal with integrative complexity and external pressures. Second, he emphasises the importance of the institutional environment including resource management goals, institutional norms, and mandates and institutional strategies for dealing with inevitable policy inconsistencies. Third, he emphasises the necessity of understanding basic renewable resource and environmental issues. In his discussion he highlights measurement problems using different rules, and indeterminacy where issues are never fully resolved. He also stresses uncontrollable externalities as well as time and fiscal restraints.

O'Riordan emphasises key resource management processes, his analytical approach tends to under-emphasise the long-term aspect of forest management issues. As it happens, the necessity of a long-term outlook to examine the problems of forest conservation was emphasised by several key actors in Nova Scotia's forestry sector, [34] [35] [36] and is borne out

[33] Cited in Mitchell, 6.

[34] Interview with Dave Dwyer, Forester and Secretary of the Provincial Forest Practices Improvement Board, Department of Lands and Forests, Wolfville, NS., March 1986.

[35] Interview with W.I. Creighton: Deputy Minister of Lands and Forests, February 1949 - March 1968. Halifax County, NS., August 1987.

by other documented evidence presented in this study. Despite this limitation to O'Riordan's model, it usefully frames the overall resource management process. It stresses the complex interactions of key actors, institutions and most importantly for this case study; it draws attention to the physical changes that occur with the resource over time that alters its valuation.

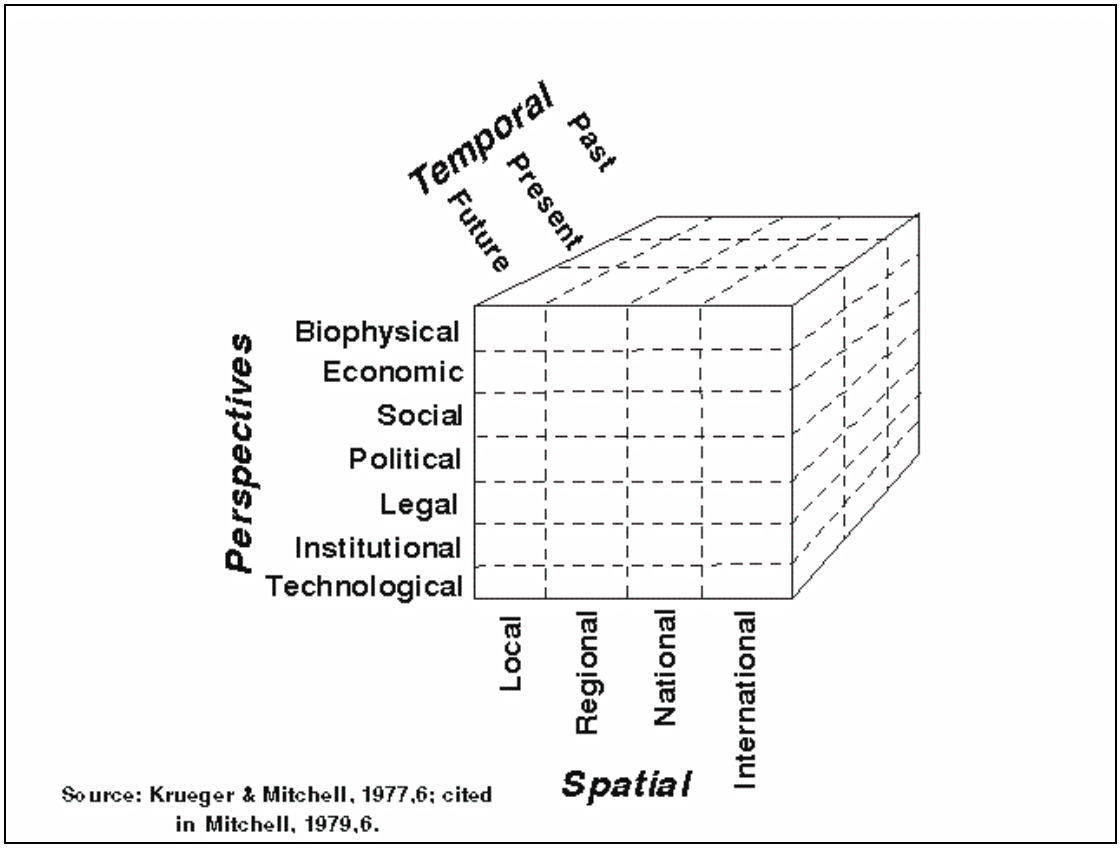

Figure 4.1: Dimensions of Policy Analysis.

Addressing this temporal weakness Rees proposes an analytical approach that focuses on the distinctiveness and inter-relatedness of various phases in the resource policy process. She identifies four key policy phases: policy as intended, policy as written, policy as interpreted, and policy as practised. Rees argues each perspective is critical to policy analysis. While her framework appropriately suggests a temporal outlook by drawing attention to transitional policy processes, her framework still downplays critical concerns for Nova Scotia's forest conservation policy process. Rees for example, gives only

[36] Interview with Murray Prest, former Sawmill Owner and Present Land Owner, Middle Musquodoboit, NS. April 1986.

cursory attention to the gestation and reassessment policy phases that are important aspects of the FIA policy process; in Nova Scotia's forest conservation policy process both incremental and iterative policy processes play a crucial role in policy development.

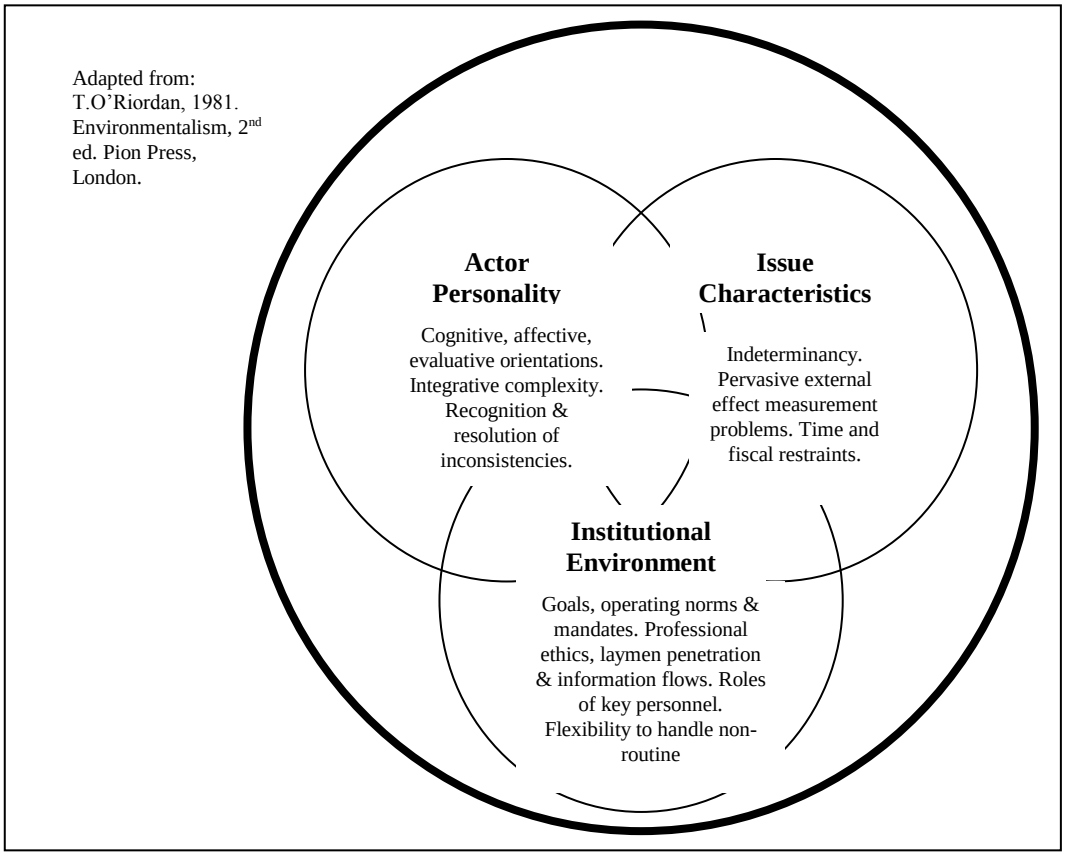

Figure 4:2: Policy Interactions.

Generally, the policy literature focuses on only a single legislative phase, for example, policy formulation or implementation. To adequately analyse the FIA policy process, however, a more comprehensive and flexible framework was necessary to reflect the profound shifts in this policy process over time. To accomplish this, useful components of a number of theoretical approaches were integrated into a composite framework. From the evidence amassed, four inter-connected policy phases were seen as critical constituents for analysis. These were policy gestation, policy design, policy implementation, and policy impact (see figure 4.3). To examine key aspects of the policy gestation phase a framework developed by Phoebe Hall *et al*. was found most useful.

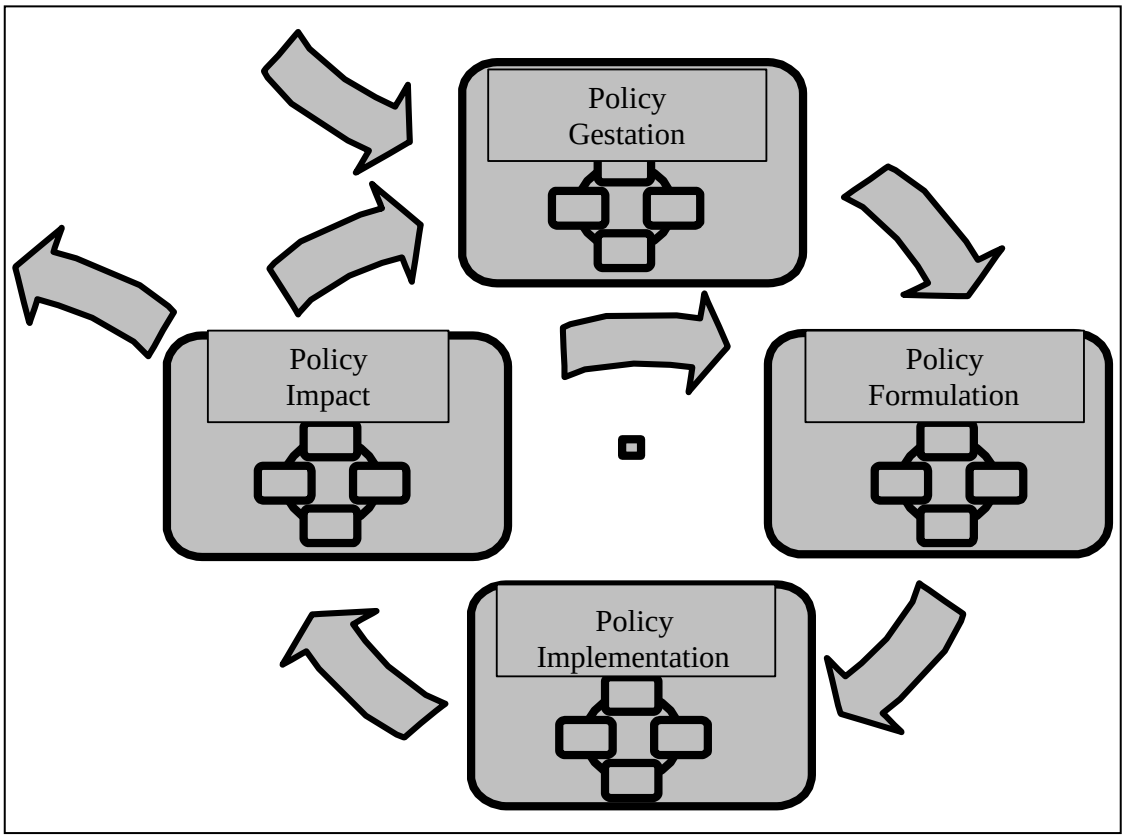

Figure 4.3: The Policy Cycle.

This framework highlighted evidence for two competing policy agendas: forest conservation and industrial development. Although these agendas were claimed to be compatible, the evidence indicates that was never really the case. For legislative design insights, theoretical insights were borrowed from Maytnz. Her focus on policy form drew attention to questions concerning the FIA's potential to address conservation problems. To focus on implementation, concepts largely taken from Rees were used. This overall approach merged two analytical processes. It considered various policy 'phases' in the context of critical policy 'insights' such as historical constraints, post-legislative changes, and evolving organisational influences. To build a satisfactory policy assessment framework several sources were used. Its most noteworthy aspect was that it altered the unit of analysis from a concentration on policy processes to a review of policy outcomes.

Policy Gestation.

Hall *et al's* policy gestation process highlight two interrelated influences they call

'general' and 'characteristic' factors.[37] They contend that the general concerns of legitimacy, feasibility, and support are most frequently significant aspects of the policy gestation process. The characteristic variables, although often important and sometimes crucial to the policy gestation process, do not as regularly play a significant part. Hall *et al* explain that both sets of variables interact to determine a policy issue's passage through the policy gestation process or decide its subsequent demise (see figure 4.4).

Legitimacy refers to how policy actors and the politically potent public perceive an issue to be logical, reasonable, and fair. Feasibility depends on the current policy context. It reflects the aggregate pressures on policy decision-makers and the impact of technical knowledge supporting or refuting an issue. Support refers to the amount, type, and distribution of policy backing among key policy actors, organisations, and institutions. As a rule, for an issue to remain on the policy agenda it must have appropriate support, be considered feasible, and be perceived as a politically legitimate concern. The characteristic variables (association and scope, policy crisis, trend expectation and prevention, issue origin, policy information, and management ideology) have varying impact on an issue's eventual fate according to its unique political and policy circumstances. Association refers to the individuals, agencies, and organisations identified with a policy initiative. Issue scope refers to how broadly an issue is defined that ultimately attracts support or opposition from various influential sources. A policy crisis can either be spontaneous as in an environmental catastrophe or engineered as in the OPEC oil embargoes. A crisis often affects the speed of adoption and the care with which policy or legislation is developed. Crises occurring in other policy areas also regularly affect non-related agenda items. In this case issues otherwise destined for adoption may be derailed temporarily or lost from the policy agenda forever.

[37] Hall, P., H. Land, R. Parker and A. Webb. *Change, Choice and Conflict in Social Policy*. London: Heinemann, 1972, 505.

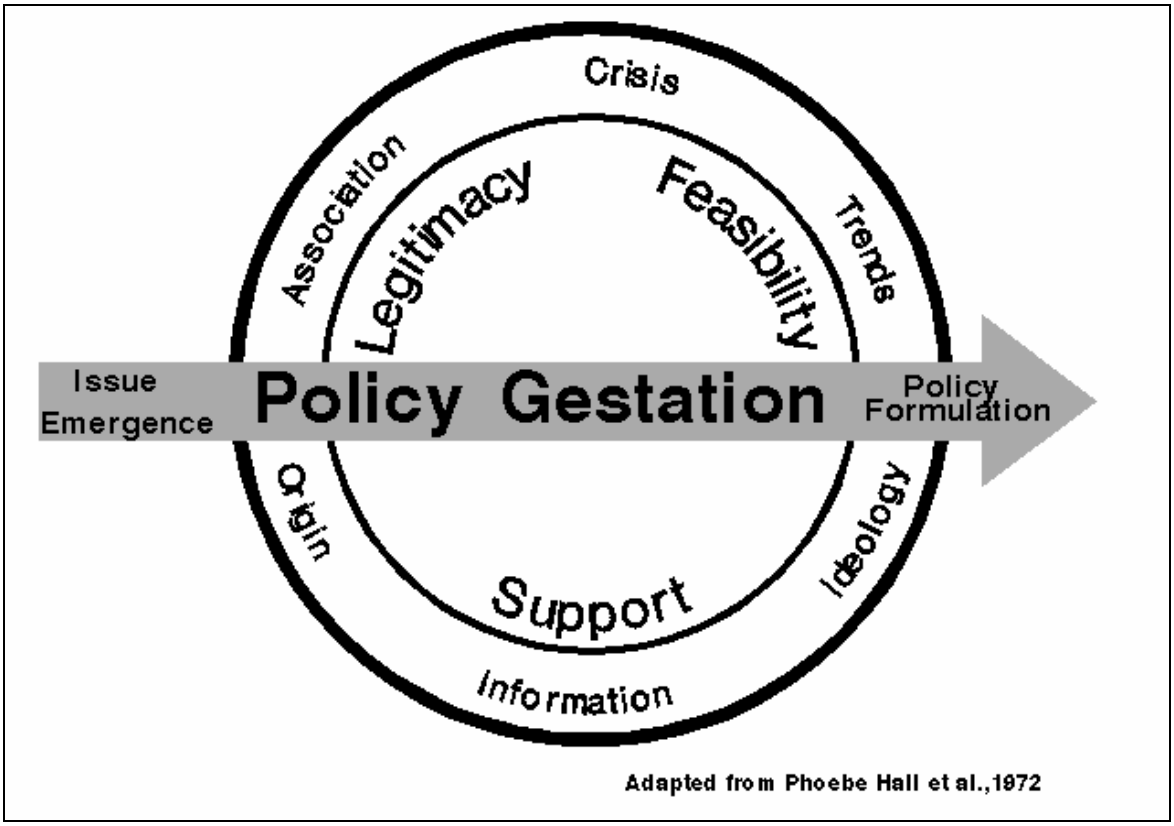

Figure 4.4: The Policy Gestation Process.

Trend expectation and prevention highlights the policy maker's need to juggle scarce resources in response to ever-changing priorities. The more the decision-maker sees an issue as an emerging and strengthening concern the more attention it will get. In making an assessment of importance policy makers tend to consider its source or origins. When issues emanate from respected institutions, powerful groups or respected individuals, they are more likely to get serious attention. If the proposed solutions fit the decision-maker's basic ideological position, the chance of adoption is enhanced. Issue information provides a key dimension to the policy adoption process by supporting or refuting policy claims. Information in of itself is not value free. In fact the weighting given information is often due to its source rather than inherent merits. As discussed in Chapter Three management ideology plays an important but rather obscure role in the policy gestation process. It is often easier to identify its impact after the fact. Rarely during the gestation period itself is its influence obvious.

Policy Formulation.

In discussing policy form Mayntz first focuses on the broad principles of legislative form. As background she points to the early laws in Western Civilisation that were based on Judeo-Christian traditions and later codified from existing social practices. This practice of legitimising present practice is especially relevant to the 1965 FIA because in contrast, this legislative version as written departed radically from previous legislative approaches. This policy appeared on the surface to wrestle the *de facto* control of forest practices from the industry's established centres of power. This disruption of previously entrenched government and industry relations, as will be argued in later chapters, was pivotal in contributing to the FIA's implementation problems and its eventual demise.

Mayntz continues in her discussion of policy form by pointing out that as society becomes more complex, the state responds with increasingly sophisticated legislation and public policy. Consistent with the theories of market failure-state failure, she contends that the interface of the state and the private sector becomes increasingly complex making additional legislative intervention more tenuous. She draws special attention to the causal interdependencies of the state and the marketplace and the policy knock-on effects that become increasingly difficult to manage or predict. To exert influence on private sector behaviour Mayntz also argues that governments adopt a variety of policy models. These include regulatory norms, financial incentives, public provision, procedural regulation, and public information and education. Regulatory norms she explains govern participation in a policy sector or enforce conditions of conduct. Financial transfers and incentives are used to distribute wealth from one policy or geographical area to another. Public provision of goods and services is a third type of intervention while a fourth, procedural regulations, establish rules of play. Government, as Mayntz points out, is also able to play a significant role in changing public behaviour through information, persuasion, and education.

In respect to the effectiveness of various legislative and policy interventions Mayntz notes five basic observations. First she argues that

> The effectiveness of a program depends to a large extent on the motivating, facilitating and structuring capacity of its provisions - not only with respect to target group behaviour but also with respect to the behaviour of implementing agents.

In this respect the various provisions of the '65 FIA inferred substantive changes in forest management behaviour. Second, Mayntz contends that "to change such behaviour one has to know the basic behavioural predisposition and reaction tendencies of the target group and the implementation agents.[38] Third, she cautions against legislative meddling. She wonders whether contextual changes "over time, and independent of the specific problem(s) to be solved, justify or even necessitate changes in instrument choice and other aspects of design?[39] Fourth, she implies that once legislation is in place, policy efforts are best directed to implementation rather than legislative tinkering. And finally, Mayntz argues that

> it seems indeed quite characteristic of many of today's problems that their solution depends on the positive motivation and voluntary collaboration of the target population.[40]

Policy Implementation.

In grasping the central theme of this case study it is important to realise that the FIA policy process was as much about non-implementation as it was about implementation. This was largely the outcome of the interplay between continuously murky policy objectives and frequent legislative tinkering. Despite this irresolution, the FIA's twenty-four years of policy experience provides considerable insight into the practical problems facing the implementation of forest conservation policy. To better understand the process of implementation a second, more specific theoretical framework is borrowed from Rees. She recommends focussing on three distinct but inter-related policy implementation influences. The first, past performance, which Rees refers to as 'pre-conditioning elements' includes the impact of agency character, conventional operational methods, and degree of responsibility. The second, 'internal factors', refers to the policy processes that interplay during the implementation process. This includes an agency's administrative character such as the degree of centralised and decentralised decision-making, its decision-making style, and its intervention forms. The third, external factors, Rees calls *ex-post* changes. These include the bio-physical variables that impact the resource and the

[38] Mayntz, Renate. *The Conditions of Effective Public Policy: a New Challenge for Policy Analysis.* Policy and Politics, Vol. 11 No.2, 1983, 128-9.

[39] Maytnz, 129.

social, political, economic, technological factors that impinge more directly on the policy process (see figure 4.5).[41]

Policy Impact.

The continuous renewal process found with the FIA legislative process calls for an iterative policy assessment approach to be used rather than a single summative evaluation. Three dimensions need to be emphasised. First attention is paid to the policy's ground level forestry impacts, the second measures specific outcomes on conservation and forest management, and the third assesses the influences on subsequent policy events and processes. Aucoin (1979) argues that public policy must "encompass the actual activities undertaken by a government, whether or not a government's objectives and strategies are explicit or are congruent with its activities".[42]

For analysis of the FIA, Aucoin's point draws attention not only to explicit policy behaviour but to hidden aspects and the more ambiguous as well as incompatible legislative processes that were characteristic of this legislation's workings. To better understand the ground level impacts of forest conservation policy Carley (1980) also emphasises the importance of measuring both direct and indirect policy effects.[43] To complement this, Crane (1982) also provides an assessment framework that stresses 'actual' versus 'intended' outcomes that focus on the extent to which targeted populations are actually impacted by policy outcomes, the opportunity costs involved, and the actual benefits received.[44] This assessment approach attempts, in a rudimentary but systematic way, to get to the core of the market failure-state failure problem by assessing both the impact of a policy and its value. Unfortunately, despite Aucoin's contention that

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[40] Mayntz, 138.

[41] Rees, 1985, 346-376.

[42] Aucoin, Peter. *Public Policy Theory and Analysis.* In: G. Bruce Doern and Peter Aucoin eds. Public Policy in Canada: Organisation, Process, and Management. MacMillan of Canada, Toronto, 1979, 1-26.

[43] Carley, Michael. *Rational Techniques in Policy Analysis.* London, Heinemann, 1980.

[44] Crane, John A. *The Evaluation of Social Policies.* Kluwer-Nijhoff Publishing, Boston, 1982.

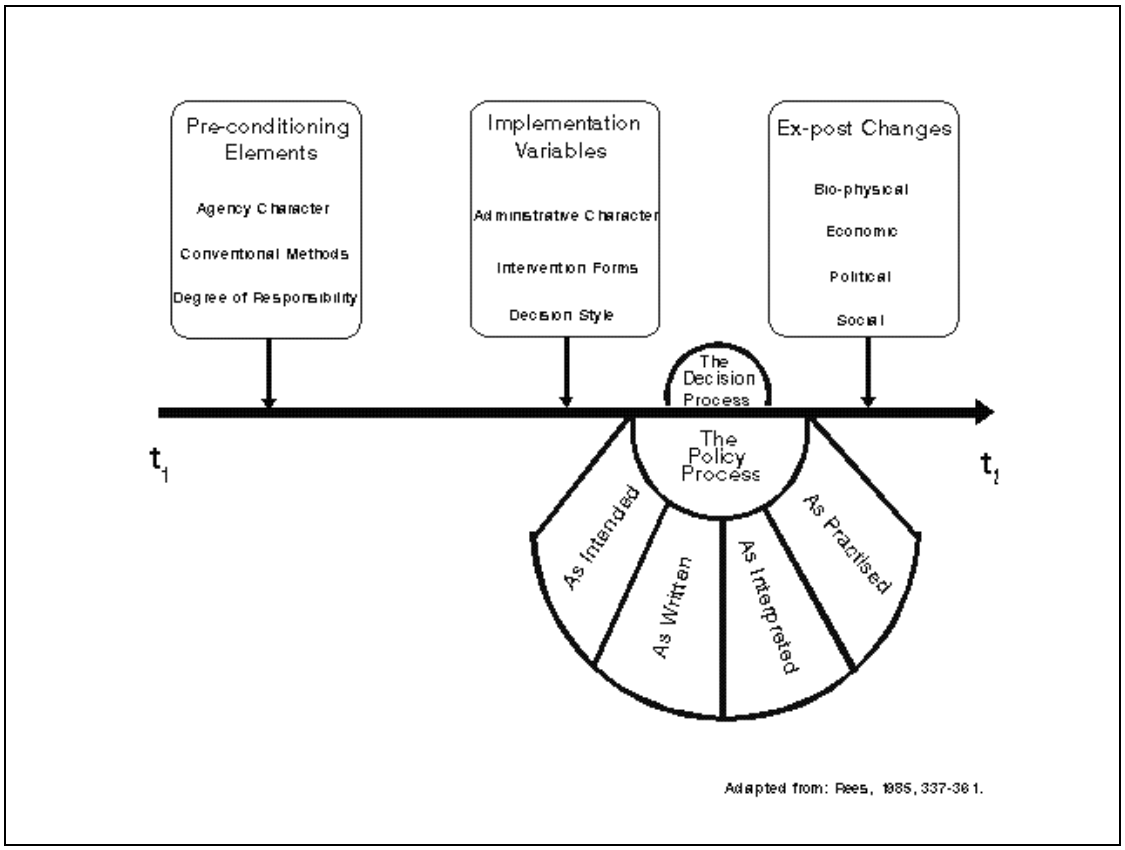

Figure 4.5: The Policy Implementation Process.

> it is now increasingly accepted that our concept of public policy must also include the impacts which result from a government's actions or from the lack of the same,[45]

this study shows that there is little evidence to support the notion that government is or was at anytime effective in evaluating its own legislative programmes.

[45] Aucoin, 1979, 1-26.

Chapter Five:
Review of Methodology.

Over the course of this study, methodology was adopted and adapted to meet the specific opportunities, requirements, and constraints of the research problem. The overall method used was an investigative strategy.[1] This approach supplemented by methodological strategies advocated by Glaser and Strauss (1967),[2] Glaser (1976),[3] Charmaz (1983),[4] Katz (1983)[5] and Coffin and Newman (1996)[6] continually evolved as new conceptualisations of the research problem, the case study, and the theoretical framework developed. In the early stages, this study was driven by an initial conception of Nova Scotia's forest conservation problem as a rather straightforward land-use conflict pitting industrial interests against amenity values. As the study progressed and as evidence accumulated, its scope was broadened, its conceptual underpinnings were refined, and it's various research questions, methodologies, and theoretical understandings were sharpened. In the end, this study reflects a rather complex analysis of two interlocking policy agendas: the first for forest conservation, the other for resource exploitation.

The Methodological Approach.

This study developed much like a rolling snowball. First, a central question and core of information was developed, then succeeding layers were added. At times layers of data and analysis 'fell away' or were set aside as new points of interest were identified. As a clearer picture of the research problem emerged, it was possible to subject the data to

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[1] Douglas, Jack D. *Investigative Social Research: Individual and Team Research.* Volume 29, Sage Library of Social Research, Sage Publications; London, 1976.

[2] Glaser, Barney G and Anselm L. Strauss. *The Discovery of Grounded Theory: Strategies for Qualitative Research.* Aldine Publishing Co., New York, 1967.

[3] Glaser. *Theoretical Sensitivity.* Mill Valley, CA: Sociology Press, 1978.

[4] Charmaz, Kathy. *The Grounded Theory Method: An Explication and Interpretation.* In: Emerson, Robert M., Contemporary Field Research: A Collection of Readings. 109-126. Prospect Heights, Il: Waveland Press, 1983.

[5] Katz, Jack. *A Theory of Qualitative Methodology: The Social System of Analytic Fieldwork.* In Emerson, 1983.

[6] Coffin, Tom and David Newman. *NFMA/RPA: 'Bottom-up' Versus 'Top-down' Power.* Paper presented at The Sixth International Symposium on Society and Resource Management: Social Behaviour, Natural Resources, and the Environment. Pennsylvania

increasingly more rigorous theoretical examination. Interim analyses, although not necessarily reported in this study, proved to be essential steps in defining the final study questions as well as selecting the final theoretical framework and presentation format.

Early research was geared towards identifying the essential nature of the forest management sector, developing a coherent theoretical context to assess forest management issues, and delimiting the study scope. Much of the background information provided in Chapter Two was the starting point for conceptualising this study's research focus. This initial conception provided a basic understanding of the forests' physical structure and spatial distribution, identification of key stakeholders and policy actors, and the basic values that drove forest use and consumption. What was lacking from this initial overview and what subsequently became this study's central focus was a clear understanding of the underlying influences on forest conservation decision-making. To better appreciate policy workings in this area, a clearer picture was needed of how forest management actors and institutions as well as external and environmental factors shaped policy outcomes and ground level conservation practices.

Douglas begins his book on *Investigative Social Research* by emphasising that "The goal of all social research is to discover, understand and communicate truth about human beings in society." His work largely studied social settings in real time, infiltrating the social setting, acquiring direct field experience by gaining trust and opening up respondents or social setting actors by using friendly and trusting relations to get at reality. In Douglas' case, evidence accumulated was crosschecked by verifying evidence with additional sources such as other field actors whenever possible. For the early phases of this study, direct field immersion was inappropriate. Initially this research project relied heavily on documented evidence and oral histories provided in semi-structured interviews with key policy actors. In the later stages of this study, however, a more direct, 'immersed' form of investigation and data collection was possible. This later approach differed from Douglas', however, in that field immersion was the result of invitations from the forest sector to become directly involved in policy forums and programme proposals. With these invitations there was both implicit and explicit recognition of the

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State University, PA., 1996.

role of academics as policy analysts, process evaluators, facilitators of debate, and as developers of theoretical prescriptions. Douglas' most important contributions to this study's methodology, however, were the ideas of building and using a web of research contacts to continually construct an increasingly rich picture of the social phenomenon under examination; and the cautions provided regarding subconscious and self-deceptive experience.[7] These cautions centred on misinformation, evasions, lies, and fronts.

In some contrast to Douglas, Glaser and Strauss argue that methodology and the theoretical framework be developed in tandem to reflect the special circumstances of the research problem. This approach contrasts markedly from more formalised approaches relying on well-established routines and frameworks from the outset. These more formal approaches, as Glaser and Strauss argue, tend to force the data to 'fit' preconceived theoretical and methodological notions rather than let the case facts speak for themselves. Employing Glaser and Strauss' research philosophy led to progressively more sophisticated research that reflected an increasingly defined study area, data collection process, and analytical strategy. This approach incrementally got to the root of a number of interesting policy issues concerning Nova Scotia's forest conservation management.

In Charmaz' explication and interpretation of Glaser and Strauss' "pioneering" book *The Discovery of Grounded Theory*, she argues that

> any researcher who claims to use the grounded theory approach endorses the following fundamental strategies. First, discovering and analysing social and social psychological processes structures inquiry. Second, data collection and analysis phases of research proceed simultaneously. Third, analytic processes prompt discovery and theory development rather than verification of pre-existing theories. Fourth, theoretical sampling refines, elaborates, and exhausts conceptual categories. And last, systematic application of grounded theory analytic methods progressively leads to more abstract analytical levels.

This study's methodology adhered closely to the first two precepts, but departed in significant ways from the last three. In this study there was a conscious effort to first ground theory from the evidence but when theoretical concepts emerged, there was a concerted effort to match these with established, published theories rather than try

[7] Douglas, 207-210 and 83-106.

'reinventing the wheel'. For example, the recognition that the conservation agenda was intricately tied and subservient to the forest production agenda was conceded after lengthy and extensive data collection and analysis. Once this was recognised, however, this theoretical notion slotted nicely into pre-developed--not preconceived--theoretical ideas such as that recorded by O'Riordan.[8] This study lays claims to two novel theoretical conceptions. The first relates to 'accumulative manifestations of power', this builds on Blower's notion of complementary theories of power (see Blowers, Chapter Four). The second relates to the notion of four inter-related components of multi-agency management. Even here, however, the published literature provided--sometime after this framework was first presented publicly[9]--a theoretical exposition of three of its most cogent elements (see Mandell, Chapter Four).

The emphasis of Glaser and Strauss' work on studying actors of similar occupation and role lends itself to the development of increasing 'exhaustion of conceptual categories' through expanded sampling. In a policy study such as this, however, the emphasis is on elaboration of the policy process to elicit greater understanding of that process rather than the development of theory for its own sake. Grounding theory is very much a means to an end rather than an end in itself. Although this study did, as in Charmaz' fifth point, develop increasingly more abstract theory, the immediate goal of its development was to turn that theory back on the data to gain greater insights into the policy process. As relief from this methodological imprecision Katz suggests that evidentiary criticism directed to more loosely structured qualitative research methods and qualitative research in general is largely unfounded. He points mainly to criticism directed at representativeness, reactivity, reliability, and replicativeness. He argues, without wanting to demean quantitative methods, that quantitative methods have many of these same problems. He argues that their critical rebuttals are simply tied to statements of probability rather than claims of infallibility.[10]

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[8] O'Riordan, 1981, 20.

[9] Bissix, Glyn. *Pre-workshop Readings #4: Multi-agency Strategic Planning for National Parks and State Outdoor Recreation Agencies.* Workshop by Glyn Bissix and Lyle Davis for the US. National Parks Service and US. State Outdoor Recreation Planners Association, Chicago, Illinois, May 1990.

[10] Katz, 127.

In data analysis, this study focused mostly on identifying policy processes by combining oral histories from key actor interviews and from forest sector document analyses. Each interview was analysed for new data that enhanced the contextual picture and for insights into the policy development / decision-making processes. While memo writing--focusing on emerging theory grounded from the evidence--was done, greater emphasis was placed on writing 'cameos' or isolated pictures of particular policy events and their decision-making dynamics. These were continually updated as new evidence was accumulated. As the study progressed so these cameos were integrated with one another to build an ever enriched and more comprehensive picture of the policy process. These broader pictures were then examined for new theoretical insights.

As more and more layers of analysis were added and policy misconceptions peeled away, it became increasingly evident that a major bane of forest conservation management was a rather superficial articulation of forest conservation issues within the forest sector. This superficiality and ambiguity largely masked the impact of entrenched and disparate management ideologies. To help clear this haze, an increasingly comprehensive picture of Nova Scotia's forest conservation problem was developed by progressively adding successive layers of evidence and analysis. In the early stages, an analysis of relevant forest management monographs and government documents was combined with an initial round of key-actor interviews. This developed a 'basic feel' for this policy area's power and influence dynamics. From this preliminary overview an initial list of key issues was developed.

In practice Glaser and Strauss recommend that preliminary analyses explore emerging areas of concern or interest that is followed by the testing of tentative hypotheses. At various junctures dead-end leads are redirected or eliminated. This accumulative and selective approach continually reformulates theoretical and empirical directions. As new data is amassed and conceptual innovations are developed, Glaser and Strauss advise they be woven into richer understandings of the policy process. Fresh or refreshed conceptual pictures of the policy process are then used to formulate new investigative directions. Although, as inferred above, some preliminary analyses are put aside, none are necessarily discarded permanently. Second thoughts on some data lead to re-analysis using more

refined analytical approaches.[11] The resulting insights, whenever appropriate, are integrated into a revised policy picture.

The initial research questions led to the preliminary round of investigation. This exploration included a cursory review of forest legislation, a survey of relevant Department of Lands and Forests circulars and publications, and the carrying out of six loosely structured key actor interviews. These initial interviews were conducted with forestry sector actors drawn from the private sector, recreation interests, and government. This early phase also included an overview of policy literature from resource management and other social science disciplines. In addition this initial analysis included popular press accounts of forestry issues. The research objective was to develop a chronology of significant forest policy events (see Appendix B), an inventory of significant document sources, and a list of key forest sector actors and institutions (see Appendix C). This phase also began the task of sifting through possible elements for a functional theoretical framework.

It was during this first phase that the Forest Improvement Act emerged as a useful focus to examine decision-making and power. An initial overview of the various versions of the FIA, assorted departmental circulars and publications, and interviews highlighted the struggle in balancing industrial development objectives with workable forest conservation policy--that is, policy that would protect the forest resource for the foreseeable future and balance increasing expectations for enhanced environmental quality, recreation amenity, and economic wellbeing. In this early phase it became increasingly obvious that attacking the industrial installation / forest amenity issue directly presented several practical research problems. It became apparent from the interviews, for instance, that industrial actors considered the question of industrial versus amenity use as largely a non-issue--they perceived no real conflict. This widespread perception or perhaps posturing created practical investigative challenges that made teasing out underlying policy issues difficult. Instead, for a number of reasons, the policy issues surrounding FIA implementation became the new focus. First, this legislation had on paper at least a mix of amenity, conservation, and forest fibre exploitation objectives. It was also widely perceived as a

[11] Charmaz, 132.

source of conflict between industrialists and environmentalists; and despite being on the statute books for over twenty years it was never made to work at ground level. The FIA's protracted policy workings also gave a fertile context to examine decision-making dynamics and power.

This shift to the FIA also had practical research implications. When the focus of key actor interviews switched to the FIA policy process, interviews became less guarded. A more relaxed atmosphere was possible between interviewer and interviewee because a less confrontational approach was feasible. This investigative phase was guided by the central question of what the policy problems and issues were in implementing the Nova Scotia Forest Improvement Act. This focused attention more on FIA workings rather than the obviously ideological divisions surrounding forest exploitation and forest amenity. While this new approach again solved some problems it created at least one other. Several interview respondents in this second phase claimed the FIA was never implemented--they questioned why a study would be made of the FIA's 'implementation' when in their minds it was never implemented. Although these respondents were partially correct, especially at ground level, this perception was not valid at the policy workings level. In fact several FIA provisions requiring regulatory definition were painstakingly pursued over decades.

In response to this misperception or disagreement over the nature of the FIA's workings, the study was again refocused to emphasise decision-making leading to 'non-implementation' of the FIA. Later, the approach was once again revamped to accommodate a longer time frame and broader socioeconomic analysis. This latter approach was considered necessary by several key actors in the forestry sector to get to the root of Nova Scotia's forest conservation issues. With an expanded document search encompassing a broader time frame and socio-economic scope, a further round of semi-structured interviews was conducted. As new data was added and new insights emerged, the methodology and research questions were again refined in the way Glaser and Strauss advocated. Occasionally, reference to an issue in one document or interview led to re-examination of previous interview data and / or documentation. These additional reviews sometimes led to further insights occasionally leading to new questions and the necessity for further data collection or clarification.

A major analytical challenge was viewing the evidence from the context of explicit as well as less conspicuous policy objectives. Some interview respondents, for example, claimed that the most compelling evidence leading to FIA adoption, legislative structuring, and subsequent implementation problems was the government's essentially covert industrial expansion agenda. These individuals argued that the best evidence for FIA non-implementation was to be found in examining the policy influences behind industry growth prior to FIA enactment. Reflecting this, the scope of analysis was stretched to encompass the era of pulp sector expansion and its relationship to the workings of the Small Tree Act (1942-1965). Later, to better understand some of the nuances of the STA, it was necessary to delve into earlier forestry policy workings. As a result, the scope of analysis was broadened yet again to consider Nova Scotian forest conservation legislation and forestry development more generally.

Broadening the area of study in this way not only extended the time frame for analysis but widened the socioeconomic focus. In widening the analytical approach and study scope, it was necessary to refocus decision-making analysis to include the impact of non-decisions and negative decisions as well as hidden agendas. In the end, to accommodate all this, a broad array of evidence from the private and public sectors was examined. This included departmental publications and records, legislative assembly records, newspaper accounts, and texts of various legislative enactments. This documented evidence was combined with over sixty key actor interviews and a number of case studies. These were examined in a generally iterative manner.

The research interviews included active and past Department of Lands and Forests (now Natural Resources) ministers, deputy ministers, and senior and middle managers from the provincial government. They also included federal forestry officials and quasi-governmental officers, including the chair of the Nova Scotia Royal Commission of Inquiry into Forestry (1984). In addition, senior managers from the woodlands division of multinational pulp companies as well as sawmill owners, woodland owners and operators, members of various forest improvement boards, and recreation, parks management, and amenity interests were interviewed. Their responses to semi-structured interviews provided an enriched database that supplemented documented sources and contemporary

conservation oriented case studies. Together they formed the evidential base for this study. The evidence from the FIA and STA and earlier conservation policy was subsequently analysed in the context of the theoretical framework presented in this study. This framework focuses on the multi-agency dynamics of power and influence and considers the policy process as two overlapping cycles. These policy cycles emphasise both the transitions of successive legislative eras such as the STA to the FIA and the shifts within particular legislative eras such as policy gestation to formulation, formulation to implementation, and implementation to impact. As was explained in Chapter Four, each of these interlocking phases had particular policy dynamics that required distinctive analytical approaches (see Figure 4.3).

The Analytical Approach:

Generally, analysis follows a chronological order. While Chapter Two provided some background on early forest conservation policy, the more in-depth and initial case descriptions are given in Chapters Six and Seven. These chapters trace the workings of two consecutive forest conservation eras. Chapter Six focuses on the final years of the Small Tree Act that leads to its rescission in 1967. This, in effect, treats this part of the STA legislative process as the FIA's gestation process. Chapter Seven covers various FIA policy phases from its several formulation and implementation stages through a succession of amendments and implementation processes to its review in the 1984 Royal Commission on Forestry. In both Chapters Six and Seven special attention is given to the significance of agency and organisational character, their complex and evolving inter and multi-agency relationships, and the intricacy of the resource management context impinging on conservation management decision-making.

Chapter Eight follows a similar chronology but focuses more on the specific role of power and influence on policy decision-making within the FIA era. This analysis shift gears to emphasise market influences, biophysical impacts, the significance of management ideology, and the rise and fall of other influences such as multiple-use forest management and environmentalism. This chapter steps beyond the initial descriptive approach found in Chapter Seven to ground theory from the case evidence and reapply it to make better sense of policy workings. The analyses made possible from this essentially iterative

analytical approach attempts to offset the theoretical limitations found in the policy literature.

A somewhat different track is taken in Chapter Nine. Rather than continue with a hindsight review of forest conservation policy, this study refocuses as a contemporary programme assessment. A cursory review of the early workings of the Forest Enhancement Act (FEA) necessitated this revision. As will be seen in this chapter, the FEA added up to little more than a policy palliative. As a result, it was necessary to look beyond present legislation and policy to examine other alternatives for nurturing forest conservation. Six conservation strategies are examined. It will be seen that the methodological approach for analysing these case studies was again fashioned by opportunity and circumstance. For two of the cases examined, the author observed decision-making in less than a detached way. As advocated by Spradley,[12] Schatzman and Strauss,[13] and similarly used by Blowers;[14] the author became both participant and observer. In the case of the Nova Scotia Envirofor Process, the author was first invited to participate in this provincial forum on forest practices as a representative of the academic sector. That involvement became more intense later as part of this continuing forum's provincial steering committee. In the case of the St. Mary's Wildlife/ Forestry Project the author was initially more detached, relying only on documented evidence and casual discussion with involved actors. Later, however, the author became more closely involved when invited to help launch a second phase for the St. Mary's project. Data collection for the four other cases contrasted sharply from these two. As in the examination of the STA and the FIA the field research was once more removed, relying on semi-structured interviews and document analysis. First, the Central Region Integrated Resource Management Project was examined. Then as a possible model for landscape scaled ecosystem management in Nova Scotia, the embryonic Northern Breton Highlands Greater Ecosystem Management proposal was reviewed. Third, the Coalition of Nova Scotia Forest Interests initiative was considered. And fourthly, the concept of Forestry Certification was examined. Chapter Nine concluded with a brief overview of the recently

[12] Spradley, James P. *Participant Observation.* Holt, Rinehart and Winston: Toronto, 1980, 51.

[13] Schatzman, Leonard and Anselm L. Strauss. *Field Research Strategies for a Natural Sociology.* Prentice Hall: New Jersey, 1973, 61.

announced Department of Natural Resources position paper on forest management and conservation. In the concluding chapter, the lessons from these various legislative and policy eras are reviewed and examined in the context of various idioms of analysis explicated by Weale (see Chapter Four).

Finally, it is important to stress that the empirical evidence was collected over an extended time period and initially analysed in the context of theoretical approaches seen useful and pertinent at that time. Evidence was painstakingly pieced together in the investigative research tradition from numerous and previously obscure sources including the 'basement archives' of retired political, bureaucratic and industrial actors located throughout Nova Scotia. After two years of prodding, the Nova Scotia Archives finally rescued and catalogued critical evidence concerning the forest practices improvement boards deliberations from the attic storage of a remote Lands and Forest district office. The existence and location of useful data was often only made clear from the extensive face-to-face interviews conducted for this study. The explanation of this case and its various dimensions of power were refined by continuous interactive analyses of key-actor evidence and unearthed document evidence. Much of the more recent data was amassed through participant observation of various forest conservation policy initiatives. This often required intensive and extensive daylong and weekend meetings and workshops requiring substantive pre and post-preparation spread over months and years. In the end, this study amounts to a concerned and insightful analysis of a hitherto, little understood policy development problem. It brings light to the challenges that beset Nova Scotia's forest management milieu and offers useful methodological and theoretical approaches to the analysis of multi-agency, forest resource management problems found elsewhere.

[14] Blowers, 1984.

Chapter Six:
The Pre-FIA Era.

This chapter examines forest conservation legislation prior to FIA enactment concentrating on the complex web of socio-economic factors influencing conservation policy and forestry development. It specifically focuses on the workings of the Small Tree Act in the nineteen fifties and early sixties, reflecting on influences that pushed for its rescission and the countervailing drive for renewed forest conservation legislation. This chapter provides evidence that on the one hand appeared to bolster ground level forest conservation regulations but on the other hand, given the brute force of economic imperatives, drastically undermined them. What is especially interesting in this discussion of legislative rescission are the multinationals' and government's efforts to rescind the STA: even though it was no longer enforced. It is also interesting to examine why their efforts failed to dominate the policy agenda given their combined economic and political strength. In the discussion that follows it will be seen that pulp-processing expansion was fundamental to the government's forest management policy and broader industrial development. It will also become obvious that the government's principal concerns were to accommodate pulp sector interests rather than acknowledge deepening forest conservation problems. In addition it will be seen that throughout this pulp sector expansion period the multinationals were viewed largely as white knights by the incumbent administration: they were seen as the only viable option for industrial transformation and prosperity. Interestingly, despite the new multinationals' influence in shaping forest policy, the sawmillers and professional foresters somehow combined forces to pressure DLF to replace rather than rescind the STA--a measure that was not their original intent and seemingly not a preferred choice.

The Socio-political Context:

Since early colonial times in Nova Scotia, forest conservation policy was marginalised by a pervasive forest exploitation/production imperative.[1] This undermining of forest conservation objectives began with the Broad Arrow Act in the early eighteenth century, continued with the implementation of the Small Tree Act and characterises present day conservation legislation.[2] [3] [4] Despite steadily declining forest quality, it is important to note that production continued to climb throughout the twentieth century. This was largely made possible by 'mining' immature stocks and harvesting previously inaccessible areas.[5] It was not until after the Second World War, however, that unprecedented exploitation generated sufficient concern about a degrading forest resource that measures were taken to enact specifically dedicated forest conservation legislation. A revision of the Small Tree Act, first introduced in 1942, was proclaimed in 1946 and enforced on a limited scale during the late forties and early fifties.

Despite its limited application, the STA had potent support as it was considered by some key forest managers to be the only forest conservation policy in the history of Nova Scotia to have appreciable ground level impact.[6] Lloyd S. Hawbolt, for example, wrote in the Canadian Geographic Journal that: "This Act ... has altered the course of forestry in the Province. ... Despite its many problems ... the indirect results and benefits have been tremendous."[7] Don Eldridge, a former woodlands manager with the Eddy Company during the early sixties, suggested that:

> Had they left the Small Tree Act in place it would probably have been

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[1] Goldsmith, F.B. *An Evaluation of a Forest Resource - A Case Study of Nova Scotia.* Journal of Environmental Management, 10 (1980). 83-100.

[2] Creighton, Wilfred I. *Forestkeeping: A History of the Department of Lands and Forests in Nova Scotia 1926- 1969.* Nova Scotia Department of Lands and Forests, 1988, 47.

[3] Goldsmith.

[4] Hawbolt, Lloyd S. and R.M. Bulmer. *The Forest Resources of Nova Scotia.* Halifax: Nova Scotia Department of Lands and Forests, 1958.

[5] Goldsmith.

[6] Interview with Robert (Bob) Burgess: Deputy Minister of DLF, 1969-1977; August 1987.

[7] Hawbolt, Lloyd S. *Forestry in Nova Scotia.* Canadian Geographic Journal. August 1955, 5&14.

> better than the Forest Improvement Act. ... But it would appear that two pulp companies [Stora and Scott] were coming on stream and they were going to have to cut small trees.[8]

Robert Burgess, who succeeded Creighton as deputy minister of Lands and Forests, believed the STA was the first forest conservation act in Nova Scotia to positively affect ground level forest conservation. The STA succeeded, he suggested, by "slowing down the exploitation of immature forests."[9]

Given the STA's apparent ground level proficiency when implemented, the question looms why there was an attempt to replace it with rather innocuous legislation in 1962. The answer appears tied not so much to the STA's technical attributes or imperfections but to the government's industrial expansion objectives. The prevalent economic and social conditions in the fifties made forestry expansion appealing: an economic development report by Arthur D. Little Incorporated in 1956 in fact cited few viable alternatives. It should be noted that at this time Nova Scotia's steel industry was nearly bankrupt and the coal industry was in a serious slump.[10] The coal industry's weakness was especially significant in forestry expansion calculations. From 1958 to 1959 coal production declined from 50 million to 40 million tons putting miners out of work and creating considerable pressure to bolster forest industry employment. The completion of the Canso Causeway in 1955 (a large public works project employing previously unemployed miners) also added to this pressure.[11] The setbacks of these traditional industries persuaded the Nova Scotia government to vigorously pursue pulp industry expansion that led eventually to a series of negotiations with 'out-of-province' multinationals.

The Pulp Enhancement Programme.

[8] Interview with Don Eldridge: Commissioner, Nova Scotia Commission on Forest Enhancement and Formerly Deputy Minister of Lands and Forests; September 1987.

[9] Burgess interview.

[10] Little, Arthur D. Inc. *Industrial Development in Nova Scotia.* NS Department of Trade and Industry, January 1956.

[11] Department of Trade and Industry, *Nova Scotia: An Economic Profile*. Province of Nova Scotia, 1963.

As an outgrowth of the relative optimism for the pulp sector, the government courted a whole string of multinationals in the mid-fifties where initial negotiations were rather one sided. The government in its wisdom provided the multinationals a string of concessions setting the seeds for future discontent throughout the forest industry.[12] This dissatisfaction, as will be seen in subsequent chapters, eventually led to both market and state failure.

National and international competition to attract multinational investment, combined with the dismal performance of traditional Nova Scotian industries and the performance of non-Nova Scotian investors within the province, gave the multinationals 'testing Nova Scotia's waters' a substantial negotiating edge over the government. Beyond the basic limitations of inter-provincial and global competition, the province had other notable and significant bargaining weaknesses: it had little ready cash, there were serious unemployment problems, and Nova Scotia had a history of poor labour relations--especially in industrial Cape Breton. To cap these general investment problems Nova Scotia had cumbersome, county based forest taxation that made prospective woodfibre processing investors apprehensive over forest operations that crossed county boundaries (see table 6.1).[13] Adding to these difficulties, it was a matter of public record that the government came tantalisingly close to signing a deal with Scott Paper in 1956. Rather than establish a pulpmill in Nova Scotia, however, Scott called an abrupt halt to negotiations and chose instead to locate in British Columbia.[14] Unfortunately for Nova Scotia, this publicised bargaining failure revealed how far the government was prepared to go to accommodate foreign investors, especially in their demands for legislative change and infrastructure support.

[12] Burgess interview.
[13] Creighton, 1988, 101.
[14] Creighton, 101-2.

Despite its rather dismal bargaining posture, the provincial government was never completely without its own bargaining resources. A key attraction was Crown forests--this proved to be a major selling point.[15] The two multinational companies that finally settled in Nova Scotia in the fifties and sixties secured significant economic concessions. Both received mill construction subsidies and tax holidays as well as extensive infrastructure support including access roads to their mills. Scott Paper also secured what was later to become a very controversial and politically costly pollution treatment concession. Stora, on the other hand, obtained long term, low cost Crownland stumpage guarantees. In addition to these allowances, both multinationals gained generally inexpensive, compliant and unorganised woodlands labour as well as favourable marketing arrangements. From a forest conservation perspective, each of these concessions proved to be significant, although unfortunately their impacts were generally negative as far as forest conservation was concerned. Despite all these benefits for the multinationals, it was freedom from unwieldy forest practices legislation and regulations embodied in the STA that was the trump card in their arsenal.[16]

Table 6.1: Variation of County Land Tax Assessments-circa 1951.

Land Classification	Assessment per Acre	
	Minimum County Rate	Maximum County Rate
Cultivated	$ 1.00	$75.00
Pasture	$ 1.00	$15.00
Timber I	$ 1.00	$60.00
Timber II	$ 1.00	$30.00
Woodlots	$ 1.00	$ 7.50
Cutover	-	$ 6.75
Waste	-	$ 1.00

Source: Ralph S. Johnson, 1986, 297.

[15] Creighton, 101.

[16] Interview with George Henley, Minister of Lands and Forests. Oct. 1978 - 1983; August 1987.

There is little doubt that Stora: a Swedish based multinational, took full advantage of the Province's bargaining weaknesses before building a pulpmill on Cape Breton Island. The evidence indicates that the province went to great lengths to attract Stora after its earlier setback with Scott Paper.[17] As Burgess, a former deputy minister put it:

> We tried to get Scott to come in to start off with and they wanted to come in the fifties. But when they turned us down ... we turned to Nova Scotia Pulp [Stora]--the Swedish outfit. We worked tooth and nail to get them to set up a Kraft process to handle our poor quality material we had up there [on Cape Breton Island].[18]

Despite the Provincial Government's eventual successes in attracting investment, it is clear that it bent over backwards to entice the multinationals to Nova Scotia. And in doing so it compromised future policy options, distorted pulpwood and lumber markets, and compromised much of the future potential of forest conservation legislation. Later in the mid-fifties as Burgess alludes, the Provincial Government began negotiations with Stora with considerable zeal. They in fact went to extraordinary lengths to court Stora and in doing so risked considerable financial resources and alienation of the sawmillers as well as Bowater's Mersey. It seems that both the Nova Scotian Government and Stora were rather cavalier in their negotiations, they followed few standard negotiating practices. Soyez recounts in this regard that the provincial government failed even to check the credentials of 'Stora's agent', to whom they eventually paid millions in consulting fees.[19] Soyez explains that in the early stages of negotiations this so-called 'official representative' had no negotiating authority from Stora although the provincial government assumed he had. It is interesting to note that even without official blessing, Stora gave no order for this individual to desist. When negotiations finally got on-track 'officially' and agreements were finally negotiated, it became quite evident that the government had taken substantial political as well as financial risks to keep Stora's interest. Among others things it expended considerable financial resources and staff time to reclaim the Oxford

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[17] Creighton, 101.

[18] Burgess interview.

[19] Soyez, Dietrich. *Stora Lured Abroad? A Nova Scotia Case Study in Industrial Decision-making and Persistence.* The Operational Geographer. September 1988. #16. 11-14.

Lease on Cape Breton Island so they could reallocate this stumpage to Stora on very favourable terms.[20] [21] Although this so-called 'give away' worked for the government's short term interests by convincing Stora to build a Kraft pulpmill, in time its favourable concessions built considerable resentment within the forest sector.

One clear measure of how far government was willing to go to support its pulp enhancement policy can be gauged from the following meeting of government officials. According to Haliburton, Premier Stanfield was desperately keen on swiftly sealing the deal with Stora with minimal political fallout. Haliburton recalled that the Premier wanted: "this declaration from the Department [of Lands and Forests] expressing their confidence that we could support a [second multinational] pulp mill."[22] Resistance from certain elements within the DLF bureaucracy, however, was politically embarrassing. The most damaging opposition came from credible senior DLF civil servants such as Creighton and Hawbolt.[23] [24] Both Creighton: the deputy minister, and Hawbolt: the Department's senior entomologist were concerned that Stora's mill would over-stretch what was widely perceived as a badly depleted forest resource. This 'depleted' view had gained credibility with the publication of the province's forest inventory.[25] Outside government, Bowater's had also made public overtures concerning forest over-exploitation that had stirred public interest. In response to Bowater's fretting, Burgess later complained that (Bowater's) Johnson continually: "preached that you're going to ruin the province bringing another company in, we're going to be out of wood."[26] Burgess recounted that in response to these constant overtures:

> One day in exasperation, Stanfield said, you get those people of yours 'thick and sweat' down to the [Hotel] Nova Scotian and lock em up until they come up with

[20] Johnson, 272.

[21] Sandberg, *The Big Lease, 1992, 89.*

[22] Interview with E. D. Haliburton Minister of Lands and Forests, July 1959 - May 1968; April 1986.

[23] Interview with W.I. Creighton. Deputy Minister of Lands and Forests, February 1949 - March 1968. Halifax County, Nova Scotia. August 1987.

[24] Hawbolt interview.

[25] Hawbolt and Bulmer 1958.

[26] Burgess interview.

an answer.[27]

G.I. (Ike) Smith: a lawyer by profession, subsequently called this meeting and according to Haliburton drilled the DLF staff for answers about the adequacy of Nova Scotia's forest stocks to sustain an additional mill. In the end when forced to back up their opposition to industrial expansion with 'irrefutable' evidence on woodfibre shortages, the bureaucrats present conceded. Interestingly Haliburton admitted that neither Creighton nor Hawbolt were at this meeting. This was odd given that Creighton was the DLF's senior manager and a highly respected professional forester, and Hawbolt was the senior author of the province's 1958 forest inventory study. To leave out either made little sense except perhaps to skew the final analysis! Whether Creighton and Hawbolt were left out purposely or not, the conclusions drawn, not surprisingly, led to a subsequent invitation to Stora to establish a pulpmill. The results from this meeting successfully counteracted, at least for the time being, Bowater's, Creighton's, Hawbolt's and others' opposition to pulp sector expansion.[28] [29] The subsequent announcement of newly found forest reserves was understandably met with some derision by sawmillers who dubbed this declaration as G.I. (Smith)'s 'new forest'![30]

Despite this undermining of forest conservation concerns there were successful counter pressures. One effort made by the two senior professional foresters from Bowater's Mersey, championed a legislative renewal initiative to replace the STA. Although the government's forest policy initiative seemed at first glance to favour the whole pulp sector, the new policy of pulp-industry expansion was vigorously opposed by the Bowater's Mersey Pulp and Paper Company. This state of affairs set one multinational against the others. Bowater's opposition seemingly stemmed from the prospect of increased competition for pulpwood as well as its inauspicious treatment at the hands of government in executing the details of its pulp expansion policy. In this circumstance Bowater's was pressured to give up a lease on Cape Breton Island to make way for Stora's new, forest operations. While there may have been some concern about Bowater's

[27] Haliburton interview.
[28] Haliburton interview.
[29] Creighton interview.
[30] Interview with Murray Prest, former Sawmill Owner and present land owner;

motives in supporting forest conservation legislation both Ralph Johnson's and Lief Holt's professional reputations quelled most of them. Under the auspices of CIF:NS they worked diligently to promote renewed forest conservation legislation. Johnson claims that he actually introduced the idea of new forest conservation legislation to replace the increasingly maligned STA to the CIF:NS membership.[31] Whatever Bowater's primary motivation and whoever was the initial architect of this initiative, it is clear that Bowater's, as a corporation, found it increasingly difficult to directly influence provincial forestry policy. Not only was the repossession of the lease on Cape Breton Island a major irritation and clear evidence of their loss of government favour, but a promised compensatory Crown land license closer to home-base never materialised either.[32]

The government facilitated its new pulp expansion policy by fending-off opposition from established forestry interests whenever possible. Eventually, however, it succumbed to pressure and 'officially' supported CIF:NS's legislative renewal initiative. This was to replace the so-called 'outdated' STA legislation with more 'technically sound' conservation provisions. What is so baffling in this whole process of legislative renewal, however, was the substance of the replacement legislation: the 1962 Forest Improvement Act. Its provisions and subsequent workings quickly put into question the legitimacy of the whole legislative renewal process. George Henley, a member of the Progressive Conservative caucus at the time was one who questioned the government's real intentions. He claimed:

> We took the STA out as the pulp mills were coming in. And he [G.I.Smith] just thought there would be some kind of act that would appease the [lumber trade]. The lumber trade was still large at that time and he thought he would appease the lumberman and lessen the tension between the pulpmill operators and the lumber mills.[33]

Although the government's bargaining efforts were protracted and often arduous, it eventually led to pulp sector expansion. By 1959, pulpwood production ranked second in importance to lumber products in the province and by 1961 pulpwood

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August 1987.

[31] Johnson interview.

[32] Johnson and Haliburton interviews.

[33] Henley interview.

volume actually exceeded lumber production.[34] [35] Notwithstanding this rather impressive economic performance, it was the pulp sector's ability to shape forest practices policy that is especially significant to this study. As will be seen throughout the next section and the following two chapters, on the surface the multinationals appeared to support forest conservation efforts. As the evidence will unfurl, however, it will become clear that the new pulp companies, aided by the government, continually undermined ground level conservation by persistent criticism of forest conservation legislation.

The Small Tree Act.

For the most part the STA's strength was its simplicity. The Act's main stay was a girth limit of 10inches diameter below which felling targeted species was either prohibited or controlled. Despite the advantage of simplicity the Act had technical limitations: for example, as written it did not allow for clearing scrub trees. Another alleged but unfounded weakness was its supposed disregard for Balsam fir: the dominant species of Cape Breton Island. This particular species was not covered in the Small Tree Act: its omission was not a legislative oversight, however, but a well-calculated exclusion.[36] At the time of STA formulation the Cape Breton Highlands contained one of the world's largest overmature although natural monocultures of Balsam fir.[37] As overmature Balsam fir forests are highly susceptible to disease infestation, especially from the spruce budworm, forest managers were freed to harvest when and basically how they pleased.[38] According to Creighton, the incumbent deputy minister, this species was purposely omitted from the STA to stimulate harvesting activity.[39] Despite this apparently sound rationale for exclusion this issue was oddly challenged by the incumbent administration during the 1962 FIA legislative debates.

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[34] *Nova Scotia: An Economic Profile, 1959 and 1963.*
[35] Canadian Pulp and Paper Association. *Reference Tables: 1984.* 5.
[36] Creighton interview.
[37] Hawbolt, 5&14.
[38] Creighton interview.
[39] Creighton interview.

In addition to this rather curious tactic the administration also made several other obtuse efforts to discredit the STA. One alleged weakness identified in the 1962 legislative debates, for example, was the STA's inability to curtail extensive clearcutting. Approvals for clearcutting were, however, the discretion of the minister rather than a general enabling section in the STA.[40] [41] Interestingly in 1958 only 146,752 hectares (362,752 acres) or just 4.2 percent of forest land was examined under the STA from 1952 - 57. Although this inspection rate was not impressive, theoretically taking over a hundred years to examine all private forestlands, the rate of clearcutting approvals was of most concern. The minister approved clearcuts on 56.6 percent of the lands examined under the STA and only 11.6 percent were actually restricted to the 10inch limit. If there was a problem, it appeared to be that the minister failed to fulfil a duty to restrict clearcutting! Despite these seemingly dubious grounds to oppose the STA, the administration successfully deflected the blame for excessive clearcutting from its own discretionary powers to the STA's specific provisions. It remains quite puzzling, however, why it used this strategy at all. The provision to omit Balsam fir clearly supported the pulp expansion agenda, and raising the second issue was in danger of drawing attention to the minister's record on clearcutting approvals.

Aside from these rather irksome criticisms, the STA did have legitimate technical weaknesses that limited its effectiveness. One was that it "apply only to a lumbering operation involving more than fifty thousand board feet measure or its equivalent."[42] Although no doubt included as an administrative convenience to bolster bureaucratic efficiency, this provision eliminated considerable aggregate areas of private forestland from the STA's purview. This provision, therefore, limited both its scope and effectiveness.[43] A more reasoned criticism was that the STA prohibited removal of scrub

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[40] Interview with Ron Day, former Department of Lands and Forest Extension Forester; March 1986.

[41] Interview with Dave Dwyer, Department of Lands and Forests Extension Forester; March 1986.

[42] Department of Lands and Forest. *The Small Tree Act: An Act to Amend and Consolidate Chapter 6 of the Acts of 1942, April 1946.* Province of Nova Scotia, 1950.

[43] Sandberg, L. Anders. *Swedish Forestry Legislation in Nova Scotia: The Rise and Fall of the Forest Improvement Act, 1965-1986.* In D. Day, ed. Geographical Perspectives on the Maritime Provinces. Halifax, 1988, 184-196.

trees or 'sylvian junk'. In this regard some industrialists argued that it would have been better to legislate their removal rather than to safeguard their protection, arguing that this measure would be much more effective in raising forest quality than any cutting control.[44] Instead, because scrub trees rarely grew beyond the 10inch STA limit, theoretically at least, the STA 'protected' low quality forests in perpetuity. In practice, however, foresters administering the provisions of the STA invariably allowed scrub tree removal. Beyond the government's concerns over the issues of clearcutting and Balsam fir, it was also quite baffling why the administration complained of an 'overwhelming bureaucratic workload' with the STA during the initial FIA debates.[45] It was similarly puzzling why the opposition never challenged this criticism given that the STA was hardly enforced after Hurricane Edna in 1954 and not implemented at all after 1957.[46] Haliburton, the incumbent Minister of Lands and Forests laid additional criticism on the STA. He cited political interference during the Liberal's tenure that proceeded this administration's term.[47] Again this assertion seemed to have little substance: it was neither corroborated by senior career civil servants such as Creighton and Hawbolt, by DLF extension workers, or by prominent landowners such as Prest[48] and Wilber[49]. In fact Ralph Johnson, who was prominent in the CIF:NS. felt political interference with the STA was never a problem until the early sixties![50]

Notwithstanding the government's attention to both real and contrived problems of the STA during the FIA legislative debates, the real issues in forestry, especially concerning the indigenous industry, reflected the growing apprehension about a pulp dominated forest industry and its concomitant lack of concern for forest conservation. These underlying anxieties were brought to the public's attention first by the publication of the province's

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[44] Haliburton interview.

[45] NS. Legislative Debates, April 9, 1962, 1361.

[46] Haliburton interview.

[47] Johnson, Ralph S. *The Forests of Nova Scotia.* Four East Publications, 1986, 291-292.

[48] Prest interview.

[49] Interview with James Wilber, Mill Owner and Commercial Forest Owner; September 1987.

[50] Johnson interview.

forest inventory in 1958 that revealed the general malaise of Nova Scotia's forests[51]. Second, attention was drawn by sawmillers' scepticism that the sawlog industry could withstand the increased competition from pulpwood production, and third the start-up of the Stora Kopparberg pulpmill in 1961 created a sense of inevitability that pulp processing expansion would indeed overrun the forests. It was not so much a matter of STA inadequacy that bothered the incumbent government than it was the potential backlash from pulp sector expansion. From the government's perspective industrial expansion raised the likelihood for additional clearcutting applications that were ultimately the DLF Minister's responsibility under the STA. The political risks in keeping the STA were clear. It was untenable for an administration portraying itself as a responsible forest steward to be seen as the major agent of clearcutting. No matter how well the STA had worked previously the government's political vulnerability became a major motivating force for legislative change.[52] [53]

In this political manoeuvring and issue obfuscation, Haliburton acted as 'frontman' for Premier Robert Stanfield and G.I. (Ike) Smith. Although the government's worry over political fallout was serious, this was not 'the stuff' to try to publicly legitimise legislative change. They were forced, therefore, to undermine the STA's credibility indirectly rather than openly and positively promote its pulp sector enhancement efforts. Haliburton deflected possible criticism by directly attacking the overall worth of the STA. When the indigenous forest industry countered, the government reluctantly backtracked and endorsed the CIF:NS's initiative for renewed forest conservation legislation. In this regard in February 1959 the CIF:NS passed a resolution urging the provincial government to 'replace' the STA. Its proposed initiatives were clearly focused on enhancing forest conservation practices rather than simply liberalising cutting restrictions as the government had hoped. In time this initiative received support from the Nova Scotia Forest Products Association (an organisation dominated by sawmiller interests) and the Nova Scotia Resource Council. This broadening of support increased political pressure on

[51] Hawbolt and Bulmer, 1958.

[52] Johnson interview.

[53] Interview with Lief Holt, Woodlands Manager for Bowater's: 1965 - 1983; April, 1986.

the incumbent administration to pursue legislative renewal.[54] By endorsing the CIF's initiative, the government subsequently championed two related but arguably opposing forest management initiatives. In doing so it walked a precarious line of advocating forest conservation legislation on the one hand--this they did mostly with rhetoric, and on the other hand they backed pulp sector expansion--which they accomplished with substantial material and political support.

Although Haliburton, the Lands and Forests minister, argued that the pulp enhancement objective was never purposely hidden from the public eye, he also conceded that it was never clearly delineated either.[55] As a result of these overlapping and incongruous policies, forestry policy was rather ambiguous leaving both sides of the conservation/expansion question believing they enjoyed the government's full support. In this context of uncertainty and conflicting interests, the following discussion examines the underlying influences of power on this policy sector during this legislative renewal period. This is followed by an examination of this policy process in the contexts of market and state failure. This complete chapter's analysis then acts as the frontispiece to examine in depth the Forest Improvement Act--the act replacing the Small Tree Act. As will be seen, the socio-economic dynamic created by this process built a rather tenuous political and bureaucratic foundation for the FIA that impeded its implementation throughout its tenure.

The Transition of Power--the FIA Gestation Process.

This section attempts to unravel the linkages in forest conservation and resource exploitation policies during the STA's final years by applying Hall *et al*'s framework to tease out key power relationships.[56] One difficulty in applying this framework to the STA rescission process was determining how forest conservation policy related to the pulp processing expansion agenda. A recurring analytical problem was whether to take the obvious evidence at face value or delve deeper to search for hitherto hidden policy

[54] Johnson, 1986, 300.
[55] Haliburton interview.
[56] Hall *et al.*, 1972.

significance. In the end case evidence was evaluated in the context of both overlapping policy agendas. This initial look at apparently rival forestry objectives was then reviewed in the context of management ideology and multiple-objective forest management; and finally in the context of how these influences contributed to market and state failure.

The FIA Policy Gestation Phase:

Although spiralling demand for forest products raised concerns about forest capacity in Nova Scotia, 'doing nothing' never seemed viable as job creation was the Progressive Conservatives' 'ticket' to power in 1956. What swayed decision-making more than possible wood fibre shortages some indeterminate time in the future was the expanding global pulp market. In this context, pulp expansion was 'more feasible' than other industrial development options and job creation was viewed as more important than forest conservation. The main unit of analysis for government decision-making was not, therefore, long-term forest sustainability but shorter-term economic development potential. Given the pulp agenda's strong socioeconomic weighting, it is not initially clear why then forest conservation reappeared on the legislative agenda in the late fifties. The best evidence for its legitimacy stems from the groundwork of the professional foresters association: the CIF:NS. In this respect and in retrospect, Haliburton: the DLF minister and Henley: a caucus member, later concurred that the government lacked the necessary confidence to openly defend the pulp expansion agenda in the face of growing forest conservation concerns, especially those voiced by the CIF:NS. Once support began to gel around the CIF:NS's legislative renewal initiative, however, the government found itself lodged between 'a rock and a hard place'. On the one hand it wanted to fast-track pulp expansion but on the other it was unwilling to challenge the forest conservation lobby head-on.

One recurring factor dampening the government's zeal for pulp sector expansion was its dismal record with foreign investors. With the exception of Bowater's, which bought into an already going concern, the electorate was wary of outsiders storming the province with great fanfare and government funding, and then taking the government's money and

running.[57] [58] [59] If the pulp agenda's multinational connections attracted greater public attention its tenuous support would be eroded further by the public's distaste for publicly financed mega-projects. This combined context of soured multinational alliances and the renewed interest in conservation created a dilemma for the incumbent administration. The government had few, if any economic development options to draw on and revamped forest conservation legislation was a major disincentive for forest industry expansion.

The CIF:NS, with members drawn from the forest industry, government, and academia was a highly credible organisation that gave the forest conservation issue stature. CIF:NS's policy initiative progressively attracted other influential organisations that increased its credibility. Even the Nova Scotia Resource Council, that was notoriously resource exploitation oriented, was swayed by CIF:NS's position and offered its endorsement. This growing support eventually tipped the government's hand despite the risk of alienating its newly found and hard won multinational pulp processing partnerships.

Although Hall *at al.* emphasise the importance of a crisis in policy gestation, its impact on forestry appears much more convoluted than they envisioned. Except during pest infestation, forest fires, or major windthrows in hurricanes, 'acute' crises in forestry are rare, problems are usually more insipid. The incremental effects of over-exploitation, for example, can be cushioned by adaptive practices such as price adjustments, importation, technology advances, pioneering virgin forests, or simply adapting to economic slowdowns. Although quite convincing arguments can be made of impending doom, 'gradualism' continually encourages policy makers to put-off forest conservation initiatives.

Information management was particularly important in this policy gestation process. As

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[57] Conrad, Margaret. *The 1950's: The Decade of Development.* In E.R. Forbes and D.A. Muise eds., The Atlantic Provinces in Confederation. The University of Toronto Press, 1993, 382-420.

[58] Della, Stanley. *The 1960's: The Illusions and Realities of Progress.* In Forbes and Muise, 1993, 421-459.

[59] Taylor, Graham D. and Peter A. Baskerville. *A Concise History of Business in Canada.* Oxford University Press: Toronto, 1994, 428-9&452.

seen earlier, the administration resisted opposition to pulp sector expansion and put-off conservation by 'massaging' information to suit its political needs. The government went to extraordinary lengths to discredit forest inventory 'soothsayers'. Once the 'consulted' DLF officers at the Hotel Nova Scotian were brought on board and 'sufficiency' was demonstrated, it mattered little that the same data previously discredited pulp sector expansion. The important point was that DLF officers were seen to accept the efficacy of industrial expansion, not that the detailed data necessarily did so. In a similar way, skilful information management undermined the STA's credibility in the FIA legislative debates. Rather than argue directly against the STA's ground level performance, the government made a shrewd flank attack, effectively rewriting history. Its claim that the STA created an 'overwhelming bureaucratic burden' could not be substantiated by hard evidence but by obfuscating the record on the STA's ground level performance; the government created an effective smokescreen around the truth of ministerial clearcutting permits.

In assessing the policy impact of management style in forest management it is often difficult to classify many forest practices; their ideological underpinnings are frequently obscured by ambiguous rhetoric and ground level strategies. The expansion of the pulp processing industry in the fifties and early sixties, however, brought new approaches that increasingly sharpened the ideological manifestations of forest management. These pulp processors were increasingly driven by technology and efficiency that required greater reliance on clearcutting, faster growing trees, shorter harvesting cycles, and more species and age uniformity. As their policy influence grew, they threatened the political power-base of the indigenous industry. Although forest practices such as clearcutting were more visually obvious, ideologically earmarking any forest strategy was risky. The counter argument that clearcuts degraded the environment, for instance, was that they would rid the province of 'sylvian junk'.[60] Unfortunately, as time would tell, increased pulpwood production did little to tackle this problem which was a major selling point for pulp expansion and undermining the STA--it turned out there was no economic incentive to harvest poor quality resources, so sylvian junk remained.

[60] Routledge, Hollis. *The Forest Landscape.* Nova Scotia Forest Industries (Stora), 1981.

In this growing era of increased standardisation, the indigenous industry pushed for greater industrial and biological diversity to combat what they perceived to be an increasing reliance on artificial means to sustain what was previously a largely naturally occurring, self-perpetuating system. They focused on attaining forest practices codes that restricted harvest exploitation to mature forest stands. This strategy, although couched in conservation rhetoric also clearly favoured sawlog production that was the mainstay of the indigenous industry. Despite this rhetoric, the government and the new industrialists viewed the indigenous industry as 'Luddite'. They were seen as outdated, obstructive, and incapable of stimulating a depressed provincial economy. The new alliance of government and imported industrialists on the other hand were seen, or advanced by the indigenous industry as cavalier interested only in short-term profit and forest exploitation rather than as stewards of a sustainable forest and industry.

In support of the multinationals, it is interesting to note that although extensive pulpwood processing activity was new within the province, large amounts of pulpwood was previously exported by Hollingsworth and Whitney and others to New England for decades prior to the construction of Stora and Scott's new pulpmills.[61] [62] It was not necessarily the production of pulpwood *per se* and its associated forest practices that bothered traditional operators therefore, it was more likely that increased roundwood competition concerned them most. Nevertheless, the pulp industry's ever-increasing appetite for clearcutting undermined the Small Tree Act's philosophy and this became a symbol for pulp sector opposition although not necessarily a *cause celebre* for conservation.

Importantly for increased conservation support and during this era of pulp sector expansion, other forest uses such as countryside travel, aesthetics, recreation, and water conservation gained greater political significance. The post-war emergence of the automobile led to improvements of the Trans-Canada Highway as well as provincial highways that brought the urban population closer to the forest environment.[63] With

[61] Johnson, 1986, 142.
[62] Johnson interview.
[63] Creighton interview.

increased concern for forest amenity, those advocating more diversified forest conservation policy gained political allies. This demand caused Creighton, who was the DLF deputy minister at the time, to write that the parks' programme "proved so popular that every MLA was clamouring for a park in his constituency, whether along the Trans-Canada or not".[64] In response to this increased demand, federally funded Trans-Canada Highway camping and picnic parks and later provincial parks were built leading eventually to the establishment of a Parks Division (later incorporated into the DLF in 1959 and now transferred to the Department of Environment).[65]

Despite the growing demand for amenity services in forest management, it remains difficult to explain why successive versions of the STA's replacement legislation--the FIA--were framed around multiple-use concerns when overwhelming socio-political support centred on industrial development. One explanation lies with the indigenous forest industry's strategy to obstruct pulp sector expansion and the emergence of advocates such as Creighton who championed the rising tourism industry. A more plausible and perhaps more cynical view, however, is that the political administration simply paid lip service to these interests.

Rather than wondering just how much multiple interest values drove the design of forest practices policy then, a more appropriate question is whether their inclusion in any way shaped policy workings or moulded management options? The answer to this question is clearly yes, but the degree of influence is difficult to quantify. The support for forest conservation legislative renewal and multiple-objective forest management came from wide interests. Some of these 'conservation' supporters were hardly expected to benefit directly from legislative renewal such as staff from Bowater's and several prominent sawmillers. Although their support was likely motivated by competition for scarce resources rather than a legitimate desire for more ground level regulations, their efforts were instrumental in persuading government to enact new forest conservation legislation.

[64] Creighton, 1988, 110-112.
[65] Creighton, 110.

The STA: Market or State Failure?

The workings of the STA, as with the FIA that followed, were highly convoluted and tied to the pulp expansion policy in complex and sometimes quite obscure ways. Whereas STA establishment can be viewed as the state responding to the market's failure to conserve forests during the Second World War, its demise can be considered as a state correction to re-establish better market conditions. Consistent with this scenario, the STA's existence and partial implementation created inertia that impeded market innovation. Continuing with this perspective, the expansion of the pulp processing industry can be seen as a natural evolution of the free-market whereby outmoded industries such as the sawmill industry are replaced over time by more efficient and socially beneficial industries such as pulp processing. Pulp expansion's justification was that it provided value-added economic growth substituting pulpwood exports (where previously most jobs were created in New England) and increased production to provide highly paid jobs in pulpmills within Nova Scotia as well as increased economic activity within the woods themselves. On a provincial scale these new jobs could also be seen as compensating for market and state failure in the steel and coal industries. From an environmental viewpoint, this expansion was also justifiable because wood shortage projections could not be substantiated by indubitable evidence. In addition, the increased clearcutting necessary for an enlarged industry was warranted because it would rid the province of sylvian junk making room for future, more vibrant forest plantations.

This view, however, ignores, the massive subsidies that each new mill garnered, the environmental side effects of pulp processing expansion, and the important role of the state in moderating market forces to maintain social stability, environmental quality and ensure the long-term interests of future generations. The greatest need for jobs, for example, was in the industrial area of Cape Breton around Sydney but the establishment of Stora in Port Hawksbury within the Straight of Canso, some 140 kilometres away, required a new town and the importation of labour. This did little to alleviate Sydney's unemployment problem. Pulp expansion failed therefore to provide social stability, whereas it created pollution at the mill site and additionally denuded a forest already heavily stressed by industrial activity. While time would tell that conventional market

forces were incapable of solving the sylvian junk problem, this was not however evident at the time. The culmination of large subsidies to finance the pulpmills, the establishment of pulpmills away from areas of employment need, and the deliberate attempt to remove forest conservation safeguards can be seen then as a combination of state and market failure. It was in essence the outgrowth of short-term business cycles coinciding with short-term political horizons and expediency to the detriment of environmental quality.

It is interesting in this context to consider where the STA stood on the sustainable development continuum. The STA was largely about conserving wood or future harvests for the woodfibre processing industry. There is little or no evidence that it was conceived to preserve forests with multiple values and benefits. Consistent with the Strong Sustainable Paradigm (SS) an argument can be made that had the STA been fully implemented throughout the province, no net loss of woodfibre might have occurred, although some change in the forest structure, in terms of species and age-classification would likely have happened. Full implementation would, by and large, have maintained the forests--as natural capital--within reasonable limits but would have transferred some natural capital to manufactured capital. The STA without its concession for clearcutting might have kept the maintenance of natural capital within reasonably well-defined limits--allowing only the harvesting of mature forests. The STA's patchy implementation, however, and its frequent resort to ministerial permits when implemented, clearly positioned the STA lower on the continuum. There was little effort by government, for instance, to decouple environmental degradation from production. In fact quite the opposite, there appeared to be conscious decision-making by the state (the provincial government) to trade natural assets for manufactured capital. Such a practice relegated the STA, as implemented, at least to the weak sustainable paradigm (WS). Once, however, efforts were made to rescind the STA altogether--initially without replacement--forest practices clearly fell within the very weak paradigm (VW), if they fell on the continuum at all.

In this era--predating both major phases of ecological modernisation--it is also interesting to assess the impact of fiscal policy on environmental management. Taxation of forestlands, as seen in table 6.1 was at best haphazard. The range of taxation differed

widely from one jurisdiction to the next, providing little conformity for large operators doing business across county lines. This on the one hand created market uncertainty that might be seen as a factor contributing to state failure. The incentive systems on the other hand distorted markets; for example, infrastructure (its provision being one example of evidence for market failure) was provided to favoured multinationals to induce them to the province. Perhaps more critically, as far as forest degradation was concerned, cheap Crown land stumpage fees another industrial development incentive, greatly distorted markets and encouraged forest exploitation beyond sustainable and otherwise optimal levels. The idea that security of tenure leads to enhanced environmental management seems to be counteracted here by its combination with extensive licensing arrangements that include low stumpage fees.

Perhaps the most interesting departure from Pearce's thesis on decoupling growth from environmental degradation was the way information was handled. Contrary to his point that "environment matters" and there is a need to decouple production and environmental pollution, there is little evidence that any roots of this philosophy existed then in Nova Scotia's forest conservation policy. Quite the contrary, the government seemed intent to manipulate information that supported environmental protection to expedite its industrial expansion agenda. This action of course is more consistent with the theories of state failure. There seems no doubt in referring to Weale's discourse on ecological modernisation that the state was well aware of the links between resource exploitation and forest degradation but chose to ignore them. In this regard they were quite content to burden future generations for the gratification of the present. Furthermore, they saw environmental protection as a burden on society and made deliberate efforts to reduce this.

In general it is clear that at this time the government's actions were ambivalent in terms of state intervention. They felt on the one hand it necessary to intervene in the market to enhance the means of production but on the other thought it necessary to back-off when that effort was directed to environmental protection. It is quite clear, nevertheless, from this legislative and policy experience, that optimising the state apparatus and the market was not a prime concern of the state. It was much more their interest to stimulate

production and directly serve the industry, especially the multinationals. It was their view that this should be done at the expense of the environment, if need be. While there was good evidence that forestry production was previously unsustainable and pulp processing expansion would simply accelerate the industry's demise; it is clear that opposition to expansionary forest policies was never strong enough at any stage of this process to completely derail the pulp expansion agenda. It was, nevertheless, sufficient to create a number of policy obstacles along the way.

The FIA Legislative Process.

Chapter Seven:

This chapter examines the workings of the Forest Improvement Act (FIA), 1962-86. The government enacted the initial FIA legislation in 1962[1] with a provision to rescind its predecessor: the Small Tree Act (STA 1946) upon proclamation (see table 7.1).[2] They never implemented the first version, however, as a second version was introduced in 1965 without the first ever being proclaimed.[3] As will be seen, the first FIA had little substance, raising questions about its purpose; in contrast, the second version was detailed in the extreme.

Table 7.1: The "Forest Improvement Act" (FIA) - SNS Chapter 2, 1962.

Full Title	An Act Respecting the Improvement, Management and Conservation of Forest Products.
Significant Dates	Assented to: 13 April 1962 Proclaimed: Never (authority with Order in Council).
Important Definitions	A "Commercial Forest Operation" refers to the production of 50 cords or more or equivalent (Note: no time frame included).
Explicit Regulations / Requirements.	Operators: to report 1 week prior to harvesting and annually. Buyers: to purchase licence and follow reporting procedures.
Buffer Zones	Restrictions on cutting within 100' either side of the centre line of the highway--includes specific exemptions.
Procedure for Adopting Regulations	By Order in Council--restricted to the regulating of forms, timing of reports, the nature of the buyers licenses and the restrictions to be imposed on buyers.
Implicit Results of Legislation	Repeal of the Small Tree Conservation Act.
Sanctions	No specific sanctions provided.

The 1965 FIA too had serious conceptual problems, however, which precipitated several policy confrontations throughout its twenty-one year history (see table 7.2). The different approach of this second legislative version also raised questions about its underlying motives. During its tenure, the FIA underwent fundamental as well as many minor changes as successive legislatures struggled to find a workable legislative arrangement.

[1] Statutes of Nova Scotia. *The Forest Improvement Act.* Chapter 5, 1962, 238.
[2] Nova Scotia Consolidated Statutes 1950. *The Small Tree Conservation Act*. Chapter Six of the Acts of 1942.

Despite its protracted workings that involved continual tinkering at the legislative level, the FIA was never fully implemented at ground level. In the end, the FIA was replaced by the Forest Enhancement Act (FEA) in 1986 with few, if any, key forest conservation issues resolved or workable forest practices developed.[4]

According to the preamble of the 1965 FIA, its purpose was to

- provide continuous and increasing supplies of forest products thereby maintaining industries and providing continued employment;
- conserve water and prevent or reduce floods; and
- improve conditions for wildlife, recreation and scenic values.

Ostensibly the 1965 legislative provisions were designed to monitor and control harvesting operations as well as stimulate reforestation on private lands. As private lands constituted seventy-three per cent of Nova Scotia's forests, the FIA was potentially far reaching. One of its most innovative features was the provision of district forest practices improvement boards (DFPIBs) to guide local implementation. This provision, along with a later amendment to establish an 'overseer' Provincial Forest Practices Improvement Board (PFPIB) unfortunately encountered problems that eventually led to the FIA's downfall.

Initially the local boards were conceived as a vehicle to build trust and cut red tape. They included representatives of the forest industry and the local community and were to be assisted by a professional forester from the Department of Lands and Forests. Their representation "as far as practical" was to include a small woodlot owner, the municipality of the forest district, an owner of woodlands of a thousand acres or more, and a member at large.[5] The specific mandate of the board was to:

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[3] Statutes of Nova Scotia. *The Forest Improvement Act*. Chapter 7, 1965, 39.
[4] Government of Nova Scotia. *The Forest Enhancement Act.* 2nd. Session, 54th General Assembly, Queen's Printer for Nova Scotia, 1986.
[5] *The Forest Improvement Act*. Chapter 7, 1965, 39-49.

Table 7.2: The "Forest Improvement Act (FIA)" - SNS. Chapter 5 1965.

Full Title	An Act Respecting the Improvement, Management and Conservation of Forest Practices.
Significant Dates	Assented to: 30 March 1965. Proclaimed: Sections at a time.
Important Definitions	"Commercial Forest Operation" redefined to exclude owner / operator who employs less than two helpers in cutting operations of less than 25,000 feet board measure or 50 cords in a calendar year.
Buffer Zones	Extended to include designated rivers, buffer extended to 200' from centre line of highway, thinning of buffers permitted.
Explicit Regulations / Requirements.	Buyers are required to have a Certificate of Registration and keep records. Powers extended to prescribe amounts of loans to be made by Timber Loans Board (see below).
Implicit Results of Legislation	Repeal of the Small Tree Conservation Act.
Sanctions	First offence: costs of proceedings and made ineligible for funding under various programs. Second - subsequent offence: penalties under Summary Convictions Act.
Forest Improvement Boards (District)	Minister may designate Forest District Boards to consist of a District Forester and four others representing small woodlot owners, municipalities, industrial owner and member-at-large.
Purpose of Boards	To work in co-operation with representatives of Lands and Forests, to encourage better forest management practices, to prepare a manual of good forest practices, to prescribe, advise and make recommendations concerning cutting practices.
Timber Loans Board	To be implemented through Part XIX of the Agriculture and Marketing Act.
Tax assessment Concessions	Planted lands to have a 20-year moratorium on real tax increases.
Felling of Immature Trees	Generally prohibited except for brow sites. The boards to define immaturity and permitted exemptions after consulting commissioned research.
Injunction Interventions	Board empowered to apply for injunction to halt inappropriate harvesting. Board may proceed with previously approved but uncompleted harvesting operations.

Work closely, and in co-operation with local representatives of the Department of Lands and Forests: to do everything to encourage better forest management practices through education, persuasion and the enforcement of the FIA; to prepare and distribute a manual of good forest practice to local woodlot owners; to distribute to operators and buyers the forms prescribed for making reports and returns; and to prescribe, advise, and make recommendations concerning cutting practices and reforestation procedures.[6]

[6] Sandberg, 1988, 184-196.

Section nine provided the major conceptual challenge to the local boards charged with implementation. This provision called for forest practice regulations to be based upon a "scientifically determined" definition of forest maturity. Although seemingly straightforward, in time this provision forged and then drove a major wedge between various forestry sector factions. The failure to resolve this debate continually frustrated the district and provincial boards' deliberations. Section twelve--a provision that provided for the "preservation of green belts on highways and rivers"--also created considerable controversy and opposition within the industry.

The FIA Legislative Workings:

The chief forester and woodlands manager of Bowater Mersey, Ralph Johnson and his successor Lief Holt actively supported the initial drive for conservation legislation renewal. Both sat on a draft legislation advisory committee with CIF:NS. Holt points out that the original draft from CIF:NS was much like a wish list: "don't ruin growing capacity--allow for ownership autonomy--allow owner to harvest when he sees fit--the owner defines maturity--no regulations!" It was to be enabling and motivating rather than constraining and coercive.[7] Initially Johnson and his colleagues working through the CIF:NS, proposed this 'minimal' legislation to control forest cutting practices. This was to be implemented in much the same way as the STA had before it, by working out specific cutting plans with forest operators on the ground. This Act was necessary "to prevent extensive devastation of ... remaining forests resources."[8] Despite these seemingly good intentions, however, this proposal failed to get full support throughout the CIF:NS. The Eastern Section argued, for example, that these regulations would be "onerous" given the situation of poor markets and prices for wood products. Without clear support and in light of the government's pulp development oriented forest management agenda, the government backed off and tabled alternative legislation. This revised legislation was devoid of any real 'forest conservation' teeth. It did, nevertheless, have two key provisions. The first focused on registration, the second on greenbelts.

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[7] Interview with Lief Holt, Woodlands Manager for Bowater's Mersey: 1965-1983. Liverpool, NS., April 1986.

[8] "*Memorandum to Members of the Nova Scotia Section of the Canadian Institute of Forestry: Proposed Forest Legislation for Nova Scotia"*, MG 1, vol.2862, no

While the debates concerning the 1962 FIA focused on the alleged political and technical shortcomings of the STA, the enacted FIA legislation had few positive conservation attributes of its own. After enactment, opposition to the 1962 FIA was widespread. Johnson, for instance, advocated immediate rescission saying "there was nothing in the Act that would lead to better forest management". He suggested that the greenbelts were "grossly unfair" as they effectively took the most accessible and the most profitable forests out of production. In addition, Jan Weslien, Stora's chief forester argued that while registration "might be a good thing", he could not see how it would directly lead to better forest management. This criticism from the government's industrial partners led Haliburton, the Lands and Forests minister, to publicly admit that the green belt provision "was drafted too vigorously" and subsequently invited CIF:NS to offer possible revisions to the act.[9] [10] As a result, the 1962 Act was never proclaimed and the STA was not officially rescinded.

In contrast to the negative tone of the 1962 FIA debates denouncing the STA, the 1965 legislative debates were more forthright. The government concentrated more on promoting and defending what they considered the FIA's decided attributes. As with the 1962 FIA, the administration sold its new legislative package as an educational initiative. This was rather puzzling as the 1965 Act only briefly touched on education within the overall context of "persuasion and enforcement". This tactic in the legislature seemed as much an afterthought than an integral part to the government's promotional strategy. In actual fact, rather than have an educational tone the 1965 FIA provisions were decidedly intrusive. This aspect was played down, however, by the administration and perhaps more interestingly, was totally overlooked by the official opposition.[11] Nevertheless, compared to the initial 1962 FIA, the 1965 version was assuredly more authoritarian. While the FIA's provisions for DFPIB's and its proposed harvesting restrictions did create some interest among opposition members, these same provisions created quite a stir at the law-amendments committee hearings. There, the FIA proposal received considerably rougher treatment than in the legislature; its widespread opposition accented the inconsistencies between what was literally written, what was supposedly intended and what the act's

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[9] *NS Debates*, 9 April 1962, 1367.
[10] Haliburton interview.
[11] *NS Debates,* February 22, 1965, 29.

practical implications were. Haliburton, the minister, reportedly sat through three hours of lively criticism.[12]

At first glance the sawmillers opposition appeared misplaced. They, after all, provided the initial impetus for revamped legislation. The views expressed at the hearings nevertheless, contrasted markedly with the picture that Haliburton tried to paint in the legislature at second reading--immediately before these hearings. Haliburton argued that

> The legislation itself is no more drastic or dictatorial than the Small Tree Act which it replaces, except that it carries the further requirements of replanting and licensing.

He said that the objectives of the FIA would be brought about "through the medium of democratic bodies representing the forest industry and the woodlot owners themselves, by the appointment of local forest practice boards."[13] Although Haliburton tried to dispel the notion of intrusiveness, it is clear from the law-amendment hearings that few present were convinced. By comparing their respective provisions, it is also clear that the l965 version had substantially more forest practices controls and reporting stipulations than either the STA or the '62 FIA before it.[14]

During these hearings Clarence Porter, past president of the Nova Scotia Forest Products Association testified that the bill was "dictatorial and coercive". He also complained to the committee that "in the past ten years, large areas of Crown lands had been allocated by the government to companies producing and manufacturing pulp and paper products." The bill, as Porter inferred, "would not regulate or govern the cutting or the culture of these lands, nor those held by the Crown." As the FIA applied to only private lands and not to Crown land or to licensed Crown land, it was according to Porter, unlikely to be an effective tool for forest conservation. Although the FIA's specific application to private lands was true and emphasised the seeming immunity that Stora would enjoy as managers of extensive Crown licenses, Porter overlooked its relevance to Scott Maritime and Bowater's Mersey freeholds. These forestlands were substantial and were to be included under FIA regulation. In another attack on the minister, David Barrett, treasurer of the Nova Scotia Forest Products Association said, "the bill would spell death to local saw

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[12] Deakin, Basil. "*Forest Conservation Bill Draws Criticism."* Chronicle Herald, 3 March 1965, 3.
[13] *NS Debates.* Feb 22, 1965, 528.

mills, woodlot owners, sportsmen and to personal freedom." Although his thesis appeared to ignore the legislation's preamble, this view better reflected the literal thrust of the FIA's legislative provisions. In general the concerns expressed reflected the sawmillers' apprehension that the forests managed primarily for the pulp sector would injure their interests. Overviewing the specific provisions of the FIA, it is difficult to see how it could have served the multinationals' interests either--as written the 1965 FIA was overwhelmingly restrictive.

It is interesting to note that few provisions of the 1965 FIA had lineage in Nova Scotian forestry practices or legislative traditions. For the most part they were parachuted from Swedish legislative practices, the home of Stora Kopparberg.[15] It appears that the 1965 FIA was largely the creation of Stora's chief forester, Jan Weslien. Weslien, a Swede quickly gained stature in the Nova Scotia forestry community by taking on the CIF:NS legislative committee's chair after Johnson and Holt. Weslien worked hand in hand with Haliburton, the DLF minister during the final stages of this legislative drafting process.[16] The CIF:NS apparently lost control of the consultative process, despite the initial endorsement by the CIF:NS, the NSFPA, Voluntary Planning, and others. The finally tabled FIA received little support from professional foresters or sawmillers. Most support came, not surprisingly, from Stora and inside government the most ardent backing came from cabinet ministers. Support from the other major pulp processing interests was decidedly luke-warm, if not antagonistic. Scott seemed disinterested at first and based on public records Bowater seemed only mildly opposed. Lief Holt, Johnson's successor at Bowater's attested later, however, that his company opposed the 1965 FIA from its inception--despite the fact that Bowater's played an active role in the 1962 FIA's early development.[17] This lack of support by the other multinationals was understandable given their extensive and dispersed forest operations--under this legislation they would be required to negotiate on forest practices with several district boards.

At first glance, reading 'within' the lines, there appeared to be little logic in Stora's support for this legislation. From an efficiency perspective, the 1965 FIA was likely to be

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[14] Holt interview.
[15] Stjernqist, Per. *Laws in the Forests.* Lund, 1973.
[16] Interview with Jan Weslien by L. Anders Sandberg: Spring, 1989. Summary relayed by Sandberg in a letter to the author June 24, 1989.

administratively cumbersome because of costly red tape. On closer examination, however, Stora's support makes more sense because of the nature of its forestlands' tenure, its provincial loan obligations and its Crown land licensing arrangements. Stora's loan conditions, for example, required them to buy from small woodlot owners. The FIA, if implemented and successful, would stimulate small woodlot production to make it easier and cheaper to fulfil its contractual obligations. In addition, because Stora had little or no freehold and the FIA was directed specifically at private lands, there was little in the 1965 FIA that would directly encumber it! On closer examination, the FIA seemed to be made-to-measure to benefit Stora--this was not surprising given the allegiance of its primary architect.

Understandably the multinationals were never unified in their support for the FIA, but interestingly, all three later coalesced their opposition to the FIA's greenbelt provision. Hans Linberg, Stora's woodlands manager referred to this provision as the "green lie"--referring to its propensity (or potential) to mask forest operations from the public eye. Interestingly Creighton, the DLF deputy minister was very much in favour of this provision--as it turns out it was he that spearheaded its inclusion in the 1962 FIA. This requirement was necessary, according to Creighton, to enhance the emerging tourism industry and protect general landscape values for the general public. Unfortunately, greenbelts were viewed not only as an economic encumbrance but a threat to ownership sovereignty. Consequently it engendered the industry's vigorous opposition.

While greenbelt support was always narrowly focused within a small faction of DLF personnel, support within the DLF generally for the FIA was initially weak and grew increasingly so. Successive deputy ministers: Creighton and Burgess considered the DFPIB's policy-making provisions to be both awkward and unnecessary duplication. They argued that these provisions took power and responsibility away from elected politicians. In reality, however, the more likely reason for their opposition was that deputy-ministers would loose substantial influence if the PFPIBs were successful. It was clearly against their interests to actively support the FIA's provisions; consequently, they impeded FIA implementation whenever they could.[18] [19]

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[17] Holt interview.
[18] Creighton and Burgess interviews.
[19] "*Board's Goal is Increased Forest Yields: Forest Improvement Act More*

Despite senior bureaucratic indifference, the political administration fostered wider acceptance of the FIA after acknowledging its fragile industrial support during the enactment period. In a February 1966 DLF publication, authored by the minister, Haliburton not only extolled the FIA's virtues but also interestingly claimed widespread forest sector backing. Since the time of enactment it was clearly gaining converts within the forestry sector--the government was able to boast support from organisations previously opposed to the FIA at the law-amendments committee hearings.[20] In this publication he claimed that the DLF was "urged to adopt (FIA) forest conservation legislation" by the Institute of Forestry, the Forest Products Association, the Federation of Agriculture, and other interested bodies. Even if this was only token support by these forest sector players, this reflected an impressive public relations improvement. Being able to demonstrate this support publicly, the DLF was now able to demonstrate that it was serious about forest conservation.

Implementing the various provisions of the Act was notoriously slow. FIA supporters were nevertheless appeased for a while by a demonstration DFPIB in Colchester County that served as a model for other areas.[21] When other district boards were established, they enthusiastically embraced the act's co-operative philosophy and attempted to settle basic procedural issues. Although enthusiasm at these meetings was at first high, optimism slowly gave way to frustration as recommendations continually fell on the DLF's deaf ears. Although the DFPIBs' debates were complex, much of the delay in implementing local recommendations could be attributed to the indifference of senior DLF officers and the concomitant lack of implementation resources.[22] Two other factors, however, significantly slowed down FIA implementation. The first was that successful FIA enforcement was contingent upon developing a consensus on 'forest maturity' and its elusive scientific definition. The second, which was outside the confines of the FIA's workings, was the ground level impact of federal-provincial forestry funding agreements. These agreements between the Governments of Canada and Nova Scotia made dedicated

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Positive Approach." Chronicle Herald, April 4, 1966.

[20] Haliburton, E.D. *A Look at the Forest Improvement Act.* Nova Scotia Department of Lands and Forests, February 1966, 2.

[21] "*Provincial Forest Practices Improvement Board Appointed."* Chronicle-Herald, December 2, 1965, 7.

[22] Creighton and Burgess interviews.

conservation legislation increasingly less potent in shaping ground level forest management practices.

The relative potency of federal-provincial funding in shaping forest practices was illustrated as early as 1952 in Nova Scotia. Then a federal-provincial agreement supported forest inventory work as well as miscellaneous forest improvements.[23] Later, in 1962, a federally funded project to tackle unemployment in Industrial Cape Breton was undertaken. This agreement was used primarily to cut woods roads, beautify public highways, and conduct thinning and cleaning in young forest stands. In a similar programme in 1966, the highway from Louisbourg to Sydney was cleaned-up primarily as a 'make-work' and tourism development project. This accord also had the supplementary objectives of forest-stand thinning around Mabou, Cape Breton Island and undertaking Crown land improvements including access roads, stand improvement, forest inventory, and reforestation. While these agreements were stimulated by employment crises outside forestry, they had substantial and specific forest 'improvement' components[24]. Although their major goal was to create employment and facilitate short-term woodfibre flow, they proved to be effective in making ground level changes. Unlike any forest legislation before them, they mobilised the private sector by cutting through ideological divisions and galvanising otherwise disparate interests to a common goal. Interestingly, with these funding agreements, the DLF was able to promote a predominantly technocentric forest management agenda to small woodlot owners under the guise of forest practices improvement grants! This was something they were unable to do with legislation alone.

In contrast to this ground level action, forest conservation advocates focused on legislative initiatives, but they were left wallowing in endless debate about scientific measures of forest maturity and other, more esoteric issues. As a result of this irresolution, the FIA, starved of political and financial resources was increasingly viewed by the forestry sector as imperious, inhibiting and threatening. The federal-provincial agreements on the other hand were viewed--rightly or wrongly--as ideologically neutral and forest improvement positive. As a consequence these agreements developed a pragmatic consensus on what constituted acceptable forest practices! These bountiful

[23] Creighton, 1988, 94.

policies were in practice much more acceptable to commercial and small woodlot owners alike--a key to their acceptance was clearly voluntary and not coerced participation.

The difficulty of finding consensus on forest maturity within the DFPIB process should have been no surprise to the forestry sector. In drafting the 1965 FIA legislation, for instance, the DLF originally planned an operational definition of forest maturity but reneged when this proved elusive. With no internal DLF agreement legislative architects simply entrusted this problem with the DFPIBs--to be worked out in the FIA regulatory process.[25] Unfortunately, once delegated to the wider forest community at the various district levels, it became increasingly difficult to resolve because increasingly more and disparate ideological interests were represented.

The ongoing debate concerning acceptable forest practices and their ecological consequences and their implied ideological antecedents increased the policy-makers' dilemma. It is important to note that no forestry faction was obviously or necessarily more conservative or exploitative than another. From a policy maker's perspective, determining what set of forest definitions and ground level forest practices was in the province's best environmental and economic interests for the immediate or longer terms, was conceptually complex and practically perplexing. In this indistinct policy context, it was difficult to either define or categorise forest conservation goals and it was problematic to prescribe appropriate forest management practices when no overarching agreement could be reached on acceptable philosophy and underlying principles. Nevertheless, once the 1965 FIA was ratified the immediate problem for Lands and Forest was to determine when and how various FIA provisions might be proclaimed, enforced, or alternatively deferred. Because of this philosophical and practical confusion, only three concrete outcomes emerged from the initial FIA implementation period of 1965-8. As Sections 5A, 9, 10, and 18 were proclaimed in 1965 but not enforced, this was enough to ensure that the STA was finally repealed.[26] With STA rescission there was now no statute restricting clearcutting because the FIA, to that date, had no operational regulations. A significant outcome of this minimal legislative action was that political

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[24] Creighton, 122 & 128.
[25] Haliburton interview.
[26] "*Sections of Forest Improvement Act Passed by Order in Council."* Chronicle Herald, 29 Sept 1965, 3.

pressure from Stora and others to proceed quickly with FIA implementation dissipated--urgency was now no longer necessary given the STA's rescission.

Within this more liberal regulatory environment Scott responded quickly in 1966 by revamping its standard ground-level forest practices. From this time on Scott almost entirely confined its harvesting practices to clearcutting. Johnson pointed out that at this time, Bowater's Mersey was also under increasing pressure from its parent multinational to adopt a more far-reaching clearcutting policy. As their chief forester, with considerable professional status in the province and with the legislative weighting of the STA, he had previously been able to resist this pressure.[27] It was not surprising then that Bowater's Mersey's change in policy coincided both with Johnson's retirement and FIA's proclamation. Indeed during this period, Bowater's converted entirely to clearcutting after meticulously practising shelterwood forestry for most of the STA period.[28] In contrast to what was happening at ground level, conservationists' expectation that the FIA would soon produce workable ground-level regulations effectively dissipated political opposition to clearcutting. Most conservationists thought the battle was won but clearcutting was now standard practice in Nova Scotia and was also clearly a legitimate practice--interestingly not by overt adoption of new legislation but by indirect regulatory elimination.

A second development surrounding the FIA's proclamation concerned the workings of the DFPIBs. The establishment of several operational DFPIBs throughout the Province created a need for greater provincial co-ordination. This was subsequently addressed by an amendment in 1968 which authorised a Provincial Forest Improvement Board (see table 7.3).

[27] Johnson interview.
[28] Johnson interview.

Table 7.3: The "Forest Improvement Act" (FIA) - Chapter 28: Assented to 11 April 1968.

Buffer Zones	Buffer zones were extended to include 'designated lakes'. Cutting and thinning within the buffer area became more restrictive essentially eliminating selective cutting within these areas.
Provincial Forest Practices Improvement Board	The addition of a Provincial Forest Practices Improvement Board (PFPIB) was made with duties to further the purpose of the Act and to co-ordinate the work of the District Forest Practices Improvement Boards (DFPIB).

A third outgrowth was that forest maturity and related forest practices problems continually resurfaced as a conceptual block to FIA and DFPIB implementation progress. As a result, any real hope of implementing the FIA at this time began to seriously fade. When George Snow, a Progressive Conservative, inherited the Lands and Forests portfolio in 1968, however, he re-energised the FIA process. Urged on by forestry interests in his own constituency, Snow, rather naively it seems, pursued the spirit of forest conservation as explicitly written in the FIA. Snow not only rekindled the FIA policy process but he amended its structure and created the Provincial Forest Practices Improvement Board. He quickly appointed members to the PFPIB and took personal control as chairman.[29]

The revised act as written, even with these amendments was still ambiguous, however. The most significant functions of the PFPIB as stated in section 5A(4)b were to: "cause to be prepared a manual of good forest practice" and in section 5A(4)e to: "prescribe, advise and make recommendations concerning cutting practices and reforestation procedures in the Province." Section 9(1) stated, however:

> Except for the purpose of providing necessary roadways or brow or campsites, no person, as part of a commercial forest operation, shall fell healthy immature spruce, pine, hemlock or yellow birch trees in an immature stand of any such species unless he has first obtained permission to do so from the Board of the District in which the Stand is situated.[30]

This latter section clearly implied regulation rather than recommendation or guidelines as section 5A(4)e inferred.

For a while, Snow was able to build momentum with his provincial board and various

[29] Interview with George Snow: Lands and Forests Minister, 1968-1969. Port George, Nova Scotia, September 1987.

joint meetings of district board chairmen. Snow's progress was short lived, however, as the Progressive Conservatives were defeated in a provincial election in l969. It was necessary to wait until l971 before Dr. Maurice Delory, the Liberal Lands and Forests minister, named a successor PFPIB. He likewise responded to his own community pressure but surprisingly named most of Snow's previous (partisan) appointees. By choosing an apparently more apolitical route, Delory tried to quickly regain the ground covered by Snow. Initially, reinstitution of the PFPIB created widespread support for the FIA. The PFPIB itself provided the promise of better co-ordination that for a time seemed to satisfy the industrial operators who had initially opposed the county structures. Unfortunately, according to Delory, this process befell the whims of "single minded environmentalists" who side tracked the process.[31] Whether this was the reason for failure or not, it is clear that the FIA was beset with controversy and jurisdictional problems that lasted well into the seventies.[32] Unluckily, this PFPIB stumbled over many of the same conceptual and practical issues its predecessors and the DFPIBs had experienced before it.

Interestingly, in the early PFPIB years, an anti-multinational stance was taken by small woodlot and sawmiller concerns. This intra-organisational tension was exacerbated by the largely serendipitous appointment of an 'environmentalist' chairman: Hugh Fairn. Fairn's appointment was a key turning point for the PFPIB. His initial appointment to the PFPIB as a loyal Progressive Conservative was under the auspices of the neophyte Nova Scotia Voluntary Planning Board. By his own admission he was not an expert in forestry; it was his lifelong interest in wildlife that dominated his policy sympathies.[33] As time went on Fairn was increasingly in conflict with industrialists. He was never isolated, however; he continually got support from the 'official' wildlife representative added to the board in 1972, and other interests such as sawmiller and small woodlot representatives (see Table 7.4).[34]

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[30] 1965 FIA.
[31] Interview with Maurice Delory: former Minister of Lands and Forests - early seventies. Bridgewater, August 1987.
[32] Sandberg, 1988, 185.
[33] Interview with Hugh Fairn: Chairman of the Provincial Forest Improvement Board, 1971 - 1984. Wolfville, Nova Scotia, 18 February 1986.
[34] "*Forestry Board Not Backed by Authorities, Says Fairn."* Chronicle Herald,

In the mid-seventies conservation initiatives were buoyed within the PFPIB by growing public interest in environmental issues. The overall shift in the PFPIB towards environmentalism paralleled an equally strong but opposite move towards technocentrism within DLF that added considerably to PFPIB woes. The DLF's ideological shift resulted from a calculated strategy of recruitment and promotion of those supporting technocentric forest policies and practices. This departmental policy had its roots in Haliburton's era.[35] This ideological transformation gradually bred a 'pulp culture' within the DLF from the deputy minister down to its lowest managerial and technical ranks. While working under Haliburton: the minister and Creighton: the deputy minister Burgess, then the chief forester fostered closer ties with the major industrial concerns in the province. One way was by encouraging exchanges of personnel.

> So we told our staff, if you have an opportunity to go with a pulp and paper company or a sawmill industry, we will give you a year's leave of absence. And at the end of the year, if you don't want to stay with them or they don't want you to stay, you can come back and you haven't lost a thing.[36]

Table 7.4: The "Forest Improvement Act" as Amended - Assented to: 15 May 1972

Membership of Forest Improvement Board	Increased from six to seven members beside the chairman to include a member of the Nova Scotia Wildlife Federation.
Function of Board Redefined	a) Focus on Education, Persuasion and Enforcement of the Act. b) Prepare a manual of good forest practice - originally assigned to each district board. c) Assist and initiate activities in the (District) Forest Practices Improvement Boards. d) Establish Educational Programs.
Forest Improvement Boards Structure	Enables each district board to be enlarged up to ten people to represent industries and municipalities.
Powers of (District) Forest Practices Improvement Boards	Governor in Council may delegate or retract powers of provincial board to the district boards as necessary.
Consultation on Research	The deletion of the Nova Scotia Federation of Agriculture and the addition of the Nova Scotia Wildlife Federation.

The pressure to conform to this growing pulp culture was pervasive. In several interviews with Department personnel it was clear that senior management was increasingly

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February 25, 1984.

[35] Haliburton interview.

[36] Burgess interview.

intolerant of opposition to its pulp agenda.[37] Some interviewees admitted that they owed professional advancement to either embracing or sharing this departmental ideology.[38] As the DLF became increasingly enamoured with this pulp culture and technocentrism it became less tolerant of traditional and typically softer technology forest practices, and environmentalists' arguments against these increasingly more radical forest practices.[39] Although by the seventies this 'pulp culture' pervaded most of the DLF bureaucracy it was from time to time at odds with political administrations and was increasingly at odds with growing public sympathy for environmentalism.

The FIA was fully proclaimed in 1976, some eleven years after its enactment. Proclamation partly came about by continued pressure from the 'soft industrialists'--mostly old-guard sawmillers--who favoured old style forest stewardship and from environmentalists. Together they lobbied for full FIA implementation. Full implementation, at least full proclamation was, however, more directly the result of the Nova Scotia - Canada Forestry Agreement negotiated in the mid-seventies and signed in 1977 rather than the result of a strong will by the provincial government. The 1977 inter-governmental forestry agreement was made contingent on the FIA's full proclamation within eighteen months of its signing by the federal government (see table 7.5).[40] Although it was (later) argued by federal officials that this agreement's stipulation ensured the provincial government 'got serious' about forest conservation, the irony was that the full force of technocentric forestry practices was unleashed on Nova Scotia's forests as a result.[41] [42] [43] Increased funding enabled small and large forestry operations as well as Crown lands' managers to finance 'modern' technocentric forest practices. Many small woodlot owners were in fact willing but likely unwitting participants in this

[37] Dwyer interview.
[38] Burgess interview.
[39] Clancy, Peter. *The Politics of Pulpwood Marketing in Nova Scotia, 1960-1985.* In Sandberg, 92.
[40] The Provincial Forest Practices Improvement Board. *Submission to the Royal Commission on Forestry.* Halifax, April 1983, 23 and Appendix E.
[41] Interview with Ian Miller: Chief Implementation Officer, Forestry Canada-Nova Scotia Office, Truro, July 31, 1989.
[42] Interview with Andre H. Rousseau: Senior Development and Analysis Officer, Forestry Development and Communications, Forestry Canada, Ottawa, October 1986.
[43] Interview with Johannes Ottens: Chief Policy Officer, Policy Planning and Economics Branch, Forestry Canada, Ottawa, October 1986.

technocentric 'forestry conversion' programme.

One concession to environmentalists and soft industrialists on the PFPIB was the funding of a manual of "good practices". This provision had been initially included in Section 9(i) of the FIA without financial appropriation. Eventually in 1980, "*The Trees Around Us"* was published and included a set of ground level prescriptions.[44] Unfortunately from the environmentalists' viewpoint, their inclusion as recommendations within this text rather than 'stand alone' regulations, as had been originally implied in the FIA text and implied in an earlier news release by the board chair,[45] meant business as usual for industrialists. With recommendations and guidelines as opposed to regulations, there was no explicit threat of sanction as was implied, if not enforced, with the STA.

Table 7.5: The Forest Improvement Act as amended - cited in RSNS Consolidated Legislative Reports, May 1984.

Duty to Maximise Wood Harvests.	The operator must make every effort to harvest all saleable wood of commercial value.
Guiding Legislative Principles.	Give appropriate weight to the principle that all trees cut will be used as far as reasonably practicable for the purpose to which will best contribute to the sustained development of the economy of the Province.
Summary of Proclamations.	Proclaimed (except 5A, 9, 10, 11 & 18) June 4, 1968). In force (except 5A, 9, 10, 11 & 18) Feb. 21, 1969. Proclaimed (Sections 9, 10, 11, & 18) Nov. 16, 1976. In force (Sections 9, 10, 11 7 18) Dec. 8, 1976.
Legislative Notes.	Note #1: Chapter 114 of the Revised Statutes, 1967 was, with the exception of Section 5A, 9, 10, 11, and 18, in force on February 21, 1968. Note #2: Section 5A was enacted by Chapter 28 of the Acts of 1968 which was not subject to proclamation, said chapter was assented to April 11, 1968.

By this same period, the DLF's predominant forest management ideology had become diametrically opposite to that of the increasingly powerful environmentalists. This ideology also contrasted starkly with the majority sentiment of the PFPIB. Interestingly, opposition within DLF aimed at the FIA--initially based on distrust of pulp interests; was replaced by an impassioned dislike and distrust of environmentalists.[46] This shift in

[44] Provincial Forest Practices Improvement Board. *The Trees Around Us.* Government of Canada/Province of Nova Scotia, 1980.
[45] Wylie, Don. "*Implementation of N.S. Forest Management this Fall."* Chronicle Herald, July 18, 1979, 21.
[46] Burgess interview.

rationale if not in policy allegiance also led to the increasing alienation of senior DLF personnel from the FIA implementation process--this antagonism was mostly embodied within the PFPIB process. This entrenchment of disapproval towards the FIA fostered greater behind-closed-doors ties between DLF and industrialists at various levels of their organisations. Although the PFPIB process for a while had brought public attention to the forest policy debate, substantive discourse on forest practices policy once again retreated out-of-site. Despite this withdraw to the backrooms of policy development, industrialists maintained representation on the PFPIB[47]--as one multinational woodlands manager put it--as a "damage control" measure![48]

The philosophical chasms that were becoming more apparent during the extensive PFPIB deliberations were suddenly wrenched apart by unexpected policy events. A major crisis--a spruce budworm infestation that concentrated largely on the Cape Breton Highlands--pitted environmentalists against industrialists. Spruce budworm, it should be noted, had been part of the natural forest ecology for centuries in Nova Scotia prior to this outbreak. Its periodic outbreaks naturally culled overmature forests to make way for new ones. The combination of prevailing winds from New Brunswick (to the west) which carried the spruce budworm moth and New Brunswick's decades old policy of insecticide spraying kept spruce budworm populations in a prolonged 'take-off' and fast growing population growth stage. This was particularly frustrating because Nova Scotia maintained a 'no spray' policy that depended on natural spruce budworm population collapses. Unfortunately, the highly technocentric strategy to protect New Brunswick's forests prevented Nova Scotia from successfully executing its preferred, more ecocentric approach.[49] [50] Lucklessly, Nova Scotia's strategy was never really tenable given the influx of new moths from New Brunswick every year. This failure was the direct result of New Brunswick's technocentric spray policy. The resultant unnatural and prolonged infestation that regular spraying brought had devastating effects on the overmature Balsam fir (the Spruce budworms' preferred food) forests in Cape Breton's Highlands.

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[47] Various interviews with Multinational Pulp and Paper Company officers.
[48] Interview with Jack Dunlop: Woodlands Manager, Bowater Mersey; February 1986.
[49] "*Cape Breton Group Lashes NB Spray Plan."* Chronicle Herald, Jan 13, 1979, 17.
[50] "*NB Blamed for Increase in Budworm Infestation."* Chronicle Herald, Mar.1, 1979, 9.

These persistent infestations systematically defoliated Nova Scotia's forests. Since there was no effective natural means to control spruce budworm growth in Nova Scotia--as long as New Brunswick continued to spray--the Highlands eventually died first followed unexpectedly by Cape Breton's Lowlands. As this infestation became more severe throughout the seventies more drastic, more technocentric, and more controversial remedies were called for by the forest industry. Eventually the patience of the Nova Scotia's forest industry ran out--but not with New Brunswick's forest industry who were the real cause of this prolonged and severe problem but with Nova Scotia's environmentalists who opposed spraying both on environmental and health grounds! Member industries called forcefully for a large-scale spray programme to control further budworm damage. This strategy appeared, according to industrialists, to be the only commercially viable solution as long as New Brunswick sprayed its forests. Despite widespread defoliation, environmentalists nevertheless argued that the budworm population should be allowed to continue to take its 'natural' course--even though there was no guarantee the forests could be saved. This difference of opinion between technocentrists and ecocentrists set the stage for a divisive conflict where neither party scored a satisfactory victory.

Notwithstanding the ire of industrialists, the budworm spray conflict dramatically increased the PFPIB's public profile. It moved from relative obscurity to the forefront of public interest and debate in the late seventies. Much of the 'credit' for this raised public profile goes to the PFPIB chairman: Hugh Fairn. He capitalised on any brief moment of board consensus to raise the public profile of the spray issue and to forward the environmentalists' argument. For industrial representatives on the PFPIB such pronouncements regularly proved embarrassing, resulting in awkward retractions by parent organisations, especially the multinationals. This eventually led Hank Howard from Scott, a long standing member of the PFPIB, along with Hugh Ross of Stora to publicly call for the board's dismantling at the 1984 Nova Scotia Forest Products Association annual meeting.[51] During the PFPIB's later years, Fairn became even more outspoken and as one might expect, board deliberations continued to be acrimonious. As interpersonal animosity grew an increasingly large rift developed between the industrialists and the environmentalists on the PFPIB. This conflict and debate over forest

[51] Dyck, Hattie. "*Forest Industry Officials Want Improvement Board Abolished."*

practices took place both within and outside the workings of the Board. Eventually it erupted into a full blown political crisis--as the spruce budworm infestation peaked so the environmental confrontation escalated.

In the mid-seventies, Vince Maclean, the Liberal DLF Minister presided over this intensifying controversy. Although not directly responsible for the initial and controversial decision to halt spruce budworm spraying, he took the brunt of its political fallout as DLF minister. It was Alan Sullivan: the Minister of Health, however, who actually banned spruce budworm spraying. Although Sullivan did this for 'reputed' health reasons, unfortunately for Maclean, this fact went largely unnoticed by forest industry opponents, the press, and seemingly the general public. Maclean later claimed that he had been unfairly accused of buckling too easily to pressure from his home constituents--a predominantly urban riding that had little forestry expertise or direct interests. He counter-claimed that banning spraying was a carefully calculated decision by his cabinet colleagues.[52] His Liberal cabinet colleagues, Maclean argued, were under intense pressure to approve Stora's request to spray thousands of acres of infested Highland forests. To allow spraying, Maclean insisted, was the easier of the political options.

In response to a growing political controversy Maclean spearheaded a joint committee of the Departments of Health, Environment, and Lands and Forests. Its purpose was to study this issue and make recommendations to cabinet. Numerous groups including the PFPIB and the Environmental Control Council made representation at these committee hearings. Surprisingly, both groups, especially given the ideological divisions within the PFPIB, advocated the no-spray option. In the end, the Joint Committee recommended to not restart spraying and Maclean took this to Cabinet. Maclean recalled that this was closely scrutinised and debated by Cabinet--it was an agenda item "at least a dozen times" before the final decision was reached. According to Maclean, the most persuasive scientific evidence was that the infestation was so intense on the Highlands that even a very successful spray program would leave sufficient budworm to "leisurely eat the remaining forests". Although the final decision was contrary to the pulp companies' wishes and the recommendations of senior DLF management, the industry, at least openly, capitulated--

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Chronicle Herald. Feb. 4, 1984, 19.

[52] Interview with Vince Maclean: Minister of Lands and Forests, 1976 - 1978; May 1987.

on the surface the industry seemed resigned to salvaging what they could from budworm damaged forests. For good reason or not, cabinet's decision increased the animosity between the various PFPIB factions. Whether or not the provincial cabinet's decision could be attributed to the lobbying efforts of the PFPIB chairman and his majority supporters, the PFPIB and with it the FIA lost further credibility among industry and DLF bureaucrats.

When the Liberals lost the l978 election, the multinationals seized the opportunity to regain influence with the Progressive Conservatives. Government sympathy gradually shifted back to the multinationals and support for their technocentric forest practices. Although the Progressive Conservatives seemed happy to renew their ties with the multinationals, at first they stepped cautiously so as not to raise the ire of the increasingly distrusting public and the buoyant environmentalists. From time to time, the government announced limited and experimental spray programs to test the waters in the hope of not inciting another forestry controversy:[53]

> The spray program was a brand new program and of course they [the Cabinet] were all terrified that they were going to get into the ill will of the public and they wondered if there was any need for spraying. You were sort of being cross-examined by the Cabinet and by everybody opposed to forest development.[54]

By this time, however, much of the steam had dissipated from the environmental lobby, especially after environmentalists had claimed victory after the 'no spray' decision. The reintroduction of experimental spraying was accomplished with little environmentalists' protest.[55] [56] Although it is clear that the industry was upset that they were not allowed to launch a full-scale chemical spray program, there was little public forewarning of the industrial / environmentalists dispute that erupted in 1982.[57] [58] Having lost fifty percent of softwood cover to budworm infestation and having begun a large- scale reforestation

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[53] "*New Chemical Spray to Be Used on NS Crown Lands."* Chronicle Herald, June 21, 1978, 1.
[54] Henley interview.
[55] "*Spray Policy Undergoing Careful Review, Kerr Says."* Chronicle Herald, April 14, 1982; 12.
[56] Kingsbury, Al. "*Bowater Mersey Awaiting Spray Program Approval."* Chronicle Herald, May 18, 1982; 21.
[57] Butters, George. "*Chemical Spray Fight Revived."* Chronicle Herald, July 1, 1982.
[58] Butters, George. "*Band to Destroy Trees if Spray Not Stopped."* Chronicle

program with 'industrial' softwood species, Stora unilaterally announced a massive program of phenoxy herbicide spraying. This forest protection program was designed to combat the extensive hardwood competition to their softwood plantations. While technically a separate spray issue from the spruce budworm controversy, history suggests it closely intertwined politically.[59] Although perhaps justified from an economic standpoint, Stora's proclamation to spray was a public relations disaster. Stora's announcement apparently caught both the DLF and the remaining forest industry off-guard. The Department of Environment, despite being under considerable pressure from environmental groups subsequently issued Stora a license to spray. This defeat was devastating to the environmentalists, they considered this an industry-wide precedent. As a result of the environmentalists' concerns, this controversy escalated into a major court battle in 1983 gaining international attention--especially in Sweden, Stora's parent company's home-base.[60] [61] The ensuing court proceedings tore Nova Scotia's forest community apart; it more sharply divided environmentalists and industrialists than any issue before it.[62] [63] While the plaintiffs, the Cape Breton Land Owners Association lost their suit on appeal to Nova Scotia's Supreme Court; Stora (and the pulp industry generally) suffered considerable public relations damage.

During this period the Progressive Conservatives and the Department of Lands and Forests found themselves in a particularly tenuous position. Hugh Fairn further exploited this vulnerability--he used the PFPIB process as a voice once again to foster public sentiment for the environmentalists' forest practices position. The question of whether Nova Scotia's forests were to be predominantly an industrial installation or serve as a much broader cultural amenity became a central political issue. As this debate persisted, the provisions of the FIA--as written--gained greater relevance as did the explicit mandate

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Herald, July 2, 1982.

[59] Soyez, Dietrich. "*The Internationalization of Environmental Conflict: the Herbicide Issue in Nova Scotia's Forest and its Links with Sweden."* Nordic Association for Canadian Studies Triennial Conference: "Canada and the Nordic Countries". August, 1987, 3.

[60] Soyez, 4.

[61] Laskey, Heather. "*The Heat's on Herbicides in A Special [NS] Law Case."* Globe and Mail, Dec. 6, 1982.

[62] "*Pesticide Opposition 'Hurting Forestry'."* Chronicle Herald, Nov. 4, 1982, 37.

[63] Hawkins, Jack: MLA [Member of the (NS) Legislative Assembly] "*Uncertainty Undermining Confidence in [Nova Scotia] Forest Policy. Hawkins Contends."* Chronicle Herald, Nov. 8, 1982, 7.

of the PFPIB. One of the outgrowths of this controversy was a rather bizarre public debate between George Henley, now the DLF minister, and Hugh Fairn.[64] [65] [66] Attempts by Henley to neutralise Fairn only exacerbated political tensions and did nothing to alleviate the growing public ill will towards the pulp industry. Eventually, to quell this raging debate, the government called for a Royal Commission Inquiry to sort out the mess precipitated originally by Stora's unilateral actions.

George Henley, in a later interview, was candid about the Royal Commission. Although publicly the enquiry was to make an in-depth analysis of the forest industry in general, Henley explained the real reasons

> What it is, is an exercise in self-survival, isn't it? And if you can get something going that will carry the heat for you, you'll always go and do that ... Royal Commissions really are a way of getting out from under the heat for a while.[67]

As will be seen in Chapter Nine, the Royal Commission proved very successful in taking the wind from the environmentalists' sails. This inquiry also undermined the PFPIB process, silenced the PFPIB chairman, quelled the howling political storm, and provided a politically palatable avenue for rescission of the now highly controversial FIA. Most importantly, the Royal Commission gave the pulp industry time to reconsolidate. In due course, this respite from public controversy allowed the pulp industry to resume business largely as usual without either the encumbrance or threat of restrictive forest conservation legislation or regulations. Before examining contemporary issues in Chapter Nine, however, the following chapter revisits the workings of the FIA to gain a clearer understanding of the dynamics of power in the policy process. These insights provide a more intelligible explanation of the underlying dynamics of the forest conservation problem and a sharper lens with which to assess present policy practice and proposed future directions for forest management in Nova Scotia.

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[64] Kingsbury, Al. "*Fairn 'Shocked' by Appointments to Forest Board."* Chronicle-Herald, Feb. 18, 1984, 21.
[65] MacDonald, Don. "*Henley Undermining Board Says Maclean."* Chronicle Herald. April 4, 1984.
[66] Jeffers, Alan. "*Streatch Will Take Over Forestry Board*". Chronicle-Herald, March 30, 1984, 17.
[67] Henley interview.

Chapter Eight:
Dimensions of Power in the FIA Implementation Process.

This chapter covers two broad themes concerning policy power and influence during the FIA legislative era. It first explores the dimensions of multi-agency power including the underlying influences on agency character, inter-agency relationships, and organisational ecology. This is followed by a more macro analysis of power impinging on forest management decision-making. This second analysis initially focuses on pluralist, elitist, and structural influences pervading the policy process and then examines the policy process in the context of ecological modernisation, and market and state failure.

The Early Multi-agency Management Context.

1. Agency Character:

As explained in Chapter Four, understanding the inner workings of key forestry agencies within Nova Scotia's forest management sector gives valuable insight into the sector's overall capacity to accomplish forest conservation goals. This key-agency approach provides insights into habitual styles of operation that helps to gauge future agency responses to assorted management dynamics. Although Nova Scotia's 30,000 small woodlot owners controlled some 50,000 woodlots and accounted for about 50% of forested land during the FIA implementation period, their woodlots were generally simply managed. Planning was characteristically done on the "back of cigarette packages" at the kitchen table.[1] Forest operations were a sideline for many woodlot owners; the woods were worked in downtime from fishing, farming, and other livelihoods or when additional cashflow was necessary. Despite this ancillary role for forestry, woodlot owners were seen as an "an independent lot who resented anything that restricted his personal right to run his business and control his property."[2] Woodlot owners characteristically valued management sovereignty and typically distrusted and resisted government intervention.

[1] Creighton interview.

[2] Deakin, Basil. "*Forest Conservation Bill Draws Criticism."* Chronicle Herald, 3 March 1965, 3.

Despite the woodlot owners' usual political impotency, efforts to handcuff or manipulate the small woodlot owners through forest management policy had little success. An unsuccessful Bill 151 in the late twenties, for example, proposing to embargo exports from private lands to ensure adequate supply for Nova Scotia's wood producers failed to get enactment after woodlot owners opposed it. Regional opposition to the STA in the forties and fifties, which some small woodlot owners characterised as a "largely socialist measure" also demonstrated the difficulty in trying to corral small woodlot owners without their expressed consent. In addition, the subsequent watering down of the 1962 FIA from that proposed by CIF:NS, to some extent showed the small woodlot owners' resolve when faced with intrusive state intervention.[3] Unfortunately, for small woodlot owners, their public defence of management autonomy rarely reaped lasting social or economic benefits. Their lack of managerial sophistication and generally weak political bargaining position continually reinforced their domination by the more powerful woodfibre processors.[4]

In the face of more intense political influence as well as increasing market domination by the pulp sector in the late sixties and early seventies, small woodlot owners began a more concerted attempt to gain more power by organising at the provincial level. In 1969 they organised under the Societies Act as the Nova Scotia Woodlot Owners Association (NSWOA). This organisational drive attracted over 1,200 members. They first lobbied for collective marketing and focused their initial policy efforts on broadening the scope of the already operational Natural Products Marketing Act. This act's provisions were considered too narrow by government to be applied to pulpwood, however, and a Pulpwood Marketing Act with considerably less leverage was proposed instead in 1972.[5] Although offering considerably less than small woodlot owners hoped for, the Pulpwood Marketing Act provided the means for registration as bargaining agents and the creation of a Pulpwood Marketing Board. In implicit recognition of their market domination, the

[3] Cameron, John S. to Angus L. Macdonald, MG 2, vol. 970, file 25, PANS, 28 June 1952 .

[4] Clancy, 142-167.

[5] SNS, 1972, C.15.

boundaries of bargaining groups were drawn around the effective monopsony boundaries of the three major multinational pulp processors.[6]

Although the small woodlot owners initially made headway in addressing the asymmetrical market power of the pulp companies, intra-sector disunity and apathy as well as the continued resistance of the pulp companies generally hindered them. Although a membership of over a thousand might seem impressive for the small woodlot owners group, compared, for example, to CIF:NS with fewer than a hundred members their potential membership exceeded thirty thousand. This organisation's inability to represent and speak for all small landowners or a sizeable minority severely weakened its political influence. Any suggestion that this organisation was speaking for all landowners on forest policy was strongly resisted by the multinationals. In the marketplace where the small woodlot owners' influence really mattered, they were continually frustrated by the failure to implement the provisions of the Pulpwood Marketing Act. During this period they were also marginalised by the multinationals who gradually shifted their reliance for raw products from the small woodlot owners to alternative pulpwood sources such as their own forest holdings, the other large commercial holdings, and Crown licences. For the most part then, the small woodlot owners were politically fragmented and economically weak.

In contrast most sawmill operations ranged in size from small family operations to medium sized companies of fifty to a hundred--often seasonal employees. Several sawmills operations were vertically integrated with woodlands to ensure a continued sawlog supply; these supplies were also used for market leverage with the small woodlot owners. For many years the sawmillers were largely the beneficiaries of the woodlot owners' organisational and marketplace ineptness. Before and during the early years after the Second World War, the sawmillers were well positioned to influence forest policy through NSFPA that was established in 1934.[7] However, the dynamics of the fifties and early sixties seriously undermined the sawmillers privileged access to policy formulation. The DLF minister, during the FIA ratification process, for example, characterised them as

[6] Curtis, David S. *Toward an Effective Marketing Structure for Woodlot Owners in Nova Scotia.* Nova Scotia Primary Forest Products Marketing Board, 1988.

[7] Clancy

“the most difficult people in the world to get together", suggesting of course a less than harmonious relationship of the government with sawmillers and among sawmillers.[8]

For the most part, each sawmill established a small monopsony for forest products in its local area. Although developing technology increased some mills’ capacities and made others uneconomic, NSFPA’s collective voice generally worked to maintain forestry’s *status quo* that favoured the sawmillers in general. While the sawmillers’ resistance to pulp expansion in the fifties seemed quite rational, their active support of forest conservation legislation seemed somewhat out of character as some sawmillers were actively opposed to the STA; many had a legacy of highgrading and others opposed conservation measures as too costly. On the surface their support for legislative renewal seemed against their basic interests. Their support for legislative renewal could best be seen as a political bargaining tactic--a rearguard action to bolster their decaying policy influence as the multinational pulp companies became more powerful.

As land managers the two thousand or so commercial landowners (those owning over 400 ha) were more managerially sophisticated than the small woodlot owners; they were by and large more focused on economic efficiency. Several commercial landowners had integrated sawmills and some were also involved in sawlog and pulpwood exports. A few could claim a solid history of forest stewardship using relatively soft forest management practices. Most commercial operators, however, practised widespread clearcutting. Several were actively involved in NSFPA and a few exerted influence in the CIF:NS through their professional foresters.[9] The largest commercial operator in the fifties was the Bowater’s Mersey Paper Company. In some ways Bowater’s was an enigma among the large industrialists who operated during the FIA era. It might have been expected to oppose strengthened ground level forest conservation regulations, and it might have been widely distrusted by sawmillers as an integral part of the pulp expansion programme. This view did not, however, take into account Ralph Johnson’s (Bowater’s chief forester) unyielding forest management philosophy or Bowater’s determination to undermine potential competition from the new multinationals. Instead of falling in line with the new pulp sector, Bowater’s initially championed conservation legislation renewal and

[8] Chronicle Herald, 3 March 1965, 3.

vigorously opposed pulp sector expansion. Its public position emphasised the perceived insufficiency of Nova Scotia's forest inventories to support substantial industrial expansion.

Although Scott's pulpmill was a new addition in the sixties, its woodland operations in Nova Scotia were purchased much earlier from the US based Hollingsworth and Whitney Company. Using its freeholds and Crown land licenses Scott increasingly focused on commercial efficiency at the expense of forest conservation. In its defence, however, its new pulpmill redirected pulpwood destined for New England pulpmills to Nova Scotia. Scott was most forthright about its forest practices and preferred policies; it clearly favoured minimal state intervention in forest management operations and made that public knowledge. In contrast, when Stora settled in Nova Scotia, it advocated fundamental changes to Nova Scotia's forest policy and management practices. As one of the oldest corporations in the world and one of the world's largest forest products companies, it not only brought capital to Nova Scotia but also a well established and a somewhat alien forest management philosophy. Stora advocated a more systematic and classically Swedish approach to ground level forest management.[10]

While the multinationals were often divided as a sub-sector, DLF was often split within its own organisational ranks. Its broad legislative mandate dictated three largely incompatible goals.[11] First as Crown lands' manager, DLF was charged with revenue generation through the sale of its land holdings and Crown stumpage sales. Along with various taxes, fees, and Crown royalties, DLF's stumpage sales provided an important contribution to provincial conifers. Second, Lands and Forests was also accountable for the 'responsible' management of private lands. This frequently set DLF in conflict of interests attempting at one and the same time, for example, to improve the economic viability of small woodlots and also offering substantial competition through its Crown land sales. Third, DLF had a significant but much less extensive role in wildlife and aesthetics management as well as forest recreation development; these objectives were

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[9] Johnson interview.

[10] Weslien, Jan. *The Forest Improvement Act as Compared to European Legislation.* Paper presented to the Tenth Annual Meeting, CIF:NS, Sept. 17, 1964.

[11] Creighton, 1988, 27-35.

frequently at loggerheads with its forest exploitation objective. Although wildlife management and forest management conflicts periodically surfaced in the legislature, rarely did any significant changes materialise in ground level practices to accommodate these concerns.[12] [13]

A number of provincial organisations also influenced this public policy process. Before pulp expansion, NSFPA represented the sawmillers, many larger landowners, and Bowater's. During the early years, NSFPA's primary role was set on safeguarding the indigenous forest industry's established interests; it provided little support for the government's forestry transformation agenda. Evidence from key actors suggests that NSFPA traditionally promoted its interests through close ties with the Liberal administration prior to 1957. A change to the Progressive Conservatives, however, threatened these links and its traditional political influence began to erode.[14] While NSFPA's response to the pulp expansion agenda was largely reactive, offering no alternative economic development agenda, CIF:NS played a more proactive role. As an organisation of professional foresters drawn from government, the pulp processing interests, and the sawlog industries, their broad 'professional' view was found to be particularly credible on forest management matters. As already explained, the CIF:NS's policy efforts was largely responsible for the initial political interest in renewed forest conservation legislation.

2: Inter-agency Relationships.

Prior to pulp expansion the most significant forest sector market relationship was the small woodlot owner/sawmiller association. Most small woodlot owners sold stumpage infrequently which limited their market wherewithal. This marketing deficiency significantly advantaged the sawmillers who regularly scheduled woodlands operations; controlled aggregate flows from small woodlots, Crown holdings, and freeholds; and generally controlled prices by their superior knowledge and integrated forest management

[12] *NS Debates*, April 9, 1962, 1328-1357.
[13] *NS Debates*, March 9, 1965, 1205-1213.
[14] Creighton, Burgess, and various sawmill owner interviews.

operations.[15] These structural advantages fostered rather paternalistic forest management relationships between sawmillers and small woodlot owners. Consequently, harvesting returns for individual small woodlot owners were often low providing little economic surplus to reinvest in forest management in general and forest conservation in particular.

As the need for more pulpwood became increasingly critical in the sixties, sentiment for policy intervention on small woodlot lands gained popularity among the multinationals, economic advisors, and government. The earlier lessons in attempting to directly interfere with woodlot owners' decision-making autonomy were forgotten. The Voluntary Economic Planning Board, for example, suggested that "ownership of forest lands entails an obligation of responsibility for keeping land productive and from becoming a public nuisance".[16] Premier Stanfield also commented that

> we are either serious about making the most of our forests or we're not ... I think if we are serious we have to carry through, and encourage our people [private land owners] to follow certain practices that will mean a great deal to our province in the future.[17]

The DLF bureaucracy was dominated in the sixties and early seventies by returning veterans trained in crash courses in forestry and allied professions after the war. They were generally sympathetic to sawmillers and small woodlot owners needs. However, the DLF bureaucracy increasingly favoured the pulp agenda. As time passed DLF became less sensitive to small woodlot owner and sawmiller concerns and by the mid-seventies acted largely as the multinationals' agent state. During this period, sawmillers as well as small woodlot interests were increasingly subserved by the pulpwood agenda.[18] Pulpwood production from Crown licensed lands, for example, increasingly distorted markets against the interests of small woodlot owners; and the multinationals with aid from government, also built three of the largest sawmills in the province. Although pulp sector expansion (Stora, for example, expanded from 135,000 - 175,000 tons per year and

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[15] MacQuarrie, Peter. *A Survey of Private Woodland Owners in Nova Scotia.* Forest Planning Division, Nova Scotia Department of Lands and Forests, Halifax, April 1981, 24.

[16] Nova Scotia, Voluntary Economic Planning Board. *Submission of Forestry Section to Nova Scotia Voluntary Planning Board.* RG 55, series "VP", vol.3, no. 14, PANS, Halifax, 1964, 61.

[17] *NS Debates*, 22 February 1965, 536-7.

[18] Bissix, Glyn and L. Anders Sandberg. *The Political Economy of the Nova*

installed a 160,000 ton newsprint facility in 1969)[19] should have been good news for the small woodlot owner because of an expanding pulpwood market, Crown licence renewals (Stora's provided a top-up to 81,000 ha and a rise in the allowable cut from 12 - 25 cubic feet per acre per annum) generally suppressed private woodlot production and open market demand.[20]

DLF efforts to acquire more Crown land in 1974 were a further threat to small woodlot owners. Even though total woodfibre production increased from 90 million cubic feet in 1964 to over 135 million in 1974, the woodlot owners share got progressively smaller and their bargaining power was continually eroded.[21] During this period it should be noted, Crown lands' production rose to 21% and larger freehold production increased to 43%. The remaining 36% for small woodlots were a far cry from the 70% share this segment held in the late fifties.[22] As a result of undermining their bargaining power and policy influence, it is clear that in the late STA period and throughout much of the FIA period, the provincial government had a deteriorating relationship with both small woodlot owners and sawmillers. In this policy environment none of the key inter-agency relationships--sawmillers and woodlot owners, woodlot owners and multinationals, or the provincial government with any of these sub-sectors--seemed conducive to the development and implementation of sound forest conservation practices.

3: Multi-agency Organisational Ecology.

In the context of inter-agency relationships that provided little incentive for implementing forest conservation policy, it is not surprising that aggregate multi-agency processes provided no additional basis for optimism in forest conservation management. In general inter-agency processes aggregate in complex ways where the sum of the parts rarely reflects total individual or accumulative organisational inputs. This is what Nozick in his

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Scotia Forest Improvement Act, 1962-1986. In Sandberg, 1992, 178.

[19] Johnson, 1986, 272.

[20] Bissix and Sandberg, 178.

[21] Department of Lands and Forests. *Nova Scotia Forest Production Survey: 1987,* 1988.

[22] Nova Scotia, *Annual Report: Department of Lands and Forests - Fiscal year ending March 31, 1975.* Halifax.

discussion of the multi-agency policy context referred to as the 'invisible hand'.[23] Although organisational complexity was apparent in the STA legislative era, this era's multi-agency dynamics were much simpler than its successor. During the STA era existing sawmills monopsonies effectively dictated market patterns as well as forest practices. These *de facto* sawlog markets were later destabilised, however, by pulp sector expansion. Over time, as the pulp sector markets grew and sawmills evolved and expanded in response to technological innovations (see table 8.1), previously quite stable sawmill monopsonies gave way to larger, more pervasive, and more complex pulpmill focused, multi-organisational monopsonies. In time, existing relationships between sawmillers and small woodlot owners transformed to more onerous paternalistic pulp sector dominated political economies. In this multi-agency context two things became clear. The first was that DLF and the provincial government could do little to promote forest conservation without the expressed will of the sector's constituent agencies, especially the multinationals. The second was that the multinational pulp companies, over time, developed a foreboding political economy that created a policy momentum all of its own. This momentum aimed at forest exploitation rather than forest conservation created considerable policy inertia that would require substantial managerial and political resources to overcome.

4: Macro Dimensions of Power: the FIA's Early Years.

Although multi-agency insights are useful in explaining internal forest sector dynamics, this alone tends to under-explain the impact of broader socio-political influences. This analytical approach fails, for example, to provide critical insights into the way forest fibre production and forest conservation policy adapted to and was influenced by national and international political and economic issues. Macro theories of power, such as structural analysis derived from classical Marxism is more useful. Structuralism purports that the

[23] Weale, 39.

Table 8.1: Concentration of Sawmill Production during the Pulp Expansion Period.

Year	# of Mills	Value	Year	# of Mills	Value
1948	610	$16,743,884	1964	239	$15,609,000
1949	598	$13,562,282	1965	206	$16,708,000
1950	600	$15,772,588	1966	196	$18,265,000
1951	594	$21,534,108			
1952	675	$20,162,764	1984	353	N/A
1953	732	$19,055,939	1985	360	N/A
1954	667	$17,406,816	1986	350	N/A
1955	643	$23,057,000			
1956	582	$19,319,000	1991	341	N/A
1957	526	$17,579,000	1992	333	N/A
1958	467	$14,131,000	1993	279	N/A
1959	486	$15,720,000	1994	306	N/A
1960	462	$15,985,000			
1961	264	$11,568,000			Unadjusted dollars.

Sources:

Provincial Distribution of Forty Leading Industries [Nova Scotia]. Cat. 31-209; Annual Reports - NS. Dept. of Lands and Forests; NS Forest Production Survey (1987, 1992, 1994 and Calendar Year 1994); NS. Resource Atlas, 1985.

"class interests of capital continually achieve goals through the realisation of profit." For Nova Scotia's forest sector, the Structuralist interpretation focuses on three dominant factors. The first concerns the policy resources available to various forest sector interests; the second explores the nature of those interests and how they translate into concrete policy preferences, and the third scrutinises their outcomes.[24]

Some evidence in this study suggests that concentrated capital exerted influence over provincial forestry policy machinery early in the century and exploited the structurally weak small woodlot owners. For the most part, however, the evidence suggests that political and economic influences were broadly distributed during this period.[25] A number of transnational interests, mainly from Maine, were active in Nova Scotia in the nineteen

[24] Blowers, 1984, 8-9.

twenties, thirties, forties, and fifties. The purchase of the Mersey Paper Company by the North American based Bowater's in 1956 was, however, the first substantial evidence of a concentration of multinational power in Nova Scotia's forest sector.[26] Nevertheless, it was not until the provincial government courted other international forest sector interests that the full weight of the multinationals' structural power was felt.

Scott Paper, which had purchased the extensive freeholds of Hollingsworth and Whitney in 1956[27] was an early beneficiary of this consolidated power. As previously outlined, the government bargained fervently although not successfully to secure Scott's pulpmill investment during this period. Consistent with Structuralist discourse, however, these aborted negotiations had little lasting impact on Scott's corporate affairs but were costly to government. It exposed government's bargaining hand reducing its effectiveness in subsequent multinational negotiations. The previously influential sawmillers were largely swept aside in this fervour for multinational capital. While this favouritism prompted sawmillers to mobilise their remnant structural influence their efforts amounted to little. The government worked relentlessly, if not always deliberately, for the interests of the greater concentrations of capital--the multinationals. As a case in point, government undermined the STA and introduced toothless forest conservation legislation in its place in 1962; later the government substituted unworkable forest conservation legislation in 1965.

The multinationals' structural power went well beyond direct public policy influence. Bowater's, for instance, dominated the CIF:NS legislative committee in the late fifties and was succeeded by Stora in the early sixties. This allowed them to more indirectly influence private and public policy. Very early in its corporate life in Nova Scotia, Stora impacted forest conservation policies through its associations with government. While Stora's Crown license and loan stipulations notionally made it accountable to the government and small woodlot owners, the reality was that the close ties necessary with DLF personnel to implement these agreements in time gave it privileged influence over policy machinery.

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[25] Clancy, 1992, 145.
[26] Johnson, 1986, 274.
[27] Creighton, 1988, 101.

As explained in Chapter Four, Elitist interpretations of the policy process overlap Structuralism in fundamental ways. The essential difference, it should be remembered is that Elitist power focuses on the competitive outcomes of subjective interests rather than structural bias. There were two dominant elites competing for influence in Nova Scotia's forest sector prior to FIA enactment. The first was the indigenous industry that included sawmillers and Bowater's Mersey; the second was the expanding pulp processing industry. As a policy alliance, the indigenous industry tried to exploit the fledgling pulp processors' reliance on clearcutting and other technocentric practices. The indigenous industry's call for legislative renewal in this context, however, can best be seen as a tactic to frustrate pulp sector expansion--there appears to be little merit for its support otherwise.

Despite the indigenous industry's success on the legislative front, the superior power of the multinationals was generally used for more direct economic advantage. In time, their more direct economic policy efforts overwhelmed opposition from the indigenous industry. For example, the new pulp processors sought and won major infrastructure concessions that increased their production capacity and increased the demand for higher levels of harvesting.[28] [29] [30] This largely served to thwart any attempt to implement forest conservation legislation. Interestingly, in this context of competing elites, the new pulp processors initially bargained for the complete withdrawal of conservation legislation but later conceded to the toothless FIA legislation in 1962. This legislative enactment provided a rather shallow policy victory for the indigenous industry because the 1962 FIA had few ground level teeth to affect forest practices. Later, although the indigenous industry appeared to gain a second legislative victory with the formulation of new legislation in 1965--after their disappointment with the first FIA enactment--it was Stora, one of the two new multinationals that seemed destine to win most from this legislation, if implemented. Notionally, as argued in Chapter Seven, the 1965 FIA imposed rather

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[28] *Canada-Nova Scotia Pulp and Paper Modernization Agreement.* Cited in Canada / Nova Scotia Forest Resource Development Agreement. August 31, 1982. Government of Canada / Nova Scotia Department of Lands and Forests, Halifax, 13-14.

[29] Johnson, 1986, 269-280.

[30] Canadian Forestry Service. *Federal-Provincial Development Agreements: Overview.* June 17, 1986, Ottawa.

onerous regulations on all but Stora. Scott and Bowater's were likely to have been the most adversely affected by the FIA's full implementation.[31]

Although this study provides broad evidence of structural and elitist influences, it identified only sporadic signs of Pluralism. Pluralists argue that individuals in society are able to aggregate their policy interests to present a coherent position to an interested and responsive democratic government. The state responds by mediating competitive interests to formulate an equitable policy position reflecting the overall public interest. Despite enthusiasm for the democratic process, Neo-pluralists concede that capital and other elites frequently overlook various underclass interests. Although unemployed miners and steelworkers as organised labour elites exerted pressure for industrial development to compensate for their ailing industries, their individual, pluralistic, locational, social, and cultural needs were largely ignored in this policy process. The pulp sector deliberately settled far from industrial Cape Breton to avoid pockets of organised labour. Convincing the pulp sector to locate close to Industrial Cape Breton was, it appears, too hard a sale for the provincial government in light of this region's history of labour unrest. Just as the unemployeds' interests were spurned, so were the needs of small landowners in setting up collective pulpwood marketing arrangements. The internal divisions among small woodlot owners worked against the small woodlot owners combined interests; their divergent opinion continually played into the hands of the more focused and pervasive capitalists' interests.

Dimensions of Power during the Late FIA Period:

During the seventies, the multinationals strove to consolidate their initial structural power over the forestry sector. They did this by building paternal market relationships with the sawmillers; campaigning against collective bargaining for the small land owners; developing strong corporatists' ties with the Lands and Forest bureaucracy; stalling implementation of the FIA and frustrating the PFPIB process; and attempting to undermine environmentalist opposition to their technocentric forest practices. The early seventies saw the sawmillers gradually lose control of their local monopsonies to be swept

[31] Dave Dwyer interview.

up by the more pervasive market power of the multinational pulp companies. By the early eighties, the three major multinational pulp companies had firmly established their dominance over the forest sector's political economy. Three complementary monopsonies, each controlled by a single multinational, was resolutely entrenched in the political economy of the province. With their combined political/economic influence, the pulp companies dominated forest policy decision-making. Each monopsony was only marginally impacted by market leakages such as cross-haulage, road and sea pulpwood exports, the influences of the two smaller pulp processing companies, and other local distortions such as the larger integrated sawmills. Each monopsony effectively controlled forest products markets and, in time, controlled associated political resources (see figure 8.1). With decreasing policy influence from other segments of the forest sector the only serious challenge to the pulp agenda came from environmentalists based inside the province.

An important question in understanding the pulp sector's power was how the multinationals developed such overriding power in what appeared, superficially at least, to be a free market system. A related and central concern of this study was how could forest conservation policy possibly work in such a resource exploitation slanted management and marketing system. Figure 8.2 schematically shows the marketing and production influences of a single multinational pulp processor. The basic components of this market system are its land tenure, its forest management regime, its ground level forest operations, its haulage and distribution network, and its fibre processing and product marketing processes. Each of these sub-systems contributed to the overall power and influence of the three dominating multinationals.

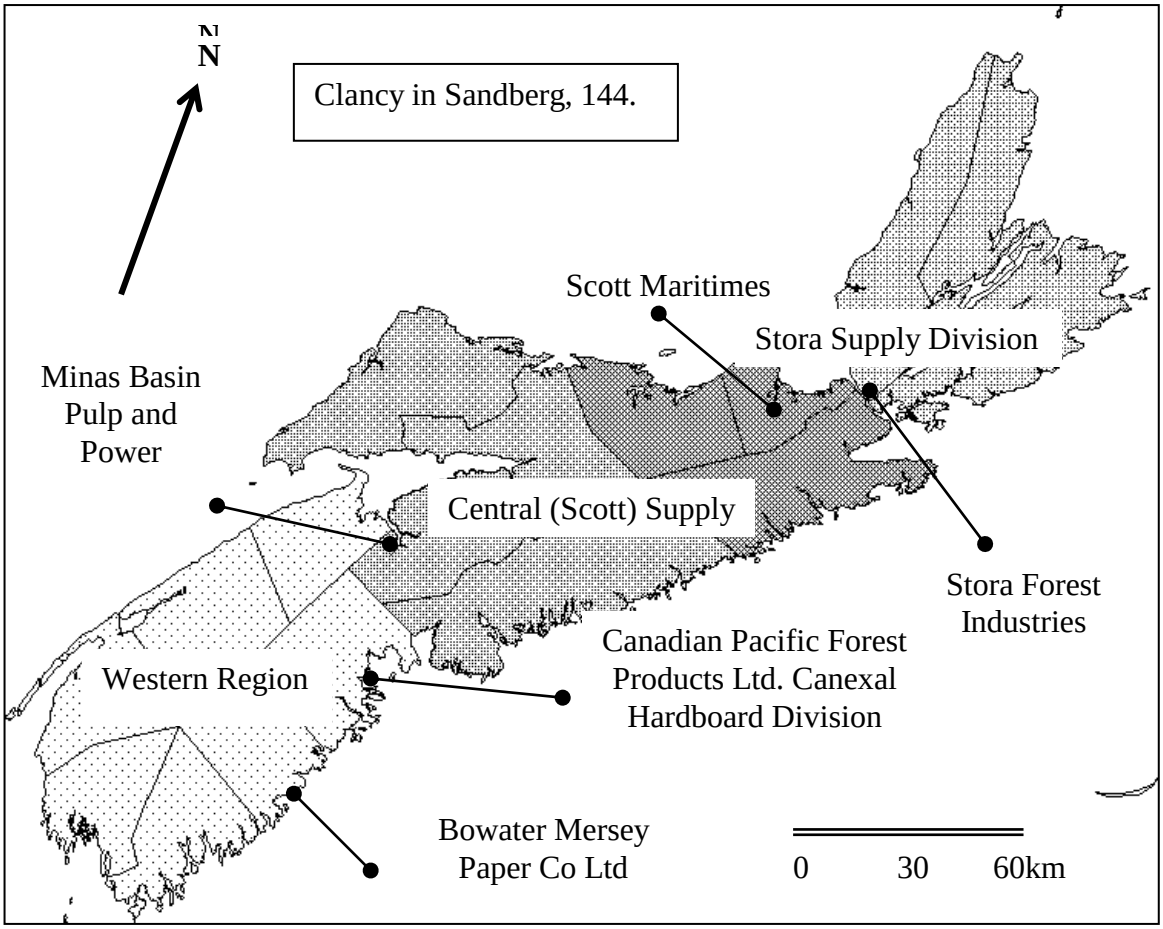

Figure 8.1: Map to Show Forest Products Monopsony Regions in Nova Scotia.

The general picture within this political economy depicts a tightly controlled flow of forest products to a single corporation that either directly controls production, or indirectly controls the marginal production and profits of spatially restrained forest sector agencies. Although land tenure was dominated territorially by small landowners that comprised approximately 50% of forestlands, the multinationals wielded far greater influence than their direct land ownership implied.[32] Although commercial freeholds, including those of the multinationals accounted for a quarter of the forests, their ground level operations were supplemented by extensive, long-term Crown licences that effectively gave the multinationals and the other commercial operators control over nearly 50% of Nova Scotia's forests. This extensive control over woodfibre supply that was largely established by the mid-sixties gave the multinationals market domination and nurtured numerous other avenues of policy and market influence.

[32] Sandberg, 1988, 184-96.

Two relatively small but nevertheless significant forest management innovations added to the multinationals policy and market influence. Scott, for example, developed long-term management agreements with a number of small woodlot owners; this effectively shifted forest management control to Scott. In exchange for guaranteed pulpwood markets, these woodlot owners gave up ground level control of their lands creating in effect a 'client landlord' relationship that encouraged a strong reliance and political affinity with the pulp sector.[33] Interestingly the development of group ventures or forest management co-operatives, the second innovation, were first seen by the multinationals as a threat to their overall market control. Largely funded by successive federal/provincial subsidiary agreements and to a lesser extent by levies from individual woodlot owners, the government's wider public policy goal for group ventures was to encourage more intensive and efficient ground level forest practices. Contrary to the multinationals' initial fears, this more intensive forest management of small woodlots actually increased and stabilised pulpwood flows rather than necessarily elevated prices. Although favouring the multinationals, this collective action of a relatively small number of small woodlot owners further eroded the bargaining position of the independent small woodlot owners.[34]

Although this analysis of land tenure and forest management begins to explain the multinational's structural power, there were other factors that contributed to their overall influence. For example, while the multinationals tolerated unionised labour at their pulpmills, these companies systematically contracted-out most of their ground level forest operations and vigorously opposed any attempt by small operators to form collective bargaining units. This strategy provided both political as well as economic benefits for the multinationals. By regularly contracting out to small owner-operator concerns, the multinationals avoided extensive capitalising of their ground level forest operations. This maintained a politically fragmented, heavily indebted, and inexpensive source of production. Over time this organisationally subservient underclass of capitalists provided socio-political support because of their reliance on the pulp sector for economic welfare.[35]

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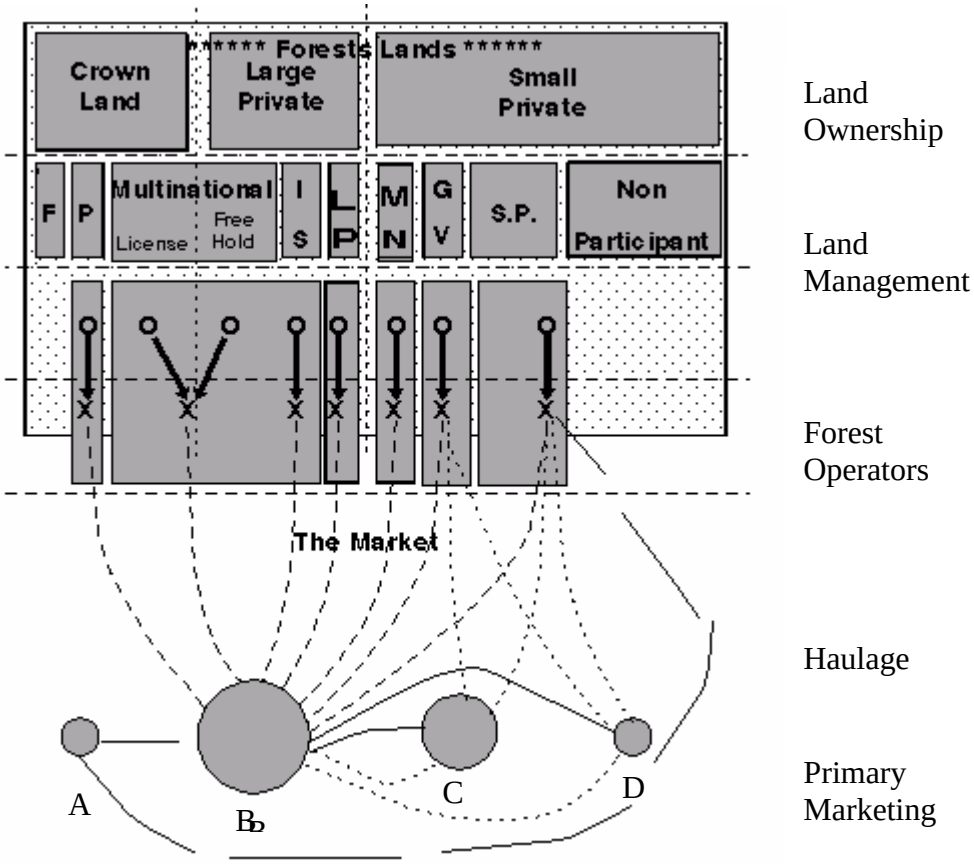
[33] Interview with Bill Goodfellow, Woodlands Manager, Scott Maritimes. Abercrombie, Pictou County, May 1986.

[34] Dave Dwyer interview.

[35] Clancy, 1992, 142



Key:

Ownership:

Crown Land:	Provincial and Federal Lands
Large Private:	Multinational & Commercial Holdings
Small Private:	Small Woodlot Owners under 400 ha.

Management:

F	Crown Lands not involved in Forestry
P	Crown Lands directly Crown managed
Multinational License	Licensed from the Crown
Multinational Freehold	Owned & Managed by Multinationals
IS	Integrated Sawmill Operations
LP	Large Private / Commercially Managed
MN	Small Woodlots Multinational Managed
GV	Group Venture Co-operatives
Non-participants	Private Forests not in Production

Operators:

Woodlands Operators	Harvesters, Silviculture

Haulage:

Transportation	Road, Rail and Sea.

Processors:

A: Christmas Tree Growers
B: Pulp & Paper Mills
C: Integrated Sawmills
D: Independent Sawmills

Figure 8.2: Market Structure of a typical Nova Scotian Forest Sector Monopsony

In addition to this ground level strategy, the multinationals rarely took direct control over woodfibre extraction or marketing on other private woodlands. 'Independent' haulage contractors assigned pulpwood delivery quotas and access to haulage subsidies mediated

day-to-day transactions between woodlands' operators and woodlot owners. The pulp companies established these arrangements in exchange for guaranteed delivery and stumpage prices. This arrangement not only kept labour costs down but also eliminated expensive field management and capital costs. It also reduced the threat of collective action by woodlands' operators. This strategy also deflected responsibility for poor forest practices on private lands away from the multinationals. The haulage operators, who were also heavily indebted (to finance expensive skidders, trucks and hoists), interacted directly with the pulp company woodyard managers to schedule a steady flow of woodfibre to the pulpmill.[36] Interestingly, this dispersed capitalising of woodlands' operations made local financial institutions, such as credit unions, highly susceptible to the vagaries of the pulp sector. This also effectively expanded the multinationals' political constituency beyond the forest sector directly to community based financial institutions.

A key to the pulp companies' market control was their ability to support open markets and collective bargaining when it suited them. The multinationals projected pulpmill and sawlog needs prior to each cutting season, set stumpage rates, and assigned haulage rates and contracts. The haulage contractor, with 'advice' from the woodlands' manager, negotiated directly with woodlands' operators and small woodlot owners in scheduling pulpwood deliveries. These haulage contractors regularly operated within a clearly defined boundary established by haulage subsidy rates. While individual woodlot owners were theoretically free to have wood cut by whom they pleased and sell to whom they pleased, realistically there was no guaranty that pulpwood would ever leave roadside unless scheduled by the pulp company's compliant haulage-contractors. Woodyard managers, as a rule, only accepted stumpage delivered by authorised carriers--woodlot owners or other hauliers could not deliver directly to the pulpmill gate. Monopsony boundaries, therefore, were effectively drawn at this level. Although the pulp companies set haulage subsidies that increased with distance from the mill, there was a set maximum. This clearly encouraged haulage contractors to stay within these boundaries unless compensated by lower stumpage prices from woodlot owners. These arrangements effectively defined each of the multinationals' markets for wood products and quite

[36] Interview with a Pulpwood Haulage Contractor; New Ross.

effectively reinforced their monopsonies.[37]

The multinationals' ground level freehold and Crown license operations also intensified their control over forest operators and haulage contractors. On Crown lands DLF foresters and technicians notionally supervised harvesting; however, woodlands operators and haulage contractors petitioned rather than competed openly for woodlands contracts. Using contractual labour freed the multinationals from capital investment and further sustained a heavily indebted and compliant sub-class of small private capitalists which extended the multinationals political constituency. Although small woodlot owners theoretically had other options, for example, they could sell to other pulpmills or diversify their product line, few, if any alternatives were realistic. The cost of cross hauling from one monopsony region to another was often prohibitive and haulage contractors were reluctant to haul to a competing pulpmill for fear of reprisal. Selling stumpage as sawlogs rather than pulpwood was a further possibility if markets were available. Even here market effectiveness was limited by the woodlot owner's capacity to identify competent and willing woodlands' operators and haulage contractors. In an effort to maintain the remnant power of their secondary level monopsonies, some sawmillers also insisted on using their own woodlands' contractors and haulage vehicles. In a similar way, conversion to Christmas tree operations was difficult. Such a market conversion required ground level expertise, substantial knowledge of Christmas tree marketing, and considerable capital investment.

The multinationals gradually increased their hold on the forest products market by diversification such as entering the Christmas tree business. In an expanding market this had little impact on small producers, but in economic downturns the multinationals were better able to weather economic turbulance. The multinationals exerted most influence, however, in wholesaling forest products. While some sorting of more valuable sawlogs from pulpwood was made at roadside to benefit the woodlot owner directly, considerable sorting was done in the pulpmill woodyard. Although this alleviated the sawlog scarcities forecast by sawmillers in the late fifties and better ensured that stumpage would be used for a higher economic value, this also strengthened the multinationals' grip on the wood

[37] Nova Scotia. *Royal Commission on Prices of Pulpwood and Other Forest*

products market.

The sawlogs harvested from the multinationals' own freeholds and Crown licences were perhaps of greater significance to the play of power. Rather than participate in a free and open sawlog market, the multinationals mindfully nurtured a closed system of compliant forestry sector agents. The multinationals rationed their more or less guaranteed supply of sawlogs to several sawmills in relatively small amounts rather than sell on the open market. This 'marketing' of sawlogs was first used to gain the sawmillers' goodwill. By providing a steady trickle of sawlogs to many sawmillers, the multinationals showed that increased pulp production would not necessarily diminish sawlog supply. In fact, the multinationals by their actions convincingly argued the contrary. By offering carefully limited quotas, the multinationals effectively controlled the sawmillers' marginal profits that made many acquiesce to the pulp agenda. While one sawmiller claimed that one multinational kept his operation afloat during lean times, he also conceded that the same multinational "cut off" his rationed supply for several years in retaliation for publicly denouncing the multinationals' clearcutting practices.[38] In time, this practice of careful rationing reduced the sawmillers disdain for the pulp agenda.[39]

Pulpmill co-optation of its constituent agencies did not end with sawlog rationing. As time went on, the pulpmillers consolidated their hold over the sawmillers by capitalising on various technical innovations and other marketing innovations. With relatively minor adaptations in the pulping process, pulpmills were able to utilise woodchips. The pulpmills developed a closed market in woodchips--a by-product of the sawmilling process and a valuable raw material for the pulpmills--in exchange for sawlogs. Although this clearly improved the sawmillers' profitability and eliminated a bothersome waste product, the market and political pay-off was that the sawmillers became more reliant on the pulpmills for profitability. This was not necessarily a symbiotic relationship. The pulpmillers preserved their market flexibility by retaining their capacity to easily switch from pulpwood to woodchips for raw materials. It is important to note that this technical

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Products, Report. 1964, Halifax.

[38] Interview with a small, independent sawmiller, Western Nova Scotia, Aug. 1987.

[39] Clancy, 1992, 151.

innovation further compromised the marketing power of the small woodlot owners; their profits were marginalised by the pulp sector's ability to easily change to an alternative pulpfibre substitute.

As the market for 'secondary' sawlogs and woodchips matured, the multinationals tightened their grip on the forestry sector's political economy. The pulp processors' market dominance not only drew the smaller independent sawmills into this heavily contrived and controlled market but also pulled in the larger integrated sawmills. While it was still possible for the integrated sawmillers to supplement their sawlog supply from small landowners and their own freeholds, they too traded with the pulpmills in woodchips. By the early eighties rather complex closed markets flourished providing some economic advantage to all but the small woodlot owner. The trade-off for this greater economic prosperity was; however, that the remaining industry became players, perhaps unwittingly, in a political economy increasingly defined and ruled by the multinationals. These tentacles of power to a large extent explain the influence that the multinationals had over the forest sector and their ability to forestall or dampen political opposition.

Elitist and Pluralist Manifestations:

By the late seventies and early eighties, open opposition to the pulp sector's political and market domination from indigenous industry elites had all but dissipated. Pulp sector interests now heavily dominated the wood producers' provincial organisation--the NSFPA--that had been earlier heavily influenced by sawmill interest elites.[40] [41] Technocentric foresters also supported the pulp agenda substantially controlling the membership of the CIF:NS--24 of its 92 members came from DLF (many were now integral to this department's emerging pulp culture) and a further 30 represented the pulp industry directly.[42] The "Look into the effectiveness of the FIA Committee" of the CIF:NS--struck in 1980--also mobilised concerted opposition to the FIA and particularly

[40] Clancy, 155.

[41] *Wood Products Manufacturers' Association Submission to the Royal Commission on Forestry 1984*, 90, RG44, vol 158b, no 3, PANS.

[42] Bissix and Sandberg, 189.

the PFPIB process.[43] This committee's effort to derail the FIA dissipated, however, when CIF:NS's combined membership unexpectedly rallied in support of "enforceable regulations" and the DLF minister, who received a Committee delegation, declined to endorse FIA rescission.[44] Despite the domination by this pulp culture there were nevertheless, remnants of traditional influences struggling to redefine details of forestry policy. The most consistent opposition to the pulp agenda within the forest industry came from the PFPIB made up of representatives of various forest sector policy elites including pulp interests, sawmills and woodlot owners. Despite the indigenous industry's clear majority sentiment, the pulp sector managed to undermine this group's political efforts.

The PFPIB's major drawback as an effective voice against the pulp agenda was its own internal squabbles that reflected its disparate ideological factions. Minority positions that were conveyed through corporatist back alleys by the multinationals continually undermined the PFPIB's majority voice that was usually communicated in open discourse. Despite its internal bickering, the PFPIB somehow remained a threatening political entity by continually thrusting contentious positions on government. These often had public but little or no industry support. Regardless of these efforts and increasing support for stronger forest practices regulations, the government continued to back the pulp agenda by appointing a known technocentric sympathiser to the PFPIB and later by attempting to replace Hugh Fairn as chair.

Although structural and elitist influences dominated the forests' policy agenda, two pluralist upwellings of support were politically significant. A relatively weak woodlot owners group, now known as the Nova Scotia Woodlot Owners and Operators Association (NSWOOA) represented the first, and the second was a more persuasive grass roots opponent to areal herbicide spraying in Cape Breton. In the long run each illustrated the problem of making a concerted challenge to the pulp sector's structural power.

Despite their rather large numbers, for the most part NSWOOA's plea to bolster wood products marketing legislation fell on deaf ears. The combined force of pulp and

[43] Nova Scotia Section, CIF, *Report of the 24th Annual Meeting.* 1981, 21.

sawmiller interests and the persistent failure to attract support from a politically sufficient representation of small woodlot owners continued to haunt organisers.[45] The political fallout from herbicide spraying, however, especially the protracted hearings within Nova Scotia's Supreme Court, shook if not rocked the structural underpinnings of the multinationals' power. Stora's attitude toward landowners in Cape Breton created substantial public indignation; the political fallout forced the pulp sector to acknowledge the importance of outside influences. Although none of these upwellings of pluralism persisted long enough to undermine deep rooted structural forces they forced the provincial government to seek refuge in a Royal Commission of Inquiry. This signalled a desperate attempt to stave off grassroots pressure and preserve the multinationals' structural power.

The FIA and Ecological Modernisation.

As with the analysis of the STA legislative process it is interesting to re-examine the FIA workings in the light of contemporary ecological modernisation analysis, the critical theories of market and state failure, and the various paradigms of sustainable development. It will be seen that the FIA was a precursor of some aspects of Ecological Modernisation as well as a harbinger of various non-integrative approaches to forest management. It was in many ways a trap for state intervention failures. Had the government implemented the FIA at ground level, as argued in this chapter, it might have been a working model for at least Turner's Weak Sustainability (WS) paradigm.

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[44] Bissix and Sandberg, 189.
[45] Clancy, 142-167.

State and Market Failure:

One possible view of the 1962 FIA, based on a rather literal interpretation of the legislation as written, is that this FIA was conceived as a regulatory correction designed to mitigate combined market and state deficiencies. In this scenario the extant mix of policy tools with the STA as the most aberrant, must be seen as threatening woodfibre supplies, increasingly important amenity values and future supplies of both. A rather more cynical but perhaps more tenable view given the evidence from Chapters Six and Seven was that this act--although couched in conservation rhetoric--was largely a legislative ruse. It can better be seen as a veiled attempt to strip away restrictive forest practices regulations to clear the market of obstructive controls. Whether deliberate or not, proclamation of the 1962 FIA would have clearly legitimised clearcutting by removing practically all forest management restrictions. It is reasonable to conclude therefore, that the thrust of the 1962 FIA was clearly focused on the perceived short-term economic development benefits that further pulp industry expansion was envisioned to bring. The logical inference is that the state held no serious concern for the inevitable forest degradation to ensue from unabated clearcutting exploitation—it was clearly not concerned with this market failure at the time.

Reflecting the growing concern among parts of the bureaucracy over forest exploitation and the forest environment, the 1965 FIA inherited a wider and more sophisticated range of forest management and amenity objectives. This legislative approach, as written, embraced greater conceptual sophistication but also implicated more skilful policy pragmatism that was destined to require a more extensive state presence. Despite its seemingly greater environmental awareness and considerably more conceptually refined underpinnings, the 1965 FIA fell considerably short of what Turner later envisioned as enlightened environmental policy.[46] While the revised FIA considered broader multiple-objectives, it remained fundamentally about woodfibre production as opposed to holistic forestry necessitating integrative environmental management strategies. As conceived the 1965 FIA provided rather mixed insights about how these complex social and environmental goods might be better integrated. The district forest improvement boards,

[46] Turner, 1993, 3.

for example, were clearly an innovative attempt to devolve power and decision-making to a level where environmental consequences could be best understood and integrated into ground level management. The Act's focus on harvesting coercion and economic sustainability suggested, however, greater decoupling of environmental and economic benefits. This continued essentially exploitive approach contrasted fundamentally with Turner's 'Modernist' concept of nurturing the environment to provide broad social benefits.

One of the greatest market/state failures of the FIA era was the industry's failure to focus on the growing vulnerability of the Cape Breton Highlands fir monoculture. This forest's vulnerability to spruce budworm infestation should have been no surprise to foresters as the budworms' infestation patterns had been confirmed for many centuries. Left to natural successional processes nature would in time rebuild the forest. Considering this forest as an industrial warehouse, however, budworm infestation was a possible economic adversity. Stora, who had been awarded the long-term management license on these lands, however, acted as a rational, short-term market actor directing its management efforts to meet contractual obligations to buy from small woodlots and to harvest economically more attractive Crown Lands elsewhere. The operative mix of incentives and tax concessions clearly failed to guide Stora to harvest the Highlands even though this was supposedly a major provincial priority. Once the insecticide and herbicide crises hit however, the question of what constituted appropriate environmental management then became a controversial issue. The key issue was whether it was better to spray trees to sustain foliation and tree life but rely on insecticides of uncertain environmental impact; or was it preferable to allow substantial defoliation and tree mortality but let the budworm take its natural course? The general question was one of which scenario was best, given that the trees would temporally disappear from the highlands eventually anyway.

Pulp sector expansion nevertheless, could have represented erosion of an out-moulded industry--the previously dominant sawlog industry--that had long developed its own small-scale monopsonies. This industrial expansion also represented a transition, however, from one scale of market failure to monopsonies exemplifying greater scale and deficiencies. The pulp industry's monopsonies were not only peremptory, but were heavily dependent on massive subsidisation both for wood stumpage and infrastructure. In

addition to inefficient subsidies, the market failed to protect a bio-diverse forest and its associated biomass and the state compounded this by replanting disease susceptible monocultures. As a result, failure to implement the environmental management components of the 1965 FIA and its successors, and take care of the broader market failures, can be better seen then as a failure to provide state corrections for a heavily distorted market that encouraged over-exploitation of a natural resource.

In summary, it is important to remember that the state has two basic roles, it regularly acts in advance of industrial development and then acts as a consequence of it. In forest management, where short-term market failures can be cushioned by increased exploitation of immature stocks, measures of both state failure and market failure are difficult to assess directly. Forest degradation is unlikely to have much market impact as long as sustained yield, as opposed to sustainable forestry is feasible. In addition, money markets are unlikely to be affected unless impending woodfibre shortages are clearly and definitively forecast within the normal business cycle and in the case of multinational corporations, they exhibit little flexibility to gain sufficient supply elsewhere—unlikely in practice. The state may be seen as acting prudently by bringing Stora, a market agent to the Oxford Lease to harvest the mature monoculture but then it failed to follow through with adequate incentives or directives to ensure this policy's proper implementation. As Weale implies, the state failed to adequately foresee and avoid culturally induced experiences that are environmentally damaging. In practice, in this overall market/state interaction there was no apparent concern to maintain natural capital (K_n) as Turner's Weak Sustainability paradigm implies but there seem to be a concerted effort to transfer environmental capital to other forms more readily marketed in this mixed but distorted economy.

Sustainable Development:

While the FIA does not necessarily measure-up well against 'Ecological Modernists' benchmarks, it is interesting to more closely estimate where the FIA stood in relation to Turner's sustainable development paradigms and Pearce's decoupling conception of the economy and the environment. It is also interesting to determine what lessons can be drawn from this discussion for the future of sustainable development in Nova Scotia's

forest sector (see Chapter Three).

The FIA's focus as written on forest restoration might lead to casual analysis that the FIA fitted the Strong Sustainable paradigm (SS) with its apparent concern for reforestation. Unlike modern conceptions of forest conservation, however, the FIA as written, took little account of the holistic forest with its broad reforestation prescriptions. The FIA largely considered that 'a tree was a tree was a tree' as long as it had predictable marketable value. More accurately as written, although not in practice, the FIA with its interest in multiple-use forest values appears set more closely to the level of the Weak Sustainable paradigm (WS). The key to attaining this level, as Turner suggests, is the maintenance of natural capital (K_n) within well-defined limits. In the modern ecological context that limit is defined by an agreed understanding of key natural indicators (still largely to be agreed upon, defined and made operational in the practical world). The call for a scientific definition of forest maturity in the 1965 FIA and its inherent assault on established ways of ground level decision-making might well be seen, however, as a precursor to the problems of implementing even this weak sustainability conceptualisation more broadly.

This maturity criterion within the FIA had at least two substantive procedural flaws. This concept implied foregoing harvesting until an industrial and biological (biomass) optimum had been achieved. The first problem with this was that the economic or social optimum, especially that of the individual small woodlot owner, rarely coincided with the forest's biological optimum or indeed the industry's optimum. It seems clear then that premature harvesting, based primarily on biological optima, will continue to be the bane of sustainable development strategies until compensations can be routinely built into the rational and largely shorter-term calculations of natural resource managers. A second concern with the FIA was that the culturally engendered distortions previously ingrained in the forest such as its uneven age structure, would be further entrenched with rigid adherence to biological maturity principles applied largely at the forest ownership unit or forest stand level. The FIA, for example, took no practical account of wider spatial considerations that transcended ownership boundaries. This meant of course that close adherence to criteria measuring biological optima at the woodlot level ignored the more integrative need for broad forest age classes over a wider, perhaps regional scale. This state intervention approach based on narrow forest maturity criteria focused largely on

individual woodlots could easily lead then to market failure by perpetuating previous cultural distortions. Such a policy would lead to woodfibre shortages during particular phases of a predominantly uneven-aged regional or provincial forest.

To some extent, at least theoretically, the concept of ecosystem management addresses this concern as adjustments in harvesting can be made at the individual woodlot level to compensate for the greater ecosystem condition. Although the ecosystem approach appears theoretically sound from a biological production perspective, there is yet to be developed a workable forest management regime that accommodates multi-ownership needs and transcends ownership boundaries within the context of a free and competitive market. If the controversy surrounding the implementation of scientific measures of forest maturity within the FIA process is a guide, the challenges of actually developing acceptable ground level criteria in the political reality of natural resource management is immense.

While the FIA as written, in both its 1962 and 1965 versions may have been forerunners of sustainable forest practices, if implemented as written, as practised the 1965 FIA held in stark contrast to the subsequent thinking of the Brundtland Commission on sustainable development. The 1965 FIA, in conjunction with the broader policy strategies of the pulp enhancement program that included various federal/provincial agreements, the Wood Products Marketing Act, and miscellaneous federal infrastructure programmes frustrated attempts to implement more conservation oriented forest practices. Rather than promote forest conservation, the ground level implementation of these policies aggregated to enhance the technocentric and the resource degrading pulp expansion agenda. It is in this context then that the FIA provides its most important lessons.

Importantly it is crucial to understand that the FIA alone, even if fully implemented was not enough to overcome the inertia of strong price signals resulting from indirect subsidies including low Crown land stumpage fees. This ‘give-away’ of Crown assets, while creating increased supply certainty for the multinationals also depressed prices obtainable by small woodlot operators. These market distortions induced over-exploitation, especially among small woodlot owners who required greater production for any target income. In addition to direct and indirect subsidy, the woodland tax structure

introduced during the STA increasing certainty, especially for the larger producers, discouraged optimal land-use. A productive forest in close proximity to a major road arterial, for instance, was taxed similarly to a landlocked woodlot. Similarly, a woodlot, close to an urban centre that's most optimal land-use might be tourism and outdoor recreation, was taxed at the same rate as rural and more isolated woodlots.

In arguing for the decoupling of environmental degradation from development, Pearce contends that appropriate information regarding environmental degradation must be made available to policy actors. At face value the 1965 FIA appeared to be an important initiative in this regard. According to contemporary legislative debates, for instance, the FIA was posed as an educational tool to foster improved forest management and the implementation of district boards (DFPIBs) and woodlot reporting systems were - considered integral to this objective. Unfortunately, the district boards with appointed membership and their successor provincial board, the PFPIB, failed to engage wide enough debate on forest practices to develop sufficient interest in forest conservation. From the small woodlot owners' perspective especially, one detached bureaucracy--the DLF merely replaced another. Interestingly, the FIA's reporting provisos might have led--had they been implemented--to more informed debate on forest practices, but they were also just as likely to lead to crippling red-tape for the small woodlot sector. Despite these procedural problems, the FIA's information dissemination process was seriously flawed. The legislature apparently, and the public undoubtedly, were unaware of the connection between FIA proclamation and clearcutting liberalisation. This consequence of proclamation was likely counterintuitive to anyone but the most involved and perceptive policy actor and in this context Pearce's cry for effective information seems rather mute.

On a more illustrative note, as pointed out in Chapter Three in regards to the environmental decoupling process, Pearce argues that involved populations suffer from environmental losses and as a consequence of resource exploitation "policies need to integrate the environment at all levels". In the case of local populations that traditionally benefit from the forest's positive externalities this initial premise likely holds fast. However, the multinational companies and their detached shareholders are unlikely to feel the direct impacts of environmental degradation and likely benefit only from the spoils of direct natural resource exploitation. In the widespread use of clearcutting, for example,

which the removal of STA restrictions and the failure to replace them with FIA regulations clearly encouraged, the most measurable loss to local populations was in future environmental, recreation, tourism, wildlife, and other amenity and environmental benefits. Given extant property rights, none of these were easily traded in conventional markets so few of these benefits demanded serious management or marketing attention. For commercial forestry to be more involved in these areas corporate objectives need to be broadened and reward systems need to be adjusted. For this to occur in Nova Scotia's forestry sector, natural resource property rights legislation needs to be revised to provide more direct rewards for amenity provision. To make a more concerted effort at moving towards sustainable development, it is necessary to calculate under what conditions optimal environmental conditions are balanced against sustainable resource exploitation. In the short-term this inevitably means calculating the value of amenity provision and providing appropriate market adjustments such as tax measures or subsidies. In the mid-term, it requires the re-examination and adjustment of resource rights and land tenure to make it easier to transact amenity values. In the longer-term, social cost pricing must be introduced alongside some reasonable resolution of the market distortions that trading fibre and amenity benefits from Crown Lands create.

Chapter Nine:
Contemporary Forest Conservation Policy.

This chapter examines contemporary forest conservation policy in the aftermath of the spray wars that disrupted the forestry sector in the early eighties. It enquires into the nature of contemporary forest legislation, draws the lessons from this and earlier legislative eras, and assesses the impact of moderns trends on forest policy. This analysis reviews the workings and the outcomes of the Royal Commission of Inquiry into Forestry, examines the last days of the Forest Improvement Act, and examines the structure and implications of its replacement: the Forest Enhancement Act. This chapter then reviews several forest conservation initiatives of the last decade that have all but replaced legislative efforts to improve forest practices. Finally, this chapter examines the latest effort by government to enact workable policy to provide for a sustainable forest.

The Royal Commission of Enquiry:

In May of 1982 the government called for a Royal Commission of Inquiry into Forestry and assigned it a broad remit to examine the forestry industry in Nova Scotia. Dr. John Connor from Acadia University eventually led the inquiry. Newspaper accounts of the Royal Commission hearings, especially those of the Chronicle Herald, typically summarised submissions and provided daily quotations from the commission chairman.[1] Connor was a neo-classical economist. It was not surprising, therefore, that he gave a sympathetic ear to capitalists' testimonies before the commission and gave a much harder ride to those with alternative, state intervention viewpoints. One alternative view to the industry's came from the Rev. Don MacDougal who presented on behalf of Recreation Association of Nova Scotia (RANS).[2] RANS implored the commission to treat the forests as a multiple-use resource and consider softer forest management strategies. The Commission chair compelled MacDougal, as he did others who opposed technocentric

[1] Royal Commission on Forestry. *Transcripts of Hearings.* Provincial Archives of Nova Scotia RG 44, Vol 158a.

[2] Bissix, Glyn; Charles Ballam and Don MacDougall. *Values and Patterns in Recreational Use of the Forest Environment.* Brief to the [Nova Scotia] Royal Commission on Forestry: Recreation Association of Nova Scotia. Halifax; April 19, 1983.

methods, to defend this submission in considerable detail, especially any point that challenged the spray and clearcut options.[3] The Commission's preferred forest management option presented in November of l984 largely reflected the multinationals' standard operating procedures. Support for the Commission's report clustered around the large industrial firms and other sectors under its paternal influence.[4] [5] [6] Opposition predictably came from more disenfranchised segments of the industry such as the Nova Scotia Woodlot Owners Association,[7] [8] individual sawmill operators such as Clemont Comeau of Saunierville[9], various wildlife associations, and environmentalists and woodlot owners such as Dr. K.D.C. Haley.[10]

Although the Commission recognised the structural advantages enjoyed by the multinationals and recognised the inherent marketplace disadvantage of the small woodlot owners, the report states for example that "the financial return to privately-owned forestlands appear to be negligible. ... This creates little, if any, incentive to the landowner to manage land for fibre production."[11] The Commission however, offered no concrete proposals to rectify this inequity. It accepted instead that the pulp sector's apparent economic success was sufficient to continue the organisational *status quo.* The Commission also reaffirmed the basic notion of forests as an industrial installation

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[3] Interview with John Connor: Chairman of the Royal Commission Inquiry in Forestry, August 1985.

[4] Abbass, David. "*Industry Applauds Forestry Report."* Chronicle Herald, 1985.

[5] Schneidereit. "*Forestry Commission 'Pro-multinational'."* Chronicle Herald, 13.

[6] Butters, George. "*NSFI [Stora] Supports Commission Report."* Chronicle Herald, Jan. 24, 1985, 26.

[7] Abbass, David. "*N.S. Woodlot Owners' Spokesman Concerned."* Chronicle Herald, Dec.21, 84, 5.

[8] Dunlop, Malcolm. "*NSLFFPA [Nova Scotia Landowners and Forest Fibre Producers Association] Suggests Owners Organise."* Al Kingsbury. "*Kings Woodlot Owners, Operators Reject '50-year Rotation Plan'."* Paul Schneidereit. "*Report Should Have Stressed 'Marketing'."* Chronicle Herald, March 18, 1985, 20.

[9] Interview with Clemont Comeau, E.M. Comeau and Sons (1977) Ltd., District of Claire, Sept 3, 1987.

[10] Haley, K.D.C. *"The Royal Commission Report on Forestry and You."* Chronicle Herald, Feb. 27, 1985.

[11] John Connor, G.A. MacKinnon and D. Lewis Matheson *Forestry: Report of the Nova Scotia Royal Commission on Forestry.* Nova Scotia, 1984, 39.

epitomised as monoculture plantations, chemical treatments, and clearcutting and gave only lip service to more environmentally sensitive approaches to forest management and amenity values. The Commission euphemistically termed their preferred strategy the "conservancy option". They contended that large increases in production were possible from more intensive management and improved silviculture. The report alluded to a programme of forest restoration, conservation and improvement that would "make the volume of fibre available of 7,770,000 m^3 (3,600,000 cords) by the years 2030-40."[12] Among the report's other recommendations was a call for a comprehensive revamping of forestry agreements and legislation including the repeal of the Forest Improvement Act "at the earliest opportunity". In a more positive step for forest conservation the Commission proposed an independent "Inspector of Woods" reporting directly to the legislature and a controversial differential tax designed to reward active forest managers. Interestingly, none of these recommendations subsequently found favour with government.

Despite the official justification for the Royal Commission, George Henley, the DLF minister later admitted that its real purpose was to douse the raging political fire over herbicide spraying. In this role it was most effective although its scope and scale grew well beyond Henley's original intentions. "If I had any idea the Royal Commission was going to cost as much as it did, I'd have been reluctant to go that way at all."[13] The inquiry's broad remit forced the environmentalists, whose emotional resources had already been stretched by the spray wars to divide their energies across a broad range of forest management issues. Their once tight resolve dissipated among numerous market, wildlife, recreation, forest practices, organisational, and environmental concerns. Although expensive, as the government hoped the Commission process led to an almost complete cessation of political pressure. The commission's broad remit sufficiently diluted debate on the herbicide spraying issue to allow the forest industry and the government, that had previously been on the defensive, to regroup as a coalition and allow the industry to re-establish its standard forest management practices without fear of

[12] Connor *et al.*, 1984, 15.
[13] Henley interview.

public repercussion.[14] [15] The inquiry itself lured the environmentalists into thinking that their battle was won; they fell serenely in step to present their positions before the Commission and wait for its final report. In the end, the inquiry's report, much as was expected, reflected the industrialists' long-time position and summarily rejected any notion of the soft industrialists' and environmentalists' views.[16] [17] [18] [19]

The Dying Days of the FIA:

Action on the FIA front did not end with the announcement of the Royal Commission process. The FIA process laboured on as technocentric forces re-consolidated their influence over the various forest improvement boards formed as part of the FIA process. As already alluded to, in an obviously aggressive action in November of 1982, the minister appointed Laurie Ledgewick as sawmill representative to the PFPIB to replace Murray Prest a long standing member and supporter of the FIA process (see Chapter Eight). In contrast to Prest, Ledgewick had been a strong advocate of the pulp agenda and frequent critique of the FIA. In retaliation of the minister's actions Fairn appointed Prest as a PFPIB consultant but the Cabinet's Management Board had the last word: they simply refused to ratify the expenses that went with this appointment and Fairn's strategy was lost.

Ledgewick with his anti-FIA sentiments joined forces with L.G. 'Hank' Howard, the CIF: NS representative. The government appointed Howard, a senior manager with Scott Maritimes to the PFPIB in March of 1983. Despite his later assertions, the evidence shows he was no friend of the FIA process.[20] For instance, he often attacked the PFPIB process and FIA directly including its greenbelt provisions. In one outcry over the FIA he

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[14] Connor *et al.*, viii.

[15] Connor interview.

[16] Taylor, Wilkie. "*Woodlot Owners Angry with Policy."* Chronicle Herald, March 16, 1985, 25.

[17] Honey, Kim. "*Woodlot Owners Reject Report."* Kentville Advertiser, January 16, 1985, 3A.

[18] Schneidereit, Paul. "*Forestry Commission 'Pro- multinational'."* Chronicle Herald January 4, 1985, 6.

[19] Haley, 7.

[20] Interview with L.G. 'Hank' Howard, Manager of Lands, Scott Maritimes

exclaimed that the FIA advantaged recreationists rather than encouraged forest improvement.[21] Together with the pulp and paper industry's representative on the PFPIB, Vincent Clark who was the woodlands' manager for Scott Maritimes, Howard formed ominous opposition to the FIA process within the PFPIB structure. At the district board level both he and Clark found strong support from Hugh Ross of Stora. Besides their opposition to the greenbelt provisions, Howard and Clark continually undermined the PFPIB's majority supported position on herbicide spraying. This continual undermining of the PFPIB's position drove Fairn to call for Howard's resignation for misrepresenting the Board at the CIF: NS annual meeting. In Howard's rebuttal he was curt, he simply argued that his actions were consistent with the spirit of the FIA as "contributing to education". Fairn's frustration came to a head in a letter to the Lands and Forests Minister, Ken Streatch, where he exclaimed

> Time and time again we have been encouraged to "get on with the Act", to quote the Premier, only to find roadblocks, procrastination and outright sabotage to set the Board and its work back again.

Fairn also complained about the government's appointments to the PFPIB of members hostile to the Act—"who would do whatever they could to undermine its workings". Eventually Fairn took a 'leave of absence' to allow the Minister to "move ahead" with the Act. Fairn's leave effectively halted the FIA process. Although on record as supporting the FIA and promising to move ahead, the Minister simply held on for the Royal Commission's report released in December, 1984.

After the Royal Commission Report, Connor, the chair of the Royal Commission, toured the province to explain and defend its recommendations. This turned out to be politically astute, it allowed the government to test the political waters and use the Commission's report as a haven for retreat when issues were contentious. Although the government said that it would take its time to formulate workable policy proposals this was not always the case, it very quickly dropped the Commission's tax proposal, for example, when the political heat was raised.[22] [23] In due time the government set about formulating new

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International; September 1987.

[21] Howard, L.G. to Hugh Fairn, 14 February 1984; L.G. Howard to Members of the Provincial and District Boards, 14 February 1984, PANS RG 81, vol.3.

[22] Jeffers, Alan. "*Nova Scotia Not Introducing New Forest Policies."* Chronicle Herald, February 22, l985, 1&26.

forestry policy. After listening to twenty-three separate interest groups Ken Streatch, now the incumbent DLF minister met behind closed doors with a departmental steering committee. This committee included Don Eldridge, the deputy minister and Alan Shaw, a policy advisor and representatives from Touche-Ross and Associates--a management consultant firm. They prepared draft policy and a comprehensive legislative package. According to Streatch, once he got appropriate input he was determined to keep his policy team away from "high priced lawyers and lobbyists" [24]

The government tabled its new policy entitled, *Forestry: A New Policy for Nova Scotia* to the Cabinet on February 3, 1986 and presented it to the legislature the next day.[25] Their strategic goals clearly took a more balanced view of forestry than the Royal Commission. This proposal focused on a higher quality and quantity of forest products, a strengthening of the private sector, job creation and improved productivity, and interestingly the maintenance/enhancement of wildlife, water quality, recreation, and associated resources. Although this policy statement gave some sense that the administration was now ready to redress the imbalance between industrial and environmental values, its timetable for legislative reform and detailed policy development still reflected a heavy bias towards industrial priorities.

In April of l986 the government tabled its promised forest management legislative package in the legislature and it was enacted on the 26th May 1986, a full four years after the crisis that precipitated reform erupted. This policy development process again effectively separated many environmentalists and industrialists in the policy development process. Although the resultant legislative enactment processes were uncharacteristically civil, this policy development tactic repressed rather than resolved many important forest conservation issues such as the questions of forest maturity and acceptable forest practices. On some issues it was rather emphatic about what was acceptable and what was not. For example, it endorsed clearcutting as an essential plank of forest management.

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[23] Dyck, Hattie. "*Forestry Report Being 'Undermined'."* Chronicle Herald, Feb. 23, 1985, 21.

[24] Interview with Ken Streatch, Then Incumbent Minister of Lands and Forests. September 1987.

[25] Department of Lands and Forest. *Forestry: A New Policy for Nova Scotia.* Government of Nova Scotia, Halifax, February 4 1986.

Nevertheless, for environmentalists it was disappointingly vague, for instance it was most unclear on what the limits were to be on insecticide and herbicide spraying.[26]

Environmentalists' values were again downplayed when government adopted a staggered timetable to implement its legislative agenda. The first round of legislative reform focused only on industrial and land-use issues. At convenient intervals, the government addressed wildlife and finally considered parks and recreation issues. Although new forest policy was announced in February 1986, the government did not introduce wildlife policy legislation until 1987[27] and parks and recreation policy waited until 1988.[28] This staggered approach effectively diverted conservationists' attention away from amenity and environmental concerns imbedded in the mainstream forest legislation such as the impacts of clearcutting and spraying on the forest resource; and focused their attention instead on the legislation to follow, believing any short-comings would be taken care of there. This provision for handling forest industry concerns first clearly reflected the administration's bias towards the production process. Rather than integrate the handling of interrelated policy issues as its initial policy statement suggested it would, the government first set industry prescriptions in place to advantage the industry, leaving amenity issues to be fitted in wherever possible later. Although at all times throughout this policy process the government's rhetoric reflected an integrated forest management philosophy, the government's planning and policy development was clearly more pragmatic, simply reflecting the power and influence of the large forest industry concerns.

The first legislative package contained four separate bills; one bill concerned Crown lands, the second forestry, the third wood products marketing, and surprisingly given the Royal Commission's recommendations, the fourth concerned forest conservation. Given that the Royal Commission previously called for the FIA's rescission and that any of its more 'acceptable' provisions be incorporated in a consolidated forestry act, and given that political pressure for dedicated forest conservation legislation had all but dissipated, few anticipated a new and separate conservation act. Interestingly in the new Forestry Act--the

[26] Streatch, Ken. *Forestry: A New Policy for Nova Scotia.* 1986, 6 & 8.

[27] Streatch, Ken. Wildlife: A New Policy for Nova Scotia. Government of Nova Scotia, Halifax, 1987.

[28] Streatch, Ken. *Parks: A New Policy for Nova Scotia.* Government of Nova

flagship legislation--several sections were streamlined from the old Forest Improvement Act. This Act also encompassed many conservation oriented provisions previously found in the Lands and Forest Act.

The Forest Enhancement Act Era: 1986 - the Present.

The Forest Improvement Act as the Royal Commission before it, was in reality a clever palliative to once more contain environmentalists' concerns. Unlike Ike Smith's first FIA palliative in the early sixties, this obfuscation however, was directed to policy influencers outside the forest industry rather than to those increasingly disenfranchised sub-sectors within the industry, as the 1962 FIA had been. The FEA's basic intention focused on neutralising opposing ideological views rather than providing a forum to nurture the development of workable ground level forest practices. In the legislative vacuum that was to result, the onus for meaningful conservation practices returned squarely to ground-level forest managers. For small woodlot owners the FEA provided few practical incentives to enhance conservation; for the large industrialists it provided no mechanism to temper their usually uncompromising approach to forest exploitation. Significantly, the FEA offered nothing to resolve the environmental issues that precipitated the initial policy crisis and brought on the Royal Commission in the first place. At best, the placation of environmentalists by this overall legislative formulation process bought time to cool frayed tempers and focus policy thinking on ways to stave off future forest management crises.

The FEA had no regulatory teeth and to a large extent this explained why the administration was prepared to proceed with dedicated forest conservation legislation in the first place. The FEA in many ways reverted to the 1962 FIA approach that supposedly emphasised education but in truth was without any real regulatory or incentive substance. If it did anything, the FEA by default initially reaffirmed the principle of landowner sovereignty--the idea that landowners could decide for themselves what to do on their lands. By dropping the formal corporatist forest improvement board structures of the FIA, the FEA reaffirmed the legislative tradition of policy development by politicians, policy

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Scotia, Halifax, 1988.

stewardship by the bureaucracy, and token compliance by the forest production sector. The proposed forest conservation advisory committee might have tempered this philosophy, had it been given some regulatory teeth and broader committee representation. However, by restricting this committee's membership to the mainstream forestry industry, the government hoped to avoid the intransigence caused by environmentalists, as it perceived the case to be with the PFPIB process. This shift in policy form away from the rather stringent regulatory approach inferred in the 1965 FIA process, was clearly designed to foster the industry's acceptance of the FEA. It was unmistakable that even if fully implemented, the FEA was unlikely to have any meaningful impact on ground-level forest practices. Although the FEA included a provision for a "Commissioner of Forest Conservation" that on the surface seemed a step forward to ensure ground-level accountability, this measure was a far cry from the independent "woods inspectorate" envisaged by the Royal Commission. In its legislated form the commissioner was destined to be political henchman of the Minister of Lands and Forests and the incumbent Cabinet. The inevitable partisan scrutiny of the commissioner's findings behind closed doors was likely to ensure that controversial recommendations would never see the light of day in a public forum.[29]

Although toothless, the FEA was not a neutral policy instrument as long as it remained a statute and its incapacity went unnoticed. Without meaningful state intervention, the maintenance of forest management standards applied to Nova Scotia's forests is devolved to individual forest management and marketing agents. The result, consistent with the analysis of Chapter Eight, reaffirms the power of the larger market agents--the multinationals--that control the political economy of large territorial monopsonies. In this seemingly innocuous form, the FEA in its early years clearly favoured business as usual, reaffirming the dominance and the long tradition of unfettered forest exploitation over forest conservation efforts.

In this manner, the FEA like the FIA before it, defies its title as a tool for forest conservation and thrusts its potential policy outcomes far from the sustainability paradigms outlined by Turner as reviewed in Chapter Three. For the FEA to continue as a

[29] Statutes of Nova Scotia. *Forest Enhancement Act.* Chapter 9, Acts of l986.

palliative and not serve as a minimalist instrument to stimulate forest practices debate, it required a largely disinterested public, a non-effective environmental lobby and an unconcerned consumer. This may well have been the case in the early years of the FEA but conditions changed somewhat with the renewed provincial, federal and international interest in environmental matters resulting from the Bruntland Commission. As 'implemented' the FEA with its laissez-faire forest conservation prescriptions, puts complete onus on the private sector and market dynamics to alleviate environmental degradation. The history of the STA and the FIA attest that the industry has no track record in this regard, and is instead a prime archetype for market failure. The forest products market in Nova Scotia with its preoccupation on production continually lead to forest degradation to meet escalating demand. This is true even when there appears to be substantial public support for forest conservation.

Without concrete evidence of over-zealous or inefficient interference, the government's disinterest in state intervention as a conservation tool soon became apparent after the FEA's enactment. The government appointed the DLF's former deputy-minister who recently had been made redundant. Eldridge, trained in the industrial forestry mould of large-scale efficiency and technocentric forest practices was an unlikely candidate for 'guardian' of forest conservation. To add to his ideological limitations, his office was situated in Truro some 120 kilometres from the legislature and distant from mainstream policy-making. He was given few resources for his supposed watchdog role. After the commissioner retired eighteen months later without tabling a single public report, there was no replacement named nor were any appointments made to the FEA's advisory board. Documented evidence suggests that no other direct FEA action was taken beyond the short-term appointment of a commissioner.[30] Nevertheless, during the late eighties and nineties there was rising support for neo-liberalism that manifested as decreasing bureaucracy, fewer research funds, increased production and reduced provincial transfer payments at the federal level. These trends may well have compounded the detrimental effects of the FEA's hands-off approach were it not for important countervailing forces in Nova Scotia. Despite the forest sector's ongoing effort to trivialise conservation worries, a

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26 May 1986, Section 6(1).

[30] Department of Lands and Forests / Natural Resources. *Annual Reports.* 1986-94.

rising concern among domestic environmentalists, soft industrialists, and foreign consumers calling for better forest practices brought new forest sector responses. These influences had repercussions first on rhetoric and subsequently on the way government and industry approached conservation concerns. The following section reviews six separate forest and environmental management responses to this growing conservation interest.

Six Forest Conservation Case Studies:

As was previously alluded to, within a couple of years of FEA enactment, the government had implicitly if not openly dismissed forest conservation legislation as a useful tool to shape forest practices. During the FEA's early years both government and industry went about their forestry business largely unobstructed by environmentalists and those with similar sympathies. Because the technocentric factions of the forest industry were opposed to forest practices restrictions; the *de facto* hibernation of the Forest Enhancement Act appeared to serve both this sub-sector and government well. Gradually, however, external developments in global markets, greater concern among domestic environmentalists and internal transitions in the industry began to shift the prevailing rhetoric concerning acceptable principles underlying forest practices. One important factor was the increasing criticism of clearcutting of virgin temperate rainforests in British Columbia from Greenpeace, native groups and various other environmental coalitions. This serious negative publicity had fallout in other Canadian provinces including Nova Scotia. A second major influence was various international, bilateral, national and inter-provincial agreements and treaties arising from the Bruntland Commission and the follow-up Rio de Janeiro Conference. This brought pressure on the Nova Scotian government and its forest industry to rethink at least the public relations consequences of their forest practices. The most influential force of change that was an outgrowth of the first two, was the threat of a forest products boycott in Europe. If successful this was surmised to have serious consequences for the forest industry.

Given this triple threat to the forest industry, not only did forest conservation, under the guise of sustainable development become respectable as a topic for debate within the industry but so did the concept of preservation. This latter shift was particularly

interesting because the idea of preserving a forest, setting it aside with no industrial activity was clearly repugnant to the industry in the eighties. Out of this concern for its future profitability came a number of forest industry initiatives. These ranged from initiatives solely involving the forest industry concentrating exclusively on forest practices issues to ones led by preservation agencies involving conceptually complex biophysical and socio-economic dimensions. Perhaps the least conceptually complex was an initiative recently led by the forest industry; this "Coalition of Nova Scotia Forest Interests" hoped to garner support for a set of forest practices principles. Another was a government led initiative to test Integrated Resource Management (IRM) on Crown lands. A third concerned Forestry Certification. This initiative had two manifestations: the Canadian Standards Association led the first and the other was a more grassroots, but nevertheless internationally scoped initiative. A fourth was a Model Forest/ Landscape Management initiative and a related initiative was an Ecosystem Management proposal. Perhaps the most practically complex initiative was the Provincial Envirofor Process. This initiative was dependent on the continued maintenance of a province-wide consensus among industry, environmentalists, government and native groups in establishing environmentally based and acceptable forest practices.

1. The Provincial Envirofor Process:

The Nova Scotia Envirofor process was a consensus building process drawing representatives from a broad set of interests in forest management as well as environmentalists. This initiative grew out of a National Envirofor exercise led by the Canadian Forestry Association in Toronto in 1990. It attempted to draw various interests to the discussion table to develop codes for mutually acceptable forest practices. Notably, for the first time in Nova Scotia's history, the 1991 Envirofor forum drew together the forest industry, native interests, environmentalists, government, NGOs and academics to discuss the principles of good forest management and the development of minimal forest practices standards. The outcome for the 1991 Envirofor, although modest (recommending a second forum the following year and giving unanimous support to implement the Special Places Act) signalled a new willingness by the industry to actually listen to the environmentalists' point of view. Despite this cordiality, the press release that followed masked some concerted opposition to sidetrack Envirofor's goals. Most of this

opposition came from DLF bureaucrats, which was rather reminiscent of the bureaucrats' treatment of the Forest Practices Improvement Boards' process.

Bureaucratic opposition was not, however, its only source of criticism. The Envirofor process was notably criticised by two attending academics: Peter Clancy from St. Francis Xavier University in Antigonish and L. Anders Sandberg from St. Mary's University in Halifax. They argued that

> there is a danger that environmental issues will be defined superficially and descriptively, in an effort to avoid policy debate and to deny power relationships. The underlying premises are that direct personal contact among stakeholders promotes reasonable dialogue, and that the missing link is communication and education.[31]

While the 1991 Envirofor was criticised both during and after its forum, the second, the 1992 Envirofor was denounced even before it began. For one, the steering committee found it difficult to maintain native representation during its planning phase resulting in no representation at the actual forum. Secondly, a number of key environmentalists refused to participate allegedly over a travel funding issue. The key outcomes were nevertheless, a set of forest management values. Ecological integrity topped the list; and agreement to urge the government to speed-up adoption of legislation to limit owner liability on private lands and to modify trespassing legislation was next. This forum also agreed to meet again within two years to ratify acceptable forest practices. Because of its less than ideal representation, the second Envirofor might have been considered fatally flawed. In its defence, however, it was for the first time in a public forum where senior DLF representatives and industry officials publicly endorsed environmentally friendly forest practices without direct coercion from environmentalists. Nevertheless, because of outside events this expression of environmental sensitivity could also be seen more cynically as a ploy to placate foreign interests. This Envirofor was coincident with the visit of a German television film crew to Nova Scotia to investigate forest practices. Despite this rather misanthropic view, the normally critical Clancy and Sandberg conceded that "industrial representatives [were] certainly more environmentally sensitive than in former years". Within a month or so, the 92 Steering Committee reported on the 1992 forum's consensus to the incumbent minister: the Progressive Conservative John

[31] Clancy, Peter and L. Anders Sandberg. *Maritime Forest Sector Development: A Question of Hard Choices.* In Sandberg, 1992, 219.

Leafe. Two committee members: Gerry Jodrey of DLF and Chris Clarke of Bowaters also made a commitment to spearhead the formation of a new committee to plan the next Envirofor. The new steering committee was charged with forging draft forest practices guidelines and calling the next forum to ratify them. The momentum for the Envirofor process seemed to get lost along the way, however, and without public explanation the proposed 95 Envirofor conference designated for Cape Breton was cancelled.

Although the Envirofor process is apparently ended there are lessons to be learned. The key to Envirofor success was the building and maintenance of a consensus among historically disparate interests. This was a very tall order for this forum included essentially the same groups that fought vehemently in the spray wars and over FIA implementation. For consensus to prevail, one or more factions would necessarily need to drastically shift position. While there was clearly a greater sensitivity by industrialists toward softer forest practices--at least in their rhetoric--there was little evidence of any fundamental paradigm shift. Regardless of underlying motivations for participation, the Envirofor process was implicit recognition of market failure. From various discussions it was clear that some state intervention was necessary to either repair the industry's shortcomings or perhaps more realistically, to promote it's prevailing practices more favourably. The first scenario was a potentially serious production challenge requiring substantive ground level change; the second was more cosmetic--a promotional concern. This second view was incidentally the position of the Canadian Forestry Association and was a central focus of their public relations efforts. Beyond this rather solicitous possible motivation, the Envirofor was also questionable as it involved quasi-representational democracy to mediate resource management interests. Envirofor implied from the beginning, as Clancy and Sandberg noted, that dialogue could somehow work out the very real differences in power and belief about how forest management should be conducted. In addition, if successful, Envirofor would devolve power from the industry's real locus of power in the international marketplace and from its vestige in the provincial bureaucracy to a self-appointed advisory group whose advice the government would be obliged to accept--presumably because of its wide and prestigious representation.

The Envirofor idea was, again in theory, that as consensus was developed the government could 'ratchet-up' forest practices regulations to provide an even playing field and more

sustainable forest practices. This of course disregarded the impact of corporate power that stealthily works behind closed doors to distort explicit policy prescriptions. No matter how well meaning, any 'representative' consensus built over a weekend was likely to have a rough ride gaining legitimacy from the disparate miscellany of Nova Scotia's forest sector. No one would be legally bound unless it was finally codified in regulation and steadfastly implemented.

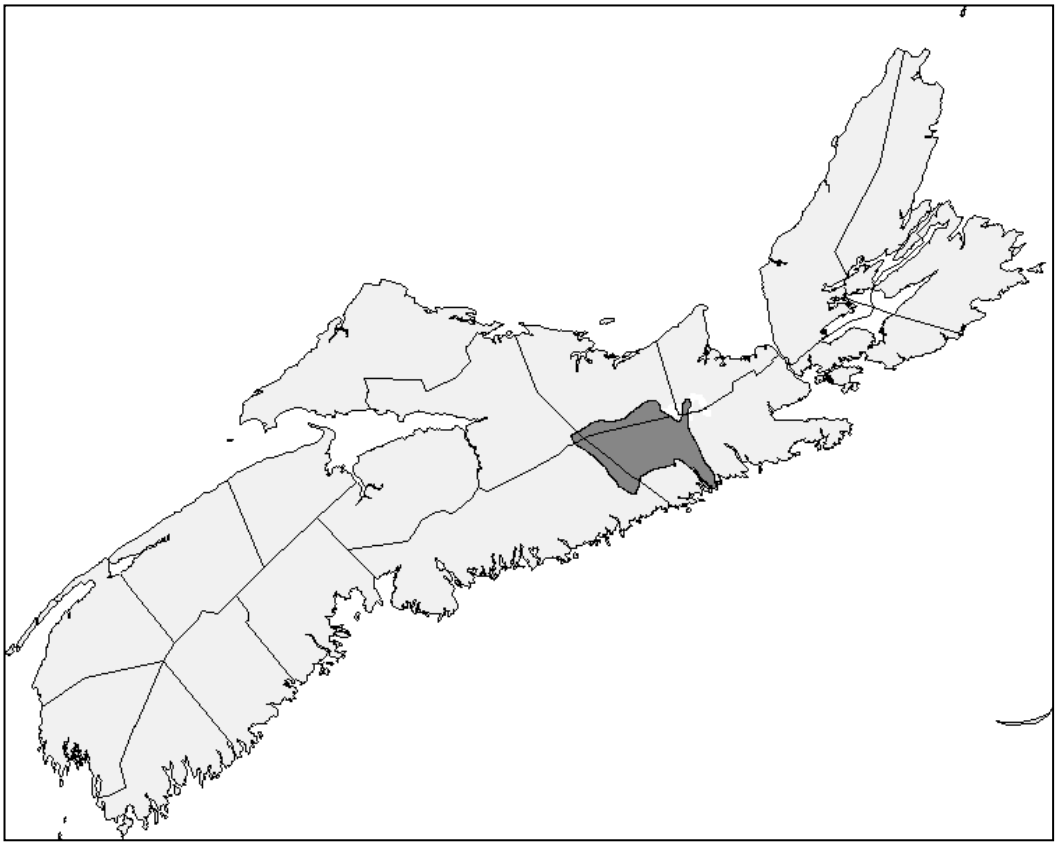
2. The St. Mary's Model Forest/ Landscape Management Project:

This project grew out of the model forest programme of the federal Green Plan and the St. Mary's River Forestry-Wildlife Project. This was a co-operative IRM venture between the Canadian Institute of Forestry: Nova Scotia Section (CIF: NS), Scott Paper, Stora, various federal and provincial agencies and the St. Mary's River Association (see Figure 9.1). The St. Mary's River/ Liscomb Model Forest Proposal was one of two Nova Scotian based proposals submitted for funding under the model forests program. The old IRM project focused on specific stands of forests and tested various ground level forest management methods focusing largely on woodfibre and wildlife production. The general purpose of the St. Mary's/ Liscomb model forest as stated in their proposal was, however, much broader. It was to

> act as a prototype to test sustainable, landscape-based integrated forest resource management principles, and to disseminate the results. It will be managed for multiple benefits, including economic, environmental, recreational, aesthetic, social and cultural. The Model Forest will take an innovative approach to resources management and will be a vehicle not only for testing new concepts and decision-making techniques, but a source of information to benefit other resource managers locally, nationally and internationally.

The proposed model forest comprised 198,000 hectares of which 156,000ha were forest. It was located on Nova Scotia's eastern mainland. The proposed model forest was composed of the entire St. Mary's watershed, some 113km long, and much of the Liscomb. The project had four primary goals:

Figure 9.1: Location of Saint Mary's River / Liscomb Model Forest Program.



1. To foster increased public support for and understanding of forest management practices by involving community and non-timber user groups in a partnership to co-operatively develop integrated management objectives with industry and government.
2. To implement sustainable integrated management on a forest landscape basis through enhanced co-operation among landowners and those with expertise in forestry, wildlife, fisheries, hydrology and recreation planning.
3. To maintain a healthy, productive forest generating economical and sustainable yields of timber and fibre without detriment to other forest-based economic, environmental and social values.
4. To develop and implement a communications strategy that allows for optimal transfer of information and technology to share the knowledge and other deliverables derived from the Model Forest.[32] This will include the use and dissemination of knowledge gained from the St. Mary's River Forestry-Wildlife Project.[33]

As it turned out, Nova Scotia was the only forested province not to have at least one

[32] Hruszowy, Susan *et al. The Saint Mary's River - Liscomb Model Forest Proposal.* CIF: NS, NSDNR, Scott Worldwide Inc., and Stora Forest Industries. Halifax, 1992.

[33] Canadian Institute of Forestry: NS Section. *St. Mary's River Forestry/Wildlife Project: Technical Reports 1-19.* Halifax, 1987-1992.

model forest project funded. Once rejected, the project members immediately turned elsewhere for funding and this study's author agreed to co-ordinate the search for new funding. An interim grant was awarded by Wildlife Habitat Canada (WHC) with a directive to focus objectives more precisely; clearly establish commitment and agreement from present project partners; and widen partnerships to include small woodlot owners and additional non-forestry partners. Meeting these conditions was necessary if additional and substantive funding from WHC was to be secured. It should be noted that Wildlife Habitat Canada had quite compatible objectives to the model forest program. This organisation was established in 1984 as a public/ private partnership dedicated to conservation, restoration, and enhancement of wildlife habitat in Canada. The concept of Landscape and Ecology Management (LEM) was adopted by WHC to address some of the practical shortcomings it perceived with the Integrated Resource Management concept such as overlooking practical solutions to larger scale wildlife management and biodiversity concerns. According to Wildlife Habitat Canada, LEM recognises

> the reality that wildlife habitat is found not only in natural areas but also in areas where the primary land-use may be economic, social or cultural. The ecology of a landscape includes areas of pristine wilderness as well as culturally modified lands: agricultural, forested, industrial, urban and recreational. Landscape management takes an ecosystem approach to decision-making at a regional scale, with consideration for both wildlife and human values.[34]

In practice the Landscape and Ecology Management approach encourages a pragmatic integration of cultural and biophysical values in resource management to promote overall sustainability. In reference to forest landscapes specifically, WHC points out that

> the forested landscape is the most important natural resource in the Canadian economy. At the same time, there is a realisation that the varied resources from the forest are not unlimited, that long-term planning and management are necessary if we are to achieve sustainable development based on ecological parameters. Further, the public is increasingly demanding that forestry be accountable to environmental concerns. Non-timber values such as wildlife and its habitat, recreational and tourism opportunities, hunting and trapping and native land-use are recognised as an integral part of future forestry decision-making.

This project as envisioned in its mature state was to be a major step in devolving decision-making to more community based resource management entities. The key to its success was the readiness of multinational corporations and government to devolve power for

[34] Wildlife Habitat Canada. *WHC Revised Submission Guidelines.* Ottawa, Jan 1993, 2.

forest management standards to local community based entities. Two goal-setting workshops were held with the original project signatures with a view to securing additional partners (including small woodlot owners and other community members) and funding; but as the process proceeded so the real fissures in their fragile consensus appeared and the project eventually died. Although at this time and place this project was a failure, like the Envirofor process, there are lessons to be learned concerning the viability of similar forest conservation programmes.

Similar to the Envirofor process, the viability of this project depended on continued effort to maintain any established consensus among its initially asymmetrically powerful and diverse actors. Although all available historical evidence pointed against such groups building a workable and lasting consensus, there was considerable hope for success this time because this was largely the initiative of the two major multinationals operating in the area. As conceived this project combined ecological, social and community imperatives of the local, landscape based community but focused primarily on the forest ecosystem and the needs of the forest industry. While as a landscape management process to be co-funded by WHC its emphasis was on landscape protection and restoration, this project in practice was mainly centred on the long-term needs of the forest industry and wildlife management rather than general sustainable development *per se*. While in an environmental management sense it was integrative of all resource demands specific to the forest and the forest industry, it initially fell short of full environmental and social integration. It did, however, if it was implemented, hold the promise of considerable restorative ecology and more integrative management as more interest groups became involved. As such it was likely a model for Turner's strong sustainable (SS) paradigm rather than indicative of the very strong typology (VS) that in time it had the potential to become.

As envisioned the St. Mary's landscape management process was to devolve much decision-making authority to a regional, quasi-democratic decision-making entity of forestry, social and environmental interests, and other regional elites. Like the Envirofor process it too was to periodically enshrine or 'ratchet' consensus on forest practices and other aspects of sustainable development in public policy regulation. The resultant land-use and resource management processes and regulations were to be applied first within its

own jurisdiction and then as wider acceptance was built, its principles were to be adapted to other ecosystems and ecoregions. Interestingly, the multinationals' motivation for involvement was unabashedly the international market pressure that threatened boycott of their forest products. It was also implicit recognition of market failure. In addition, clearly implicit in this initiative was a lack of faith in 'broad brush' state intervention like the FIA that was designed to correct the industry's misdemeanours. In this landscape scaled and more adaptive management approach, the state's role was seen here--much like the Envirofor process--as co-operating with and following the lead of the private sector to correct specific market failures. If this was to be successful, the state was to be cautiously constrained by an involved, interested and effective private sector acting in the public interest to safeguard the environment and the future viability of the industry. In the best case scenario, successfully applying this model required the sophisticated understanding of multi-agency dynamics including the disparate interests and goals of its various actors. Without an overwhelming and concerted effort by the public through democratic and market regulation processes to dismantle the multinationals asymmetric power, however, there was unlikely to be sufficient motivation for the multinationals to devolve its considerable power voluntarily. This uneven power in the end served as the major demise of this project. Although the multinationals inferred they had learned a great deal from the first St. Mary's project and wanted to take time to apply its lessons elsewhere, it was clear they had little to immediately gain from voluntarily giving up power to make this project a success.

The Central Region Integrated Resource Management Project:

The Colchester/Cumberland Counties Integrated Resource Management Pilot Project was announced in January 1996 (see Figure 9.2). Its scope initially involved all the Crown lands of these two counties but was expanded to adjoining counties when the Department of Natural Resources revised its Central Region structure. According to McCullum (1995) reporting on the findings of a Scientific Panel for Sustainable Forest Practices struck in British Columbia in 1994 surrounding the Clayoquot Sound controversy, the overall objectives of integrated resource planning are:

- to maintain the productive capacity of interlinked land, freshwater, estuarine and marine ecosystems;

- to maintain biodiversity of land and water ecosystems;
- to include First Nations' spiritual and other values;
- to maintain heritage, recreation and scenic values; and
- to sustain levels of commercial resource use.

The specific objectives of this project, however, appear much less ambitious and more pragmatic than those implied in Clayoquot. Here, the emphasis is to develop a process that allows for a wide range of renewable and non-renewable values and interests to be considered and harmonised into an overall land-use management process. This project's main management interests are categorised as the forest industry, mineral interests, recreation, the energy industry, and wildlife. The management team drawn entirely from DNR, includes foresters, geologists, biologists, recreation planners, and land managers. According to a January 1996 press release public input is critical to the welfare of this project, its overall goal is to develop guidelines that can be applied to all provincial Crown lands in Nova Scotia. From the *Information Paper for Public Discussion* concerning this project, it is evident that a major objective is to identify and provide strategies to resolve competing land-use interests.[35] The management team believes it can minimise conflict by first identifying the critical natural and cultural resources on each piece of land utilising GIS and then by comparing with various land-use demands, provide a workable prescription that can optimise land-use over space and time as well as minimise conflict.

[35] Department of Natural Resources. *Information Paper for Public Discussion.* Truro, January 1996.

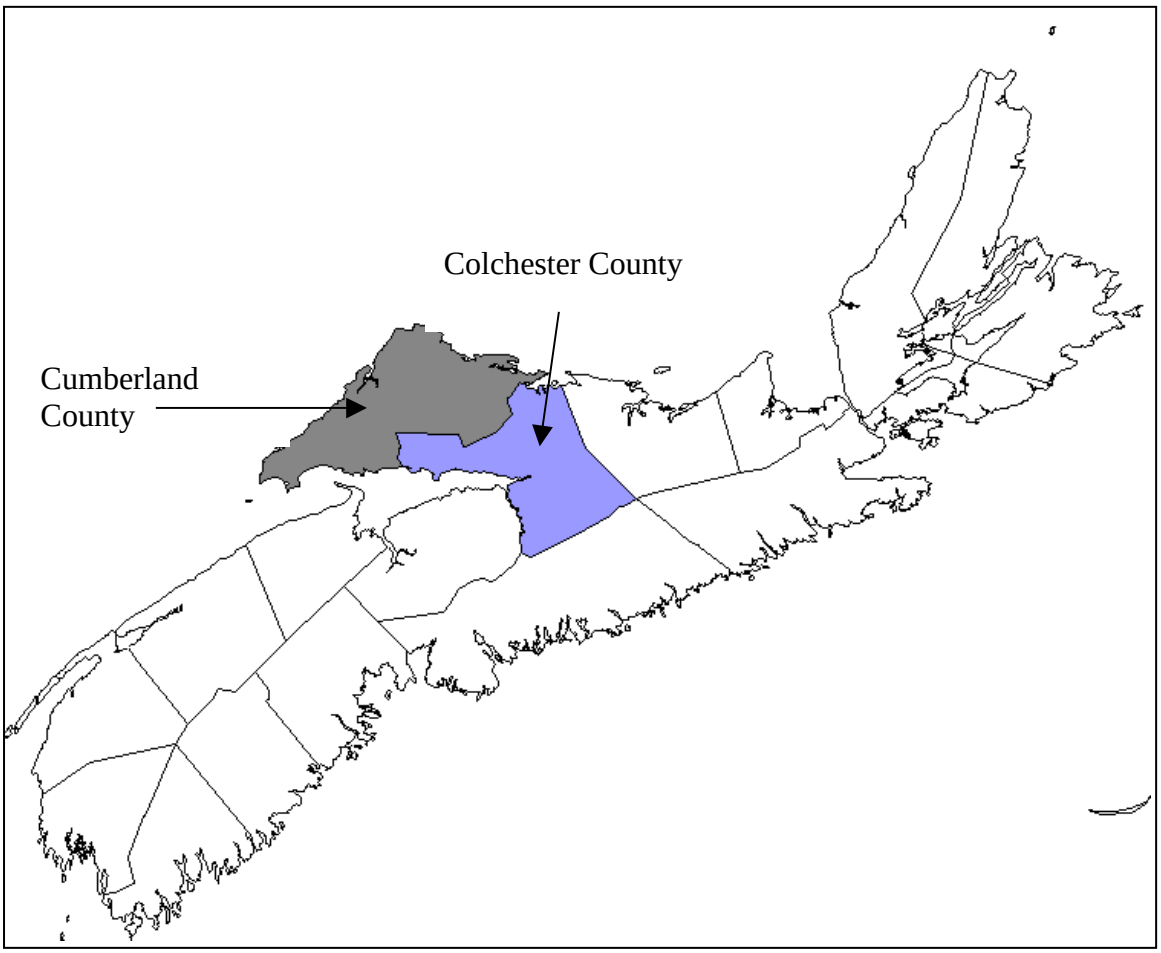


Figure 9.2: Location of the Colchester – Cumberland Counties Integrated Resource Management Project.

From public consultations concerning this project several additional land-use issues became evident. One was the question of native issues, seemingly ignored in the first instance. This involved treaties that entrenched native rights to harvest wildlife as well as the management of a Paleo-Indian site. A second issue was water quality and quantity concerns especially those regarding marshlands, fish habitat and beach management. A third was road access and the concern for maintaining or re-establishing wilderness values once forest or mineral operations were complete. A fourth concern was adjacent private property considerations, and also of concern were economic interests such that Crown lands be managed to favour local populations and not compete with private interests. In addition, there was a concern that previously agreed leases and licenses should be honoured in any new integrated planning process. With general regard for the environment, the public showed most concern over the externalities of Crown lands operations, especially those adjacent to private property.

Although this project may well be able to develop innovative bio-physical land-use prescriptions, incorporating the juxtaposition of several complex dimensions of forest management, in many respects it fails to address the prevalent complexities and realities generally inherent in Nova Scotia's forestry sector. It *de facto* assumes a disinterested polity and consumer, for example, that the polity is content to be consulted periodically but claims no active role in Crown land resource management and that consumers have no overall interest in how Nova Scotia's forestlands are managed. This focus assumes they are merely concerned with Crown lands. As emphasised in earlier chapters, the prevalent realities of forestry in Nova Scotia include, however, various multi-agency, multi-interest and various multi-political concerns, whereas this project delimits decision-making to a single, possibly rationally acting actor or agency. The success of this project's decision-making is based primarily on an intra-organisational structure and substantially ignores most of the inherently complex, natural and cultural ecosystem management dynamics widespread in Nova Scotia's forest management. Despite these glaring simplifications, this project may still provide a useful template for developing ground-level management prescriptions and a basic framework for building on more complex multi-agency management dynamics in later projects. This project does for instance, consider the complex dimensions of multiple forest resource values in the management calculation but their resolution is ultimately simplified as the decision of a single bureaucratic power. It is likely to provide few insights how biophysical lessons might be applied in more complex organisational structures. This project integrates the management of selected resources in a specific, largely single-owner management regime but disregards the integrity of natural, ecosystem management units. In its basic form its focus is on identifying possible forest resource uses and optimising benefits for a highly visible client group. It largely ignores, however, the management of non-forest resources such as air and water and their more dispersed interest groups as well as all the resource benefits and the demands on adjacent private lands. Because of its lack of integration and comprehensiveness, as a model of sustainability this project falls somewhere between weak sustainability (WS) and strong sustainability (SS). On a landscape or ecosystem scale incorporating adjacent private lands and multi-environmental media, the sum total of forest practices may well violate, however, the basic law of thermodynamics and may systematically reduce biodiversity.

In widely assessing the worth of this project it is important to note the province's rationale

for maintaining Crown lands. In maintaining its ownership and attempting to raise its share of land-tenure since the nineteen twenties, the government can be seen as attempting to rectify several market failures. By aggregating and making available large tracts of forests to multinational corporations, that would not otherwise be available in sufficient quantity, the state has been able to attract large industrial players to the province. In solving this problem of the market so that Nova Scotia could boost its pulpwood production, it has created others. It has, for example, distorted the relatively free marketing of wood products from small woodlot owners and other commercial suppliers, and in its place provided a steady supply of heavily subsidised woodfibre from Crown lands. This has had the effect of noticeably reducing the price of pulpwood in Nova Scotia, *visavis* New Brunswick--reducing the price beyond which it is possible to cover ongoing management overheads and gain sufficient surplus from fibre sales itself to make forest management attractive. Thus, when a forest management project on Crown lands ignores its impact on the economic wellbeing of private lands, it also ignores its overall impact on the potential for sustainability. Although there can be no guarantee that small woodlot owners will invest in conservation, as explained in Chapter Seven, the corollary almost undoubtedly means they have no economically sustainable choice to do so. Perhaps the most that this IRM project can hope for then with respect to market failure is to reduce the failure of its lessors. It can do this first by insisting that lessors maintain high levels of forest practices to enhance biological sustainability; but also by various restrictions on harvesting and by demanding adequate rents, minimise the market distortions felt by resource managers on private lands.

Seen simply then as one form of state intervention, this Crown lands based IRM project can serve largely as a biophysical model and as a simplified management tool to mediate various forest resource demands. Without appropriate economic checks and balances, however, it is in danger of inflating costs well beyond those feasible in the private and commercial sectors and thus likely to contribute further to state failure.

3. The Cape Breton Highlands Greater Ecosystem Management Model:

In contemporary history, the primary mandate of Parks Canada has been to maintain "ecological integrity through the protection of natural resources". In recent years, however, Parks Canada has recognised the futility of this objective without close co-operation with neighbouring land, water and environment managers.[36] This has resulted in a specific system wide, national park policy to promote ecosystem management. In parallel, in Canada's Green Plan, the federal government committed Canadians to sustainable development that ideally ensures present resource utilisation will not endanger prospects for future use.[37] Integrating both, the broad vision for maintaining park ecosystems states that

> national parks will be part of interconnected systems of protected areas surrounded by lands which provide for the well being of local inhabitants while contributing to the maintenance of ecological integrity. Sustainability of the ecosystem will be addressed through cooperative ecosystem-based management involving landowners, managers, agencies and interest groups.[38]

National Parks' policy also proposes that

> cooperative arrangements for complementary use and management of lands adjacent to national parks will be pursued with government and non-government agencies at the local, provincial territorial and federal levels in order to maintain ecosystem integrity and to foster sustainable development.[39]

Bridgland and Marineau, two National Park managers concerned specifically with CBHNP, suggest two important objectives to steer this project's human dimensions:

1. to work formally and informally with land managers in Cape Breton to foster regional sustainable resource use to maintain and enhance park ecosystem integrity and biophysical diversity; and
2. to educate people about the park's natural heritage and resource management issues and encourage a positive attitude towards the park's ecosystem management (see figure 9.3).

Although much of the theoretical literature concerning ecosystem management appears

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[36] National Parks Act, Canada, 1988.

[37] Government of Canada. *Green Plan for A Healthy Environment.* Ottawa, 1990.

[38] Environment Canada. *Toward Sustainable Ecosystems, A Canadian Parks Service Strategy to Enhance Ecological Integrity.* Environment Canada, Parks Service, Calgary. Final Report of the Ecosystem Management Task Force, 1992. Cited in Bridgland and Marineau, 1995, 2.

[39] Canadian Heritage. *Parks Canada Guiding Principles and Operational Policies.* Canadian Heritage, Parks Canada, 1994. Cited in Bridgland and Marineau, 1995, 1.

unrealistic in a complex land tenure system, Irland appears to offer a rare but more realistic perspective that is useful in the Cape Breton perspective. He identified several practical difficulties in applying the ecosystem concept to the eastern USA--an area with similar land tenure to Nova Scotia. According to Irland

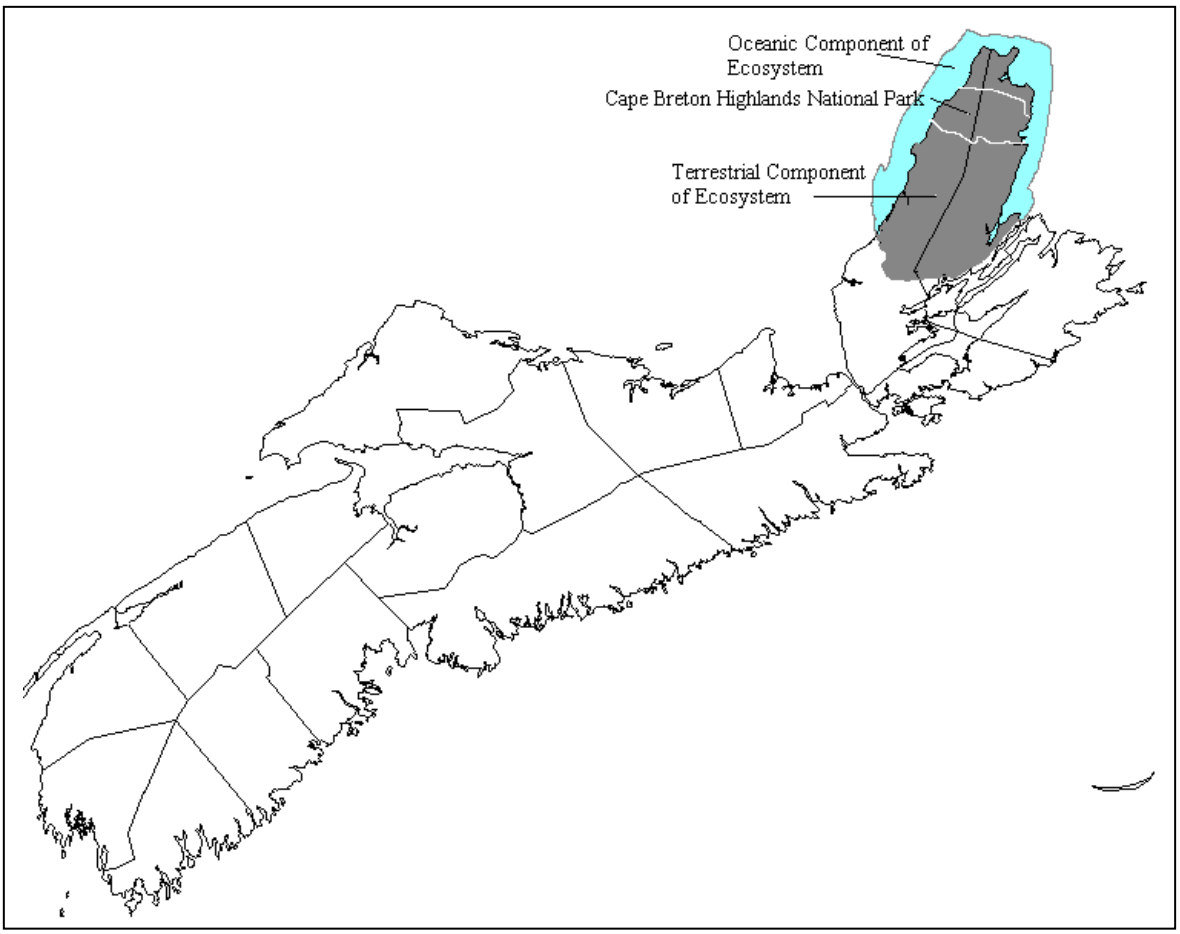

Figure 9.3: Location of the Northern Cape Breton Greater Ecosystem.

> ecosystem management seems to be a wave of the future. Yet the concept of ecosystem management is virtually untested within the ownership pattern that dominates the Northeastern and Mid-Atlantic United States: a matrix of non-industrial private forests (NIPF) [small woodlots] with just a sprinkling of public lands and large industrial holdings.[40]

While this project is still in its infancy, Irland's view raises interesting questions whether this process can serve a useful and practical purpose in forestry conservation and in the promotion of ecological modernisation generally in this region.

For one thing, this project has considerable socio-political baggage to overcome.

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40 Irland, Lloyd C. *Ecosystem Management on NIPFs.* J. of Forestry. August

Historically the federal government through the auspices of the Nova Scotia government carved the Cape Breton Highlands National Park from a combination of provincial Crown lands under *de facto* multiple-use management and expropriated private lands. Sixty years after its establishment, the Park continues to engender strong anti-park feelings, especially among locals compelled to give up their land for a 'playground' and denied traditional access to Crown lands for wildlife and woodfibre resources.[41] Although the Park has had formal and informal arrangements with its neighbours, particularly the Nova Scotia Department of Natural Resources and Nova Scotia Power, generally its record of co-operation with adjacent landowners has been strained.

Aside from any practical biophysical challenges of ecosystem management, this project requires first and foremost forgiveness by all the Cape Breton Highlands National Park's traditionally alienated and often slighted neighbours. This apart, the success of this project calls for a substantially elevated recognition among these same groups that development must be decoupled from environmental degradation, if this region is to enjoy lasting socioeconomic prosperity. This may in itself be sufficient cause to bury past grievances and begin co-operative resource management initiatives. If successful, this project potentially integrates almost all aspects of environmental quality management with development, and by nestling within larger ecosystem management systems theoretically tackles global pollution threats and externally induced environmental destruction. There is of course the barrier of human resentment to overcome and the mammoth countervailing forces of market forces that threaten to undermine its success each step of the way.

Despite the rather chequered history of co-operation Cape Breton Highlands National Park managers hope to establish a multi-agency, ecosystem management approach for the Cape Breton Highlands Greater Ecosystem.[42] At the landscape scale to which this project is initially focused, however, this approach potentially suffers from all the power distortions inherent in multi-agency management and all the inequities made evident in the FIA's analysis. Nevertheless, although at present the national park is seen as taking a

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1994, 14.

[41] Colleen Anderson. *Public Reaction to Protected Area Establishment and Management: The Northern Cape Breton Greater Ecosystem.* BRM Honours Thesis, Acadia University, Nova Scotia, 1997.

key co-ordinating role initially, theoretically, like the St. Mary's project, it envisions the devolution of decision-making authority to a regional quasi-democratic decision-making process made up of various regional and resource management elites. This may be more politically palatable than the Park maintaining a key co-ordinating role. Theoretically in this management system, periodically emerging consensus will be enshrined in regulation. Similar to the Envirofor process and the St. Mary's project, the government is expected to ratchet-up the regulatory framework to reflect any new political equilibrium.

In its envisioned theoretically mature form, this project fully integrates environment and economy. Within its spatial boundaries, this project integrates social processes and economic development with the management and restoration of environmental media. One important assumption is that the market will be much more cognisant and responsive to its own failures at the local level. This assumption is predicated on local interests being well represented, well informed and locally accountable; and it also assumes that the vagaries of the wider market can be held in abeyance to stabilise and improve environmental quality within the ecosystem. There is then a vision to develop an integrative coalition of state, commercial and private interests to comprehensively decouple development from environmental degradation within the region. It presupposes, quite emphatically, that future welfare is inextricably linked to a healthy and biodiverse environment and is committed to maintaining or expanding development to increase the social welfare of its inhabitants. In its theoretically mature form, this project is fully committed to the very strong sustainability (VS) paradigm. In its present immature form, it is far to early to tell whether it can work past its organisational baggage, although past history in the region would suggest that it has an enormous uphill battle to overcome.

4. The Coalition of Nova Scotia Forest Interests:

At the urging of the Minister of Natural Resources, the Hon. Don Downe; a coalition of forestry interests was established in 1993 to consider forest sustainability and the question of improved forest practices as the basis for a renewed provincially funded forest silviculture programme. The coalition consisted of fourteen representative groups including some woodlot owners, sawmill operators, pulp and paper companies, forestry

[42] Bridgland and Marineau, January 1995.

and silviculture contractors, Christmas tree growers, manufacturers of wood products and forest industry workers. In its submission to the government, it recommended a registry of buyers be established requiring annual reporting of the quantity and type of wood harvested as well as the publication of this data. It also recommended the establishment of a forest practices code; the establishment of a funding mechanism for tree planting programs; the establishment of a sustainable forestry board to advise the minister of the Department of Natural Resources on forest management matters in the province. According to this coalition's news release in October 1996, the strategy included principles of forest management focusing on sound ecological practices, the non-involvement of government in scheduling harvesting on private land, and the need for unrestricted access to markets by landowners and producers. According to Diane Blenkhorn, the coalition chairwoman, "the strategy offers a plan to ensure the long-term viability of our forest resource on both Crown and private woodlands."[43] Before the subsequent minister, the Hon. Eleanor Norrie was prepared to receive this recommendation, however, an 'independent' panel was established to review public input at nine regional public hearings. These were held throughout the province within a month of the report's release. Recommendations from this committee were finally submitted to the minister on November 18, 1996.

After three years of behind closed doors discussion, at times running parallel to the planning of now defunct 1995 Envirofor III Conference, and relying on consensus building among essentially like-minded blocs in forest management, this process ran foul of substantial opposition. This primarily came from environmentalists and many small woodlot owners during subsequent public hearings. To be successful, this approach also assumed a disinterested public and the complete emasculation of political influence over forest public policy by environmentalists. In essence this process attempted, unsuccessfully as in turned out, to short-circuit the broader consensus building of efforts like the Envirofor process. Only a month was allowed from the report's publication to the end of the public hearings. This overly short period for public feedback resulted in considerable bad press--there were accusations of railroading before informed and measured opposition could be mounted. Until this process became public, most observers

[43] Chronicle Herald, October 21, 1996; C9.

of Nova Scotia's forestry assumed that both the industry and government understood that a broader consensus building approach was essential to gain lasting acceptance of forest practices policy. It was evident, however, that by reverting back to the old seats of power that had run roughshod over forest management until the nineties, they (the multinationals and the government) believed they could again marginalise small woodlot owners, environmentalists and forest amenity users. As they had for so long before.

If anything, this botched attempt to seize the legislative and policy agenda by the traditional powers showed that they had changed little in their outlook since the early eighties. In terms of process they showed that it was clearly acceptable to disregard the public, environmentalists and a wide representation of small woodlot owners in the policy formulation process. They also showed that it was their intent all along to largely codify present standard operating processes rather than establish more environmentally sensitive forest practices codes. Their proposal was clearly committed to maintaining the production *status quo*. The coalition offered only peripheral forest management changes based on 'end-of-pipe' strategies and by this emphasis implicitly recognised market failure. But in doing so, it tried to mask future failure rather than averting it, by wrapping superficial forest management standards embodying present destructive practices in subsidy programmes for reforestation. Interestingly, there was no counter offer of accountability for measurable gains in sustainable practices. Had there been no great outcry of dissent, it seemed that the government was quite committed to codify those measures that forestry's most powerful saw fit to impose on itself. The state, had it ratified this process as proposed, would again be seen as the industry's agent-state.

5. Forestry Certification:

The impetus for certification comes from two related motivations. The first is to stimulate more environmentally friendly forest practices; the second is to use these as a marketing tool. There seems no doubt that the underlying interest in certification is the increasing worldwide consumer demand for environmentally friendly forest products. While there appears to be a single set of motivations, the drive for certification comes from two distinct camps. The Forest Stewardship Council (FSC) appears as a grassroots organisation of environmentalists and small and mid-scale forest managers that have

developed an international network. The second is mainstream in Canada; it is based on International Standards Organisation (ISO) certification and is led by the established forest industry and the federal government.

The Forest Stewardship Council now based out of Oaxaca, Mexico was formed in Toronto in 1993 as a non-profit, non-government membership

> international organization whose mission is to promote environmentally responsible, socially beneficial, and economically viable management of forests. Part of its mandate is to accredit certification organizations which meet its criteria.

It receives funding from evaluation and licensing fees, membership dues, and grants and donations. It supports voluntary and independent certification and encourages the development of forest management standards worldwide that promote forest stewardship. Jim Drescher of New Germany, Nova Scotia: an 'alternative' farmer, small woodlot owner and eco-forestry school director led the introduction of the Forest Stewardship Council (FSC) Certification process at a standing room only meeting in Truro, Nova Scotia in April 1996. One hundred and eighty people from the three Maritime Provinces discussed the potential for developing an Acadian Forest Region chapter to develop certifiable forest practices standards for the region.[44]

According to the FSC a viable forest management standards approach should be credible to the public, supplier/consumer focused, a single overall system that has international equivalence, is compatible with "relevant principles and criteria as well as with legislation". It is equitable for all users, practical in application, voluntary and audible by a third party. Furthermore, it must incorporate continued improvement, be accessible to small and medium sized enterprises, it must be adaptable to different jurisdictions and ecological systems.[45] As a grassroots organisation, buttressed against government and big business, it struggles to gain credibility and sufficient membership to make it a viable alternative to the CSA process in the Acadian Forest. In its favour there is growing support by important consumer groups. The World Wildlife Fund: U.K. and fifty-four U.K. based consumer companies have joined forces to promote FSC certified wood

[44] Ecologic and Associates. *Forest Stewardship Council Certification Consultation: Proceedings of Consultation Regarding the Acadian Forest Region*, Truro, Nova Scotia. April 16, 1996. 3-6.

products. This group called for "the international trade in wood and wood products to be based on well-managed forests". Its requirement for continued membership relies on phasing out wood-products purchases that do not have FSC certification by 1999.[46]

The Canadian Standards Association Sustainable Forest Management (CSA: SFM) standards is clearly more financially stable. It has the philosophical backing of government in Canada and the financial backing of big business, but it has a credibility problem stemming from its design and its basic certification principles.[47] The key difference between the Forest Stewardship Council and that of the CSA approach is that the former certifies the product from its source and tracks it to the retail outlet or place of consumption. The CSA approach only certifies the management process. According to Elliott, the Canadian

> forest industry has been promoting an alternative approach to certification based on auditing the management system of the forest company, rather than the forest management performance, as required by the FSC.

The CSA: SFM process was set in motion in June 1994 with funding from the forest industry. The ratification of the certification process was dependent upon a technical committee with representatives from producers, environmental and general interest groups, professionals, academics and practitioners, and the government/ regulatory authority. As Elliott makes clear, the process was the result of "international and domestic criticism of the environmental impact on forestry operations in Canada".

> In the absence of internationally accepted standards or definitions of sustainable forest management, Canada is concerned that some countries may restrict trade of forest products on the basis of often arbitrary and inconsistent rules."[48]

Despite its apparent broad representation and its claims for widespread support the CSA process was the subject of considerable criticism from environmental groups. It was however, able to claim support from Wildlife Habitat Canada who "strongly supports the CSA initiative because it will require that forest managers establish and meet biodiversity objectives." The Industrial Wood & Allied Workers of Canada (IWA Canada) also said

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[45] Ecologic, 6-7.

[46] FSC Notes: *A Newsletter of the Forest Stewardship Council.* January '96, Volume 1-Issue 2. 6-7.

[47] Chris Elliott, Senior Forest Advisor, WWF International. *Forest Management Certification: ISO, FSC and CSA: What's going on?* Taiga-News 19, November 1996.

that they "gladly accepted the CSA invitation to help develop sustainable forest management standards for Canada. We saw this as an opportunity to protect worker's jobs and ensure better forest practices." The Canadian Federation of Woodlot Owners also threw their support behind the process; they stated that "Sustainable harvests, better management practices, [and] more secure markets ... are three reasons why [we] worked with the CSA to develop national forest management standards."

The CSA SFM approach is patterned on the ISO 14001 Environmental Management System (EMS) approach. This involves the establishment of and commitment to a SFM policy for a defined forest area. It also includes the definition of goals and indicators; planning; implementation of the plan; and the assessment of implementation. Finally it includes a review and continued improvement of the plan. A key difference from the FSC model is that in the CSA process the forest owner or manager sets the performance level for a forest unit based on six national criteria. The more concrete criteria are conserving biodiversity, maintaining and enhancing forest ecosystems, and conserving soil and water. It also includes more esoteric requirements including contributing to global ecological cycles, providing multiple benefits to society and accepting society's responsibility for sustainable development. The key operative is that management must show ability to move towards these conditions rather than actually doing so through ground level assessments.

Gaining recognition by the International Organisation for Standardisation (ISO) has been rather problematic for the Canadian Industry despite its claims that its 'company certification' standards are consistent with ISO l4001. As it clearly states, meeting this standard does not imply an absolute measure as "two organisations carrying out similar activities but having different environmental performance may both comply with its requirements."[49] As a result of this lack of objectivity, the submission of the Standards Council of Canada (SCC) presented in May, 1995 was vigorously opposed by the World Wildlife Fund and Greenpeace, as well as Scandinavian Countries and the USA. It was subsequently withdrawn. It has since been discussed at an ISO meeting in Rio de Janeiro in June 1996, and has more recently been referred to a technical working group chaired by

[48]CSA SFM System: Overview document, August 25 1995, Z808. Cited in Elliott.
[49] ISO 14001. Cited in Elliott.

New Zealand.

It will be interesting whether one or both of these systems survive the test of time and whether either will lead to better forest practices. There are two key points worth emphasising concerning forest standards certification. The first is that certification is producer driven but heavily consumer dependent. Nevertheless, in the absence of regulation in the country of consumption or without consumer preference for certified products--usually at a premium cost--this process is fundamentally unworkable. Experience elsewhere, such as in household products for example, suggests that interest in the environment and paying for green products is ephemeral. It appears to run in brief spurts like the business and the election cycles, it is not necessarily compatible with the long-term planning outlook necessary in sound forest management. The second point, which is its key strength, is that forest standards can be applied to almost any scale from a small forest stand to a landscape scaled ecosystem or eco-region, or even country or international trading block. This advantage over several other conservation initiatives means that it can be applied to a single ownership unit. Unlike the other examples outlined in this section, certification supports landowner sovereignty rather than works against it. It is not altogether dependent on building consensus within any particular geographical unit--which is after all, a communal or quasi-socialist endeavour. Rather it supports individual initiative and the right to associate--a fundamental and cherished plank of the rights of private property.

Consistent with these points, both certification models cut through the inherent complexities of multi-agency/ organisational consensus building and the necessity to continually maintain support within a pre-determined geographical area and group. This process de-emphasises the importance of but does not necessarily eliminate the need to sway government in order to ratchet-up regulation when consensus is reached. By capitalising on its underpinnings of consumer sovereignty and its inherent market forces, and the efficiencies of scale developed by like-minded producers, different forest management standards can be developed for a number of producer groups. If these producer groups are successful in the marketplace, power will be devolved to ultimate consumers through their various retailers, wholesalers and producers. If one or more certification groups predominantly represent small and medium sized producers, then

some influence will be devolved to them via their consumers. This will inevitably transfer some power and influence from larger producers who held power in the first place. For sustained success in the marketplace there is nevertheless, a requirement that a sufficient aggregate of fee-paying producers join the certification scheme and they self-impose marketable forest practices on themselves. Retailers must follow a similar self-restraint, although they may not necessarily be fee-paying they may indeed receive incentives from producer groups.

To extensively change ground level forest practices and to have meaningful impact on a region's sustainable development, however, it will require much more than market success. Success at ground level will depend upon a number of factors. One is that there will be sufficient aggregate compliance in any given area to actually improve forest quality over time and space. A single conforming producer is better than none, but this may not have any appreciable impact on sustainability. Two, the likely inevitable reductions in production--per unit area--that results from more environmentally sensitive forest practices will not simply be compensated by increases elsewhere using inferior forestry methods. Three, it is essential that poor forest practices are not merely postponed when schemes collapse in the marketplace. Sustainability must be for the long-term. A clear drawback then is that environmental enhancement is linked to consumer preferences that are often transitory.

One seeming irony of this process is that certification appears to be a direct outgrowth of, and recognition of the sanctity of global trade. Certification not only puts faith in global marketing, despite the growing recognition that neo-liberalism and unabated global trade seems to be the main cause of worldwide pollution and forest degradation, but it also touts certification as its solution. The market in this case assumes that each resource sector can alleviate its own environmental failures through collective marketing and the wise purchasing behaviour of environmentally astute consumers. To complete this rather difficult scenario, it must be assumed that the state will necessarily reduce its own interventions that lead to environmental degradation and will support the private sector in its corrective mechanisms. For the state this may well go beyond mere enabling efforts to actually sanctioning controls. If the latter is necessary, however, such action likely means continued evasive action by industry laggards. This was seen in the STA era, in the failure

of the Envirofor process, and the collapse of the St. Mary's project. All exemplified the reluctance of powerful actors to support actions that would devolve influence more broadly.

The Department of Natural Resources Position Paper:

In response to its continued failures in curbing market failure and its own state failures, the Nova Scotia Department of Natural Resources published a position paper entitled *Toward Sustainable Forestry* in October 1997.[50] This arose from the ashes of the aborted Coalition of Nova Scotia Forest Interests proposal that was summarily rejected in public hearings the previous year.[51] In its introduction this latest document recognises several important requisites for future forest management. First it emphasises the unique character of Nova Scotia's forestry management's land tenure in Canada; it being predominantly privately owned and managed. It also concedes that the demand for forest fibre has increased substantially in recent years, that much immature woodland is exploited, and that total harvest levels are unsustainable. Exploitation of softwood has risen from 2.7 million cubic metres in the early eighties to an average of 3.7 million between 1986 and 1990, and to 4.0 million from 1991-1995 with the level for 1995 being 4.8 million. Ominously the 1996 and 1997 levels are thought to be still higher. More intensive forest management with extensive replanting and silviculture was once the hope for higher sustainable yields for the future but the government now acknowledges that the era of large federal/ provincial forest management subsidies, upon which these predictions were predicated, is over. Most significantly, it recognised that the time for regulatory enforcement, in the absence of sufficient subsidies and the lack of support for green type taxes, has come. It dismissed, however, the direct intervention of government regulation in forest practices. It cited as rationale that land ownership sovereignty is prized throughout Nova Scotia and that forest managers dismiss the notion that anyone but the owner/ manager can dictate when and how forest harvests should be scheduled. Consequently it did not perceive an appropriate role for government to be involved in the decision-making process on private land. It did concede, however, that the public

[50] Natural Resources. *Toward Sustainable Forestry: A Position Paper – Working Paper, 1997-01*. Halifax, Government of Nova Scotia.

[51] John T. Sears, DBA: Panel Chair. *Public Response to: Coalition of Nova Scotia*

demands that forests be managed more broadly than solely for the forest industry and that exceptions are made to a hands-off policy when environmental considerations are at stake.

The major trust of this proposed policy paper recommends that the Department initiate a registry for all wood buyers in the province, and that they have an approved wood acquisition plan. It also recommends that the province continue to "provide incentives and technical support for silviculture operations on woodlot holdings". With concern for sustainable development, it recommends, however, that the Forest/ Wildlife Guidelines and Standards regulations developed for Crown lands and adopted by some commercial operators be enforced on all private lands. It also points out that

> the need to develop guidelines for forest management to protect genetic, species and habitat diversity is specifically referenced in the National Forest Strategy, as is the need for public and private forest management agencies to include specific measures to maintain forest biodiversity in management planning.[52]

Although it is apparently ready to implement a comprehensive code of forestry practice on Crown lands it is only willing to recommend rather than enforce directly the same on private lands. It also plans to require that all harvesting above a threshold of two hectares be registered at the local Department office before harvesting begins. This it contends "will allow monitoring by the Department to ensure that immature stands are not being harvested and/ or to improve harvesting generally". Finally it plans to complement these actions with a "strong, coordinated education-extension-communications effort".[53]

Despite the humiliation that the Coalition received at the hands of the public input regarding their forest strategy in 1996, its most prominent association, the Nova Scotia Forest Products Association (NSFPA) still seems quite oblivious to its sullied image as forest protector. By representing "itself as the only organization that speaks for all sectors of the forest industry", it, in response to the government's position, called for Natural Resources to endorse a voluntary system of forest management reporting and make it (NSFPA) the keeper of the registry. In essence it suggested that it do the policing of Nova Scotia's forestlands. Despite this twist on the government's proposals it did endorse in principle the government's design to have annual registration of buyers, enforce forest/

Forest Interests' Discussion Paper. Halifax, Voluntary Planning. November 19, 1996.

[52] *Toward Sustainable Forestry*, 7.

wildlife guidelines, and the collection and reporting of data and support for the concept for the annual publication of the "State of the Forest Report.[54]

According to the government's position paper the key to a process to stimulate sustainability

> is to devise a framework that responds to the need and respects traditional rights of ownership. This suggests that a greater responsibility for the maintenance of the resource should be placed with those that are generating the demand (i.e. the industry).[55]

In some ways this appears as a classic 'end-of-pipe' strategy but there is no direct end of the line remediation of environmental damage by the processors proposed. There is nevertheless a provision for the payment of silviculture funds by the processor to the producer, and an arrangement that buyers and suppliers enter into a stewardship contract. Recently Stora entered into a joint management plan with the Nova Scotia Landowners and Fibre Producers (the official bargaining group within Stora's monopsony boundary) that serves as an operational model for this government proposal. The resultant acquisition plan of future buyers, according to the government

> must include enough information to permit the Department to analyze the impact on the future wood supply and provide the necessary assurance that the silviculture program can be carried out.[56]

This must be capable of being monitored, be verifiable and audible.

This provision at first glance appears as a creative sidestep around the political problem of direct government intervention on private lands. It potentially provides continuing funds for forest management whether the producer wishes to be involved or not, and it can, if acquisition plans become sufficiently sophisticated, address many of the issues concerning environmentally sensitive forest practices. The most serious problem, and likely to be its nemesis however, is the question of market control. In a free market, which as already argued in this study, Nova Scotia's forest products market is not; sellers can shop around when the buyer's conditions are deemed unsatisfactory. In a monopsony the

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[53] Ibid, 9.

54 Paul Sparks. *Association proposes policing duties: Broader mandate would mean increased workload.* Atlantic Forestry Review. Volume 4 #3, January 1998, 36.

55 *Toward Sustainable Forestry*. 6.

56 Ibid, 7.

seller must generally sell to the monopsony buyer or not sell at all. The overwhelming asymmetrical power of the multinationals over this uneven marketing field means such arrangements are more likely to strengthen the political economies of the dominant commercial operators. This is especially true where the seller has largely become the political dogsbody of the multinationals and where the multinationals' track record on forest management is less than stoic. In addition to this serious potential weakness, this proposed policy also ignores the issue of vertical integration. The larger commercial operators obtain substantial produce from their own corporate or licensed lands. Much of the funds earmarked for forest management, as a levy on sales (a green tax by another name) will likely become a bookkeeping transfer and a forest conservation auditor's nightmare. As history attests and argued in Chapter Eight, any strengthening of the multinationals' bargaining power and strengthened political economy are likely to come at the expense of the small suppliers and the condition of the forests. Contrary to what these measures are supposedly designed to protect.

Conclusions:

A few principles initially seem clear from this contemporary overview. The first is that forest practices legislation is clearly not the instrument of choice for government or industry, and seemingly not in the first place that of environmentalists. While there appears to be a growing consensus or at least recognition that forest practices must be based on sustainable development, sound ecological principles and broad social consensus, little seems to have been learned from past experiences by government and industry that can be readily applied to modern forest practices prescriptions. Although there is obvious concern for consensus, the problem of consensus building among the disparate factions impacting forestry policy has haunted regulators for decades without any clear way forward. Rather than finding workable solutions, the forest conservation problem seems to have got steadily worse and more complex as time goes on. It is in this context that the following and final chapter attempts to draw the fundamental problems of the forest conservation in Nova Scotia under one cover. It does so by drawing on the lessons from each legislative era and by assessing the key forces impinging on the forest sector in the past, in the present and what is likely in the future. To do this, Chapter Ten draws on the four themes or idioms of analysis first outlined in Chapter Four. As these

idioms take a rather broad-brush view of the policy process, so this next chapter steps back from particular details to assess the broad themes underlying forest conservation policy. Based on these broad guides, Chapter 10 speculates on what can be done to make forest enhancement and sustainable development a more feasible proposition in Nova Scotia in the future.

Chapter Ten:
Summary, Conclusions and Recommendations.

This study of forest conservation policy in Nova Scotia has focused largely on power and influence over forest policy decision-making rather than about technical, biophysical interventions on the forest floor. It is mainly about the market's ability to impose its will over forest resource management and the state's weakness to take corrective action. The outcome has been about an increasingly worsening renewable resource whose degradation has rapidly increased since the industry's post-war expansion to meet post-war rebuilding efforts and later escalating consumerism. In its simplest form it is an account of deceit, foolishness and naivety. It is also a story of apparent failure when legislative failure actually meant success for some and it is about political opportunism and blunt corporate power. For the most part it is a tale of two opposing forces, the first bolstering economic wealth and the second trying against severe odds to maintain environmental quality. It is above all a continuing chronicle of the challenges of environmental management that become increasingly more complex and more difficult to solve everyday.

In its investigative and descriptive form, this case study analysed the policy process through close chronicling of policy events. This micro policy analysis stood various legislative, policy and program events in order and then unveiled the web of interrelationships that were often counterintuitive, frequently couched in misleading rhetoric, and sometimes led by well meaning but quite naïve policy actors. Mesoanalyses of power and influence were regularly built on these investigative analyses; these more theoretical approaches repeatedly pried open otherwise hidden motives for policy action that helped explain otherwise seemingly irrational policy behaviour. Finally, in the penultimate chapters and in this chapter's conclusion, this study made more sweeping macroanalysis of the forest conservation process to assess its performance in the light of ecological modernisation and sustainable development. Putting policy events in the context of modern ecological management theory provided important insights into the development of forest conservation policy and its increasing complexity. Putting Nova Scotia's forest conservation in the context of world trade and the rise of neo-liberalism attuned the analysis to the realisation that no legislation alone, and likely no provincially inspired package of conservation initiatives can solve the problem of forest degradation.

Rather this analysis suggests the need for substantive action on numerous fronts including the province, the nation and in international trade. The underlying theme of this study was that as time went on, so the forest conservation problem became more convoluted, the countervailing forces working against forest conservation became both more extensive and acute, and the critical consequences of failure--although possible solutions were continually delayed--become more onerous every passing day. This study's overall conclusion is that present forest conservation efforts are woefully inadequate and are unlikely to improve until radical shifts in thinking and action permeate the forest industry and the international marketplace.

Summary:

The initial account of forest conservation legislation in Nova Scotia with the Broad Arrow Act tells of the colonial power protecting its strategic interests by conserving masts and spars for the Royal Navy. Early emphasis was then not so much about conserving the forest for future generations and protecting environmental quality, although there was an implied harvesting delay of specific trees, it was shorter-term and about reserving trees for their optimal use--as defined by Nova Scotia's colonial power. As with later efforts at forest conservation there is evidence that compliance was far from perfect, although the best evidence of non-conformance with the Broad Arrow Act came from the New England states. Civil disobedience there evidently grew to sedition and contributed eventually to the War of Independence. The main points to be made about forest conservation here are that the forests had utility to the British only as an industrial installation. An important point was that legislation was not for any supposed environmental or strictly conservation benefit; it was that the key political-economic force on forest management--even at this early stage--came from outside Nova Scotia's boundaries.

Although there was considerable economic exploitation of Nova Scotia's forests prior to World War II there was no great effort to legislate forest conservation. Most exploitation of the forests in this pre-war era was at the hands of foreign nationals, mainly from New England. During the Depression considerable land, once in the hands of small woodlot owners, was gobbled-up by capitalist opportunists mainly from the States and Montreal. Despite these aggrieved transactions it was nevertheless, a matter of public policy and

bureaucratic effort to accumulate more Crown lands and to exact forest conservation practices on the government's lands. In practice much of the land accumulated from the private sector was denuded, most deemed surplus by industry once its stumpage value was extracted. Again the tale in this pre-war era is that forest degradation was in large part at the hands of foreigners and other outsiders. Forest management decision-making was made by those controlling capital and not by more direct interests in forest conservation.

The STA stands as the only legislation to create real and positive change on the forest floor. It is placed alone as the only legislation that slowed forest degradation caused by market forces. As a conceptually simple statute it had both strengths and weaknesses. Its strength was clearly its ease of application; any tree failing to meet its minimal girth requirement could not be felled without ministerial approval. Its major technical weakness was that without ministerial approval it safeguarded scrub trees in perpetuity. Its operational weakness was that ministerial permits were provided routinely for immature forests that could not rightly be considered sylvian junk. Once the pulp industry was to be expanded its conceptual limitation was its intent to delay harvesting until trees matured sufficiently for sawlogs. Its policy weakness ironically was that it could be implemented if the political will was there, but because it potentially slowed down harvesting, it stood in the way of an expanding pulp industry and consequently became its political target.

The dying days of the STA is a story of political intrigue. The government and the expanding pulp sector--aided by the official opposition's acquiescence--obfuscated the real reason for the STA's rescission that was to expedite clearcutting. To counter this there was an equally cryptic attempt by the indigenous forest industry to wrap its opposition to rescission in forest conservation rhetoric, although the real reasons were more clearly new competitive threats. While the STA was very much a woodfibre conservation measure and was philosophically and practically tied to conserving trees in the industrial installation context, with this political posturing it became the indigenous industry's symbol of appropriate forest management. It became a rallying cry for what was right about the indigenous industry and their forest practices and what was wrong with the new industry with their technocentric routines. The STA became a symbol for multiple-uses of the forest including the developing tourism industry and recreation. The

policy outcome of all this posturing was placation of the indigenous industry by support for new forest conservation legislation, but the real winner--who did not want new forest conservation legislation--remained the expanding pulp sector. Although its victory was victory somewhat delayed, the new pulp industry eventually got its way to freely clearcut with impunity once the STA was rescinded.

At first glance the soft industrialists appeared to win this policy battle because replacement conservation legislation was enacted prior to STA rescission. This process was more realistically however, the government's slight of hand and was more accurately regulatory rationalisation. At the very least this should have been an important lesson for soft-industrialists that the resource policy war is never over, only battles are won and lost along the way. In truth, however, a major skirmish was won by the expanding pulp sector. The STA with its controls on clearcutting was stripped from the statute books to make way for increased forest production. At this point there was no real concern in government whether environmental quality would suffer; the important question was whether economic development could be enhanced. The policy process also suggested that much could be done to fool a disinterested and ill-informed electorate. It was difficult to imagine that the public might even consider that an act entitled the Forest Improvement Act would actually herald expanded forest exploitation. History clearly showed, however, that the forests in time did expand output and produce more wealth, but at the expense of a degraded forest.

Unlike the STA, the 1962 FIA, the act first destined to replace the STA was given no regulatory teeth to slowdown forest degradation. It was mainly of platitudes rather than concrete measures to expedite conservation--it was a measured response to placate the indigenous forest industry. The FIA's most significant and only potentially concrete outcome was to rescind the STA upon proclamation. This for the time being, however, was not to be. Almost at the same time as enactment and before proclamation, this FIA version run foul of both old and new industries and almost immediately instigated a fresh legislative renewal process. For the first time the 1962 FIA proposed measures to codify multiple forest uses, interestingly however, it said little about how trees would actually be conserved. Other than the fact that this legislation could have led to STA rescission, it was unlikely to have direct ground level impact. The key ground level outcome of the 1965 FIA version was, however, that upon proclamation the STA was concurrently

rescinded. Without regulatory controls being enacted at the time of STA rescission, FIA enactment signalled a new set of unregulated conditions--the industry could clearcut with impunity and to a large extent did so.

As written, the 1965 FIA was potentially far more repressive than its predecessors. It was directed to private lands requiring detailed reporting, the maintenance of recreation and environmental corridors and allowing for various corporatist district forest improvement boards to set and administer forest practices. Its complexity was both the industry's salvation and its dissipation. Such legislative complexity ensured that little or nothing would actually be enforced at ground level for well over twenty years, yet its intricate conceptual underpinnings continually gave rise to belief that it could deliver either production or environmental goods various factions supported. In the end, the FIA's complexity and confusion led to gridlock and a Royal Commission was called in 1983.

Had the FIA been implemented at ground level as written, considerable power and influence would have been devolved to corporatist bodies. During enactment, however, the government of the day could not reasonably anticipate an uprising of environmentalism and could not reasonably foresee their influence over the Provincial Forest Practices Improvement Board. Had PFPIB influence remained confined to the main echelons of power within the forest industry, there was a better chance the improvement boards might have worked—at least operated more smoothly. The corporatist boards of the 1965 FIA, based on a Swedish model, were theoretically an attempt to make forest practices sensitive to local environmental and political conditions. It reflected the notion that well meaning forest industry actors could adequately dialogue to establish meaningful, consistent and acceptable rules and practices that would eventually lead to higher production, better quality forests and more favourable multiple-use opportunities. Devolving power and influence to environmentalists was, however, clearly unacceptable to both industry and government so the FIA and the forest improvement board process, like the STA before it, was targeted for rescission. Although this study raised considerable doubt whether there was any real intent, especially in FIA's early years to implement this legislation, the fact remains that as written, it envisioned a far broader conception of the forests than as an industrial installation. It saw the forests as a provider of environmental goods and as a playground as well as a continuing industrial source of woodfibre. Regardless of its intended meaning, in the end it had little impact at

ground level accept, as a result of prolonged policy debate, to continually support *de facto* extensive clearcutting.

The Forest Enhancement Act that replaced the FIA covertly acknowledged the need by government to continue placating soft industrialists and environmentalists to support the corporate agenda. Little or no concrete policy action relating to the FEA since its enactment attests that the government was no longer serious, if it ever was, about applying legislative tools to mitigate forest degradation. The FEA, as written, was non-interventionist in the extreme. It indirectly codified and legitimised the return of decision-making on forest management standards to the forest owner where it had largely resided since STA days. Unlike the FIA that kept industrialists, soft-industrialists and environmentalists consumed in continued debate on forest practices, the FEA left a discourse gap in forest practices that increasingly grew wider as worldwide sensitivity to sustainable development expanded. This growth in awareness and acceptability of sustainable development, in its various and broad interpretations, led to increased legitimisation of discussion if not action on environmental issues among politicians and consumers. This created increasing uncertainty for Nova Scotia's industry managers and forestry bureaucrats who saw themselves increasingly marginalised in environmental policy debate. The initiatives of this decade in promoting various forest conservation projects best represent a period of transition in forest management; a period of turbulence where the destructive pressures of global trade and the countervailing forces of environmental sensibility are playing out in the global and local policy arenas. Just what this means and where this may lead are discussed in the sections that follow.

Conclusions:

One common thread of Nova Scotia's various forest conservation initiatives, including the industry's recent attempts to shape conservation policy outside the legislative framework is that each recognises that the market alone, is incapable of maintaining environmental quality. As Weale puts it:

> markets on their own cannot be expected to produce an efficient allocation of resources so long as uncompensated externalities exist. The task of politics is to supply the public good of environmental protection.[1]

[1] Weale, 41-42.

Mindful of negative externalities, the unresolved question is whether the forest industry can continue to do business as usual with impunity, whether it believes its major quest is one of marketing or 'candy-coating', or whether it really believes that better forest practices are necessary for its wellbeing. This basic decision will clearly direct its future actions. A second issue attests that conservation policy, especially legislation, can be risky business. For example, even though the STA could be effective at ground level when and where implemented, it was politically explosive to an expanding pulp processing industry. Furthermore, if the 1965 FIA was truly a ruse to rid the industry of the STA, the unforeseen danger was some subsequent forest minister might take it seriously. This of course was the case as two forestry ministers in succession tried to implement the FIA as written to later cause considerable policy grief. Similarly, if the present legislation--the FEA, was conceived as policy pretence and was dismissed without much ado; the now evident danger is that the policy vacuum created will be filled in some other and largely unpredictable way. In Nova Scotia's recent forest management it was not the expected resurgence in environmentalism that drove the renewed debate for instance, but that of market uncertainty. Policy discourse like that in the Envirofor process, the forest products certification process, or the Central Region's IRM project and the industry's voluntary participation in such conservation projects may not be substantial testament to sustainability but rather ways for the industry and government to deal with their uncertainty. There is no doubt, however, that doing something is chancy but doing nothing likely carries worse perils.

In this final summary the various idioms of analysis explicated by Weale are used to clarify what has been learned and what remains unclear about Nova Scotia's forest conservation processes. As preface, it is important to note that the forest sector's uncertainty about its future markets and the changes necessary in forest conservation strategy are serious business for them even though their indecision reflects an industry in strategic disarray. Despite this uncertainty it is clear, however, that the policy process is in transition and the industry is at last attempting to refigure its direction. Knowing not exactly what to do but knowing that neither the permissive nor the restrictive policy approach has worked well in the past is clearly perplexing for the industry, the

government and the interested public.[2] [3] It is also clear, nevertheless, that small measures can no longer be expected to suffice yet more ambitious measures have few, if any convincing empirical models. While few definitive answers have been provided by past forest conservation legislation, the conceptual underpinnings of how environmental policy should work are now more clearly understood. The potential for concrete, workable solutions have, however, become substantially more difficult as overarching obstructions have grown. The discussion that follows then examines forest policy in the context of various idioms of analysis that are in essence different and substantive ways of viewing various policy influences and dimensions of power.

The Rational Choice Idiom:

At first glance and broadly speaking few things seemed rational in the workings of Nova Scotia's forest conservation legislation. Nevertheless in their time and circumstance, and under more detailed examination many policy events first appearing unreasoned reveal some internal logic. In the STA era it is clear for instance, that politicians pursuing legitimacy and re-election well understood the trade-offs required attracting industry to the province. In the government's bargaining with foreign multinationals, it is clear that politicians well understood the urgency for job creation. Although the multinationals' actions to wrest the best possible policy conditions and financial concessions may seem in retrospect unfair, they were clearly rational from their profit seeking perspective. In a similar vein the indigenous industry's support of cost incurring forest practices regulations hardly seemed rational at face value. However, in the light of more detailed analysis it became clear that the expanding pulp industry was faced with a substantial competitive threat and as a result it too seems to have some rationality--bounded by its limiting circumstances. At the same time, the government's behaviour, although seemingly much less logical given the lopsided agreements with the multinationals and their long-term forest exploitation implications, appear quite reasoned when viewed in the context of election cycles. Even the government's apparent underhandedness in playing

[2] Steve Harder. *Forestry problems worry expert.* Chronicle Herald, August 20, 1997, A4.

[3] Steve Harder, *N.S. forest and wildlife rules exist to be broken.* Chronicle Herald, August 19, 1998, A1-2.

one forestry element against another made sense in the overall pursuit of this job creation goal.

Rationality then seems to be in the eyes of the beholder and comes into and out of focus depending on the prevailing unit of analysis. In the light of two emerging and competing agendas derived from the old and the new industrial sectors, and failing a viable win-win option, the government's crafting of a political solution packaged to placate both camps, seemed possibly the only reasonable political option open to them at the time. In this political and policy context, the 1962 FIA legislation gave only the most superficial evidence that the government had concern for forest conservation, but this was in the context of its main agenda quite rational and seemingly enough to satisfy its critics of pulp expansion. In this context, this action indeed may be seen as highly rational, and indeed a well measured response to satisfy competing parties. These same rather toothless FIA provisions in the 1962 legislation were also sufficient to reassure the multinationals that the government's real concern and focus was indeed industrial expansion. This short-term expediency clearly worked well enough to get the 1962 FIA bill enacted but not well enough to get it proclaimed. This was likely the government's intentions or if not, worked to the government's advantage anyway.

The changes in the FIA's legislative structure from 1962 to 1965 reflected the outcome of recurring policy battles between the old and new industries and their more or less rational attempts to influence ground level policy. Stora's support for the 1965 FIA, although at first glance quite illogical given its extensive forest operations, appears very much a rational choice once it is realised that this FIA was not to be applied to them as a Crown licensee but rather to their suppliers and main rivals in woodfibre procurement. Even Stora's cooling FIA support once the STA was rescinded, reflected a sober and rational second look at their legislative goals. Their main objective to have clearcutting officially condoned was accomplished by STA rescission and trying to mobilise small woodlot owners to greater production was increasingly recognised as an impossible task. This softening on the regulatory provisions of the FIA recognised the growing but often erratic mobilisation of the small woodlot owners to develop woodfibre marketing boards. This action reflected the small woodlot owners' own disappointment that their woodfibre would not procure substantially larger demand, increasing prices and greater political power in light of overall increases in demand. Their increasingly weaker bargaining

position as part of more onerous multinational monopsonies became a major contention that was exacerbated by their entrenched distrust in government and big business. Their inherent distrust in state intervention seemed to blind them to the vagaries of the new market domination, however. While woodlot owners' actions may have been rational within the confines of their knowledge, attitude and experience, their collective policy actions did not appear so. For example, their infighting assured no concerted opposition could be mounted against the multinationals' market domination. In similar perspective, it is possible to see the prolonged failure of the FIA as a continuous but clandestine process of rational manoeuvres by the most powerful forest sector agents. Although the 1965 FIA initially played into Stora's hands, the government's ten-year legislated deferment was likely rationally conceived to console the industry's other major pulpwood interests: Bowater's and Scott. They likely saw the FIA's implementation as a major administrative charge and a substantial cost centre for various ground level conservation outlays.

The FIA's prolonged failure to bring agreement on forest maturity within the forest improvement boards' structures might also be seen as rational action to either get basic scientific principles right or alternatively, as a veiled attempt to continue the externalisation of environmental costs in the interest of industrial efficiency for as long as possible. In contrast to Weale's implication that

> presumably the rationality of agreeing to establish a common authority to solve collective action problems depends upon our expectation of how well that political authority is likely to perform its task,[4]

bureaucratic opposition to the forest improvement board structures was more likely senior management's self-serving concern that this body should never succeed. Their explicit concerns couched as 'likely ministerial loss of influence in the policy development process' more likely reflected their potential loss of power and presumably reflected their understanding that this would unlikely direct public sympathy their way. The government's lack of action over continued forest degradation is understandable given this aggregate of political and policy concern for industrial development but can hardly be condoned as complete rational action given forest management's supposed broader perspective. Nevertheless, passing on ingrained and serious problems to the next generation of forest managers seems somewhat rational given the lack of industrial consensus, and more especially with the industry and environmentalists' ongoing debate.

[4] Weale, 42.

For those industry and government officers who lived through the spray wars of the late seventies and early eighties and its increasingly vociferous environmentalists' opposition, finding a way to placate this hostility as their main focus of policy development may have seemed quite rational in the mid-eighties. The subsequent structuring of the FEA therefore, that had general platitudes but no ground level teeth, seemed quite reasoned from a political view but hardly at all from an environmental management perspective. At first glance the recent initiatives of the forest industry in the nineties to bring forest conservation back to public attention can hardly be considered rational given this concern to extricate environmentalism unless it is seen in the light of increasing customer concern and market uncertainty. Even here, the on-again, off-again industry inclination towards comprehensive forest conservation action and the less than lively involvement of the federal or provincial governments emphasise their policy ambivalence.

Even with these diverse and separate forest conservation initiatives, here again conservation action falls short of necessary effort to create real sustainability. The totality of Nova Scotia's ground level forest conservation falls well short in the industrial installation context, and is practically nonplus in the broader ecological modernisation sense given its continued emphasis on extensive clearcutting. The question looms then, if rational choice is a major determinant of policy action and the reasonable assumption is made that forest conservation and ecological modernisation are keys to a sustainable society, then what are the changes necessary and possible to bring this vision to fruition?

Social Systems Idiom:

Moving from the analysis of the rational choice of individual policy actors and units to the broader view of interacting social systems provides further insights into the forest conservation policy process. Taking this broader view of the STA rescission process it is clearly evident, for instance that the market/ state interface was in forceful transition. The forest industry as a whole was rapidly changing from a locally focussed sawlog industry to a regionally and even globally based pulpwood enterprise. During this period the rather confined and regionally weak sawmill monopsonies and Bowater's were continually losing policy influence and market strength, and in their place much more ominous, pulpwood based, politically potent economies were taking shape. The government that

had largely instigated this transition was now faced with dealing with these powerful policy influences.

Prior to this, the state discharged only a minimal role in the marketplace, largely holding itself to a rather weak regulatory function. Although the state had from time to time applied physical assets in the marketplace, in this transitory era it more vigorously applied broader means including its natural resources, tax concessions and subventions to expedite development goals. These predominantly short-term manoeuvres, however, came with substantial long-term repercussions that went well beyond inefficient use of natural resources and heralded profound changes in the way forestry policy decisions were made. This era provided for instance, evidence of substantially increased international corporate power incursion into Nova Scotia's forest sector and provided early evidence of the negative impact of globilisation on forest policy and environmental management. This emerging new order was not without other socio-political impacts. It helped replace, for example, some of the more perverse outcomes of Confederation that had previously shifted considerable political and market power to Upper and Lower Canada. Unfortunately, this shift was not positive. This transfer simply shifted the worst aspects of corporate power within Canada to give it broader international dimensions. While this provincial government capitulation to corporate power can be rationalised as a necessary response to normative claims for industrial growth and jobs, it also emphasised a lack of concern over forest and environmental quality.

Although the state's role during the STA rescission can generally be seen in a 'make-work' role, the state's overriding part during the FIA was that of spoiler. It seemed that the senior bureaucracy's role, for example, was to ensure that the FIA was never implemented. Coincidentally, the state in general was heavily involved in protecting the multinationals' interests in pulpwood production and marketing—always ensuring for instance, that the variously organised small woodlot owners would be denied a level playing field to bargain. Although this was short-shrift for the small woodlot owners, adding to their own woes; they, as a group, were slow to recognise that their autonomy as independently thinking and acting production agents was vulnerable on two fronts. Although the small woodlot owners were always alert to the explicit threat of state regulation, the growing structural power of the pulp sector's monopsonies, however, were largely concealed and in the end much more serious for them. Despite this distortion in

market power, the persistent and combined actions of the state were nevertheless to act on behalf of corporate power. This ensured the multinationals' wellbeing that was presumably to protect jobs but generally impaired the forests.

As an involved third party, as an intermediary social system, the forest management profession led by the CIF:NS can on the one hand be seen in society's watchdog role, on the other however, its role is not so obvious. As Weale points out

> other non-producer interest groups fall mid-way between the public interest group and the producer groups. For example, a resident's group that it affected by pollution will have a greater economic incentive to take action than the standard public interest group, but typically this incentive will not be as great as the producer group. Moreover, unlike the producers groups, residents groups lack the full-time staff and office support that makes collective action easier.[5]

Unlike Weale's examples, however, this watchdog had well defined interests and established secretariat resources but their professional association masked their corporate and agency affiliations. Because of its members' corporate affiliations, this 'watchdog' is best seen as an advocate of the *status quo* serving 'its not so obvious masters' in the old sawlog industry and traditionalists within government circles. In contrast, the rise in strength of environmentalists in the debate over forest practices in the FIA era can best be seen as the broadening strength of third party influences over forest policy. Environmentalists were a rather different intermediary than the CIF:NS, one initially without the CIF's credibility but nevertheless a moderating influence on the environmental excesses of the industry's forest practices. During this era, the clamour for jobs and industrial development for the most part rang louder that any fervour the environmentalists could rankle. But their view was heard clearly from time to time and in particular during the spray wars over insecticides and herbicides. Although this evolution of influence heralded a significant change in the discourse of government and industry, fostering closer and more covert links with each other, it had only modest impact on the all-important and explicit state/ market interrelationship and the intramarket relationships of woodfibre producers. The key factors in these changing social systems were the bolstering of the multinational companies' pulpwood trading dynamic and the generally humble normative claims of the public for better forest practices. Although the public's interest in and impact on forest practices were generally low during the FIA era, the public had a growing interest in the forests' multiple values. With increasing interest in

outdoor recreation, aesthetics and tourism, the forest as a resource policy interest became increasingly more sophisticated although the industry was slow to recognise or acknowledge this.

Globalisation and Forest Conservation:

One way of looking at the demise of STA policy process in the late fifties and sixties is as an early warning that state sovereignty—that is the state's prerogative and responsibility to intervene for environmental quality when the market fails—can be seriously undermined by international capital and power. Although it can also be argued, as it was in Chapter Six that the state was a compliant partner in stripping away the STA, it nevertheless remained true that the state appeared compelled—under pressure to attract foreign capital—to forgo environmental quality for economic development. Throughout the following decades and two subsequent legislative eras—the FIA and the FEA—this perceived pressure to develop at the expense of environmental quality became more acute. The surmised need to compromise forest quality and quantity clearly drove successive provincial administrations to capitulate to international corporate power and in order to justify their actions politically, the government became increasingly devious to befuddle the public and placate environmentalists.

In isolation, as simply a Nova Scotian forestry management phenomenon these actions may not seem terribly important. Seen in the context of similar trends in Canadian and forestry worldwide, however, and especially in light of the effects of globalisation on environmental quality in general, these signs are clearly ominous. The serious environmental management questions are then: Should anything have been done about this and can anything be done? The first question is largely a moral question that weighs society's responsibilities against its short-term goals; the second is more pragmatic. It is more about relative power and asks whether any administration could have been environmentally effective, given a stronger philosophical resolve. Although these questions are in retrospect speculative and academic, similar questions concerning contemporary conditions are of serious practical import. The evidence of the impacts of the global marketplace, including increasingly accelerated trade and its associated wholesale and worldwide dismantling or overpowering of environmental controls and

[5] Weale, 44.

regulations, suggest that few with influence seriously question the moral or the practical outcomes of globalisation. This international corporate trade and power phenomenon is largely treated as a 'given' among governments, labour and the public alike. The recent 'report card' from the Sierra Club of Canada, for example, attests strongly that the Canadian government, as a supposed guardian of environmental quality, is largely a myth. The overwhelming facts suggest that Canada's environmental management performance is steadily eroded by its omnipresent global trade agenda that it not only carefully nurtures and heartily endorses but vigorously defends. The second issue, can anything be done, is not merely a question of technicalities—although some are increasingly complex such as those impacting ozone depletion; it is primarily one of political will. Just as long as politicians perceive their election contingent on promoting global trade and that maintaining environmental quality has little political consequence, the dire consequences of unabated trade, and natural resource depletion and degradation are unlikely calculations in any serious political sphere.

Although the state as a political system shows little lasting inclination to protect the forests, this case study has provided some evidence that serious environmental stewardship might evolve from influences within the market itself. Some evidence was reported, for instance, that foreign woodproducts' customers are becoming increasingly environmentally discerning and more and more demand 'green type' products. The abating argument was made however, that these consumer preferences are frequently ephemeral, they appear to ebb and flow with various accounts of environmental crises and tweaks in public awareness resulting from one global conference or another. The cautious but sombre conclusion is then, that this countervailing force is unlikely to unseat the massive forces of the global economy without a substantial swing in public opinion. It seems that this is more likely to result from serious environmental calamity that is followed by international and national trade policy re-orientation rather than from 'rational' calculated planning. The question raised here is whether this long awaited paradigm shift in the way that nations view global trade and the way international capital affects environmental management will happen before things get too bad. The question more directly concerned with Nova Scotia's forest sector is what is indeed possible to change or what changes are reasonable to expect in the absence of this long awaited shift?

The Institutional Idiom:

The analyses of institutional impacts on resource management take a mid-view of the forestry sector's policy dynamics; they conceptually tie rational choice to social systems perspectives. As explained in Chapter Four, rational choice analysts see institutional effects as the aggregation of rational choice whereas social systems analysts see them more as moderators of system effects. In the early STA era as inferred in this study's discussion, the institutions of land tenure and the means of production apparently suited the industry, as it existed. Then these institutions reflected the industry's stress on local sawlog demand and its considerable lesser emphasis on export timber and pulpwood production. As previously noted, although some of their attention was focused outside the local area, pre-STA forest products demand was never large enough to cause much concern over impending shortages or price distortions. These generally stable sawmill monopsonies provided for local markets, although likely with all the inefficiencies associated with monopsony trade. While producers prior to pulp sector expansion considered these relatively small-scale monopsonies more or less indisputable and intractable, over time they were in constant transition resulting from the vagaries of local markets, broader swings in sawlog demand and the typical uncertainties of small business lifecycles.

In time, however, these localised markets no longer maintained their hold over producers and more powerful pulpwood markets eventually subsumed them. The wholesale transition from many, relatively politically inert monopolistic markets to three imposing ones increased concern about multinational power and how it permeated the forest sector's multi-agency structure. While these grander monopsony forces infused the forest sector, the FIA's provisions supposedly designed to counteract their worse effects, fell foul to multi-agency dynamics. The government's attempt to develop mobilising institutions as forest improvement boards (democratic institutions the government insisted) to derive consensus and drive production as well as stimulate conservation failed. This failure not only emphasised the ingrained differences between the needs of large capital, the production underclasses and environmentalists; the FIA's provisions also did not sit well with the bureaucracy. The 1965 FIA, as written, was therefor seen by some an effort to superimpose regulations on the multi-agency production system to

moderate forest degradation, for others its purpose was to stimulate greater production. These varied objectives and aggregate objections unfortunately led to political stagnation.

The lack of regulatory ardour that was reflected in the FEA (1986) signalled above all the government's resignation that the forest sector's main steering mechanism was its participating multinationals. The FEA's dearth of regulation also motioned recognition that even fine control of forest policy was unpopular through regulatory mechanisms. Contemporary efforts to moderate market uncertainty resulting from international consumer environmental concerns have stimulated the search for new ways to fine-control this complex multi-agency production system. In noting that state intervention in the late fifties and early sixties had a profound impact on market structure and production capacity and methodology, the critical contemporary question is whether equally pervasive policy mechanisms can be found that can safeguard the environment as well as maintain reasonable production?

The Policy Discourse Idiom:

Policy discourse stresses conceptual aspects of the policy resolution problem. Although all three primary legislative eras examined—the STA, the FIA and the FEA—clearly have elements of obfuscation and placation as part of their legislative workings, their specific texts implicitly acknowledges, more or less, the notion of the market as an imperfect driver of forest policy. The continued tinkering or revamping of legislative structures, however, not only concedes to the imperfections of state intervention as a corrective tool but to a greater or lesser degree also recognises changing conceptualisations of the forest management and conservation problem. Any superficial analysis of the STA's technical limitations, for example, might justifiably lead to the belief that its small tree focus was its critical weakness and the primary rationale for its rescission. Despite any weaknesses of a minimal girth provision, this study made clear, nevertheless, that the STA's technical imperfections were not the primary grounds for its demise. Putting aside the government's policy development slight of hand in this rescission process and its failure to explain the real reasons for the STA's dissolution; there is good evidence to believe that its undermining was a 'legitimate or legitimated' effort to boost forest production. As an act constructed almost in its entirety to promote the sawlog industry, and with the understanding that increased pulp production would

radically change future forestry needs, new industrial developments made the STA's conceptual underpinnings outmoded and rendered rescission efforts justified on a conceptual basis. What was less justifiable both conceptually and more pragmatically were efforts to completely remove cutting controls, especially in light of seemingly legitimate longer-term supply concerns and increasing recognition of associated and escalating forest degradation.

To countervail support for regulatory liberalisation, there were clearly other forest management understandings that drove to strengthen forest practices restrictions. These included increasing recognition of the forest resource as a finite entity--this was not well reflected previously in policy or practice. In addition, the related belief that industrial expansion would lead to sawlog shortages (later belied by the experience of the seventies and eighties), and the understanding of the indigenous industry's increasing loss of power--likely their most pervasive motivator--intensified this countervailing effort. These led to other conceptualisations that more forcefully drove policy action or inaction. A key understanding was that the new industry was more highly dependent upon clearcutting than the old industry, and a related belief was that clearcutting was more environmentally destructive than traditional methods. These conceptualisations provided considerable political fodder for the indigenous industry. They promoted more restrictive forest practices knowing full well that these would hurt the new industry more than they would itself.

As inferred earlier, the conceptual underpinnings of the FIA's forest improvement boards—devolution, representation and science--were notions that promoted participatory democracy and objectivity in Canadian natural resource management well before their time. They reflected understandings of the importance of consensus building and broad ownership in policy design as an important aid to implementation. The FIA's architects were nevertheless naïve in thinking that consensus building among disparate factions with widely different forest management ideologies was possible, especially given the uneven power relationships of its various constituents. Their complete ignorance that environmentalists would eventually dominate the forest improvement board processes and render them inept, was nevertheless forgivable given that the rise in environmentalism could not reasonably be foreseen. What is less excusable is the continued denial of these influences on the contemporary forestry policy process.

Continued denial, no matter how difficult it is to involve disparate views in the policy formulation process, renders more exclusive policy building efforts delusive. Given this continued denial, a burning issue is to determine what are the relevant conceptualisations of the forest conservation problem from the past and what new ones are necessary for the future? Based on the lessons from the STA and FIA eras, present day realities, and the more theoretical insights from the ecological modernisation literature, the following questions loom in setting and evaluating the recommendations that follow in this concluding chapter. Addressing these issues is critical, if forest policy is to have any meaningful role in forest conservation in the future.

Recommendations:

This study is primarily about power and how it permeates and impacts Nova Scotia's forest conservation policy and decision-making process. This examination of the workings of forest legislation and policy has identified several important issues and questions regarding the efficacy of contemporary forest conservation and sustainable development, as well as how various influences continually undermine conservation efforts. An essential understanding emanating from this study is that power and influence arise from various quarters and levels, and impact the policy process in varyingly direct and subtle ways. As the analysis of various idioms made clear in this Chapter, these dimensions fall into three broad and overlapping themes from global-external considerations, to intermediary and sectorial issues, and individual actor and organisational concerns. In making recommendations regarding Nova Scotia's future forest management it is crucial that all these interlocking influences are considered.

Global-External Concerns:

With the new policy proposal of the department of Natural Resources: *Toward Sustainable Development*, it is seductive to think that Nova Scotia might become a model for forest conservation management. Unfortunately this tends to belie political and industrial reality. Nova Scotia is a small province operating in a national and international marketplace. It is, however, not without political influence and responsibility. While its natural resources, especially its forest resources contribute to the global commons and international production and marketing, regional and global trade as well as pollution also

substantially impacts it. Nova Scotia can, if the political will is sufficient take substantive steps to protect its forests from significant external and internal threats. These political and more direct conservation initiatives can minimize and mitigate some of the worst influences of global trade and environmental destruction.

In terms of socioeconomic influences, there are two key countervailing forces impinging on resource production decision-making. The global wave of neo-liberalism makes it very difficult to impose environmental regulations without incurring costs that render provincial forest operations less competitive, at least in the short-term. There is nevertheless, a growing concern that forest practices worldwide are environmentally destructive and more customers demand environmentally friendlier products. One clear choice is to develop policy to further exploit this market niche and at the same time take political steps within various inter-provincial trade and environmental management forums to oppose destruction of environmental regulation provincially, nationally and internationally. To be effective, however, this will require Nova Scotia, the other provinces and territories, and the Canadian government to rethink their sweeping endorsement and headlong run into global trade. While the task is daunting, leadership can just as well come from Nova Scotia as elsewhere in Canada, and can just as easily come from Canada on the international front.

A fundamental pillar of effective leadership on this front is the creation and dissemination of pertinent information. Encouraging appropriate research and requiring conservation and sustainability issues to be addressed in all trade agreements and contracts involving provincial government resources are a necessary step. Realistically before this is likely to happen, however, considerably more critical and informed debate must ensue before the merits and costs of global trade and its dominantly inverse relationship with sustainable development is widely appreciated. Two basic considerations must be taken into account. The first concerns the integrative impacts of the environment and forest policy. This requires clear indication whether forestry policy has environmental costs, whether it involves inter-media transfer, and whether forest policy transfers environmental degradation from one location to another or from one time to another. Emanating from this first concern, assessments must also be made on what impact forest policy has at global, international, transnational, national, regional, provincial, ecosystem and local

levels. Understanding the distribution of the benefits and costs of forest policy will make it more accountable to the people most effected by it.

Intermediary-Sectorial Concerns:

The question was raised earlier whether sustainable forestry could be propelled in the absence of a long awaited paradigm shift, especially in the way that nations view global trade with its concomitant capital effects on environmental and natural resource management. The discussion above suggests that substantial progress relies on timely information, mass attitudinal change and ultimately a major shift in shaping resource policy. While the timeframe is largely indeterminate, it is clear that a paradigm shift is eventually required and the sooner the better. A supplementary concern is what immediate role should Nova Scotia's government play in forest conservation. This evokes the question as to what is indeed possible to change and what is reasonable to expect without a fundamental shift in global political attitudes? Although the task is clearly onerous in the absence of a fundamental shift in policy thinking and public attitude, there is a clear glimmer of hope from past forest policy that substantive change can be made.

As explained earlier in this study, provincial forestry policy had a marked effect on provincial market structure and production capacity in the late fifties and early sixties. Although it must be conceded that the government of the day unlikely had a clear vision of what precise direction their policy initiatives might take, in hindsight it is clear that it had profound impact. Although also conceding that the forces of international trade and the impact of global pollution and forest degradation are much more serious than they were then, this policy 'success' suggests that provincial intervention in the marketplace can be successful. Given the need for action at the provincial level, the first question looms as to how can the locus of power be effectively shifted from outside Nova Scotia to within and to its various regions and ecosystems?

The best chance of this happening seems to be to develop institutions that devolve decision-making power to more regionally based, preferably ecosystem based jurisdictions. Although the regional forest improvement boards of the FIA era did not work, this was largely a function of the government's failure to devolve power to those most affected by forest policy rather than a failure of devolution in principle. Given a

move to devolution, questions loom whether supporting institutions can be made responsive to socio-economic cycles and evolving biophysical conditions. How can these institutions be used to decouple development from environmental degradation? What level of sustainable development will these strategies offer; and will this level be sufficient given the prevailing state of the environment, socio-economic realities and the extrapolated needs of future generations?

There are no clear success indicators with these questions, but what this study makes clear is that the present system fails badly. Devolving power will not of itself dismantle the present inefficiencies created by uneven corporate power and multinational dominated monopsonies. The theoretical logic suggests, however, dismantling these structures will lead to more efficient markets; less need for additional state intervention, especially costly corporate subsidies; and all other things being equal, higher prices. The important questions are: How will devolution help? How will devolution reduce market failure, especially as market failure relates to environmental degradation? How will this policy diminish state failure, especially as state failure relates to environmental degradation?

At present considerable power in ground level decision-making is centralised or more accurately focused in the boardrooms of large, foreign corporations. Such centralisation with its uniform production processes is efficient for them. Resultant forest policy and practices means, however, that most forest production ends up as sawlogs at best but generally pulpwood, and there is little incentive to consider more value-added production such as furniture manufacturing or various other niche markets. A focus on pulpwood encourages efficiency driven harvesting practices that pays little regard to local forest conditions, speciality production potential or to longer-term environmental needs. Devolution provides the opportunity for more precise resource analysis and closer matching of local produce needs with production techniques.

Monopsony power will not disappear simply because the government dictates. The conditions supporting these structures must be undermined. The closed woodfibre quota markets nurtured by the multinationals that created compliant and co-operative producers and consumers must be removed. In its place, open and free markets must be established whereby sawlogs and woodchips are bought and sold without fear of reprisal; should a sawmill or woodlot producer openly oppose the policies of the multinationals.

Considerable market power is vested in the multinationals and other large corporations by virtue of their access to Crown land production. Subsidised Crown land stumpage not only creates an inefficient market but also puts considerable downward pressure on prices for small woodlot owners that leads to further market failure. Agreement or legislation requiring all wood products derived from Crown lands to be traded in open market is needed to reduce this unfair trading. These measures alone would put upward pressure on prices and reduce the market control of the multinationals and other large producers.

What does this have to do with forest conservation? Higher stumpage prices create a number of management possibilities whereas lower prices generally dictate little money is available for forest management—without government subsidies. One possible scenario is that suppliers will have greater incentive to cut wood to maximise short-term profits, and a second possibility is that they will be able to generate target revenues with less wood. Either way they will have more money per unit of production to reinvest in forest management. To combat harvesting immature forests there seems no doubt that some state intervention and regulation will be necessary to control the worst effects of the first scenario. Given the pressures from local accountability and green market incentives as well as increased awareness of sustainability issues, woodlot managers can reasonably be expected to invest more in conservation. Given additional financial resources among small woodlot owners and greater local control, it can also be expected that forest managers will be more responsive to natural disturbances as well as socio-economic variations.

How can such a set of policies be effectively superimposed on the present social, institutional and organisational structure of Nova Scotia's forestry sector? This study has clearly shown that the forest sector is a disparate and difficult sector to apply conservation policy. Based on past experience, the notion that disparate interests can sit around a table and develop a meaningful agreement on forest conservation management may need to re-examined. The political will necessary to bring about change in the forestry sector will more likely result from a rather rapid dissemination of information recognising the adverse sustainability impacts of an inefficient and repressive woodproducts marketing structure. In essence, this requires a comprehensive reformulation, new insights and new conceptualisations of the forest management problem. How realistic is it to imagine that these new insights will be forthcoming is dependent upon how vigorous a campaign, the

incumbent industries provide, including the playing of their trump card to withdraw from the province. It is also dependent upon how energetic a campaign those supporting sustainable development can mobilise resources. In the end, much will depend upon the rational choice of individuals and individual forest sector units and the relative strength of various incentives influencing that choice.

Individual and Organisational Issues:

The question looms then, if rational choice is a major determinant of policy action and a reasonable assumption is made that forest conservation and ecological modernisation are keys to a sustainable society, then what changes are necessary and possible to bring this to fruition? At present there is little to induce those with market power, the multinationals and large corporations, to support fundamental change in market structure. It is difficult to believe, however, that they could openly support arguments that endorse closed, centralised markets and mechanisms that work against sustainable development such as inefficient and environmentally damaging subsidies. A necessary link in any strategy to budge the multinationals' intransigence is a public education process to bring political pressure on them.

Although the government's position paper: *Toward Sustainable Forestry* was a focus of condemnation in the previous chapter; it appears on the whole to be a step in the right direction. This strategy as proposed envisions a major public education process. As argued in the previous chapter, however, its greatest weakness is its disregard for monopsony power that distorts the forest sector's marketplace and political economy. Should the province try levelling the playing field by forcing more open trading and allowing small woodlot owners greater access to collective trading, then other elements of this proposed policy will likely make a positive difference. This policy proposal at last accepts two political factors that are abundantly clear in Nova Scotia's forest sector, however. Neither direct government intervention in the form of forest practices regulations are likely to find favour nor is any direct form of taxation. The proposal to shift the burden of compliance to buyers, in the form of a levy to fund conservation activities, potentially addresses both concerns 'with one stone'. The onus will be on buyers to assess a levy for conservation activities (this is to all intents a Green Tax except that assessments are not collected directly by government) and to make sure that

producers follow sustainable practices. Measures of sustainability will not necessarily have to be made at the individual woodlot level but can be made co-operatively. It is conceivable therefore, that inter-woodlot assessment can be made to meet preservation, harvesting, and reforestation requirements. Although this in itself does not necessarily lead to an ecosystem management approach, it supports this possibility. Should the province in time decide that application of a forest practices code is necessary for all private lands, careful coding can stimulate cross boundary co-operation, which is a necessary requisite of ecosystem management in a multi-agency context. In time and as needed, statutory planning and land-use mechanisms can be established that encourages responsible local accountability for environmental management. The UK National Parks management may be seen as a possible model.[6]

The rational behaviour of buyers will be influenced by their dependence on compliant woodfibre producers to renew their buying license. The rational behaviour of producers will be influenced by the reluctance of buyers to purchase from non-compliant woodlots. The strength to such a policy will be that previously uncompensated environmental externalities such as loss of community amenity can be addressed in future production planning, or directly compensated from production levies. This is another requisite to diminish monopsony power. Expenditures from this sustainability fund should be controlled under carefully constructed guidelines sensitive to local conditions at the community level to encourage ecosystem and regional forestry planning. This will allow, for example, some forest managers to focus intensively on production favouring efficient harvesting methods while others will be encouraged, with funds from the sustainability fund, to nurture their woodlots to sustain more natural structures and processes.

The caveats include the greatly increased compliance costs such as reporting, policing and enforcement that can only work if the forest sector remains supportive. If implementation and enforcement is uneven, then the system will quickly break down. If the ‘silviculture/ sustainability’ levy puts downward pressure of stumpage prices, the system will falter from the political fallout of disillusioned woodlot owners. If the buyers

[6] Bissix, Glyn and Sue Bissix. Dartmoor (U.K.) National Park’s Landscape Management: Lessons for North America’s Eastern Seaboard. In Tom B. Herman, Soren Bondrup-Neilsen, J.H. Martin Willison, and Neil W.P. Munro, eds. Ecosystem

lose their enthusiasm for this scheme (the genesis of this idea came from the Coalition's proposal) the policy will falter. If forest practice codes fail to reflect the diversity of the forests and forestry throughout Nova Scotia and their requisite forest management prescriptions so that forest managers fail to see their relevance, this process will fail.

To lead this process--a substantive omission of the government's position paper--a clear vision of the future forests must be drawn as a basis for a forest practices code. Included in this vision, all Crown lands must become, over time, model forests--rather than fibre banks for major corporations used as levers to reduce the bargaining power from private woodlots. Although the idea of consensus building among factions with historically disparate ideologies is unrealistic, a critical mass of forest sector actors must emerge leaving behind, either by market forces or government regulation those unwilling to participate. To nurture this, the present closed system of woodfibre market exchange must be made more transparent. Exchanges must be legislated to occur through open markets, this will help reduce the power and influence of the monopsony political economies. This transition can be first enforced with woodfibre from unlicensed Crown lands, progressively to licensees on Crown lands, then to commercial and finally to all private forest lands.

Giving the lack of trust among various factions of the forest sector and with the government in general, two developments are necessary to encourage greater and more widespread confidence in policy application. First, an independent forest inspectorate must be established that reports directly to the legislature, as does the auditor general. The inspectorate must report at least annually and whenever appropriate information critical to the state of the forest is required. While the inspectorate may generally rely on information fed to it by the 'Registry', it must have the capacity to conduct independent audits on the Registry and conduct wider investigations as it sees fit. Second, an independent scientific panel to monitor, analyse and evaluate policy performance must be instituted funded by the industry, to continually bring to bear independent analysis of commissioned and uncommissioned research on the welfare of forest policy and forest sustainability.

The Final Word.

This study has made an extensive analysis of Nova Scotia's forest conservation policy and legislation. It has chronicled a litany of legislative and policy reforms under the guise of forest conservation but more accurately regarded as exploitation initiatives. Although the final sections of this chapter outlining the government's latest policy initiative seem rather optimistic, this study has clearly shown that history in Nova Scotia's forest sector is replete with policy enthusiasm and fanfare only to be followed by intra-sector intransigence and conflict. Ambient policy conditions are nevertheless, sufficiently different to reasonably imagine a more compassionate response toward forest conservation policy. Recent levels of woodfibre exploitation that clearly threaten the industry's long-term viability have shaken the centres of power. Forest managers in general are beginning to accept the inevitability of consumer driven environmental standards for forest products; and in response the government now appears ready to regulate and implement, although in a rather circumspect way. There is no longer an issue, however, that Nova Scotia's forests are threatened by over-exploitation and workable conservation policy is necessary. Just how long action can be put-off before a substantial socio-economic and environmental crisis is precipitated is still nevertheless, unclear.

From a theoretical perspective this case analysis has exposed the danger of taking too narrow a view of the forest conservation problem. Restricting analysis to the narrow workings of the forest conservation policy process is unlikely to expose the persistent power relationships between competing, short-term economic agendas and those of conservation. Similarly, taking a snapshot view of forestry is also problematic. A very different picture of the forestry problem is lightly to emerge, for example, when analysis is made during times of high demand compared to glut or recession. It also is important to remember that the forestry sector is notoriously cyclical, often leading politicians to knee jerk reactions in down-cycles, ignoring along the way all the lessons of history. Similarly, a very different policy dynamic is evident during one policy phase as opposed to another. The variation in policy dynamics that can be expected within different policy phases then; for instance the policy formulation phase as opposed to the implementation phase, requires dedicated analytical approaches. A one-size-fits-all approach is inadequate to

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tease out the nuances of this policy dynamic. In any study of forest conservation policy effectiveness, therefore, it is also important to understand that the present biological structure and future forests capability have developed over an extensive period (often measured in several decades and centuries). Likewise, the organizational structure as well as policy inertia of the forest sector has likely developed over an extended period (often measured in several decades). It therefore beholds the policy analyst to give sufficient attention to a long-term, temporal view of forest policy development and dynamics before drawing conclusions on important power relations and policy effectiveness. This contextual uniqueness of the forest management sector leads to the necessity of assessing data drawn from a broad temporal range. This study has shown, however, that analysis embracing even a complete and extensive policy era; for example, the protracted deliberations of the Forest Improvement Act, is insufficient to fully understand the forest conservation policy problem. To gain an understanding of this era's influences, it was necessary to probe backwards to the Small Tree Act to begin to adequately appreciate the FIA's form, structure and *raison d'etre*. It is likely elsewhere, therefore, where forest conservation policy analysis is a stated goal that an extended temporal view is necessary to get at the root of policy and power dynamics.

The central key to analysis of this case was the conceptualization of the policy dynamic as a multi-agency, multi-objective organizational network providing a mid-view analysis of the resource management policy dynamic. In the context of North America's Eastern Seaboard and the USA's southern states, where small private woodlots predominate, this particular case study provides a sobering testimony to consensus based, multi-agency ecosystem management initiatives. In the nineties, Landscaped and Ecology Management (LEM) or ecosystem management approaches have gripped the imagination of North America's natural resource managers as a way forward in mediating the often contentious demands on natural resources. While a number of successful case studies are reported in the literature, most attention has been given in the West where public ownership abounds and public agencies can take a centralized, 'hub and wheel' approach to resource policy management. To date, little critical attention has been given where no effective hub exists, where resource management is a largely diffuse network of variably powerful entities. While this study provides no simple solutions for such a complex management system, it provides important insights and possible ways forward.

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Appendix A1: Decision-Making Models--Concept Summaries.

Rational Models	Procedural Rational Models	Organisational Processes Models	Political Bargaining Models
The unit of analysis implies a singular coherent unit. Decision behaviour reflects the explicit goal of the decision. The decision-making unit when faced with a problem examines all alternative means to achieve desired goals. Chosen action either maximises desired objectives or minimises the costs of possible failure. Explanations of the decision process are concerned with the 'reason why' a decision was taken, 'what' was attained and 'how' it was done. It disregards, among others, questions concerning constraints. At the collective decision level when several individuals or units are involved, the decision-making entity is simply redefined as a monolithic and coherent unit. Decisions tend to be explained as a conscious choice to attain a calculated objective.	Procedures are only rational within the bounds or limits of the policy actor's own skills, knowledge and habitual modes of behaviour. Objective setting is fundamentally subjective, tempered by the decision actor's own values, range of experience and knowledge. Goals are dynamic, they change with new experience. When targets are not reached, policy actors lower their standards. Decision-makers are involved in 'satisfycing'--they accept the first workable solution sacrificing optimal solutions for the first basically satisfactory option. Decision-makers are adverse to risk, consequently they tend to rely on routine standard operating procedures.	Recognises the `real differences' between individual and organisational behaviour. Dismisses the notion of the organisation being a 'super individual' with greater information handling and calculation capacities. Recognises that in practice the organisation does not have a single set of goals with an agreed order of preference, nor does it carry out a similar search process for alternatives as an individual might. Recognises that the decision process is fragmented or disjointed and is spread among many individuals. Recognises that distinctive processes come into play, where other things being equal, a different decision will result from an individual, rationally oriented process.	Recognises the importance of bargaining with its own implicit rules. Recognises that the final, collective decision outcome is completely dependent upon the interplay of participants and what is acceptable as a politically viable solution. The underlying consideration, whether for individuals, units, organisations, governments or nations, is that they have self-defined interests to protect. When faced with a problem, the nature of the political bargaining decision process dictates that participants will focus on parochial interests. Rather than a single, strategic problem requiring a solution, a host of intricately linked issues compete for the decision-makers' interests.

Appendix A1: Decision-Making Models--Concept Summaries (Continued).

Rational Models	Procedural Rational Models	Organisational Processes Models	Political Bargaining Models
An organisation first establishing its objectives and ordering them to reflect the collective or organisation's desired preferences explains collective decision-making. It finally settles on that which maximises its objectives or minimises the cost of possible failure.		Recognises that important societal questions are taken by organisations that provide a vital distinction to individual the decision-making. Recognises that there is considerable sub-unit complexity found in organisations. It is too much to assume that different departments will have the same ranking of objectives--nor can they be assumed to `set-up' the problem according to the organisation's initial problem definition. Recognises that organisational officers place value on such incidental goals as personal security. While organisations don't officially acknowledge these informal pressures, privately they make accommodations. Recognises the capacity of individuals in an organisation to control, manage, and otherwise distort `information'. **Continued in the Bottom of Next Column.**	What structures the outcome of this process is the underlying and informal elements of power, the resources participants are willing and able to commit, and the negotiating skills each possess. These are dependent upon identifying key problems and a general process of bargaining and trade-offs. The final outcome of the political bargaining process is that it has general support when all influential participants are reasonably satisfied. The nature of political bargaining is that it is neither rational as a calculation nor does it follow established routines. **Organisational Processes - Continued:** Recognises that disjointed decision inputs results in bias that affects decision space (scope) or the definition of what constitutes feasible alternative solutions. When the decision is explained the process appears to be non-rational and disjointed.

Appendix A2: Conceptual Summary of the Three Dominant Political Interpretations of Power.

	Pluralism	Elitism	Structuralism
Dominant Assumptions & Concerns	Individuals, groups and movements have the ability to shape the policy process and gain access to policy decision-making.	Power is concentrated among certain elites and is derived from superior resources.	Concerned with power and class interests and the local, regional, national and international links of the production process.
Focus and Character	There is a reliance on observable events with a focus on concrete decisions.	Elites are not representative of the polity/community, they consist mainly of the middle and upper classes. Elites often speak as though they represent the community or broader interests due mainly to their superior leadership skills and qualities. The decision milieu is of limited numbers who make only limited consultations with those effected by decisions. Power elites disproportionately control scarce resources, they have much better skills, better access to relevant information than the general public and better access to decision-makers. These conditions favour the elites creating a "community of interests".	It is derived from Marxist Theory and contrasts with pluralism and elitism. Its focus is on the outputs of policy and the outcomes or effects. It focuses on the objective needs of society rather than subjective interests.
Socio-Political Dynamics	Various interests aggregate through interests and advocate groups. Advocate interests are mediated through the political process to solve policy problems.	There is a concentration of power. Key policy issues are not necessarily visible. Elitism addresses some key weaknesses of pluralism which are that viable policy is often confined to safe, non-contentious areas of policy, pluralism is unable to differentiate	In structuralism the inference is that certain class interests have the necessary power to realise their own objectives. Decision-making concerning policy outcomes is dependent upon the interests of capital at the local, regional, national and

		between important and less important policy issues (no prioritisation) and it ignores the pressures that can lead to non-action. Policy bias is a result of special access to decision- makers. Real power is situated with those who control the decision rules.	international levels which limits the influence of labour, environmental and community advocate groups that typically have a much narrower scope.
Nature of Power	Power is effectively shared among an interested and involved community.	Elitist strategies are deemed successful when policy issues are constrained and out of public view, or when they reach public eye, the decision-making process remains outside the regular democratic system.	The outcomes of power are based upon class interests as opposed to expressed preferences and on how those outcomes were either revealed or concealed in the policy process.
Functional Underpinnings of Political Style	The state is both representational and responsive. The state establishes an interest when constituent interests are expressed as identifiable preferences. Policy preferences are revealed by active political participation. Power is effectively shared among an interested and involved community.	Elitism emphasises that policy decision-making favours those who presently hold power and are recipient and beneficiaries of policy outputs. Recognises that elites are able to challenge and influence decision-making through the mobilisation of concentrated power. Recognises that there is a policy bias with real power situated with those who control the decision rules.	Neo-Marxism concedes to the separation of the political / economic roles of the state but nevertheless perceives the state as "relatively autonomous". This tends to ignore the needs of constituents and acts to bolster the needs of the state itself.
Political Strategies	Involves a responsive administration with various segments and interests of the constituency. Decision-making takes place in an ongoing process of negotiation, bargaining, conciliation, compromise and resolution through open and democratic channels of the state.	Elites, both within the administration and private sectors are involved in the prevention and/or suppression of policy issues. The concentration of visible decision-making is focused on innocuous matters. Both of these above strategies are aligned with "Corporatist	Business is alleged to be able to define both overt and convert political agendas, secure political victories and benefit disproportionately from policy outcomes. Business / capital is able to exert superior power by (1) its timely access to relevant information, (2) its privileged access to

		Strategies" where there is privileged access to the state's decision-makers.	officials/decision-makers, and (3) its ability to use propaganda to raise the publics concern and present rational arguments for its cause / case. Business' trump card is the withdrawal of capital whereas the state's possible sanction is to close down an operation for violation of safety and environmental regulations. The latter is rarely used, however.
Policy Outcomes & Conclusions	Power is diffuse, spread relatively equally throughout all sections of the community. This diffusion of power implies that the outcomes of interests in competition is unpredictable where there is no consistent bias in power or disproportionate resources available to any particular segment.	The influences on decision-making are removed from the public arena. The outcomes from the policy process are derived from bargaining behind closed doors. They emerge from mutually acceptable compromises between the state and power elites.	Both pluralists and elitists suggest that subjective interests are translated into preferences which influence decision-making. Structuralists suggest preferences change, thus are imperfectly communicated to decision-makers. Furthermore, they point out that most people are unaware of their real interests (needs) and certain classes or groups are willing or unable to participate in a political process that they are likely to lose. Structuralists are concerned with the objective outcomes of the policy process. They contend that policy evaluation is beyond an individual's consciousness or understanding. Marxism (upon which structuralism is based) is normative or prescriptive. While recognising that class

			determines the realisation of interests (or their denial) it deplores a political system that denies the objective interests of what is usually the underclass. The conceptual problem for structural analysts is whether the political struggle of the classes is inevitable.
Theoretical Limitations	Pluralism skirts the effect of, and the disproportionate distribution of power as a central theme. The pluralists retort to the elitists critique of ignoring non-decisions is that non-decisions are merely latent issues which will eventually arouse public interest.	Pluralists point out that inaction is observable where as non-decisions are undefinable and therefore unresearchable. Elitists concede many of these conceptual problems but claim that the elitists perspective affords the study of decision-making that is outside public scrutiny.	If business/capital has such pervasive power as implied by the structuralist view then this power should be demonstrable in concrete, empirical terms. However, it is argued that other interests are able to exert influences over capital to force concessions. The question is raised whether capital/business really has superior power or whether it is merely one interest in competition with others.
Research Strategies	It minimises or de-emphasises the importance of non-decisions and the effects of structural bias. The focus is on overt behaviour of the state. Examines specific and explicit decisions of the state. Issues emerge from an open polity which openly bargains for issues to be added to the political agenda. Analysis leads to an examination of explicit and open state decision-making. This provides insight into the balance of power which ultimately	There is great difficulty in pinpointing action or inaction and in identifying and explaining motives. Elitists interpretations of the democratic process tend to be cynical as they tend to focus on anticipated reactions of actors, abstentions by certain groups from the political process and mobilisation of bias in the decision-making process. There is a conceptual dilemma for neo-elitist interpreters. For on the one hand they are concerned with the	The theoretical emphasis is one the major role that economic factors play on social policy and social change. Debate centres on the sustained power of capital. The "functionalists faction" argues that everything in the structure of society serves capital. Even the occasional concessions to labour, environmentalists and humanists are simply tactics of the ruling class. Everything is predetermined where

	leads to a focus on outcomes and winners and losers.	subjective conception of interests which is similar to pluralists, and on the other they are concerned with "false consciousness". The rules of the game which focus more on the objective needs of constituents. This is closer to the Marxism / structuralists view of the democratic world.	political process is merely vestigial. The alternative structuralists view is that the non-capitalists class can sustain a challenge to capital, however, they concede that the over-riding power is that of economic forces.

Abstracted and Adapted from: Andrew Blowers. *Something in the Air: Corporate Power and the Environment.*. Harper and Row, Publishers, London, 1984.

Appendix B.

Chronology of Nova Scotia Forestry.

1755	Expulsion of the Acadians by the British. Land management emphasis changed from the construction of dykes to create farmland to the clearing of forests for farmland.
1763	After the Treaty of Paris, the British Lords of Trade instructed the Governor to make free grants of land in Nova Scotia but not in Cape Breton Island. In Cape Breton only licenses of occupation were granted--land reverted back to the Crown upon death of the licensee.
1767	At least 27 sawmills in Nova Scotia. Production of planks or deals not only for the local market but for export to Newfoundland, England, the West Indies, Bermuda and South America.
1784	Cape Breton separated from Nova Scotia. The Governor began to make grants of land.
	Charles Morris, Surveyor General of Nova Scotia, reported very few pines in Central Nova Scotia suitable for masts and spars. Similar reports were made about Eastern Nova Scotia.
1794	The first game law, it made it unlawful to kill partridge and blue winged ducks at certain times of the year.
Early 1800's	Canadian paper makers were having a difficult time meeting the demand for newsprint because of increased demand and not enough rags.
1801-2	First forest inventory in Nova Scotia by naturalist Titus Smith.
1831 - 38	One thousand vessels measuring nearly 100,000 tons were built and registered in the Province.
1839	Over 1,400 sawmills employing 3,000 men, 130 shingle mills, 6 lath mills, one paper mill and a number of planer mills.
1844	Charles Fenerty of Lower Sackville, N.S. developed a new way to make pulp from grinding wood.
1867	The British North America Act. Canadian Provinces are given primary responsibility for the development, conservation and management of the forests. Jurisdiction over wildlife was not specifically set out.
1869	Due to influx of people to Cape Breton in the first half of the nineteenth century there was a need to clarify land ownership. An Act to Facilitate the Perfecting of Titles was past. Few titles were actually settled thus requiring further clarification in the early nineteen sixties.
1875	St. Croix Mill near Windsor received its first load of pulpwood.
1885	Canada's first sulphite mill at Sheet Harbour.

Late 1800's	The Nova Scotia ship building industry was under heavy competition from steamships and iron hulls. Good, big trees were becoming hard to find.
1894	Act for the Preservation of Useful Birds and Animals was passed, this created the need for game wardens.
1896	The Nova Scotia Game Act. It collected together the various regulations pertaining to the hunting of game animals.
1908	A new Game Act was passed in 1908.
	Publication of the *Tent Dwellers* by A.B. Paine. This was an account of outdoor recreation activities in Nova Scotia--primarily hunting and fishing.
1912	B.E. Fernow concluded the second Nova Scotia forest inventory. This was the first to cover the whole province and included forest type maps. He published a report entitled *Forest Conditions of Nova Scotia.*
1917	The Migratory Bird Convention Act (Canada).
1921	The 1908 Game Act changed its name to the Forest and Game Act.
1926	In 1926 the Department of Forests and Game was merged with the Department of Crown Lands to form the Department of Lands and Forests (DLF). It was charged with administering the Lands and Forests Act and other statutes.
1937	DLF adopted a policy of conserving timber resources and began to purchase cutover lands. Estimates of ungranted Crown land and land in ownership dispute were made.
1939-1945	The Second World War.
1942	The first version of the Small Tree Act was passed in the legislature but never proclaimed.
1946	The Small Tree Act was passed and proclaimed in the Nova Scotia legislature. This was allegedly a "primitive and self defeating act" to stop the cutting of small diameter trees--it did not discriminate against the cutting of poor quality, older trees.
1949	Canada Forestry Act gave the federal government authority to enter into financial assistance programmes with the provinces. The Canadian Forestry Service administered composite agreements. Composite agreements ended in 1967 after Nova Scotia received a total of $1.5 million, in addition, special agreements totalled $0.7 million.
1953-57	The third province wide inventory was completed under a federal / provincial agreement. Interpretations from air photo as well as statistical data from sample plots were used.
1958	The Nova Scotia Pulp Limited Agreement Act. This act was critical to the decision of Stora Kopparbergs Bergslags, Aktiebolag, Falun, Sweden in establishing a 300 tpd. sulphite pulp mill on the Straights of Canso. This agreement gave access to virtually all Crown lands of the seven Eastern counties and permitted the company to harvest 150,000 cords of softwood pulp per year. Their annual requirement was pegged at 250,000 cords per year.
1959	Provincial Parks Act. Provincial Parks are designated by Order-In-Council.
Early 60's.	The Province ceased issuing confirmatory grants for Cape Breton Island.

Early 60's to Early 70's	Significant growth in pulp production. It was recognised that future development dependent on the availability of raw material from more intensive forestry.
1960	Canada Forestry Development and Research Act.
1962	The first version of the Forest Improvement Act (FIA) enacted but never proclaimed.
	Canada Agriculture Rehabilitation and Development Act subsequently provided cost shared federal provincial forestry programmes that provided forest access. It also developed a more heightened concern for better forest management. Nova Scotia received in excess of $3 million in federal funding for forestry under ARDA, matched by at least equal provincial funding.
	Bowaters Mersey Agreement Act, SNS. 1962, C.2--never implemented.
1963	The Department of Lands and Forests began to issue "Certificates of Non-Interest" on lands in Cape Breton.1965
	The fourth province-wide forest inventory began with plan of completion in seven years. The intent was then to redo the inventory to ensure that no data was more than seven years old. New forest type maps from air photo interpretation was used--land was categorised as to Crown, large private (commercial) and small private. Permanent plots were established to measure growth--remeasured every five years. (As of 1983 all plots had been measured twice and the third round was about 40% complete.)
	The Scott Maritimes Pulp Limited Agreement Act. An inducement to establish a 500 t.p.d. kraft pulp mill at Abercrombie Point, Pictou County. Allows access to most of the productive Crown land in eastern Halifax County--50,000 cords of "wood of all kinds" representing 12% of annual requirements. (Since 1978 a silviculture rebate has also been in effect.)
	The second version of the Forest Improvement Act enacted, proclaimed but never implemented at ground level. The Small Tree Act was rescinded. Provides for the maintenance, protection and rehabilitation of the forests throughout the Province so as to provide continuous and increasing supplies of forest products, to conserve water and reduce floods and to improve conditions for wildlife, recreation and scenic values.
1967	Production from sawmills dropped below 200 million fbm. but remained steady at 200 million to about 1985.
	Beaches and Foreshores Act, RSNS. 1967, C.19. Regulates the leasing of any ungranted flat beach or foreshore.
	Lands and Forests Act, RSNS. 1967, C163 (as amended).
	Provincial Parks Act, R.S.N.S. 1967, C.244 (as amended). Power to purchase, expropriate or otherwise acquire lands for park purposes.

1968	The FIA was amended to include a Provincial Forest Practices Improvement Board (PFPIB).
1969	Agreement with Nova Scotia Pulp Limited was renegotiated to allow expansion of their pulpmill to 450 tpd. sulphite pulp and 400 tpd. of newsprint. The new need of 550,000 cords was to be offset by cutting rights of 330,000 cords from Crown land. A silviculture programme was also began at this time.
	Influx of adult moths of the spruce budworm to Cumberland County followed by a similar influx in 1973 to Inverness County. This marked the beginning of the major epidemic causing damage in the late seventies.
1972	The second cycle of the fourth inventory was extended to a ten year cycle. The island of Cape Breton was omitted because of on-going spruce budworm mortality.
1973	Added Section 11A to the Lands and Forests Act to simplify land claims but was found to be ultra vires. Only the courts could decide.
	The Canada Wildlife Act.
1974	Agreements under Section 79A of the Lands and Forests Act amendment. Wood products companies could enter an agreement with the Province for the supply of wood from Crown lands. Generally with sawlog companies but also a major agreement with Masonite Canada Ltd. for their hardboard plant.
	10 year General Development Agreement (GDA.) with the federal government. This enabled Nova Scotia to negotiate subsidiary agreements for various resource sectors.
1975	Beaches Preservation and Protection Act; SNS. 1975, C.6. It states that all beaches are for the benefit, education and enjoyment of the people of Nova Scotia.
1977	After the expiry of ARDA in 1976 a Subsidiary Agreement of DREE was negotiated. It provided for a comprehensive forest management programme. It provided $25.6 million for forestry of which $20.2 million was federal money. Increased in future years with make-work projects to a total $57.8 million.
1978	Institution of flat-rate taxation for forest lands.
	A new version of the Trails Act enacted, SNS. 1978, C16.
Early 80's	Over supply of softwood to the forest products industry caused by mature and overmature forests and the salvage of budworm infested forests.
1980	Shows a dramatic increase in the total industrial harvest from around 2,265,000 m3 (1 million cords) during the 1935 - 60 period to 4,270,000 m3 (1.9 million cords in 1980.)
	Forestry sector provides 8,000 person years of direct employment in the Province. Actual number of people involved much higher because of seasonal employment.
	210,600 licensed anglers fished for 1,292,600 person days in fresh water and 210,600 person days in salt water. Note: children under 14 need not buy a licence.
	Establishment of the Provincial Parks, Heritage Resources and Outdoor Recreation Programme by the Deputy Ministers' Committee on Land Use Policy.
1981	116,000 hunting licenses issued, including 1,000 non-resident licenses.

	The 1981 census showed since the previous census (1976) that the population of Nova Scotia increased 2.25 to 847,442. Towns and cities , however, actually declined 0.3% and rural municipalities increased by 2.2%.
	The sixth inventory started and integrated with a wildlife inventory. One or two counties are completed each year.
	The value of forest products exports are $350 million. Represents 30% of all Nova Scotia exports.
1982	Forest Resource Development Agreement signed with the Canada Department of Environment. $53.4 million with Canada's contribution being $28.0 million.
	An Act for the Protection of Private Property C.13, SNS. 1982. Attempts to protect certain classes of property. Section 3(I)(e) allows posting of signs prohibiting entry on private property. Section 15, however, stipulates that a person cannot be prosecuted for contravening such a notice on undeveloped forest land if engaged in a *bona fide* recreational activity.
1984	Report of the Nova Scotia Royal Commission on Forestry. It proposed major changes in forest management including a "Conservancy Approach" designed to maintain and increase forest production into the next century.
1985	The Minister of Lands and Forests announced that the taxation provisions proposed in the Royal Commission report will definitely not become policy. This was done after considerable public opposition, mainly from the small land owners.
1986	A new forest policy announced and a new legislative package enacted and proclaimed including the Forest Enhancement Act (FEA). The FIA was rescinded.
1987	*"Our Common Future."* published by the World Commission on Environment and Development.
	A new wildlife policy announced and new wildlife legislation enacted and proclaimed.
1987-1992	The first phase of the St. Mary's River Forestry / Wildlife Project.
1988	A new parks policy announced and a new parks' legislation enacted and proclaimed.
1989	Environics publishes a survey: *Attitudes of Canadians Towards Forestry"*. This survey clearly shows that Canadians believe that the forest industry is the worst polluter in the country.
1990	Environment Canada publishes *"Canada's Green Plan."*
1991	The first Nova Scotia Envirofor held bringing together industrialists, environmentalists, government personnel, small woodlot owners, recreationists, wildlife advocates, first nations, and academics. Envirofor'91 unanimously agreed to a second Envirofor to discuss ground level forest practices and to approach government to proclaim the dormant Special Places Act.
	Federal government announces a nation wide multi-million dollar, five year Model Forest Programme.
1992	Several environmentalists boycott the second Nova Scotia Envirofor because of a disagreement over payment of travel expenses. In the absence of many key

environmentalists the congress agrees to publish a hierarchy of forest values. This list, with ecological values at the top, was to form the basis of subsequent ground level forest management practice guidelines.

1994 Envirofor'94 cancelled.

1995 Unprecedented roundwood exports from Nova Scotia.

1996 The Canadian Forestry Service revises its calculations on the worth of forestry in Canada during 1994. Exports are now calculated to be worth a record $32.5 billion--up 21% from the previous year. The value of wood pulp exports rose by 44.6%. Spokesperson claims that Canada has achieved increased production while improving its environmental performance.

Coalition of Forestry Interests publishes its report on sustainable forestry.

1997 The Department of Natural Resources publishes a position paper entitled *"Towards Sustainable Forestry".*

1998 Department of Natural Resources implements policy on sustainable forestry.

Appendix C.

Interviews, Key Project Participants, and Key Institutions.

Nova Scotian and Canadian Forestry Actor Interviews:

Dave Algar: Woodlot Owner and Cross-country Ski Area Operator, Cape North, Cape Breton Island; Cape North July 1994.

R.E. (Ed) Bailey: Director, Reforestation and Silviculture Division, Department of Lands and Forests: Truro August 1987.

James Bridgeland: Park Ecologist, Cape Breton Highlands National Park; Ingonish Beach March 1995.

Robert (Bob) Burgess: former Deputy Minister of DLF, 1969 - 1977; Truro August 1987.

Clemont Comeau: Sawmill and Commercial Forest Owner; Saunierville, NS.; Saunierville September 1987.

John Connor: former Chairman, Nova Scotia Royal Commission on Forestry-1984; Wolfville July 1986.

W.I. Creighton: former Deputy Minister of Lands and Forests, February 1949 - March 1968. French Village, Halifax County, NS. August 1987.

Ron Day: former Extension Forester and retired Manager, Parks Operations, Department of Lands and Forests; Debert August 1987.

Maurice Delory, MD: former Minister of Lands and Forests; Bridgewater August, 1987.

Barry Diamond, Director of Parks and Recreation Division, Department of Lands and Forests; Debert September 1985.

Jack Dunlop: Woodlands Manager, Bowater Mersey: Liverpool February 1986.

Dave Dwyer: Forester and former Secretary of the Provincial Forest Practices Improvement Board, Department of Lands and Forests; Wolfville March 1986.

Don Eldridge: Commissioner, Commission of Forest Enhancement-NS.; Truro September 1987.

Hugh Fairn: former Chairman of the Provincial Forest Improvement Board, 1971 - 1984; Wolfville February 1986.

A. F. Gibbs: Chief Park Warden, Cape Breton Highlands National Park; Ingonish Beach March 1995.

Mike Gillis: Forester, Baddeck Valley Woodproducers Co-op Ltd., Cape Breton Island; Baddeck July 1994.

Bill Goodfellow: Woodlands Managers, Scott Maritime; Abercrombie May 1986.,

E.D. (Ed) Haliburton: former Minister of Lands and Forests, July 1959 - May 1968; Avonport April 1986.

LLoyd Hawbolt: retired Special Assistant to the Deputy Minister and former Chief Forester, Department of Lands and Forests; Truro August 1987.

George Henley: Minister of Lands and Forests. 1978-1983; Oxford August 1987.

Scott Hennigar: former Woodlands Operations (Woodcutting and Silviculture) Foreman - Stora; Wolfville July 1996.

Lief Holt: former Woodlands Manager for Bowater's Mersey: 1965-1983; Liverpool April 1986.

Hank Howard: former Manager of Lands Aquisition, Scott Maritimes; New Glasgow May 1986.

Ralph Johnson: former Chief Forester for Bowater's Mersey; Liverpool April 1996.

David Irvine: Councillor, Municipality of Digby; telephone conversation October 1993.

John Leduc: Planner, Parks and Recreation Division Department of Lands and Forests; Debert September 1985.

Bob Levy: Member of the (NS.) Legislative Assembly, Forestry Critic for the New Democratic Party; Wolfville September 1987.

Brian Levy: Excutive Director, NS Woodlot Owners and Operators Association; Wolfville.

Ivan Levy: President of S.G. Levy & Sons, Malanson, Kings County; Melanson June 1986.

Elizabeth A. MacDonald: Marketing and Public Relations Co-ordinator, Cape Breton Highlands National Park; Baddeck, Cape Breton March 1995.

Don MacDougal: Minister-United Church of Canada, former Presenter to the Royal Commission on Forestry for the NS. Recreation Association; Halifax September 1985.

Vince MacLean: former Minister of Lands and Forests, Oct. 1976 - Oct 1978 and Leader of the Official Opposition, NS Liberal Party; Halifax May 1987.

Malcolm (Maxie) MacNeil: Woodlot Owner and Member of the Route 223 Forest Management Ltd. (Group Venture), Iona, Cape Breton Island; Iona July 1994.

Ian Miller: Atlantic District Director, Forestry Canada; Truro July 1989.

Perry Munro, Woodlot Owner, Maple Sugar Producer and Professional Guide, Sunken Lake, Kings County; Sunken Lake December 1994.

Margaret Murphy; Legislative Librarian, NS. Legislative Library; Halifax Spring-Summer 1987.

Wayne Myles: Cross Country Ski Area Operator and Son of Woodlot Owner, Bishopville, Hants County; Wolfville July 1994.

Johannes Ottens: Senior Policy Officer, Policy Branch-Policy, Division of Planning and Economics, Canadian Forestry Service; Hull, Quebec October 1986.

Ebbis Peill: former Chairman of the Kings County Forest Improvement Board and Pulpwood and Sawlog Exporter, Port Williams, Kings County; telephone interview April 1986.

Murray Prest: former Sawmill Owner and present Land Owner; Moose River, Halifax County August 1987.

Mark Pulsifer: Regional Biologist, Department of Natural Resources, Antigonish, NS.; field interview in the St. Mary's River Watershed April 1993.

Vince Ropar: Forest Products Harvesting and Haulage Contractor; New Ross June 1986.

Andre H. Rousseau: Senior Development and Analysis Officer, Division of Forestry Development and Communications, Canadian Forestry Service; Hull, Quebec October 1986.

Hollis Routledge: Assistant Woodlands Manager, Stora Forest Industries; Port Hawksbury October 1987.

Dale Smith: Manager-Park Planning Development, Parks and Recreation Division, Department of Lands and Forests; Debert September 1985..

John D. Smith: Senior Manager, Policy and Program Development, Department of Lands and Forests; Halifax May 1987.

George Snow: Lands and Forests Minister, 1968 - 1969; Port George September 1987.

James St. Clair: Landowner, MacFarlane Woods Nature Reserve, Mull River, Cape Breton Island and Member of the Public Review Committee for the Proposed Systems Plan for Parks and Protected Areas in Nova Scotia; Wycocomagh March 1995.

Ken Streatch: Minister of Lands and Forests; Halifax May 1987.

Julie Towers: Extension Forester, Division of Extension Services, Department of Natural Resources, Halifax; Field Interview in the St. Mary's River Watershed April 1993.

Russ Waycott: General Manager Woodlands, Stora Forest Industries; Port Hawksbury October 1987.

Jan Weslien by L. Anders Sandberg. Spring, 1989; Summary relayed to author in communication of June 24, 1989.

James Wilber: Enfield, NS. Sawmill Owner and Commercial Forest Owner; Enfield September 1987.

Charlie Williams: Executive Director, Nova Scotia Federation of Landowners and Forest Fibre Producer Associations; Port Hawksbury October 1987.

Dartmoor (England) National Park Interviews:

Tim Beevon: Economic Development Officer, West Devon District Council; Tavistock June 1993.

Tim Brooks: Regional Secretary - Devon, Country Landowners Association; Exeter June 1991.

John Chase: Rural Development Commission, Exeter; telephone interview June 1991.

Chris Gregory: Duchy of Cornwall; Liskard, Cornwall June 1993.

Edward Holdaway: Western Region Office, Countryside Commission; Bristol June 1991.

Alison Kohler: Senior Recreation Officer, Dartmoor National Park Authority, Bovey Tracey; telephone interview June 1993.

Phil Markham, Principal Local Planning, Recreation, Tourism Officer, Dartmoor National Park Authority; Bovey Tracey June 1991.

Peter Morgan: Owner and Manager, White Hart Hotel, Mortonhampstead, Devon; Mortonhampstead June 1993.

Jack Price: Chairman, Dartmoor Tourism Association; Fingle Bridge, Devon June 1991.

Terry Robertson: Corporate Planning Officer, Countryside Commission, Cheltenham; Mitcham Hampton, Gloucestershire June 1991.

Alan Thompson: Thompson Transportation, Mortonhampstead: Mortonhampstead June 1993.

Peter White: Assistant Chief, Dartmoor National Park Authority: Bovey Tracey June 1991.

Hugh Whitley: Hill Farmer, Holwell, Devon: Holwell, June 1993.

Jack Wigmore: Chairman, Dartmoor National Park Authority, England; Plymouth, England June 1993.

Frank Willianson: District Councillor, West Devon District Council; Okehampton June 1993.

St Mary's River Project Steering Committee (Phase 2).

Susan Hruszowy: Recreation Specialist, Department of Natural Resources, and Chair, Canadian Institute of Forestry - Nova Scotia Section, Halifax.

Bruce M. Carter: Private Lands Forester, Department of Natural Resources and Committee Chair, Lawrencetown, Annapolis County.

Murray Anderson: St. Mary's River Association, Sherbrooke, NS.

Glyn Bissix: Project Facilitator, Associate Professor, School of Recreation and Physical Education, Acadia University.

Tony Duke: Wildlife Habitat Resources Manager, Nova Scotia Department of Natural Resources, Kentville, NS.

Mark Elderkin: Project Biologist, St. Mary's River Forestry - Wildlife Project, Antigonish.

Greg Filyk, Wildlife Habitat Canada, Ottawa.

Peter Jackson, Stora Forest Industries, Port Hawksbury.

D.A. (Sandy) MacGregor: Manager of Timberlands, Scott Worldwide Inc., New Glasgow.

Peter Neily: Forester, Forest Research, Department of Natural Resources, Truro.

Mark Pulsifer: Regional Biologist, Department of Natural Resources, Antigonish, NS.

Jim Richards, Forestry Canada, Truro.

Robert (Bob) Rutherford: Chief, Habitat Planning, Habitat Management Branch, Department of Fisheries and Oceans - Canada, Halifax.

Julie Towers: Extension Forester, Division of Extension Services, Department of Natural Resources, Halifax.

Russell Waycott, Manager of Woodlands, Stora Forest Industries, Port Hawksbury.

Nova Scotia Envirofor '92 Steering Committee.

Jim Dressler: Chairman, Farmer, Woodlot Owner and Environmental Planner, New Germany.

Glyn Bissix: Associate Professor, School of Recreation and Physical Education, Acadia University.

C.L.C. (Chris) Clarke: Secretary and Director of Public Relations, Bowater Mersey Paper Company Limited, Liverpool, NS.

Tom Herman: Professor, Department of Biology and Co-director, Centre for Wildlife and Conservation Biology, Acadia University.

Gerry T. Joudrey, Director of Extension Services, Department of Natural Resources, Halifax.

Carol Martin, Native Council of Nova Scotia, Truro.

Lynda McLean: Adult Educator, Truro.

Peter Neily: Forester, Forest Research, Department of Natural Resources, Truro.

Soren Bondrup-Nielsen, Assistant Professor, Department of Biology and Co-director, Centre for Wildlife and Conservation Biology, Acadia University.

Key Institutions and Alternative Names.

Bowater Mersey / Bowater's Mersey / Bowaters Mersey.

Canadian Forestry Service (CFS) / Forestry Canada.

Canadian Institute of Forestry - Nova Scotia Section (CIF:NS) .

Forest Practices Improvement Board / Provincial Forest Practices Improvement Board (PFPIB) / District Forest Practices Improvement Board (DFPIB).

Government of Canada /federal government.

Government of Nova Scotia / provincial government.

Nova Scotia Department of Natural Resources (DNR)/ Nova Scotia Department of Lands and Forests (DLF).

Nova Scotia Economic Renewal Agency / Nova Scotia Department of Trade and Commerce.

Nova Scotia Federation of Landowners and Forest Fibre Producer Associations (NSFLFFPA)

Nova Scotia Forest Products Association (NSFPA).

Nova Scotia Woodlot Owners and Operators Association (NSWOOA) / Nova Scotia Woodlot Owners Association.

Parks Canada / Canadian Parks Service.

Scott / Scott Paper / Scott Maritimes / Scott International /now Kimberly Clark.

St. Mary's River Forestry / Wildlife Project Committee / SMRFW Committee / St. Mary River - Liscombe River Model Forest / St. Mary's River Landscape Management Project Steering Committee.

Stora / Stora Kopparberg / formerly Nova Scotia Forest Industries.

Glossary of Selected Terms.

Age Class: The interval into which the age range of trees, stands or forests is divided.*

Allowable Cut: The amount of wood which may be harvested for a given period (annually or periodically), from a specified area under management.**

Biotic Diversity or Biodiversity: The variety of different species, the genetic variability of each species, and the variety of different ecosystems they form.***

Board Foot: A measurement equal to 1" x 12" x 12".*

Breast Height: 1.3 meters (4.5') above ground level.+

Clearcutting: The removal of all standing trees in a given area at one time.***

Commercial Forests: Forest land capable of producing merchantable species of timber along with a variety of non-timber benefits.++

Coniferous Trees: Commonly called softwood or evergreen. Although there are exceptions, most coniferous trees have cones and keep their needles throughout the winter.+

Conservation: An area or species management strategy that involves protection, preservation and/or appropriate utilisation.***

Conservancy: The combined effect of restoration, conservation and improvement.**

Consumptive Use: The removal of a resource for use away from its normal place or habitat.***

Cord: A stack of wood containing 128 cubic feet.**

Crosshauling: The process in which raw material for one [pulp processing] plant passes similar material being transported to another plant or plants, with the consequence that transportation costs are not minimised.**

Cruise: A survey to locate and estimate the quantity of timber on a given area according to species, size, quality, possible products or other characteristics.*

Deciduous: Commonly referred to as hardwoods or broad leaf trees. In most cases they lose their [leaves] in the fall.+

Diameter Limit: The smallest size to which trees are to be cut. Differs from species to species and is measured 1 foot (30 centimetres) above average ground level outside bark.*

Dynamic: Marked by continuous, usually productive, activity or change.**

Ecology: The scientific study of the interrelationships that exist between organisms, including humans, and their environment. Sometimes called environmental biology.***

Ecosystem: An integrated and stable association of living and nonliving resources functioning within a defined physical location. More narrowly defined as the flow of energy within a community of plants and animals.***

Environment: All of the factors, living and nonliving, that surround and affect or influence a specific organism or group of organisms.***

Fibre: A general term of convenience for any long narrow cell of wood.**

Forest: A complex community of plants and animals in which stands of trees are the most conspicuous members.*

Forest Management: The practical application of scientific, economic, and social principles to the administration of a forest property for specified objectives.*

Greenbelt: A zone of vegetation usually along a river, stream or lakeshores.***

Herbicides: Chemical compounds specifically formulated to kill plants.***

Highgrading: Selective cutting, a type of exploitation cutting that removes certain species, above a certain size and of high value, with sustained yields being wholly or largely ignored or found impossible to fulfil.*

Immature: Trees or stands that have grown past the regeneration stage, but are not yet mature.++

Indirect Jobs: Various employment opportunities that have been developed to meet the demands created by direct jobs in the forest sector.++

Integrated Resource Management: The management of two or more resources in the same area.***

Kraft: A heavy paper or paperboard made from wood pulp by boiling wood chips in a sodium sulfate solution. Typically used for corrugated paper or grocery bags.++

Kraft Pulp: One of the many processes whereby wood is reduced to a soft uniform mass from which a pulp product is manufactured.**

Mature Stand: A stand of trees is considered mature when height, diameter, and volume growth levels off. Different species mature at different ages.+

Monoculture: Raising crops of a single species, generally even-aged.**

Monopsony: A single buyer in an area.**

Newsprint: A cheap paper made chiefly from pulp and used mostly for newspapers.**

Non-government Organisation (NGO): Any organisation that is not a part of federal, provincial, territorial, aboriginal or municipal government.***

Non-renewable Resource: A resource that can be used up completely.***

Non-consumptive Use: The use and enjoyment of a resource in its normal setting or habitat without impairing it for future use and enjoyment.***

Old Growth Forest: A forest containing large, long-lived trees, large standing dead trees, numerous logs lying about the forest floor, and multiple layers of canopy created by the crowns of trees of various ages.***

Pesticides: Substances, usually chemical compounds used to kill unwanted plants and animals (pests), sometimes referred to as biocides. (Includes algicides, fungicides, herbicides, insecticides, rodenticides and avicides.)***

Processing: Submitting a felled tree stem to a succession of conversion operations, typically at a mill but sometimes even before it is removed from the stump.**

Pulpwood: Wood cut and prepared primarily for manufacture into wood pulp.**

Reforestation: The artificial establishment of forest on a given area.**

Regeneration: The process by which a forest is renewed.**

Renewable Resource: A resource that can theoretically never be exhausted because it is being continually produced (or replenished) e.g. salmon, trout.***

Roundwood: Wood in the round - before being processed.*

Sawlog: A log considered suitable in size and quality for producing sawn timber.*

Scrub Growth: Inferior growth consisting of small or stunted trees or shrubs of low economic potential.*

Selection Cutting: The periodic removal of trees, individually or in small groups (group selection) from an uneven-aged forest in order to realize the yield and establish a new crop of irregular constitution. The improvement of the forest is a primary consideration.*

Selective Cutting: See Highgrading.*

Shelterwood Cutting: Any regeneration cutting in a more or less regular and mature stand, designed to establish a new stand under the protection of the old. Shelterwood system, an even-aged silvicultural system in which, in order to provide a source of seed and/or protection for regeneration, the old stand (the shelterwood) is removed in two or more successive shelterwood cuttings, the first of which is ordinarily the seed cutting (though it may be preceded by a preparatory cutting) and the last is the final cutting, any intervening cuttings being termed removal cutting. The lengths of the regeneration interval and the regeneration period determine the degree of uniformity in age of the resulting stand.*

Silviculture: The science and art of cultivating forest crops. More particularly, the theory and practice of controlling the establishment, composition, constitution, and growth of forests.**

Special Places: Areas designated by government as containing significant plant or animal species for protection.***

Stand: A community of trees, possessing sufficient uniformity as regards composition, age, spatial arrangement, or condition, to be distinguishable from adjacent communities, so forming a silviculture management entity.**

Stewardship: The care given to land and other resources by private landowners based on ethical commitment to conservation.***

Stumpage Charge: The fee paid by companies or individuals for the right to harvest timber on Crown lands.++

Sustainable Development: The development of forests to meet current needs without prejudice to their future productivity, ecological diversity, or capacity for regeneration.++

Sustainable Use: Use of an organism or ecosystem at a rate within its capacity for renewal or regeneration.***

Thinning: Cutting in an immature stand to improve quality, to improve species composition, to obtain greater merchantable yield, and to recover material that may be lost otherwise.*

Value Added: The addition to income brought about by the use of the material or its product in the province.**

Watershed: A natural drainage area defined by topography.***

Weeding: A cultural operation eliminating or suppressing undesirable vegetation during the initial period of a plantation.*

Whole Tree Harvesting: Utilisation or the removal of the entire tree excluding the root system.***

Wildlife: All wild mammals, birds, reptiles, fishes, invertebrates, plants, fungi, algae, bacteria and other wildlife organisms and their habitats.***

Wildlife Management: Any policy, legislation or program to protect, control, enhance, perpetuate, use or allocate wildlife.***

Windthrow: A tree or trees uprooted by the wind.*

* The Trees Around Us - A Manual of Good Forest Practice for Nova Scotia.
** Forestry - Report of the Nova Scotia Royal Commission on Forestry 1984.
*** Living with Wildlife - A Strategy for Nova Scotia.
\+ Introduction to Silviculture - Home Study Course.
++ The State of Canada's Forests 1991.