

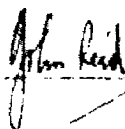
**Laws, Logs and Lumber:  
A History of Forest Legislation  
in Nova Scotia**

© Gillian S. Allen, 1992

A thesis submitted by Gillian S. Allen in partial  
fulfillment of the Requirements for the Master of Arts  
Degree in Atlantic Canada Studies  
at Saint Mary's University

October, 1993

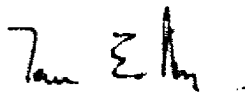
**THESIS APPROVED BY:**



Dr. John G. Reid  
(Supervisor and  
Programme Co-ordinator)



Dr. David Cone  
(Supervisor)



Dr. Terrance Day  
(Reader)



National Library  
of Canada

Acquisitions and  
Bibliographic Services Branch

395 Wellington Street  
Ottawa, Ontario  
K1A 0N4

Bibliothèque nationale  
du Canada

Direction des acquisitions et  
des services bibliographiques

395 rue Wellington  
Ottawa (Ontario)  
K1A 0N4

**The author has granted an irrevocable non-exclusive licence allowing the National Library of Canada to reproduce, loan, distribute or sell copies of his/her thesis by any means and in any form or format, making this thesis available to interested persons.**

**The author retains ownership of the copyright in his/her thesis. Neither the thesis nor substantial extracts from it may be printed or otherwise reproduced without his/her permission.**

**L'auteur a accordé une licence irrévocable et non exclusive permettant à la Bibliothèque nationale du Canada de reproduire, prêter, distribuer ou vendre des copies de sa thèse de quelque manière et sous quelque forme que ce soit pour mettre des exemplaires de cette thèse à la disposition des personnes intéressées.**

**L'auteur conserve la propriété du droit d'auteur qui protège sa thèse. Ni la thèse ni des extraits substantiels de celle-ci ne doivent être imprimés ou autrement reproduits sans son autorisation.**

ISBN 0-315-84889-8

**Canada**

## **Abstract**

### **Laws, Logs and Lumber: A History of Forest Legislation in Nova Scotia**

This thesis examines the development of comprehensive forest management from the late eighteenth century to the Lands and Forests Act, S.N.S. 1926, c. 4, particularly concentrating on Crown lands management (or lack thereof). In addition, the study focusses on "the business" of the forest and legislative attempts to impose order on competing forest uses as well as governmental responses to forest fires and forest pests. An analysis of various legislative measures is set against the context of politics and legal development in late eighteenth and nineteenth century society, politics and legal development.

The Journals and Proceedings of the House of Assembly of Nova Scotia and the Statutes of Nova Scotia provide the most tangible evidence of that most ephemeral of legal fictions "the intent of the legislators". But by piecing together the Reports of the Commissioners of Crown Lands, the Game Commissioners Reports, the wording of various statutes and other primary and secondary sources, a picture emerges of the economic importance of the forest and the sustained inability of the legislators to protect it.

The study demonstrates repeated failures of environmental and natural resources management in forest protection.

### **Acknowledgements**

This thesis would not have been possible without the support and encouragement of Mr. W. J. MacInnes, Q.C. who taught me to love the law if not the lawyers and Michael S. Cross, of Dalhousie, who first showed me history was not about "who or when" but "why". Without them this work would not have been started, much less completed.

I also gratefully acknowledge the constant support of my thesis supervisors, Drs. John Reid and David Cone. Their cogent and constructive criticism immeasurably improved this thesis. Finally, I thank my typist, who, after having endured my idiosyncracies (and temper!) for two and a half years, voluntarily agreed to work with me again.

## Table of Contents

Preface. . . . .	v
Chapter I - Science, Law, Society and the Environment .	1
Chapter II - Crown Lands and Cutting Practices . . . .	42
Chapter III - Wildlife, Fire and Pestilence . . . . .	117
Conclusion . . . . .	159
Bibliography . . . . .	172

## PREFACE

In the last thirty years, the environment has become an increasingly important item on the global political agenda. In a 1989 poll, eighty-five percent of Canadians said they believed public health was affected by pollution, while eighty-one percent stated they believed pollution problems threatened human survival. Seventy-eight percent of Canadians indicated they were willing to pay for the environment, including its protection and clean-up. Sixty-six percent of Canadians stated they did not believe greater environmental safeguards would mean job losses. Eighty-six percent of Canadians indicated they would be willing to pay more each week for less environmentally harmful products. Eighty percent of Canadian Automobile Association members supported the development of alternative fuel vehicles that pollute less.<sup>1</sup>

Among other consequences, this increasing interest in environmental and ecological matters has launched a whole new field of historical study: environmental history. In this study, the forest environment has been selected for review, examining in detail the nineteenth and early twentieth century legislative measures affecting the Nova Scotian forest. This study attempts to discern how a variety of legislative measures, and the impetus motivating or necessitating them, affected the forest. It will further examine the result of these legislative measures and, for that reason, more

contemporary events and legislation will be referred to on occasion.

Some discussion of the social, legal and political context is necessary in order fully to address forest legislation in Nova Scotia. To understand why legislation is passed in the form it is, the climate and context of the times which surround the legislative framework must be reviewed, and to this end, a holistic approach is applied. In other words, an ecological approach is applied to the history of forest legislation. The Lincoln et al. dictionary of ecology, evolution and systematics defines ecology as the study of the interrelationships between living organisms and their environment. Unlike a biologist, who may study an organism in isolation, an ecologist is concerned with an organism's activity in relation to its environment and energy flows through the ecosystem.<sup>2</sup>

Oekologie was first used by Ernst Haeckel in Generelle Morphologie in 1868 to refer to the web linking organisms and their surroundings, thus defining the relationship between flora and fauna and their natural environs. In addition to its biological meaning, oekologie encompassed the Greek word oekonomie, referring to the proper functioning of a household unit, the oikos. The well-organized household unit was as self-sufficient as possible, husbanding resources and avoiding waste and disorder. This well-functioning household was, in turn, the basis of the well-ordered state. In 1749, the

Swedish naturalist Carolus Linnaeus, wrote the "Oeconomy of Nature", applying to the environment this concept of the well ordered state. For Linnaeus, the natural world exemplified the values of a well-ordered state: nothing was wasted, there was no disorder, and nature functioned self sufficiently without humanity's intercession.<sup>3</sup>

As used by Linnaeus, oekonomie encompassed a theological meaning in addition to its biological and Aristotelian political and economic meanings. The Latin oeconomia, (God's dispensations), merged with the Greek root word and in the seventeenth century oeconomy was often used to indicate divine government of the natural world. By the 1700's, oeconomy was used to denote:

... the grand organization and government of life on earth: the rational ordering of all material resources in an interacting whole. God was seen both as the Supreme Economist who had designed the earth household and as the housekeeper who kept it functioning productively.<sup>4</sup>

"Environment", in contemporary political and popular culture, is a more recent and more anthropocentric term. Environment is "... the global biological and physical system and endowment on which man depends for his existence and well-being, and which he may modify with impunity only within certain limits". Lincoln et al. define environment as the complex of biotic, climatic, edaphic (pertaining to or influenced by the nature of the soil) and other conditions making up the immediate habitat of an organism, the physical, chemical and biological surroundings of an organism at any



given time. As employed by politicians and economists, the anthropocentrism of "environment" is readily apparent. Individual elements of the environment become "natural resources" and we speak variously of environmental management, environmental protection, resource development, renewable and non renewable resources.<sup>5</sup>

Political ecology, an analytical model treating the relationship between people and their environment as an organic interaction is in sharp contrast to liberal political economy, which places humanity outside and above its environment. Adam Smith defined political economy as the "art of managing the resources of a people and of its government". Smith's liberal economic model promoted capital accumulation in an ever expanding growth economy. In this economic model, the natural world is a "...storehouse of raw materials and a convenient dump for the by-products of development". The political ecologist, alternatively, is sensitive to the cyclical nature of ecosystems, including macro and micro economic systems, and is as concerned with energy recapture as energy expenditure. In two recent papers, Michael Clow discussed the limits of orthodox political economy when studying the interaction of the biosphere and human economic development. Like Jeremy Rifkin, he perceives one of the limits of liberalist philosophy to be its central assumption that growth is infinite and can continue even in the face of static or declining energy consumption.<sup>6</sup>

If political economy is premised on continuing resource exploitation, political ecology balances production with conservation. Clow describes political ecology as a true balancing of all costs of production, including the costs to the environment, with the benefit of continuing or increased production of goods and services. However, political ecology is a relatively new concept and in the past few, if any, Nova Scotians deviated from orthodox political and economic liberalism. Even the politicians labelled as Conservative were unconcerned about ecosystem conservation and preservation. Simply put, their differences with Liberals on natural resources matters have revolved around **how** and not **if** exploitation should occur or continue.

Environmental legislation may be defined as that regulating the complex of conditions making up the human habitat. It includes any legislation modifying, regulating or ameliorating the environment and should not be viewed as confined to environmental protection statutes. Nineteenth century politicians and governments tended to advocate human ingenuity as a panacea for resolving all difficulties from agricultural productivity to low production levels, from resource depletion to pollution; thus it is impossible to limit a study of the evolution of legislation affecting the forest environment to resource protection statutes. The perceived need to endure the environmental side effects of economic growth, combined with the assumption that technical

"fixes" would be developed to ensure continued growth in the face of environmental limitations was inherent in a broad range of legislation and this study will attempt to define the relationship between various human laws and habitat across this legislative spectrum.<sup>7</sup>

According to the Society of American Foresters, a forest is an ecosystem "characterized by a more or less dense and extensive cover - a plant community predominantly of trees and other woody vegetation growing more or less closely together". Nova Scotia's 21,000 square miles, set in the Appalachian Region, are within the Borderlands ringing the southern portion of the Precambrian Shield. It is an Acadian forest within the Southern Mixed Forest Region. Softwoods comprise approximately 2.2 million hectares of the forest cover, with 1.2 million hectares of mixed wood, and 700,000 hectares of hardwood. The most prevalent softwoods are red and black spruce and balsam fir while the most common hardwoods are red and sugar maple and yellow birch. Fourteen forest habitats from spruce taiga to human made habitat have been identified in the province.<sup>8</sup>

Ecosystems develop in a series of stages or orderly progressions known as "series" which continue until "climax" is reached. After this, change radically decreases as the ecosystem has achieved equilibrium. Factors such as soil and site conditions, including shade and moisture, affect tree growth and diversity. A forest, like any other ecosystem, is

not static and will, over time, change as it ages. These stages of change, or successions, are manifested not simply in older trees. As a forest ages, forest composition evolves. Nova Scotia forests range from the largely coniferous Atlantic Uplands region covering over half the province to the small Cobequid region which is the chief remaining hardwood area. Generally, Nova Scotian soils are poor and fragile, with little topsoil accumulation. Bedrock is close to the surface. Therefore, in many areas of the province, coniferous trees with large root systems branching out over a wide area have an advantage over taprooted deciduous trees."

The contemporary Nova Scotian forest differs greatly from the pre-European contact forest. In some areas repeated burning and lumbering have burned off and eroded soil cover so that large areas formerly forest covered are now barrens and bogs incapable of sustaining large, high density forests. Forest cover loss has also resulted in wildlife loss. For example, elk and caribou which were once common in Nova Scotia were gradually pushed off the mainland and Cape Breton both by increased human settlement (and over-hunting) and by loss of habitat.

Successional forest cover is influenced by natural factors including disease, insects, and fires, and by such human activity as logging, human-made fires, homesteading and road building. Before the arrival of European colonists, forest inhabitants, including humans, made essentially two

demands on the forests: shelter and food. Large scale exploitation of animals and plants for commercial profit was not part of the forest life cycle, whether human or non-human. European settlers and the native North Americans drawn into a cash economy placed increased demands on the environment, seeking revenue from the forests in addition to sustenance and shelter. Animals were hunted and trapped to provide a financial return in addition to fulfilling immediate needs. Timber was cut to supply lumber not just for the colonists' shelter and to heat their dwellings, but also for overseas sale and military use. Later Europeans would be attracted to the forests for pulpwood as well as lumber, and later yet Christmas trees would provide a cash crop. Forests were cleared for agriculture, even in poor soil areas. Animals which were "profitable" were hunted for their furs and those considered "noxious" were hunted to exterminate them. These increased demands also emphasized the importance of certain successional stages over others, and European forest users would attempt to manipulate forest growth.

However, even before Europeans arrived in North America, forests were not entirely "natural". Amer-Indians had been altering their habitat to suit their purposes for generations--although not on the scale that Europeans would later practice. Both Michael Williams and William Cronon have detailed extensively the methods used by aboriginal North Americans to clear ground cover for planting and to provide

habitat for game such as deer.<sup>10</sup>

Some early European descriptions of Nova Scotian forests have survived. Nicolas Denys, who founded the first sawmill in Acadie, sailed the Nova Scotia coastline describing the land he saw. In the first decade of the nineteenth century, Titus Smith Jr. completed an inventory of the Nova Scotian forest at the behest of Governor John Wentworth. In the eastern and northern parts of the province, Smith classified the forest as largely pine, barrens and some hardwood. On his western tour, heading down St. Margarets Bay and beyond, he again described poor land, predominantly softwood stands and a great deal of wind damage. At the lower end of a large lake on the main branch of the Port Medway River, Smith found thirty acres called the "Indian Gardens", an intervalle formerly cultivated by the Mic Mac. This plantation was located in an area of good land, with a large hardwood population. On his northern tour heading toward Cumberland, Smith catalogued more hardwood than on his first two surveys.<sup>11</sup>

Varying types of forest cover are both symptomatic of and a cause of varying ecosystems. For example, the Highland Taiga habitat in the Cape Breton Highlands is predominantly dwarf spruce. The area has a very short growing season, harsh climate with extreme wind exposure and many blanket bogs and barrens. The Highlands provide moose with summer habitat and shelter to small mammals such as shrews, red-backed moles and

home lynx. In the Triassic Lowlands, comprised of the sandstone and shale soil of the Cobequid Bay fringe and the Annapolis-Cornwallis Valley, the climate is milder than the Highland Taiga, with a warm early spring, hot and often dry summers, and cold moderate winters. Skunk and fox are common residents. Wet meadows and salt marshes provide a home for Arctic shrew and breeding and staging areas for waterfowl and migratory shore birds. Muskrat and mink are plentiful as are pheasant, snipe, woodcock and short-eared owls. Before extensive cutting, red spruce and hemlock predominated. Red oak and Red maple are also common.

With European settlement came European societal norms. Laws, including ecosystem regulation, reflected European biases. From the earliest restrictions forbidding cutting white pine suitable for ships' masts to the 1986 Forest Enhancement Act, (now R.S.N.S. 1989, c. 178), an anthropocentrism predominates. It may be labelled "imperialist", as liberal linear orthodoxy, or as a biblical supremacist view of nature and humanity's place in the biosphere. Generally, the regulatory schemes reflected what Michael Clow has labelled an "environmentalist management perspective" in contrast to what may be labelled an "ecological perspective". The environmental management perspective viewed human disruptions of the ecosystem as acceptable side effects of economic activity, and not as impediments to economic growth. Where ecosystem destruction

was recognized, most lawmakers and scientists assumed that the deleterious effects of economic activity were subject to "technical fix solutions that [did] not interfere with ... the growing appropriation of nature through human labour--the essence of growth--and the development of the means and forces of production". The ecological perspective, however, viewed humanity as but one species among all those in the biosphere "and explicitly rejects any notion either of human primacy or the separation of humans from (sic) the rest of nature, and any possibility of humankind achieving mastery over nature through "progress" in science and technology".

This study will highlight the application of the environmental management approach to forest regulatory regimes and the results of that management system. Most changes to the Nova Scotian landscape have been caused by human activity in the last two hundred years. While taking note of these changes, this study will focus not on the modifications themselves but on the legal mechanisms that contributed to them.<sup>12</sup>

Most changes to the Nova Scotian landscape have been caused by human activity in the last two hundred years. While taking note of these changes, this study will focus not on the modifications themselves but on the legal mechanisms that contributed to them.



**PREFACE**

**ENDNOTES**

1. Harry Brightwell, M.P., Chair, Parliamentary Forum on Global Climate Change (Ottawa: Supply and Services, 1990), 6-7, 84; Mark Rudolph, remarks, Corporate Environmental Responsibilities (Conference, Toronto, 26-27, June, 1989), n.p.
2. R.J. Lincoln et al., A Dictionary of Ecology, Evolution and Systematics (London: Cambridge University Press, 1987), 75; Jeremy Rifkin, Algeny (London: Penguin Books, 1983), 181. Donald Worster defines ecosystem as "...a model of interrelatedness in nature, it presents both the biological and non-biological aspects of the environment as one entity, with strong emphasis on measuring the cycling of nutrients and the flow of energy in the system--whether it be a pond, a forest or the earth as a whole". Worster, Nature's Economy (London: Cambridge University Press, 1977), 378.
3. Ann Bramwell, Ecology in the 20th Century (New Haven: Yale University Press, 1989), 39, 41; Worster, Nature's Economy, 31-32.
4. Worster, Nature's Economy, 37.
5. Max Nicholson, The New Environmental Age (London: Cambridge University Press, 1987), 68-69; Lincoln et al., A Dictionary, 80.
6. Grahame Beakhurst, "Political Ecology" in William Leiss, ed., Ecology versus Politics in Canada (Toronto: University of Toronto Press, 1979), 21-22; Jeremy Rifkin, Entropy (New York: Viking Press, 1980), 85; Michael Clow, "Economy and Ecology: Why Sustainable Development Can't Sustain our Economy", (unpub.); Michael Clow, "Greening Political Economy: Linking an Analysis of the Economy and the Environment" (unpub.).
7. Michael Clow "Marxism and the "Environmental Question:" an Assessment of Bahro", Studies in Political Economy 20, (Summer, 1986), 21.
8. Ralph Johnson, The Forests of Nova Scotia (Halifax: Four East Publications, 1986), XV; M. Simmons et al., Natural History of Nova Scotia, vol. 1 (Halifax: Departments of Education and Lands and Forests, 1989); J. Connor et al., Report of the Royal Commission on Forestry (Halifax: Government Services,

- 1984), 2.
9. J.S. Rowe, Forest Regions of Canada (Ottawa: Department of Environment, Canadian Forest Service, 1972), 126, 129.
  10. William Cronon, Changes in the Land (New York: Hill and Wang, 1983), 38-53, *passim*; Michael Williams, Americans and Their Forests (London: Cambridge University Press, 1989), Chapter 2, *passim*.
  11. Nicolas Denys, Description & Natural History of the Coasts of North American (Acadia) (trans and ed. William F. Ganong, The Publications of the Champlain Society II [Toronto: The Champlain Society, 1908]), 126-127; Titus Smith Jr., "A Natural Resources Survey of Nova Scotia" (Vol. 380, PANS, 1: 40; repr. Lloyd S. Hawboldt, ed., Halifax: Department of Lands and Forests, 1955), 16, *passim*.
  12. Clow, "Marxism and the "Environmental Question"...", 174.

## CHAPTER I

### SCIENCE, LAW, SOCIETY AND THE ENVIRONMENT

By the late eighteenth century, with increasing intensity scientists were examining their world and its elements more critically and more intensely. They sought ever to extend human knowledge and progress. Eighteenth-century and early nineteenth-century scientists developed theorems and explications within a Christian world view, but gradually religious considerations lost importance in scientific study. Technological advances affected how the environment was viewed by humanity and the uses to which it was put. It is against this societal and scientific background that forest regulation must be gauged.

Like his English contemporary Gilbert White (1720-1793), who wrote of the Hampshire countryside, Carrolus Linnaeus was a natural theologian. White, an Anglican vicar, viewed nature as an expression of God's ingenuity and magnificence while Linnaeus saw nature as a carefully ordered universe in which the Creator had endowed each organism with the necessary tools to function well in the general "economy". Early naturalists and ecologists viewed the biosphere as the joyful expression of God's compassion and cleverness, to be enjoyed, studied and celebrated as such.<sup>1</sup>

In Canada, Philip Henry Gosse published the first popular account of Canadian naturalism, The Canadian Naturalist, in 1840. Catherine Parr Traill's 1885 Studies of Plant Life In Canada described the flora of Canada (although her sister,

Susannah Moodie, in Roughing It in the Bush was less awestruck and portrayed the Canadian environment in harsher and more realistic terms). One of the greatest Canadian natural theologians, William Dawson--a Nova Scotian geologist--devoted himself to investigating fossils in the Cumberland Basin. Dawson believed knowledge of both the natural and the divine essential to an appreciation of the natural world. "It was, he was fond of saying, a barren and fruitless science that sees the work but not its author and a narrow piety that loves God but not his works." Natural theology, however was less about nature than about humanity elevated place above and beyond nature. While natural theologians celebrated the natural world, they had no doubt of their favoured place in Creation, somewhere above nature and below God.<sup>2</sup>

The natural theologians' pre-eminence was challenged by the increasingly widespread acceptance of Charles Darwin's 1859 Origin of Species. Unlike the naturalists, Darwin suggested God had nothing to do with the number and variety of animal and plant life forms. Natural complexity, Darwin asserted, was the result of the gradual evolution of earlier primitive life forms to later, more highly advanced organisms. Just as the Whig historian viewed the history of human society as a linear progression from primitive to 'advanced', so Darwin saw natural diversity in the modern world as better or more highly developed than what had existed in an earlier, less diverse age.<sup>3</sup>

Darwin's evolutionary theories were compatible with the writings of Adam Smith, Voltaire, Francis Bacon and Jeremy Bentham. Voltaire defined the linear nature of liberal thought with its emphasis on "progress", and envisioned human evolution as a succession of societal models, each an improvement on the last. This "progress" was the mainspring of human life, "animating historical analysis". Thomas Babington Macaulay, the Victorian historian, affirmed Voltaire's view of history and "progress" and in writing history presented the past in such a manner as to justify linear liberal orthodoxy.<sup>4</sup>

Liberalists viewed human societal development as a linear progression from more primitive antecedents to a sophisticated, highly developed contemporary society. The present was always the epitome of human development. For Adam Smith, society was intensely competitive and self-interested. Left alone, the marketplace was self-correcting and there should be as little interference with it as possible. In environmental terms, this translated into reluctance to place curbs on industrial expansion.

Darwin's theories in concert with more general societal trends, gave rise to professional science and a secular anthropocentric view of the natural world. Arcadian natural historians gave way to dispassionate, professional scientists, relegating ecological and holistic science to the fringes. New scientific disciplines were created and a new scientific

tradition, obsessed with classification and experimentation, gradually overshadowed the field-oriented natural sciences. This new science was more selfishly anthropocentric, affirming T.H. Huxley's view that humanity's destiny was to control and manipulate the environment. As the new rationalist approach overcame the pastoralist's gentler, vitalist approach to the environment, Huxley's view gained precedence and began a new scientific tradition.<sup>5</sup>

The struggle between theologists and evolutionists was not without victims. Dawson, one of Darwin's most virulent critics, published three refutations of Darwin in 20 years and, consequently, was denied publication by the Royal Society of London in 1870. In 1877, the Society turned down his request for a grant to continue his excavations in the Nova Scotia coal beds. His refusal to modify his natural theology views in face of the 'new' scientific tradition was solely responsible for his ostracization by the controlling members of the scientific community.<sup>6</sup>

Although the popularity of natural theology waned, professional and amateur scientific activity and interest continued to grow. In Canada, as in Great Britain, Germany and the United States, there was a pronounced interest in all branches of science and scientific activity manifesting itself in science education, the growth of scientific societies, mechanics institutes and a culture of popular science. In addition to Dawson, a number of Canadian academics devoted

themselves to furthering scientific education in Canada. Daniel Wilson, of McGill, and James Beaven and James Bovell of Toronto--like Dawson--clung to natural theology, while others like William LeSueur embraced the new evolutionary theories eagerly. William Macphail, medical doctor, journalist, and critic prominent in the early decades of the twentieth century was throughout his career a fervent critic of 'progress'. Others, like Adam Shortt, who began his career teaching chemistry and botany and became one of Canada's first social scientists, epitomized the spirit of academic critical inquiry, unfettered by religious chains. Shortt received his early education at a Mechanics' Institute--which perhaps accounts for his commitment to progress. The establishment of the Royal Society of Canada in 1882 which fostered growth in science as well as the arts and humanities, further encouraged excellence in scientific study.<sup>7</sup>

In Nova Scotia, the Pictou Academy, founded in 1816, and Dalhousie College (1838) both promoted excellence in scientific education. Thomas McCulloch, the Academy's founder, (and possessor of a renowned bird collection) began a tradition of scientific and academic training felt well beyond the Academy. McCulloch, a product of the Scottish Enlightenment, was a Secessionist educated at Glasgow, where he studied some medicine as well as divinity. He arrived in Pictou in 1803 with his wife and three children. In 1833, Audubon visited McCulloch and was presented with some

specimens from McCulloch's collection. Unfortunately, McCulloch's collection was broken up when he was forced to sell it, even though Audubon and others urged the provincial government to purchase the entire collection. Other Academicians also rose to prominence. Rev. James Ross became Principal of Dalhousie College in 1863, while Alexander MacKay was Principal of his alma mater from 1873-1889 and later Provincial Superintendent of Education in Nova Scotia.<sup>8</sup>

Scientific interest was not confined to the academic community. The first Nova Scotian scientist of note was the gentleman farmer, botanist, and land surveyor, Titus Smith, Jr. (1768-1850). Smith, born in Massachusetts of Loyalist parents, emigrated to Nova Scotia in the first mass exodus of Loyalists from Long Island in 1783. Educated in his early years at home by his father, who was a Yale-trained clergyman, Smith spoke and wrote English, Latin, Greek, German and French. In addition, he was well educated in chemistry, botany and other natural sciences. When his father was presented with a complete set of Linnaeus's botanical works about 1790-91, Smith devoted himself eagerly to botanical studies.

In 1801-1802, Smith was commissioned by Lieutenant Governor John Wentworth, another Loyalist (and, incidentally, the man who gifted the Linnaeus volumes to the elder Smith) to survey the Nova Scotian forests. Smith's survey diaries were the first detailed study of the Nova Scotia forest. Smith



also collaborated with C.R. Alderson in preparing a list of indigenous plants for a publication entitled "A General Description of Nova Scotia" and himself wrote one of the first ecological treatises on Nova Scotia which was published in The Magazine of Natural History in London in 1835. Smith was a friend and neighbour of John Young, a Scot who had emigrated to Halifax in 1815. Young, more popularly known by the pseudonym "Agricola", wrote an influential series of articles in the Acadian Recorder on agriculture (which were also published separately).<sup>9</sup>

Smith was followed by others such as Andrew Downs, a zoologist with an international reputation, who established the first zoological gardens in North America just outside Halifax in 1847. He began with five acres but by 1863 had 100 acres at "Walton Cottage" near Dutch Village on the Northwest Arm. When he visited Europe in 1864, Downs took 50 live specimens and two cases of stuffed birds and stuffed moose to present to the London Zoo. In exchange, he received 70 specimens for his collection. At one time King Victor Emmanuel of Italy received 25 live moose and caribou from Downs for his zoo, the "Garden of Acclimatization", at Pisa. Downs dismantled his collection in 1867 when he went to New York to take charge of the Central Park Zoo. But after a dispute with a hiring committee member he returned to Halifax and re-established his collection at a property adjoining his old "garden". When he moved to Agricola Street, he built a

natural history museum annex to his home. Downe was also a member of the Halifax Mechanic Institute, the Dog, Pigeon and Poultry Club and the Nova Scotia Poultry and Floricultural Association.<sup>10</sup>

Andrew Downe's zoo was not unique. His neighbour, John Matthew Jones, owner of the "Ashbourne" estate, and relative of Lieutenant Governor Mulgrave, also had an extensive wildlife collection. In 1866, Jones' private museum at Ashbourne held some 7,000-8,000 specimens. Jones, like Downe, had an international reputation and he managed the Nova Scotia Fishery exhibit at the 1862 International Exhibition in London. Jones was a member of the Linnean Society of London, a Fellow of the Royal Society of Canada and one of the founders and for a time president of the Nova Scotian Institute of Natural Science. In 1866, while President, Jones led a pilgrimage of Institute members on one of their first field days to Titus Smith's grave where he read an account of Smith's life and achievements.<sup>11</sup>

The Nova Scotia Institute of Natural Science, established in 1862, had 134 members by 1897. The Institute sponsored lectures, seminars and public presentations of scientific papers and its Bulletin circulated to 734 scientific institutions, universities and libraries through North America and Europe. A broad cross-section of the professional and middle classes, including military and naval officers stationed in Eastern Canada, supported the Institute of

Science. Two medical doctors, William Sommers and Edward Gilpin, were long time Institute stalwarts as were Captain C. Hardy, R.A., William Gossip, printer, and Harry Piers, longtime curator of the Nova Scotia Museum. In 1869, Campbell Hardy published Forest Life in Acadia. Hardy, who retired a Major-General in Dover, England, remained interested in Nova Scotian natural history throughout his life and in 1915 wrote to J.A. Knight, Chief Game Commissioner of Nova Scotia, about the state of the caribou in Nova Scotia. (Knight remarked that he believed Hardy to be the last surviving member of the 1853 Fish and Game Society.) In 1903, Robert R. McLeod's Markland or Nova Scotia Its History, Natural Resources and Native Beauties was published by Markland Publishing Company, incorporated by Professor Rev. E.M. Kierstead of Acadia University and S.C. "Chip" Parker, Secretary of the Nova Scotia Fruit-Growers' Association.<sup>12</sup>

The Halifax Mechanics' Institute, founded in 1831, included among its members Joseph Howe. The Halifax Institute was followed by others in Sydney (1837), Antigonish (1840), Liverpool (1841), Windsor (1842), Dartmouth (1842), Guysborough (1843) and Pictou (1866). A Literary and Scientific Society was started in Pictou in 1834 and in Halifax in 1839. William Silver, later concurrent treasurer of the Institute of Science and of the Fish and Game Protection Society, was the first Vice President of the Halifax Society. In Pictou, many prominent scientists read

papers, including, J.D.B. Fraser, the first person in North America to use chloroform in childbirth.<sup>13</sup>

In 1853, the first game society in Canada, and second in North America, the Provincial Association for the protection of the Inland Fisheries and Game of the Province of Nova Scotia, was founded in Halifax by Captain William Chearnley of the British Army under the patronage of Lieutenant Governor LeMarchant. Established to protect large and small game and game fish to assure continued hunting and fishing, the Association's constitution declared it the duty of every member to report to the Society any unlawful obstruction of any river or stream or any breach of the Game laws. As with the later Institute of Science, the Protection Society's membership list read like a roll call of the provincial elite. The founding membership of 181 included, in addition to a number of Army and Naval officers, Thomas Annand, three Beamishes, a Chipman, W.R. Cogswell, John Doull, Lawrence Hartshorne and a Sarjeant Grant.<sup>14</sup>

In 1874, the Society reconstituted itself as the Game and Inland Fishery Protection Society of Nova Scotia and its stated objective was "the adoption and carrying out of more stringent Rules and Regulations for the preservation of game and inland fish". The reformed Society, like its predecessor, was composed of the provincial elite. Its few surviving Annual Reports do show its membership to include the ever-present military and naval officers, Senators, Judges and

medical doctors. The 1906 Report of the Society noted that the Society had met with delegates of the People's Fish and Game Protection Association (with a membership greater than 800, in stark contrast to the Society's membership of less than 100 at the time) to discuss merging. The People's Association, which began outside Halifax, was much more popular and had greater opportunities for public education than had the small, elitist Provincial Society. In 1912, the Game and Inland Fisheries Protection Society incorporated itself as the Nova Scotia Game Society.<sup>15</sup>

Other fish and game societies and clubs were formed in the late nineteenth and early twentieth centuries such as the St. Lawrence Angling Club founded in 1890; the Petite Riviere Salmon Club in 1903 (which included among its objects the direction to take whatever action necessary to protect, preserve and conserve fish); the Amherst Gun Club ("the preservation and conservation and breeding and stocking...of game on the land and fish..."); and the Sydney Gun Club ("the preservation and conservation and breeding and stocking under the laws of this Province..."). These societies' members had a genuine concern for the environment, although as with the later Ducks Unlimited, there was a large measure of self-interest in their agitation for stricter environmental regulation. The sporting clubs and societies wished to preserve and propagate those species which provided good hunting and fishing.<sup>16</sup>

In addition to the sporting enthusiasts, there were others sympathetic to conservation and preservation. Georgian Romanticism evolved in the nineteenth century into a "scenery and wildlife" movement. Thoreau, Audubon, Emerson and Landseer all preferred unspoiled nature in a pro-technology age and agitated for wilderness preservation. The Audubon Society was formed, and the Sierra Club (founded by John Muir) was established to preserve the western American forest, the last untouched reserve of wild land in the U.S. Muir's preservationist ethic stood in opposition to the conservationists who promoted 'wise forest management' and scientific lumbering. Forest reserves were created by the efforts of many including Gifford Pinchot, U.S. Forest Service Chief, and President Theodore Roosevelt, an ardent outdoorsman. Roosevelt's own Boone and Crockett Club would later face opposition from Pinchot for its attempts to promote forest reservation for game breeding--efforts which conflicted with the aims of Pinchot's backers, the livestock owners, who wanted the reserves open for grazing. National parks were created worldwide, including the designation of the first Canadian national park in Alberta in 1885. In 1902, the International Convention for the Protection of Birds Useful to Agriculture was signed by 12 European countries and a North American Migratory Bird Treaty was signed by the United States and Canada in 1916.<sup>17</sup>

These measures, however, were often no more than manifestations of industrialized nations' anthropocentrism. Environmental value was frequently perceived in relation to its use and enjoyment by humans. Political action, if any, on the environment originated in the liberal mainstream and generally reflected liberal views of nature as raw material to be managed and exploited. Michael Williams's exhaustive study of American forests and forestry practices notes that forest regulation was generally accepted only after it became clear that continued 'cut and run' would decimate all forest reserves.<sup>18</sup> This evolution in attitude was also evident in Nova Scotia. Here, as elsewhere, the involvement and interest of the general public in naturalism and science waned in the twentieth century. Scientific issues became more complex, and scientists increasingly professionalized and isolated from their academic colleagues and the general public. Interest in, and concern about, the environment did not abate entirely. The Nova Scotia Wildlife Federation continued to function and amateur ornithologists continued to study Nova Scotia's birds. Amateur scientific societies and Mechanics' Institutes, however, disappeared. The Institute of Science became more and more the exclusive preserve of professional scientists and the "natural" was dropped from its name.

Amateur wildlife managers and regulators were replaced by professional foresters and managers. Game law enforcement was taken from the Inland Fish and Game Protection Society and

assumed by the provincial government. Hunting guides, licensed since the late nineteenth century, became increasingly professionalized and in 1920, the Nova Scotia Guides' Association was incorporated with the following stated objectives:

...to promote the interest and welfare of the licensed Guides...and to assist in the prevention of illegal killing and taking of the Game birds, animals and fish of the Province.<sup>19</sup>

A decade later, the Association, together with the County and District Fish and Game Protective Associations and other groups, took part in the formation of the Nova Scotia Fish and Game Protective Association.<sup>20</sup>

In 1926, the Department of Lands and Forests was established and Otto Schierbeck, a dedicated naturalist, was appointed Chief Forester. Schierbeck created the first Nova Scotia Wildlife Sanctuaries, conducted the first moose census and administered the enforcement of the provincial game laws, all the while attempting to professionalize forest management in Nova Scotia and make it more scientific.<sup>21</sup> In 1923, Frank Barnjum, millionaire lumberman, established the Barnjum Forest Foundation which included 2,300 acres in British Columbia and over 14,000 through Nova Scotia. Barnjum, born in 1858 in Montreal, had moved to the United States shortly after beginning his working life. George Barnjum, his only son, was a qualified provincial land surveyor for Nova Scotia, and lived for years in Maine before retiring to Québec. Frank Barnjum, known as the "Canadian Forest Crusader" after



retiring in 1923, devoted the last decade of his life to forest protection. Following his death in 1933 in Paris, his heirs dissolved the trust and sold its Nova Scotian assets to the Mersey Paper Company. It was Barnjum's agitation on behalf of his friend that secured for Schierbeck the job as Chief Provincial Forester. Another Danish forester and friend of Barnjum's, Axel Gold, was appointed superintendent of the first provincial tree nursery in Lawrencetown.<sup>22</sup>

The Depression and World War II hastened the decline in interest in environmental and ecological matters. More important economic and political considerations displaced what small measure of environmental concern existed. Post-war reconstruction, led by the United States, was driven by a determination to ensure rapid economic growth. The environment was a giant pool of raw materials for ever-increasing industrial production. The post-World War II economy was in the words of Jeremy Rifkin, "a kind of ghouliah testimonial to our violation of the past". National economic policies, the Marshall Plan, African and Asian decolonization stimulated unceasing demand for raw materials and finished products, conspicuous consumption, and planned obsolescence. The world became a throw-away society: the very antithesis of efficient oekologie or oeconomie.<sup>23</sup>

In Nova Scotia, prominent environmentalist, Susan Holtz dates environmentalism's resurgence from the 1962 publication of Rachel Carson's Silent Spring, which detailed the effects

of chemical spraying on animal and human life--almost single handedly raising public concern about the environment. One of Carson's most chilling examples of pesticide and herbicide dangers was Canadian. In 1954, millions of acres in the Miramichi region of New Brunswick were sprayed with DDT to combat the spruce budworm. Within two days of the first aerial application, dead salmon and brook trout were found on stream and river banks. In the forest, birds were dying. In 1959, the entire Miramichi watershed produced only 600,000 smolt (young salmon)--less than one-third the salmon runs of the three previous years. Carson's book helped put an end to the DDT spray programme although not an end to the aerial pesticide spray programme.<sup>24</sup>

Silent Spring, initially ignored or denigrated by other professional scientists, helped foment a global reawakening to ecological and environmental concerns, including the dangers to the biosphere of unchecked economic expansion and rampant industrialism. The post-1960 ecologists differed radically from those of the inter-war period. The close allegiance of the National Socialists and the ecology movement had tainted ecologism at the end of the Second World War. The regrouped and renewed popular ecologism of the second half of the twentieth century denied the links between fascism and ecologism of the 1920's, 30's and 40's, allying itself with causes emanating from the left.<sup>25</sup>

In 1970, two young Nova Scotians used an Opportunities for Youth grant from the Canadian government to organize the Ecology Action Centre, a lobby group ensuring that the environmentalist viewpoint found articulate voice. In Europe in the 1970's a number of "green parties" emerged out of socialist politics as an ecological ethos began to find its way into the political mainstream. These new ecologists confronted everything from proliferation of nuclear weapons and power plants to soil erosion. By the mid 1980's, it was clear that environmentalism and environmental concern could not be ignored by politicians seeking election or reelection. The growth in environmentalist groups indicated the strength of environmental concerns. By the end of the 1980's, the Canadian Wildlife Federation had 78,000 members. Ducks Unlimited, the lobby group that saves marshes to shoot ducks, had 100,000. The radical environmental activists, Friends of the Earth, boasted 12,000 Canadian members.<sup>26</sup>

The most significant international development in political environmentalism in the 1980's was Norwegian Prime Minister Gro Brundtland's study of the worldwide state of the environment and recommendations therefrom for ensuring that human economic and social activity did not destroy the biosphere. The twenty-one member commission held hearings throughout the world, including Nova Scotia, and in 1987 the Commission's report, Our Common Future, was made public. Its content, and the publicity surrounding its release, made

environment and ecology international issues. The report urged all governments, industries, and individuals to change their economic decision-making, and to integrate economic and environmental factors into a "sustainable development" approach which was defined as development meeting the needs of the present without compromising future generations' ability to meet their needs.<sup>27</sup>

In response to the Brundtland Commission, the Canadian Council of Resource and Environment Ministers established a National Task Force on Environment and Economy which recommended establishing an economic and environmental advisory body composed business, public and private sector representatives. In October 1988, the Prime Minister announced the creation of the National Round Table on the Environment and Economy and that same fall Nova Scotia created its own provincial Round Table. However much vaunted as the answer to environmental management questions facing contemporary society, sustainable development, as an economic growth philosophy, had limited applicability to the problem of resource depletion, pollution, ending hunger and Third World economic woes, especially given the pressure to avoid lowering the standard of living in the industrialized nations.<sup>28</sup>

Until the late 1960's and 1970's, it frequently appeared that scientific concern about the environment and the political process existed on parallel courses, never intersecting. Linear, liberal progressivism espousing

modernism and technology as "progress" so dominated political and economic thought throughout the nineteenth century and first half of the twentieth, that any suggestion that the biosphere was more than a source of raw material and a sink for society's offal was lost in the wind. Laissez-faire liberalism emphasizing economic growth did not easily assimilate concerns about scarcity and conservation.

Science itself was partially to blame for liberalism's domination and its legislative expression. The professionalization of science and the sequestering of academic disciplines increasingly isolated each discipline from the others. Within the scientific community ecologists and environmentalists were marginalized. Professionalization created more and more subdisciplines, and the ecologists' holistic and integrated approach to research fell into disfavour. Scientists continued the fiction that humanity and technology could overcome any natural barrier.

Nova Scotia's reference for forest management policy depended upon long-established legal principles and legislation. As early as 1774, legislation was enacted reserving the Saint John River and Cape Breton Island timber stands for use as masts and ships timbers for the Royal Navy.<sup>29</sup> The imperialism in such an order was twofold: the pine trees were exclusively reserved to the King to preserve British military and economic hegemony and further demonstrated human hegemony over "lesser" life.

Early Nova Scotian land management policy reflected a pastoralist exploitiveness. Commissioners of Sewers were appointed to oversee the dyked marshland and regulate continued marshland clearing for farmland.<sup>30</sup> This European view of nature as something to be fully tamed and controlled by humanity differed from the Amer-Indian view of humanity as but one element in the ecosystem. Nature's sole value was as provisioner of commodities and factors of production for spurring economic growth. Even where conservation and systems integrity preservation reached into the political ethos, it remained anthropocentric. Grahame Beakhurst's argument that conservation (now known as sustainable development) "requires the highest level of protection of the rights of property, a minimal protection of the environment to permit continued profitable production, and sufficient gestures toward the people to keep them quiet" echoes Clow's "environmental management" approach and was amply demonstrated throughout the nineteenth and early twentieth centuries.<sup>31</sup>

Fostering continued economic growth has been an important--if not the paramount--element of political decision making for the last 150 years. Greater accumulation and generation of wealth spurred all governments and only with great reluctance were economic growth controls instituted. Human health and environmental protection, and resource conservation and replenishment, lagged far behind the industrial engine. Economists, bureaucrats and politicians

rarely considered the environmental impacts of their decisions except where modifying the ecosystem was seen as beneficial--such as when woodland was converted into farmland.

Assuming the role of environmental protector was difficult for governments also expected to facilitate or even drive economic growth. When government did become an environmental regulator, it was not always in a manner best guaranteed to protect and conserve the environment. Herbicide spraying of Nova Scotia forests, for example, may not be viewed by all as sound environmental management. Environmental regulation was ill understood and even when it blatantly appeared necessary, government was often unwilling to act: either because of an orthodox liberalist belief that left alone the marketplace would correct itself or because the scientific validity of the conservationist and preservationist arguments was misunderstood.

Early Nova Scotian environmental legislation was usually more reactive than active. For example, fish and game legislation prescribed colonists from hunting partridge, snipe and woodcocks from the first of March to the first of September of each year<sup>32</sup> and also empowered the Legislature to set a moose hunting season.<sup>33</sup> Over hunting necessitated both game bird protection legislation and moose seasons. When in 1861 small birds were added to the protected species list, naturalists were permitted to kill game birds and protected

small birds regardless of the season as long as they were catching and killing for natural history purposes.<sup>4</sup>

Not surprisingly, there is an interrelation between forest and water legislation. The 1919 Water Act<sup>5</sup>, one of the first comprehensive environmental management initiatives in the province, stripped individual property owners of their common law riparian rights and vested all waterways in the Crown. In keeping with prevalent pro-industry governmental attitudes, however, the Act's primary objective was fostering greater economic growth, not riparian protection.

No law exists in a vacuum. Any regulatory regime is shaped by its antecedents and the conceptual framework in which it rests. Nova Scotia, as heir to the British legal tradition, employs both common law and legislative regulatory measures. Government policy is generally expressed through legislation duly passed by the legislative chamber and assented to by the Crown; and through regulations and orders in council of the executive branch. In addition, the judiciary may interpret legislation or regulations when the same become the subject of court action. Any such interpretation may become part of the law of a province or country.

Nova Scotia was held in law to have become a British possession with the conquest of Acadie by General Nicholson and the subsequent ceding of Acadie to Britain in the 1713 Treaty of Utrecht. Lord Mansfield established Royal authority



over conquered and ceded territory in Campbell v. Hall (1774), 1 Cowp. 204, 98 E.R. 1045 (H.L.) but the Blackstone Commentaries, a highly influential statement of English common law, added the proviso that in conquered and ceded territories which already had laws of their own, those laws would continue in full force and effect until changed or supplanted by the conquering power. In Acadie, renamed Nova Scotia, it mattered little whether the regime was common law or French civil law for the colony was largely ignored until the mid-eighteenth century. Forest regulation was ignored even longer.<sup>36</sup>

Nova Scotia was one of only five colonies acquired by Britain by conquest from any of the European powers. While Beamish Murdoch argued in 1863 that Nova Scotia should be treated as a colony by conquest, the prevailing view treats it generally as a colony by settlement. In 1717, the Imperial Board of Trade determined that the 1604 Virginian constitution was an appropriate model for Nova Scotia. The Massachusetts model, the Board felt, gave too much authority to the elected assembly. However, Nova Scotia was politically insignificant and its population largely French, and thus scant attention was paid to the colony by its British master.<sup>37</sup>

Then in 1749, Governor Cornwallis and 2,600 colonists were sent to Halifax, to raise the British presence on the mainland in face of the threat of Fortress Louisbourg. Governor Cornwallis' 1749 commission from the Crown authorized him to establish a council of twelve members, a legislative

assembly and a judiciary and courts. Cornwallis was empowered, with the advice and consent of the Council and Assembly to

make, constitute and ordain Laws, Statutes & Ordinances for the Public peace, welfare & good government of our said province and of the people and inhabitants thereof and such of us our heirs & Successors, which said Laws, Statutes and Ordinances are not to be repugnant but as near as may be agreeable to the Laws and Statutes of this our Kingdom of Great Britain.

Although Cornwallis's instructions abandoned the Virginian legislative model, a 1750 report of three Councilors recommended Nova Scotia's Government and Council and courts of inferior jurisdiction be patterned on Virginia's general courts and county courts respectively, ensuring the Virginian judicial model and precedents survived.<sup>38</sup>

The early courts had two important effects on the shape of Nova Scotian legislation: it was the judiciary who facilitated the first election in Nova Scotia and it was the courts which declared which British laws were received in Nova Scotia. It took three Governors and more than nine years before the first Legislative Assembly was convened. In that nine year period, Governors Cornwallis, Hopson and Lawrence issued proclamations and orders in council without convening an elected legislative assembly. It was not until after Nova Scotian Chief Justice Belcher ruled that the Governor in Council had no authority to pass legislation that Nova Scotia's first House of Assembly was convened in 1758. In that first session, the Assemblymen voted to create local

governments on the New England pattern, vesting municipal functions in proprietors' town meetings and officials elected at the town meetings. The Assembly passed a bill creating a president and common council to regulate local affairs. The Legislative Council, the appointed Upper Chamber, did not approve of such democratic institutions and after lobbying and discussion, local government was placed in the hands of a Virginian style grand jury. Municipal authority was placed jointly in the hands of justices in sessions, appointed by the Governor in Council and grand juries composed of "substantial" proprietors chosen by drawing lots. The justices and grand juries continued to administer municipal affairs until municipal reform in 1879 and their legacy of parsimony and erratic enforcement would overshadow forestry policy until well into the twentieth century.<sup>39</sup>

From the first, the Board of Trade in London and the colonial government in Halifax shared a reluctance to draw funds for governmental activity. It was not that the Imperial or Nova Scotian government were intent on impeding progress in the colony; it was simply that neither government wished to pay for it. Money, managing the provincial debt, and provincial expenditure remained central to Nova Scotian policy before and after responsible government. Often, necessary measures were left untaken to avoid increasing demands on the provincial treasury or raising taxes.

Taxation was a troubling question. As early as 1833, London offered to turn over to Halifax the quit rents and casual and territorial revenues (excise, import and export taxes, duties, etc.) if in return Nova Scotia assumed responsibility for the salaries of the governor, the Provincial Secretary and the members of judiciary whose salaries were paid by the annual Parliamentary grant to Nova Scotia. The Legislature could not agree on appropriate salary levels for the officials and the matter was shelved for a year when quit rents were commuted to an annual payment of 2,000 pounds to be applied to the governor's salary. The Members agreed to the commutation, "harken[ing] to the pleas of their constituents not to let the tax gatherer loose among them". Nova Scotians were not taxed onerously and determined to stay that way. (Indeed the first attempt in 1855 to encourage incorporation of counties failed when it was realized taxation levels would rise appreciably to cover increased local costs.) In 1844, the casual and territorial revenues were finally surrendered to Halifax.<sup>40</sup>

Colin Howell suggested in 1979 that Nova Scotia's financial difficulties stemmed in part from inadequate municipal institutions incapable of financing local works, thus forcing these expenditures on the central treasury. The grand juries and later town councils refused to impose the taxation levels necessary to pay for local works such as bridges and roads and thus the provincial government built and

maintained not only the grand highways but also the local roads. Many other necessary measures such as enforcing game laws, were sacrificed to these local measures.<sup>41</sup> This impasse--a provincial government which held the dollar dear and a local government which refused to tax--resulted in the tried and true legislative solution to many difficulties: do nothing. Nowhere would this be more evident than in forestry and wildlife regulation. The provincial government was reluctant to develop any kind of comprehensive regulatory regime that might cost money. Only where palpable and compelling evidence for government intervention existed would the Legislature demonstrate any initiative. For example, An Act to prevent the Forestalling, Regrating and Monopolizing of Cord Wood, in the Town of Halifax, 18 Geo. 3, c. 5 (1778), protecting Haligonians and later residents of other municipalities from unscrupulous cordwood merchants was relatively easy and inexpensive to enforce as the public would readily complain about any cordwood sold at a price above the legislatively mandated amount.

While local and provincial governments were generally timid about spending money, there was one area where the provincial government was prepared to finance policy initiatives. As Rosemarie Langhout wryly noted:

[g]overnments after all, dole out money according to the priorities they establish, and spending can be expected to reflect more clearly than rhetoric, the value an administration attaches to any particular policy area.

Langhout's study and other discussions of Nova Scotia's railroad policy argue that while inertia may have enervated the provincial government generally, it was quite prepared to act aggressively and expend a great deal of provincial (and federal) revenues on railway expansion. Money spent on railroad expansion was money unavailable for other public endeavors such as forest regulation. When the 1854 Reciprocity Treaty broadened trade opportunities with the United States, even more efforts were made to extend railway links within and without the province, leaving even less money for other activities.<sup>42</sup>

Railways dominated the mid century government agenda. Railway links had been a requirement for Nova Scotia's entry into Confederation. By the 1875 session, Liberals and Conservatives were in a bidding war for the Cape Breton members' support. The Islanders, more interested in steel tracks than party labels, played one side against the other in an effort to get railroad links to industrialized Cape Breton. P.C. Hill, the Liberal leader, won their allegiance with an offer to any railway company of \$5,000 per mile, 300,000 acres of Crown lands, and \$5,000 for a ferry at Canso to construct a line to Louisbourg. This Crown land give-away was just one of many, and the cumulative effect of these land grants was disastrous for Nova Scotian forests.<sup>43</sup>

In 1877, Hill appointed the Commissioner of Crown Land, Alonzo J. White as Attorney General, replacing Otto Weeks.

Hill's government, suffering the effects of a recession begun in 1873 and compounded by the coming termination of the federal "better subsidy" and payments under debt guarantees to the Western Counties Railway, the Nictaux & Atlantic and the Eastern Extension, sought to reduce expenditure by reducing ministers from five to four. White's cross appointment became an amalgamation of the Department of the Attorney General and the office of Crown Lands Commissioner, despite Opposition charges that the new department would save no more than \$2,000 per annum.<sup>44</sup>

This cost-saving measure had repercussions for forestry policy. As the Attorney General had to be a lawyer, the Commissioner of Crown Lands was also a lawyer and whether by happenstance or by design, the succeeding Attorneys General and Commissioners were invariably men who, in private life, were either in business with, or legal counsel, to lumber barons and pulp and paper companies. Consequently, their views tended to favour a "business as usual" approach to land and resource management or in more progressive instances, a minimal conservation for future exploitation ethic.

By 1878, when Hill was defeated by Conservative Simon Holmes, the accumulated deficit had risen to \$316,000 and 1879 expenditures were expected to outstrip revenues by \$200,000. To staunch the hemorrhage, Holmes prepared and pushed through "The County Incorporation Act", 42 Vic., c. 1 (1879) transferring all non-judicial duties of the sessions courts to

elected county and district councils as well as a number of provincial responsibilities, including the most expensive local measure: road and bridge construction. (s. 69) By relieving itself of expensive construction of local endeavors, theoretically the provincial government would now have funds available for projects of a more general application nature, such as comprehensive land use regulation.

Municipal councils were also awarded jurisdiction over, inter alia, weighing and measuring wood, lumber, logs and timber; regulation and management of booms and log driving; regulation of brush burning and other land clearing activities; river bank preservation; regulation and measurement of boards, shingles, lathes, lumber, cordwood and other fuel, and; abatement and removal of public nuisances. (s. 84) Thus the municipalities continued to bear major responsibility for forest policy and as long as the provincial government allowed the burden to be borne by local government, little active resource management was undertaken in Nova Scotia.

The jurisdiction transfer forced counties to introduce direct taxation, including forest land taxation, to finance their new responsibilities. So began a long standing disgruntlement about land tax that would sporadically erupt into rhetoric and revolt until land tax reform in the 1960's and 1970's. Owners of large tracts of timber land would argue its worthlessness to taxing authorities while touting its high



value to investors--a practice followed throughout North America. Land tax difficulties united all North American lumbermen who objected to tax regimes and stumpages fees whatever the region.<sup>45</sup>

In the 1880's, Nova Scotia appeared to recover from the 1873 depression. The industrial sector burgeoned, in part as a result of the National Policy. But the traditional market for Nova Scotia lumber, Great Britain, was shrinking and the lumber industry continued to struggle. Although the export lumber market had gradually returned after 1873 it was never again as healthy as it had been. The American Civil War spurred the iron ship industry and although smaller coastal trading vessels and fishing boats continued to be constructed of wood in local shipyards, the days of large ocean-going wooden vessels were numbered. The common Maritime complaint, however, that the decline of "wind and sail" unduly affected the local economy was inaccurate. The American lumber industry similarly suffered from same reduced markets in the last quarter of the nineteenth century.<sup>46</sup>

In the last quarter of the nineteenth century, a new market opened to replace lumber: pulp and paper. By the first decade of the twentieth century pulp and paper represented seven percent of Maritime woodland production. By 1926, it was fifty-five percent. In the same period, fiscal conservatism finally, if belatedly, had a beneficial effect on forest management. Long after other provinces, Nova Scotia

realizing that there was more revenue for provincial coffers in renting rather than in selling forests, finally passed timber stand leasing and licensing legislation.<sup>47</sup>

Increasing prosperity, railroads and industrialization consumed nineteenth century politicians and governments. Forest resources were, if not ignored, at least neglected. The differing emphasis on the importance of land resources in Nova Scotia and in other colonies is well demonstrated in the scholarly record. In MacNutt's pre-Confederation history of New Brunswick, the interrelation between the forest and government occupies a great deal of the author's attention, as forests were considered integral to New Brunswick's economic well-being. Beck's complementary study of Nova Scotia ignores the forest and forestry, focussing instead on railways. Even A.R.M. Lower's The North American Assault on the Canadian Forest, deals with Nova Scotia in an appended essay by S.A. Saunders. In many ways what did not happen is as important as what did happen and the legislative framework for forest management or lack thereof should not be ignored as marginal or unimportant.

The British, and by extension Nova Scotian, land holding and land use system is based on the feudal system imposed on England by William the Conqueror in 1066. William pre-empted extant Saxon law and decreed from henceforth all real property (land) was owned by the King and only he could grant land. Gradually, freeholds evolved but the Crown continued to hold

all ungranted land including ungranted colonial real property. Even after Canada became a country, most ungranted land remained provincial Crown land.

In 1867, some provincial jurisdiction was transferred to the dominion government, including, inter alia, fisheries, navigable waterways, interprovincial transportation, criminal law and jurisdiction over all water beyond the high water mark. Later, Ottawa assumed jurisdiction over aeronautics and by extension, interprovincial or international air movement. Certain elements of agriculture, such as pesticide regulation, also fell within the federal purview.

The provinces were awarded jurisdiction over land transportation within their borders, including highways, public health and welfare, property and civil rights, and all matters of a purely local or private nature. In environmental management and protection, a complicated regime of federal and provincial legislation grew which at best was cooperative and complementary, and at worst, confused and contradictory. This study, which is focussed on provincial legislative measures, makes only occasional reference to Imperial or federal regulatory schemes.<sup>48</sup>

In law, property is much broader than simply "things" such as land, money, or clothing. "Property" defines a series of complex legal relationships between people and between people and their government concerning the proprietor's rights and responsibilities in the use and enjoyment of her or his

property. If someone has a proprietary interest, then by definition there exists a series of rights of the owner ~~vis a~~ vis that property which must be respected by the rest of society. Property and respect for private property--that is non-interference with an individual's use and enjoyment of his property in any manner he or she sees fit--is central to the common law. Limits on absolute ownership developed in part to avoid conflicts between property owners--as where one owner's use and enjoyment of property conflicted with another's. Other limits, particularly those imposed by legislation, prescribed the incidents of ownership for the general good of the public or to preserve certain Crown prerogatives, such as public rights over land which "...[are] confined to those natural rights vested in the public generally that any member of the public may enjoy".<sup>49</sup>

The first limits on proprietary rights were established by courts but over time some common law public rights over land were replaced by statute. Although some legislation complemented and extended common law doctrine, more frequently it replaced common law. Private property and the near absolute nature of proprietary rights had a significant impact on resource management policy development and legislation in Nova Scotia.<sup>50</sup>

Common law was not a feasible environmental regulatory tool. Riparian rights, strict liability, public and private nuisance, and trespass were inadequate defences to concerted

action by government and industry. The difficulties in effecting environmental management and protection through the courts were legion. Few had the financial resources or time to devote to often-complicated court proceedings. Large corporations with deep pockets could afford the costs in time and money associated with litigation while few private individuals could match the dollars necessary for expensive lawyers and experts. Traditionally, courts were reluctant to "create law" and often considered themselves bound by precedent. Common law judges were reluctant to limit property owners' rights and were often unwilling or considered themselves unable to create "new rights".

Any environmental management and protection, including forest management, by common law can create "checkerboarding". In forest management, most measures require universal application over a broad geographic area and a judicial ruling is only immediately applicable to the parties before the Court. Judicial law making is reactive not active, and thus a court ruling cannot initiate environmental or resource management. While it may prevent further unwise resource use, using courts to stop potentially harmful activity may reinforce "checkerboarding". If adjoining landowners agree on an economically and environmentally exploitive activity, then it will not be stopped by private action. Judicial law making places the burden of policy development and the cost of environmental management and protection on the individual when

those costs may be better borne by the state. Often, judicial inactivity was a jurist's way of telling legislators that the question before the court was one more appropriately dealt with by the legislature. The following chapters concentrate on executive and legislative policy making with less reference to judicial law making. This chapter has provided a brief review of the political and scientific theories of ecology and environment, providing an overview of the context in which environmental policy-making was conducted.

CHAPTER I

ENDNOTES

1. Norster, Nature's Economy, 7-35 passim.
2. Carl Berger, Science, God and Nature in Victorian Canada (Toronto: University of Toronto Press, 1983), 34-35, 45; Bramwell, Ecology in the 20th Century, 46.
3. For detailed discussion of Darwin and the effect of Darwin on the academic community see David Kohn, ed., The Darwinian Heritage (Princeton: Princeton University Press, 1985).
4. John Barker, The Superhistorians (New York: Charles Scribner's Sons, 1982), 92.
5. Bramwell, Ecology, 48.
6. Berger, Science, God and Nature, 61, 63.
7. A.B. McKillop, A Disciplined Intelligence (Montreal: McGill Queens University Press, 1979), 59-169 passim; S.E.D. Shortt, The Search for an Ideal (Toronto: University of Toronto Press, 1976), 31-32, 96.
8. Marjory Whitelaw, Thomas McCulloch His Life and Times (Halifax: Nova Scotia Museum, 1985), 3, 5, 7, 8, 31-33; McKillop, A Disciplined Intelligence, 44; Berger, Science, God and Nature, 11-12.
9. Harry Piers, "Titus Smith, "The Dutch Village Philosopher", Pioneer Naturalist of Nova Scotia, 1768-1850" (Halifax: Nova Scotia Institute of Science, 1938), 4, 6, 7-8, 10-11, 13, 14.
10. Charles Hallock, "Andrew Downs, F.R.S. Zoologist", Field and Stream, 52, no. 10 (2, September, 1889), 184; Hallock, "The First American Zoo", Nature, 1, no. 1 (1889), 150-151; Harry Piers, "Sketch of the Life of Andrew Downs. Founder of the First Zoological Garden in America", Proceedings and Transactions of the Nova Scotia Institute of Science, X, no. 4 (1901-1902), cii-cv; Belcher's Farmers Almanac, 1842, 1871, 1879.
11. n.s., "John Matthew Jones", Proceedings and Transactions of the Nova Scotia Institute of Science, X, no. 3 (1900-01), LXXX; Belcher's Farmers Almanac, 1864, 1869; Piers, "Titus Smith...", 19.

12. Berger, Science, God and Nature..., 5, 11, 15, 17; Journals and Proceedings of the House of Assembly of Nova Scotia, 1915, Appendix, No. 24, 7; Robert R. McLeod, Markland or Nova Scotia Its History, Natural Resources and Native Beauties (Halifax: Markland Publishing, 1903).
13. Barbara Robertson, Sawpower (Halifax: Nimbus Publishing, 1986), 148, Allan C. Dunlop, "The Pictou Literature and Scientific Society", Nova Scotia Historical Quarterly, 3, no. 2 (June, 1973), 99; Belcher's Farmer's Almanac, 1839, 1842-1847, 1865.
14. Constitution of the Provincial Association for the protection of the Inland Fisheries and Game of the Province of Nova Scotia, 1853, art. V.
15. The Annual Reports are 1876, 1880, 1881, 1898, 1900, 1904, 1906, 1907; Annual Report of the Game and Inland Fishery Protection Society of Nova Scotia, 1906, 4; Journals and Proceedings..., 1909, App. No. 24, 3; An Act to incorporate the Nova Scotia Game Society, S.N.S. 1912, c. 221.
16. An Act to incorporate the St. Lawrence Angling Club, Limited, 53 Vic., c. 159 (1890); An Act to incorporate the Petite Riviere Salmon Club Limited, S.N.S. 1903, c. 286; An Act to incorporate the Amherst Gun Club, S.N.S. 1913, c. 191; An Act to incorporate the Sydney Gun Club, S.N.S. 1914, c. 161.
17. Nicholson, The New Environmental Age, 25, 27, 29 30; Williams, Americans and Their Forests, 393 424.
18. Williams, Americans and Their Forests, 368-373.
19. An Act to Incorporate The Nova Scotia Guides' Association, S.N.S. 1920, c. 198
20. An Act to Incorporate the Nova Scotia Fish and Game Protective Association and County of District Fish and Game Association, S.N.S. 1930, c. 48.
21. Johnson, Forests of Nova Scotia, 175-176.
22. Johnson, Forests of Nova Scotia, 177; Shirley Elliott, ed., The Legislative Assembly of Nova Scotia 1758-1983 Rev. (Halifax: Government Services, 1984), 10; Journals and Proceedings, various; Thomas R. Roach and Richard Judd, "A Man for All Seasons: Frank John Dixie Barnjum, Conservationist, Pulpwood Embargoist and Speculator!" Acadiensis, 20, no. 2 (Spring, 1991), 141-142.
23. Rifkin, Algeny, 3.



24. Susan Holtz, personal interview, 19, January, 1991, Rachel Carson, Silent Spring (London: Hamish Hamilton, 1962), 106-110.
25. Bramwell, Ecology in the 20th Century, 211-215, 219-230.
26. n.a., "Sustainable Development National Report: "Awareness Raising and Public Participation" (Ottawa: Environment Canada, Sustainable Development Branch, 1983), 3.
27. Jim Harrison, "Perspectives on Sustainable Development", Building Partnerships for Environmentally Sound Development in Nova Scotia Conference Proceedings (Halifax: Department of Environment, 1990) 25-26.
28. The Task Force, led by the Hon. Gerald Lecuyer, Manitoba Minister of the Environment, and Roy Aitken, Executive Vice President, INCO Ltd., reported 24, September, 1987; National Round Table on the Environment and the Economy, Annual Report, 1990, 6; Nova Scotia Round Table on Environment and Economy, Annual Report, 1990, 3.
29. An Act to Prevent waste and Destruction of Pine or other Timber Trees on certain reserved and ungranted Lands in This Province, 14 Geo. 3, c. 229 (1774).
30. Of Commissioners of Sewers 10 Geo. 3, c. 186 (1770).
31. Beakhurst, "Political Ecology", 21, 22, 24.
32. Of the Preservation of Useful Birds and Animals, R.S.N.S. 1851, c. 14, s. 1.
33. Ibid., s. 5.
34. An Act to prevent the destruction of the smaller kinds of Birds, 24 Vic., c. 35, s. 3 (1861).
35. "The Water Act, 1919", S.N.S. 1919, c. 5.
36. Beamish Murdoch, "An Essay On the Origins and Sources of the Law of Nova Scotia" (Halifax: n.p., 1863), 1.
37. Thomas G. Barnes, "As Near as May be Agreeable to the Laws of this Kingdom: Legal Birthright and Legal Baggage at Chebucto, 1749", Peter Waite et al., ed.s, Law in a Colonial Society: The Nova Scotia Experience (Toronto: Carswell, 1984), 1; Murdoch "An Essay", 2; Anger and Honsberger Real Property (2d Vol. 1, 63.
38. Barnes, "As Near as May be Agreeable", 6, 19.

39. The study of Nova Scotian government and of the often fractious relationship between the elected House of Assembly and the appointed Legislative Council is beyond the focus of this study. (The appointed upper chamber was not abolished until 1928, although it had virtually no authority for a number of years.) For a more detailed analysis of Nova Scotia politics, see J.M. Beck, Politics in Nova Scotia 2 vols. (Tantallon: Four East Publications, 1985). Barnes, "As Near as May be Agreeable", 6; Murdoch, "An Essay", 3-4; Beck, Politics of Nova Scotia, Vol. 1, 24-25.
40. Beck, Politics of Nova Scotia, Vol. 1, 108.
41. Colin Howell, "W.S. Fielding and the Repeal Election of 1886 and 1887 in Nova Scotia", Acadiensis 8, no. 2, (Spring, 1979) repr. P.A. Buckner and David Frank, ed.s, Atlantic Canada After Confederation The Acadiensis Reader: Volume Two 2nd ed. (Fredericton: Acadiensis Press, 1988), 87.
42. Rosemarie Langhout, "Developing Nova Scotia: Railways and Public Accounts, 1849-1867", Acadiensis 14, no. 2 (Spring, 1985) repr. P.A. Buckner and D. Frank ed.s, Atlantic Canada Before Confederation The Acadiensis Reader: Volume One 2nd. ed. (Fredericton Acadiensis Press, 1990), 295; Beck, Politics of Nova Scotia, 206-208; J.M. Beck, Joseph Howe The Briton Becomes Canadian 1848-1873, vol. 2 (Montreal: McGill-Queens University Press, 1983), 35-42, 45-50; T.W. Acheson, "The National Policy and the Industrialization of the Maritimes, 1880-1910", Acadiensis 1, no. 2 (Spring, 1972) repr. in Buckner and Frank, ed. s, The Acadiensis Reader: Volume Two, 174-175.
43. Beck, Politics in Nova Scotia, vol. 1, 190.
44. Beck, Politics in Nova Scotia, vol. 1, 193-194.
45. L. Anders Sandberg, "Forest Policy in Nova Scotia: The Big Lease, Cape Breton Island, 1899-1960", Acadiensis 20, no. 2 (Spring, 1991) 110-111; Williams Americans, 279-280; W.S. McNutt, New Brunswick A History: 1784-1867 (Toronto: Macmillan of Canada, 1963), 204-208.
46. Acheson, "The National Policy and the Industrialization...", passim; for a discussion of shipping and ship building decline in one area of Nova Scotia, see David Alexander and Gerry Panting, "The Mercantile Fleet its Owners: Yarmouth, Nova Scotia, 1840-1889", Acadiensis, 8, no. 1 (Autumn, 1978) repr. Buckner and Frank, ed.s, The Acadiensis Reader: Volume Two, 150; Williams, Americans..., 269-270.

47. David Alexander, "Economic growth in the Atlantic Region, 1880 to 1940", Acadiensis 8, no. 1 (Autumn, 1978), repr. in Buckner and Frank ed.s, ...The Acadiensis Reader: Volume Two, 150.
48. The original division of powers was established in the British North America Act now Canada Act, 1982, c. 11 (U.K.).
49. Peter Darby, et al., Property I Casebook (Halifax: Dalhousie University, 1983), 1; Anger and Honsberger Real Property 2nd. ed., Vol. 1 (Aurora: Canada Law Book, 1985), 988, 988-1006.
50. Paul Emond, "A Critical Evaluation of the Environmental Protection Laws in the Maritime Provinces (And More Particularly the Nova Scotia Environmental Protection Act)", P.S. Elder ed., Environmental Management and Public Participation (Toronto: Canadian Environmental Law Research Foundation, 1976), 259.

## CHAPTER II

### CROWN LANDS AND CUTTING PRACTICES

This chapter will explore the history of the administration of Crown lands, waterways, exports, and tree preservation. It will demonstrate how a series of consistently short-sighted legislative measures contributed to the general forest malaise still afflicting Nova Scotian forests.

The first Nova Scotian forest protection legislation was An Act to prevent waste and Destruction of Pine or Timber Trees, on certain reserved and ungranted lands in the Province, 14-15 Geo. 3, c. 3 (1774), which preserved pine and other trees suitable as masts for the Imperial Navy. Anyone convicted of taking or cutting reserved trees was liable to a fine of up to one hundred pounds or six months imprisonment. An arson conviction was a felony conviction. These severe penalties indicate the constant and pressing need for Naval timbers. Although the Act exempted firewood collection and wood used in the fishery, it was not broad enough and in 1775 the Act was amended to permit Cape Breton fishermen to cut and use all wood necessary for fuel and the fishery.<sup>1</sup>

From its inception, Crown land policy promoted small agricultural settlements over silviculture or forest preservation. Unlike other Canadian provinces, Nova Scotia retained comparatively little Crown land. Seventy percent of productive forest land currently is in private hands: far

more than the national average of six percent. A.R.M. Lower blamed Crown lands alienation for terrible consequences:

...the forests of the province have been mercilessly exploited, in great part by innumerable small owners whose methods and foresight have left much to be desired...Nova Scotia's forest history, consequently, has been a rather sad and small story without the wide sweep of development that has marked most of Canada or even New Brunswick.<sup>2</sup>

For many years both the Imperial Parliament and the Nova Scotian government sought to alienate land for settlement and agriculture. From 1759 to 1800, 1.2 to 1.5 million acres were granted per annum in Nova Scotia (which until 1784 included contemporary New Brunswick). Crown lands were conveyed for no consideration until 1827 when Earl Bathurst, Colonial Secretary, introduced sale by public auction as the chief means of conveying Crown lands throughout British North America. However, lots up to 200 acres could still be occupied on a quit rent equal to five percent of the land's estimated value or of its purchase price. Thus, land could be purchased outright or rented on terms very similar to a free grant.<sup>3</sup>

Four years later, in March of 1831, Lord Goderich, now occupying the Colonial Office, reformulated Imperial policy to stipulate that all Crown land conveyances in British North America were to be by public auction. Quit rents were abolished. The Colonial Office desired both to emulate the successful American land granting system and to implement

Edward Gibbon Wakefield's schemes to transplant English hierarchical society to the colonies. Wakefield's vision involved transporting unemployed British labourers to the colonies, thus alleviating Britain's unemployment difficulties and populating the colonies with immigrants who, in time, would become landowners. But Wakefield and his Colonial Office supporters did not wish British immigrants to become landowners too quickly and in 1832 a minimum upset price of 2s. 1d. per acre was set. This amount was criticized bitterly by colonists as too steep and too restrictive. From 1831-1848 the two primary objectives of Imperial colonial land policy were to foster settlement and to increase Crown revenues. In the first six years after public auctions were implemented as the sole means of conveyancing Crown land, 116,824 acres were sold off in Nova Scotia, 694,180 in New Brunswick, 371,075 in Lower Canada and 95,775 in Upper Canada.<sup>4</sup>

Not all immigrants were willing to spend a period as waged labourers in the colonies before purchasing their own land. Compared to home, there was so much land and so little enforcement. Many ignored the requirement of obtaining title to land and simply squatted on and began to clear uninhabited land. By 1840, the colonial government was forced to pass an Act to establish sundry Regulations for the future disposal of Crown Lands within the Province of Nova Scotia, 3 Vic., c. 12, acknowledging that settlers had entered onto and cleared Crown

lands, and built homes, Land Boards were necessary in each county to deal with all title applications for ungranted Crown land on which applicants had settled.<sup>5</sup> Upon payment of the amount set by the Land Boards, title to the properties would be perfected. The Land Boards were also empowered to fix the price of unimproved land, provided that the upset price was no less than 1s. per acre. In keeping with Lord Goderich's policy, lots were sold to the highest bidder at public auction. In addition, the Boards were:

to transmit from time to time, to the Lieutenant-Governor, or Commander in Chief for the time being, all such information, applications and reports, as to the value and price of ungranted lands, accompanied with such remarks, as in their judgment will tend to facilitate the acquiring of title by bona fide and actual occupants as aforesaid, and the settlement and improvement of such portions of Land as are fit for cultivation, and the sale for the best price of Timber Lands within each County respectively...(s. 1)

Promoting agricultural settlement and homesteading was an ill-conceived strategy for Nova Scotia, since most of the province was poorly suited to agriculture. Only the Triassic areas of the Annapolis Valley and Cobequid region were especially arable. Much of the rest of the province was poorly drained, with poor soil, and had an uncertain growing season.

The Crown Lands Board legislation was renewed and amended in 1843 when the sale by public auction was replaced by sale at fixed price.<sup>6</sup> The Lieutenant Governor, on the advice of Council, was empowered to set the price of ungranted,

unimproved land, provided the upset price remained no less than 1s. per acre. The Lieutenant Governor also approved individual property sales. (s. II) Purchasers were entitled to a grant in fee simple--but only after the land had been surveyed and the survey plan and surveyor's report returned to the Surveyor General's Office. (s. II) Section III of the Act empowered the Lieutenant Governor to reserve to the Crown on any conveyance "...the Land or the Timber or Wood thereof, or any Quarries or Mines thereon, or other benefit or enjoyment to be derived therefrom...". This provision was little used and the government continued for some years to alienate Crown lands to homesteaders and to forestry and lumber operations without timber reservations.<sup>7</sup>

Not all the British North American colonies alienated Crown lands for forestry as well as homesteading. In British Columbia, the 1865 Land Ordinance estopped the conveyance of Crown land for lumbering, substituting licenses, leases and cutting agreements for transfers in fee simple. New Brunswick, with forestry cover similar to Nova Scotia's, retained far more control over its timber resources--albeit more for revenue than for conservation. British Columbia policy makers were preoccupied by the belief that the "public interest was best served by continued Crown maintenance of fee simple ownership and the provision of limited cutting rights to private interests" and those in New Brunswick were



preoccupied with the notion that the public purse was best served by continuing Crown control over forests.<sup>8</sup>

When the disposal of Crown lands statute was again renewed in 1846, the Act was further amended to forbid Land Boards from conveying water lots without the Lieutenant Governor's permission.<sup>9</sup> One year later, the Act was again amended,<sup>10</sup> this time to lower the price per acre to homesteaders from 1s. 9d. per acre to 1s. per acre. (s.1) Many settlers found the previous price too expensive and, as the preamble asserted, a lower price "...would promote the settlement and improvement of the Country, by the native youth of the Province as well as assist and encourage the immigration". Anyone purchasing in excess of 200 acres was still required to meet the upset price of 1s. 9d. The Surveyor General and Commissioner of Crown Lands for Cape Breton were merged with the respective mainland officers in the same year.<sup>11</sup>

In 1851, the scattered pieces of Crown Lands legislation were consolidated into one piece of legislation, Of the Crown Lands Act,<sup>12</sup> and the offices of Surveyor General and Commissioner of Crown Lands were consolidated into one position.<sup>13</sup> In a somewhat surprising display of legislative indecision, the 1851 Act was almost immediately repealed and replaced by an Act relative to the Crown Lands Department.<sup>14</sup> The Act imposed new duties on the Commissioner including

surveying all Crown land within ten miles of each side on any railway line and laying off lots of 100 acres along the lines. Where railway stations were proposed, lots appropriate for a town were to be laid off. (s. 11)

The Commissioner was also charged with preparing plans of all land already surveyed, designating and showing all railways, roads and the price of all lots. (s. 11) These plans were to be sent to emigration agents in Great Britain and the Commissioner was to assist the agents in promoting land sales in Nova Scotia. (s. 11) He was to collect and assess the labour needs predictions prepared annually by deputy surveyors who assessed the number of tradesmen, mechanics, labourers, and apprentices needed throughout the province. (s. 11) Finally, the Commissioner and the deputies were designated legal guardians of any minor landed in the province with the sanction and at the expense of the government. (s. IV) As legal guardians, they were authorized to bind the minors into indentured service until they reached twenty-one. The Crown Lands Commissioner could also sell or lease Crown lands including sale or lease of timber, quarry, or mineral rights and was especially empowered to sell Crown land to any British subjects who wished to form an association to build a Halifax to Quebec Railway.<sup>15</sup>

The immigration officer and Official Guardian duties imposed on the Commissioner of Crown Lands underlined his role

as chief promoter of forest exploitation, not of conservation or preservation. Crown land was not viewed as a public trust held by the government and managed for the benefit of all present or future Nova Scotians. Rather, government was perceived as promoter of private property and economic growth. Economic growth was to be fostered through population growth and greater agricultural production for export and internal consumption. This, in turn, would increase demand for services and goods, and foster greater secondary production. Crown land alienation for agriculture meant new farms providing fuel for the engine of growth.

The 1851 legislation rationalized Crown land surveying and administration. The Land Boards were abolished and Cabinet was charged with setting both the price for, and the manner of acquisition of Crown land. (s. 7) Deputy surveyors administered the land conveyances on the local level. The Lieutenant Governor was still empowered to reserve timber and mineral rights (s. 10) but this provision, like its predecessor, was little used.

In the 1859 revision,<sup>16</sup> deputy surveyors were directed to map railway routes and the lots on these routes and forward the completed maps to overseas emigration agents. (s. 2) In addition, the deputies were to map all land requested by homesteaders (s. 6) and, under the Of Trespasses to the Crown Act,<sup>17</sup> the Commissioner of Crown Lands and deputies were

charged with protecting Crown lands from trespassers cutting timber without permission. By 1864, the Commissioner was finally relieved of immigrant and minor apprentice overseer duties but Crown land policy continued to promote agricultural settlement.<sup>18</sup> To prevent land speculation, grants were limited to 500 acres and any larger conveyance required cabinet approval. (s. 16)

Seven years later, the government pushed its land alienation strategy to its furthest limit by re-instituting grants of free land to homesteaders.<sup>19</sup> Individual conveyances were limited to a maximum of 100 acres. Unlike the adverse possessors of thirty years before, the post 1871 settler was only required to clear and plant the land. There was no consideration for title. (ss. 3,6) Previous attempts to attract new settlers had been largely unsuccessful and the free land gambit was intended to bring settlers flocking to the province. While the small grants (100 acres or less) set out in the 1871 Homestead Act, were unlikely to promote large scale lumbering operations such as those in New Brunswick, they did exemplify the land-holding pattern which was to have repercussions for forestry for over a century. In the same year, "Of the Crown Lands" Act was amended (34 Vic., c. 9) to permit lumberers to lease a maximum of two square miles at forty-four cents per acre for ten years. (ss. 3,10) This rather sensible provision to lease rather than sell Crown land

was replaced in 1872 by legislation permitting the sale of up to two thousand acres for lumbering at a price of sixty cents per acre (35 Vic., c. 4, ss. 2,3). Anyone leasing land under the 1871 statute was allowed to buy that land at forty-four cents per acre (s. 10).

None of the restrictions forestalled the lumber barons. Agricultural land was purchased through nominees, and lumber land through dummy corporations. To prevent these subterfuges, the 1871 amendments required all applicants for agricultural land grants to swear an affidavit that the land in question would be used solely for agricultural purposes. (s.5) Even the Crown Lands Office became suspicious about the number of applicants for "agricultural" land in Nova Scotia. Years later, an audit of the "Encouragement of Settlement on Farm Lands Act", S.N.S. 1912, c. 10, revealed that the government repurchased after 1912 and resold to farmers was again abandoned, without exception, by 1925. The government lost \$118,118.25 on the programme including \$7,738.99 on loan guarantees to Eastern Canada Savings and Loan Co. and \$36,044.22 on overdue mortgage payments brought current by the government to avoid foreclosure on the farms in question.<sup>20</sup>

Although the Free Grants and Homesteads Act, supra, was repealed in 1877 (40 Vic., c. 16), land sales for lumbering and settlement continued. In 1879, Cabinet was authorized to

grant land which was "waste, unproductive or covered with water" provided the applicant was prepared to pay the cost of survey and to "...expend money and labour in the draining, dyking and improvement of the same..."<sup>21</sup> Eight years later, still desperate for settlement, and in recognition of increasing emigration, government agreed to accept less than the legislatively mandated \$40 per 100 acres where the settler was prepared to pay part of the cost of land in labour on roads leading to or passing through the homesteader's settlement.<sup>22</sup> As late as 1901, when the first serious timber leasing legislation was finally passed, agricultural quality land ("land suitable for farming") up to 200 acres could be exempted from timber leases for farming purposes.<sup>23</sup>

This settlement-oriented Crown land divestment strategy had continuing repercussions. As A.R.M. Lower lamented, even if the land alienation strategy had encouraged a few big land holders rather than myriad small land holdings, then it might have been possible to create and implement a comprehensive land use and resource management strategy. Currently about seventy-three percent of forest land is in private hands, held by circa 30,000 individuals in parcels averaging less than 200 acres. Over fifty two percent of privately held land is in 200 acre or less lots with a median lot size of 100 acres. Goderich's Crown land divestment scheme was partially successful, for Nova Scotia's land ownership more closely

resembles New England's than the rest of Canada's. As so much land was privately held, however, the government's ability to manage the forest effectively was forestalled.<sup>24</sup>

Most attempts to impose some discipline on unrestrained cutting were half hearted. In 1834, the Council and Assembly forbade the cutting or injuring of trees or underbrush "growing between the Road leading round the Bedford Basin and the water on said Basin at any place on the Eastern side of said Road".<sup>25</sup> Even in 1834 the Legislature could recognize the effects of erosion, although one suspects that had erosion occurred any where but on the main road between Halifax and Bedford, it would have escaped legislative notice.

This measure was not extended nor was more comprehensive erosion legislation passed, but in 1864 legislation was finally passed forbidding trespass on Crown lands.<sup>26</sup> The Act provided that no one could enter Crown lands to cut, remove or destroy trees without a license from the Crown. Two years later the Act was given some teeth when the Commissioner or his designate was authorized to seize illegally cut logs and dispose of them, thus depriving the trespasser of revenue.<sup>27</sup> This, it was hoped, would stop large-scale illegal cutting on Crown land. Although the legislation was passed to protect governmental revenues, not prevent forest devastation, effective enforcement could have forestalled the loss of large forest tracts. Unfortunately forest protection was not a

priority and the government was not prepared to pay for adequate enforcement.

Finally, in 1899, after years of fruitless attempts to increase agricultural land use, legislation promoting leasing rather than sale of timber lands was enacted.<sup>28</sup> Twenty year timber leases, with provision for a twenty year extension, were mandated. (s. 1) Leases were to be awarded at forty cents per acre but if there were competing bids for the same piece of property, then the lease would be awarded to the highest bidder at public auction. (s. 2) The government had finally recognized that earlier conveyances had provided cheap timber land to sawmillers and pulp and paper companies rather than fostering continued agricultural expansion. And, by alienating those lands at very low prices, the provincial coffers had been denied substantial contributions.

This 1899 legislation, after lumbering had been carried on since the 1600's, enacted the first conservation measure limiting lessees to timber in excess of ten inches in diameter. Anything less could not be cut except in areas where timber was generally of a smaller diameter (s. 4) thus protecting immature trees and ensuring in future there would still be trees to cut.<sup>29</sup>

A lease could include the right to erect dams, sluices and other mechanisms for floating timber on streams in the leased land. (s. 6) The Governor in Council could repurchase,



for no more than twenty five cents per acre, any land previously granted for lumbering. (s. 7) (The government continued sporadically to repurchase Crown land into the present although this particular provision was replaced in 1910).<sup>30</sup>

Leasing did not entirely replace fee simple conveyances of Crown timber land and provisions for both leases and sales co-existed in the 1900 revision of the Crown Lands legislation.<sup>31</sup> Almost as an afterthought, "The Crown Lands Act", was amended in 1901 to provide that agricultural lots within the metes and bounds description of land under lumber lease could be conveyed in fee simple to bona fide purchasers for value without the lease encumbering the land. The government would refund to the lessee that amount paid for land now unavailable to the lessee.<sup>32</sup>

As late as 1952 it was still argued by some that much of the vacant land in the province could be settled or resettled for agriculture. G.H. Wilson, Progressive Conservative member for Hants West, argued that "formerly cultivated land" could be successfully brought back into production. Flying in the face of geography, Wilson argued that many farms abandoned thirty years before were deserted because the individual farms were often located far from urban centers and thus these farms were "marginal" not because the land itself was "marginal" but because of geographical location. With rural electrification,

telephones and better roads, in some cases those farms would no longer be "marginal" and could be resettled. In fact, many of the pioneer farms of Nova Scotia were "marginal" because the soil was marginal. The most suitable agricultural soil areas, the Annapolis Valley and the Wentworth/Colchester region, were long settled with little room for further agricultural development. Most of the rest of the province was suitable only for forestry.<sup>33</sup>

The Crown Lands Acts consolidation of 1910, enacted the first absolute prohibition against fee simple conveyances of Crown timber lands (s. 15) and empowered Cabinet, on the Attorney General's recommendation, to reserve and set aside Crown lands for the:

maintenance and preservation of the forests, for the planting and cultivation of trees, for protecting and regulating the flow of water within the lands so reserved and set apart, and for the developing of water power to be derived therefrom, and for the protection and preservation of game.  
(s. 16)

This first comprehensive forest management and conservation statute aptly demonstrated the difficulties experienced in drafting all protection and management legislation: it could only apply to Crown lands, which were by now a very small part of the total land mass. However, it was the first legislative attempt to deal comprehensively with Nova Scotia's forest resources. Even when conservation measures were authorized, however, the endorsement of conservation and preservation was

equivocal. Conservation was mixed with a commitment to resource exploitation and the enhancement of economic growth even though the government was warned that forests were being consumed and wasted far too quickly and irresponsibly to provide for prolonged or sustained forestry.<sup>34</sup>

In addition to provisions permitting repurchase of Crown land (s. 84), the Act provided that the Crown could expropriate barren land exhausted by man or natural causes to re-seed and cultivate trees. (ss. 18,19) The Commissioner of Crown Land was authorized to sell or lease small lots of Crown land encircled by private holdings and farmers and fishermen could be issued permits to cut and take dead, down or mature timber for building, boats, charcoal or other necessary and ancillary purposes to farming and fishing. (ss. 29-30)

More significantly, timberland leases were restricted to lands "...upon which the trees are chiefly spruce or fir, and are scattered and of indifferent or scrubby growth...", and to hardwood stands where the lessee undertook to construct and operate a sawmill or pulp mill. (s. 34(2)) On all other properties, timber leases were replaced by timber licenses. Whereas a lease is a grant of real property, a license is a personal right. Typically, a lessee is granted exclusive possession of the property under lease and unless the lease reserves certain rights to the grantor, the lessee has all the rights, privileges and appurtenances of the owner for the

duration of the lease. A lessee may assign his interest to another party while a licensee may not.

A license, in contrast, is not a property right. In effect, a license is a grant of permission by one person to another to engage in conduct which otherwise would not be permitted or would be unlawful. Timber licenses permitted cutting on Crown land and were granted at the discretion of the Commissioner. Licenses were limited to two years, with multiple one year renewals. (ss. 42-58) The Commissioner could also sell standing timber on Crown land by public auction. (s. 59) Licenses and standing timber sales provided greater provincial revenue for the provincial Crown and far more Crown control over the remaining provincial forests. The ban on Crown land conveyances (except for agricultural settlement (s. 26)) together with the replacement of leases with licenses was the first concerted attempt to strengthen Crown control over renewable resources.<sup>35</sup>

Finally, the Governor in Council, was empowered to:

...prohibit the export to foreign countries of pulp-wood or timber or wood cut or removed from lands belonging to or held under lease or license from the Crown, to be used in the manufacture of pulp or pulp products. (s. 84)

Although designed to expand Nova Scotia's secondary manufacturing capacity and increase provincial employment, this provision effectively prevented wholesale cutting as

prohibiting raw wood export slowed down cutting rates on Crown land, although not on private property.

The first significant restructuring of forest management was contained in the 1926 "The Lands and Forests Act".<sup>36</sup> The Commissioner of Crown Lands became the Minister of Lands and Forests. (s. 3) A newly created civil service position, that of Chief Forester, was charged with administering Crown lands, fire protection duties as well as those of Chief Scaler, Chief Provincial Surveyor, forest and game conservation, and responsibility for reforestation and "scientific forestry". (s. 4(2)) For the first time fire protection, wildlife management and Crown lands policies were brought together and co-ordinated. The Minister of Lands and Forests would oversee the management, lease, sale and other disposition of Crown lands, conservation and protection of all forest lands, (whether Crown or privately owned), and the survey and recording of all forest and wild lands in the province. (ss. 3(a), (b), (c)).

Otto Schierbeck, appointed first Chief Forester, had previously been awarded the \$5,000.00 first prize for his spruce budworm essay in a forestry essays contest sponsored by Barnjum. Schierbeck, at the time of taking up the provincial appointment, was employed as a forester in Quebec, and was a technocrat, believing strongly that technology and science answered all forestry questions. Whatever his inspiration,

Schierbeck's commitment to improving Nova Scotia's forests was unquestionable. He saw the forest as a renewable resource, to be subjected to truly "scientific management":

Nowhere in Canada today has there been anything done towards treating the forest as a crop. We are still mining our forests without any thought of the future...everybody agrees that forestry is necessary, and that the proper treatment of our forests should be undertaken at once, but everybody, although agreeing in the abstract, passes the buck when it comes to putting the theories into practice.<sup>37</sup>

As Chief Forester he implemented a tree planting program by which twenty-two Boy Scout troops planted 122,000 conifers in 1926, rising to 300,000 trees by 1928. (By 1989, thirty million trees would be planted.) In 1932, one year before he would be dismissed by a newly-elected Liberal government, Schierbeck gloomily predicted that, based on a calculation of continued current wood consumption, Nova Scotian forests would be exhausted by 1953. To counter this anticipated disaster, Schierbeck established the first provincial forest nursery at Lawrencetown, Annapolis County, which provided nursery stock, free of charge, for reforestation and to municipalities to beautify parks and public places. The nursery seedlings were provided at no cost by Barnjum, as part of his ceaseless campaign to improve Canadian forests.<sup>38</sup>

Schierbeck worked hard at upgrading employee quality in the forestry and fish and game services, but he paid the price

both of his enthusiasm and of a perceived alliance with the Rhodes Conservatives. His mentor, Barnjum, had run for the Conservatives in 1926. True to the ideals of partisan politics, Schierbeck and most of his professional foresters were dismissed by the new Liberal administration after Rhodes's defeat in 1933.

Fortunately, concern about exploitive cutting practices did not end upon Schierbeck's dismissal, and the 1935 Crown Lands Act consolidation retained provisions banning Crown land conveyances, encouraging reforestation, and authorizing expropriation for reforesting of land exhausted by forestry, fire or other reasons.<sup>39</sup> By 1937, as a result of overcutting, a ban on cutting on Crown lands was instituted, and remained in effect until well into the Second World War. A witness before the 1944 Economic Rehabilitation Royal Commission indicated a belief, "...based on clearest evidence obtained from years of intimate contact with the forest industry of Nova Scotia, that the forest resources of this province have been recklessly and wastefully exploited." The Royal Commission observed that the "many wasted acres" in the province were stark testimony to "...the folly of placing too much reliance on any laissez faire policy". It was Commission's opinion that only the State had sufficient resources and "...sufficient power to compel the sacrifice of private to public interests"; in other words, the resources to

implement a comprehensive conservation strategy. This may be the first expression in Nova Scotia that the environment constitutes a kind of public trust, imposing on the State the duty to manage and use resources in trust for the public, both current and future generations and to further place on private property, as well as Crown property, the obligation to use natural resources not only for private gain but also in a manner mindful of the common weal.<sup>40</sup>

The 1944 Royal Commission was particularly concerned to preserve immature trees and urged continued aggressive reforestation, citing a 1939 Department of Lands and Forests Report which concluded that over half the trees being cut annually in Nova Scotia were immature, requiring another ten years' growth before cutting. Continued over-harvesting, the Commission stated, would have six disastrous results:

- (i) a large part of the current timber industry would pass from the province;
- (ii) a great number of Nova Scotian residents would thus lose an important source of income;
- (iii) a marked decline in fish and game in the province;
- (iv) an increase in flooding and wind severity;



- (v) a lessening of agricultural productivity; and
- (vi) a disappearance of natural beauty.<sup>41</sup>

The 1942 Small Tree Conservation Act (still unproclaimed in 1944) was discussed in detail by the Commission. The tangled history of immature tree conservation and protection legislation in the province illustrates the conflicting demands on Nova Scotia forests of economic exploitation and growth on the one hand and conservation and long term management on the other. In 1938, "The Lands and Forests Act 1935", S.N.S. 1935, c. 4 was amended<sup>42</sup> to prohibit cutting on Crown land of timber of a lesser diameter than that specified in the license or lease. (s. 1, being in part the re-en. s. 68) The new s. 69 provided that the Minister, whether or not a prosecution was brought, could by notice in writing to the lessee or licensee forthwith terminate absolutely the lease or license in question if the cutting restrictions were breached.

While enhancing the Crown's ability to protect immature trees on Crown lands, the provision did nothing to prevent the small woodlot owners or forestry companies from clear cutting their respective properties regardless of the size of the trees. The Small Tree Conservation Act, S.N.S. 1942, c. 6, was designed to correct that problem. It defined small trees as hemlock, pine, or spruce trees of less than ten inches in

diameter at a point between one and two feet from ground (s. 2(1)) and forbade cutting any tree that fell within the definition. It applied only to landholdings in excess of 1000 acres, however, which represented only forty percent of the private landholdings at that time. While assented to, the Act was never proclaimed. As the War continued, with its insatiable demand for raw materials, proclamation was continually delayed.<sup>43</sup>

In 1946, the government responded to various entreaties including those of the Royal Commission, and passed a new Small Tree Conservation Act<sup>44</sup> which removed the 1000 acre qualification, replacing it with a provision that small trees (same definition as in 1942) could be cut only under Crown license on any operation producing 100,000 board feet per annum. (s. 2(2)) Amended in 1950 and again in 1952, the Act was extended to any operation producing a minimum of 50,000 board feet or 100 cords per annum or the equivalent of either measure.<sup>45</sup> The Act did not apply to small trees cut in putting in a road or "...for any other purpose necessary to a properly conducted lumbering operation".<sup>46</sup> Although never tested in Court, this was the type of loophole in which defence lawyers delight. The Act did not define "a properly conducted lumbering operation" leaving any definition to the Courts. Enough obfuscation, a sufficient number of expert witnesses, and the Act would be rendered meaningless.

However, the Act was not challenged even though the penalties on conviction ranged from a \$100.00 fine to one year's imprisonment,<sup>47</sup> in part because of less than enthusiastic enforcement by the Department. The Act was thus largely ineffective.<sup>48</sup>

The 1946 Act remained in force until repealed and replaced by the Forest Improvement Act, S.N.S. 1965, c. 7, prepared with the assistance of the Nova Scotia Institute of Forestry and modelled on European legislation. Improved forest management by private landholders through continuing education was emphasized. The government hoped to end harvesting of immature woodlands, foster natural regeneration of "desirable species", and enforce an obligation to plant trees where the natural regeneration proved insufficient. While acknowledging the replanting provisions in the legislation presented to the House were less strict than those recommended by the Forestry Institute (and would not come into force until the expiry of a ten year grace period!) the Minister argued that the Local Forest Practices Improvement Boards established under the Act would encourage "scientific management" because the Boards, composed in part of the small woodlot owners, "...would have a deep interest--a selfish interest if you like in maintaining and improving forest reconditioning".<sup>49</sup>

In fifty years forest conservation had traversed from laissez faire (pre 1910) to the attempted imposition of a comprehensive regulatory regime, (the 1910, 1926 and 1946 legislation) and to the 1965 quasi regulation. Comprehensive regulation and management were abandoned in favour of local control by the very actors who were perceived as the source of the difficulties they were now assigned to correct. Such a measure portended poorly for the future of Nova Scotia's forests.

To exacerbate the situation, the government manipulated the operation of the legislation to render any concept of environmental management and conservation of forestry resources meaningless. As Ralph Johnson, former Chief Forester for Bowater Mersey, noted in a model of understatement: "...the act itself...proved neither popular nor workable in Nova Scotia". The Forest Improvement Act, S.N.S. 1965, c. 7, received Royal Assent 30, March, 1965. Section 1, the definition section, s. 6, designating "forest districts" under the act, s. 7 providing for appointment of Local Boards, s. 8 detailing the Boards' duties, s. 13 regulatory powers, s. 14 punitive provisions, ss. 15 16 prosecutions and appeals, s. 17 establishing the Timber Loan Board, s. 19 the citation section and s. 20 repealing the 1946 Small Tree Conservation Act, and the never proclaimed 1962 Forest Improvement Act, S.N.S. 1962, c. 5, were proclaimed in

force on the 19th of October, 1965, effective 15, October, 1965. On January first, 1966, ss. 2-5 regulating Buyers' Certificates and Licenses were proclaimed in force followed by the proclamation s. 12 dealing with tree cutting near highways and rivers on 1, October, 1966.

But it was not until 16 November 1976 that s. 9 regulating cutting of immature trees, s. 10 requiring commercial operations to comply with cutting practices established by the Local Boards, s. 11 stipulating that all wood, including tops, stumps, etc., was to be harvested and s. 18 setting assessment procedures on reforested lands were proclaimed in force, effective 8 December 1976--eleven years after the repeal of the Small Tree Conservation Act. For eleven years there was no regulation of small tree cutting practices. During the eleven year hiatus, neither the small woodlot owners nor the large forestry companies voluntarily complied with responsible cutting measures. Thomas Raddall, in the shamelessly congratulatory company-produced The Mersey Story, intimates that Mersey and later Bowater Mersey were singularly responsible forest harvesters, but Ralph Johnson, who joined Mersey in 1928, and was the company's Chief Forester from 1934 until retirement in 1965, stated that the 1946 Act was ignored by virtually all forest operators save Mersey and a few others who practiced some shelterwood and selection cutting. After the Act's repeal in 1965 Bowater

Mersey, Scott and others reverted to universal clear cutting.<sup>50</sup>

From 1976 until its 1986 repeal, the Forest Improvement Act set standards for felling lumber and pulp wood. Unlike its predecessor, the Act did not set a universal minimum diameter. Rather, on application from a forest operator for permission to harvest, the Local Board was empowered to determine whether or not a stand was immature and to set the terms on which a cut could be conducted. (S. 9(2), (3))

By the early 1980's, it was apparent that the long established Lands and Forests Act was unworkable. Increased clear cutting by the major pulp companies, and budworm infestations, highlighted the lack of workable conservation measures or protection and resource management measures. The 1984 Royal Commission on Forestry that recommended the government adopt a conservation policy and initiate a reforestation and forest improvement programme with a \$20 million initial annual expenditure, to be spent on scheduling, allocation, and marketing of forest products and silviculture and protection activities. In addition, the Commission recommended the quality of saw logs be improved, low grade biomass recapture improve and that protection be improved by new species development and budworm eradication. Good forestry, the Commission declared, required "...biological

responsibility and an understanding of the business realities and social and political processes involved".<sup>51</sup>

The conservancy policy recommended by the Commission belied its name. For the Commissioners, a conservancy strategy would lead to a substantial increase in the annual allowable cut of soft and hard wood. Softwood production, the Commission declared, would rise from 1.5 million cords to 1.8 million cords and hardwood production would rise from 600,000 cords to 900,000 cords. Employment in the woods, in indirect and direct industries would increase by 10,000 person hours. The strategy was not about conservation but about increasing exploitation.<sup>52</sup>

In response to the Royal Commission, the provincial government developed a new Lands and Forests policy and legislative package, part of which was the Forest Enhancement Act, S.N.S. 1986, c. 9, now R.S.N.S. 1989, c. 178. The Act's six objectives ranged from promoting wildlife and recreational uses of the forest to doubling forest production by 2025. (s. 2) The Department consulted widely while developing the new policy initiatives and was considerably assisted in the drafting of the new legislative package by a committee of volunteers led by Alan Shaw, prominent Halifax industrialist, on behalf of the Voluntary Planning Board. On February 3rd, 1986, the government released its new forest policy. The second goal of the new policy, right after the achievement of

a healthier, more productive forest, was "encouraging the development and management of private forest land as the primary source of forest products for industry in the Province".<sup>53</sup>

If the consultative process was intended to garner support for a new forest management scheme, it was not entirely successful. Liberal Leader Vince MacLean expressed skepticism about the Act and questioned whether its effect would be any different from that of the Forest Improvement Act, it was replacing.<sup>54</sup> The new Forest Advisory Council had a broader membership than the Provincial Forest Practices Improvement Board it replaced<sup>55</sup> but remained an advisory body to the Minister. MacLean reminded the government that a former Conservative minister of Lands and Forests, who had disagreed with the advice given by the Forest Practices Improvement Board, had fired the Chairman (also a Tory) and appointed himself head of the Board which was supposed to advise him.<sup>56</sup> Advisory bodies were only as effective as the Minister receiving the advice would permit.

The Act itself contained mixed signals for the future. While it required the Commissioner of Forests to develop forest management programmes which would be mandatory on Crown land and "recommended" for use on private land (ss. 8,9), the provision for appointing the Commissioner was discretionary.<sup>57</sup> The forest management programmes and



techniques were to promote inter alia, scheduled harvesting, silviculture, insect and fire protection programmes, and to "permit consideration of the size and configuration of areas to be clear cut where circumstances warrant". (s. 9(b))

The legislation highlighted the difficulties in forest management and conservation occasioned by the previous promotion of small land grants: on private property the government could only recommend that proper forest management techniques be instituted. Rather than implement an aggressive "buy back" and escheat programme, to increase Crown holdings, the government continued to promote private woodlots. This flew in the face of the Nova Scotian historical experience, where the high incidence of private woodland ownership made large-scale forest management, necessary for coherent planning and use by competing industries, difficult if not impossible.<sup>58</sup>

While the management technique changed, forest management philosophy changed little. The earlier laissez-faire attitude to forestry was replaced by an activist, interventionist approach. But the intent remained the same: increased economic growth. Where environmental protection and economic activity clashed, then the victor was always perceived economic benefit. The perceived monetary gain from "better" forestry and land use was preferred to real, non-economic benefits of conservation and preservation. Emphasizing the

"highest and best economic use" of forests was an anthropocentrism not according other forest users and residents an equal right to subsistence as had humanity to exploitation. Indeed the government was prepared to abridge private rights to further forest exploitation for immediate economic benefit.

Not only land ownership patterns shaped the state and composition of early provincial forests. Great Britain's domestic and colonial needs also assured continued exploitation of the forests. In common with other British colonies with timber holdings, Nova Scotia's early forest product export regulation was geared to producing the masts, lumber and timber requirements of the Mother Country. Although A.R.M. Lower has argued that in every province other than Nova Scotia, the square cut timber was the genesis of forest policy, in the early years, square cut timber (tree trunks squared along their length) specifications dominated provincial export regulations. In 1728, the Imperial government directed the Surveyor of Woods in America to preserve white pine. In 1728, the broad arrow made an appearance in Nova Scotia and by 1733, specifications for timber exports to Britain were in force.<sup>59</sup> Amended in 1793, they were repealed and replaced in 1814 by legislation setting out the size, quality and length of hard and soft wood lumber.<sup>60</sup> Three years after the founding of Halifax, the

colony had developed sufficient secondary manufacturing to require regulations setting the size of barrels, staves, hoops, boards and other lumber exports as well as unfinished products such as cord wood. When that Act was amended in 1816, the preamble stated that it was because of "...frequent acts of injustice...to the Purchasers [of cord wood]".<sup>61</sup> As lumber production for internal consumption increased, mast exports declined. By July, 1762, Charles Morris, the Surveyor-General, reported to England that there were very few pine trees left in Nova Scotia fit for naval masts.<sup>62</sup>

The most significant increase in the Nova Scotia lumber trade was during the Napoleonic Wars and the ensuing blockade which denied Baltic timber to British wood product producers and shipyards. Fir timber exports from Nova Scotia increased from 565 loads in 1800 to 28,059 loads in 1818. Thirty-nine ship loads of oak left Nova Scotia in 1800, 133 in 1804, 56 in 1812. In 1804, forty-nine ships with 5,845 tons of lumber cargo left Nova Scotia ports and in 1814, 181 ships with 26,101 tons of lumber cargo sailed for Britain.<sup>63</sup>

Nova Scotia also shipped lumber products to the British West Indies. Whereas all square timber cut was sent to British mills for refinishing, lumber was sent to the West Indies. Return cargoes consisted of salt or molasses. When the Navigation Acts were repealed in 1849, the trade expanded to non-British islands and South America.<sup>64</sup>

Nova Scotia was also a transshipment point for Baltic timber until Great Britain closed that loophole in 1825. Between 1831 and 1835, Baltic merchants shipped 28 vessels of 7,172 tons of Baltic timber to Nova Scotia, where, by virtue of having been on a Nova Scotian quay, it became Nova Scotian timber and thus could be shipped into Britain at the colonial tariff rate, not at the Baltic rate.<sup>65</sup>

The Nova Scotian ton timber regulations were amended in 1835, stipulating that spruce and pine timber was to be a minimum of sixteen feet in length and hardwood was to be a ten foot length minimum. Merchantable timber was a minimum ten square inches. In addition, the legislation prescribed dimensions for deals and plank wood.<sup>66</sup> By 1849, through various additions and amendments, the Legislature had extended its regulatory regime to cover wood products from high quality lumber and shingles to rough hewn wood.<sup>67</sup> In addition, shipbuilding continued, severely depleting and in some areas wiping out entire cedar and hackmatack stands for "ship's knees". By 1869, patents were taken out for a shingle manufacturing machine and a resin treatment and application process. Hemlock bark, used to tan leather, depleted hemlock stands. Often only the bark was used and the logs were left to rot in the woods. Even after Confederation, the provincial government continued to regulate cordwood, lumber, shingles, hogsheds, barrels, clapboards and lathwood.<sup>68</sup>

The growth of other Nova Scotian exports also affected the forests. Wood was the most common packing material in the nineteenth century. Therefore, agricultural products, fish and manufactured products all required wood. For example, from 1841-1850, salmon barrel exports averaged 4,635 per annum in addition to tierces, halves, kitts and other packaging sizes. The growth of the apple industry increased the demand for apple barrels and in the early twentieth century, before cardboard replaced wood, the Provincial Nursery at Lawrencetown embarked on a willow growing venture to provide wood for apple barrels.<sup>69</sup>

By setting length, width and quality standards, the government, in effect, dictated which trees would be cut. The ton timber and other product standards often led to high grading, taking all the best trees and leaving poorer quality trees to reproduce and repopulate the province's forests. By 1871, the premium virgin pine forests of south western Nova Scotia were gone. The earlier settlement of mainland Nova Scotia (in contrast to New Brunswick), the differing land mass (over 5 million more acres in New Brunswick) and differing geography (more large navigable waterways penetrating the interior in New Brunswick) meant that Nova Scotia more quickly exhausted its accessible quality timber, forcing Nova Scotia to develop a more diversified economy more quickly than New Brunswick, which could continue to rely almost exclusively on

lumber production long after Nova Scotia's forests were exhausted.<sup>70</sup>

Upon Confederation, Nova Scotia lost jurisdiction over export standards to the federal government although it retained jurisdiction over property and civil rights. This enabled the province to exercise some control, albeit very little, over exports from the province's woodlands under its control of property.

From the earliest European settlement saw mills were established in Nova Scotia, and until the 1840's water power drove almost all the mills in the province. In the middle of the nineteenth century, steam began to replace water although as late as 1936 thirty percent of the power generation for Nova Scotia's saw mills continued to be water. Even after saw mills, and later pulp mills, relied almost exclusively on the steam powered portable mills, and boilers with fire boxes, developed in the 1880's, waterways continued to be an important resource. Rivers and streams continued until the 1950's to be used by many companies to drive logs to stationary mills. Sluices, flumes, canals, and dams were often built to facilitate the movement of wood to mills, and example was the flume built by the Mersey company from Hoot Lake on the Jordan River to Little Tobastic Lake on the Mersey River.<sup>71</sup> The first riparian regulation, in 1818, forbade

placing of obstructions on rivers on which logs were floated.<sup>72</sup> Drivers were cautioned to do as "little damage to the owner or owners of the soil adjoining such rivers as possible" and were empowered to remove all obstructions such as trees, stones, logs, or rubbish (but not mill dams) to drive their logs. (ss. 1-2) The local Courts of Sessions were empowered to regulate log driving and to impose penalties on those who breached the rules. (s. 3)

The 1818 Act was continued several times and in some areas special regimes regulating the river traffic were established. In Shelburne a "keeper of fish and timber gates" was appointed whose duty it was to superintend the fish and timber gates on the Barrington River.<sup>73</sup> In Queens County, "log rustlers" were active and a fine of five pounds was imposed on anyone fraudulently cutting off or altering the original marks on logs or timber in the rivers or dams in the county. Fines collected under the Act were split: half went to the river and dam supervisors and half to the cost of removing obstructions from the county's rivers.<sup>74</sup> In Digby County, perhaps as a reflection of its longer settlement by Europeans, the general river obstruction legislation was amended to permit the mill dam proprietors, rather than the River Commissioners to erect sluices and wing dams on their dams on the Meteghan, Salmon, Bear and Weymouth Rivers. While

the Commissioners oversaw the process, they were not, as elsewhere, to do the actual construction.<sup>75</sup>

By 1851, river driving legislation had become more complex than the earlier rather straight-forward statutes. As with earlier legislation, the 1851 Of the Conveying of Timber and Lumber of Rivers, and the Removal of Obstructions Therefrom,<sup>76</sup> permitted municipalities to regulate local river use for economic purposes. Twenty freeholders with lands bordering a river, or interested in rafting or driving logs, could petition the local Court of Sessions to appoint three or five River Commissioners and to establish their geographic jurisdiction. The Commissioners so appointed were empowered to remove all obstructions, to construct wing dams, and to enter on public or private property as long as no unnecessary damage was done to private property. They were also authorized to regulate log driving and placing booms on rivers.<sup>77</sup> To finance their work, the Commissioners could borrow money and charge tolls on their completed works. In 1854, the Commissioners were additionally empowered to regulate riparian quality, preventing mills from throwing slabs and other refuse into rivers. (17 Vic., c. 21, s. 1)

In Nova Scotia, when the Nova Scotia Power Corporation shut down Dam Number 5 on the Mersey River in 1982, thirty years after log driving had ceased, about 5000 cords of wood were found on the bottom of Deep Brook. Water pollution and river



contamination were not solely Nova Scotian problems. Upper and Lower Canada and New Brunswick also grappled with riparian pollution caused by saw mills and log driving.<sup>78</sup>

In Ontario, the saw dust debate was brought before the Courts by one Antoine Ratté, who purchased a waterfront lot on the Ottawa River in 1867. Ratté was deeply disturbed by the mill waste and other refuse flowing into the water and, finally, after many years and many dollars he won his point in the Courts. In New Brunswick, the lumber barons complained that it was economically prejudicial to impose pollution controls on them when their upriver competitors in Maine were not similarly regulated. The problems occasioned by the mills were not simply questions of aesthetics. Effluent and saw dust pouring into rivers choked off the oxygen supply, killing fish and other river life. In New Brunswick, fishermen complained that once-fine salmon rivers could no longer support any life forms, let alone the delicate salmon. Charles Hallock's, The Fishing Tourist, published in 1873, stated that while every Nova Scotian stream had trout, the salmon had very nearly been driven out of the streams and rivers. The LaHave and Petite rivers had been almost ruined for fishing by dams and log driving although since 1868, the federal government's aggressive salmon restocking had attempted to bring population levels back.<sup>79</sup>

The "obstruction of rivers" legislation, with minor amendments<sup>80</sup>, remained largely unchanged for over forty-five years. After Confederation, the Act was amended in 1873 to provide that it was not to be construed as contravening any *intra vires* federal legislation<sup>81</sup> (although this proviso was omitted from the 1884 revision).<sup>82</sup> In 1899, the Act was amended to solidify lumber's supremacy over competing water uses.<sup>83</sup> Under the Act, the E.D. Davison lumbering concern created an elaborate system of dams and sluices at Gulley Brook near the Lunenburg-Kings Counties borders. Archibald McMullen completed a six mile sluiceway from his mill at Great Village River, East Branch, to the Londonderry Iron Company's mill; and his brother, T.G. McMullen, constructed a seven mile sluiceway to service his mill on the Debert Mountain.<sup>84</sup>

By the turn of the century, the number of both saw mills and ground wood pulp mills had grown steadily, their supply assured by log drives from the interior. Although not dealt with in the Crown Lands Commissioner's Reports, the effect on the beaver population of all of the new sluice ways and river diversions must have been significant. Presumably many of the "obstructions" removed were, in fact, beaver dams. As the province was instituting close seasons on beaver by 1874, one can only assume that constant removal of beaver dams by lumbermen, in addition to trapping, had had a deleterious effect on the population.<sup>85</sup>

At roughly the same time as the province began to acknowledge its folly in alienating vast tracts of Crown lands from Crown control, the government moved to hand greater authority to the lumberers to move timber on the rivers. While on the one hand the legislators' attempted to curb the hegemony of the forest industries, on the other they extended the authority of the lumber barons and pulpwood producers, tilting the balance to the liberalist economic growth view. The 1899, 62 Vic., c. 19, amendments to the river obstruction legislation permitted the lumberers to move their logs by river in spring, summer and autumn in all rivers where Commissioners had not been appointed and further empowered lumbermen to remove obstructions and construct dams, slides, gates or booms as necessary provided they caused no unnecessary damage to the river. (s. 1) Although the lumbermen were forbidden to alter, injure or destroy an existing dam, or to do unnecessary damage to the river banks, if they constructed their own dams and sluices, they would be entitled to retain water behind the dam if necessary to float logs or to run a mill. (ss. 2,4) Thus an upstream landowner might find his land flooded for lumbering purposes and a downstream landowner might discover his water supply lessened, all in the name of economic progress.

Even more significantly, lumbermen were given the right to the use of and access over river banks to float their logs

and to retrieve grounded timber, and the legislation specified that the lumbermen would not be liable for:

any but actual damage done to the banks of rivers by the floating and transmission of said saw logs and timber, nor for any discoloration or impurity of the water caused by the floating or transmission of said saw logs or timber, unless the same shall be caused by their wilful act. (s. 3)

While the Act cautioned it was not to be construed as vitiating recovery by riparian owners and others by reason of water storage or escape or back flow, in effect it did limit attempts by owners abutting the river to impose environmental standards on the lumbermen. Limiting a potential plaintiff to proof of actual damage rendered an action in trespass nugatory. An actual deleterious change to the environment was required before the plaintiff could bring an action, and even then the plaintiff would probably be limited to money damages rather than physical restitution of the land to its previous condition. Further, any recovery by a riparian owner under his common law right to clean water was also limited for, unless caught in the act, it would be difficult to prove, even on the less stringent civil balance of probabilities test, that water quality was wilfully damaged. However, on occasion the Courts agreed with a plaintiff that a defendant lumberer had exceeded his statutory authority.

The general legislation was occasionally supplemented or limited by private Acts. The incorporating statute of the

Cumberland Driving Company, for example, was amended in 1880 to provide that if the company caused damage to the soil or land of another owner abutting the river, it could be required to construct breakwaters or take other protective measures. If it did not do so, the injured owners could construct the necessary protective devices and sue the company to recover the cost.<sup>86</sup>

In Campbell v. Dickie (1902), 36 N.S.R. 40, the Supreme Court affirmed the lower court's decision that the defendant lumber company could not evade liability to the plaintiff by claiming that an independent contractor engaged by the defendant had actually caused the damage to the plaintiff's land. Damage had been done and the plaintiff was entitled to compensation from the lumber company. In a factually complicated case, Cook v. Davison Lumber Co. (1920), 53 N.S.R. 375 (S.C.A.D.), the Court found for the plaintiff, stating that the defendant had not the right, statutory or otherwise, to flood the plaintiff's land. The Court was apparently influenced by the fact that the plaintiff had the land in question under agricultural production, leaving open the question of whether its decision would have been the same had not the land been "productive".

The paucity of reported cases for damages to river banks demonstrates legislative efficacy in promoting industrial uses of resources over alternatives such as fishing or preservation

and conservation. By putting up obstacles to potential plaintiffs, promoting continued economic exploitation of natural resources, and by limiting the availability of common law remedies, even legislation which did not directly regulate forestry practices or wildlife could shape the very nature of the forest.

The lumber and pulp companies were even further insulated from accountability in legal disputes over their resource use when riparian legislation was again amended in 1902 to remove damage disputes from the Courts, (which had power to grant injunctions as well as damages), and placed riparian rights disputes before arbitrators appointed pursuant to the Act.<sup>87</sup> As arbitrators did not have equitable jurisdiction, they could only grant money damages, not injunctive relief. Therefore, should an arbitrator find against a lumber company, the damages awarded could be calculated as a cost of doing business--not a way of shutting down business altogether. The limitation period imposed in 1903 obligated the plaintiff to serve the "person responsible" with a detailed statement of claim within two years from the date on which the damage occurred.<sup>88</sup> Determining who was responsible where only one lumbering concern was using the river might be relatively simple, but determining which company or proprietorship was responsible where there were multiple users would be difficult. If the plaintiff could not show with certainty

that one user rather than another caused the problem, then the plaintiff could be non-suited.

By the beginning of the First World War, electricity was becoming the most important source of domestic and industrial power and the government passed the first hydro electric power legislation<sup>89</sup> marking the first substantial shift of provincial policy from promoting primarily lumbering use of waterways to promoting another use--albeit one which was even more heavily industrial and more likely to change riparian geography. But hydro-electricity was not entirely divorced from forest exploitation. Many hydro electric plants were tied to developing new, more modern pulpmills. When in 1928 the Rhodes government announced that L.W. Killam intended to build a large, modern pulp mill on the Mersey River, it was also announced that the Nova Scotia Power Commission would build three new power plants at Upper Lake Falls, Lower Lake Falls and Big Lake Falls on the Mersey River to supply power to the new mill. The plants would be built by another Killam company, the Foundation Company of Canada. The power contract between Killam and the Power Commission had a fluctuating rate rather than a fixed rate per kilowatt hour. Killam's new company, the Mersey Paper Company, would pay the monthly cost of operation and maintenance of the dams and the capital cost repayment was amortized, without interest, over forty years. As Thomas Raddall noted, the earlier pairing of the forestry

industry with water to float logs was now reinforced by the need for electric power to run a modern mill.<sup>90</sup>

In 1919 and 1920, the final vestiges of riparian rights were stripped from private property owners by the Water Act<sup>91</sup> which provided that:

notwithstanding any law of Nova Scotia, whether statutory or otherwise, or any grant, deed or transfer heretofore made, whether by the Crown or otherwise, or any possession, occupation, use or obstruction of any water course, or any use of any water by any person for any time whatever, every water course and the sole and exclusive right to use, divert and appropriate any and all water at any time in any water course, is declared to be vested forever in the Crown in the right of the Province of Nova Scotia. (s. 3)

Cabinet could authorize the use of any water course and water on whatever terms and conditions it chose to set (s. 4(2)). The 1920 amendment was occasioned by Stanford v. Imperial Oil Co. (1919), 54 N.S.R. 106, wherein the Court found the 1919 Act insufficiently clear to strip an injured plaintiff of his right to damages caused by a defendant operating under a permit issued pursuant to the Act. Thus s. 4(2) was repealed and replaced by a provision stipulating, inter alia, that except as set out in the Act:

no action, process or proceeding whatsoever shall be commenced or issued in any Court or before any tribunal by or against any person authorized by the Governor in Council to use such watercourse or any water therein conditionally or otherwise.

While the amendment did not affect pending litigation (s. 2), it effectively forestalled any further actions which could



have awarded an injunction against a defendant operating under government license.

Many years later, the Water Act was successfully challenged, although on a very narrow point. In **Corkum v. Lohnes** (1979), 38 N.S.R. (2d) 417, aff'd (1981), 43 N.S.R. (2d) 477 (SCAD), the plaintiff's well was contaminated when the defendant built a road which crossed the brook feeding the plaintiff's well, rendering it unfit for human consumption. The well was fed by percolating water by natural conduits from the brook. The plaintiff sued. The defendant argued, *inter alia*, that the Water Act barred the plaintiff's action. The trial judge disagreed. While agreeing that the Act vested all waterways in the Crown, he did not agree "...that this state of affairs confers an immunity to contaminate or pollute such a source when it is actually in use except were (sic) a right of that kind is actually conferred by a license under that Act." (p. 425) His Lordship stated that he read s. 3(1) of the Act to mean that if the polluter was carrying out activities authorized by the Minister, then the plaintiff was limited to seeking compensation in the manner set out in the Act. In the case at bar, Lohnes' road construction and consequent interference with the plaintiff's water supply was not done under licence and thus was not protected. (p. 425) Further, he stated:

[i]n spite of the loose assumption that riparian rights have been entirely extinguished in Nova Scotia by the Water Act, I am of the opinion that, where there is no Crown use or authorization, private individuals making actual use of a natural water supply should be in no worse position than a person who made use of a common reservoir of ground or percolating water under ancient principles of the common law. (p. 426)

On appeal, the learned appeal judges affirmed the trial judge's decision, stating that while they were satisfied that ground water included percolating water, the wording which included ground water in the definition of "watercourse" in the Act was not to be construed too broadly:

I do not think that it was the intention of the Legislature to vest in the Crown water percolating at random below the surface of the ground not being a "bed or shore" under s. 1(k) [of the Act]. (p. 482)

As public concern about the use of provincial natural resources grew in the last quarter of the twentieth century, the Water Act became a tool in the environmental protection arsenal rather than an instrument promoting economic growth. By the mid 1980's, the Minister of the Environment was charged with the responsibility of laying charges under the Water Act, against those caught deleteriously affecting water quality.

The earliest specific reference to delegating control of provincial forest resources to private industry was in legislation promoting improved passenger and commercial transportation, not lumbering.<sup>92</sup> In 1851, the provincial government passed legislation providing that any group of

twenty British subjects who so desired could purchase and improve 50,000 acres of Crown land along the proposed trunk railway route from Halifax to Quebec and would obtain, complete jurisdiction over all lands purchased (except for mining rights) but including the right to "all standing timber, mill sites and water privileges..." (n. 2) In keeping with the expressed Imperial and colonial land settlement policies, the land companies were to lay off 100 acre lots for settlement along the course of the proposed railway. (n. 1(4th))

Nova Scotia's forest industries continued to grow and by 1861, there were over 1,300 saw mills in Nova Scotia. After the invention of a paper-making process using wood pulp fibre rather than linen or rag, Nova Scotia's softwood stands became increasingly important. Because of their longer fibers, conifers are favored in pulp manufacturing. Spruce is best for papermaking for its color is close to white, which makes for "bright" paper and its long fibers give paper tensile strength. Unlike the sawmills, most of which were locally owned and operated, the pulp companies were Canadian or foreign-controlled corporations. By 1934, when pulpwood began to eclipse lumber and hardwood sawmilling, there were still 463 sawmills in the province but only four pulp mills and only one pulp and paper mill. After World War II, the economic importance of the pulpwood industry grew rapidly, rising from

thirty percent of the total forest harvest in 1961 to eighty percent by 1984. From 1951 to 1984 there was a 500 percent increase in pulpwood harvesting and a sixty percent decrease in sawlog production.<sup>93</sup>

Before the passage of a modern corporations act, the most common method of incorporation was by statute. These incorporation statutes reveal much about the importance of the forestry industry to the Nova Scotian economy and the power accorded the industrial interests to shape the forests. One of the first forest industry incorporating acts, for the Cornwallis Steam Mill and Manufacturing Company in 1852, was a very simple document dealing only with the name of the company and the shares of paid up capital.<sup>94</sup> The Act incorporating the Nova Scotia Pulp and Paper Company similarly dealt primarily with financial matters,<sup>95</sup> but when the Young Brothers Company Limited was incorporated in 1896, the objects of the company specified that the company was empowered, inter alia, to construct canals, water mains, wharves, "...or other work calculated to afford any facility in carrying on or extending the business of the company".<sup>96</sup> One year later, the reincorporated Nova Scotia Pulp and Paper Company Limited was authorized to:

build dams and sluices on Bass River, Economy River and East River, Five Islands in the County of Colchester and their several tributaries, and on St. Mary's River, in the County of Guysboro (sic) and its tributaries, and to improve each of said

rivers and its tributaries, so as to make each and any of the said rivers and the respective tributaries thereto navigable for logs, timber and lumber.<sup>97</sup>

The Sissiboo Pulp and Paper Company could not only build dams and sluices but also expropriate lands for such purposes.<sup>98</sup> The company was empowered to expropriate whenever necessary for:

the constructing, operating and maintaining of the works of the company that the company shall acquire and be invested with sites for mills, manufactories, railways, tramways, or water power for the operation thereof, or stations for the same, together with necessary land connections, canals, flumes and dams, rights of all kinds, of flowage, back flowage, and water storage, lands for booms and piers, and any and all easements and privileges... (s. 18)

Private property was no longer sacrosanct in the face of further economic expansion. Although the expropriation powers granted were limited by mechanisms providing compensation to owners of land expropriated, individual property owners could not prevent further industrial expansion by refusing to sell their property. The traditional state power to override proprietorial rights for common purposes, such as road building, was now extended to private industrial interests. In 1928, the government sweetened the inducement to Killam to build a mill in Queens County by providing that Mersey, even though not yet incorporated, could force an expropriation of any land that was be required for a mill site or necessary ancillary purposes such as dams, wharves, transmission lines, etc.<sup>99</sup>

Although it might be argued that the expropriation powers were necessary because of the notorious title problems in Nova Scotia's forest land, one must question why the expropriation powers were not then clearly limited to situations where it was impossible to discern all interests in the property.<sup>100</sup>

Legislative attempts to over-ride proprietorial rights were not always successful. Thomas v. The Halifax Power Co. (1914), 47 N.S.R. 536, concerned expropriation powers similar to those granted to forestry companies, as well as the defendant's authority to construct tramways, dams, pulp mills, etc. The defendant desired to use its expropriation power to change the water course of the North East River to divert water into the Indian River by a flume and in turn to divert the Indian River in order to ultimately generate enough hydro power to produce electricity. The plaintiff disagreed with this attempt to reconfigure geography and so did the Court. Mr. Justice Graham ruled that the legislation empowering the company to compulsorily expropriate was to be strictly construed and in order to use its power the company had to comply strictly with the provisions granting it that power. Further, the Court ruled, such legislation only applied to private streams unaffected by other rights and not to public waterways or to water courses over which other companies had by statute acquired special rights. Mr. Thomas was granted his injunction to prevent the development. The victory,

however, was short-lived. Five years later the Water Act, 1919, would vest all watercourses in the Crown, permitting the Crown to grant permission to divert watercourses in the manner desired by the defendant in Thomas, supra.

**OH. WHAT A TANGLED WEB--PULP COMPANIES, CROWN LANDS AND CONTROL**

Enormous areas of Crown land were licensed to pulp companies for logging in the 1950's and 1960's. Fostering economic growth by granting Crown land use was not a new tool. In fact, the first attempt to tie the development of depressed regions to exploitation of Crown lands occurred in 1899. In the Crown Lands Report of 1899, Attorney General J.W. Longley reported that pursuant to discussions in the House in the last session indicating that Members preferred leasing to conveying Crown land for lumbering, he had held discussions with lumbermen on the subject Longley continued as follows:

I may state that I am satisfied that much the greater portion of the lands so granted is not suitable for cultivation and not likely to be sought for agricultural purposes. The question of the disposal of the remaining portion of timber lands of Nova Scotia is one worthy of consideration but my own judgment is that any change now in the direction of substituting leases for grants would have but small effect in relation to the future settlement and agricultural development of the province.<sup>101</sup>

While the government considered general legislation permitting lumbering leases on Crown lands, at the same time it negotiated a lease of Crown lands, separate from the general

timber lands leasing statute. Known as the "Big Lease", the 1899 lease covered approximately 520,000 acres in Victoria and Inverness Counties. The ninety-nine year lease was granted to D.F. Emery, of Portland, Maine, and E.L. Sanborn and R.B. Blodgett of Massachusetts. Emery was a principal in the North American Paper and Lumber Company, already active in Nova Scotia. The lessees were obliged to build two pulp mills, one in each county, to manufacture all wood before export, and to pay an annual rental of \$6,000. No royalty was payable on the trees cut.<sup>102</sup>

Lurking in the background of the lease arrangements was Frank Barnjum, "the Canadian Forest Crusader". When the Big Lease was granted, Barnjum was a timber speculator and also managed the lands in the Big Lease. He remained manager until 1916, and in January 1917 operations on the Big Lease lands were assigned to Cape Breton Pulp and Paper Company Limited, an affiliate of Hugh Chisholm's Oxford Paper Company. In turn, the Cape Breton Pulp and Paper Company was absorbed into the Oxford parent company. Oxford Paper Company continued to work the Big Lease until it ceased operations in 1931. The company did not, however, surrender the lease. It remained in effect until bought out in 1960 to provide timber lands for the Nova Scotia Pulp Limited. Although other leases and later licenses were granted to cut on Crown lands, the Big Lease remained the most significant until 1958.<sup>103</sup>



In 1952, another survey of Nova Scotian forests was conducted in cooperation with the federal government. Armed with the survey results, in 1956 the Henry Hicks government began talks with the Swedish forest giant, Stora Kopparberg, to entice Stora to establish a pulp mill in chronically economically depressed eastern Nova Scotia. These talks followed earlier negotiations with other forestry companies such as Alfred G. Reid Corp., and Anglo Canadian Corp. and Scott Paper.<sup>104</sup>

Robert Stanfield (who succeeded Hicks in 1956) announced in 1958 that Industrial Estates Limited (I.E.L.), the provincial business development agency, and Stora had negotiated a deal for Stora to build a new pulp mill in eastern Nova Scotia that would use 250,000 cords of wood annually. 150,000 cords would be cut on Crown lands that were then producing less than 15,000 cords of wood annually [the Big Lease lands] and the remaining 100,000 cords would be purchased from private woodlot owners. The mill would have a capital cost of \$40 million. Stora was to establish a subsidiary, Nova Scotia Pulp Limited, and on the 19th of February, 1958, Bill No. 24, the Nova Scotia Pulp Limited Agreement Act was introduced in the House by Stanfield.<sup>105</sup>

At Second Reading, Stanfield confirmed that the province would be required to spend approximately \$2 million to provide the mill with a minimum of twenty four million Imperial

gallons of fresh water daily. The mill, it was hoped, would provide employment opportunities to 2,000 Nova Scotians and bring an estimated \$10 million annually in wages and materials into the Nova Scotian economy. The mill would rely heavily on lands that in 1958 were still under lease to Oxford Paper Company, (with another thirty-eight years to run on the lease), but the government expressed hope that it would not have to expropriate to free up the land for use by Stora. Most of the land to be leased was in Inverness and Victoria Counties, but it also included land in Richmond, Guysborough, Cape Breton, Antigonish and Pictou Counties. The bill passed second reading smoothly and came back to the House for third reading on 24, April, and received Royal Assent on 3 May 1958.<sup>106</sup>

The legislation was quite detailed, providing that Stora agreed to commence construction of a mill by 30 June 1959 and complete construction by 31 December 1961. The mill would produce more than 300 tons of high grade bleached pulp per day, and the company further agreed that "a high degree of processing" would be completed at the mill. Stora contracted to cut 150,000 cords per annum or 4.5 million cords in the first thirty years of operation.

In the Nova Scotia Pulp Agreement, Stora agreed that within five years of the opening of the mill it would submit a forest management plan for the Crown lands under licence,

and that this plan would cover a period of not less than forty five years. It would be designed both to improve yields on the Crown land and to provide for a harvest crop on the licenced lands in the most economical manner. The company would pay stumpage of \$1.00 per cord on healthy softwood and \$.50 per cord on hardwood or diseased or damaged softwood. For the next two successive ten-year periods, a new rate was to be negotiated not less than six months prior to the commencement of the next ten-year period and rate so negotiated was never to be more than seventy-five percent higher than it had been in the previous ten-year period. For each succeeding ten-year period after the third, the rate could be negotiated by the government and the company without reference to a ceiling stumpage rate.

The province was contractually and statutorily obliged to provide water and to provide the company with a licence to cut and remove wood from the designated land. The company was to pay maintenance and upkeep on the water facility and to repay the capital cost, with interest, in twenty-four annual payments. The province would make available to the company a site approved by the company's engineers, suitable for a mill, and of not less than 100 acres, ready for construction. Point Tupper, near Port Hawkesbury, in Cape Breton was ultimately selected by the parties.<sup>107</sup>

The province was pleased with the Stora agreement, and on the strength of its apparent success, negotiated three more comprehensive licencing agreements between 1958 and 1965. In 1962, two agreements were ratified, one with Bowater Mersey and one with Halifax Power and Pulp Company, a subsidiary of the Hearst Corporation. When Izaak Walton Killam died in 1955, his widow and sole heir, Dorothy Killam, sold her seventy-five percent interest in Mersey Paper Company to the British multi-national, Bowater, for \$53,754,501. In the 1928 agreement between the province and Mersey, over half Mersey's wood supply came from eastern Nova Scotia, particularly Cape Breton. By the mid 1950's, there was palpable discontent in eastern Nova Scotia that none of the pulp cut in the region was processed locally. Although this was partially obviated by the Stora plant, discontent about Bowater's presence on the Island continued. In 1960, the province bought out the remainder of Bowater's interest, over one million acres, and added these lands to Stora's licence. In return, Bowater requested that it be licenced land in western Nova Scotia to supplement its extensive private holdings in the southern mainland. The Bowater Mersey Act 1962, to permit the land exchange was introduced by the Minister of Lands and Forests, E.D. Haliburton, on 23 March 1962. In second reading, the Minister stated that his Department recommended the land swap, suggesting the government make available 280,000 acres in

Lunenburg, Queens, Shelburne, Yarmouth, Digby, Annapolis, Halifax and Hants Counties from which Bowater could choose the areas it wished to lease. Bowater already owned 500,000 acres in the eight-county area and as one of the difficulties with much of the Crown land in the region was that it was entirely surrounded by Bowater land (thus the only access was over Bowater land on Bowater roads) its licenced value to other forestry operators negligible and the Minister continued, it was sensible to lease some of this land to Bowater. The lands to be licenced to Bowater would be placed under a management plan similar to that required of Nova Scotia Pulp Limited.<sup>108</sup>

Even though some Liberals spoke against the Bill and at least one Conservative member expressed reservations about the proposed arrangement, the Bill passed second reading with only one vote against and one abstention. The Bill received third reading on 13 April 1962. However, even though the Act received Royal Assent, no land was ever leased. This may have been the result of local opposition.<sup>109</sup>

Three days before the House rose in 1962, the government presented Bill No. 123, the Halifax Power and Pulp Company Act, 1962. There was no debate on Second Reading and the Bill received third reading and Royal Assent on the final day of sitting. Halifax Power and Pulp Company agreed to construct a newsprint mill at Sheet Harbour which would require 84,000 rough cords of pulp annually. The licence would last for

fifty years, renewable for another forty, as with the other two licenses, a management cutting plan was required of the company. The stumpage arrangement was similar to that with Stora--\$1.00 per rough cords of 128 cubic feet of net merchantable hardwood and damaged softwood for the first ten years. Stumpage would rise in the succeeding ten year periods on the same terms as those set out in the Nova Scotia Pulp Limited lease. The mill was constructed and operated in Sheet Harbour until 15 August 1971, when it was washed away in a rain storm which dropped ten inches of water on the Sheet Harbour area in thirty-six hours.<sup>110</sup>

The last licencing agreement was signed in 1965 between the government and Scott Maritimes Pulp Limited, a subsidiary of Scott International. Scott's mill was to be built in Pictou County, and a site at Abercrombie Point was selected. Bill No. 139, the Scott Maritimes Pulp Limited Agreement Act, 1965, was introduced 17, March, 1965. The Scott agreement had a higher stumpage rate than that in the other agreements presented to the House, and when questioned about it by the Leader of the Opposition, Peter Murray Nicholson, Premier Stanfield replied that the rate was higher because the wood allocated to Scott was of a better quality and the lands to be licenced contained less old, diseased, dying or dead wood and, besides, Nova Scotia Pulp had to build more roads to access the wood it had under licence.<sup>111</sup> Two days after Nicholson's

questions about the stumpage rate, second reading of the Bill began. Most unusually, Walter Miller, President and General Manager of Scott Maritimes Pulp Limited and Hector McInnen, a prominent Halifax lawyer, and corporate counsel for Scott, were seated on the floor of the House as guests of the Speaker, Harvey Veinot of Pictou West.<sup>112</sup>

By the terms of the agreement, Scott was to build a \$50 million bleached kraft mill with a 500 ton per day capacity. Construction was to begin no later than 30 April 1965, less than a month away. In addition to the licencing agreement, Stanfield noted that there would be a special municipal tax arrangement for Scott. Scott would be obliged to submit a forest management plan that would include an undertaking by the company to provide for the highest economic use of the lands under licence. Thus, if saw logs were the highest and best use, Scott was to produce saw logs. Scott also undertook to run fifteen percent hardwood through the mill as pulp wood, even though at that time there was no market for hardwood pulp.<sup>113</sup>

Nicholson, the only other person to speak at second reading, had little to say. Company officials on the floor of the House indicated the importance, economically, of this agreement to the Pictou region and no politician would risk votes by questioning the agreement or its terms. On the 30th

of March, the Bill received Third Reading and Royal Assent.<sup>114</sup>

The cumulative effect of the various pulp company licenses, commencing with Mersey in 1928 to Scott in 1965, has been the domination of the Nova Scotian forest by three large pulp companies--Mersey, Stora and Scott--together with the Joudrey interests in Hants County. The impact was not only economic--each mill effectively controlled not only the economy of the area in which it was located but also had a direct and lasting effect on forest composition and configuration. Although the log drives had been discontinued, by the mid-twentieth century large pulp companies continued deleteriously to affect water quality. Clear cutting, the preferred cutting method, caused erosion which increased siltation in streams and rivers, often choking riparian life. Plant discharge was visible (and scentable) and dangerous to fish and other water inhabitants. David Orton's submission to the 1984 Royal Commission on Forestry on behalf of SEPHOG, the Socialist Environmentalist Protection and Occupational Health Group, quoted Bowater Mersey's promotional literature to demonstrate the multinationals' attitudes to environmental quality and integrity:

"Bowater Mersey is fortunate to be located on the Mersey River estuary where the Atlantic tidal action disperses much of the waste material which find their way to the harbour."<sup>115</sup>



Unfortunately, Orton does not cite fully the source of this alleged quotation but that Bowater and others were less than concerned about the long term environmental effects of their forestry practices was confirmed by Ralph Johnson, former Chief Forester for Bowater Mersey:

In Nova Scotia we have a forest suffering from two centuries of, on the one hand, exploitation, and on the other, neglect...I have another reason for pessimism. It is the prevalence...of clear cutting...As a professional forester I recognize that in certain conditions clear cutting is the only viable option...Still I remain unconvinced that clear cutting is the best option for the majority of our forest types, especially in western Nova Scotia. After studying the lessons of history and the experience of the United States, Scandinavia and Germany, I am reasonably certain that clear cutting...offers little or no economic advantage over partial cutting systems when all costs are added in; and, furthermore, that over the long run it is ecologically unsound. Yet clear cutting with planting is the chief method practiced in Nova Scotia today. Down the road I think we will pay for this in decreasing water quality.<sup>116</sup>

Clear cutting, in tandem with other "progressive" forest management techniques, has had lasting effects on the forest ecosystem. Responding to David Suzuki's Voices of the Forest television programme, Tim Whynot, chair of the public relations and education committee of the Canadian Institute of Forestry, Nova Scotia Section, argued that selective cutting was not feasible in Nova Scotia because of the limited numbers of foresters and technicians in the province, the low product value of Nova Scotian wood products compared to European output, and the generally poor condition of the provincial

forests. The argument was somewhat circular: the longer partial cutting and selective cutting were delayed, the more expensive it became to implement and the further the quality of the forest declines. Historically, Nova Scotia's laissez faire attitude has damaged forest quality when compared to the pre-European contact and settlement woodlands.

Whynot argued that clear cutting was "not a destructive tool when properly employed". Clear cutting, he stated, simply permitted forests to revert to an earlier successional stage. Whynot's assertion is accurate but incomplete. Early forest succession in Nova Scotia begin with hardwood brush and, if left to grow without human interference, might take as long as 200 years to reach a mature habitat with a large spruce population--or might never reforest in spruce. The pulp companies, as the major purchasers of small woodlot production as well as large loggers in their own right, were unprepared to wait so long for a crop regeneration and thus resorted to artificial means to bring forth a new crop of trees in a 50-60 year time frame. Most planting in Nova Scotia was monoculture replanting with spruce or other commercial species, producing an even aged stand that will again be clear cut upon maturity. Further crop management is accomplished by herbicide application to kill uneconomical hardwoods.<sup>117</sup>

The vast tracts of Crown land under licence for very low stumpage rates, together with the nature of the numerous small holdings combined to create low pulpwood prices. One former M.L.A. suggested that the low stumpage fees amounted to "giving away" Crown lands. Confusing and unfair taxing structures, together with historically low prices for wood provided little incentive to conserve and manage woodlands. In 1958, the senior member for Yarmouth complained that in his area, the cost of getting the wood to roadside was equal to the price paid, leaving no profit for the owner. Seven years later when the Forest Improvement Act was debated, Tando MacIssac (P.C.) Guysborough County, argued that the price of wood was still too low to force the small woodlot owner to pay more attention to conservation, proper cutting and planting. As to Whynot's argument that higher prices were not possible; when the Crown Lands Act Bill was debated in 1987, it was noted that while the stumpage in 1987 was \$1.50 per cord in Nova Scotia, it was \$50 per cord in Sweden. Surely Swedish forests were not that much more productive. In the same year, pulpwood prices to the small woodlot owner ran approximately \$50 per cord. The cost to get the pulp to roadside exceeded the price paid. For such a return on investment, there was little incentive to spend any further time, money or energy in attempting better forest management practices.<sup>118</sup>

The interaction between the government and the lumbering and later the pulp companies, and the consequent effect on Crown and private lands, belies the myth of forest management. The evolving history of forestry legislation indicates that far from moving to a more comprehensive management system, much less an ecological perspective approach to competing forest uses, the immediate economic exploitation remained the foremost consideration in setting forest policy. For early Imperial and colonial forest administrators, this meant encouraging small agricultural holdings. The legislation was designed to foster 100 acres or less family farms rather than either large agricultural holdings or forestry. Although this legislative intent was clearly at odds with geography, it remained central to Crown lands philosophy until well into the twentieth century.

However, the government did little to regulate the forest companies and, in fact, accorded more and more authority to forest companies including control of provincial waterways until 1919 and awarding private entities the power to expropriate. Indeed, even after the Province reassumed full control of provincial waterways in the 1919 Water Act, it used its authority actively to promote greater and greater industrial intrusions into Nova Scotian forests.

Throughout the nineteenth century, Nova Scotia's forest regulators remained committed to a liberalist vision of the

forest as an unending inexhaustible resource despite warnings to the contrary. They exhibited an unadulterated "imperialist" view of nature and continued until the early twentieth century consistently to place short-term economic gains ahead of long-term environmental and economic considerations.

In the twentieth century, although forest regulation was increasingly administered by professional forest managers, decisions about the forest continued to be made in an environment versus economics context, thus assuring continued irresponsible forest exploitation. This was particularly demonstrated in the small tree conservation measures, and the control over Crown and private land accorded to private foreign multinationalists in the various Crown lands licencing acts of the 1950's and 1960's. The twentieth century legislators, like their nineteenth century ancestors, were environmental managers, committed to maximum exploitation and minimum conservation.

**CHAPTER II**

**ENDNOTES**

1. 15 Geo. 3, c. 1, s.1.
2. **Forestry Report**, no. 6, (January, 1988), 2; A.R.M. Lower, **The North American Assault on the Canadian Forest** (New York: Yale University Press, 1938, reprinted New York: Greenwood Press, 1968), 65-66.
3. J.R. Archibald, **Historical Highlights Nova Scotia Crown Lands, 1603-1972**, 2.
4. Peter Burroughs, "The Administration of Crown Lands in Nova Scotia, 1827-1848", **Nova Scotia Historical Collections** 35 (1966), 82-90, 101; W.S. McNutt, "Politics of the Timber Trade in New Brunswick", G.A. Ralyck, ed., **Historic Essays on the Atlantic Provinces** (Toronto: McClellan and Stewart, 1967), p.130 f.n 14.
5. **supra**, preamble and s. I (1840).
6. An Act to continue and amend the Act to establish sundry Regulations for the future disposal of Crown Lands within the Province of Nova Scotia, 6 Vic. c 45, preamble and s. II.
7. An owner in fee simple is one who holds all interest in a property, absolute and unqualified.
8. Richard Campbell, "The Development of the New Forest Act" (1980) 38 **Advocate** 189-203 at p. 189-190; Graeme Wynn, **Timber Colony** (Toronto: University of Toronto Press, 1981), 138-150, **passim**.
9. An Act to continue and amend the Acts to establish sundry Regulations for the future disposal of Crown Lands within the Province of Nova Scotia, 9 Vic., c. 6, s. II (1846).
10. 10 Vic. c. 61 (1847).
11. An Act relating to the Crown Land Department of this Province, 10 Vic., c. 48, s. 1 (1847).
12. R.S.N.S. 1st Series, c. 28 (1851).
13. R.S.N.S. 1st Series, c. 37 (1851).

14. An Act relative to the Crown Land Department, 15 Vic., c. 4, (1851).
15. An Act for the Incorporation of Land Companies, 15 Vic., c. 5, (1851).
16. R.S.N.S. 2nd Series, c. 28 (1859).
17. R.S.N.S. 2nd Series, c. 27 (1859).
18. R.S.N.S. 3rd Series, c. 26 (1864).
19. "The Free Grants and Homestead Act of 1871", 34 Vic., c. 8 (1871).
20. Journals and Proceedings, 1926, Appendix 38, "Report by P.S. Ross and Sons", 199-202.
21. An Act to amend Chapter 11 of the Revised Statutes, 4th Series of Crown Lands, 42 Vic c. 3, s. 1 (1879)
22. Patricia A Thornton, "The Problem of Out-Migration from Atlantic Canada" Acadiensis 15, no. 1 (Autumn 1985) repr. Buckner and Frank, eds., The Acadiensis Reader: Volume Two, 49, 63; An Act to amend Chapter 9 of the Revised Statutes, "Of Crown Lands", 50 Vic., c. 8, s. 1, (1887).
23. S.N.S. 1901, c. 23, s. 1.
24. A.R.M. Lower, The North American Assault..., 65; Connor et al, Report of the Royal Commission on Forestry, 80-81; Lloyd C. Ireland, Wildlands and Woodlots (Hanover: University Press of New England, 1982), 111-112; Debates of the House of Assembly of Nova Scotia 1987, 2895, Guy Brown (L) Cum. Ctire.; B.E. Fernow et al Forest Conditions of Nova Scotia (Ottawa: Queen's Printer, 1912), 37; Connor et al, 1984 Royal Commission on Forestry,
25. An Act for protecting the Eastern side of the Road leading round the western Bank of Bedford Basin, 4 Wm. 4, c. 73.
26. "Of Trespasses to Crown Lands", R.S.N.S. 3rd Series, c. 27 (1864).
27. 29 Vic. c. 10 (1866).
28. An Act respecting the leasing of timber lands, 62 Vic. c. 3 (1899).

29. Barbara Robertson, Sawpower 23; C.G. Hawkins, "The Origins of the Nova Scotia Lumber Trade", Public Affairs 9 (1945), 108; C. Bruce Fergusson, "Lumbering in Nova Scotia 1632-1953", Bulletin 26 (December, 1957), 3-5.
30. "The Crown Lands Act", S.N.S. 1910, c. 4, s. 81, 85; J.F. Archibald, Historical Highlights, 6; Ralph Johnson, Forests of Nova Scotia, 298-299.
31. R.S.N.S. 1900, c. 24, ss. 15-17 and ss. 30-36.
32. An Act to amend Chapter 24, Revised Statutes, 1900, "Of Crown Lands", S.N.S. 1901, c. 23.
33. Debates...., 1952, 517, 18, March, 1952.
34. MacLeod, Markland, 463-468; Fernow, Forest Conditions, 26-27.
35. Jowitt, The Dictionary of English Law, 1069-1072, 1089-1091.
36. S.N.S. 1926, c. 4.
37. Otto Schierbeck as quoted in Frank J.D. Barnjum, Startling Facts and Fallacies regarding Canada's Forests, (Montreal: Barnjum, 1930), p. 43.
38. W.L. Hall and Otto Schierbeck, Forests and Forestry in Nova Scotia, Special Report to the British Forestry Conference--Australia, (Halifax: Lands and Forests, 1928), 14; Halifax Chronicle Herald, 19, April, 1989; John Doull and Otto Schierbeck, The Imperial Economic Conference Report on Labour Conditions in the Woods, Forest Inventory, Duration of Supply, Forest Industries and the English Market (Halifax: Lands and Forests, 1932), 11; Journals and Proceedings, 1928, Appendix No. 9, 14.
39. "The Lands and Forests Act, 1935", S.N.S. 1935, c. 4, ss. 12-17.
40. n.a., Royal Commission on Provincial Development and Rehabilitation Report on Forest Industries (Halifax,: Kings Printer, 1944), 11, 14; Law Reform Commission of Canada, Working Paper No. 44, Crimes Against the Environment (Ottawa: LRCC, 1985), *passim*.
41. n.a., Royal Commission on Provincial Development, 14, 25-26. Prior to the Second World War, Nova Scotia's tourist industry of the late nineteenth and early twentieth centuries was grounded on the "elite sport tourist", mostly wealthy



Americans. These tourists were an exceptionally important component of local economies, especially in Queens and Annapolis Counties. James Morrison, "American Tourism in Nova Scotia 1871-1940", Nova Scotia Historical Review 2, no. 2 (1982).

42. S.N.S. 1938, c. 50 re-en. ss. 68, 69, 70, 71 of the Act.
43. Ralph Johnson, Forests of Nova Scotia, 245.
44. S.N.S. 1946, c. 6.
45. S.N.S. 1946, c. 6, s. 2(2) as am. S.N.S. 1950, c. 54, ss. 1, 2 and S.N.S. 1952, c. 69, s. 1.
46. S.N.S. 1946, c. 6, s. 2(1).
47. S.N.S. 1946, c. 6, s. 7.
48. In the 1952 Session, when the jurisdiction of the act was extended for the second time, A.W. MacKenzie, Minister of Lands and Forests, noted that during the War, 600 million cubic feet were cut in one year. In 1951, 540 million cubic feet were cut, the second largest annual cut in the province's history. Debates, 1952, 18, March, 1952, pp. 513, 540.
49. Johnson, Forests of Nova Scotia, 301; Debates, 1965, 15, February, 1965, 527; 22, February, 1965, 528-530, E.D. Haliburton (P.C.) Kings South.
50. Johnson, Forests of Nova Scotia, 292. Selection cutting is the periodic removal of primarily mature and defective trees either individually or in small groups to promote a healthier commercial forest. Shelterwood cutting is a partial harvest of a forest in which selected large trees are left on site to favour particular species in regeneration and to stimulate the growth of uncut trees so as to produce higher quality sawlogs at the time of the next cut.
51. Connor et al., Report of the Royal Commission, 29, 40.
52. Connor et al., Report of the Royal Commission, Summary, 7.
53. Debates, 1986, 21, April, 1986, 1648, K. Streatch, Minister of Lands and Forests (P.C.); n.a. Forestry A New Policy for Nova Scotia (Halifax: Lands and Forests, 1986), 3.
54. Debates, 1986, 21, April, 1986, p. 1699.

55. S.N.S. 1968, c. 28, s. 2 creating s. 5A, of the Forest Improvement Act, R.S.N.S. 1967, c. 114 rep. and repl. S.N.S. 1972, c. 34, s. 1.
56. The Forest Advisory Council includes representatives of the public, forest industries, professional foresters, and a wildlife organization representative. R.S.N.S. 1989, c. 178, s. 4(3); Debates, 1986, 21, April, 1986, 1649-1650. MacLean, Minister of Lands and Forests in the Regan administration (1970-1978) claimed that when the Liberals took office in 1970, the Chairman of Provincial Forest Practices Improvement Board, an acknowledged Conservative retained his position because of his knowledge and competence. A later Conservative Minister, George Henley, fired the (unnamed) Chairman, because his advice was not what the government wanted to hear. After an Opposition uproar; the man was rehired, then refired, and Henley appointed himself Chair.
57. s. 6(1) The Governor in Council, on the recommendation of the Minister, may appoint a person to be Commissioner of Forest Enhancement. In legal parlance, "may" is discretionary and thus Cabinet is not obligated to appoint a Commissioner. The use of the word "shall" would make an appointment mandatory.
58. Hall and Schierbeck, Forests and Forestry in Nova Scotia, 13; Doull and Schierbeck, The Imperial Economic Conference Report on Labour Conditions in the Woods, 11; n.a., The Forests of Nova Scotia--A report to the British Empire Forestry Conference, South Africa, 1935, (n.p., 1935) 11; A.R.M. Lower, The Assault on the North American Forest, 65; Debates, 1958, 21, February, 1958, 532-533 Harley J. Spence (P.C.) Lunenburg West.
59. Lower, The Assault on the North American Forest, 75; Fergusson, "Lumbering in Nova Scotia", 6.
60. An Act to regulate the Exportation of ton Timber, and to repeal two Acts, made in the twelfth and thirty-third years of His Majesty's Reign, declaring what shall be deemed merchantable Timber, for exportation to Great Britain, 54 Geo. 3, c. 4 (1816).
61. An Act in addition to, and in amendment of, an Act, passed in the second year of His Majesty's Reign, entitled, An Act for Regulating the Exportation of Fish, and the Assize of Barrels, Staves, Hoops, Boards and all other kinds of Lumber... 56 Geo. 3, c. 4 (1816).
62. Fergusson, "Lumbering in Nova Scotia", 8-9.

63. Fergusson, "Lumbering in Nova Scotia", 17-19, A.R.M. Lower, Great Britain's Woodyard (Montreal: McGill-Queen's University Press, 1973), 59, 63-64.
64. C.G. Hawkins, "The Origins of the Nova Scotia Lumber Trade", 109.
65. Lower, Great Britain's Woodyard, 84.
66. An Act to regulate the Survey of Timber and Lumber..., 5 Wm. 4, c. 11 (1834-1835).
67. An Act to continue and amend the Law regulating the Survey of Timber, Lumber and Shingles, 12 Vic. c. 20, ss. 3-4 (1849); By 1863, there were 2,979 men employed in 1401 mills plus 130 shingle mills, six lath mills, one paper mill, and two saw and planing mills, Fergusson, "Lumbering in Nova Scotia", 23.
68. Fergusson, "Lumbering in Nova Scotia", 23; An Act to enable Eliakem E. Tupper to obtain Letters Patent for the invention of a machine for the manufacturing of Shingles, 20 Vic., c. 73 (1857); An Act to enable Edward Hunt and Henry Davis Pochin to obtain Letters Patent, 22 Vic., c. 72 (1859); Ralph Johnson, Forests of Nova Scotia, 55; see, for example, Of the Regulation and Inspection of Provisions, Lumber, Fuel, and other merchandise, R.S.N.S. 5th Series, c. 73, ss. 25-52 (1884).
69. R.W. Dunfield, The Atlantic Salmon in the History of North America, (Ottawa: Department of Fisheries and Oceans, 1985), p. 168; Journals and Proceedings, 1932, Appendix No. 12, pp. 29-30; apple and potato barrels "...the length of the stave or barrel shall be twenty-nine inches, and the heads between the climes shall be seventeen inches, with a diameter in the centre inside the barrel of nineteen inches..." R.S.N.S. 5th Series, c. 73, ss. 49-51.
70. Thomas Raddall, The Mersey Story (Liverpool: Bowater Mersey Paper Co., 1979), 12; Barbara Robertson, "Trees, Treaties and the Timing of Settlement: A Comparison of the Lumber Industry in Nova Scotia and New Brunswick 1784-1867", Nova Scotia Historical Review, 4, no. 1 (1984), 40-41.
71. Robertson, Sawpower, 23; Fergusson, "Lumbering in Nova Scotia", 1-7; Eric Mullen and Millie Evans, In the Mersey Woods (Liverpool: Bowater Mersey Paper Co., 1989), 17-24.

72. An Act to encourage Persons concerned in the Lumber trade, and authorizing the Courts of Sessions to make regulations for preventing Obstructions in bringing in the same, with other articles, down the several Rivers in this Province, 58 Geo. 3, c. 31 (1818).
73. An Act to authorize the Court of Sessions for the County of Shelburne to appoint annually, a Town Officer, for the protection of the Fish and Timber Gates, on the Barrington River, 9 Geo. 4, c. 34 (1828).
74. An Act to regulate the marking of logs in the County of Queens, 19 Vic., c. 54 (1874).
75. An Act respecting certain Rivers in the County of Digby, 37 Vic. c. 43 (1874)
76. R.S.N.S. 1st Series, c. 103 (1851).
77. ss. 1, 2, 3, 7.
78. Mullen and Evans, In the Mersey Woods, 24.
79. John P.S. McLaren, "The Tribulations of Antoine Ratté: A Case Study of the Environmental Regulation of the Canadian Lumbering Industry in the Nineteenth Century" (1984) 33 UNBLJ 203, 203-205, 248-251. The article deals primarily with federal jurisdiction pursuant to the Navigable Waterways Act, and the Fisheries Act. However, the article details the concerted efforts of the lumber barons to forestall anti-dumping legislation even after technology was developed which would permit burning scrap as fuel in the mills; Charles Hallock, The Fishing Tourist (New York: Harper and Brothers, 1873), 114, 125.
80. R.S.N.S. 1st Series, c. 103 (1851), as am. 33 Vic., c. 6 (1870), which increased the penalties imposed by the Act.
81. R.S.N.S. 4th Series, c. 66, s. 11 (1873).
82. R.S.N.S. 5th Series, c. 69 (1884).
83. 62 Vic., c. 19 (1899).
84. Robertson, Sawpower, p. 86.
85. Robertson, Sawpower, 185.
86. 43 Vic., c. 59, s. 1 (1880) amending 38 Vic., c. 89 (1875).

87. S.N.S. 1902, c. 33, s. 2.
88. S.N.S. 1903, c. 41, s. 2.
89. An Act respecting the Development of Water powers within the Province, S.N.S. 1914, c. 8.
90. Raddall, The Mersey Story, 22, 16.
91. "The Nova Scotia Water Act, 1919" S.N.S. 1919, c. 5 as am. S.N.S. 1920, c. 75, s. 6. The river obstruction legislation, supra, and 1914 Water Power Act, supra, were also repealed by the 1919 Act.
92. An Act for the Incorporation of Land Companies, 15 Vic., c. 5 (1851).
93. Robertson, Sawpower, 22; David Orton, "Pulpwood Forestry in Nova Scotia and the Environmental Question" (Halifax: Gorsebrook Research Institute, 1984), 1.
94. 15 Vic., c. 42, (1852).
95. An Act to incorporate the Nova Scotia Wood Pulp and Paper Company, 38 Vic., c. 109 (1875).
96. 59 Vic., c. 101, s. 2(e) (1896).
97. 60 Vic., c. 100, ss. 19, 20 (1897) Similar authority was granted to the Dominion Lumber Company on Indian River, Ingram River, Hubbard River and East River in Halifax and Lunenburg Counties, S.N.S. 1901, c. 132, s. 18.
98. 61 Vic., c. 135 (1890). See also: 60 Vic., c. 96, s. 19 (1897), the Saint Croix Paper Company Ltd.; Dominion Lumber Co., S.N.S. 1901, c. 132, s. 18 as am., S.N.S. 1902, c. 163, ss. 2-10; the North American Paper and Lumber Co. Ltd., 61 Vic., c. 136 (1898) as am. S.N.S. 1903, c. 242, s. 1.
99. An Act to Confer Certain Powers on a Company to be Incorporated for the purpose of Owning and Operating a Paper Mill in Nova Scotia, S.N.S. 1928, c. 7.
100. Early surveying in Nova Scotia was extremely inaccurate. Many lots were impossible to discern on the ground on the metes and bounds description given the deeds. The number of adverse possessors also complicated title questions.
101. Journals and Proceedings, 1899, Appendix No. 9, 1.

102. Ibid.
103. Johnson, Forests of Nova Scotia, passim, L. Anders Sanberg, "Forestry Policy in Nova Scotia: The Big Lease, Cape Breton Island, 1899-1960", Acadiensis, 20, no. 2 (Spring, 1991), Journals and Proceedings, various Crown Lands and Lands and Forests Reports for yearly statements of Crown land under lease and license.
104. Debates, 1958, 13, February, 81, Henry Hicks, (L) Leader of the Opposition.
105. Debates, 1958, 17, February, 205-210; 19, February, 316, R.L. Stanfield, (PC) Premier.
106. Debates, 1958, 24, February, 578, 594, 601, 602, 603, 605, R.L. Stanfield, (PC) Premier.
107. S.N.S. 1958, c. 9 preamble, Section III.
108. Debates, 1962, 23, March; 4, April, 1083, 1085-1086, E.D. Haliburton.
109. Debates, 1962, 268, 353, 488, 1094, 1098, 1100, 1101. W.S. Kennedy Jones (PC) Queens abstained because his brother was the Mersey mill general manager.
110. S.N.S. 1962, c. 7.
111. Debates, 1965, p. 1521.
112. Debates, 1965, 1589.
113. Debates, 1965, 1607, 1609, -1610, 1613-1614, 1615.
114. Debates, 1965, 1700.
115. Orton, "Pulpwood Forestry in Nova Scotia", 8.
116. Johnson, Forests in Nova Scotia, 356.
117. Tim Whynot, "A Deficiency That Didn't Serve Forests", Halifax Chronicle Herald, 15, February, 1991; Interview with Bill Freedman, biologist, Dalhousie University, 4, February, 1991.
118. Debates, 1986, 1658; 1958, 522; 1965, 542; 1987, 2908, 2898.

### CHAPTER III

#### WILDLIFE, FIRE AND PESTILENCE

This chapter will detail wildlife legislation, particularly examining game animal regulatory schemes. This chapter will show that humans have consistently exploited the "lesser" animal life, and that "wildlife management" was, in reality, about keeping alive enough animals for hunters to kill. In addition, forest protection measures are reviewed which highlight the human reliance on technology and scientific 'advances' particularly in chemical forest management. These measures, fire protection and budworm control, when taken together with the wildlife management and control measures passed over the years clearly demonstrate the sustained view of the forest habitat as valuable only for its economic productivity.

The earliest wildlife legislation in Nova Scotia, An Act for the preservation of Partridges, and blue winged Ducks, 34 Geo. 3, c. 4 (1794) established a close season from the first day of March to the first day of September of each year, under penalty of a ten shilling fine. The Act was not a recognition of the intrinsic value of wild fowl. Rather, the preamble declared:

... the preservation of the before-mentioned species of birds, or fowls, during the time of their breeding, will be highly beneficial to the inhabitants of this Province...

Interestingly, the Act exempted "any indian, or other poor settler" (s. 3) from its strictures as long as the duck or partridge shot out of season was for her or his own purpose.

This protection legislation was but the first of a steadily growing list of animal population management and control measures. Almost invariably, only game animals and birds or pelt species such as mink were subject to regulation. Partridges and blue winged ducks were followed by trout in 1823-24.<sup>1</sup> Anyone fishing out of season (the first day of October to the first day of January) in Halifax County, was subject to a fine of one shilling per fish. If the offender did not pay, then a Warrant of Distress was levied against the offender's goods and chattels. If a distress sale was not possible, then the offender spent eight hours in the County jail. Once again, Indians and the poor were exempted from the Act's provisions as long as the fish taken were for personal consumption. Trout, like partridge, were beneficial to human society and the government acted to regulate hunting and fishing to preserve the game animals and fish for the benefit of all society.

Given that widespread and intensive colonization of Nova Scotia did not occur until after the 1749 Cornwallis landing, that moose protection legislation was necessary by 1843 clearly demonstrated the over-exploitation of wildlife. An Act for making regulations relative to the setting of Snares for catching Moose, 6 Vic., c. 19, recognized that the number of moose caught in snares was detrimental to maintaining the moose population "... and if persevered in will probably in a short time lead to the destruction of all the Moose in the



Province, thereby depriving the Indians and poor Settlers of one of their means of subsistence...".<sup>2</sup> As the preamble specifically stated that cattle as well as moose were caught and killed in snares, clearly Nova Scotian farmers were unhappy about the number and placement of moose snares.

Although moose snare prohibitions demonstrated a recognition of the connection between hunting practices and moose populations its assumption that a ban on a particular hunting practice would cure declining moose populations was naive. As early as 1801-02, Titus Smith had remarked on the scarcity of moose. The moose population was a long standing concern of wildlife officials. In fact, although over hunting was a problem, the moose were suffering from a parasite a fact that would not be discovered until advances in zoology in the twentieth century.<sup>3</sup>

Yet the statute was not a general regulatory measure. Rather than a province-wide prohibition on moose snares, the General Sessions were empowered to make rules, orders and regulations about setting, placing, and opening any snares, traps, gins, nets or pits (s. 1). In addition, local governments were authorized to establish the penalties for breaching the regulations. This local regulation suggested two things: either the damage occasioned by moose snares was not evenly distributed across the province or, alternatively, the provincial government was unwilling to commit enforcement

monies and thus preferred local regulation and local enforcement.

In 1844, almost one year to the day after the moose snaring legislation, a more general statute preserving the moose population was passed.<sup>4</sup> The Act provided that the General Sessions of any county or district could set hunting and close seasons within the area and regulate the sale and purchase of moose meat. As with the moose snaring legislation, penalties were locally imposed and enforced but maximum penalties of five pounds for hunting in the close season and two pounds for the illegal sale or purchase of moose meat were set. Wildlife management enforcement was viewed as a local obligation, like poor rates, rather than an obligation of the central government.

The various species preservation measures indicate a concern for wildlife perpetuation and recognition of humanity's impact on species populations. The 1844 Act for the preservation of moose, for example, stated:

Whereas the killing of Moose Deer, in this Province during the season when the Female is in an advanced state of gestation, an easy prey to the hunter, is highly detrimental to the increase of the species, and threatens its extinction...(preamble)

Species were not perpetuated because of any perceived intrinsic value, rather species were perpetuated for future hunters (and saved from irresponsible current ones) for food and sport for humans. While species were preserved and protected for human benefit, clearly human activity brought

legislators to the point of passing moose protection legislation otherwise why mention that a heavily pregnant cow was easy prey for the hunter? Even an 1813 amendment to the 1794 partridge protection legislation noted that the original close season had not fully answered the intent of preserving the partridges and ducks and thus the close season was extended. Clearly excessive duck hunting had not abated.<sup>5</sup>

That nature was viewed as something created to serve humanity is demonstrated in the chapter title chosen for the amalgamated game bird and moose legislation in the 1851 revision: Of the Preservation of Useful Birds and Animals.<sup>6</sup> Human need determined usefulness. Indians and poor settlers were still permitted to hunt the protected partridge, snipe or woodcock out of season. Blue winged ducks were inexplicably removed and snipe and woodcock added. As though to underline the utilitarian nature of the Act, s. 7 detailed fines and penalties to be paid by any dog owner whose animal is "Known to kill or accustomed to worry sheep or lambs..."

The companion piece of the "preservation of useful birds and animals" legislation presented the converse of "useful" animal preservation: destruction of those considered harmful. Two years after passage of the partridge and duck preservation legislation, the Council and Assembly had passed bounty legislation empowering the Grand Juries to set rules for killing wolves, bears, loup-cerviers, and wild cats, and paying a reward therefor.<sup>7</sup> Bounties were required, declared

the legislators, because predators had done "great damage" to Nova Scotian farmers by killing sheep and cattle. When presented together with the conservation legislation, a very clear picture is shown: good animals were to be protected, saving for humans those creatures perceived to be of human benefit, while those perceived as damaging to human interests were to be hunted and killed.

The original bounty legislation was to be in force for only one year (s. 3), but it was revived in 1801 because "...great damage still continues to be done to the farmers in different parts of this province by Wolves, Bears, Loup-Cerviers, and Wild Cats, killing and destroying their Sheep and other cattle..."<sup>8</sup> This time the Act remained in force for three years. It was continued again in 1833, as predators continued "killing and destroying sheep and cattle".<sup>9</sup> The wolf bounty must have been especially successful as wolves were dropped from the predator list. Local control continued with the General Juries empowered to set and pay bounties. The Act ran for three years and was continued successively until 1850.<sup>10</sup>

The extermination of wolves was not quite as successful as the farmers and legislators may have hoped, for only twelve years after wolves had been dropped from the predator list, the Council and Assembly passed An Act to encourage the killing of Wolves, 8 Vic., c. 47 in 1845. This time the province set and paid the bounty: forty shillings for an adult

and twenty shillings for a pup. The incentive was insufficient to bring down the desired number of wolves and in 1846 the bounty was raised to five pounds an animal, whether adult or young.<sup>11</sup> The 1846 appropriations list provided ten pounds to Albro Sweet and associates as bounty on the first wolf killed and to Charles Thompson for a wolf killed in 1844 (two years before the bounty was fixed!). James McDonald of Hants County was apparently paid twice for killing the same wolf, a total of ten pounds bounty on one animal.<sup>12</sup>

The government was quite prepared to "assist" nature and to improve its "utility" to society where nature itself had not provided sufficiently. In 1857, the Lieutenant Governor was reimbursed one hundred pounds for importing and preserving pheasants. He wanted to bring in black cock and capercaillie from Norway and Sweden as well but as it was too late in the season to import that year, the Committee on Agriculture approved the idea in principle but deferred any appropriation.<sup>13</sup> As there was no discernible reason to bring pheasants to Nova Scotia except to improve the shooting, one readily sees that nature was not valued in its undisturbed state but was to be "improved", made better by man's intervention. This pastoral conception of nature viewed humanity as the most favored of God's creatures who could and should "improve" nature, just as one would and could improve a carefully tended garden. Wildlife manipulation did not stop at pheasants. Colonel R.B. Willis introduced Hungarian

partridge and in March, 1896, nine whitetailed deer captured in Charlotte County, New Brunswick were released in Yarmouth and Digby Counties. In 1910, the People's Forest Fish and Game Association released another five deer in Yarmouth and Annapolis Counties.<sup>14</sup> Not all mid-Victorian Nova Scotians shared this view of nature as something to be tended and improved. In 1861, the Legislature found it necessary to pass legislation preventing people from killing robins, swallows, sparrows, and other song birds. The legislation forbade the killing of song birds because they were "effectual helpers" of the farmers, among the "most beautiful and useful class of the Creator's works...".<sup>15</sup>

The Act provided that anyone killing or offering for sale such dead birds was subject to a one dollar fine plus ten cents a bird. Even this statute contains an element of utilitarianism. Songbird preservation was necessary for birds to fulfill their role as "effectual helpers" of farmers and gardeners. While beautiful, sparrows and robins were also "useful birds". Interestingly, the Act also provided an exemption for "...birds killed for preservation as specimens of natural history" (s. 3). One might question the ethics of catching, killing, stuffing and mounting birds as "scientific specimens" if there were no birds left in the wild as a result. Humans were not the only threat. By the twentieth century, fish and game officials noted the birds' greatest enemies were feral cats and small boys with pellet guns.

Farmers and other rural residents were urged to protect the birds and were warned that the loss of small bird population would be deleterious to the farmer's crops.<sup>16</sup>

By 1864, the close season exemption for Indians and the poor had disappeared. As it is safe to assume that poverty and Indians continued to exist, presumably the exemption was waived because it was impossible to enforce. The management regime was more complex-- pheasants, otter, mink, musquash, and caribou were all regulated,<sup>17</sup> reflecting, in part, the growing Victorian passion for "management", and professionalization.

As with any regulatory regime, the more one attempted to manage, the more there was to manage. By 1870, there were mink ranches to be regulated.<sup>18</sup> In 1874, moose were so scarce in Nova Scotia that a three year hunting ban had to be introduced.<sup>19</sup> Indeed, from 1874 until the mid 1980's, moose and caribou seasons were closed more often than open. The first ban on beaver hunting was also imposed in 1874.<sup>20</sup> The beaver provide an interesting case study of the differing roles of wildlife as an exploitable commodity to be preserved (for their fur) and as pests to be done away with (when their dams flooded farm or timber land). Depending on their numbers, beavers were alternately protected and hunted.

The province first assumed responsibility for game law enforcement in the Act for the Preservation of useful Birds and Animals, 37 Vic., c. 13, s. 11 (1874). Game wardens, one

for each district established by Cabinet, were appointed to enforce the Act and especially to prosecute offenders and assist federal fisheries officers in protecting inland fisheries. (s. 11) Wildlife regulation and enforcement of hunting provisions became more centralized, concentrating authority in Halifax. As wildlife does not recognize geographic boundaries such a comprehensive provincial regime was far more sensible than leaving enforcement in the hands of local governments, not all of which would have the resources or desire to prosecute law breakers vigorously.

In 1874 came the commencement of an experiment in wildlife management involving government officials and concerned citizens in a joint management and enforcement scheme. In 1853, the Provincial Association for the protection of the Inland Fisheries and Game of the Province of Nova Scotia had been formed with each member obliged to:

represent to the Committee of Management President, Vice President, or Secretary, any unlawful obstruction in any stream or river, or any breach of the game laws, he may witness or be cognizant of, at his earliest opportunity.<sup>21</sup>

In 1874, the Association was reconstituted as the Game and Inland Fishery Protection Society of Nova Scotia, and its objects included lobbying for "...the adoption and carrying out of more stringent Rules and Regulations for the preservation of game and inland fish...".<sup>22</sup> The resurrected Game Society printed 2,000 pamphlets on the game laws as well as a number of large posters carrying the laws which were



distributed throughout the province at the Society's expense. Although the Society calculated that it would cost \$2,000 per year to enforce the Act, in 1874 the Legislature granted the Society only \$840 to carry out its duties. With that sum the Society hired six game commissioners, one for each district established in the province, and twenty seven wardens for the whole province. The secretary of the Game Society was the unpaid Co-ordinator of wardens and commissioners. In 1875, the government raised the Society's appropriation, permitting it to hire thirty-eight wardens and the Act was amended to create a Chief Game Commissioner to take over the onerous duties of the voluntary Secretary. In 1877, when licencing provisions were introduced, the Society was empowered to issue hunting licenses. In addition, Society members were appointed volunteer wardens and assisted the provincially employed wardens and commissioners in their duties as game law enforcers. Local correspondents kept track of deer, moose, and other game populations. This voluntary assumption of enforcement activities must have delighted the cost conscious provincial government. By financing enforcement out of fines collected and licenses issued, the call on the general revenues was substantially reduced.<sup>23</sup>

In 1875, "Useful birds and animals" was amended to provide that, if the prosecutor in a game laws infringement charge was anyone other than a provincially employed game commissioner or warden, the half of the fine not given to the

informer would be forwarded to the Treasurer of the Society to assist in its activities. Further, the skins and horns of any seized poached animal were to go to the Society for disposal as it saw fit. The poached meat was to be sent to the local overseers of the poor for distribution among their charges; if the overseers were too far away, the commissioner could distribute the meat directly to the poor.<sup>24</sup>

The Society continued its officially sanctioned enforcement activities until the passage of "The Game Act, 1908", S.N.S. 1908, c. 17. In 1907, "The Game Act, 1907" consolidated the various games laws and amendments retaining the Game Society in the regulatory regime.<sup>25</sup> Yet, one year later a new game act was passed placing all enforcement responsibilities in the hands of provincially employed game wardens. The Game Society's membership was primarily limited to the Halifax elite, and its small size and limited influence and funds may have swayed the government to place enforcement in the hands of civil servants--even though in some areas of the province sentiment remained strong that all game laws should be municipally administered.<sup>26</sup>

Two game laws were, in fact, before the House in 1908. One was the comprehensive 1908 Game Act and the other was a private members bill introduced by the Queen's County M.L.A. "The Game Act, 1908", introduced by Premier Murray went through all three readings without major debate, even on

clause by clause second reading. The private member's bill, which died on the order paper, was fully debated.

Charles Cooper, the Queen's County M.L.A., had two problems with "The Game Act, 1907", the length of the moose season s. 3(1) and the requirement that non Nova Scotian hunters have their moose heads stuffed and mounted in Nova Scotia s. 58(1). He therefore introduced a bill amending the offending sections. Guides had first been licensed in 1896 and guiding wealthy foreign hunters was an important source of income in some parts of the province. Cooper wanted to extend the moose season by fifteen days, arguing such an extension would not have a deleterious effect on the moose population and citing the Game's Society's 1907 Annual Report which stated moose were quite plentiful. Setting back the moose season opening from the 15th of September to the 1st of October was disliked by Queen's County's licensed Guides and others as it had prevented "many foreigners from coming in to the County who when they came there left considerable money behind them".<sup>27</sup> In support of the second part of this motion, removing local taxidermy requirements for moose heads, Cooper claimed the protectionist measure was "mad" and just another example of economic "protection for protection sake". Attorney General William Pipes retorted that the season was shortened because moose were still in heat the last 15 days of September, responding to anything vaguely resembling a moose call and in the mating season: "...he [Pipes] was opposed to

permitting the hunter to take advantage of the moose that way. It must be conceded that the sexual instinct was one of the noblest of animated nature and he did not think the moose should be called at that season and shot".<sup>28</sup>

While there was concern that hunting moose during mating season was somehow "unsportsmanlike", the thrust of the 1908 legislation and succeeding statutes was anthropocentric wildlife regulation. Indeed, the Lands and Forests Act, S.N.S. 1926, c. 4, which created a new Department of Lands and Forests, provided that the Minister was, inter alia to promote "the protection, preservation and propagation of game and game fish". (s. 3(d)) The Act's protection extended only to game animals. The 1926 legislative regime remained substantially intact until the 1987 Wildlife Act, S.N.S. 1987, c. 13. The 1926 Act, like nineteenth century legislation held that "beneficial" wildlife was to be encouraged, protected, and propagated; 'detrimental' wildlife was to be discouraged. Feral cats were added to the "pests" list as one of the chief predators of ruffed grouse, songbirds, and squirrels. Moose hunting was banned completely in 1938 and the season not re-opened for almost 50 years.<sup>29</sup>

Although first discussed in 1912 and 1913, game sanctuaries were not created until the 1920's. In 1927 and 1928, two reserves of approximately 200 square miles each were created at Tobeatik and Liscomb. A third reserve at Waverley was added in 1929 and a fourth was designated at Chignecto in

1937. In 1960, the Act added further a prohibition against beaters for deer hunters to the long standing ban on dogs and disallowed hunting from aircraft. The only exception was for predatory animals, with consent of the Minister.<sup>30</sup>

By the mid 1980's, the Lands and Forests Act was unwieldy and unworkable. The 1926 comprehensive forest management plan was distorted and supplemented by additional legislation. Departmental officials and others felt wildlife protection and management provisions needed extensive revision. The 1984 Royal Commissioners declared their support for a conservancy policy arguing that there would be:

a substantial increase in all forms of wildlife. In fact, there could be such an abundance that some wildlife species could come to be regarded as pests, and hunting seasons may have to be extended, and bag limits increased. Hunting and recreational opportunities will be improved and the tourist industry will find more opportunities to attract sportsmen if the season is extended.<sup>31</sup>

From the ecological perspective such pronouncements were chilling. The view of wildlife as no more than an income source with no right to existence outside its relationship to humanity, epitomized the worst of liberalist resource exploitation. The Commissioners were declaring their support to increase wildlife numbers so that more hunters (preferably from out of province) could kill more animals. There was no appreciation of humanity as part of the ecosystem. Rather, the Commissioners clearly viewed nature as a tool to be used for the benefit of humanity. No other inhabitants of the province had a right to existence save as accorded such a

right by humans. The commissioners evinced as little appreciation for wildlife as their predecessors in the early nineteenth century who introduced bounties on 'noxious' animals.

In the 1987 Wildlife Act, (now R.S.N.S. 1989, c. 504), the Royal Commissioners' professed greed and self-interest carried over into the objectives of the legislation--although not in quite such blatant language. In the debate on second reading, the Minister of Lands and Forests noted that while wildlife regulations had changed little since the Lands and Forests Act, the new Act, in concert with the other legislation presented as part of the new forests policy, was to change that. The government was taking seriously its role as trustee of the wildlife which was "...owned by the general public as a whole..." While many ecologists might argue that wildlife cannot be "owned" by anyone, most would rather have wildlife considered a public trust rather than an attribute of property privately held by the landowners of the province. Section 4 of the Act vested all wildlife "while in a state of nature" in the Crown and further stated that no person could acquire property or rights in that wildlife except in accordance with the Act.<sup>32</sup>

Recognizing the economic importance of wildlife to Nova Scotia the Act charged the Department with managing wildlife "...for its optimum recreational and economic uses" (s. 2(d)) The Act's other objectives included developing and

implementing policies and programmes to maintain species diversity at sufficient levels to meet management objectives, and integrating woodlands and Crown lands policies with wildlife policies to ensure adequate habitat for wildlife. Only one of four objectives was to regulate hunting and the sale of and possession of game. While the Act clearly placed wildlife within a context which did not dispute the primacy of humans in the ecosystem, the Wildlife Act did attempt to implement a more holistic and integrated management framework.

#### **FIRE**

Throughout the nineteenth and early twentieth centuries two significant natural and man made phenomena affected the Nova Scotian forests: insect infestation and fires. Fire danger increased as human activity in the forest increased. Although woodland fires had always occurred from natural causes such as lightning, increased human activity increased the number and size of forest fires. Portable steam powered saw mills, railway locomotives, arson, careless brush burning and smoking all increased the number and severity of fires. As early as 1875, it was recognized that much of what was then barren land had been heavily forested in 1783 and that many of these barrens were created by repeated burning of areas which had scant topsoil and little vegetation even before the fires. Some of these fires had been deliberately set to burn off ground cover in favour of blueberry bushes. Indeed, some of the blueberry barrens were burned over so many times that not

even blueberries would grow. Even where fires began on the barrens, they could rapidly spread and burn virgin or old growth forest, as well as the barrens. Fires on logged-over areas were particularly difficult to control as the refuse and slash left behind at the end of a logging operation dried quickly and made excellent fire fodder.

Although landscape changes occasioned by fires had been observed and decried as early as the mid-nineteenth century, governmental reluctance to interfere with private property rights and reluctance to implement a provincially controlled and administered fire prevention and fighting scheme, led to local communities being empowered to control "local" problems. This forestalled the imposition of an effective fire protection regime until well into the twentieth century. In Schierbeck's first annual report to the House he estimated that approximately twenty percent of the Province or some three million acres was barren and that an aggressive reforestation campaign was necessary to rehabilitate these lands.<sup>33</sup>

Fire prevention legislation was passed in 1761, just twelve years after the British began their first sustained and systematic effort to colonize Nova Scotia.<sup>34</sup> Like the other early colonial legislation, its effect was local. The Grand Juries were empowered to regulate their counties to prevent damage caused by fires set to clear land for settlement while at the same time prejudicing land clearing as little as



possible. To give force to any regulations promulgated, the justices were authorized to set fines up to five pounds for breach of any fire regulations.<sup>35</sup>

Further concerted attempts to curb fire damage did not occur for another ninety years. The 1851 revision was remarkably similar to the 1761 legislation adding only a provision permitting imprisonment of any offenders who could not pay the fine levied, or who did not own chattels and personal property which could be seized and sold to satisfy the fine.<sup>36</sup> By 1888, the fire legislation was more detailed, providing legislative standards for setting fires, forbidding careless smoking, discharging firearms, or fire setting.<sup>37</sup>

Railway engineers and railway companies were not exempt from the Legislature's scrutiny. Standards were set for engine smokestacks and brush clearing on railway beds. Both the engineer and the railway company were expected to enforce these standards and were subject to large fines for failure to so do.<sup>38</sup> By 1913, the Legislature set railway emission standards to those of the Intercolonial Railway.<sup>39</sup> In addition, both portable and permanent steam mills were required to employ watchmen when the mills were in operation "...during such hours of the day or night as the mill is not running, under a penalty of twenty dollars a day for each day that such a watchman is not so employed".<sup>40</sup> Timber bosses were obliged to read the fire prevention regulations to their crews at least once a week.<sup>41</sup> Fire warning posters were to

be posted and rangers, municipal officials, justices of the peace, sheriffs, coroners, highway surveyors, and constables could dragoon all able-bodied men in the vicinity of a fire into firefighting. Anyone refusing an order to join the firefighting effort was subject to a penalty ranging from five to 100 dollars.<sup>42</sup>

The Chief Rangers, among their other duties, were also charged with holding "formal investigations"--in effect inquests into fire origins--complete with power to subpoena witnesses. Husbands and wives were competent but not compellable witnesses against each other and no one was excused from answering any question put to him or her on the grounds that an answer might incriminate. However, the Act did stipulate that any such answer was inadmissible at any subsequent civil or criminal proceeding--except one for perjury.<sup>43</sup> The Municipal Chief Forest Rangers were also charged with the onerous duty of preparing and collecting the annual municipal assessment for the Forest Protection Fund.<sup>44</sup> Given the dubious titles in much of the province, this could be a time-consuming and frustrating task. The Chief Rangers were collecting their own salaries when collecting the Fire Protection Funds. The provincial government, ever anxious to reduce calls on the provincial treasury, was content to shift to the municipalities the cost as well as the responsibility for fire protection. As long as fire protection and prevention in the rural as well as in the urban areas was

defined as a local service, the province could shift the administrative costs to the local communities. But, as a survey of the annual Crown Lands Report and Department of Lands and Forests Reports show, not all counties chose to participate in the regulatory regime established by the province. Thus significant areas of the province were, at times, without forest fire protection. Fiscal conservatism detrimentally affected forest management.<sup>45</sup> Tax levy collection duties were transferred to the municipal tax assessors in 1917, but when Crown Lands administration and the fire and game laws were consolidated in 1926, tax collection duties were again placed on the Chief Rangers.<sup>46</sup>

With the creation of the Department of Lands and Forests in 1926, the province began a concerted effort to improve its ability to combat forest fire. More observation towers were built, more equipment purchased, and more fire roads built to provide access to remote areas. In addition, the Attorney General was given the authority, on a recommendation in writing from the Chief Forester, to order an owner or occupier to clean up a perceived fire hazard. Upon failure to do so, the Chief Forester could remove the danger and the owner or occupier would be assessed the cost of the clean up.<sup>47</sup>

In 1931, burning permits were introduced, and permits were required to operate steam engines at all times except in winter. Although having a permit was not a defence in negligence, the absence of a permit was *prima facie* evidence

of negligently setting a fire or operating a steam engine.<sup>48</sup> Lastly, in 1935, the Attorney General was awarded the additional authority to close the woods or restrict access during the fire season thus completing a comprehensive fire protection regime.<sup>49</sup>

Although the wording became more sophisticated, and the equipment and resources of the fire prevention officials increased, the legislative regime remained largely intact until the reorganization of the Department of Lands and Forests commenced in 1986. Although the fire tax was abolished in 1978,<sup>50</sup> and replaced by the new municipal property tax which was assessed and collected provincially, it was not until the 1986 Forest Act that it was clearly stated that the primary responsibility for fighting fires in the forest was a provincial and not municipal responsibility.<sup>51</sup> However the Act explicitly stated that while the Minister had primary responsibility to fight forest fires, the Department had no obligation to fight fires on either Crown land or private property caused either by a forest fire or by fire fighting.<sup>52</sup>

#### **PESTILENCE**

The differing legislative responses to fires and insect infestation demonstrates clearly the legislators' perception of the environment. While fire protection legislation was readily passed, governments refrained from enacting measures to combat insect infestations. The battles between the

scientific managers who advocated technological answers to forest health and the ecologists and environmentalists who urged non-chemical responses were conducted primarily in the courts, not on the floor of the Legislature.

Partly because of the lack of effective forest pests combat measure until the post World War II explosion of the chemical industry, the combatting of insect damage was not legislatively controlled until the latter half of the twentieth century. Fires, save those caused by lightning, generally resulted from human negligence or intentional action, and thus a comprehensive regulatory regime to decrease the number and severity of forest fires could be implemented. But insects, like Moses's locusts, were beyond control by government. Biological evidence suggests for example the spruce budworm has periodically invaded Nova Scotia's forests. Twentieth century infestations occurred in 1915 1917, 1923 1927, in the 1950's, and again in the 1970's. These infestations, and those of the black headed spruce budworm, were generally concentrated in the least resistant old growth Cape Breton softwood forests. The 1915 and 1923 infestations ultimately collapsed with little or no human intervention. Efforts to fight forest pests by pesticides were undertaken in the 1950's, and in the 1970's proposals to spray pesticides culminated in court actions and lobbying efforts to stop spraying. The anti-pesticide campaigns were followed in the 1980's by efforts to prevent herbicide spraying in Nova

Scotia. The pesticide and herbicide issues were closely linked. The major pulp and paper companies argued that it was necessary for them to reforest the budworm damaged areas (and their clear cuts) with herbicided, softwood, even aged monoculture plantings to provide sufficient raw materials for continued operation of their mills.

Spruce budworms are the most significant lepidopteran defoliators of conifers in Canada. The moths produce a single generation each year. Each female lays an average of ten egg masses of approximately twenty eggs per mass on host conifer foliage. The eggs hatch after ten days and the first instar larvae disperse on silken threads and may move from stand to stand by "ballooning" on their threads. The first stage moults, over winters, and emerges in late April to early May. It feeds on new needles, seeds and male flowers of the host tree. The last stage of the caterpillar does the most damage, accounting for eighty-seven percent of the total defoliation. In early July, the caterpillar pupates emerging as the adult moth in eight to twelve days. The adult moths may disperse widely, typically travelling fifty to 100 km and with a strong downwind may move more than 600 km.<sup>53</sup>

Dead trees occasioned by a budworm infestation were unsuitable for pulp and paper, the main forest industry by the 1950's. Large dry, dead areas increased the forest fire risk both to the dead areas and to adjoining healthy areas. Dieback also resulted in animal habitat loss. In unchecked

budworm dieback, forest regeneration took fifty to 100 years and the successional forest would be mixed wood, not exclusively softwood, and thus less valuable to pulp and paper companies.

Balsam fir is most vulnerable to the budworm, followed respectively by white spruce, red spruce and black spruce. These species cover most of Cape Breton and significantly supply the major pulp mills in the province. Widespread dieback can trigger enormous economic displacement as loggers, drivers and mill workers are laid off by product unavailability. The 1976 spruce budworm outbreak caused a loss of the equivalent of ten percent of the total provincial softwood reserves and fifty percent of the Cape Breton Highlands reserve. As the Stora mill at Point Tupper drew significant pulpwood from its Crown licenses on the Highlands, the impact was potentially catastrophic. To forestall a total economic collapse of a large part of rural Cape Breton the government initiated a massive cutting operation to salvage budworm damaged trees.<sup>54</sup>

Nova Scotia forests are not alone in suffering budworm infestations. New Brunswick, equally dependent on lumbering and pulp mills, also suffered a severe outbreak of the pest in the 1950's. The New Brunswick response and its repercussions affected the actions of the Nova Scotian government in the 1970's when confronted by its own budworm crisis. In 1953, the New Brunswick government authorized a massive aerial DDT

spray to combat the budworm in the Miramachi region. In addition to being an important lumbering and pulp wood area, the Miramachi River was one of the most significant salmon spawning areas in Eastern North America. In June, 1954, aerial spraying of one half pound of DDT in an oil emulsifier per acre commenced over a huge area of northeastern New Brunswick. The spray drifted through the balsam forest and entered the water table. No efforts were made to avoid flowing water but with ground water contamination and spray drift, any such effort in any case would have been futile.

Within days of the first application of DDT, dead and dying salmon, brook trout and birds were reported. The insects upon which both the fish and the birds fed were killed by the spray and thus those birds and salmon which did not die directly of DDT contamination were killed by eating poisoned insects or by starvation when their food web was disrupted. By August, not one of the salmon hatched in 1954 remained alive. For every six of the 1953 hatchlings, only one remained alive after the spraying.<sup>55</sup> For all the damage done to other wildlife, the budworm proved to be a resilient little pest and DDT spraying was repeated in the 1955, 1956, and 1957 seasons. By 1957, almost fifteen million acres had been sprayed. Still the infestation continued and the planes went up again in 1960 and 1961.

In part because of the consternation following publication of Carson's Silent Spring, DDT, a chlorinated



hydrocarbon, was replaced by Fenitrothion, an organophorus ester. Fenitrothion disrupts the neural system of the budworm, killing it. Twenty-five years after the DDT campaign began, the New Brunswick forests were still being sprayed annually but the budworm was not eradicated, only controlled.<sup>56</sup>

Against this background, in 1975, Nova Scotia Forest Industries and Scott Paper Limited applied to spray Fenitrothion on budworm infested forests in Cumberland County and the Cape Breton Highlands. The Scott application was subsequently withdrawn, concentrating the arising controversy on the NSFI application.<sup>57</sup>

After it became public that the Department of Lands and Forests was considering the spray applications, a number of environmental and natural history groups organized a symposium on the spray issue in Halifax in late January, 1976. Speakers included representatives of NSFI, Scott Paper, the President of the Conservation Council of New Brunswick, and experts from Ottawa, Fredericton and Nova Scotia. Over 150 people attended--although no representatives of the Department of Lands and Forests were present, apparently on orders from Cabinet. Shortly after the symposium, the Department released a statement recommending against the remaining aerial spray application. However, on 14 February 1976, Cabinet announced it was overruling the Department and that it had voted in favour, in principle, of spraying 100,000 acres of the Cape

Breton Highlands with Fenitrothion. Scientific research appeared to indicate that Fenitrothion would, after application, dissipate into simple, non-toxic, inorganics which did not accumulate in the food web and so would be harmless to other life forms. However, as was acknowledged at the 1976 symposium, once a spray programme began, spraying could turn a temporary outbreak into a chronic problem necessitating continuing annual applications of chemical pesticides.<sup>58</sup>

For environmentalists and others, there were serious issues involved in the spray question, not the least of which were human health concerns. In addition, with the DDT example fresh in mind, there were concerns about whether or not the proposed chemicals really were as safe as the manufacturers stated. The Cabinet announcement in favour of aerial spraying spurred a grass roots campaign to stop spraying before it began. In addition to Elizabeth May--now a noted Canadian environmentalist, then a Cape Breton waitress-- and her father (a former executive with Aetna Life and Casualty and former president of the American Society of Insurance Accountants) there were carpenters, a Roman Catholic priest, woodlot owners, fishermen, University College of Cape Breton officials and a printer in Sydney involved in an effort to stop spraying.<sup>59</sup>

The chemical anti-budworm spray programme was ultimately shelved in 1976 when the Cape Breton Post carried a front page

story about possible links between Reye's Syndrome, a rare, often fatal virus, and the New Brunswick spray programme. A Halifax doctor noticed the high incidence of Reye's Syndrome in New Brunswick children treated at the I.W.K. Children's Hospital in Halifax. In seeking to identify the reasons for the high occurrence of the syndrome in New Brunswick, he investigated, inter alia, the chemicals used in New Brunswick's spray programme. His findings appeared to suggest a link between the programme and children dying from Reye's syndrome. Shortly after the Post story, Cabinet announced cancellation of the proposed Nova Scotian spray programme.

Despite the best efforts of the pulp companies to revive budworm spraying, the ban remained in effect. As Parker Barnes Donham, then the Post's editor, noted, Lands and Forests Minister Vince MacLean, an astute reader of public opinion, engineered a cabinet consensus against spraying when an informal newspaper poll showed public opinion to run eleven to one against spraying.<sup>60</sup> The forces opposing the pesticide spray programme were not wholly negative. Many advocated non chemical methods of combatting the insects, such as immediate massive cutting programmes of over mature balsam fir, the highest risk trees. Such measures were more labour intensive and thus more expensive than aerial spraying and the government and pulp companies, unwilling to commit the resources, allowed significant numbers of trees to die.

After the 1970's infestation collapsed, large areas of the highlands and other affected areas needed reforestation, setting the stage for another chemicals versus manual labour debate. The pulp companies and the government (by this time Conservative, not Liberal) were determined to assist the tree plantations by herbicide applications to kill hardwoods such as alders and scrub to foster softwood regeneration. The campaign to stop the spray of 2,4-D and 2,4,5-T (known in Vietnam as Agent Orange) united those as diverse as a Digby surgeon, Dr. William Thurlow, Chief Ryan Googoo of the Whycocomagh Reserve, Victoria Palmer, artist and farmer, and even officials of the Department of Lands and Forests. Bob Bancroft, a Lands and Forests biologist in Antigonish, was twice called to the Deputy Minister's office to discuss his (public) anti-spray views. In Annapolis, a citizen's group condemned the County Council's decision to spray 2,4,5-T on roadsides to prevent the spread of noxious weeds. In Richmond County, the County turned down a request from the Department of Agriculture to spray for weed control, noting they preferred manual weed control to spraying.<sup>61</sup>

The real arena for the battle however, was not the municipal councils or the Legislature. It was clear that government had no intention of using either the Lands and Forests Act or the Environmental Protection Act to stop or even regulate herbicide spraying so the protesters took their battle to the courts. In the first "spray trial" in 1982, a

group called the Cape Breton Landowners (and others) took on Stora. The plaintiffs sought a permanent injunction to stop the "big three" pulp companies from spraying 2,4 D and 2,4,5 T. The action was discontinued against Bowater and Scott when Scott and Bowater withdrew their spray applications.<sup>62</sup> In an interlocutory hearing, Mr. Justice Burchell granted an interim injunction on six areas where adjacent or nearby landowners had filed affidavits in support of the injunction.<sup>63</sup> Nine days later the injunction was extended to include downstream areas on the Middle, North and Margaree rivers.<sup>64</sup> In granting the interim injunction, His Lordship followed American Cyanamid,<sup>65</sup> finding that the plaintiffs' claim was not frivolous or vexatious, that there was a serious question to be tried, and that the applicants had some real prospect of succeeding at trial.

The victory was shortlived. The respondent successfully appealed the interim injunction and in allowing the appeal, their Lordships stated:

[I]t is apparent that full and proper trial of the issues herein can and should be held well before next summer, the earliest date that the spraying could commence. In our opinion, the complicated issues of fact and law raised in this case should not be determined on an interlocutory appeal such as this but only after full trial and hearing on the merits.

The appeal accordingly is allowed and the decisions are set aside insofar as they authorize interim or interlocutory injunctions.<sup>66</sup>

Regardless of one's opinion of the Appeal Division's interpretation of the law of interim injunctions, the decision's practical effect was to send the matter back to the lower courts and in 1983, Mr. Justice Nunn was assigned to hear Falmer et al v. Nova Scotia Forest Industries.<sup>67</sup> The plaintiffs were again seeking injunctions to stop 2,4-D and 2,4,5 T spraying, as well as Esteron 3-3E, a mixture of 2,4-D and 2,4,5 T. In addition, the plaintiffs sought a declaration that they had a right to be free from exposure to the above chemicals.

Mr. Justice Nunn's decision was a complete loss to the plaintiffs. On the issue of the declaration sought, His Lordship stated it was beyond the power of the Court to grant such a declaration which was a matter more properly addressed by the government or a regulatory agency.<sup>68</sup>

On the complaint that the spraying of herbicides would violate the Fisheries Act, R.S.C. 1970, c. F-14, ss. 30, 31(1), and 32(2), the court found there was no nominate tort of statutory breach. On the question of private nuisance, the court ruled that no substantial interference with the enjoyment of property (in this case interference with human health) and proof of damage had not been demonstrated by the plaintiffs. On the issue of trespass, Mr. Justice Nunn declared that

...the strongest evidence indicates that these substances sprayed in Nova Scotia will not get into, nor will they travel via the groundwater to

any lands of the plaintiffs adjacent to or near the sites to be sprayed.<sup>69</sup>

And, as to any liability capable of sustaining a favourable judgment pursuant to Rylands v. Fletcher,<sup>70</sup> the court found that the same argument re leakage to the plaintiffs' land that sustained the finding against the plaintiffs in trespass, equally defeated the Rylands v. Fletcher claim: there was no proof that the substances complained of would leak onto the plaintiffs' lands.<sup>71</sup>

The varying responses to the decision in Palmer illustrate societal divisions on the spray issue. While lamented by environmentalists and ecologists, spraying was applauded by Truth in Forestry, a lobby group comprised primarily of woodlot owners, pulp truck drivers and mill labourers. But this support for the herbicide spray programme did not indicate wholesale support for chemical management of Nova Scotian forests. When Lands and Forests offered a BTK (*Bacillus Thuringiensis* Kurstaki) bacterial anti budworm spray programme to private woodlot owners in West Pictou, only twenty-five out of 400 owners demonstrated any interest in the programme.<sup>72</sup>

The struggle was not concentrated only in the Cape Breton-Pictou area. In Shelburne County, the Barrington Council "...succumbed to the wishes of the public and abandoned consideration of using herbicide". In Yarmouth, the Concerned Citizens of Clare blocked plans of the Department of Lands and Forests to spray 174 acres around Mayflower in 1984.

Five years later, in considering another spray proposal, the Warden of Yarmouth Municipality said: "Thalidomide was considered safe, except for children born without arms...Let's have a little foresight instead of hindsight with Vision [a glyphosate herbicide which kills hardwoods]\*. The opposing argument was put by a local woodlot owner: "...to spray is the only way to get the wood where we should have it...for the future of our kids...and you fellas are worrying about the environment."<sup>73</sup>

The 1983 court battle did not end the challenges to province's refusal to deal legislatively with the chemical spray issue. In 1988, environmentalists tried again (unsuccessfully) to challenge the herbicide spray programme.<sup>74</sup> In July, 1988, the Ministry of the Environment granted permits to Stora and North Inverness Forest Management Ltd. to aerially spray 3,455 h.a. aerially in Pictou, Antigonish, Guysborough, Inverness, and Cape Breton counties with the herbicide Vision. These permits were to expire in December, 1988.

On the first of September, 1988, the Margaree Environmental Association was incorporated under the Societies Act, and on the second of September, the Association commenced two actions; one in Supreme Court seeking certiorari; a declaratory judgment that the permits were null and void; mandamus to compel the Minister to withdraw the permits; and, a prohibition order preventing the Minister from granting new



permits. The plaintiffs launched another action in County Court appealing the grant of the spray permits pursuant to the provisions of s. 53 of the Environmental Protection Act, S.N.S. 1973, c. 6.

On 14, September, 1988, Anderson, C.C.J., sitting both as a County Court Judge and as a Local Judge of the Supreme Court, granted Stora's application to be added to the action as an intervenor and then struck both actions, stating that as the plaintiff was unincorporated at the time the permits were issued, then the plaintiff had no standing to bring the actions.

The plaintiff appealed. The Appeal Court upheld Judge Anderson. Indeed, the Court went beyond the trial judge's decision, finding that as the permits had been valid, and the company had sprayed Vision under those valid permits, the issues in the appeal were moot.<sup>75</sup> The learned appellate judges dismissed arguments the appellant's argument that the nature of the spray issue was such, and because spray permits were of a brief albeit recurring duration, that by insisting on valid permits before hearing any action, both the ministry and the forest companies were evading judicial scrutiny.<sup>76</sup> The Court stated that it was "sensitive" to its law making function, and found no reason to pronounce upon the provincial government's "legislative authority" in the absence of a live dispute between the parties.<sup>77</sup>

The differing responses to forest protection against fire and insects illustrated that governmental control over the environment may be achieved as easily by refusal to implement a comprehensive regime as by promulgating one. Where human activity was perceived as harmful to the economic interests, in this case lumbering and pulp and paper companies, the government was prepared to create a programme of control, managed by the provincial government, which included public input and participation through educational campaigns, and voluntary cooperation. But where public demands for involvement in forest management were seen as harmful to the economic interests of the province by the forest industry complex and the government, the government chose to place its faith in the chemical industry and to reject public demands for greater accountability in forest management.

Perhaps because forest fire prevention could be viewed as a "no loss" political programme, governments traditionally were prepared to implement measures to protect the forests. However, the pesticide and herbicide spray programmes and their management by government pitted two sectors of society against each other and the debate assumed the character of economy versus environment. In such a dichotomy, governments, imbued with the environmental management ethos, placing humanity above and outside the ecological life cycle, invariably sided with "economy". Where the goals of economy could be achieved by legislative action, the Legislature was

prepared to act. Where "economy's" desires were best met through government inaction, the government was equally prepared to refrain from exercising its authority.

The same philosophy was evident in wildlife regulation. The government was prepared to act to protect game animals and other animals which were perceived to have an economic benefit. Economy always won out over environment where the two were placed in conflict.

**CHAPTER III**

**ENDNOTES**

1. An Act for the preservation of trout, 4 & 5 Geo. 4, c. 26.
2. An Act for making Regulations relative to the Setting of Snares for catching Moose, 6 Vic., c. 19, preamble.
3. Titus Smith, Jr., "A Natural Resources Survey", 40; Journals and Proceedings, 1962, Appendix, No. 14, p. 29.
4. An Act for the preservation of Moose, 7 Vic., c. 73 (1844).
5. 53 Geo. 3, c. 16, (1813), preamble.
6. R.S.N.S. 1st Series, c. 92 (1851).
7. An Act to encourage the Killing of Wolves, Bears, Loup-Cerviers, and Wild Cats, 36 Geo. 3, c. 12 (1796).
8. 41 Geo. 3, c. 7, preamble. (1801).
9. 3 Wm. 4, c. 70, preamble.
10. The 1833 Act remained in force for five years and was then continued yearly in 1837, 1838, 1839, 1840, 1841, and then for five years in 1842 and again in 1847.
11. 9 Vic., c. 17 s. 1 (1846).
12. An Act for Applying certain Monies therein mentioned for the service of the year [1846] and for Other purposes, 9 Vic., c. 8.
13. An Act for applying certain monies therein mentioned for the service of the year [1857], and for other purposes, 20 Vic., c. 29 (1857); Journals and Proceedings, 1857, Appendix No. 76, 426.
14. Journals and Proceedings, 1930, Appendix No. 12, 61; Journals and Proceedings, 1931, Appendix No. 12, 5, 63. Chief Provincial Forester Otto Schierbeck reported that Carmen Odell, Annapolis Royal, advised him about the 1896 release. Schierbeck also reported that Canadian Geological Survey archaeologists found whitetailed deer bones in Indian shell heaps although the deer were entirely extinct in Nova Scotia by the nineteenth century and there was no known migration of deer by the New Brunswick-Cumberland County border; Journals and Proceedings, 1912, Appendix No. 2, 5.

15. An Act to prevent the destruction of the smaller Kinds of Birds, 24 Vic., c. 35, preamble (1861).7,9.
16. Journals and Proceedings, 1927, Appendix No. 9, 23.
17. Of the Preservation of Useful Birds and Animals, R.S.N.S. 3rd, c. 92, ss. 3, 7, 9 (1864).
18. An Act for the protection of Mink Breeders, 33 Vic., c. 11 (1870).
19. 37 Vic., c. 13, s. 1 (1874).
20. 37 Vic., c. 13, s. 7.
21. Provincial Association for the Protection of the Inland Fishery and Game of the Province of Nova Scotia, Annual Report, 1853.
22. Game and Inland Fisheries Protection Society of Nova Scotia, Annual Report, 1876, n.p.
23. Game Protection Society, Annual Reports, 1898, 1900, 1906, 1907; Journals and Proceedings, 1877, Appendix No. 19, 1 3.
24. 38 Vic., c. 5, s. 2-3 (1875).
25. S.N.S. 1907, c. 27, ss. 59-64.
26. Journals and Proceedings, 1907, Appendix No. 9, appended report of Bertram Bower, Chief Forest Ranger, Shelburne County, 21.
27. Debates, 1908, 463.
28. Debates, 1908, 464, 465.
29. S.N.S. 1950, c. 39, s. 5.
30. Journals and Proceedings 1930, Appendix No. 12, 65; 1931, Appendix No. 12, 65; 1939, Appendix No. 12, 71; Deer hunting with dogs was first banned in 1875; S.N.S. 1960, c. 36, s. 2, s. 5.
31. Report of the Royal Commission on Forestry, Summary, 7.
32. Debates, 1987, 2409.
33. See Journals and Proceedings yearly, for annual reports on fire causes, acreage burned, quality of land burned, etc.; Journals and Proceedings, 1875, Appendix No. 19, 1; Journals

- and Proceedings, 1928, Appendix No. 9, 17; Journals and Proceedings, 1937, Appendix No. 12, 15; B. E. Fernow et al., Forest Conditions of Nova Scotia, 38, Journals and Proceedings 1927 Appendix No. , .
34. Journals and Proceedings, 1903-1904, Appendix No. 9, 2; 1905, Appendix No. 9, 2; 1921, Appendix No. 9, appendix; 1927, Appendix No. 9, 11-12.
  35. An Act for preventing damages by unreasonable burning or Firing of the woods, 4-5, Geo. 3, c. 5 (1761).
  36. Of Burning Woods and Marshes, R.S.N.S., 1st Series, c. 102, s. 3 (1761).
  37. An Act for the Protection of Woods against Fires, 46 Vic., c. 23, ss. 1-5 (1888). Sections 5 and 6 further provided that anyone who carelessly set or maintained a fire on his own land or someone else's, would forfeit double damages to the Crown or any other person injured by the fire. Further, the onus was on the land owner or occupier to prove to the satisfaction of the Court that the fire on his land was not set with his consent or knowledge to avoid liability rather than on the Crown having to prove it was set by or with the concurrence of the owner or occupier.
  38. 46 Vic., c. 23, ss. 9-16. Both the Company and the engineer could be liable for a penalty up to \$100.00.
  39. S.N.S. 1913, c. 3, s. 10(1).
  40. "The Forest Protection Act", S.N.S. 1913, c. 3, s. 5. The provision applied to any mill used within sixty rods of the woods. (1 rod = 16 1/2 feet).
  41. S.N.S. 1913, c. 3, s. 6(1).
  42. S.N.S. 1913, c. 3, s. 8.
  43. "Fire inquest" provisions first passed, S.N.S. 1903, c. 4, c. 1, s. 16, added S.N.S. 1913, c. 3, s. 23. Witness provisions added S.N.S. 1905, c. 12, s. 5.
  44. S.N.S. 1913, c. 3, s. 26 (first passed S.N.S. 1905, c. 12, s. 2).
  45. Journals and Proceedings, 1905, Appendix No. 9, 2; 1906, Appendix No. 9, 1; 1907, Appendix 9, 1; 1921, Appendix No. 9, appendix, n.p.
  46. S.N.S. 1917, c. 65, s. 1, S.N.S. 1926, c. 4, s. 103(1).

47. Journals and Proceedings, various; S.N.S. 1930, c. 51, s. 1 adding s. 93A to S.N.S. 1926, c. 4.
48. S.N.S. 1931, c. 59, s. 6.
49. S.N.S. 1935, c. 4, s. 110(1).
50. S.N.S. 1977, c. 22, s. 40B.
51. R.S.N.S. 1986, c. 10, s. 22.
52. S.N.S. 1986, s. 22(3).
53. Bill Freedman, Environmental Ecology (New York: Academic Press Inc., 1989), 198.
54. Ibid., 213.
55. Rachel Carson, Silent Spring (London: Hamish Hamilton, 1962), 106-108.
56. Carson, Silent Spring, 109; Freedman, Environmental Ecology, 181-182.
57. n.a., "Spruce Budworm Spray Problem: No end in Sight", Nature Canada, 5, no. 1, (Jan. - Mar., 1976), 23.
58. Ibid.
59. Elizabeth May, Budworm Battles (Halifax: Four East Publications, 1982), passim.
60. n.a., "Who's Winning the War Over Chemical Spraying", Atlantic Insight 4, no. 1 (January, 1982), 23.
61. n.a., "Who's Winning the War", 24; Stephen Kimber, "Incident at Skye Mountain", Maclean's, 95, no. 29 (19, July, 1982), 13; George Butters, "Spray Wars, part two", Atlantic Insight 4, no. 10 (October, 1982), 10; Bridgetown Monitor, 27, March, 1984. New Glasgow Reporter, 20, March, 1984.
62. Cape Breton Landowners et al. v. Stora Kopparbergs Bergslags Aktiebergs et al. (1982) 53 N.S.R. (2d) 278 (SCTD).
63. Ibid., 280. Injunction granted 10, August, 1982.
64. Ibid., p. 281.
65. [1975] 1 All ER 504.
66. Palmer et al v. Stora Kopparbergs... et al (1982), 58 NSR (2d) 191 @192 (SCAD).

67. (1983), 60 NSR (2d) 271, (SCTD).
68. Ibid., 343.
69. Ibid., 344; 345; 353.
70. Briefly, Rylands v. Fletcher provides that a landowner is liable for any damage caused by the escape of an noxious element from his property onto the property of adjoining landowners.
71. Ibid.
72. Ron Stang, "The anti-sprayers find a voice", Atlantic Insight, 6, No. 3, (March, 1984), 15; Halifax Chronicle Herald, 24 May, 1985.
73. Shelburne Coast Guard, 5, June, 1985; Yarmouth Vanguard, 12, September, 1989, 15, August, 1990.
74. Margaree Environmental Ass'n. v. M.O.E. and Stora Forest Industries (unreported) SCA 02031, 12, April, 1989 (NSSCAD).
75. Ibid. 5-6.
76. Ibid., 9.
77. Ibid., 9.



## CONCLUSION

Forests have been modified and adapted for human survival for thousands of years. These adaptations, governed by unwritten laws or customs of the aboriginal inhabitants, shaped Nova Scotian forests long before European culture was imposed on the ecosystem. But neither the aboriginal nor the European laws governed animal and plant behaviour. Only human activities can be controlled by human law.

With widespread and intensive European settlement, the forests were changed more quickly, and more profoundly, and more deleteriously than they were under aboriginal law or custom. After the Acadian expulsion and the founding of Halifax, the rapacious demand for forest products appeared insatiable. Wildlife was captured and killed in ever increasing numbers for food, for sport, and for extermination. Trees were hewn unceasingly for any number of reasons. As Michael Williams has noted, wood was the basis of the whole North American economy through the eighteenth and nineteenth centuries. At its most basic, wood was necessary for shelter and for fuel. The Loyalists' arrival alone put enormous demands on the forests surrounding the points of disembarkation. Shelburne, for example, grew from under 1,000 souls to 13,000 in six weeks. Every new house required lumber and a plot of clear land. Every new house meant less forest. Once built, each new house needed more wood for the hearth, requiring more trees to be cut. Indeed, it can be argued that many contemporary barrens in the Shelburne area are a result

of the sudden and severe wood and lumber demand by Loyalists who hewed, felled and burned without regard for the future health of the forest. Wood heated the dwellings and cooked the settlers' food. Open hearths consumed enormous amounts of timber and were very inefficient heating sources. Trees were felled for fencing, to open field for agriculture to build wagons and fishing boats, and for charcoal to smoke fish.<sup>1</sup>

Many areas "opened for agriculture" were geologically unsuited for farming. Yet, long after it should have been apparent to even the most idealistic provincial officials and Members of the Legislature, the laws of settlement and Crown land alienation continued to promote agricultural settlement. Nineteenth-century politicians and settlers appeared to take literally the biblical command that Man was master of all he surveyed, continuing despite the physical impossibility to attempt to make the Nova Scotian environment conform to human economic expectations. But, despite the number of ways the legislators rewrote the legislation, it was impossible to turn Nova Scotia into an agricultural and pastoral paradise.

The shift from an agricultural, subsistence economy to an industrial economy provided no relief to the Nova Scotian forest. Wood fueled industry. Early railway engines burned wood as did the early steam engines used in forestry. Railway engines alone consumed enormous amounts of split wood. Early railways were granted huge land tracts to assure wood supply. Every mile of new track meant more trees cut and more

disruption of animal habitat. Every time the Legislature voted more money for railway construction, or passed new legislation encouraging railway construction more virgin forest was cut for the railway. Once these areas often remote from the seacoast or other previously settled areas were opened, lumber barons and settlers followed the tracks, opening and clearing even more forest.

With advances in steam engine technology, larger and larger tracts could be cut efficiently and economically. The earliest steam engines burnt fuel wood, but even when technological improvement permitted the engines to burn slash and debris for fuel the amount of wood cut did not decrease. The wood cut previously for fuel was now cut for sale as lumber. Even the switch from wood to coal as the primary fuel source did not provide a respite for the forest. The expansion of mining, particularly coal mining, placed demands on the forest to supply pit props for shoring up tunnels and for above ground structures throughout Cape Breton, Cumberland and Pictou.

Trees were cut for export as square timbers, ships masts, spruce deals, shingles, and finished products. Later pulp wood, wood fiber paper and Christmas trees would be added to the export list. The wooden ships which carried these products required timber. When the wooden ships were replaced by iron ships and the iron horse, demand still did not abate. Metal ships still required some wood for their interiors.

Railways were supported by wooden ties and wooden bridges. Further, wood was the most common packaging material. Barrels and flats of everything from apples to pickled fish to manufactured goods were shipped out of the province, all in wooden packages. When wood was replaced by other packaging materials, trees were still cut for cardboard, hardboard and packaging paper. And, when railways were in turn replaced by motor vehicles and airplanes, more trees were cut for highways and for airports.

In areas where agriculture did manage to gain a foothold, trees were cut or burned to increase crop land, pasture land and blueberry barrens. At least as damaging as all the intentional destruction of forest land and animal habitat for societal "progress" was the unintentional or negligent forest destruction by fire. Each conflagration had potential to burn vast tracts of forest land. Forest loss through fire was the most wanton destruction of all: no other inhabitant of the ecosystem could cause as much damage as a human with a fire ignition source. And no inhabitant--human, animal or plant--received any real long term benefit from a forest destroyed by fire. Repeated burning of the same land led to vast increases in the size and number of barrens, often leaving in little or no soil in these areas and consequently, no way of regenerating.

When scientific management pervaded forestry operations growth management, cutting limits and reforestation concerns

grew. Although these considerations represented a shift from short-term economic considerations to long term economic concern about the surety of supply, forest regulators continued to place human economic benefits above ecosystem integrity. At least, however, there was recognition that unregulated laissez faire would rapidly deplete the whole of the forest, although, even from an anthropocentric viewpoint there ought to have been a greater recognition of the effects of industrial forestry practices on the ecosystem and on humanity. Instead, the liberal capitalist ethos which dominated the nineteenth century assumed that the future would take care of itself and immediate wealth was more important than the long-term health of forest and its inhabitants. Unregulated exploitive forest practices were often as deleterious to humans as they were to the forest itself. Nineteenth century lumbermen--housed in dirty and ill heated bunkhouses, ill paid, living an itinerant lifestyle benefitted as little from forest capitalism as did the forest itself.

All of these factors--the political climate, economic philosophies, and legal theory combined to shape forest and wildlife legislation. The law itself, never static, evolved as the forest and the demands on it changed. These modifications in legal philosophy and theory affected the perceptions of forest management and were bound inextricably to the shifts in provincial politico-economic fortunes. As

the perception of the forest's value changed, forest management adapted to meet the concerns of society and the forest industries. As legislators realized that current cutting practices or land holding systems might affect future (or even contemporary) economic growth, they became more willing to regulate and manage forest resources. Thus, limits on proprietorial rights which would have been unthinkable in the early nineteenth century, such as stripping landholders of all riparian rights, were in force by 1920. When it was realized that local control was ineffective to ensure "economic" management of the forests and wildlife, successive governments were more willing to enact comprehensive management measures--even in the face of calls on the provincial treasury. Occasionally, the blatant need for provincial intervention to erode the obsession with avoiding deficits.

The legislation and court rulings discussed tend to demonstrate the linkage of environment and economy long before the Brundtland Commission popularized "sustainable development". The environmental management economic model pervaded the nineteenth and twentieth centuries. Provincial government reluctance to shoulder more than token responsibility for conservation and silviculture had dramatic repercussions still felt in the late twentieth century. Recognition that the forests were not inexhaustible rarely translated itself into comprehensive and enforceable regulatory regimes.

Other political, economic and proprietary factors consistently overrode environmental and aesthetic ones. Indeed, nineteenth-century Nova Scotians evinced little acknowledgement of how other considerations and other, seemingly unrelated, legislation affected forests. Did permission to remove obstructions from waterways occasion a decline in the beaver population? Did this in turn affect Nova Scotia's trapping industry? These connections were not often made in the last century. Occasionally, when the connection was obvious, such as the relation between rivers dammed to run mills or facilitate log floating and the spawning salmon, legislation was passed requiring fish runs on dams and spillways. But these connections were made because a decline in salmon stocks adversely affected another industry in Nova Scotia--tourism. Government, reluctant to lose any tourism for the province, was prepared to regulate one industry to ensure the survival of another.

Provincial governments of the late eighteenth and nineteenth centuries, obsessed with balanced budgets and minimazing provincial expenditures, even forswore economic (as well as environmental) considerations in regulating the forest and forest industries. Although New Brunswick's licensing, leasing and cutting on Crown land regimes were often ignored, that province's early moratoria on freehold conveyancing of Crown land in favour of rental of the same added immeasurably both to the province's ability to protect and manage the

forest and to provincial coffers. The sums brought in by letting rather than selling Crown land permitted transfer of jurisdiction over Crown officials from the Imperial government in London to Fredericton with less concern than when responsibility for Crown officials was transferred from London to Halifax. The "cash cow" of New Brunswick forests provided the revenue ensuring New Brunswick could fulfill its guarantees to be fully responsible for the salaries of Crown officials. Nova Scotia, on the other hand, by adhering to a policy of massive Crown land alienation long after such a policy was demonstrably ill advised, did not have a ready revenue source to meet the demands for payment of Crown officers.

European exploitive conceptions of the forest as boundless and wildlife as endlessly prolific, so thoroughly permeated the collective social and legislative conscience that when efforts were made to implement some conservation measure the legislation was often too vague or the enforcement efforts too minimal for the measures to be effective. Indeed, vague legislation and the unwillingness to commit adequate resources to ensure compliance with legislative provisions raises suspicions that such measures were only tokens, and the real intention of legislators was to foster continued unbridled exploitation under the cover of "protectionism". For example, the penalties for hunting in a close season or for using illegal hunting methods, coupled with the paucity of



enforcement monies and personnel, demonstrated little political will to deal with the consequences of over hunting. Equally, although trespass to Crown land legislation empowered forestry officials to seize wood cut illegally on Crown land, and there were cutting restrictions to prevent cutting young trees, with so few enforcement officers, there was little chance of getting caught. While forest preservation and conservation movements may have gained strength in the Pacific Northwest in the last quarter of the nineteenth, they did not gain widespread acceptance in Nova Scotia.

Anders Sandberg, and Thomas Roach and Richard Judd have separately suggested that extranational economic influences on the Nova Scotian forest had an undue effect on the provincial economy and the forest industries, ensuring the continued harvesting of Nova Scotian forests for the benefit of international financiers and American lumber barons to the detriment both of the forests and the Nova Scotian economy. Opposition to multinational corporations should not be viewed as proof of preservationist and conservationist forces at work, they argue. In reality, the opposition was not opposed to forest exploitation--they simply wanted a greater share of the profits of exploitation for themselves. Judd and Roach's profile of Barnjum suggests that demands for greater legislative control over forests were often attempts to protect the woodlands for use by one industrial sector. Whether or not one believes that Barnjum, like Saul on the

road to Damascus, suffered a cathartic conversion to conservationism is immaterial. Although the authors present a somewhat cynical view of Barnjum, it must be acknowledged that whatever his motives, his efforts occasioned the hiring of Otto Schierbeck and Axel Gold, the passage of the first Lands and Forests Act in 1926 and the first concerted reforestation efforts.<sup>2</sup>

Legislation is usually a reaction, not an initiative. Rather than forestalling damage by acting aggressively to regulate human activity in the forests, legislators were generally passive preferring to react only when it was clear that without legislative intervention there would be no forests left. As courts were rarely effective lawmakers in the field of ecosystem management, the absence of legislative intervention created a vacuum leaving the lumber barons, railroad companies and pulp and paper companies free to clear-cut and otherwise abuse the forest heritage. Fiscally and philosophically conservative legislatures, heavily influenced by the forest industries moved cautiously, limiting private proprietorial rights over timber land only when absolutely driven to regulation. Even when legislation was passed, it did little to forestall or inhibit continued drainage of forest resources. Fernow's gloomy assessment of the forest's future in his 1910 study was as ineffective in sparking concerted conservation as in turn would be the 1944 post-war economic reconstruction study and 1984 Royal Commission.

The nineteenth and early twentieth centuries demonstrated little concern for wise management and husbanding resources. The "economy of nature" was forgotten in the headlong race to embrace Adam Smith's liberalism. The legislators and the general public were political economists not political ecologists. Technological advances such as railways, steam engines and new manufacturing processes were adopted eagerly. Natural theology was neglected in favour of the professional science. Although Downs, and Jones and the fish and game societies members were nature enthusiasts, they sought constantly to "improve" nature so as better to exploit it. They removed wildlife from its natural habitat and preserved animals in zoos and exhibit cases.

The close relationship between the Legislature and the lumber and pulp and paper companies ensured that little real forest regulation and timber conservation was enacted. While there accumulated what appeared to be a great deal of forest management legislation, very little of a substantive nature was accomplished. Laissez faire and subsequent environmental, economic and legislative management measures for forest resource management throughout the nineteenth and early twentieth centuries irrevocably changed the forest and its inhabitants. When all the pieces--from the court cases, to water management, to Crown lands policies, to the powers awarded to corporations--are put together and their combined effect studied, it is clear than whatever advances the Age of

Industry held for humanity, its effect on forests was far from beneficial. Without an intrinsic value ascribed to all forest land, whether or not it was "productive", then it becomes simple to argue that except for those flora and fauna species with an economic value to humanity, nothing need to be conserved or preserved.

This is the history of the contemporary forest regulatory regime. It remains to be determined if the new societal awareness of the impossibility of separating humanity from the ecosystem will prove any more effective in forcing a sensible and less exploitive forest regime and environmental management philosophy than in the past. Unfortunately, the forestry and wildlife legislative package of 1986-1988 continued to apply environmental management measures first formulated in the late nineteenth and early twentieth centuries.

**CONCLUSION**

**ENDNOTES**

1. Williams, American and Their Forests, 104.
2. Judd and Roach, "Frank John Dixie Barnjum", 132.

## **BIBLIOGRAPHY**

### **CONFERENCE PROCEEDINGS**

Building Partnerships for Environmentally Sound Development in Nova Scotia, **Conference Proceedings**. Halifax: Department of Environment, 1990.

Corporate Environmental Responsibilities, **Conference Proceedings**. Toronto: The Canadian Institute, 1989.

Parliamentary Forum on Global Change, **Conference Proceedings**. Ottawa: Supply and Service, 1990.

### **GOVERNMENT DOCUMENTS**

#### **Federal**

Fernow, B.E., C.D. Howe and H.H. White, **Forest Conditions of Nova Scotia**. Ottawa: Queen's Printer, 1912.

Dunfield, R.W., **The Atlantic Salmon in the History of North America**. Ottawa: Fisheries and Oceans, 1985.

n.a., **Sustainable Development National Report: "Awareness Raising and Public Participation"**. Ottawa: Environment Canada, Sustainable Development Branch, August, 1989.

Rowe, J.S., **Forest Regions of Canada**. Ottawa: Department of Environment, Canadian Forest Service, 1972.

#### **Provincial**

Connor, John, G.A. MacKinnon and D. Lewis Matheson, **Report of the Nova Scotia Royal Commission on Forestry**. Halifax: Government Services, 1984.

**Debates of the House of Assembly of Nova Scotia**. Halifax: Government Services, various.

Doull, John, and Otto Schierbeck, **The Imperial Economic Conference Report on Labour Conditions in the Woods, Forest Inventory, Duration of Supply, Forest Industries and the English Market**. Halifax: Lands and Forests, 1932.

Provincial cont'd

Hall, W.L., and Otto Schierbeck, Forests and Forestry in Nova Scotia, Special Report to the British Forestry Conference--Australia. Halifax: Lands and Forests, 1928.

Journals and Proceedings of the House of Assembly of Nova Scotia. Halifax: Government Services.

n.s., Forestry A New Policy for Nova Scotia. Halifax: Lands and Forests, 1986.

n.s., Royal Commission on Provincial Development and Rehabilitation Report on Forest Industries. Halifax: King's Printer, 1944.

n.s., The Forests of Nova Scotia--A Report to the British Empire Forestry Conference, South Africa, 1935. Halifax: n.p., 1935

Statutes of Nova Scotia

MISCELLANEOUS

Annual Report of the Game and Inland Fisheries Protection Society of Nova Scotia. Halifax: n.p., various.

Belcher's Almanac, various.

"Constitution of the Provincial Association for the Protection of the Inland Fisheries and Game of the Province of Nova Scotia". Halifax: n.p., 1853.

National Round Table on the Environment and the Economy, Annual Report, 1989.

Nova Scotia Round Table on Environment and Economy, Annual Report, 1989.

Provincial Association for the Protection of the Inland Fisheries and Game of the Province, Annual Report, 1853.

NEWSPAPERS FROM NOVA SCOTIA LEGISLATIVE LIBRARY CLIPPING FILES: HERBICIDE SPRAYING, PESTICIDES AND BUDWORM

Bridgetown Monitor, various.

Halifax, Chronicle Herald, various.

**NEWSPAPERS FROM NOVA SCOTIA LEGISLATIVE LIBRARY CLIPPING FILES: HERBICIDE SPRAYING, PESTICIDES AND BUDWORM cont'd**

New Glasgow Reporter, various.

Shelbourne Coast Guard, various.

Yarmouth Vanguard, various.

**SECONDARY SOURCES**

**Articles, Journals and Pamphlets**

Archibald, J.K., "Historical Highlights Nova Scotia Crown Lands, 1603-1972", Bulletin 36 (March, 1972).

Burroughs, Peter, "The Administration of Crown Lands in Nova Scotia, 1827-1848", Nova Scotia Historical Collection 35 (1966).

Butters, George, "Spray Wars, part two", Atlantic Insight, 4, no. 10, (October, 1982).

Campbell, Richard, "The Development of the New Forest Act" (1980) 38 Advocate 189-203.

Clow, Michael, "Economy and Ecology: Why "Sustainable Development" Can't Sustain Our Economy", Fredericton, n.p., 1991.

"Greening Political Economy: Linking An Analysis of the Economy and the Environment", Fredericton, n.p., 1991.

"Marxism and the "Environmental Question": an Assessment of Bahro", Studies in Political Economy No. 20, (Summer, 1991).

Dunlop, Allan C., "The Pictou Literature and Scientific Society", Nova Scotia Historical Quarterly 3, no. 2, (June, 1973).

Emond, Paul, "A Critical Evaluation of the Environmental Protection Laws in the Maritime Provinces (And More Particularly the Nova Scotia Environmental Protection Act)", P.S. Elder, ed., Environmental Management and Public Participation, Toronto: Canadian Environmental Law Research Foundation, 1976.

Fergusson, C. Bruce, "Lumbering in Nova Scotia 1632-1935" Bulletin 26 (December, 1957).



**SECONDARY SOURCES con't**

Forestry Report no. 6, (January, 1988).

Gorham, Eville, "Titus Smith, A Pioneer of Plant Ecology in North America", **Ecology** 36, no. 1, (January, 1955).

Hallock, Charles, "Andrew Downs, F.R.S. Zoologist", **Field and Stream** 52, no. 10, (2, September, 1889).

Hawkins, C.G., "The Origins of the Nova Scotia Lumber Trade", **Public Affairs** 9 (1945).

Kimber, Stephen, "Incident at Skye Mountain", **Maclean's** 95, no. 29, (19, July, 1982).

McLaren, John P.S., "The Tribulations of Antoine Ratter: A Case Study of the Environmental Regulation of the Canadian Lumbering Industry in the Nineteenth Century", (1984) 11 **UNBLJ** 203.

McNutt, W.S., "Politics of the Timber Trade in New Brunswick", G.A. Ralyck, ed., **Historic Essays on the Atlantic Provinces**. Toronto: McClellan and Stewart, 1967.

Morrison, James, "American Tourism in Nova Scotia 1871-1940", **Nova Scotia Historical Review**, 2, no. 2 (1982).

Murdoch, Beamish, "An Essay on the Origins and Sources of the Law of Nova Scotia", Halifax: n.p., 1863.

n.a., "John Matthew Jones, **Proceedings and Transactions of the Nova Scotian Institute of Science** A, no. 3, (1900-1901).

n.a., "Spruce Budworm Spray Problem: No end in Sight". **Nature Canada** 5, no. 1, (Jan.-Mar., 1976).

n.a., "Who's Winning the War Over Chemical Spraying?", **Atlantic Insight** 4, no. 1, (January, 1982).

Orton, David, "Pulpwood Forestry in Nova Scotia and the Environmental Question". Halifax: Gorsebrook Research Institute, 1984.

Piers, Harry, "Sketch of the Life of Andrew Downs, Founder of the First Zoological Garden in America", **Proceedings and Transactions of the Nova Scotia Institute of Science** X, no. 4, (1901-1902).

**SECONDARY SOURCES con't**

----- "Titus Smith, "The Dutch Village Philosopher",  
Pioneer Naturalist of Nova Scotia, 1763-1850", reprint  
Halifax: Nova Scotian Institute of Science, 1948.

Roach, Thomas R. and Richard Judd, "A Man for All Seasons:  
Frank John Dixie Barnjum, Conservationist, Pulpwood Embargoist  
and Speculator!", Acadiensis 20, no. 2, (Spring, 1991).

Robertson, Barbara, "Trees, Treaties and the Timing of  
Settlement: A Comparison of the Lumber Industry in Nova  
Scotia and New Brunswick, 1784-1867", Nova Scotia Historical  
Review 4, no. 1, (1984).

Sandberg, L. Anders, "Forest Policy in Nova Scotia: The Big  
Lease, Cape Breton Island, 1899-1960", Acadiensis 20, no. 2  
(Spring, 1991).

Smith, Titus Jr., "A Natural Resources Survey of Nova Scotia,  
1801-1802", Lloyd S. Hawboldt, ed., repr. from Public Archives  
of Nova Scotia, Vol. 380, pp. 1-40. Halifax: Lands and  
Forests, 1955.

Stang, Ron, "The anti-anti-sprayers find a voice", Atlantic  
Insight, 6, no. 3, (March, 1984).

#### TEXTS

Anger and Honsberger Real Property 2nd ed. Vol. 1,  
Aurora: Canada Law Book, 1985.

Barker, John, The Superhistorians. New York: Charles  
Scribner's Sons, 1982.

Barnjum, Frank J.D., Startling Facts and Fallacies regarding  
Canada's Forests. Montreal: Barnjum, 1930.

Beck, J. Murray, Joseph Howe. The Briton Becomes the Canadian  
Vol. 2, Montreal: McGill-Queen's University Press, 1983.

----- Politics in Nova Scotia. 2 vols. Tantallon:  
Four East Publications, 1985.

Berger, Carl, Science, God and Nature in Victorian Canada.  
Toronto: University of Toronto Press, 1983.

Bramwell, Anna, Ecology in the 20th Century. New Haven: Yale  
University Press, 1989.

**TEXTS con't**

Buckner, P.A. and D. Frank, ed.s, Atlantic Canada After Confederation The Acadiensis Reader: Volume Two. 2nd ed. Fredericton: Acadiensis Press, 1988.

----- Atlantic Canada Before Confederation The Acadiensis Reader: Volume One. 2nd ed. Fredericton: Acadiensis Press, 1990.

Carson, Rachel, Silent Spring. London: Hamish Hamilton, 1962.

Cronon, William, Changes in the Land. New York: Hill and Wang, 1983.

Darby, Peter, ed., Property I Casebook. Halifax: Dalhousie University, 1983.

Denys, Nicolas, Description & Natural History of the Coasts of North America (Acadia). trans. and ed. William F. Ganong, The Publications of the Champlain Society II. Toronto: The Champlain Society, 1908.

Elliot, Shirley, ed., The Legislative Assembly of Nova Scotia 1758-1983. Rev. ed. Halifax: Government Services, 1984.

Flaherty, David H., ed., Essays in the History of Canada Law. Vol. 1. Toronto: University of Toronto Press, 1983.

Freedman, Bill, Environmental Ecology. New York: Academic Press, 1989.

Hallock, Charles, The Fishing Tourist. New York: Harper and Brothers, 1873.

Ireland, Lloyd C., Wildlands and Woodlots. Hanover: University Press of New England, 1982.

Johnson, Ralph, The Forests of Nova Scotia. Halifax: Four East Publications, 1986.

Kohn, David, ed., The Darwinian Heritage. Princeton: Princeton University Press, 1985.

Law Reform Commission of Canada, Working Paper No. 44, Crimes Against the Environment. Ottawa: L.R.C.C., 1985.

Leiss, William, ed., Ecology versus Politics in Canada. Toronto: University of Toronto Press, 1979.

TEXTS con't

Lincoln, J., et al., A Dictionary of Ecology, Evolution and Systematics. London: Cambridge University Press, 1987.

Lower, A.R.M., Great Britain's Woodyard. Montreal: McGill Queen's University Press, 1973.

----- The North American Assault on the Canadian Forest. New York: Yale University Press, 1938; repr. New York: Greenwood Press, 1968.

May, Elizabeth, Budworm Battles. Halifax: Four East Publications, 1982.

McLeod, Robert R., Markland or Nova Scotia Its history, Natural Resources and Native Beauties. Halifax: Markland Publishing Company, 1903.

McKillop, A.B., A Disciplined Intelligence. Montreal: McGill-Queen's University Press, 1979.

McNutt, W.S., New Brunswick A History 1784-1867. Toronto: Macmillan of Canada, 1963.

Mullen, Eric and Millie Evans, In the Mersey Woods. Liverpool: Bowater Mersey Paper Co., 1989.

Raddall, Thomas, The Mersey Story. Liverpool: Bowater Mersey Paper Co., 1979.

Rifkin, Jeremy, Algeny. London: Penguin Books, 1983.

----- Entropy. New York: Viking Press, 1980.

Robertson, Barbara, Sawpower Making Lumber in the Saw Mills of Nova Scotia. Halifax: Nimbus Publishing, 1986.

Shortt, S.E.D., The Search for An Ideal. Toronto: University of Toronto Press, 1976.

Simmons, M., et al., Natural History of Nova Scotia. Halifax: Departments of Lands and Forests and Environment, 1989.

Waite, Peter, et al., eds, Law in a Colonial Society: The Nova Scotian Experience. Toronto: Carswell, 1984.

Whitelaw, Marjory, Thomas McCulloch His Life and Times. Halifax: Nova Scotia Museum, 1985.

**TEXTS con't**

Williams, Michael, Americans and Their Forests. London: Cambridge University Press, 1989.

Worster, Donald, Nature's Economy. London: Cambridge University Press, 1977.

Wynn, Graeme, Timber Colony. Toronto: University of Toronto Press, 1981.