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Introduction

grain: (def.): (5) the general direction or arrangement of fibres, layers or particles in wood, leather, stone, etc.; (15) natural disposition, inclination or character (esp. in 'go against the grain').

(Collins Shorter English Dictionary, 486)

Foresters are in the business of growing and harvesting trees. So perhaps it is appropriate to begin a book about the politics of forestry with a metaphor derived from the structure of wood. To go against the grain is to pursue a course (whether in the sawmill or in life in general) that runs counter to the prevailing direction. Equipped with the proper tools, working against the natural grain of the wood is relatively easy and in some cases necessary. But care must be taken in choosing the time and the place. Under pressure, the strength of lumber runs along the grain, not against it. Sanding against the grain guarantees the destruction of the finish. In such cases, there is clearly a natural potential in the wood that, once recognized, can be preserved and enhanced through treatment.

Can there be a similar 'grain' in social or political affairs? In this book, we contend that there is and that it is evident in the practices of professions such as forestry. Here too the world is structured in certain fixed ways. There are conventions for managing forests just as there are for working with wood. It is possible, of course, to work against the grain of orthodox forestry thinking by challenging its central principles and practices, but not without paying a price. Established structures have their limits in accommodating change. Social and political interests can be counted on to defend the prevailing grain in the face of challenge. So once again there is a question of time and place. But unlike in the case of wood, it is possible to achieve creative outcomes while working persistently against the grain. The subjects in this book are prime cases in point.

There is a deeper significance to this situation. Too often the ideas and practices of professionals such as foresters have been viewed as monolithic. This comes in two basic shapes. The first is expressed in the ideas, reports, and memoirs of foresters themselves. Their stories are typically about the struggle for professional recognition, voice, and control. They are about the terms of employment, the state of the resource, and the problems posed by balance sheets, politicians, and the public. They celebrate the prodigious

forces of nature and the colourful personalities who confront them. Such studies tend to be heavily descriptive and avoid conflict. The debates that they do record are largely intramural to the profession.¹

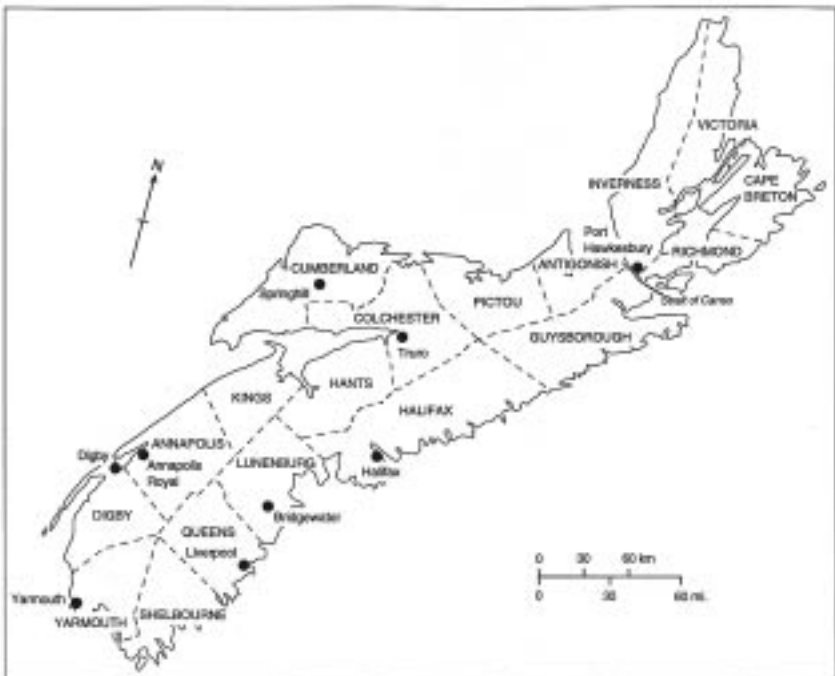
A second school displays the ideas and practices of forestry as perceived by various 'outsiders.' These accounts too are often monolithic. In them foresters have been taken to task for much of what seems to be wrong in the Canadian forestry sector. Foresters have been portrayed as supporters of the growth of the Canadian staples export economy and the rapid exploitation and degradation of the forest.² They have been described as working in close concert with business and government to boost company profits and state revenues.³ Labour historians have identified foresters as more aligned with their bosses than with forest workers and therefore instrumental in the deterioration of the conditions of forest work.⁴ Others have pointed to foresters' and workers' different views on the forest environment.⁵ And then, of course, foresters have come under fire from environmentalists for endorsing the use of destructive methods in exploiting the woods.⁶ Some of these critiques have extended into Nova Scotia. Foresters have been described as prominent agents in the sellout of Crown lands to foreign pulp companies (by manipulating forest inventories); in the opposition to forest management legislation (because it threatened the profession's monopoly on knowledge); in the resistance to pulpwood marketing mechanisms for private woodlot owners (since private tenure failed to fit with the reigning industrial paradigms); and in the uncritical support of chemical use and clearcuts as core management tools.⁷

Here we argue that forestry is a more diverse and complex activity than the relevant literature has shown to date. By exploring in detail the careers of seven professionals active in Nova Scotia throughout the twentieth century, we point to the political quality of the profession. Difference lies at the root of politics, and Nova Scotia forestry has been punctuated by fundamental debates on matters of science, policy, and management. Although such dissent is seldom an 'all or nothing' exercise, but selective and episodic, all of our subjects run against the grain, raising challenging issues in the pursuit of better forestry. Many of these challenges failed because the established consensus proved resistant. Nonetheless, the plurality of views and experiences that they expressed is an apt reflection of the inherently political character of modern forestry and of the need to search beyond the surface to understand the foundations of both orthodoxy and dissent. The balance of this introduction outlines the framework of the study and the context in which Nova Scotia forestry professionals have worked.

This study of foresters and forestry in Nova Scotia reveals that a rich tradition of alternative and dissenting practices is intertwined with the professional and political orthodoxies of the day. The title of this book is intended

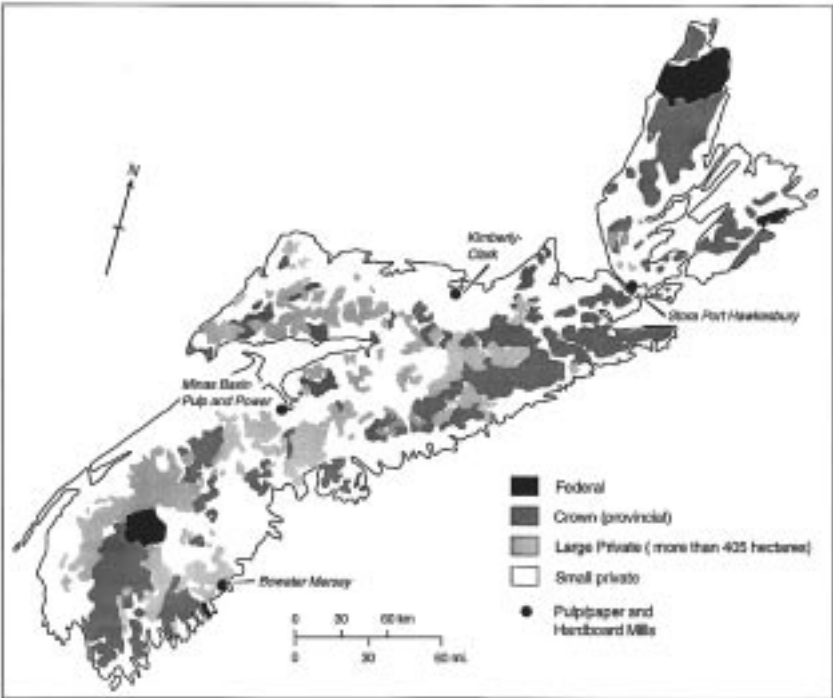
to underscore the pluralism of thought and practice that is a part of modern forestry while demonstrating that all threads are not equally influential or binding. At the same time, the very concept of a 'profession' implies restricted control of specialized knowledge that is accumulated, transmitted, and applied over time.⁸ This presupposes a shared paradigm, or framework of knowledge and technique, that is available for purchase or hire. Thus, there are always limits to the range of challenges that can be absorbed and sustained within the main corpus. In formal policy and in field activity, many of the alternative threads are rejected or ignored. Here again a 'political' situation arises between researchers, teachers, practitioners, and professional regulators when the conflicting currents must be reconciled. In this book, our goal is to assert the inevitability of politics within forestry and to illustrate its impact in the scientific and social relations of modern forestry. These explanatory factors have been seriously neglected to date, to the detriment of understanding both forest policy and the forest industry.

We have come to this conclusion through an exploration of the eastern Canadian province of Nova Scotia (Map 1). In a comparative ranking of primary wood product output by volume, Nova Scotia ranks sixth among



Map 1 Nova Scotia counties

twelve jurisdictions in the nation.⁹ However, this relatively modest harvest level should not suggest that Nova Scotia forestry is marginal or unimportant to the wider scene. If anything, the reverse is true. The economic importance of the industry within the province is considerable, thus attracting sustained attention from both state and business. The forest resource itself is distinguished as part of the Acadian forest region (featuring mixed hardwood and softwood species), extending through Maritime Canada and parts of New England. As home to some of the earliest European settlements in the nation's history, Nova Scotia has witnessed more than two centuries of forest exploitation and a pattern of forest land tenure (unusual to Canada) falling three-quarters under private ownership, both large and small (Map 2).¹⁰ There is much that is distinctive about the provincial scene. At the same time, its forestry has been cross-fertilized by national and international currents. In fact, it could be argued that as a smaller jurisdiction Nova Scotia has been shaped disproportionately by wider forces in the fields of forestry education, research, industrial production, and state policy. These will be explored extensively in the chapters below. Here we will present them as local applications and adaptations of more general currents rather than uniquely bred within the province.



Map 2 Distribution of land ownership in Nova Scotia

Forest Ecology and Political Economy in Nova Scotia

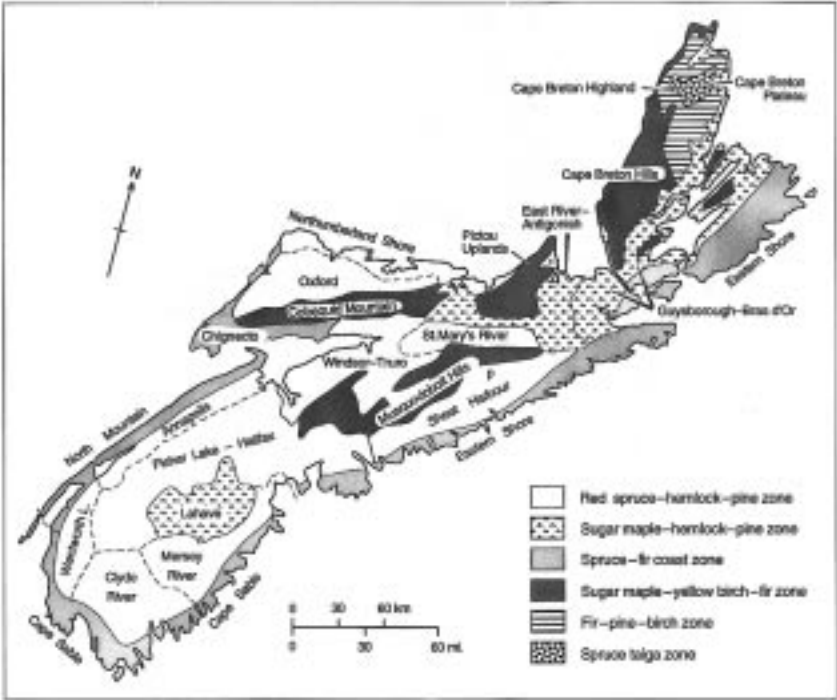
In any setting, forestry practices are framed against the backdrop of two powerful and interacting structures. One involves the natural domain of forest ecology, while the other involves the social domain of political economy. Together they play a major role in determining the diverse interests, conflicts, and choice patterns that render forestry political. In this section, the defining features of these two structures are explored insofar as they shape and constrain the prospects for professional forestry.

The 85 percent of Nova Scotia covered by trees forms part of the Acadian forest region. Here the leading hardwood species are birch and maple, and the leading softwoods are spruce and balsam fir. Other trees that are strongly represented include beech and aspen or poplar (among the hardwoods) and hemlock, pine, and larch or tamarack (among the softwoods). Their exact distribution varies considerably across the province, according to site characteristics, which include, among others, soil, moisture, and temperature conditions. Ralph Johnson suggests that there are few uniform stands of more than fifty hectares anywhere in Nova Scotia. This variation is itself a distinguishing feature of the Acadian forest zone.

O.L. Loucks has identified six forest zones and twenty-four districts in Nova Scotia (they are illustrated in Map 3).¹¹ The most extensive is the spruce-hemlock-pine zone that covers most of the interior of mainland Nova Scotia and the shorelands of Northumberland Strait. The shallow rocky soils of the zone's extensive uplands, with low temperatures and high precipitation, harbour an exclusively coniferous forest. The lower elevations closer to the shore, with more moderate temperatures, lower precipitation levels, and better soils for tree growth, contain a more variable forest cover with sugar maple, beech, and yellow birch on higher slopes and red spruce, hemlock, white pine, and balsam fir on the lower slopes and valley bottoms.

A second zone, the sugar maple-hemlock-pine zone, extends from the valleys of the lowlands of the northeastern mainland to the central lowlands of Cape Breton Island, with an isolated extension in a southwestern section of the mainland. The pine, though cut heavily in the past, and dominant hardwoods (sugar maple and beech) occur most frequently throughout the zone, with hemlock, white and red spruce, and balsam fir common on lower valley slopes and valley bottoms. There is some variation within the zone. In the East River-Antigonish district, black spruce is common on poorly drained lands. In the Lahave district, red oak also occurs among the hardwoods and black cherry among the softwoods.

A third forest zone, the sugar maple-yellow birch-fir zone, is confined to four upland areas, the Cobequid Mountains, the Musquodoboit Hills, the Pictou Uplands, and the Cape Breton Hills. This zone stands out by the abundance of yellow birch, white spruce, and balsam fir in the dominant sugar maple stands. There is also a lack of hemlock on mixed wood slopes



Map 3 Forest zones and districts of Nova Scotia

and a general restriction of white pine to sandy and gravelly soils in the valley bottoms.

The coastal fir-spruce zone is practically devoid of hemlock and white pine. It is divided into two distinct coniferous regions, one abundant with, and the other scarce of, red spruce. The Chignecto and North Mountain districts contain red spruce, though these stands are getting progressively scarce from north to south. The frequency of hardwoods exhibits the reverse pattern. In the Cape Sable and Eastern Shore districts, white and black spruce and balsam fir predominate. Bare bedrock is common, wind exposure is frequent, and the tree stands therefore tend to be open and the trees stunted. White spruce is most common in Cape Sable and black spruce in Eastern Shore.

The fir-pine-birch zone is confined to the Cape Breton Highland district. It consists of a balsam fir, white birch, and spruce association, where those trees exposed to the wind are seriously shortened. A belt of ridges and deeply incised valleys is marked by tolerant hardwoods. Finally, the spruce-taiga zone of the central portion of the Cape Breton highlands is composed of scattered stands of stunted black spruce, white spruce, balsam fir, and

white birch. Various shrubs, lichens, and sphagnum dominate a barrens, where the climate is too severe for a closed forest.

Even without logging, forest ecosystems are dynamic entities, though change unfolds over the long term. Particular sequences can be discerned, beginning with pioneer species that adapt readily to a site. This is followed by a succession of associated species in the early, middle, and climax stages. Light and shade patterns, for example, can have profound effects on patterns of succession, as some (shade-tolerant) species can regenerate only under a canopy of older trees, whereas other (shade-intolerant) species require open sunlight to flourish. But the forest seldom changes according to a set pattern.¹² Major disturbances can accelerate or alter the paths of change, depending on their character. Fire, storm, insect infestation, and logging represent four prominent types of disturbance that can trigger abrupt change across wide areas.

The social relations governing forest exploitation and regulation are rooted in a combination of market and state. These have evolved dramatically over the course of provincial history, from Aboriginal society to military outpost to settler colony and finally to timber capitalism. Many of the pivotal events are presented in Table 1.

The Mi'kmaq reigned supreme in the forest until the mid-eighteenth century. Then the defeat of the French (with whom they were allied), the deportation of the Acadians (who supplied them with certain provisions), and waves of British and Loyalist settlements undermined their position.¹³ Subsequently, the Mi'kmaq gradually lost access to fish and game, either through competition from market or sports operators or through legislative restrictions on their harvesting methods. They nevertheless achieved some measure of material prosperity as hunting and fishing guides and as skilful craftspeople with wood products.¹⁴ However, the Mi'kmaq were severely affected by the economic decline of the Maritime economy in the 1920s and the Depression of the 1930s, leading to a period of unprecedented hardship and financial dependence on the state.¹⁵ It is only recently that the Mi'kmaq have taken political, legal, and popular direct action to reclaim access to the forest and its various resources.¹⁶

Beginning with the colonial economy, the exchange value of timber products was defined partly by the natural supply of forest species and partly by the commercial demand in local and export markets. For example, early logging centred on masting timber (white pine logs) and ton timber (oak and pine logs) for export to Britain. In the late 1700s, the shipbuilding industry provided a domestic market for oak, birch, and larch. With the nineteenth-century sawmill expansion and the transition from water power to steam, pine and spruce lumber deals assumed greater importance in export to America and Europe. There was also considerable regional specialization of wood production in Nova Scotia after 1850, according to variations in forest

Table 1

Pivotal events in the history of forestry in Nova Scotia		
Date	Key event in forest sector	Details
1728	British 'broad arrow' policy applied in NS	Reserved all white pine greater than 24" suitable for masts. Extended to private land in 1785.
1759	British land grants to settlers begin.	Crown lands granted and sold until Lease Act, 1899.
1899	Lease Act proclaimed.	Crown forest land conveyed by lease. Last land grants made in 1920s.
1926	Department of Lands and Forests created. Otto Schierbeck appointed Prov. Forester.	Merger of Dept. of Crown Lands and Dept. of Forests and Game. Attorney general serves as first minister.
1927	Tobeatic Park created.	First game sanctuary in NS. Liscomb, Waverly follow.
1928	Mersey Paper Co. signs Crown timber deal. Mill starts production in November 1929.	1,000,000 cords in Guysborough / Cape Breton over 30 years.
1930	Bill 151 (Embargo Bill) defeated.	Attempted to regulate export of pulpwood from NS.
1934	NS Forest Products Association formed.	

1946	Small Tree Conservation Act and Scalpers Licensing Act proclaimed.	Diameter limits to protect young stock. First regulation of private forest land in NS.
1948	G.W.I. Creighton appointed deputy minister of DLF.	Staff included 12 foresters, 21 rangers, 7 game wardens, 4 land surveyors, and 2 scientists.
1953	Forest inventory begun by Belanger and Bourget (federal-provincial funding).	Four-year aerial survey and ground cruises described in Bulmer and Hawboldt, <i>Forest Resources of NS</i> , 1958.
1954	Hurricane Edna, 11 September.	Estimated 700 M FBM of lumber blown down. Years of salvage cutting follow.
1954	Nova Scotia Section of Canadian Institute of Forestry (NSS-CIF) formed.	Previously NS foresters were members of Maritime Section of CIF (established 1937). 40 members in 1954.
1959	NS Pulp Ltd. and GNS sign crown lease.	1.2 M acres on eastern mainland and Cape Breton.
1959	Organizing for private Woodlot Owners Association begins.	Supported by Department of Extension of St. Francis Xavier University.
1965	Forest Improvement Act passed.	Designed to replace Small Tree Act (rescinded).
1968	Bob Burgess appointed deputy minister of DLF.	



◀ *Table 1*

Date	Key event in forest sector	Details
1972	Pulpwood Marketing Act passed.	Authorizes registration of private supplier groups and framework for negotiating contracts.
1976	GNS authorizes spruce budworm spray program.	Political controversy continues for two years.
1976	Canada and NS sign five-year Forest Resource Development Agreement (FRDA).	Two-year hiatus begins in 1982. Successor agreements signed in 1984 and 1989. Terminated in 1994.
1978	Donald Eldridge appointed deputy minister of DLF.	
1982	Royal Commission on Forestry established.	Report submitted in 1984.
1986	NS forest policy declared.	Formal response to royal commission.

composition and mill capacity. Finally, the emergence of the early ground-wood pulp industry at the turn of the twentieth century boosted the importance of smaller-diameter spruce and fir stock. This also held out the promise of markets for inferior stock that might otherwise lack value. However, it took more than half a century before the pulp sector confirmed its political predominance over the sawmill segment in Nova Scotia forestry.

Even as market conditions drove investment and sales, the state also played a pivotal role in commercial growth. In part, this was due to its power to define the rules of property ownership and exchange. Despite the questionable legal basis of Aboriginal surrender by treaty, European Crown authorities asserted a strong presence from the outset. This began with policies such as the Broad Arrow (reserving tall pine for Crown military use) and land grants to settlers (transferring the majority of Nova Scotia forest lands into private rural tenures). Over the course of the nineteenth century, the prime sources of supply shifted from coastal forest regions into the interior. With the development of watersheds as log-collection networks in springtime, the state exercised powers over riparian rights of water use. Commercial tariffs and other trading rules were also instrumental in shaping the direction and depth of markets.

After Confederation, national and provincial authorities shared the relevant state powers, with Crown forest jurisdiction and land taxation at the provincial level, while trade, finance, and credit rested at the national level. In Nova Scotia, a decisive shift was marked by the discontinuance of the granting system in favour of Crown leases after 1899. This redefined the residual Crown forest from a dispensable resource to a permanent estate, whose management could be used as a development lever. This became increasingly strategic as pulp and paper operators came to rival sawmills as timber users in the twentieth century. However, Nova Scotia's preeminent policy problem was rooted in the privately owned forest sector, where the state lacked policy leverage to support the developmental plans of the lumber, pulp, or export business interests. The intensely competitive lumber industry could swing wildly in boom and bust directions. The highly speculative trade in timber lands impeded industry growth and proved impossible to contain. Attempts to prevent the export of raw logs were met with massive opposition from private timber owners and loggers. Furthermore, efforts by the province to buy back degraded forest lands raised the spectre of policy conspiracies against the private owner.

In many of these controversies, the Nova Scotia state found itself caught between irreconcilable sets of competing forest sector interests. The politically dominant big sawmill sector of the nineteenth century required little by way of state support in a business culture wedded to *laissez-faire*. Assembling large expanses of private forest and buying logs from the rest of the private sector, the lumber kings had little need for Crown lands. This

preeminence was lost at the turn of the century when the big sawmills were increasingly challenged by rivals. From one direction came the pioneer groundwood pulp interests, competing for timber limits and carving out Crown leases. From another corner rose the small portable sawmills that high-graded small tracts into low-quality lumber before abandoning them to tax sales. Despite the efforts of the leading lumber families to organize their industry in the 1930s, through the Nova Scotia Forest Products Association, a structural transition from lumber to pulp was already under way.

Yet this transition was drawn out, and it remained incomplete for several generations. Many of the leading policy events of the midcentury can best be understood in this context of prolonged political tension and lack of hegemony. The Small Tree Conservation Act was promoted by progressive sawmillers during the Second World War as a defence against the degradation wrought by portable mills, yet the majority of small forest holdings was exempted from its terms. Nova Scotia's first systematic forest inventory in the 1950s was undertaken in the hope that pulp and paper investment could be lured by Crown lease to subregions lacking sawlog stock. However, the survey revealed that the most acute overcutting was in sawlog stock. Then the very success of the pulp promotional strategy in committing Crown forests for pulp at concessionary terms opened new crises. At a stroke, it deprived the sawmillers of direct access to Crown sawlog stock and triggered the collective organization of small private woodlot owners fearing plummeting markets for their own timber. In the 1960s, the provincial state found itself caught between the woodlot movement, the sawmill sector, and the pulp corporations. Halifax was unable to ignore the small owners' movement outright but unwilling to fully support it either. Halifax also sought to integrate the sawmillers into fibre exchange networks with pulp and paper, but at the cost of their subordination. Almost simultaneously, a popular citizen environmental campaign challenged the pulp industry's plan for aerial chemical spraying against the spruce budworm defoliation.

This prolonged political-economic transition posed continual challenges to the forestry officials within the provincial Department of Lands and Forests. For the first generation, the few professionally trained foresters struggled to legitimize their status within a bureaucracy of partly skilled patronage appointees. During this period, there was little call for management planning in the sense of balancing growth and harvesting rates. Rather, it was assumed that the fibre supply was inexhaustible. Then, after the Second World War, as the professional cadre began to reach critical administrative mass, it faced pressures and demands from diverse political directions. Small private woodlot owners called for commodity marketing and extension forestry support. Lumbermen called for conservation regulations. The pulp industry sought long-term Crown leases. And environmental advocates campaigned for alternatives to industrial forestry.

It is important to remember that the successive exploitation of various tree species for commercial forestry has been determined by ecological as well as political and economic factors. The forest itself has changed, and its own sometimes unpredictable dynamic has reinforced or altered specific forest uses. The selective cutting or high-grading of large-diameter pine and spruce in the nineteenth and twentieth centuries resulted in a precipitous decline of such trees. In the most distinctive forest of Nova Scotia, the red spruce-hemlock-pine zone, for example, vast tracts of red spruce and hemlock were depleted, leaving only remnants of the old-growth forest. The decline of large-diameter trees occasioned the growth of portable mills to gain access to such trees in the more remote locations. In some areas, such as the Northumberland Shore, Oxford, Windsor-Truro, St. Mary's, and Sheet Harbour districts of the red spruce-hemlock-pine zone, repeated cutting and burning have yielded witherod and rhodora shrubs that control sites so effectively that they exclude softwood regeneration. Once the best trees in the most remote locations were cut, the forest potential changed quickly to a pulpwood economy. The degraded forest, in short, played a definite role in shaping forest use.

The growth of agriculture and settlement in the nineteenth century also had an impact on forest use. This is because the forest reclamation of abandoned farmlands in the twentieth century has resulted in a different forest from the one cut by the early settlers. Abandoned farmlands have been invaded by dense stands of softwood pioneer species, predominantly white spruce and balsam fir. In the sugar maple-hemlock-pine zone of the Guysborough-Bras d'Or and East River/Antigonish districts, and in the Pictou Uplands district of the sugar maple-yellow birch-fir zone, for example, former cleared sheep pastures and abandoned farmlands have reverted to white spruce and/or balsam fir stands. The compaction of the soils in these districts has contributed to the presence of poor tree stands. White spruce and balsam fir also readily establish themselves on land clearcut for pulpwood. Nature has acted differently in the Lahave district of the sugar maple-hemlock-pine zone, where white pines form pure stands on abandoned fields.

The balsam fir and white spruce stands have reinforced the pulpwood economy because such species are suitable for little else. The dense and small-diameter nature of these tree stands has also encouraged the rapid mechanization of woods harvesting. While pulp cutting was done by woods crews with hand tools well into the 1960s, since then there has been a transition toward large-scale mechanical harvesting. Pulpwood contractors perform this task with skidders, forwarders, and tree harvesters, often working around the clock to make payments on their machines and to feed the pulp mills' insatiable hunger for fibre.

The growing presence of a balsam fir and white spruce forest has had

other consequences for the forest industry. This forest is particularly vulnerable to spruce budworm infestations, and the province has seen an increase in the frequency and intensity of such infestations. In the mid-1970s, an unprecedented infestation destroyed a substantial part of the fibre supply in eastern Nova Scotia. The pulp companies argued strongly at the time for insecticide spraying, but the province resisted (for reasons explored later). The effect of the infestation nevertheless sped up the province's move toward industrial forestry, understood as the close control of the fibre supply by industrial techniques such as mechanical harvesting, broadcast pesticides, and planted monocultures.

There has also been a bias toward softwood utilization in both the sawmill and pulp and paper economies. This has resulted in the crude and selective use of the province's extensive hardwoods. The hardwoods have thus been degraded and transformed into a non-commercial composite of pioneer species. The large-diameter yellow birch and beech components were cut early for commercial purposes, but the regeneration has been uneven and has led to what many foresters and industry analysts describe as the 'hardwood problem.' Indeed, when birch and beech were exposed to disease in the 1940s and 1950s, the situation was cheered on by most sawmillers and pulp mill operators.

There are many other ecological processes that could be considered here, such as those resulting from fire suppression, a major task of forestry. Long a pillar of the forest service mandate, it aims to protect the wood supply. But it may also carry inadvertent negative effects, for the wood fibre supply as well as the forest ecosystem. Fuel loadings may build up and cause large destructive fires in the future. Fire suppression may also prevent ecosystem renewal, such as in the case of some pine species, which are dependent on fire for regeneration. Fire, then, may not be an external catastrophic event but an integral part of forest ecosystems. The same point may be made about periodic extreme storms (such as Hurricane Edna of 1955, which destroyed massive tracts of forest on mainland Nova Scotia) and spruce budworm infestations. These events may be integral parts of ecosystem processes that serve important roles and that need to be accounted for in planning forest harvesting.

This is not to suggest, of course, that all fires are natural. Human-set fires may play a destructive and/or ecosystem-altering role. Loucks observed, for example, that in the spruce-fir coast zone of the Cape Sable and Eastern Shore districts frequent burnings by the settlers may have encouraged the growth of even-aged dense stands of white and black spruce, balsam fir, and alder. Similarly, in the Cobequid Mountain district of the sugar maple-yellow birch-fir zone and the Clyde River district of the red spruce-hemlock-pine zone, frequent burnings to encourage blueberry growth have suppressed forest regeneration.

The Acadian forest is thus not a passive agent. It is an active and often unpredictable factor that has played its unique role in shaping the Nova Scotia forest economy. The specific ecological processes and patterns that have gone along with forest degradation and forest reclamation of abandoned farmlands have reinforced (even naturalized) an industrial form of forestry, based on clearcutting, pesticides (if not chemical insecticides, then biocides and herbicides), and monoculture plantations. A forest industry more in keeping with the forest ecology of the region, based on the maintenance and use of the diversity of the Acadian forest, has been distinctly absent.

The Foresters and Their Times

Another of our aims in this study is to capture the rich variety of Nova Scotia forestry practice. This raises issues of historical time span and workplace and professional specialization. An ideal sample would cover professional forestry from its birth to the present. It would include careers spent in industry, government, and the voluntary sector. It would also explore practices such as corporate woodland management, Crown land management, research, extension or private lands forestry, service to trade associations, and government policy making. This is a tall order, and it points to the need for careful choice. If the results are to do justice to the subjects – that is, to achieve the level of depth and detail desired, while at the same time permitting comparison and analysis – then the sample must be small but powerful.

In selecting subjects for the study, we were eager to highlight people whose career experiences were representative of the rich variation of Nova Scotia forestry. We also sought to include those whose exploits had not been well documented to date. Although the literature on Nova Scotia forestry is not vast, two prominent figures have contributed book-length histories. Ralph Johnson spent half a century as forester to the Mersey Paper Company (later Bowater Mersey) in Liverpool and played a leading role in the Maritime and Nova Scotia sections of the Canadian Institute of Forestry. His *Forests of Nova Scotia* was the first comprehensive study of the woods sector in the province.¹⁷ Wilfrid Creighton is another senior professional. His thirty-five-year career was spent with the Department of Lands and Forests (DLF), first as Provincial Forester and later as deputy minister. In his history of the department, *Forestkeeping*, Creighton reveals much about his own career and philosophy.¹⁸ The broad availability of these works permits their authors to speak for themselves, as it were, freeing us to search for equally revealing but less publicized subjects.

In the end, we settled on a group of seven subjects. Collectively, they cover Nova Scotia forestry from the First World War to the present day. Their careers reflect all of the significant phases and turning points in both

industry and state policy. Furthermore, the overlapping experiences and even the direct interactions of these foresters result in multiple perspectives on key events or controversies. Our set begins with Nova Scotia's first professional forester, Otto Schierbeck, who arrived in 1926. Trained in Europe and experienced in Canadian pulp forestry, Schierbeck was charged with creating a forest service to undertake modern management. His experiences reveal the problems of building a balanced industrial structure, taking full advantage of the resource base, and reconciling professional methods with the cliental political framework of the day.

John Bigelow was a forestry graduate of the University of New Brunswick in the 1930s. Although his career was spent in Nova Scotia government circles, it was almost entirely outside the Department of Lands and Forests. Bigelow was an energetic promoter of forest improvement through increased and higher-value utilization. He was guided by a practical perspective on forest economics long before it became widely recognized as such. He was also an early and persistent advocate of forest sector organizations to represent the interests of sawmillers, woodlot owners, and others.

Following the Second World War, Lloyd Hawboldt joined the DLF, where he was to spend a distinguished forty-year career. A graduate entomologist, Hawboldt was a self-taught forester schooled through diversified service to his department. After developing an early research capability as head of the Forest Biology Division, he went on to build the extension program and eventually rose to the second highest position in the departmental service. Hawboldt played a crucial role in the provincial forest inventory of 1953-7, which opened the way for the modern management program. He was also a crucial participant in the policy deliberations over various treatment programs to combat the spruce budworm in the 1950s and 1970s.

Donald Eldridge was a member of the postwar generation of University of New Brunswick (UNB) foresters, and his career spans three quite distinct dimensions of Nova Scotia forestry. For more than fifteen years, he worked as forest lands manager for the Eddy Lumber Company. He was then appointed the first full-time executive director of the Nova Scotia Forest Products Association, an industry group representing sawmill, pulp and paper, and logging interests. A decade later, Eldridge moved to the apex of the provincial forest service with his appointment as deputy minister of the Department of Lands and Forests. More than any other figure in this collection, Eldridge speaks from the perspective of industrial forestry.

Another postwar UNB graduate was David Dwyer, who spent his entire career in the DLF. Dwyer declared a preference for the social side of forestry. He preferred working with forest people: woodlot owners, rangers, sawmillers, logging contractors, and other government officials. For more than thirty years, he promoted small, private land woodlot forestry, which made

up more than half of the forested land base of the province. This commitment placed him outside the mainstream, where interest centred on the exploitation of vast Crown timber limits by corporate leaseholders.

Rick Lord was drawn to many of the same woodlot issues as Dwyer, though he pursued them from a non-governmental and non-corporate base. Lord came to Nova Scotia to build organizational capacity for the small private landowners, who faced the lowest returns for pulpwood in the country. First as an organizer and later as the manager of the Nova Scotia Woodlot Owners Association (NSWOA), Lord was embroiled in prolonged political battles in pursuit of organized fibre supply and woodlot forest management. His organizational acumen carried on to the provincial and national Christmas tree growers' associations once the woodlot movement reached its denouement in the 1980s.

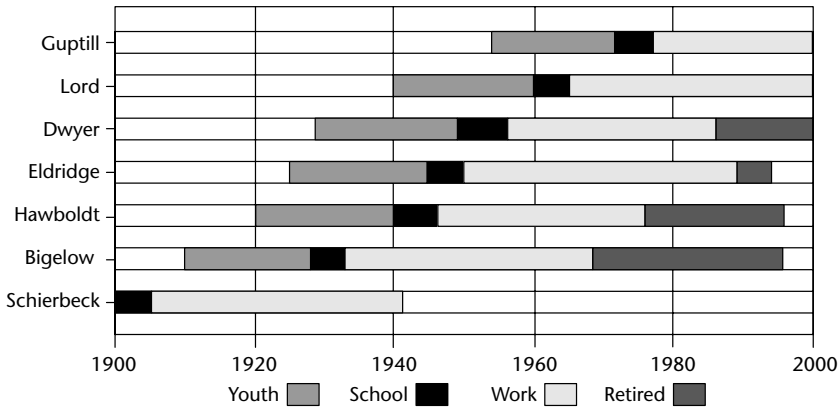
In several respects, the 1970s was a transitional decade for forestry. Mary Guptill's experiences are an apt reflection of this change. When Guptill entered forestry school in 1973, many of the basic tenets of industrial silviculture were only beginning to be applied in Canada. By the time she joined the workforce five years later, the face of forestry had been transformed, in Nova Scotia as elsewhere, by the new generation of federal-provincial forest development agreements. She went to work as a field forester for La Forêt Acadienne, one of the newly conceived 'venture group' enterprises in Nova Scotia. Her experience offers a fascinating glimpse into the challenges of delivering management plans on the microproperties of the province's French Shore.

Altogether, then, our set of foresters contains figures from the interwar, postwar, and contemporary generations. The majority of our subjects divided their careers between several sectors. Schierbeck, Bigelow, Eldridge, and Lord spent time in both business and government service, while Bigelow, Eldridge, and Lord also worked with trade and industry associations. Two subjects, Hawboldt and Dwyer, spent careers exclusively in the public service, while Guptill has spent most of her career to date as a field forester in the not-for-profit sector. Hawboldt is not strictly a forester (i.e., not a formally accredited forestry graduate) but an entomologist. However, his rightful place in this study will be evident from the sweep of his career. Bigelow, Eldridge, Dwyer, Lord, and Guptill were trained at the University of New Brunswick in Fredericton, while Schierbeck studied in Denmark and Hawboldt at McGill University in Montreal. As will be evident in the detailed profiles below, this only begins to capture the significant variations within the sample. However, for the sake of comparison, some of the summary features have been captured in Figure 1.

Finally, it is appropriate to indicate our methodological approach to this work. Despite its deep narrative base, this is not a work of oral history in the

Figure 1

Time line for foresters



classical sense. Such studies are not unknown in Maritime Canada. One example of this technique is Mike Parker's *Woodchips and Beans*, a collection of 'personal experience narratives' on early Nova Scotia logging.¹⁹ Another volume, *In the Mersey Woods*, explores the world of company bush camps.²⁰ While there is a unique authenticity in first-person accounts, oral history faces a potential challenge in ordering and interpreting the disparate accounts on which it rests. In postmodern times, this may be regarded as a strength rather than a weakness, since a plurality of partial narratives offers the only legitimate analytical prospect. We too have relied extensively on interviews with our subjects to compile the accounts below. Here, however, we seek to weigh, compare, and interpret the experiences of the foresters outside their own views. For this, neither oral history nor post-modern premises will suffice. At the same time, we share the desire to let the foresters speak for themselves. Consequently, each chapter concludes with a primary document reflecting signature themes from that person's career.

An intermediate approach combines commentary and interview transcripts. In forestry, this is represented by Ray Raphael's two volumes on the forests of the American northwest, *Tree Talk* and *More Tree Talk*.²¹ We sympathize with Raphael's aspiration for 'a running narrative ... punctuated by individual portraits intended to personalize the issues, to translate both the political and academic aspects of forestry into human terms.'²² However, our analytical approach goes beyond the search for the human face behind the abstract forces of social life. First, through the experiences and impacts of our subjects, forestry stands revealed as a complex professional pursuit. In the chapters below, we will have much to say about the succession of

ideas, principles, and practices that have guided professional foresters. Second, the careers of our subjects open a window onto the history of forest activity in twentieth-century Nova Scotia. Since these foresters are affected by virtually all of the modern milestones of forest development – physical, commercial, and political – their story is its story as well. Finally, this study demonstrates that the foresters of Nova Scotia are a diverse and original lot who have been vital protagonists in the politics of forest practice. We are concerned to establish the character and significance of this politics as a positive rather than a negative attribute. This begins immediately below, with a general reflection on the relationship of forestry to politics, outlining some concepts and frames of reference that will figure in subsequent chapters.

Forestry and Politics

As the twentieth century draws to a close, the forestry field is being swept into expanding circles of controversy. For this there are many reasons: dramatic evidence of deforestation both around the globe and in our own backyards; suspicion that corporate exploitation will not rest until the last tree has passed through the blades of the last saw; and anxiety that public authorities have failed in their regulatory and stewardship responsibilities, to name only a few. Collectively, they suggest that a key renewable resource has been grievously mismanaged. Professional forestry is not without a reply to this charge. Its roots run deep in the turn-of-century North American conservation movement. Among its father figures are Gifford Pinchot, who founded the Biltmore Forest and the United States Forest Service, and Bernhard Fernow, who set up Canada's first forestry school. Foresters bow to no rival in their commitment to rational management. From the early 1900s onward, the primary goal was to harness scientific knowledge to wise resource use. For more than half a century, this goal lay at the heart of the modern forestry management paradigm, linking inventory, growth, and harvest in a regulated yield equation. This is the framework of sustained (and maximum sustained) timber yield, which aims to ensure a permanently available forest resource by closely linking annual cut to annual growth.

While its logic is unassailable, sustained yield forestry has suffered from a host of practical problems. Some arise from the politics of modelling, in which the parameters for estimating inventory and growth are manipulated in unwarranted ways and thereby distort the authorized harvests. Others arise from the overcommitment of the resource to manufacturers, as part of the search for rural investment and employment. Still others stem from the failure of regeneration programs to meet their targets under conditions of intensive silviculture. Whether these failings are inherent or incidental to the management paradigm is arguable. Either way, however, the result leaves professional paradigms open to harsh attacks from critics.²³

More recently, in response to ecological concerns, North American foresters and forest agencies have altered their orientation significantly. Most now embrace a 'new forestry' defined in terms of ecology and sustainability, where the emphasis is on managing forest ecosystems rather than forest fibre.²⁴ But in spite of this shift from industrial to environmental goals in recent years, the old forestry paradigm still remains very much alive. Much of scientific forestry is highly instrumental and manipulative, where experts or technocrats (now equipped with computers) map, measure, and model the minute details of the forest landscape and then take active steps to accommodate human demands for timber, wildlife, species diversity, recreation, and old growth.

Expert forestry opinion does not always respond effectively when confronted by public criticism of its technocratic bent. One answer sees the public as misinformed and prone to exaggerate problems. The antidote is seen in more effective 'education,' and environmental roundtables and stakeholder forums are advanced toward this end. Often this amounts to little more than an urge to have public opinion brought more closely into line with expert opinion. On the other hand, it is argued that expert knowledge is blocked or even deformed by the considerations of 'political' expediency or necessity. Here elected officials are seen to tie the hands of the technocrats by inadequate resourcing (preventing full implementation) or failure of nerve (conceding to popular prejudice) in implementing forest policy.²⁵

For eighty years a strength, this paradigm is increasingly subject to challenge. In an emerging age of ecological consciousness, environmental protest, and interdependent networks, a management regime built on the expert manipulation of timber values is increasingly viewed as untenable. In effect, the entire knowledge base of forestry has come into question, for, as Maser observes, 'Ecological understanding is a nonexact, nonstatistical subject. Cumulative effects cannot therefore be rendered statistical, because ecological relationships are far more complex and far less predictable than our statistical models lead us to believe. We cannot foresee the moment when cumulative effects become irreversible.'²⁶

It is difficult to dispose of the criticisms of modern forestry. However, our sense of forestry 'politics' extends far wider and deeper than that described above. Given the complicated and contested nature of its subject matter, modern forestry can be little else but political. This should be acknowledged and even welcomed as a progressive development. Differences of interest, of perspective, and of program are inevitable, and little is served by ignoring or denigrating them in an effort to build or defend a single unified knowledge base.

Like many professions, foresters have had difficulty in acknowledging the political aspects of their position in modern life. They are apparently

more comfortable with an engineering or technocratic sense than with a social or political sense of their vocation. This is reflected in much of the professional literature. There is no lack of studies on forest management practices as applied to different physical settings, political jurisdictions, and periods of time. But it is common to find the forester portrayed as an intermediate actor, the agent of broader and higher forces such as the corporation or the state or the public interest. There is a tendency here to see foresters as functional operatives, vital and necessary to be sure, but acting in tightly circumscribed arenas where the focus is applied science.

Perhaps unwittingly, the profession has added to this impression. This derives in part from the specialized language and somewhat esoteric concerns that dominate most professional deliberations. The terms invoked are typically about manipulation and control of a promiscuous Mother Nature. The forester's role is to 'protect' trees from various 'enemies,' such as insects, fires, and storms. In all likelihood, the professional outlook is also a product of the diffidence shared by most foresters, reluctant to step squarely into social or political controversy. In fact, it might be suggested that the profession has displayed an outright aversion to, and denial of, political realities. How often is it proclaimed in the professional journals that forestry and politics do not mix, that the rotation ages for trees and the electoral cycles for politicians will never coincide, that the formulation of policy (presumably at the 'political' level) and the practice of management (presumably at the professional level) are appropriately kept separate? These are contentions that we find both highly questionable and highly revealing, and we will examine them extensively in the chapters below.

The profession's long-standing awkwardness with the political process has lately turned to one of crisis. For more than a decade now, forestry has found itself on the defensive. The expansive confidence of the postwar generation seems to have evaporated, in part through the ravages of recent recessions on the job market, but also because of public challenges to professional practices and integrity.²⁷ To many of its critics, the forestry profession is seen to be hopelessly co-opted, or even corrupted, by the recruitment of so many foresters to employment in large resource-processing corporations. Neither have government foresters escaped this charge, because they are often viewed as the handmaidens of corporate power. The most fundamental questions are being raised about the objectivity of the forestry outlook in a commercial age and its ability to deal fairly with the needs of the resource when they conflict with the need for the cheapest possible wood supply. There is, not surprisingly, a spirited response from the professional mainstream. It contends that contemporary forestry practice is founded on a century of scientific advance and field application, geared to North American ecologies and business realities. This has brought unprecedented knowledge of forest biology, wood inventory, silvicultural strategies, and

logging techniques.²⁸ Foresters insist that this knowledge is highly relevant in the age of environmentalism and forest ecosystem integrity. Many go further, constructing a new vocabulary and practice of 'sustainable forest management' to suit the 1990s.²⁹

In spite of such claims, orthodox professional forestry is still subject to a withering critique and dismissal by many environmental activists. They view its central corpus as unacceptably limiting, tied to a commodity-based approach to the natural world when an ecological approach is required. From this perspective, it can be little more than a technocratic assault on nature. Even debates within the forestry profession reveal a profound uneasiness about the new public and political perspectives on organized forestry and a striking ambivalence about the appropriate response. There was a time when the views of 'non-foresters' could be relegated to the margin if not dismissed outright. But with public perceptions now solidifying, the organized face of the profession is committed to respond.³⁰

In our view, these are fascinating debates, being conducted at a critical time for forestry. They are timely, appropriate, and pressing. The critique is understandable, though it is accurate only in part. The predicament for forestry and foresters is that its professional practices have become a lightning-rod for public discontents about a far wider set of forces and problems. Ironically, however, the profession's misperception of forestry's political character has compounded its difficulties in responding.

This study does not seek to advocate or confirm any particular perspective. Rather, we wish to explore the politics of forestry, in several different senses, and to establish that the political character of forestry is not new. While the unprecedented level of public interest and debate is relatively recent, forms of intramural and interagency politics have pervaded twentieth-century forestry, in Nova Scotia as much as elsewhere. The profession has seldom in the past achieved a full consensus on many matters. It is more typically characterized by competing clusters of majority and minority views, regional geographic variations, and generational differences. It is this range of interests, agendas, and encounters that we wish to address.

In the pages below, we will stress the complexity of forestry as a knowledge system. Indeed, much (though certainly not all) of the confusion and acrimony that define today's situation has resulted from overly simple approaches that confuse separate phenomena by lumping them together. As a result, there are moments when 'forestry' is blamed for the excesses of national and international corporations pursuing maximum profits. At other times, 'forestry' is blamed for the timid and even apologetic policies of state agencies charged with managing public resources and promoting forest enhancement. In still other cases, 'forestry' is held responsible for the arrogant invocation of science and expertise to legitimate or excuse the 'necessity' of what are often highly controversial activities. There is no

question that modern forestry, in theory and in practice, has much to answer for, but we are convinced that the most sensible and rewarding path to its understanding is an analytical one that starts with concrete experiences and practices on the ground. However, before moving to the primary subjects, we will consider certain political and social dimensions of forestry at large.

In the forestry domain, politics are likely to surface at many locations and to take several forms. Politics are present in any walk of life in which a diversity of interests calls for decisions to be taken collectively. In each case, competing interests will bid for priority, and leaders (often with no party political involvement) face the task of forging responses that are broadly acceptable to participants. Consider the political premises of the following three comments.

By emphasizing one function over others, by aggressiveness or passivity, by inventiveness or adherence to the *status quo*, by risking the displeasure of superiors or colleagues or neighbours or by following the path of least resistance, by enthusiastic or indifferent or reluctant performance, the Rangers in effect modify and even make policy – sometimes without knowing it. (Herbert Kaufman³¹)

The Forestry profession persistently restricted its orientation to the needs of the tree while avoiding consideration of the economic and social needs of the owners of these trees. Yet it is on the Profession that our governments rely for the expertise in planning development policy for our forest industry. Ultimately, of course, it is our Universities which presume to offer degrees in forestry which are the real culprits in this sorry story. (Alexander A. MacDonald³²)

In a public opinion poll commissioned not long ago by the Federal Government, 97 percent of the lay-public respondents agreed with the statement that ‘clearcutting is a poor forest management practice.’ Seventy-nine percent of foresters questioned disagreed with the same statement, and only 7 percent of them agreed ‘strongly’ with it. Clearly on this issue there are two solitudes – the popular and the professional – which foretells of serious problems ahead. (Edward S. Fellows³³)

Kaufman points out the crucial role of field staff in delivering programs to the public, MacDonald underlines the inevitable links between forestry and society that are transmitted through professional training, and Fellows notes the growing discrepancy between technical and popular outlooks on forest matters. These are all primary domains for the politics of forestry. Consequently, politics is as likely to figure in the affairs of the International

Woodworkers of America union, the Bowater Mersey corporation, or the Canadian Institute of Forestry as it is in the Nova Scotia electoral process or on the Legislative Order Paper.

In a similar sense, much of the forester's professional practice is permeated by political relations. It is true that to many people, foresters included, evidence of 'political' considerations is a cause for regret. By this view, the political represents an unwanted intrusion by arbitrary or unknown forces. It is manifest where partisan loyalties and animosities offer the basis for conferring or withholding benefits, where croneyism and clientele networks serve as means of controlling access to resources and power. Prior to the Second World War, for example, it was routine for the entire staff of Nova Scotia forest rangers to be dismissed after an electoral change in governing party, to be replaced by friends of the incoming group. Chief Forester Otto Schierbeck experienced the harsh consequences of rural resentment channelled through the Conservative government, which led to his firing in 1933. Not long after, Nova Scotia witnessed the 'Woodpecker Election' of 1937, featuring fierce recriminations over the dispensing of Crown timber access by a Cabinet minister.³⁴ Viewed in this way, the politician is an external agent who imposes a powerful but unpredictable stamp on forestry policies and practices. Consequently, the rueful rationalization 'it's a political matter' conveys an awareness that an external authority has taken control of matters out of professional hands, with the prospect of arbitrary and even irrational rulings ahead. This is a continuing reality in many provinces, including Nova Scotia.

But might professional forestry also be inherently 'political' in a more positive and reasonable way, according to our alternative definition? To the extent that foresters, individually or collectively, articulate and pursue interests that are at odds with other social groups, they are engaged in a legitimate process that is inherently political. This may involve efforts to define and implement a shared interest of foresters as professionals, or it may involve foresters lending their expertise to the initiatives of others. Three aspects of this alternative politics of forestry are outlined below.

Professional and Associational Politics

One type of politics, central to the subjects of this book, concerns professional training, governance, and associational representation in public affairs. The formal course of training that makes up the bachelor of science in forestry degree (BScF) marks an entry point into a carefully controlled occupational specialty. But like all accredited guilds, foresters share a bundle of professional interests. Which consequences flow from the successful creation and continued defence of the forestry profession? It is important to appreciate that there was nothing natural or inevitable about this development. In fact, it was the product of prodigious efforts by a vigorous cadre of

leadership figures who founded and maintained the forestry faculties and the professional associations that seem so familiar today.

Canada's first forestry school was founded at the University of Toronto in 1907. New Brunswick followed one year later, with Laval (1911) and the University of British Columbia (1917) rounding out the original four.³⁵ In the early decades, the faculty complements remained small, as did the student enrolments. At the University of New Brunswick, the graduating class averaged six students in the years 1910-30. Initially, the federal forest service was the main employer of graduates. Indeed, for the first several decades, both industry and provincial governments remained sharply sceptical about the necessity of maintaining permanent foresters on staff. In Nova Scotia, there were likely fewer than a dozen foresters employed in any professional capacity as late as 1945.

The first professional association, the Canadian Society of Forest Engineers (CSFE), appeared in 1908. Not surprisingly, it was University of Toronto's dean of forestry, Bernhard E. Fernow, who brought together the twelve founding members.³⁶ Modelled after its American predecessor, the 'forest engineering' label underlined a professional aspiration geared to organizing complex systems. In this case, forest engineering involved getting the wood out of the forest and into the mill by cruising and mapping timber stands, building roads and railways, damming rivers, and mechanizing extraction of wood where possible. The purpose of the organization was to bring together foresters of various backgrounds to advance scientific knowledge while promoting improved forest practices.³⁷ Annual meetings shifted to a more technical basis after 1921. In 1925 the society launched its own journal, the *Forestry Chronicle*, as a forum for professional discussion.

Significantly, the CSFE was open to persons other than graduate foresters and continued to function as a social club as much as a professional body.³⁸ However, the situation changed following the First World War, as membership criteria were tightened. A professional Code of Ethics was developed, one of its articles containing a provision that 'He [the forester] will not subjugate his professional principles or judgement to the demands of employment.'³⁹ As we will see later, honouring this commitment could be anything but simple.

After the Second World War, the context for forest industry expansion was more suited to professional growth. In the rush to secure forest concessions for long-term supply, both government and industry required expert staff, and returning veterans swelled the student ranks of the forestry schools.

Already the CSFE recognized some of the problems posed by a dispersed national membership within a highly regionalized industry. In 1939 it introduced a new organizational layer of regional and provincial 'sections' to convene meetings between annual conferences. The Maritime Section



The graduating class in forestry at the University of New Brunswick, 1948. Mona Roy, pictured in the foreground, was the first female forestry graduate in Canada.

drew together members from the three provinces (and after 1949 from Newfoundland). Since most regional members were graduates of the Faculty of Forestry at the University of New Brunswick, the Maritime Section must have functioned as a veritable UNB alumni club. At the regional meetings, the associative relationship with industry was reinforced in at least one respect, because pulp and paper companies regularly made donations in support of the gatherings. In 1954 a separate Nova Scotia Section was formed, with fifty members. (By 1980 it had almost doubled to ninety-two.⁴⁰) In 1950 the association adopted a new name, the Canadian Institute of Forestry (CIF), for its 1,127 members.

Despite the contributions of the CSFE and the CIF, there were some respects in which the professionalization of Canadian foresters remained incomplete. Even with the CIF membership being confined to graduate foresters holding the BSCE degree, still missing was the special certification of expertise, not by the universities alone but by a form of professional 'registration.'⁴¹ In this Quebec took an early lead. Well prior to the 'Quiet Revolution' of the 1960s, there existed a program of study and examination (associated with Laval University) leading to certification as an *ingénieur forestier (ing.f.)*. Other leading forestry provinces followed by instituting the credential of registered professional forester (RPF).

Yet no parallel initiative occurred in Nova Scotia. While the issue arose periodically in the councils of the CIF(NSS), it was not until the advent of

the Canada-Nova Scotia Forestry Sub-Agreement in the mid-1970s that serious concern arose with professional certification. This was on the eve of another major hiring explosion and turned on the question of who would be authorized to approve the massive new wave of publicly funded silviculture works. Ambivalence about the effect of dividing loyalties between two professional groups appears to have scuttled the proposal.⁴² Instead, the CIF(NSS) was content to urge its executive council to become an active force in public forestry issues. More recently, it is widely perceived that the growth in the ranks of forest technicians, also organized into their own association, has complicated the task of securing provincial state consent for a registered foresters' association.

For generations, the battles between organized groups in the forest sector have shaped the growth of the profession. As professionals, foresters have been active in other organizations to advance their cause. As a broad public alliance of resource owners and users, the Canadian Forestry Association followed its American counterpart in sponsoring the conservation movement after 1900.⁴³ Although important at the time, the CFA (and its provincial affiliates) have declined dramatically in influence during the twentieth century. The Commission of Conservation, formed in 1907 to take stock of the management of Canada's natural resources, also constituted a forum to present the skills of the forestry profession, but it folded amid squabbles in 1921.⁴⁴

As an expert group, foresters have sought to influence state and corporate policy in particular directions, and inevitably they have confronted advocates for other interests. In 1941 the CSFE moved into national forest policy advocacy with its 'Statement of Forest Principles.' Beginning in 1944, the Nova Scotia foresters did likewise. Their brief, 'Forestry, Economy, and Post-War Reconstruction,' outlined a comprehensive program of action 'towards better use and protection of one of Nova Scotia's greatest assets.'⁴⁵ This launched a tradition of periodic professional comment on provincial forest policy issues. The CIF(NSS) appeared in 1954, evolving into an effective (social and policy) vehicle for bringing together corporate, government, and consultant foresters, contributing solidarity to a group whose diversity of employment threatened a fragmentation of interest.⁴⁶ Constituted around working committees and an annual social/technical meeting, the CIF(NSS) became an important point of reference. As a non-business and non-government body, it enabled foresters to articulate concerns *as professionals* that it might not be possible to raise *as employees*. Thus, the Nova Scotia Section petitioned the government in 1959 to replace the Small Tree Act, which it criticized on silvicultural grounds. The subsequent Forest Improvement Act, modelled on Swedish legislation, was strongly endorsed. The section lobbied for almost twenty years for the reform of forest taxation, which was finally acted on in 1977.⁴⁷ However, its



Participants at the annual meeting of the Nova Scotia Section of the Canadian Institute of Forestry, 1959.

most ambitious policy intervention may have been the 1971 proposal *A Forest Policy for Nova Scotia*, a comprehensive eighty-page report.⁴⁸ At the same time, its organizational ‘plasticity’ is evident in at least two respects. First, with section duties having to be fit into heavy career commitments, it was often necessary for NSS executive officers to delegate responsibilities to willing and available members in a somewhat haphazard manner. Second, as a recognized stakeholder in the provincial ‘forest sector,’ the section executive enjoyed the prestige of a professional and expert body. Yet given the frequent overlap of members in representing employer, trade association, and professional interests, there were times when these hats appeared to be juggled entirely too casually.⁴⁹

Thus, professional foresters were and are involved extensively, through their associations, in the ebb and flow of interest group politics. The chances of maintaining a consensus proved greatest when the CIF confined its attention to matters of technical forestry, and the prospects of internal schism grew as advocacy transgressed on occupational or ethical commitments. One of the foresters in our collection, David Dwyer, withdrew in protest from CIF(NSS) activities in the 1980s. Despite several decades of service to the section, he could not accept its repudiation (at the urging of industrial foresters) of the forest Group Venture program that it was his job to promote. Normally, however, the CIF(NSS) was sensitive to the core commitments of its members’ paymasters in business and government when it chose the grounds for political engagement.

The Politics of Institutional Affiliation

Foresters' professional outlooks are heavily influenced by their immediate institutional affiliations with the work world. Like all expert groups, they face the challenge of adapting their skills and practices to the interests of particular employers. This plunges foresters into authority structures that follow wider commercial or administrative imperatives. Such practical accommodations may move them a long way from the scientific optima and best practice formulas taught in faculties of forestry and prescribed in research journals and professional codes of conduct. A few examples may suggest the considerable variety of potential accommodations.

One of the most familiar distinctions is that between 'industry' and 'government' foresters, and there is much to confirm this distinction. Forest products corporations look to foresters for expertise in measuring and classifying the available wood volumes, as well as planning the extraction and renewal of the forest base. State forest agencies employ foresters to administer and manage public (i.e., state-owned) forest lands in order that superior stands are available to meet public policy needs. Until relatively recently, this has meant making them available for use by private business, according to lease and in return for a royalty payment known as stumpage.

This relationship between forester and employer is complex, and it involves many variations. For example, within the corporate category, there are differences between employment by lumber firms, pulp and paper firms, and forest land companies. It has been suggested that the explosive expansion of the Canadian pulp and paper industry in the 1920s was critical to solidifying the place of foresters in business. All but the largest lumbermen remained part of the competitive economy, in which capital needs were relatively modest, entry into and exit from the industry was easy, and levels of activity could be adjusted according to flexible sources of timber supply. By contrast, pulp and paper producers faced far higher capital costs for their elaborate production facilities, were financed over a longer term at fixed sites, and used wood more intensively. All of these factors accentuated the significance of long-term guaranteed wood supply in corporate planning, finance, and operation. To the pulp operator, foresters offered unique and indispensable talents. Over time, the term 'pulp forester' took on distinct connotations of even-aged softwood plantations, clearcut harvesting, and relatively short (forty-year to sixty-year) rotation cycles. By contrast, many 'sawlog foresters' worked with a wider species mix and uneven-aged selection harvesting. In British Columbia, the H.R. MacMillan Company argued against the postwar tree farm management regime on just such grounds.⁵⁰

Pulp forestry developed its own professional institution as early as 1918, when a Woodlands Section was established within the Canadian Pulp and Paper Association (CPPA). At the founding meeting, it was agreed that 'the imperative problem is to provide a permanent wood supply at minimum

cost.⁵¹ For the next thirty years, the CSFE annual meeting was scheduled in conjunction with that of the CPPA Woodlands Section, thereby bringing foresters of all backgrounds, industry and government alike, together with company woodland managers. The foresters were not unmindful of the conflicting pulls of the workplace.

In pulp and paper firms, most foresters were attached to a woodlands division, in which they worked under the authority of the woodlands manager. Here there was definite room for tension between the forest development mandate of the professionals and the fibre production imperative of the managers. This could crystalize in any number of issues: the range of forester duties that went beyond inventory cruising; the choice of harvesting by clearcut or selection cut; the extent to which the ease of cutting crews would be qualified by the needs of site regeneration; and the disposal of slash and other wastes left at the cutting site. In the era of vast, cheap, virgin forests, it was virtually impossible to build support for intensive silviculture practices. John Bigelow looked to dynamic commodity markets to provide the price and equity incentives for improved forest management, though his was a voice before its time.

We should stress that lumbermen were not at all blind to the advantages of technical forestry. Indeed, one of our subjects, Donald Eldridge, began his career with the Eddy Lumber Company as a surveyor and forest land buyer. But here there was more room for variation. Where pulp companies were obliged to secure extensive forest acreage prior to financing and start-up, most lumber companies continued to acquire quality sawlog properties over their operating lifetimes, constantly engaged in the buying, selling, and leasing of timber stands. Since the larger firms had wood volume needs closer to that of the pulp sector, and had to plan accordingly, it was here that foresters were most likely to find employment. But for many other mills, the job of finding and cruising timber went to practical woodsmen whose knowledge was experiential rather than technical.⁵² Once again the practice of the craft was filtered through a commercial screen, though one of different shades. Sawlog forestry involved a wider range of species (including hardwoods) and longer rotation ages (80-120 years). The variation in cutting practices was extreme, reflecting great differences in stand characteristics, enterprise philosophy, and state regulation. They extended from high-grade logging to clearcutting to selection management for long-run sustained yields.

On the other side, 'government' forestry was less explicitly commercial in orientation. In principle, its goal, long-run management of public forests for maximum growth and quality, coincided closely with the classic imperatives (and codes of conduct) of the profession. No doubt many enthusiastic graduates saw government forestry as an alternative calling, free from the relentless commercial dictates of business. David Dwyer spent his career

in the Nova Scotia Department of Lands and Forests, first as a District Forester, then as an Extension Forester, and finally as a coordinator of private forest management ventures. This institutional setting followed its own set of norms, and quite a separate policy framework, from that of industry. However, it also imposed its own limitations, as newly hired foresters soon discovered. The scale of resources available in the public administration often paled beside its private sector counterpart. This could be reflected in salary scales, equipment, support personnel, and operating budgets. In many parts of Canada, government forestry was also burdened with a long-standing obligation for fire protection services. This obligation carried over from the pre-professional era, and, while it was always regarded as integral to forestry work, it could preempt large blocks of funds at the expense of silvicultural and management work. Finally, there was the ubiquitous 'political' factor, which generally meant interventions by elected politicians and Cabinet ministers in search of jobs, permits, and leases and general-purpose preferences for local constituents. In Nova Scotia, the forest ranger system began in 1904, with the appointment of a Chief Ranger in each rural municipality. While the numbers rose and fell over the years, these jobs exemplified old-style patronage.

When foresters first entered government organizations, they encountered a field staff of woods-wise rangers with little formal training but considerable practical experience as well as partisan connections to the government of the day. It was also a time when ministers of the Crown could take a firm grip on the minutiae of the forestry department. Consequently, state foresters had to operate in a competitive environment. They encountered a system already deep in hierarchies and fixed outlooks, and their expertise was potentially destabilizing. In turn-of-the-century Ontario, for example, the politicians 'had been convinced that foresters wanted to go too far too fast.'⁵³ In New Brunswick, the Forest Service was established in 1918, but electoral politics undermined its early momentum, and progress was not restored until after the Second World War.⁵⁴ The presence of a senior provincial forester proved to be one of the key variables affecting the timing and extent of professional advancement. Otto Schierbeck, the first Chief Forester appointed in Nova Scotia in 1926, is profiled below. He faced constant challenges in his efforts to adapt European-inspired practices to the ranger service that he led. After his dismissal, his successor, Wilfrid Creighton, proceeded far more cautiously, recalling that 'over the next few years I learned by trial and error what my position in the Department was supposed to be.'⁵⁵ Even though the MacDonald government established a Civil Service Commission in 1935, more than twenty years elapsed before partisan hiring was seriously curtailed under Stanfield, and even then part-time employment in highway maintenance and liquor sales was exempted.

Another institutional variable that closely shaped the circumstances of government forestry was bureaucratic location. This refers most generally to the place of an agency, such as a forest service, within the wider complex of administrative departments and agencies. Much of the intellectual climate and operational mandate of a service springs from location. This theory of 'bureaucratic politics' as a determinant of policy behaviour is summed up in the epigram 'Where you sit [i.e., where your desk or office is located within the administrative state] is where you stand [i.e., the perspective held on the issue under consideration].'⁵⁶ It will also determine the place of the branch, agency, or department in the hierarchy of state institutions, the patterns of bureaucratic alliance and rivalry within the state overall, and degrees of administrative autonomy open to the forest service.

One well-documented instance involves the US Forest Service. It was established in 1905, on a tide of conservation thinking supported by President Theodore Roosevelt.⁵⁷ Significantly, the Forest Service was attached to the Department of Agriculture, given the evident analogies between farm and forest crops as renewable resources, along with the fact that both land bases were held largely (at the turn of the century) in private hands. This choice of site was to prove critical for the Forest Service. It was influenced subsequently by the wider policy philosophies of the farm bureaucracy, including the techniques of working with private landowners, and the integral relationship of resource conservation and use. Over a period of time, these were blended with the corpus of technical forestry, including its concern with the management of public lands. Then, in the early twentieth century, a bureaucratic rivalry began to emerge that carried policy and professional consequences of the first order. Virtually from the moment of its inception in 1905, as the administrator of vast federal lands in the western United States, the Department of Interior sought to bring the Forest Service under its umbrella. In the far more commercially driven environment of Interior, which elevated the priority of exploitation above that of conservation, forest management would have been conditioned by a far different set of norms. Significantly, the Forest Service mounted extended campaigns to resist incorporation by the department, carrying these on occasion to the highest political levels.

The pattern differed considerably in Canada. Here the federal state surrendered its imperial grip on prairie lands in 1929, with important consequences for the federal forest service. Having lost a proprietorial base, its mandate was redefined in terms of forest research and commercial development.⁵⁸ Since provincial authorities hold prime jurisdiction over forest management, a different pattern developed. Here the design of the public administration tended to separate the mandate for arable farming (a private tenure resource) from that of forests and mineral resources (predominantly

Crown-owned resources). The Canadian provincial tradition has been to locate forest services either in distinct departments of forests or in subdivisions of consolidated departments of lands and forests (including wildlife and parks) or departments of natural resources (sometimes including minerals).⁵⁹ Since 1926, Nova Scotia has followed the middle pattern closely under a combined Department of Lands and Forests.⁶⁰

Yet Nova Scotia broke with the provincial norm in one critical respect, since Crown forest holdings constituted less than one-quarter of the provincial forest area, while the preponderance was privately owned. Nevertheless, the frameworks and philosophies of government forest administration predominated from the outset. Private forest management, whether for farm or non-farm woodlots, large tracts or small, has been a distinctly secondary policy concern for most of the twentieth century. The forest service developed its operational framework in virtual isolation from primary forest product marketing (advanced, significantly, by the Department of Agriculture) and forest manufacturing (handled by the Department of Trade and Industry). As illustrated in several chapters below, this arrangement congealed over time into an informal division of labour (and rivalry) between the Department of Lands and Forests and the Department of Agriculture, with the latter demonstrating a far greater commitment to small private forest owners as a productive and management segment. It testifies to the potential impact of bureaucratic politics.

The Politics of Internal Hierarchies

We need to note one final political dimension. It concerns the experience of individual foresters according to their locations within formal organizations. Any complex agency, whether corporate or public administration, is founded on the principle of hierarchical authority. In this way, policies are formulated and executed, and specialized talents are organized and applied. The economist John Kenneth Galbraith has captured part of this phenomenon in his concept of the 'technostructure,' a configuration of information specialists who provide an indispensable intermediate layer of expertise for planning in large organizations facing complex problems.⁶¹ This technostructure is an essential element of both public and private bureaucracies. Furthermore, it can be argued that these hierarchies are political in our stipulated sense of the term, since they succeed in generating solutions in situations of difference. Most significantly, foresters are caught within such webs of hierarchical authority, which play a crucial role in determining their actions in the short run.

Consider the pulp and paper firm as an authority structure. A diversified organization, it combines a series of complex operations (wood production, transportation, single-stage or multistage processing, marketing, and sales) in order to realize commercial income. While the woodlands operations,

where foresters operate, are crucial in the planning stages of the venture, it is equally clear that once production begins the mill dictates the crucial parameters. The rated capacity of the pulp and paper machines sets the general target for timber production, while actual levels of production will be adjusted to market conditions. Woodland managers are furnished with fibre volumes that must be met come what may. Since foresters tend to operate under woodland managers, their forest development efforts are doubly subordinated – by company-wide constraints and the immediate economics of wood supply. This is illustrated well by Ralph Johnson, the longtime forester for Mersey Paper Company in Nova Scotia:

Unfortunately, at Mersey the woodlands manager was in charge of both the woodlands department and the forestry department until 1958. The logging superintendent wanted only clearcutting and did all he could to oust any silviculture from Mersey's forest operations. Roadways were deliberately cut three times wider where they passed through coniferous forests than elsewhere, and other openings – such as log brow sites – were made unreasonably large. The woodlands manager did nothing to stop this, and as a result of the large openings in the forests there was more storm damage than there should have been. Logging contracts and stumpage sales were under the supervision of the forestry department and in these, selection cutting was quite successful because the openings were kept small.⁶²

Similarly, in government forest services, there are varying levels of authority descending from the deputy minister through the provincial forester to regional and district forestry offices. Staff outside headquarters seldom have a direct impact on policy development (as distinct from policy implementation), which is normally confined to a small group of senior officers. This helps to explain why 'political' intervention by industry interests will focus at these very levels. At the same time, line foresters may face severe sanctions for ignoring or defying the command and control mechanisms of the organization.⁶³ The most blatant forms of dissent may be met by reprimand or outright dismissal, as in the case of Donald MacAlpine. A unit forester in Nipigon, Ontario, MacAlpine was fired in 1982 after refusing to issue timber-cutting licences on tracts where official inventories misrepresented the available stock.⁶⁴ In situations lacking a major infraction, more subtle forms of discipline can be imposed. Field staff can be transferred, or threatened with transfer, to distant localities or to 'punishment' positions. Algonquin Unit Forester Don George was a tenacious opponent of clear-cutting in the Pembroke region of Ontario in the 1970s and 1980s. He was personally threatened with a transfer to the outer reaches of northwest Ontario by his regional office, and he observed a colleague who was uprooted to Sudbury in similar circumstances.⁶⁵

Forestry as Ideology

The politics of forestry as expressed at the various levels identified in the previous section suggest that forestry is thoroughly ideological. The term 'ideology' carries uncomfortable overtones for many people. It may suggest narrow and dogmatic thinking, an unwillingness to accept awkward realities, and a penchant for rigid planning. It may also conjure up the battle of the 'isms': conservatism, liberalism, socialism, and so on. While each may have a limited basis in reality, they are unnecessarily limiting and should not be allowed to stand in the way of a potentially useful concept. Applied in a different sense, ideology offers an extremely useful tool in analyzing the conflicting outlooks found in many fields, including forestry.

We approach ideologies as systems of ideas that are formulated to help make sense of a complex situation. They are forms of intellectual shorthand that allow people to discuss and organize action in modern society. These ideas are not associated at random but are related according to the particular problems at hand. They need not be rigid and unyielding; in fact, most ideological outlooks are quite supple and capable of evolution over time. Not only do ideological perspectives help to explain situations, but they also offer prescriptions for action, and as a result they are often front and centre in political controversies. Ideologies are not confined to experts either. They can be fashioned from a variety of raw materials, such as folk values, traditions, scientific ideas, and philosophical ideas. Each instance of ideology is also of interest since it tends to spring from particular social and economic (or class) concerns.

Seen this way, ideology enters the forestry field in a particular fashion. It is distinct from the professionalized pursuit of forestry in the sense that it is accessible to a far wider range of social and public interests. It is inherently political, but its core constituency is far more broadly drawn. It offers a means for such diverse groups as forest landowners, woodworkers, rural residents, wood-harvesting and -processing enterprises, outdoorspeople, environmental advocates, and any number of additional public interests to communicate and to act. It should be evident that we see ideology in a positive light, as a necessary and inevitable part of the forestry scene.

Another fascinating property of forest ideologies is that they may be expressed both in very simple and in very complex terms. In the midst of a confrontation between loggers and old-growth forest preservationists, the dialogue (or, as it is sometimes labelled, the discourse) can be sharp and blunt. In some cases, it may be seen as a relatively simple choice of 'jobs or nature.' Both sides may be willing to accept this formulation, while differing on how to resolve it. In such a case, it helps to make sense of an intractable problem, with each side invoking worthy preferred outcomes. In ideological shorthand, the confrontation offers powerful symbolic fuel for social solidarities. Under such banners, a woodsworking coalition

(which may be supported by trade unions, employers, local business chambers, or others) advances one action plan, while a preservationist coalition (possibly aligned with wildlife advocates, nature groups, recreational users of the forest, tourist operators, or others) advances another. Despite the evident simplicity, this sort of ideological statement taps into social beliefs and concerns at many levels.

In this book, the concept of ideology is especially useful when examining two concepts of professional forestry: its scientific and its social dimensions. Ideological notions abound in the specialized vocabularies of the science of forest management. Consider, for example, the prospective treatment of forest insects destructive of forest biomass. Biological and botanical science has always been close to modern forestry, both in theory and in practice. Not only is it a foundation of the university curriculum, but it also animates much of the field research for modern silviculture. This is both a strength and a weakness, since science is both selective and dynamic. Important questions need to be asked about the state of botanical thinking at the time when modern forestry congealed as a subject of study as well as about the capacity of forestry theory to take account of subsequent advances.

For example, how closely were related disciplines such as entomology (the study of insects) tied to forest biology? Moreover, what was the state of entomological understanding? After the Second World War, the chemical industry promoted major advances in insecticides and herbicides, and both found their way rapidly into farm and forest applications. In this process, entomologists' experimentation with and application of 'biological' antidotes to forest pests by identifying and releasing their parasites into infested areas were rapidly marginalized. The same was true for the widely held beliefs that birds and silvicultural methods could serve to mitigate insect damage.⁶⁶ Thus, several approaches were available in principle to control tree damage from insects. How was the choice resolved? Evidence from the philosophy of science suggests that organizational factors may play a major role in deciding such questions. Social and business ties may figure prominently here, in the field sometimes labelled the 'chemical-industrial complex.'⁶⁷ As disciplinary affiliations and bureaucratic rivalries reinforce the preference for one research paradigm over another, a commitment grows over time as research funds are invested and an agency's 'stake' in a particular strategy intensifies.⁶⁸ As we will see below, these factors were prominent in a number of Nova Scotia settings, particularly on questions arising from spruce budworm damage. Hawboldt's text below sheds light on the province's advocacy of silvicultural solutions and its resistance to the spray option in addressing the spruce budworm invasion of the 1970s. This is in contrast to the chemical spray option so thoroughly embraced in neighbouring New Brunswick.

Consider also the phenomenon of clearcut logging. In general, it is the practice of cutting all the trees in a forest stand, with the expectation that the site will be regenerated by natural seeding or by the planting of seedlings. Adjusted to site conditions, it has been one of many harvesting and silvicultural techniques practised for more than a century of Western forestry. Yet in modern public discourse, clearcutting has acquired a far more specific connotation as the standard industrial forest harvest in coastal rainforest and boreal forest stands. It is graphically illustrated by the ground and aerial photographs of vast denuded landscapes taken soon after the harvests.⁶⁹ Apart from the now-famous West Coast sites of the Carmanagh Valley and Clayoquot Sound, the public consciousness is now sensitive to vast clearcut images, from the Quesnel Valley of the BC interior to the Keppoch Plateau of Cape Breton Island, Nova Scotia. Now generally regarded as an industry standard, these massive clearcuts have become emblematic of rapacious corporate forestry.

On the immediate level of pictorial image, there has been a debate on the question of authenticity. Both industry and government foresters contend that such pictures are extremely misleading since they unfairly freeze a single image in the public mind. Typically, the newly planted seedling forest is visibly insignificant against the stark barrenness of the clearcut landscape, and subsequent pictures of the same forest after twenty or forty years of growth are seldom available to balance the context. On this particular point, there can be little question that opponents of clearcutting have scored a massive tactical advantage. It would seem that not only is a picture worth a thousand words but also that the first picture is worth more than any subsequent pictures to the contrary.

Quite apart from the photograph itself, it is notable how the image opens the way for a wider debate that is itself redolent with ideological significance. How large does a patch cut (which will reseed naturally) have to be to be labelled a clearcut?⁷⁰ There is also the question of regenerative efficacy, or whether seedling forests achieve adequate coverage to start the replacement forest. In the public mind, a positive connotation attaches to tree-planting efforts, leading both government and private agents to launch triumphal celebrations of 'million tree' or 'hundred million tree' thresholds. Also relevant are the consequences of replacing a diverse, uneven-aged forest with an even-aged monoculture. More specifically, this practice raises questions about the impact of narrowing the forest gene pool and whether it leaves any future forest more vulnerable to insects and disease. Finally, there is the question of a net depletion of forest volumes in the event of large-scale failure to regenerate. We have dwelled in great detail on the ideological status of the clearcut. Yet similar explorations are possible on any number of forest management concepts and practices, including the 'tree farm,' the 'annual allowable cut,' and the 'sustained yield.'

The second ideological aspect on which the subjects of this book shed some insight is social. Consider, for example, the central position of forest tenure. By far the greatest proportion of Canadian forests lies in state (Crown) hands. This has shaped approaches to forest management in innumerable ways, since Crown ownership conveys powers to government foresters well beyond those that they could mobilize to influence forest management by private landowners. Only in the eastern provinces of Quebec, New Brunswick, and especially Nova Scotia do private forest lands account for a major proportion of the whole. This is closer in character to the situation in parts of central Europe and Scandinavia.

Consequently, it is relevant to inquire about the sort of adjustments made by government foresters in a significant 'private land' jurisdiction. Nova Scotia's unusual tenure pattern seems to have been considered an anomaly best ignored. Government foresters have viewed their restricted Crown share as a crushing handicap. To paraphrase Sigmund Freud, it might be said that the Department of Lands and Forests has suffered from the syndrome of 'Crown land envy' when it has met its counterparts from other parts of Canada. One memorandum aptly captured this spirit in referring to 'the complexities, if not vexations, that it [privately owned forest land] poses for any agency of Government responsible for the management of the resource in the public interest.'⁷¹ As a result, programs of private land purchase have been pursued, with different levels of vigour, since the 1930s.

This special feature seems to have been little recognized in forestry education, which remains focused on managing Crown holdings. To the extent that private woodlands were part of farm woodlots, they could be delegated to agricultural college programs. Alternatively, the private owners became the responsibility of Extension Foresters.

Although the extent of private woods holdings in Nova Scotia became clear as a result of the 1953-7 forest inventory, it was not until 1971 that the Department of Lands and Forests made its first empirical investigation of small private landowners as a group. This underlines the low priority attached to this vast group of small owners in the postwar period.

In Nova Scotia, the predominantly private ownership of the forest estate led to an ongoing concern with the security of forest property rights from state encroachment. This figured in debates about forest land taxation, poorly surveyed property boundaries, regulation of the export of raw wood, prescribed forest management practices on private lands, and the Crown purchase of private forest lands, engendering deep suspicions by rural woodlot owners about government designs on their lands.⁷² In some cases, this was reinforced by a perceived bias of government policy in favour of large corporate interests. By the 1960s, the cumulative impact of these debates led many small rural property owners to fear all government interventions as inherently threatening. Thus, during the campaigns for state-supported

silvicultural and pulpwood marketing legislations, opponents of the bills argued (effectively in some instances) that silvicultural programs and commodity marketing were ploys by the provincial government to wrest control of private woodlot products.⁷³ This theme of the 'tyranny of state regulation' forms an enduring part of forest policy discourse in the province.

One final instance of the ideological dimensions of forest management concerns educational programs directed to the lay public. This was closely interwoven with the twentieth-century movement for resource conservation that spilled into Canada from the United States during the Theodore Roosevelt years. While most of the disciplined regulatory interventions fell to state authorities, it was recognized that a public educated and committed to the conservation ethics of forest renewal and optimal utilization was an essential adjunct.

Consequently, the Canadian Forestry Association was established in 1900, with its respective provincial branches, to promote woods safety (particularly to the danger of fires) as well as the worth of tree planting as a forest renewal measure. It was also hoped that these associations would act as effective pressure groups in favour of conservation policies. (This is aptly captured in a comment attributed to Franklin Roosevelt after meeting a conservation lobby group: 'Okay, you've convinced me – now go out and bring pressure on me.'⁷⁴) Through these efforts, the public was conditioned to the symbolic worth of tree planting, even one plant at a time. This continues to be a standard of efficacy, where the corporate slogan of 'one tree planted for every tree felled' attracts a certain credibility, without any concern for species, age, and overall forest structure.

Ideology, then, strikes at the heart of a fuller understanding of why forestry has come to be what it is. It also helps us to see alternatives to the status quo and to explore dissent and forest views that go against the grain. A diversity of opinions and free expression of these opinions are necessary in promoting change. The late forester Jack Westoby had it right when he wrote that 'Living controversy, with full freedom of discussion, is the only way in which science can advance; and ... it is also the precondition of forestry policies which will fully serve the people.'⁷⁵