The trees are the great mitigators and temperers of the elements to man. They shelter us from the fury of the rain and snow, yet conserve it for our gradual use. They shade us from the glare of the open sun, yet in time furnish us with heat and light. A treeless country is not the best of countries. Its usefulness is limited and specialized. A normal earth for man has both forest and prairie. But these are only the gross material blessings of the trees. There remains all the beauty.

—Bliss Carman

It wasn’t mere coincidence that in 1908, only a few years after Bliss Carman wrote those lines, and only two years after he received one of its first honorary degrees, the University of New Brunswick taught its first courses in forestry. Everywhere in North America men were coming to the startling realization that the forests might not be an inexhaustible resource after all. And if that resource was to be husbanded and preserved, then there had better be properly trained individuals, as there had been in Europe for more than a century, to take matters in hand.

Actually, the case for the practice of forestry had been building on this continent for the better part of two centuries, ever since the French, followed by the British, had begun requisitioning the tallest, straightest great white pines for the masts and spars of their respective navies. Even before the turn of the 19th century, one Sir John Wentworth, surveyor-general of the King’s woods at Halifax, was battling local timber merchants (as he had done in Maine and New Hampshire before the American Revolution) and setting aside great reserves of forest for the Royal Navy.

Wentworth was, after a fashion, an early conservationist, but it didn’t make much difference to the forest: the pine still disappeared. For one thing, Wentworth’s controls were impossible to administer, and private traders continued to raid the royal reserves.

The real rush on the New Brunswick forest came after Napoleon and Alexander I of Russia concluded a treaty in 1807 that effectively cut off British timber supplies from the Baltic. With Britain then in the midst of the Industrial Revolution, it was essential that a new source be found, and British North America, especially New Brunswick, was the place. So great was the demand that shipments of timber from New Brunswick rose from 13,938 loads in 1807 to 92,553 loads in 1815.

As the axemen moved from the St. John Valley to the Miramichi, the ravaging effect on the forest became obvious. As early as 1810, British military authorities were warning that great swaths of forest were being destroyed. And in 1825, Peter Fisher, a United Empire Loyalist who produced the first history of New Brunswick, declared: “The evils that must arise to the Province, by allowing the timber to be monopolized and cut off, are many.” That same year produced another example of the need for “forestry” the Great Miramichi Fire, one of the largest conflagrations of all time, which swept through the countryside on a front 70 to 140 miles wide.

In 1816, another British official, Major-General George Stacy Smyth, repeated the warnings of earlier representatives and won for himself (as lieutenant governor, which he became the following year) unprecedented authority over the timber industry. A mainstay of his controls would be a duty of one shilling per ton of crown timber. It was less than charged in Maine or by private landowners here, but Smyth soon had a mini-revolution on his hands, fomented right within the walls of the Legislature. Writes UNB historian W. Stewart MacNutt: “Back of the sharp arguments of the leading timber merchants who held seats in the house of assembly there was the elemental feeling,
inherent in a population accustomed to freely ranging over the great spaces of wilderness, that the Crown lands belonged to the people."

"Lumbering was no more than a transient industry"

Smyth eventually had to dissolve the Legislature and call an election over the issue. It made no difference. The frontiersmen were still displeased. So Smyth imposed his system anyway, arguing passionately that the revenues it produced would be used to develop the province.

Interestingly, among institutions mentioned as potential recipients of this new development capital was the fledgling College of New Brunswick.

Smyth was right about the money. Soon the legitimate government was collecting large sums. As for controls, though, the old ways were by now too ingrained in the local culture for the system to work; the plunder of the forest continued, with few restrictions, into this century.

“In New Brunswick,” writes the historian A.R.M. Lower, “while little was heard of conservation, nowhere was there more need of it, for in this province the pine for practical purposes actually disappeared. But lumbermen turned philosophically to spruce, taking it as a matter of course that the forest must one day vanish completely and with it their vocation. Even though it was painfully apparent that the soil on which most of the forest stood was not fit for agriculture, few people seem to have regarded lumbering as anything more than a transient industry.

“Elsewhere, as the 19th century moved into its final quarter, important counter-currents were set in motion. In 1873, members of the American Association for the Advancement of Science began a campaign to save the forests. Three years later North America’s first practicing professional forester, Bernhard E. Fernow, went to work for the U.S. Government in Washington.

Trained under the great German foresters, Dr. Fernow was to have a huge impact on forestry on this continent, starting the New York State College of Forestry at Cornell (1898) and the Faculty of Forestry at the University of Toronto (1907). He was an impassioned advocate of applying forestry to the Canadian wilderness. Commissioned some years later to assess the Nova Scotia forest, he wrote:

“Ignorance of the assets of the Province as a whole, as well as of the conditions of the remaining Crown lands, becomes, in time, inexcusable. This reconnaissance, then, is...to substitute definite knowledge in place of general notions as to the conditions of timber supply, and to accentuate the necessity for more conservative use and, perhaps, for recuperative measures. It is a first clearing of the desks.”

Meantime, Fernow’s successor as Chief Forester with the U.S. Department of Agriculture was moving into high gear. He was Gifford Pinchot, destined to become one of the legendary figures of the U.S. conservation movement.

Pinchot’s big break, and forestry’s, came in 1901 when Theodore Roosevelt became U.S. president. Declaring in his first State-of-the-Union address that “the forest and water problems are perhaps the most vital questions of the United States,” Roosevelt gave Pinchot the attentive ear and the political support he needed to sell his ideas on how forests could be saved and used simultaneously.

Together, with Pinchot framing the ideas and Roosevelt putting them into the effect, they made “conservation” as legitimate a concept as had been “letting daylight into the swamps” a generation earlier.

In Canada, too, the national conscience stirred. Five national parks, including Banff and Jasper, came into being between 1885 and 1907, a certain sign that people were beginning to see the Canadian wilderness as something other than a limitless tract.

In 1906, Prime Minister Sir Wilfred Laurier called a national forestry convention for Ottawa. The mood of the time was subsequently summed up by one of the speakers. “Forestry,” he said, “is being brought before the general public in newspaper and magazine articles as never before in the history of the country. The efforts of the Canadian Forestry Association, the general rise in wood prices, and the wonderful development of the forestry movement in the United States has done much to awaken the people of Canada.”

Premier L.J. Tweedie called the seminal forestry conference for 1907.
The same year the New Brunswick Legislature approved “An Act for the better preserving and protection of the Public Domain.” One of the Act’s provisions was that a forestry convention should be convened at which, wrote Premier L.J. Tweedie, “all persons interested in the Protection of the Forests or science of Forestry should be publicly invited to attend.”

“Chancellor Jones recalled a fishing stream from his youth”

Seven topics were listed for discussion, including the “attitude of educational institutions towards forestry.” It was a seminal agenda; from it grew UNB’s entrance into forestry education.

The convention was held in Fredericton, February 21 and 22, 1907. In his opening remarks, Tweedie observed that the lumber industry and the forests had been allowed to look after themselves. As a consequence the province had lost millions of dollars’ worth of timber. However, said the premier…it is never too late to learn, and we have at length arrived at the conclusion that some new measures must be taken to protect this great industry.”

Among those invited to attend the Fredericton convention was Gifford Pinchot, to whom New Brunswick wasn’t unknown because he was a member of the Tobique Salmon Club. But Pinchot was busy with Congress in Washington and couldn’t attend.

The chancellor of UNB, Dr. C.C. Jones, was there, though, and well prepared for the discussions. He began his remarks with an elemental lesson in forestry. He remembered a fishing stream from his youth, a place where he’d spent hours dangling a line for trout. The stream had been brimming and vital. Then axemen assaulted its banks for firewood, and a subsequent forest fire had completed the stripping; the stream went dry. But now, years later, new growth had sprung up on the banks, and once more there was water in the stream.

It was a plea for the training of professional foresters, and Jones now elaborated on how it could be done at UNB. He had studied the forestry course outlines of two U.S. Schools, Yale and Biltmore, and concluded that many of the courses they taught were already covered at UNB.

Chancellor C.C. Jones argued for “the preservation of our forests in an intelligent way.”

“I feel,” said the chancellor, “that in this province we have just as good a ground for the establishment of a school of forestry as anywhere on this continent.”

Jones outlined a syllabus for his proposed forestry course and declared: “I feel that one competent man, such as we might get from one of the recognized forestry schools the Yale School for instance, could carry on, for a time at least, the work of this course. I think that at the present time an expenditure of $2500 to $3000 would be sufficient to carry forward the work of a forestry course as I have outlined it, and I am sure that so far as the utility of the course is concerned, the expenditure would be insignificant compared with the beneficial effect to the province.”

Jones’ presentation was persuasive, and he won the convention’s support. A year later the premier informed him of the government’s intention to establish the forestry school. Within weeks, Jones was corresponding with a young man from Yale whose handwritten letters arrived on stationery imprinted
with his name and year: R.B. Miller, Yale Forest School, Class ’08. He wanted to know how far Fredericton was from New York, how long the school year was, and what courses would be taught. “If elected,” he promised, “I shall try to give you my best efforts in building up this new department.”

“Dusty” Miller was a Nebraska native who’d graduated from Wabush College with an MA in 1906 and was in the process of getting his forestry master’s at Yale. He was 33 and ambitious, and after the Legislature that spring passed an act setting up the forestry chair, he was hired from among three candidates for the princely salary of $1400.

Miller and Jones moved quickly and by fall the forestry department was established in three rooms of Arts Building. UNB became the second Canadian university and fifth in North America to start formal training in forestry. Only Biltmore in North Carolina (1897), Cornell (1898), Yale (1900) and the University of Toronto (1907) were earlier.

UNB might have been a faster off the mark — as long ago as 1904 the university senate was recommending a forestry chair. But the matter was controversial, opponents of the idea arguing that the arrival of professional schools like forestry and engineering inevitably detracted from the university’s traditions of classical education. For example, in February, 1904, the University Monthly published a letter from a graduate, who’d got his master of arts degree in 1895. “The desire to prostitute educational institutions to the common, the practical, and the merely useful,” he warned, “has become wonderfully strong and, alarmingly universal.”

But others supported the idea, including the great New Brunswick naturalist and geographer W.F. Ganong, Class of ’84, who declared that the classical Oxford tradition simply didn’t fit the province’s needs. “There are men in the University of New Brunswick today,” wrote Ganong, “who could obtain a truer culture from courses in forestry properly taught, than they can possible gain through the Oxford type.”

In the end UNB’s forestry curriculum became a blend of both worlds. The first two years matched those of engineering (in which the university had taught courses since 1854) and included English, botany, drawing and an option of French, German or Latin. The final two years of the four-year course covered such subjects as meteorology, mensuration, silviculture, forest management, timber testing and wood preservation. Practical training was included too, under the auspices of sawmill operators who employed the students for 8–10 weeks during the winter.

By picking up students who’d already started university in engineering and arts, UNB managed to graduate its first foresters in 1910 — a class of four: Peter Z. Caverhill (later to become chief forester for British Columbia), John Curry, G. Skiffington Grimmer, and G. Percy Burchill, who was to become a Canadian senator. Half a century later Sen. Burchill recalled that a considerable skepticism greeted the new department. “While it made sense to acquire knowledge concerning the arts and sciences, “remembered Burchill, “forestry — learning about the woods — seemed a useless waste of time and effort.”

Nonetheless, under Miller’s energetic guidance, the department quickly flourished. By 1912 he was able to report to the president and senate that the university had 23 students enrolled in forestry and that prospects for their employment had brightened considerably. “The time is almost ripe for the carrying out of the provisions of the Public Domain Act,” explained Miller,
“using our own students to make an estimate of the Crown timber lands during the summer vacation.”
Thus early on was the university government forestry connection being established, a link that has grown ever stronger over the years.

Still, Miller remained tentative when it came to asking for money. On this occasion he requested the senate to appropriate $100 for two pieces of equipment. “Both of these instruments,” he added wisely, “would also be very useful to the engineering department.”

As a graduate of Yale (whose forestry school had been endowed by the Pinchot family), Dusty Miller was also mindful of the need for conservation, especially as practiced on the university’s own lands.

“If the college continues to burn wood,” he informed the senate, “some drastic changes should be made in the methods of cutting wood on college lands. Instead of clear cutting, as at present, I would recommend a system of thinnings, taking trees down to 10 inches breast high and leaving enough of the smaller sizes to protect the soil and insure crops in the future. This would entail a little extra expense per cord for cutting wood and disposing of brush but would well repay the investment. It seems to me a poor example to preach forestry and then pursue an unwise policy of cutting on our own lands.”

This wasn’t the only time attention was focussed on the woodlot in the early years. During the 1920, a citizens’ committee raising money for a university endowment fund proposed that some of the forest land be sold. Chancellor Jones squelched that idea by pointing out that the woodlot was the forestry school’s laboratory, and its proximity to the campus gave UNB a distinct advantage over other forestry schools.

Early on, the university acquired a reputation for training competent field foresters. This was timely because the growth of UNB forestry coincided with the spread of the Canadian pulp and paper industry from its Quebec base.

In 1891, for example, 17 of Canada’s 23 pulp mills were in Quebec, only one in New Brunswick. In this province, it wasn’t until the First World War that pulp and paper began to intrude on the sawmill economy. But the diversification, when it came, was rapid. In 1925, exports of pulpwood, wood pulp,
newsprint, paper board and wrapping paper were worth $6.4 million; a decade later, in the midst of the Great Depression, the figure was doubled.

Meanwhile the list of UNB forestry graduates grew — 24 in the first decade, 45 in the second, 78 in the third.

Along the way there were some moments — serious, frivolous, determinant, compelling, or merely poignant.

In November, 1918, Fredericton was hit by a great flu epidemic which killed dozens of people and closed the schools and university. Leland Webb, a 1916 graduate who’d succeeded Dusty Miller, took one of his students on a cruise of private forest land in Westmorland County. “On November 11th,” he recalled, “while out on a cruise line, we heard the field artillery at Moncton some 15 miles away celebrating the Armistice.” The First World War was over.

Three decades later, veterans of another world conflict crowded into the huts of a former Army Training Centre in Fredericton’s west end to live, study and attend classes. Alexander College as the place became known, was short on amenities but long on camaraderie. “The students were serious and there was great fellowship.” recalls Ted Bedard, who got his degree in 1949.

While most Alexander collegians were single, a few were married. Tuition was paid by the department of veterans affairs, which also provided a $60 per month living allowance. “Out of that,” remembers Bedard, “$48 a month went for room and board, leaving us $12 for everything else.” The ready availability of summer forestry jobs helped, however and so did the presence of Milton Gregg who, as president from 1944 to 1947, was highly sympathetic to the young vets.
In 1949 UNB graduated 125 foresters and 127 in 1950 — more than had graduated in all of the previous four decades.

“The dean was a legendary figure in UNB forestry history”

This was also the era of a legendary figure in UNB forestry history, J. Miles Gibson. “Hoot” Gibson, nicknamed after a popular country and western singer, was a UNB grad who returned to the university to teach in 1929 after working with the forest services of New Brunswick and British Columbia. He remained for the next 32 years, became the first forestry dean when the department became a faculty in 1946, and participated in many of its most important decisions.

These included starting post-graduate forestry courses in 1943, creating the Maritime Forest Ranger School in 1946, adding a third floor to the Forestry and Geology Building in 1947 (the original structure was put up in 1928-29), and changing forestry from a four-year to a five-year course in 1948.

Former students and associates remember Gibson with affection. Lecturing wasn't his forte, but he was a warm, concerned and perceptive man who made every student's welfare his special interest.

“I was a veteran when I went through, and he remembered the names of my kids,” recalls Bob Spurway, who graduated in 1953. Adds forestry professor William Hilborn: “All the students loved him.”

A veteran of the First World War, Gibson was an active member of the Royal Canadian Legion, and during the Second World War, he was director of civil defence for New Brunswick, for which he was later awarded an Order of the British Empire.

Gibson was the quintessential field forester, but one with a strong appreciation of the values of academe. “Being in the family of the university,” he once said, “has influenced our standards of scholarship beyond the mastery of principles and skills necessary for a sound technical job.”

Dr. J. W. Ker became forestry dean in 1961 and remained in the post until his retirement in 1982. He played a key role in the development of a new approach to forestry in the province. One of his most satisfying jobs was as chairman of a task force on forest management of crown lands. Another task force, chaired by UNB graduate Edward S. “Ted” Fellows, did a parallel study of how to allocate those crown lands to industry. The reports of these task forces formed the basis of a new Crown Lands and Forests Act, ushering in a new era in public land forestry in N.B. “It was an extremely exciting time,” says Dr. Ker.

During Jack Ker's tenure, UNB graduate studies in forestry evolved from a single degree program to the granting of five degrees, including a doctorate in forestry. It’s a reflection of the growing demand for highly trained foresters not only in Canada but around the globe. “It's the maturing of forestry world-wide,” says Dr. Ker. “We see a microcosm of it in New Brunswick. You go through an exploitation or development stage. And then, when you see that there are few trees left on the landscape, you realize you have to replace them.”

A decade ago, relatively few students took forestry graduate studies. But today there's keen competition among students to get into the UNB program.
This, then, is the accumulated heritage of the UNB forestry school after 75 years of existence. There is, of course, more — stretching from the first forestry log cabin built in the woodlot in 1911, to the first Hammerfest the same year, details of which, like those of the decades that followed, are now blessedly lost behind the liquid mists of time.

UNB forestry wears its growth like rings on a tree. It is what it has been — plus more. In the beginning the entire forestry department was simply a “chair”. Today, there’s a “chair” for the esoteric subject of tree genetics, and meanwhile such elemental courses as astronomy and sewerage design, which were there at the beginning, have given way to the anatomy of fire, the subtleties of wood preservation, and the application of the computer to forestry.

Typical of forestry’s sophistication today is the UNB Fire Science Centre, an interdisciplinary research and graduate training unit established in 1967. Here, in campus laboratories and on a 100-hectare tract near Fredericton, researchers study various aspects of fire, not all of which are bad.

Fire is, for example, responsible for the regeneration of many tree species, including black spruce, jack pine, aspen and birch. In the case of jack pine, its seeds are sealed in cones by a resin that requires heat to melt and release them. The same fire also removes vegetation and organic material so that the seeds fall to mineral soil and then develop as seedlings in full sun. “We have huge forests because of fire,” observes the Centre’s Ian Methven.

‘We are not just fibrehiles anymore’

Another aspect of the Centre’s work is grasslands fire, an important matter in Uganda where the savannah woodlands, with their combination of grass, trees and shrubs, are the habitat of elephants and other animals. Working with Uganda National Parks and the Uganda Institute of Ecology, the Fire Centre is developing fire management plans for the country’s national parks so that the habitat will be conducive to restoring depleted wildlife populations.

Similarly, another cross-discipline undertaking spearheaded by UNB forestry is the
Nashwaak Experimental Watershed Project. Along the Nashwaaksis River, a tributary of the St. John, researchers are examining the effects of clear-cutting, aerial fertilizing, and pesticides and herbicides on a forested ecosystem including streams. A side-benefit of the project is that it gives many students, who work on it during summers, a first-hand look at modern forestry practices and effects.

Forestry has always been diverse, but its diversity has changed with the times. Just as early forestry encompassed meteorology and railway building, today’s maintains a wide embrace of different subjects. The use of the forest for recreation is an increasingly important consideration. “We are not just fibrephiles any more,” says Prof. Tim Easley by way of explaining courses in outdoor recreation that are taught to UNB forestry students. Prof. Easley’s classes have produced numerous resource-recreation plans for New Brunswick communities.

The use of chipped wood for fuel is another contemporary study area. For the past two years, three UNB forestry professors have been studying the creating, storing, drying and distributing of wood chips for fuel. Their focus has been on using it to heat residences, small office buildings and apartments. The group is due to report its findings in December.

In the future, wood chip technology — as with all other aspects of forestry — will be more egalitarian: women have arrived in the profession.

Third year forestry student Anne Malmberg studied biochemistry for two years, then got a summer job working on tree improvement and, says she, “that hooked me.” Now she’s planning a career in forestry.

“I love the practicality of it. So much of our economy is built on it. I love science, and this way I can combine science with the practical aspect of life.”

But is it difficult being one of only six women in her class of 45 to 50 foresters? “At first they are wary of you,” she says. “You can tell that some think only butchy, tough females would take forestry. But they get over that.”
Fifth-year forester Anne McInerney adds that being part of an especially close-knit faculty has helped. Through its Big Buddy System, the student Forestry Association encourages upperclassmen (and women) to help frosh get adjusted to university life. And, says Ms. McInerney, faculty members foster a dialogue that contributes to an esprit de corps: “Students are encouraged to have their say about courses, and we are really listened to.”

“Foresters will be better equipped to make decisions”

Forestry is changing, and so is the forest. In future, it will be possible to predict more accurately the nature of the change in a stand of trees — thanks to the computer — so that foresters and forest managers will be better equipped to make business and silvicultural decisions.

Walking into a computer lab at UNB today, one gets a hint of the potential. The operative words are “simulation modeling” — the process of inserting assorted variables affecting the growth and harvesting...
of trees into a computer program and then having the computer determine the impact. “The great thing about modeling,” says research assistant Art Wood, “is that you can grow a forest in half an hour on a computer instead of waiting 80 years.”

“A major change is ahead”

To UNB’s current forestry dean, Dr. Gordon Baskerville, the challenge of the future will be to impart the sophisticated knowledge and skills of today to the industry at large. “There is a major change ahead in the school,” he declares. University forestry research has grown substantially in the last decade. Now continuing education must be emphasized so the tools developed can be used to manage a forest properly. Citing New Brunswick, where, for example, 10 major licensees on crown land are being required to manage the forest as never before, he says the university has a responsibility to show them how. “We need to turn a faculty member loose for three or four months this summer so that he can go in and work with a licensee. In New Brunswick the need has become critical. “We are forced to come to grips with controlling the dynamics of the resource here because we use the resource much more intensively.” But, adds Dr. Baskerville, other provinces are also beginning to realize that they must act.

It was a similar perception that the time had arrived to do something that launched UNB’s first classes in forestry 75 years ago. Today, with 30 faculty members, 460 students, a graduate school, and undergraduate training in two separate areas — forestry and forest engineering — the forestry school has obviously come a long way. But the spirit articulated at the beginning by Chancellor Jones prevails yet. Now, as then, the whole idea is to turn out trained people who can “deal with the matter of the preservation of our forests in an intelligent way.”

Former Dean J.W. Ker: a world-wide maturing of forestry.

Dean G.W. Baskerville: coming to grips with the dynamics of the resource.