

THE YANKEE FOREST AND ITS IMPLICATIONS FOR ARBORICULTURE¹

by Charles H.W. Foster

One thousand miles east of Toronto, and within the most densely populated region of the United States, lies a commercial forest of more than 30 million acres. It was the first forest utilized extensively by settlers in the New World. It promises to be the next great national commercial forest, ranking on a par with the Pacific Northwest and the South. It is unique in the fact that its users and markets lie substantially within the forest itself. I am referring to the spruce-fir, pine-hemlock, northern and central hardwoods of the northeastern United States and, specifically, that portion lying within the six New England states. It is the forest we call the Yankee Forest.

As the oldest graduate forestry school on this continent, located within the Yankee Forest from its very inception, the Yale School of Forestry has had a special interest in this forest for three-quarters of a century. Two years ago, a number of us sensed that so many significant changes were occurring in the size, structure, and ownership pattern of the Yankee Forest that an appraisal was warranted. With encouragement from the Rockefeller Foundation, the Sachem Fund of New Haven, and the New England Natural Resources Center, a special study was launched under the direction of Dr. Carl H. Reidel, a Visiting Research Scientist at Yale and the Director of the Environmental Program at the University of Vermont. The results of the appraisal, entitled *The Yankee Forest, a Prospectus*,* have just been published by the Yale School of Forestry and Environmental Studies. It is that story, and its implications for arboriculture, that I would like to discuss.

The study began with the conjecture that New England, once again, had a sizable forest resource which had regrown to the point where management and utilization were economically feasible. The resurgence of markets, particularly

the use of wood as an energy source, had raised the specter of a new cycle of entrepreneurial exploitation. But there was an equal possibility that the new breed of forest landowner, generally associated with tracts of small size and no longer solely dependent upon the land for his livelihood, might not accept conventional commercial forestry and bring about an era when the forest would be substantially underutilized. The underlying premise of the study was that a New England-wide strategy was needed to insure that the Yankee Forest would be used wisely and well.

Dr. Reidel and three graduate students set about their task during the summer of 1977. One student was based in Washington to monitor the Resources Planning Act evaluations of the U.S. Forest Service and the national productivity studies of the forest industries. A second student examined regional economic data on forest product flows from the vantage of federal, state, and regional headquarters in Boston. The third student undertook field studies on a state by state basis, compiling current data and interviewing key leaders in each of the New England states. The results were assembled and evaluated at Yale during the academic year 1977-78. The findings generally corroborated the earlier premises.

For example, more than 80% of New England is presently in forest cover, ranging from 60% in Rhode Island to 90% in Maine. The ecological variations are spectacular with six major forest types and 27 principal tree species recorded. New England is, in essence, a forest of forests. The vast majority are classified as commercial forests based on their potential for growing wood products. Yet, changing standards of utilization and changing ownership patterns are beginning to cast serious doubts on the real willingness of landowners to harvest trees from their lands.

¹Remarks presented at the Annual Conference of the International Society of Arboriculture, Toronto, Ontario, August 14, 1978.

*Yale Forestry Library, 205 Prospect Street, New Haven, Connecticut 06511 — \$3.00.

The Yankee Forest is under-producing its full potential of wood by a large measure. Less than 50% of its present annual growth is presently being utilized commercially due to a combination of poor quality and scattered markets. Yet, the region's ability to sustain its present 50,000 forest industry jobs and to reach the potential of an additional 60,000 jobs may rest in large part on the extent to which its own resources are utilized. Paradoxically, at a time when the forest has never been more abundant, New England continues to draw the bulk of its raw materials and its finished wood products from outside the region.

Despite these characteristics, the Yankee Forest is far from underutilized in other respects. It is a mecca for the recreationist from the urban northeast. It is New England's primary watershed. It is a backdrop and a setting for a quality of life that makes the region particularly livable. And as real estate, the value of these forested tracts is sizable and growing.

Upwards of 75% of the forest is owned by private individuals. The ownerships are generally in tracts of 50 acres or less. Rising land values and accompanying property taxation are forcing even further fragmentation of ownership which, in turn, makes conventional forest management especially difficult. Yet, the Yankee Forest has more concerned constituents than ever before, owners who are in large measure eager and able to practice forest conservation on their land if a way can be found to fulfill their needs.

Despite the promise and the potential, and the obvious need for a vigorous planning and action program for New England's forests, the report concludes that the prospects at this time are quite bleak. Three major obstacles appear to exist.

First, despite decades of data-gathering by federal, state, and nongovernmental agencies, the necessary information base just is not present. There is no clear picture of what is presently or prospectively happening to the Yankee Forest, nor any organized process for gathering and evaluating that data on a scale suitable for use at local and sub-state levels. Existing data were found to be largely fragmentary, inadequate, and inappropriate. Trends and developments are not being monitored regularly at a time when the

resource is at its most dynamic stage.

Second, the institutional framework for dealing with the Yankee Forest is presently ineffectual. Much of it appears fitted to an era when forests were owned by farmers. Where agencies do exist, their efforts are often fragmented and uncoordinated. The units are invariably understaffed and are usually buried within environmental superagencies. As a consequence, services to forest landowners are delayed many months and those services, if delivered at all, are often not properly responsive to the owner's interest in a broad kind of environmental forestry.

The third major obstacle astonished us in its severity. Stated simply, the public was found to be substantially unaware of the potential of the forest resource within its own region. Gaining improved public understanding and achieving broad-based support are what the report describes as the threshold tasks facing any Yankee Forest effort.

Now, what brings me to a meeting of those concerned with arboriculture with a set of findings and conclusions of this sort. The reasons are several-fold. First, it is those of you with essentially urban forestry practices who may have the best chance of reaching the Yankee Forest owner and others like him. And second, New England may represent a prospective laboratory for achieving what has been talked about for years at your sessions: a joining of forces by foresters and arborists under the common banner of environmental forestry. Let me offer some observations on each.

From public and private studies of landowners in southern New England, we can begin to develop a tentative profile of the average Yankee Forest owner. He will own 10 acres or less. By occupation, he will be a professional, an executive, or a retiree. He will be in his early fifties, although a growing proportion of forest landowners will have begun to reach retirement age. He will have completed high school and, quite likely, college. His income may have reached the \$30,000 level. He is likely to have small town or rural roots but have come most recently from an urban environment. He has owned his land for less than 10 years and, if still active professionally, may own it for up to two decades more. The owner is likely to live on or near his property and to derive recreational en-

joyment, esthetic appreciation, and land value increases as his primary benefits. He owns the forest simply because it comes with the land. He would seek, accept, and even pay for professional services if he knew that they existed. He would allow his forest to be cut if assured that it could be improved without environmental damage.

To illustrate, let us take a typical forest landowner in Massachusetts or Connecticut located on the urban fringe. He has five acres of mixed pine and hardwoods, now forty years past the great hurricane of 1938. The land is fully stocked in the forester's terms. It is in need of thinning, weeding, and pruning. The forest has reached the point where the crop trees need to be identified so that growth can be concentrated on the most promising stems.

The owner is a businessman whose property serves as a valuable escape hatch from the pressures of the city. He has an outdoors-oriented family with children in their pre-teens. He has read about forestry in national publications and has a vague feeling that it is good. Because he cares about his property and genuinely appreciates its beauty and diversity, he is willing and eager to see it improved. However, he can only do so on weekends, holidays, and vacations.

But remember that the owner is a businessman. He asks himself why he should invest any time and money in his woodland. One reason is a general sense of stewardship — in large part emotional, but also related to the maintenance and even enhancement of his sizable property investment. Second, he personally enjoys working in his woods with his family. It is valuable therapy, both physically and psychologically. And third, there is the prospect of a tangible return from his efforts — a home-grown tree at Christmas, cordwood for the fireplace, perhaps even wood that can be sold commercially.

Yet, our owner is a realist in many respects. As he learns more about forestry, it is obvious that the dollar returns — \$5-10 per acre per year at best — will not even pay the taxes. His land is now worth \$5,000 per acre. It is assessed and taxed at near-development rates. Moreover, what he has seen of cutting operations concerns him — disturbance of ground cover and wildlife, eroded

logging roads, a mess of tops and limbs in the woods. Skeptical though he is, forestry appeals enough to him as a concept to find out more about it.

With some difficulty, the owner locates a service forester who confirms the fact that timber stand improvement and the removal of the poorer quality pine is in order. The logs can be sold as piling. The tops and poor quality weed trees will yield several cords of wood for the family and the neighbors' fireplaces. The improvement work may qualify for a Federal Forestry Incentives Program subsidy. But who is going to do the work, and what will the property look like after the work is done?

The forester recommends an arborist who has the equipment, the manpower, and the know-how to put the plan into action. The arborist has set up a subsidiary business based on such referrals which permits forestry work to be done in the off season. This is when conventional tree care slows down but equipment and skilled manpower must still be carried on the balance sheet.

The arborist arrives with a uniformed and disciplined crew — at the time promised. Trees are removed and logs yarded at roadside where they can be picked up by the buyer — and also be seen by everyone in the neighborhood. The larger limbs and poorer quality trees are felled, bucked into firewood lengths, and piled near the house where they can be split and stacked by the owner and his family in weekend and after-hours work. The tops are chipped and spread as ground cover in the woods. The work is spaced over a two-week period to indoctrinate the owner, his family, and a growing number of curious, forest-owning neighbors. Before the first job is finished, the arborist will have two more in hand. There is the further prospect of continuing tree care work of a conventional nature for a growing number of satisfied landowners.

The key question behind this hypothetical scenario is the economic one. Will such a landowner invest \$2-3,000 in a forestry operation that might yield \$1,000 at best? In a surprising number of instances, the answer will be yes. First, good forestry over time can be expected to yield current income to offset cash expenses such as

taxes. Second, good forestry can produce a modest economic return and, at the same time, bring about improved wildlife, aesthetic, and recreational values for the owner and his family. And third, a small investment in woodland improvement now has a good chance of accelerating the rate of appreciation in land value on the urban fringe, thereby enabling the owner to obtain a premium price for his property within his tenure of ownership. It is this last reason that may convince the owner to do what he already wants to do anyway — practice forestry on his land.

And so, what is really new and different? I would offer four specific elements: 1) practicing true environmental forestry; 2) getting responsible work done on the land; 3) using land value appreciation as an additional economic argument for forest management; and 4) utilizing the joint capabilities of the arborist and the forester.

Now how can this be brought about?

Yale's *Yankee Forest* report offers twenty-one recommendations for regional action, grouped under headings of the information gap, the institutional framework, and public information and action. Arborists and foresters should join forces to see that government and political leaders give those recommendations serious consideration.

For example, the establishment of a regional center for forest resource information could benefit everyone by serving as a comprehensive

information bank, monitoring trends in ownership and utilization, and coordinating state and federal surveys.

The formation of state forest policy commissions could serve as focal points to generate adequate programs in environmental forestry in both urban and rural regions.

Innovative approaches could be explored to establish management cooperatives for contiguous landowners to guarantee markets through mixed public and private timber sales, to encourage working agreements between consulting arborists and foresters, and to develop small scale technology applicable to limited and sensitive holdings.

More than anything else, however, foresters and arborists need to tell more people what they should be prepared to do with their forest land, and why it is important. They need to open eyes as the first step towards opening doors. The sense of the *Yankee Forest* report is that, with very little effort, the latent public interest in renewable natural resource management could be brought to life throughout New England. I cannot imagine a more challenging or timely assignment.

*Dean of the Yale School of Forestry
and Environmental Studies
Yale University
New Haven, Connecticut*

ABSTRACT

Shurtleff, M.C. 1978. **Resistance key to crab apple selection.** *Grounds Maintenance* 13(3): 14, 16, 18, 58.

There are literally thousands of flowering crab apples available for shade and ornamental plantings. Don't base your choice solely upon appearance, especially when there are many varieties that have excellent resistance or are immune to a number of major diseases. Check the resistance and horticultural characteristics in the four tables listed. Table 1 lists varieties and species found to be free of apple scab, cedar-apple rusts, powdery mildew and fire blight since a national survey was begun in 1961. Tables 2 and 3 list crab apples that are slightly to moderately or severely susceptible to one or more major diseases yet have a number of desirable horticultural characteristics. Crab apples that are extremely susceptible to several diseases are listed in Table 4. Unfortunately, several of the varieties in Table 4 are widely grown and act as "Typhoid Marys."