

"What's the difference between moths and butterflies, does anyone know? Well, moths are dull, uninteresting. . . ."

Wally Robbins

"It's been determined that Dr. Griffin invented the tree."

Someone in Silvics

"In forestry, the men are men and so are the women."

Ron Tebbetts

"I read the funny papers because College professors are supposed to be intellectual."

Professor Hale

"That's one thing about going to school—you learn trivia."

Dr. Hoffman

"I must have been drunk for a week somewhere."

Dr. Corcoran

"We don't bother those dominants otherwise we do not have a stand."

Dr. Griffin



"If it's unique, it's unique!"

Jody Jones

(In reference to fast-growing vines) "If you fall down, you might be overgrown in a few minutes."

Dr. Campana

"The handout makes it crystal clear!"

Dr. Field

"I guess in forestry, you get in a skidder, grab a couple of beers and go cruising through the forest."

Paul Strong

"Just listen to this and don't write it down. You probably won't want to remember it anyway."

Louis Morin

"Professor Hale, what are you so upset about?"

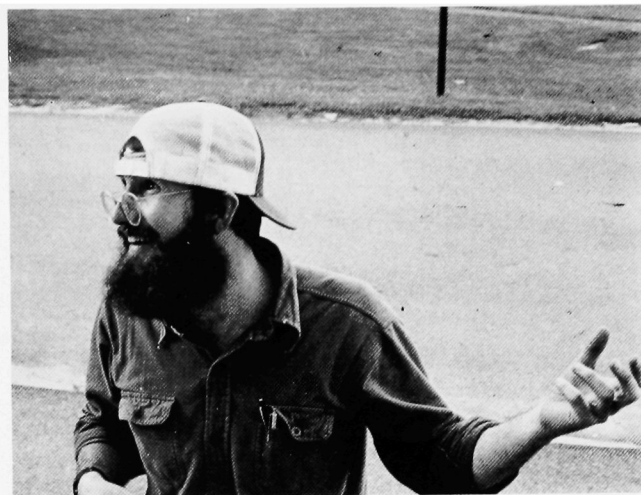
Professor Hale: "I forgot my beaver chips for the final!"

"If I say it and the book contradicts it, I'm right."

Dr. Corcoran

"A forest is a real dangerous place! A tree can come down and really get you!"

Dr. Campana



"I only got into forestry because I was lousy at math."

Ron Tebbetts

"If we could just get back to whole wheat and pitchforks, everything would be great."

Dr. Field

"Wilderness is a place where birds fly around uncooked."

Dr. Newby

"This is a beautiful slide. It's one that you can take home and show your mother."

Dr. Campana

"They're foresters, they can count to ten."

Dr. Brann

Anne: "Are you trying to tell us we have big mouths or something?"

Dr. Knight: "I hope so!"

"Munch, munch, Willie the worm is eating his lunch."

Professor Hale

"As often as I've said it, I'm not completely sure I meant it!"

Dr. Field

"A fungus is a lower form of plant life . . . like a grad student."

Chris Murdock

"Have you rolled any of your own yet?"

Al Kimball

"Are you out to lunch, Dr. Warner?"

"I'm on a permanent picnic."

"Well, Ron, you notice that most wildlife professors have hair, don't you?"

Ron Tebbetts: "Yes, but that's because the vacuum holds it in."

"When you replace the junk in the forest with more junk, that's not forestry . . . that's junk dealership!"

Dr. Alex Shigo

"For the sake of uniformity, let's carry out the decimal to the fourth place. This way, for the fourth number we will all have either a zero or some other number for that last number."

Dr. Griffin

"Teachers tell you things all the time that are wrong!"  
Dr. P. Brown

"I was saying great things. He was saying great things. We disagreed strongly!"  
Dr. Field

"Do you know your way around in there?" Dr. Campana

"Aesops fable of wood—"Leave a little space around your plywood."  
Chris Murdock

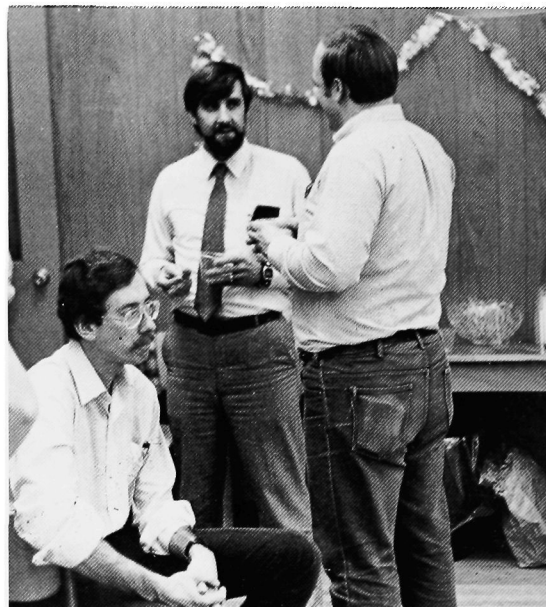
"Even the kids look up to me and say 'You Schmuck.'" Ron Tebbetts

"The average person on the street isn't going to have a flaming interest in that."  
Dr. Field

"Let's get away from that objectives thing. . . ."  
Dr. Griffin

"You're a good forester, you go up to a tree, you adjust your Smokey Bear hat and you say, 'hi tree.'" Dr. Shottafer

"I shouldn't try thinking on my feet—since I'm standing on my feet it's difficult to do."  
Paul Strong



"Ron are you going to be around?"  
"Yea, I'm getting rounder and rounder."

"I'm aware of the dangers of . . . teaching in room 102."  
Dr. Field

(Referring to UNH and SUNY)  
"Those other forestry schools have no reason to exist."  
Corcoran

"Someone must have thought of it . . . I'm not that bright."  
Dr. Field

"I expect, and I'm speculating . . ."  
Dr. Field

"Strip cruising. . . That's where every chain you take something off and throw it in the woods . . . you'll love it . . . it's exciting . . . it's best done in the summer."  
Dr. Brann

"That's one thing I have . . . sympathy running out of my ears."  
Dr. Brann

"I never go to the library . . . it's filled with knowledge . . . who needs that?"  
Dr. Brann

"It's very difficult for a forester to know where woodpeckers are going to peck holes in trees."  
Dr. Brann

"There's swamp in every forest for foresters to go through."  
Dr. Brann

"With statistics you really have to work a few problems to figure out what's really going on."  
Greg Reams

"In statistics we never accept . . . we just never reject."  
Greg Reams

"As all good foresters and wildlifers and what not do walk around the woods, chew tobacco and collect data."  
Greg Reams



"We couldn't do that except for at night in a bar." Dr. Field

The morning the lights went out:

Julie: "Can we go on a field trip?"

Dr. Field: "These classes are always a field trip."

Dr. Griffin: "How long do you think we should wait here? . . . The clock ain't going no place. . . Well, I can depend on my trusty watch—so long as I remember to wind it! . . . Anybody out there know a good joke?"

"I did that to the same person 2 years ago . . . that's Tom Brann . . . He never shaves on Monday." Greg Reams

Halloween when Brann appeared in class in a godzilla costume. "A lot of people like to assume the world is normally distributed . . . however this is not the case." Greg Reams

"It's ignorance—these people are just plain stupid." Dr. Field

"He only has a master's degree, but he's a nice guy!" Dr. Field

" . . . Ride it hard and put it away wet." Dr. Hoffman

"Poor man's screwdriver . . . orange juice and beer." Paul Rego

"It was a real whoopy doo of a situation." Prof. Hale

"People don't like to find little black specks in their toilet paper before they use it." Dr. Jaegals

"Like many of us, he started out as a nice, clean forester." Campana

"If you throw a set of dice 100 times the probability would come out to be about 50% heads and 50% tails." Dr. Field

"You couldn't be in engineering if you didn't like to play." Tom Christensen

"People are in a walk-by-gawk-mode." Al Kimball

"Some people actually pay their bills when they get them. I've never quite gotten to that system!" Dr. Field

"You've got to use your hindsight to calibrate your foresight." Bob Seymour

"I've got to make my quote for the year." Dr. Ashley



"Just as long as I've gone  $\frac{3}{4}$  of the way being crude, I might as well go all the way." Dr. Ashley

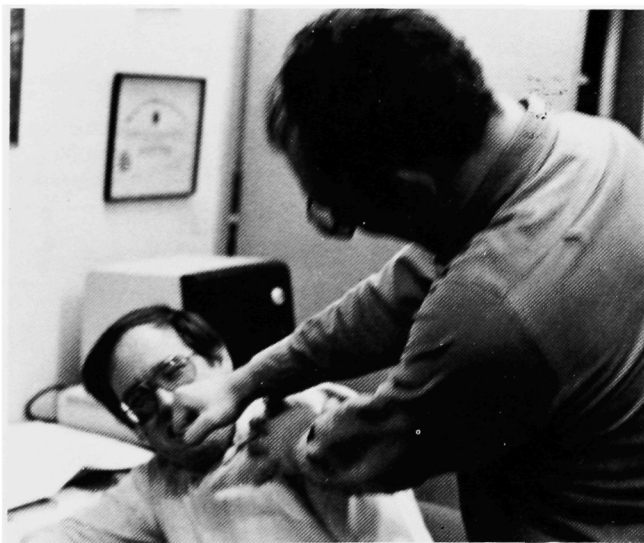
"If you want to throw rotten tomatoes please do . . . after lecture." Dr. Ashley

"Comprehensive knowledge is important . . . we're not going to get that here." Chris Murdoch

"That's why there isn't any Dutch Balsam Fir disease." Chris Murdoch

"Anybody can make stupid mistakes." Chris Murdoch

"If you're making an outhouse you don't want the knots to fall out." Chris Murdoch



## Students

"Real men don't eat quiche, do they, Bill? Of course, you wouldn't know about that." Mark Andrews to Bill Jarvis

"What can be more scientific than the evolution of dirt?" Nick Nicolich

"I'm not a nice girl, you can tell me." Chris Billis

"It's going to be that way until it stops." John Mills

"Boise—isn't that the capital of Cascade?" Tim White

"There's no old growth around here—except for a few professors." Stephen Knight

"Why are there always pictures of me with my mouth open?" Bill Jarvis

"You may be going caroling, I DO NOT carol. Ba humbug!"  
Mark Andrews

"I want to see a REAL logger, one who can work all day and play all night!"  
Anne Chamberlain

"Are we still going to be friends after I go into wildlife?"  
Bill Reiner

"We do burn houses, too, you know, Dr. Newby!"  
Bill Jarvis

"I don't know if I'm ahead or behind, but I know I'm not on track."  
Jeff Jourdain

"It's a good thing I have a high threshold of embarrassment."  
Sandy Tonnesson

"I'm going to put my long underwear on next week and not take it off until next June."  
Julie Conlan

"Sharp pencil—sharp mind!"  
"I've been dull for four years."  
Alex Diotte

"You're in good hands with me."  
Bill Jarvis

"Where did Whitey come here from?"  
Mike Fitz

Rich Vannozzi: "What is forest modeling?"  
John Mills: "It's when you dress up like a tree."

"Hey Nick, I hear you do a wonderful imitation of Tom Brann."

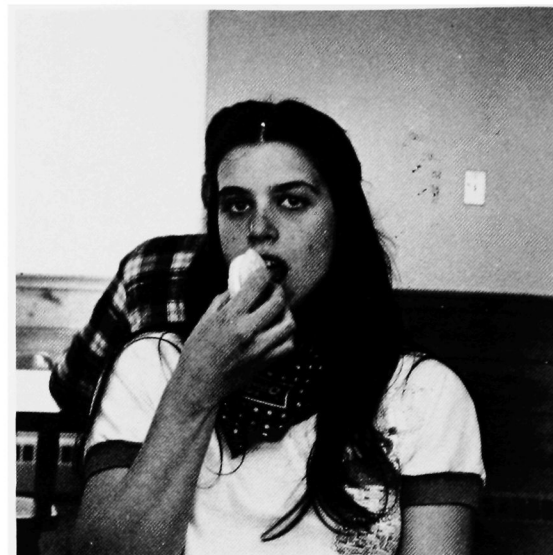
Nick Nicolich: "It's not hard, you just stand in front of a group of people and babble for 45 minutes."

"The Woodsmen's Team will teach you what to do in one week!"  
Anne Chamberlain

"You have to be smarter than the zipper."  
Chris Foster

"Excuse me, but there's a pig under your table."  
Pat Arnow

"I spend more time working out the sex life of a fungus than I do working out my own."  
Shawn Carlson



"People don't like hunting smart animals, you don't mind harvesting shrimp, but harvesting seals no way . . . wait a minute, I know a lot of smart shrimp."

"If that doesn't say nothing, nothing does."  
Anne Chamberlain

Mark Andrews to five people in the third hour of potting 1800 white pine seedlings for the graduating students: "Isn't everybody having, fun, fun, fun!"

What does TWS really stand for:  
Tennessee Wildlife Service  
Tennessee Wildlife Society  
Tennessee Water Source  
Tamale and Watermelon Supper  
Tibet Waterworks Society  
Trees Without Soil  
Timber and Water Service  
Township Water Service

Forestry Club  
"3 globs and a Glink."  
Mark Andrews

"Everything I own is stuck: my chain saw, my bulldozer, and my car. Why don't we have a donut and forget about it?"  
Andy Grice

Patrick Arnow to Anita Roberts at a bonfire  
"If you don't fall over-I will!"

Nick Nicolich to Mark Andrews  
"Big fluffy forestry club president."

"253 is the room off the gutter."  
Bill Jarvis

Senior Nite  
"Hey Nick, how did you hurt yourself?"

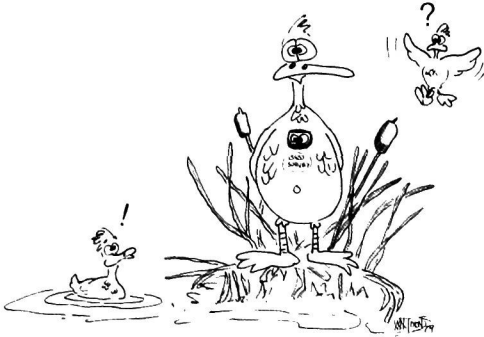
"You'd make a good guy Anne."  
Craig Birch



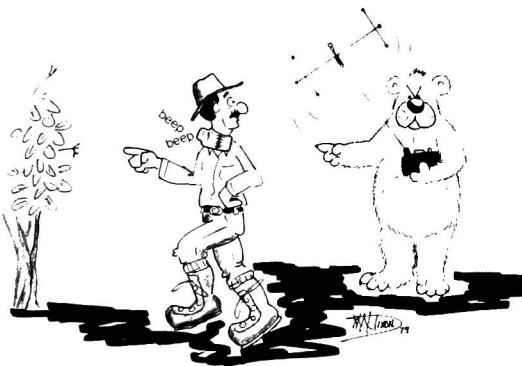
# Remember When . . .

Sketches from the 1980

*Maine Forester*



Growth hormones.... honest



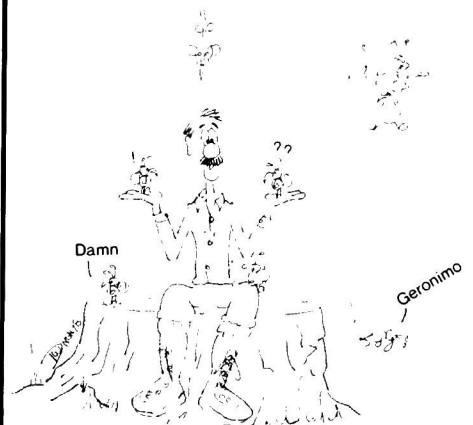
over there in the bushes?  
NO PROBLEM!



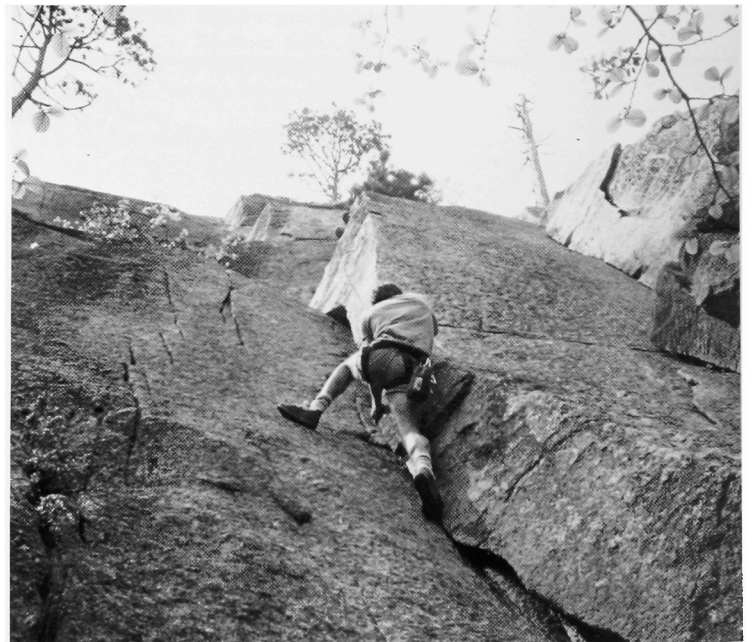
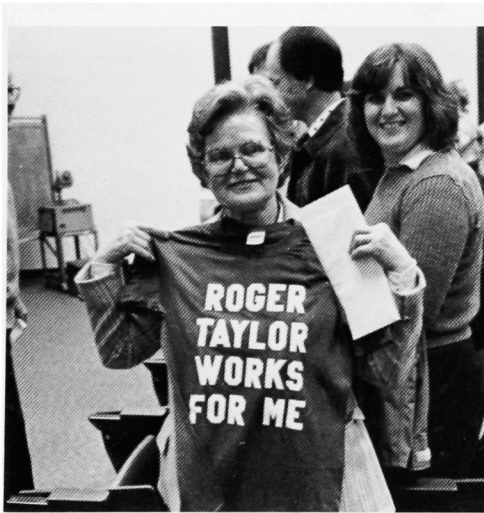
Whoa, I really hung those suckers up!



CRUISIN'



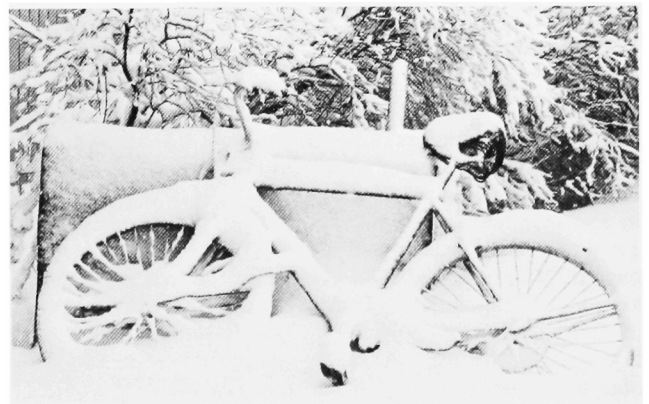
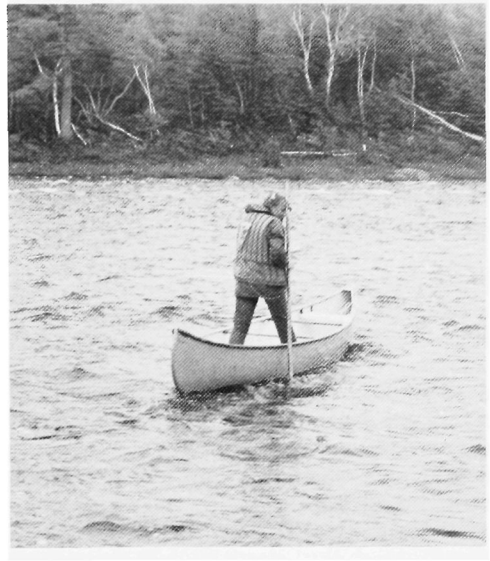
# Feature Articles





*Our first obligation is to other people, but we cannot ignore the plants, animals, and soil of the world as we scheme and dream, earthmovers and nuclear explosives ready. Our continued existence depends on the continued well being of all plants and animals, not just corn and cows. Our disregard for the other organisms on earth is not just a manifestation of myopia; it is based on our abysmal ignorance of the interrelatedness of plants, animals and their environments.*

Richard Wagner  
*Environment and Man*



# What Use is a Forest?

by Hugh Burns

In our high tech world of plastic and brushed chrome, it is easy to forget the daily importance that forest products once had. Things happened quickly. We are to the point now where all sorts of man-made alloys, synthetic chemicals, and bizarre polymers have supplanted our once intimate reliance on wood products. Although at this writing the industry is experiencing a mild resurgence due in part to the fashionability of red oak used as trim in offices, shops, restaurants, and bars, this seems at best, a passing fad and our tastes will soon be redirected by innovative architects and interior designers. It's foolish to attempt to live in the past, but by the same token, it's interesting to realize just how much we at one time counted on trees to do a job for us.

Clearly wood is the most beautiful and versatile of the natural materials. Just as each different species has its distinctive shape and form, the wood converted from these trees has its own unique physical properties, such as strength, durability, elasticity and ease in splitting. Aside from the wood products they produced, other parts of the tree, such as the inner bark and leaves, were used for very specific purposes.

Trees and the wood they produced were an integral part of the early settlers' lives. Their homes were constructed almost entirely of wood. Cabin walls were made of poplar and chestnut because they are fairly durable, relatively lightweight and easy to work. The rafters and floor joists were sawn from oak because of its strength and ability to hold nails. White oak was used for shingles since it splits with ease and is very durable. The floor boards would be oak or hard maple because they wear so well. Wood was the primary source of fuel for heat and cooking. Ash has always been a favorite for firewood as it has the lowest moisture content of any of the green woods so it burns fairly well without seasoning. The hickories and oaks were popular also; the best of hot, long-lasting coals for cooking came from white oak, often green. Hickory was valued because it is the brightest burning of all the native hardwoods. Burned in the fireplace at night, it could be relied upon to produce a substantial amount of the illumination needed for handwork, reading and writing.

Forest trees provided a varied and important food source; nuts were harvested from mature hickories, beech and chestnut trees as well as walnut and butternut. Acorns from white oak were favored over those from the red oak because they were much less bitter. Indians in the midwest did, however, utilize red oak acorns. They would boil the acorns to remove the acid that imparted the bitterness, then after grinding and repeated washing, use it as flour. The spring sap of sugar maples is still boiled down to make syrup. Butternut sap was also used in this way. Another source of sweetness was obtained from the honey locust tree. The pioneers would make long slits in the maturing seed pods of this tree and collect the resulting ooze to use as a sugar substitute.

An indirect but important origin of something that we still depend on are tulip trees, black locust and basswood. These trees have always been considered valuable sources of nectar for bees and the resulting honeys are both distinctive and highly prized. Extracts from black cherry and sassafras trees have long been used as flavorings.



Certain trees played vital roles as sources for early medicines. A tea from the root inner bark of young sassafras was thought of as a powerful general elixir. The slimy inner bark of slippery elm cured sore throats and prevented scurvy. A poultice of this was made and used to heal boils. The pungent juice from green walnut shells was employed to kill ring worm. Chestnut oak leaves were boiled and the resulting dark liquid applied to hives as a similar concoction from the chestnut tree was thought to heal a burn. Whooping cough was cured by a mixture of boiled chestnut leaves and honey.

Certain woods have always been valued for their durability. Walnut and chestnut were used to make split rail



fences because they rived so easily and were highly resistant to rot. With the advent of barbed wire and woven wire fence, black locust became the standard. Walnut was utilized in the construction of waterwheels since it was light and strong. Sassafras was a favorite for gates and ox yokes, as it is very lightweight and extremely long lasting.

Ash has always been appreciated for its elasticity. Baseball bats are still made exclusively from this wood and it was once split, stacked, and used as leaf springs on early buggies and farm wagons. Thin slats of ash and white oak were formed to weave baskets and chair bottoms. A wood that does not split easily is sycamore. The Shakers used sycamore for this reason when they developed the springless clothespin. The wood from sycamore has no taste or smell. Because of this, the best wooden kitchen utensils are made from it. A lot of it was formally used in the manufacture of tobacco boxes. Several woods do impart distinctive tastes. Apple and hickory are used in the smoking of meats, and white oak is the only wood used to make whiskey barrels. The barrels are charred on the inside to mellow and color the liquor.

The stringy inner bark of red elm was utilized by weaving it into rope and fish nets. Single strands of the bark,

combined with honey locust thorns carved into hooks comprised early fishing tackle. Thorns from the honey locust were also employed as sewing needles and awls. Small stems from the black gum tree, whose wood is almost impossible to split, were crushed and used as toothbrushes. Cross sections of this tree were sometimes fashioned into crude wheels, while bottom sections of trunk were made into bee hives.

Dyes were made from parts of butternut, walnut, osage orange, and sassafras trees. Sassafras was thought to bring good fortune, and at one point, a certain amount of this wood was built into a ship's hull to prevent it from sinking. The oil in sassafras wood, which gives it a distinctive smell, discouraged insects such as bedbugs and lice. It was a favorite wood in the construction of bedsteads and cribs.

It's easy for those of us involved in the forest industry of today to think we're in tune with trees and their by-products, but in reality, a stand of timber to most of us is little more than a weekly paycheck. Computerized forestry has replaced forever the friendly knowledge and diverse utilization of 150 years ago. How drastically will things change in the future?





# The Good Life?

by Mike Fitz

In the preface to his book *Game Management*, published in 1938, Aldo Leopold wrote, "We of the industrial age boast of our control over nature. Plant or animal, star or atom, wind or river—there is no force in earth of sky which we will not shortly harness to build 'The Good Life' for ourselves."

Man has always strived to dominate the scene. Man has viewed himself as being separate from the system, rather than an integral part of it. Terracing or irrigation, overgrazing, and cutting of forestlands were common in the Roman Empire. The Netherlands have, in an age-old struggle, held back the sea. The American pioneers cleared land for farms, cut wood for homes, hunted game for food, and trapped furbearers for clothing and trade.

Today, man has gone into space, gone to the depths of the sea, covered distances in hours which took pioneers months, and built monuments of granite, steel, and glass in collections called cities. Man can control the atom for both good and destructive purposes, he can simulate the fire of the sun, he can see into space, and wonder what life might be out there. Scientists have discovered subatomic particles, extended our life span through medicine, and enabled us to monitor movements of faults and volcanos to thousandths of an inch.

However, mankind is at a loss to control the most fundamental, often neglected, processes. The tides, sun, weather, movements of the earth, and countless other processes/events continue, sometimes destroying in seconds what took man years to build, regardless of what man does.

Annually, thousands of people stand by and watch their homes destroyed by floods and tornados, often working passionately, yet futilely, against the ravages of nature to save their belongings. Farmers can hold off the drying sun with irrigation, yet many acres succumb to drought. Throughout history, whenever man and nature have met on nature's terms, man is usually the loser. From Napoleon in Russia, to New England's mud season, to recent snows which have rendered whole cities helpless, nature has shown itself as a force which men are powerless to act against. Leopold argued that,

Every countryside proclaims the fact that we have, today, less control in the field of conservation than in any other contact with surrounding nature. We patrol the air and the ether, but we do not keep filth out of our creeks and rivers. We stand guard over works of art, but species representing eons are stolen from under our noses. We stamp out diseases of crops and livestock, but we do not know what ails the grouse, or the ducks, or the antelope. In a certain sense, we are learning more rapidly about the fires that burn in the spiral nebulae than those that burn in our forests. We aspire to build a mechanical cow before we know how to build a fishway, or control a flood, or handle a woodlot so it will produce a covey of grouse.

Why has man attempted to dominate and control nature, without first understanding it? By understanding the workings of nature it might be realized that it is possible to work with the environment rather than against it; or even that nature, after hundreds of millions of years, might have worked out the best ways.

Animals, unlike man, evolve with their ecosystem. There is little need for other species of animals to understand the natural system, they simply "go along for the ride." It is man, seeking to control, who has the capacity to alter the system if he is ever to find the "good life."

In short, twenty centuries of 'progress' have brought the average citizen a vote, a national anthem, a Ford, a bank account, and a high opinion of himself, but not the capacity to live in high density without befouling and denuding his environment, nor a conviction that such capacity, rather than such density is the test of whether he is civilized.

Leopold wrote this over 50 years ago. Has anything changed?

Or should anything change? All forms of life modify their contexts. The most notable and spectacular example is the coral polyp. By serving its own needs, it creates an undersea world favorable to thousands of other species, both plant and animal. Ever since man has been a numerous species, he has influenced his environment. There exists a hypothesis that is plausible, if not proved, that the early man's fire-drive method of hunting created the world's grasslands and aided in the extinction of the giant mammals of the Pleistocene. For millennia the banks of the lower Nile have been a human artifact rather than a swampy jungle which nature would have made without man's intervention.

Often unintentionally, changes in human ways affect nonhuman nature; the advent of the automobile eliminated huge flocks of sparrows that once fed on horse manure in the streets. People, then, have often been a dynamic element in their own environment. Yet, it is usually not known exactly when, where, or with what effect man-induced changes come. Is it possible that man is just a part of the evolutionary process? Is man, just like other animals, still evolving with the world? Will man come, influence his environment, and then go, just as the dinosaurs did? Can we really control our ecosystem, or will it have its way with us?

Regardless, what we can do is understand the ecosystem and strive for the "good life" which Leopold wrote about. Using Leopold's argument, it could be said that if man is a part of the ecosystem, he should strive to meet his own needs, but in doing so, he needs to realize his dependence on the other parts of the system and act accordingly to satisfy these needs and dependencies. Having forests, abundant wildlife, and flowing water is a part of man's needs and a goal in stepping toward the "good life."

# Resource Professionals and the Media

by Lisa DeBruyckere

By the time students in the College of Forest Resources reach the long-awaited day of graduation, we've participated in and observed many college functions and rituals. We've made many decisions and judgements along the way; some we welcomed, others we dreaded. We made these decisions because we observed someone else stumble and could learn from his pain and anguish.

As each year passed and our values and perceptions changed, we formulated ideas as to what a professional is and should be and how we could best deal with others in a professional capacity.

Faculty in the College of Forest Resources were instrumental in encouraging us to develop and behave as professionals. We were given challenging and exciting opportunities to meet and work with professionals and were expected to make use of these opportunities whenever possible. By supplementing our broad-based curriculum with field work, upon graduating we should be equipped with the resources to deal with any and all work-related situations.

In "Greetings from the Dean", Dean Brown writes that resource professionals foster the relationship between man and his environment by disseminating information to the public through multiple media. As resource professionals, we have a major responsibility to strive to educate the public about their resources. However, it is evident from afternoon seminars held in Nutting Hall in the past year, that resource professionals are oftentimes uncomfortable and awkward when dealing with public

relation situations. Professors and graduate students at several seminars discussed the problems they encounter when interviewed by media personnel.

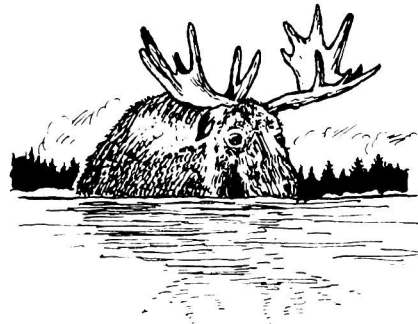
Coping with media professionals will be a new experience for many students in the next few years. To utilize the media as an educational and informational tool takes time, practice, patience and experience. But we must persist in perfecting our relationship with the media if we are to succeed as resource professionals.

The most unsuccessful method of dealing with the media is to be wary of it and simply avoid any and all encounters with it. We won't be successful in fostering anything if we avoid public controversy or the media. Public controversy is usually a result of poor planning, poor public relations and the failure of the resource professionals to initiate the role of educator and informant.

We will be somewhat successful if we deal with the media by playing a passive role, answering questions when asked and informing the public only when the public demands. We will not be tremendously effective, though, because we won't be inspiring confidence in the public and the public will be merely pacified as opposed to educated.

The most successful way we can utilize the media is to consistently seek encounters with the media professionals and develop a rapport with the public. If we're involved with a project that has the potential to be controversial, we should plan ahead, contact media representatives and become exposed to the media before the public demands. We should strive to be assertive and remember that media professionals have strict deadlines; we should try to prepare statements before we are interviewed. We should write down key points and be sure the reporter understands our statements and their relative importance. We should take control, be aggressive and inspire confidence.

To be successful, we must have a positive attitude and look forward to encounters with the media. We must respond to interviews with enthusiasm and a willingness to inform and educate. In this manner, we may succeed in our roles as resource professionals in fostering the relationship between man and his environment.

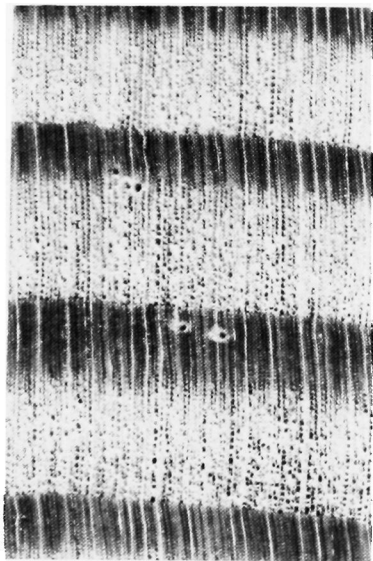


# Do Changes in Growth Rate Affect Wood Quality?

by John Pietroski

The increasing demand for wood products has depleted the virgin forests of the United States. As a result, the forest product industries are harvesting second and third generation timber. Furthermore, they are practicing silvicultural treatments to increase the growth rate and subsequent volume. This practice raises a serious question: will wood quality change with an increase in growth rate? And if so, will this affect the properties of solid or reconstituted wood products?

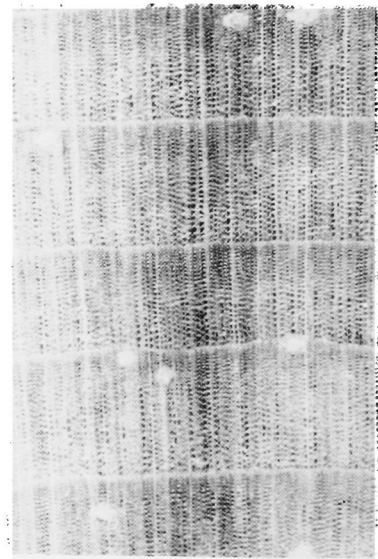
To determine if wood quality is affected by a change in growth rate, a brief anatomical description of the cross section of a tree should be discussed. Softwood (coniferous) trees and hardwood (deciduous) trees have distinct wood structures. Softwoods are composed primarily of a single cell type, the tracheid. Commonly, softwoods are classified in two groups (abrupt or gradual transitions) depending on the features of this tracheid. In abrupt transition softwoods, tracheids produced early in the growing season are thin-walled while those produced later have thickened walls and smaller lumen diameters. The change from the thin-walled earlywood tracheids to the thick-walled latewood tracheids is sudden (photo 1). Examples of abrupt transition species are larch, Douglas fir, and the southern pines. A gradual transition softwood has a gradual transition from earlywood to latewood. The change in the tracheid cell wall thickness is difficult to distinguish and the growth rings do not stand out as they do in an abrupt transition softwood (photo 2). Examples of gradual transition softwoods include hemlock, white pine, and spruce.



*Douglas Fir*

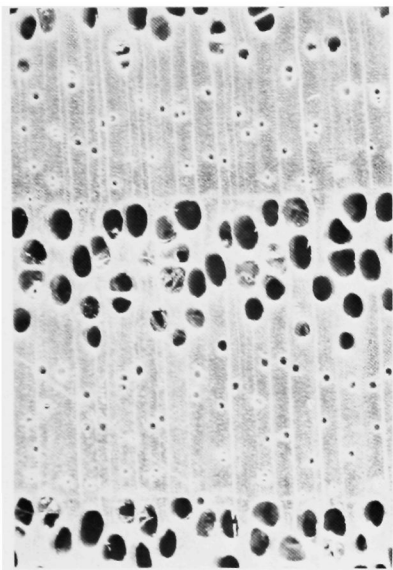
Hardwood trees are composed of various cell types. However, this article only discusses the two major cells, the vessels and fibers. A vessel is a weak, thin-walled cell whose function is primarily water conduction, whereas the fiber is a thick-walled cell which serves to support the living tree. Hardwoods are termed porous woods because they contain pores or vessels in the cross section. The size and distribution of these vessels determines if a hardwood is classified as a ring porous or diffuse porous wood. A ring porous wood has large earlywood vessels and smaller latewood vessels in the cross section of each growth ring. The latewood has a large proportion of fibers. Examples of ring porous woods are oak, ash, and chestnut (photo 3). A diffuse porous wood has vessels of equal diameter distributed across each growth ring. Examples of diffuse porous woods are maple, birch, and aspen (photo 4).

Now let's discuss the effect of an increased growth rate on wood quality. In softwoods, a change in wood quality depends on several factors; the two most important are

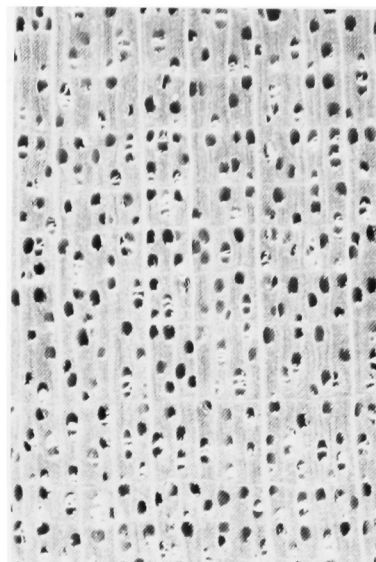


*N. White Pine*

the percentage of earlywood developed in each growth ring and the amount of juvenile wood produced in the entire bole. In an abrupt transition softwood, the width of the latewood in each growth ring is fairly uniform from the pith to the bark, compared to the earlywood which can vary depending on the growing conditions. Since the earlywood has weak thin-walled tracheids, a higher percentage of earlywood present in the growth rings will yield a wood lower in strength. A gradual transition softwood will also be lower in strength with an increase in growth rate, however, not to the same extent as an abrupt transition softwood.



*Black Ash*



*Yellow Birch*

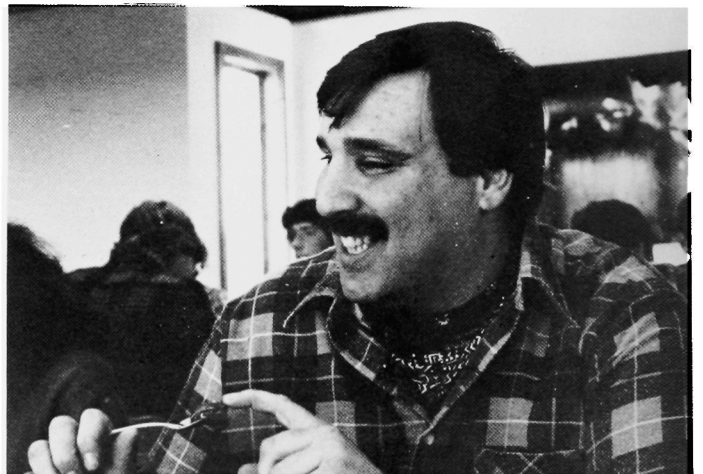
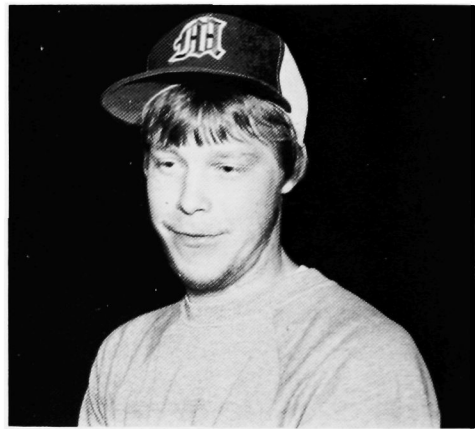
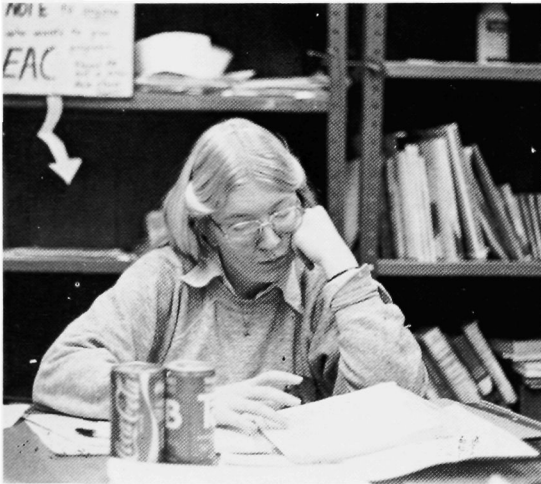
The percentage of juvenile wood in a tree is the second important factor affecting the wood quality of a softwood. Juvenile wood is a result of immature cell development. It contains a higher lignin content, shorter tracheids, lower specific gravity, a higher moisture content, and thinner cell walls. As a result, juvenile wood is lower in strength, a significant concern in the manufacture of many solid wood products. Juvenile wood also has an effect in the pulp and paper industry. The yield of pulp from juvenile wood is lower because of its lower specific gravity and higher lignin and moisture content. Softwood trees grown in a plantation will have a pronounced increase in juvenile wood compared to a tree in a natural forest.

In hardwoods, growth rate affects the wood quality primarily of ring porous species. The width of earlywood vessels in each growth ring remains constant from the pith to the bark. Growing conditions do not affect the width of the earlywood in ring porous woods. Instead, the width of the latewood in the growth ring varies depending on late spring and summer growing conditions. Therefore, a wider growth ring will have a larger percentage of latewood, and as a result, the wood will have higher strength properties. The effect of an increase in growth rate of a diffuse porous wood seems to slightly increase the strength of the wood.

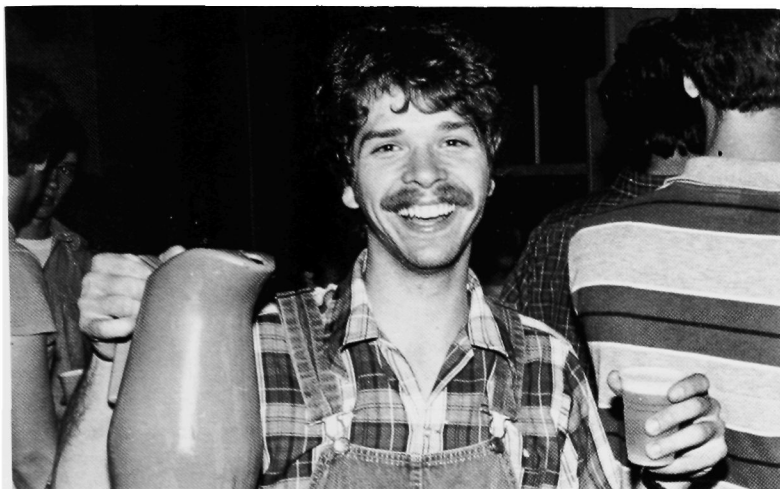
In summary, foresters need to understand how changes in growth rate affect wood quality. The forest product industries should carefully examine the tree species under management and the final products to be manufactured. In general, an increase in growth rate by silvicultural practices will usually lower the strength properties of a softwood tree compared with hardwoods which will usually have higher strength properties. Remember, faster growth does not always result in a higher quality wood.



# Under-Grads

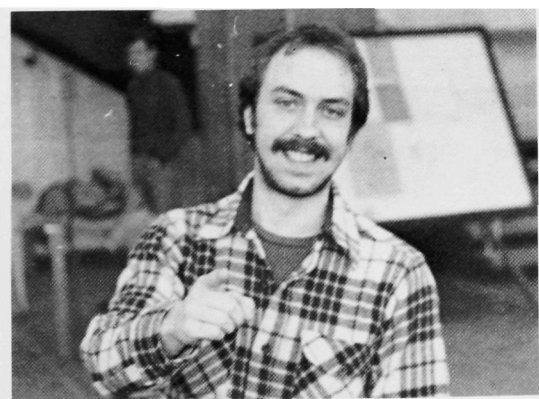
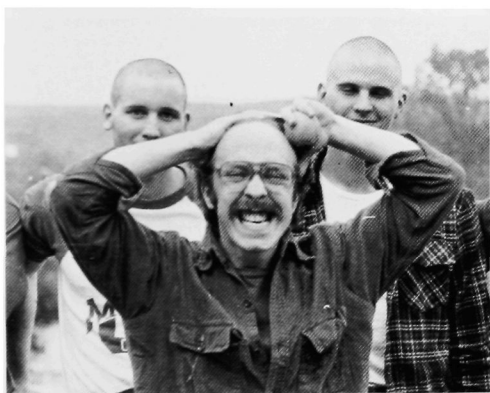






*What steep and rocky crags, so high, so high!  
The peaks and streams continue forever,  
The journey goes on and on.*

From the Chinese Book of Songs



# Freshmen



Todd Scanlon, John Hajosy, Chris Russell, Paul Nichols, Ken Roos, Aurele Gorneau  
Mike Brown, Toby Montgomery, Dan Coots, Tony Turmel, Kathy Sallo



Brad Porter, Dana Slade, Sam McDowell, Martin Flanagan  
Martha Wood, Karen Small, Pete Coutu, Bob Hern, Mark Arrighi  
Pete Milligan



Pat Norton, Will Tivesdale, Gary Chandler  
 Willie Wildlifer, Bob Bradbury, Willie Whistle, Jack Pine, Fred Oak, Chester Blight, Vaughn Smith  
 Aldo Pinchot, Mike Michaud, Tom Brown, Bruce Budworm, Sarah Donovan, Gypsy Moth, Jim StClair, Gifford Leopold, Bill  
 Hayes, Ken Smith, John Ste. Marie, Bob Licinsky  
 Johnathan Brady, David L. Libby, Ernie Entomologist, Bill Danuck, Jeff Kelly, Mike Parker, Paul Cousar, Mark Spaulding  
 Parnel Hesketh



Chris Corcoran, Lilly Leonard, Jim Gribbins, Chris Scullin, Oliver Fisher  
 David Bangert, Tony Picard, Vince Falcione, Ed Weihenmayer, Nate McKeen, Dan Bagley, Gary Violette  
 John Martha, Don Grebner, Lance Belanger  
 Art Treadwell, Tom Gale, Chris Dean, Tim Guilfox, Chris Ghiglio

# First-Year Technicians



Front: Jeff Dalzell, Mike Lalonde, Kevin Paradis, Tim Frost, Larry Hall, Mark Tasker, Hilarie Weiland, Jim Frederickson, Geneva Duncan, Steve Vachon, Will Molyneux

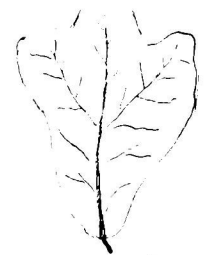
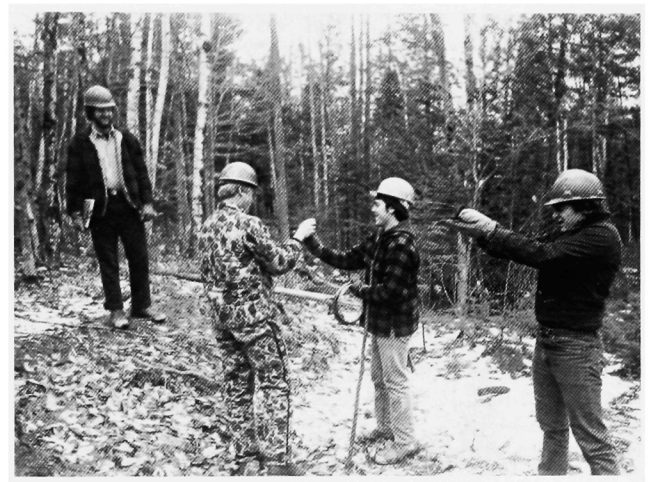
Back: Telford Allen, Bob Bartlett, John Clifford, Steve Follette, Tary Keiur, Steve Zagorianakos, Joe Theroux, Bob Newman, John Nored, Mark Taylor, Greg Gorten



Front: Ted Jennings, Don Berry, Malcolm French, Tim Frost, Alan Could, Scott Marshal, Matt Foust

Back: Jon Roy, Duane Bunker, Jeff Slahor





*Quercus marilandica*  
Blackjack oak



# Technician Summer Camp

by Ed Orcutt

While other students were enjoying the first day of summer vacation (probably asleep), 32 technician students boarded the "Wally Wagon" at 7:30 and we began our journey to the White Mountains. Several miles, hours, and "Mickey D's" later, we arrived at the Saco District of the White Mountain National Forest. That afternoon and the following day we spent on the Kancamagus Highway with Forest Service personnel discussing recreational use, harvesting, and silvicultural practices. We conducted our first rescue mission by carrying a broken-legged Dave Clapp out of the woods to a waiting ambulance. The following day, with thoughts of Dave, we waved good-bye to the "kanc" and drove to Bethel to visit Cladbourn Lumber Company's mill and woodland operations. In Errol, New Hampshire a representative from Seven Island Land Company analyzed forest management and land use regulation. Finally, we took advantage of tours offered by Forster Manufacturing Company at their toothpick processing plant in Wilton, Dwight Newman at his Christmas tree farm in Norridgewock, and (after a stop at "Mickey D's") Keyes Fibre Company at their "Chinet" plate manufacturing facility in Waterville.

Thirteen weeks later, as most students began regular classes, we strapped on our steel toed boots, grabbed our hardhats, bagged lunches and canteens and set foot "into" the outdoor classroom. In the Demeritt Forest we closed traverses and performed on-site mappings. At the Maine Bureau of Forestry we built firebreaks, ran pumps, and handled hoses. (No, we're not quite ready to replace a D-8.) Chuck Simpson gave us the opportunity to operate a skidder and a crawler tractor (quite smaller than a D-8) and Dan Tilton of Tilton Machines taught even the experienced cutters by giving insight into and demonstration of chain saw safety and cutting techniques.

After running boundary lines on Saturday, we began our timber cruises (actually, we only located the lines, but we had to run in order to catch the bus). While cruising, we accumulated many scratches and bruises from spruce thickets and blowdowns but received a day of relief to harvest timber with Pete Orzeck and Chuck Simpson. This gave us the opportunity to see how well Dan Tilton's ideas would work (or how badly ours would fail). After setting chokers, hanging up trees, and setting trees back on saws (it happens to the best of us), we returned to thickets to finish our cruises.

Monday again; and there we were with Dr. Pat Brown, looking for a good spot to talk about deer wintering areas. What we found was the remains of a poached moose—which one student felt could be left out of next year's trip.

After surviving a day of first-aid training, Al and Wally decided it was safe for us to do some hiking in Baxter Park and Acadia National Park. Professors they

are—and reports were assigned regarding the policies of use in the two parks.

The following week focussed primarily on timber harvesting and utilization. We began by riding the "Wally Wagon" up the "Golden Road" and into "The Numbers." Great Northern was the host (it's their land) and after dodging huge loads of tree length wood we watched a feller-forwarder and then discussed silviculture after a clearcut. On the "Stud Mill Road" a St. Regis employee discussed the costs and considerations of road building. At Frye Mountain Game Management area, we saw Sproul Brothers' whole tree chipping operation and discussed forest and game management. Our next stop was Robbin's Lumber Company (Sproul's competition) and we were introduced to a new concept in complete log use—a cut-up shop where short pieces of boards were cut from between knots of poor quality lumber.

On Saturday, we once again entered spruce thicketed woods for our final cruise (and began to use our first-aid training). Chuck and Pete once again interrupted our cruises (Thank God!). This time it was a timber marking exercise (paint guns!—*Real* paint guns!). Luckily, more paint hit trees than people. We finished our cruises and cruise reports just in time to join everyone else for October break and then re-entered the classroom.

There are many memories, but we must look to the future and use our experiences to improve forestry. To the Technicians of 1984, Good Luck!

