1-1-1950

Private Forest Management In The Lower South

William A. Duerr
U.S. Department of Agriculture

W.E. Bond
U.S. Department of Agriculture

Follow this and additional works at: https://lib.dr.iastate.edu/amesforester

Part of the Forest Sciences Commons

Recommended Citation
Available at: https://lib.dr.iastate.edu/amesforester/vol37/iss1/6

This Article is brought to you for free and open access by the Journals at Iowa State University Digital Repository. It has been accepted for inclusion in Ames Forester by an authorized editor of Iowa State University Digital Repository. For more information, please contact digirep@iastate.edu.
Private Forest Management In
The Lower South

By
WILLIAM A. DUERR AND W. E. BOND

Southern Forest Experiment Station
Forest Service
U. S. Department of Agriculture

The forester who studies the lower South is impressed by the marvelous productivity of much of its wide-spreading forest lands, by the abundance of logging and wood-using activities on every side, and by the contrasts from one locality to the next in forest conditions and the evidences of forest management. He may well have the urge, as many hundred foresters before him have had, to go to work in this land of pine and hardwood where forestry opportunity is so attractive, problems so varied, and progress so rapid.

A TOUR OF THE REGION

Let us make a tour through the lower South and see for ourselves. We shall start from New Orleans, drive north through the toe of Louisiana and into Mississippi. Thence we shall swing eastward across the shortleaf-loblolly pine-hardwood uplands of the region working our way through Mississippi, Tennessee, and Alabama. Dipping into Georgia and Florida, we will return westward the length of the naval stores belt—the forest of longleaf and slash pines, interspersed with hardwood river bottoms and "ponds", that borders the Gulf Coast.

The second half of our tour will take us west of the Mississippi River. We shall begin by seeing the remainder of the longleaf pine belt, in southwest Louisiana and southeast Texas. Then we shall drive through the shortleaf-loblolly pine-hardwood uplands in eastern Texas and Oklahoma and in Louisiana and Arkansas. Finally, from northeast Arkansas we will coast back to New Orleans along the Mississippi River, through the wide alluvial belt where hardwoods and cypress grow. This belt, from Cairo, Illinois, to the Gulf, is called the Delta.

Our trip will be a long one, nearly 5,000 miles, for this broad region encompasses more than 30 percent of all the commercial forest land in the United States. Often avoiding main highways to get a more representative view of the countryside, we
shall notice the wealth of secondary roads open to us throughout much of the way. The high accessibility of southern upland forests aids vitally in their management and utilization.

WORLD'S LARGEST PLANTATION

Our first stop is at Bogalusa, Louisiana, center of activities of the Gaylord Container Corporation and formerly of the Great Southern Lumber Company. Here we shall see the largest commercial forest plantation in the world.

When the Great Southern merged in 1937 with Gaylord interests, the newly-formed corporation inherited 260,000 acres of forests in Louisiana and Mississippi. Most of this was cut-over longleaf pine land, but in the later purchases that raised the total to 344,000 acres was much land bearing second-growth loblolly and shortleaf pine. The company operates a huge kraft paper plant which consumes more than a thousand cords of pulpwood daily. It also operates 14 other major plants that convert kraft paper into bags, cartons, and other packaging items.

Forestry on these lands goes back to 1920, when the Great

*Nineteen Fifty*
Southern Lumber Company decided to enter into a vast program of reforestation. During the next 17 years, it hand-planted 30,000 acres of cut-over land to pine (chiefly slash, but some longleaf and loblolly). At the same time, by keeping out fires and leaving seed trees, the company enabled many thousands of acres of cut-over land to restock naturally. Since the merger, the Gaylord Container Corporation has nearly doubled the area in plantations—to 57,000 acres, all within 15 miles of the pulp mill. Each year the Corporation plants—with machines where possible—between 2,000 and 4,000 acres of the remaining open land to slash pine.

We learn that this planting work, and the intensive fire protection and culture of both natural and planted forests is handled by a staff of 10 graduate foresters and twice that number of trained woodsmen. The forestry crew have the most modern equipment—mechanical tree planters, a fleet of jeeps, two-way radio, a fire-patrol plane, and complete facilities for taking and interpreting aerial photographs. They mark each tree to be cut, holding the volume of cut below timber increment so as to build up the growing stock in quantity as well as quality. Through their efforts, mightily aided by the South's favorable soil and climate, cut-over lands recently acquired are already assuming the appearance of productive forests. We walk through a 21-year-old plantation of slash pine that averages 32 cords of standing timber per acre and has already yielded 9 cords per acre in thinnings.

Gaylord's utilization policy is to make a profit from the woods, and not necessarily to make pulpwood. In 1947 the company sold more than 10 million board feet of pine sawlogs and piling and more than 13 million feet of hardwood logs and ties. Under this policy Gaylord gets most of its pulpwood, not from its own lands, but by purchase from small forest owners.

EXTENSION FORESTRY

Leaving Gaylord's holdings, we drive northward through the interspersed woods and farm lands that are characteristic of much of the lower South. It is from such woodlands that Gaylord and other members of the pulp and paper industry obtain much of their pulpwood. How poor these woodlands look by comparison with the well-managed forests that we have just left! Many show signs of recent heavy cutting, and are stocked mainly with low-grade hardwood and with pine too small to be usable. What is the trouble here? Why, for instance, does a pulp company not practice as good management in cutting wood from others' lands as from its own? There are two parts to the answer.
First, pulp companies are not the only users drawing on these woodlands. Indeed, with all the expansion in kraft pulp manufacture that the South has seen in recent years, pulpwood still makes up less than a fifth of total cutting drain on pine growing stock. Sawmills still account for more than half of the total. Over sawlog cutters’ activities of course, pulp companies have no control.

Second, pulp companies have little direct control over the activities even of pulpwood cutters. The explanation of this odd fact is that cutting is done by contractors, not by company employees.

Hence the progressive company that wants to see good forestry practiced on others’ lands is in the same position as any other interested outside agency. It must approach the owners of these woodlands with educational efforts and technical assistance, persuading and helping them to institute good management, to mark trees for cutting, and to supervise logging operations. Most pulp companies devote part of the time of their forestry staff to this purpose. As an industry, they have created the Southern Pulpwood Conservation Association, whose job is primarily one of education. These efforts supplement those of other private agencies and of the public agencies, state and federal, in an expanding program to persuade woodland owners to practice conservative management. This program still has far to go.

CUTTING PRACTICES—LARGE HOLDINGS

A survey made in 1945 by the U. S. Forest Service showed that only 12 percent of the area of private forests in the lower South was the timber cutting good or high-order—designed at least to leave the land in possession of desirable species in good condition for future growth. This was, however, a markedly better showing than in any other region of the United States. In the South Atlantic states the percentage of such good cutting was 8; in the North, 6; in the West, 5.

Of the total acreage of well-cut forest properties in the lower South, three-fourths was in big holdings, larger than 50,000 acres. Seventy-five percent of pulp-company land was cut under good practices in the lower South, as against 8 percent in the North and a negligible percentage in the West. As for lumber company holdings more than 50 percent were well cut in the lower South, as compared to 12 percent in the North and 8 percent in the West. It is on such large holdings that spectacular progress has been made in forestry.

One example that we see is the land of the Tennessee Coal, Iron, and Railway Company, of Birmingham, Alabama. This

Nineteen Fifty
company has something over 300,000 acres of forest land. About four-fifths of it is in shortleaf, loblolly, and longleaf pines and hardwood in northern Alabama. The remainder is longleaf and slash pines in southern Alabama. The chief business of this company is making iron and steel. Nearly all the iron ore and coal needed are obtained from company-operated mines, and the first demand on the forest is for those mine props and other mine materials that cannot be purchased to better advantage on the outside. The company's forests, however, are managed as commercial forests for highest sustained returns.

The company began forest management with the adoption of fire-protection measures. Later, when its longleaf timber in south Alabama reached turpentine size, the company adopted the policy of thinning by selecting the largest limby trees, working them for naval stores for several years, and then cutting them for sawlogs or pulpwood. The next step was integrated utilization, whereunder poles, sawlogs, and pulpwood were cut in the same operations. Today, all timber is marked by a forester before logging.

The pine-hardwood stands in north Alabama were cut over some years ago, and many of them are still poorly stocked and rather heavily encumbered with low-grade hardwoods. Since the

Figure 2.—Integrated utilization: this selectively cut stand furnishes not only sawlogs but also substantial amounts of pulpwood from top wood and from thinnings. (U. S. Forest Service photo.)
forestry program was adopted, the foresters have been carrying out a program of improvement cutting. Because low-quality wood suffices for much mine material, the improvement cutting utilizes many low-grade hardwoods from the pine-hardwood stands.

**CUTTING PRACTICES—SMALL HOLDINGS**

On the small holdings (less than 5,000 acres) which comprise seven-tenths of all private forest land in the lower South, the story is quite different. Only 2 percent receive good cutting. No other region of the country shows a lower percentage in this item. These small holdings, both farm and nonfarm woodlands, are the crux of the timber-management problem in this region.

For an example of good management, let us drop in on James Oliver, a farmer in Bullock County, Alabama. Mr. Oliver has been managing his 25-acre woodland for 31 years.

During these years six sales of standing timber have netted him $508.00 in cash and 5,600 board feet of lumber valued at $530.00, or a total of $1,038.00 in money and lumber. This means an average income of $33.50 per year for 25 acres of timber land, or about $1.35 per acre per year. In addition, he has constructed and maintained 3 miles of fence with 1,684 posts cut off the farm woodland. These posts would have cost him several hundred dollars to buy.

Today, after several cuts, he can still show us a good stand of pine with trees 12, 14, and 16 inches in diameter, and good hardwoods in the lowland. His forest is growing rapidly; it will probably triple its present volume within the next 10 years. Although he was never taught to select the trees to be cut, he marked those he thought should come out. Recently he has called in the county farm forester to help him improve his cutting practices.

**FIRE AND OTHER HANDICAPS**

Of course, for every small property like Mr. Oliver's, we see dozens where timber-cutting practices have been poor or destructive. In talking with the owners or operators of these woodlands, we get the impression that their reasons for failing to practice good forestry are much the same as we find in other regions, at least in the eastern United States. A great number are unaware that their woods can produce a high, regular income if well managed. Other owners are too occupied with their farming or other business to have time for forestry. Still others appear to be at the mercy of the timber buyers and loggers through whom they deal, and whose prime interest is maximum immediate return. Many have sold all their merchantable timber because they needed the cash—not an uncommon reason in this region of low incomes.
One of the great handicaps to private forest management in the lower South has long been the fire problem. Some of the chief remaining gaps in our nation-wide system of state-federal cooperative fire protection under the Clarke-McNary Law are in the lower South. The Forest Service's 1945 survey found that only 32 percent of the privately owned commercial forest land in the lower South received good or fair fire protection on the Clarke-McNary minimum standard. The percentage of good or fair fire protection on private forests in the South Atlantic states was 73; in the North, 82; in the West, 91. Some progress has been made since 1945, but there is still a long way to go. Fire protection is a job best handled on a large scale. The absence of good public protection, while serious for all, is harder on small owners than on large, who have the alternative of organizing their own systems.

One large forest owner in a part of the region where the fire problem tends to be severe is the Alger-Sullivan Lumber Company of Century, Florida. This company has about 220,000 acres of timber land, practically all in the longleaf-slash pine belt in southern Alabama. Since 1900 Alger-Sullivan has been cutting high-grade longleaf, much of it for export. In 1920, the cut was 50 million feet.

It was in that year that Dr. Austin Cary of the U. S. Forest Service first visited the Alger-Sullivan operations. During the following several years the company, under his advice, set out to prolong the life of the plant. It began cutting and turpentining conservatively, thinning and caring for young stands, and working at the fire problem. Finally one mill was closed, and the total cut was reduced by half. Also, turpentining was discontinued.

In 1937, under guidance of the Division of State and Private Forestry of the U. S. Forest Service, the company cruised its timber and formulated a forest management plan. A forester was hired, and selective cutting was practiced so as to improve and build up the growing stock. Recently the property has been divided into districts of approximately 50,000 acres. In each district an experienced, technically-trained forester, responsible to the chief forester, has been placed in charge of all forestry, logging, and other woods operations. The chief forester is also the logging superintendent.

The company still holds much high-quality longleaf timber and is producing lumber and timber for a large export trade. Its policies are pointed towards producing high-quality lumber, even at the cost of lowered total output. To accomplish this, the company leaves tall, clear intermediate trees (and even some suppressed trees) for future growth. It has initiated a pruning pro-

Ames Forester
gram, does some non-commercial stand-improvement work, and maintains a small salvage-logging crew which works around in the older stands, picking up trees that have died.

**WOOD-USING ACTIVITY**

As we drive westward through the longleaf-slash pine belt, let us take stock of the wood-using activity that we have so far seen and prepare ourselves for the similar activity that we will find west of the Mississippi River.

We have heard it said that 20 cents out of every dollar in the pockets of southerners comes from the forest. Though not a precise figure, this proportion is accurate in suggesting the great importance of wood-using activity to the region. As a source of income, forests are second to farming in most of the states to which our tour takes us.

Many a town through which we have passed owes its livelihood mainly to some sawmill or pulp mill or other wood-using plant. Along the road, we have passed countless trucks bearing sawlogs, pulpwood, lumber, and other forest raw materials or finished products; and at many railroad sidings we see these forest commodities being loaded on cars. In the rural areas, the loggers are busy everywhere, and out near the woods we see small sawmills by the hundreds. All together, there are some 15,000 sawmills in the lower South, and they turn out three-tenths of all the lumber made in the United States. All but about 2 percent of these mills cut less than 5 million board feet in a year. The region's 32 pulp mills have more than a third of the national pulping capacity.

The region's forests are not well enough stocked or managed to support all this activity on timber growth alone. During the decade between the mid-1930's and the mid-1940's—outside Tennessee and northwest Arkansas, for which there are no comparable figures—total sawlog growing stock fell 14 percent. This was a drain on timber capital in addition to growth. Generally speaking, depletion was heaviest in the northern parts, while in some of the southern parts—notably the naval stores belt outside Florida—the timber capital was built up.

The differences in resource trends are traceable to several factors. Of these, the factor of ownership is for us the most interesting, since it ties back directly to forest management. We have seen enough by this time to realize that the forest owners of the lower South fall, very roughly speaking, into two groups.

One group, the majority in both numbers and forest acreage, has little or no investment in wood-using plants. For the most
part, when they harvest timber, they sell it on the open market—
to stumpage, sawlog, pulpwood, and other timber buyers. Their
holdings are the principal scene of activities of the army of itin-
erant loggers, contractors, and small-sawmill operators. These
forest holdings are typically small and typically ill managed.

The forest owners of the other group have considerable in-
vestments in wood-using facilities—sawmills, pulp mills, or other
plants. The prime interest of many of them is to stay in business.
Their forests are their source of raw material—in many cases for
the present, in all cases for the future, when the open market may
not be so ready a source of wood as now. Meantime, however,
the open market provides at least pulpwood and small sawlogs to
tide over certain classes of these owners while they are building
up the growing stocks on their own lands. These forest holdings
are typically large and typically well managed.

One of the largest of these holdings is that of the Southern
Kraft Division of the International Paper Company. We have
seen numerous parcels of the Southern Kraft holdings in the states
already visited, and as we move west of the River we see more
of them.

Ames Forester
All told, Southern Kraft owns about 2 million acres of timber land in 9 southern states. Slash, longleaf, shortleaf, and loblolly pines and hardwoods from reproduction to large saw timber are included. The company’s eight large pulp and paper mills consumed 3-1/3 million cords of pulpwood in 1948—about a third of the total pulpwood cut in the South and nearly a fifth of the total used in the nation.

The Southern Kraft Division began to practice forestry in 1925, the year the Division was organized and the first mill and timber lands were acquired (in Louisiana). The forestry consisted of developing a protection system against fire and timber theft. This task was handled by a consulting forester, who trained local woodsmen on the job. As new plants were built and additional tracts of timber were purchased, a forestry division was built up. At present this group includes 120 technical foresters, who manage company land, participate in new land acquisition, procure pulpwood from other owners (through contractors), and encourage good forestry among these owners.

Company land provided only about 5 percent of total pulpwood requirements in 1948. The Division’s chief concern on these lands is to improve growing conditions and build up the growing stock. A system of lookout towers, fire lanes, and radio-equipped control crews has reduced losses from fire: in 1948, only 1 percent of company holdings were burned over.

In wet periods and off-fire seasons these crews do forest improvement work. Thousands of acres of pine have been released from over-topping scrub hardwoods. Dense young pine stands have been thinned. Hardwood sawlogs have been cut and sold to make room for pine on a quarter-million acres. As soon as seedlings can be obtained, the Division intends to plant about 40,000 acres that will not restock naturally. During the 1947-48 planting season, 3,612,000 seedlings were planted with machines. Southern Kraft exchanges pine sawlogs from company land for pulpwood from the outside. In 1946, 30 million feet of sawlogs were exchanged for 169,000 cords of pulpwood.

Southern Kraft foresters do educational work with forest owners from whom pulpwood is purchased. In 1948, company foresters marked, without charge, 140,000 cords in partial cuttings on 70,000 acres belonging to 600 forest owners. The company held exhibits and conservation meetings and distributed more than 2 million pine seedlings free for planting by 4-H Club boys, Future Farmers of America, and landowners.
HARDWOOD PROBLEM

The hardwood problem to which the Southern Kraft foresters devote a good deal of their attention is widespread in the South. It consists in the fact that, somewhat in contrast to pine, the quality of hardwood is highly variable and only the better-quality timber finds a ready market. On pine sites, unpromising hardwood may reproduce vigorously and threaten to take over the stand. Both here and on hardwood sites, the poorer-quality hardwood tends to increase in the stand as better elements are harvested. The only remedies are to find uses for this poor hardwood or to destroy it.

In some parts of the region, more than half the growth of young timber in pine stands is taking place on hardwood sites. And many hundred thousand acres that were formerly pine forest are now hardwood forest.

The Ozan Lumber Company of Prescott, Arkansas, has made a particularly aggressive attack on the hardwood problem. This company has a little less than a hundred thousand acres of short-leaf-loblolly pine and hardwood land. It operates three efficient medium-size sawmills and produces chiefly pine lumber. The logs for these mills come both from company land and from outside purchases.

The company has employed a forester for about 15 years and has been cutting conservatively and selectively on company land during that period. During the war, to take advantage of the brisk hardwood market, the cut was switched from principally pine to principally hardwood. Much of the poor-quality hardwood sawlog component of the stand was removed. Since the war the forester has employed a 15-man crew to control hardwoods by utilization or girdling and to thin and improve pine stands. About a quarter of the total area, comprising most of the stands needing this work, has been covered to date. All trees cut on company land are first marked by this crew; the total amount cut is held well below the growth. Fire protection is adequate, and natural tree reproduction has made planting unnecessary. For some years, services of the company's marking crew have been available to other forest owners without cost.

FOREST RESEARCH

In the course of our tour of the lower South, we have heard much of the research work that is an important part of the forestry movement in this region. Forest research has been in the van with the development of improved wood-utilization procedures, the study of tree regeneration and cultural measures, the use of advanced techniques in gum naval stores production, and in work-
ing out and demonstrating profitable systems of timber management.

This research is being done by both private and public agencies. Among the latter are the Southern and Southeastern Forest Experiment Stations of the U. S. Forest Service. From their respective headquarters at New Orleans and Ashville, N. C., these two stations operate 12 branches in the lower South.

Figure 4.—Over-heavy pulpwood cutting has transformed this farm woodland from a pine-hardwood forest into a hardwood problem area. (U. S. Forest Service photo.)
While we are in the vicinity, let us stop at the Southern Station's branch at Crossett, in southern Arkansas. The findings of 15 years of research on this experimental forest have had a marked effect on loblolly and shortleaf pine management throughout the South.

Especially noteworthy as an example of intensive management is the "farm forestry forty." Set up as a trial of what a farmer might earn from his woods through annual selective cutting, the forty-acre plot has now been under management for 12 years. During that period, 148,692 board feet of logs, 290 cords of pulpwood, 209 cords of fuel wood, and 385 fence posts have been cut. These products had a stumpage value of $2,437 ($5.08 per acre per year) and a delivered value of $7,590 ($15.81 per acre per year). Moreover, the timber stand has improved and the forest today is in far better condition than when cutting started.

On about 1,000 acres of the 3,500 acres of typical second-growth pine stands of the Crosset Experimental Forest, selective timber management under short cutting cycles has been practiced for over 10 years. During this period an average of 1,755 board feet (International 1/4-inch rule) of pine logs has been cut per acre. The average volume per acre, in trees 12 inches d.b.h. and above before cutting started in 1937, was 4,807 board feet, and in 1946, after cutting, was 6,253 board feet. This is an increase of 30 percent in volume, in addition to the 37 percent of original volume that was cut during the 10-year period.

During this period, the number of sawlog trees per acre and the size of the average tree have increased. More recently, studies of even-aged versus selection all-aged management have been established. Heavy improvement and release cuttings in the hardwood portion of the stands, together with complete fire protection, have resulted in good pine reproduction.

**BOTTOMLAND FOREST MANAGEMENT**

Although there is more hardwood timber than pine in the lower South, it has become obvious from our trip that far more is known about the management of pine than of hardwood in this region. To learn more about hardwood forestry is one of the challenging problems.

During the last leg of our tour, we shall pass through the one great section of the lower South where pine is quite out of the picture. This is the Delta, which we enter in Arkansas on our way to Memphis, Tennessee. One of the progressive forest owners whose lands and mills we visit is the Anderson-Tully Lumber Company of Memphis.
This company owns more than 200,000 acres of bottomland hardwoods in the Delta portions of Louisiana, Arkansas, and Mississippi. It is one of the largest producers of hardwood lumber in the country. Most of its lumber it makes into semi-finished products such as handles, furniture squares, egg crates, and the like. Face veneer is also produced. The company gets its logs from its own land, and also from farm woodlands and other open-market sources. Besides logs, it purchases much green lumber.

When old-growth bottomland hardwood became scarce some years before the war, the company began selecting the over-mature and defective old-growth trees for cutting and saving the thrifty ones for future cuts. The company now practices very strict selective cutting of old growth, removing only those trees that would probably diminish in quality or die before the next cut in 5 to 10 years. Fire protection is strict. In its cut-over and second-growth stands, the company practices improvement cutting and thinning. A crew of 10 trained men spends full time in cruising, appraising, and marking both company and outside timber. The practical forester in charge has responsibility both for timber management and for supplying logs to keep the plants in full operation.

FORESTRY PROSPECTS

We are back in New Orleans, having completed our wide and all-too-brief tour of some of the most fascinating forest areas in the United States. On the basis of what we have seen, can we speculate on what the future holds for private forest management in this region?

Of one thing we are quite sure: If the success of private forestry depends upon profit, and if profit depends upon such factors as rapid timber growth, ample labor supply, and ready access to wood-using plants and markets, then the lower South offers outstanding opportunities for private forestry.

On another point, too we feel fairly certain: The past trend toward good management on large forest holdings will continue. Although the rate of increase in well-managed acreage will vary with general business conditions and although the extent of large holdings will ultimately be limited by the pattern of forest occurrence and ownership, it seems easily possible for the present area of good forestry to be doubled simply through land acquisition and the adoption of good practices by more and more large owners.

But what of the small forest owners? Nothing that we have seen on our tour gives us a sure clue to this critical question.
We might conclude, on the basis of present conditions, that most of the small-owner group can never be induced to practice intensive forest management. Such a conclusion, however, we are unwilling to grant. Small owners hold the majority of the forest lands, and probably always will. These holdings are too important to the public and to industry—they are too large a share of a major resource in this forest region—to be dismissed.

In view of its heavy reliance on these small forests, can industry reform the cutting practice it uses in harvesting wood from them? What shape would such reform take? Regulation by law? On the other hand, will it be better to follow exclusively the educational approach? To make education and technical assistance work, is some sort of forest credit needed? In view of the demonstrated success of large-scale forestry, what are the possibilities of small owners banding together into cooperative associations for forest management and timber processing? Here are questions that bid fair to challenge the forestry profession in the lower South for years to come.

FACTS ABOUT THE AUTHORS

Mr. Duerr graduated from Iowa State College in 1934. Since this time he has worked at the Lake States Forest Experiment Station at St. Paul, the Appalachian Station at Asheville, North Carolina, and the Southern Station. Meanwhile he took time out to get an M.S. degree in agricultural economics and forestry at the University of Minnesota and M.A. and Ph.D. in economics at Harvard. In the Lake States he was a member of the nation-wide Forest Survey organization for a time, and later did research in farm forestry. In the Appalachians his chief job was to head up an integrated survey of land use, farm and forest management, timber marketing, and rural sociology in eastern Kentucky. On the basis of this and other work in the region, he wrote a book, published in 1949, on "The economic problems of forestry in the Appalachian region." At the Southern Station, his work has to do with the Forest Survey and other economic studies.

Mr. Duerr is at present chairman of a Society of American Foresters Committee on Scope and Method of Research in the Economics of Forestry, whose job is to obtain, and compile into a book, contributions on the subject from some seventy-five foresters, economists and related specialists.

Mr. Bond is a forestry graduate from the University of Michigan, class of 1914, and also has an M.S.F. degree from Michigan. He has been Assistant State Forester in charge of
forest management in Vermont and in Texas, and also Assistant in charge of fire protection in the latter State. For the past twenty years he has worked with the U. S. Forest Service at the Southern Forest Experiment Station. Here he has had charge of the Station's work in the financial aspects of forest management, the field which has long been his primary professional interest. Mr. Bond was instrumental in planning and setting up the Crossett Experimental Forest near Crossett, Arkansas, mentioned in the article as one of the oldest and most famous of the southern experimental forests. Out of this work came his well known bulletin, written with Reynolds and Kirkland, on "Financial aspects of selective cutting in the management of second-growth pine-hardwood forests west of the Mississippi River." Mr. Bond is not only a research worker but also a practicing forest manager, having owned and carried out a profitable program of forestry since 1928 on timber tracts located in Texas and Louisiana. He spent two months in Europe last summer on the proceeds of his most recent selective cuttings.