

Louisiana's growing paper industry brought the State from tenth to third in pulp production in only 10 years.

Louisiana's Forest Industries: 1946-1971

By Lloyd C. Irland

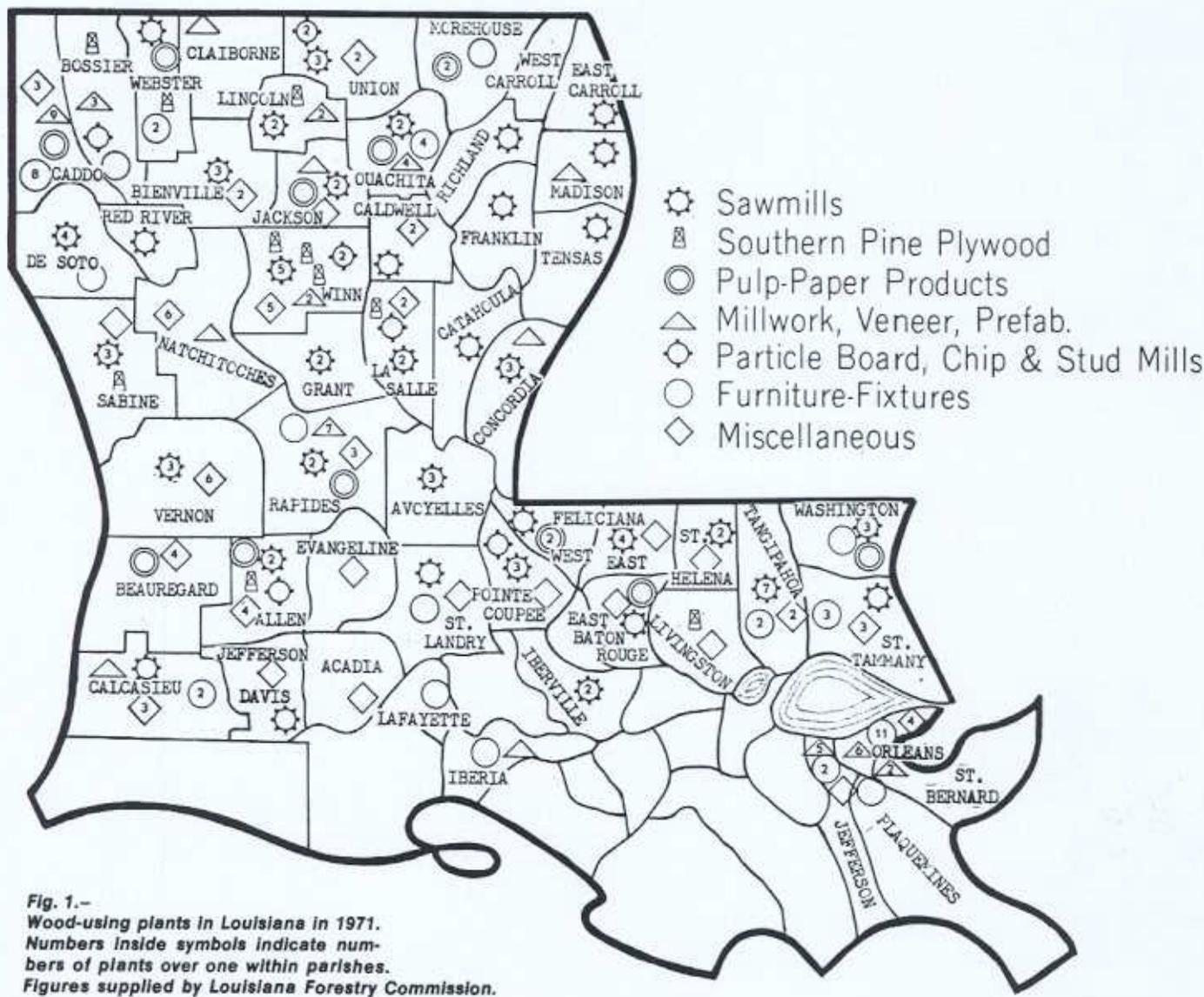


Fig. 1.- Wood-using plants in Louisiana in 1971. Numbers inside symbols indicate numbers of plants over one within parishes. Figures supplied by Louisiana Forestry Commission.

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Table 1.—Economic trends in Louisiana forest industries, 1947 to 1967.

| Item | Unit of measure | 1947 | 1967 | Percent change |
|--------------------------|-----------------|-------|-------|----------------|
| Total employment | (1,000 workers) | 44.6 | 29.8 | -33 |
| Payroll | (\$ Million) | 87.7 | 174.3 | 98 |
| Value added | (\$ Million) | 187.9 | 369.4 | 111 |
| Value of shipments | (\$ Million) | N/A | 809.1 | |
| New capital expenditures | (\$ Million) | 22.0 | 99.2 | 351 |

Source: Census of Manufactures.

Louisiana is a prominent supplier of forest products to the nation. In 1971, it was the third leading state in output of softwood plywood, third in pulp production, and third in paper and paperboard. Louisiana ranked tenth in production of hardwood lumber, and thirteenth in all lumber. This article describes development of forest industries in the state since World War II.

Overall growth of these industries has been impressive. Pulp and softwood plywood manufacturers were the leading performers. Pulping capacity increased more than threefold since 1946, rising to nearly 10,600 tons per day. Softwood plywood was first manufactured in Louisiana in 1965, and in 1971 production approached one billion square feet. Hardwood lumber and veneer-log output have declined, but softwood lumber output has risen slowly since 1961, following declines during the 1950s.

These output increases were accompanied by rapidly rising productivity. As a result, forest industry employment in Louisiana declined steadily from 1946 to 1970. Employment in pulp and paper increased slightly, while employment in lumber and furniture manufacture fell drastically. The forest industry's share of state manufacturing employment fell from 34 percent in 1946 to 18 percent in 1967. The share of value added dropped from 27 percent to 13 percent, partly due to growth of the state's oil, gas, and petrochemical industries. Still, in 1967 forest industries were Louisiana's leading industrial employers according to the Census of Manufactures (Table 1). They had about 30,000 workers, more than either the transportation equipment or food processing industry, the other leading employers in Louisiana. Together, the forest industries ranked fourth in value of shipments after the petroleum, chemical, and food processing industries.

The census data in Table 1 provide useful comparisons between census years. It is known, however, that woods

employment is underestimated in the census. The Louisiana Forestry Association estimates that Louisiana's forest industries employ about 42,000 workers. The breakdown is:

| Operation | Total workers |
|------------------------------|---------------|
| Woods (man-year equivalents) | 10,000 |
| Lumber & wood products | 15,500 |
| Paper and products | 16,400 |
| Total | 41,900 |

Adding furniture employment yields a total of about 43,400 workers.

In addition to the direct employment provided by forest industries, jobs are created by the industry's demand for transportation and other services, as well as by the expenditure of worker's paychecks in local stores and businesses. In some rural Louisiana communities, the forest industries are virtually the only source of employment and economic activity.

While employment declined, total payrolls and value added doubled. New capital expenditures more than tripled, reflecting investment in modern plants and added outlays for pollution control equipment.

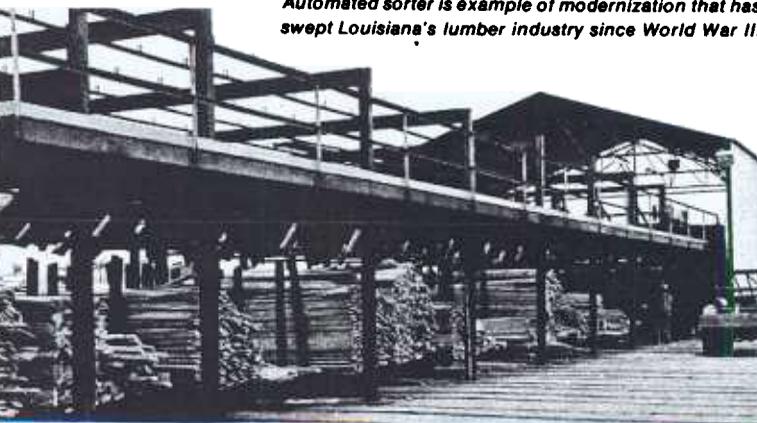
In 1969, employes in forest industries earned about \$240 million, and payments to stumpage growers totaled roughly \$50 million. Thus, the forest industries directly contributed \$290 million to the Louisiana economy in payments to timber sellers and workers. Adding the \$100 million new capital expenditures raised the annual contribution to the state's economy to \$390 million.

When wage earners and stumpage sellers spent this income, additional jobs and incomes were created throughout Louisiana. Authorities estimate that the total economic activity generated by timber is 22 times the stumpage value. Thus, 1969 stumpage sales of \$50 million generated roughly 1.1 billion dollars in economic activity in processing, marketing, transportation, and construction. By 1971, stumpage sales of \$60 million created economic values exceeding \$1.3 billion.

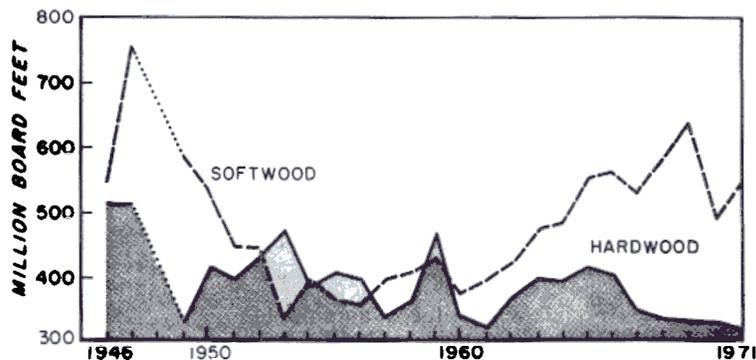
Stumpage sellers received roughly \$60 million in 1971, the Louisiana Forestry Commission estimates. Pine sawtimber accounted for \$43 million, pine pulpwood for \$10 million, and hardwood pulpwood and other products for the remaining \$7 million. Rising prices as well as increased volume have boosted stumpage incomes. From 1955 to 1971, national forest sawtimber stumpage prices in Louisiana increased by 133 percent, and pulpwood prices rose 96 percent.

Louisiana had 198 primary wood-using plants and 118 secondary plants in 1971. Included were 13 pulpmills, 2 particle board plants, 18 plywood and veneer mills, and 76 permanent sawmills. Other plants included 3 stud mills, 29 wood preservation plants, 28 crosstie mills, and 4 pole, piling, and post plants (Figure 1).

Automated sorter is example of modernization that has swept Louisiana's lumber industry since World War II.



**Fig. 2.—
Hardwood and softwood
lumber production in
Louisiana, 1946–1971.**



Lumber

Louisiana led the nation in total lumber cut in 1914, and was second in every other year from 1906 to 1919, and in 1921 and 1922. Heavy cutting greatly reduced available timber supplies, and by 1929 pine cut was one-third of its peak level. From 1950 to 1964, the southern pine cut never exceeded 500 million board feet. In the late 1960s, production rose slowly to about 600 million feet, or one-seventh of the 1913 peak (Figure 2). Hardwood production in Louisiana peaked in 1929, when the state provided one-fifth of the southern hardwood lumber.

Since World War II the lumber industry in Louisiana has been adjusting to a second-growth timber economy. With the expansion of southern markets and loss of northern markets to other species, the pine lumber industry now serves a regional market. In 1922, only 45 percent of Louisiana's lumber cut was shipped to southern states; in 1971, 93 percent went to these states.

Although it is rising, production of both softwood and hardwood lumber was less at the end of the 1960s than in the late 1940s. This output was produced, however, with a much smaller labor input. Census data indicated a 62 percent decline in employment in sawmills and planning mills. Rising wages and capital-intensive technology drove small mills out of the market and encouraged modernization or replacement of existing plants. Sawmill numbers fell from nearly a thousand after the war to about one hundred today.

Today's lumber industry in Louisiana pays the highest wages of any southern state. Moreover, the quality of employment in terms of safety, stability, and fringe benefits is far better than it was in the 1940s.

The Paper Era

Paper was first produced from wood pulp in Louisiana by the Southern Wood Distillate and Fiber Company, at Bogalusa, in 1912. This firm went through several changes of ownership, but by 1923 the future of paper in the state seemed clear. In that year, Mr. W. H. Sullivan of the Great Southern Lumber Company wrote: "We believe that the South is destined to become one of the great papermaking regions of the country."

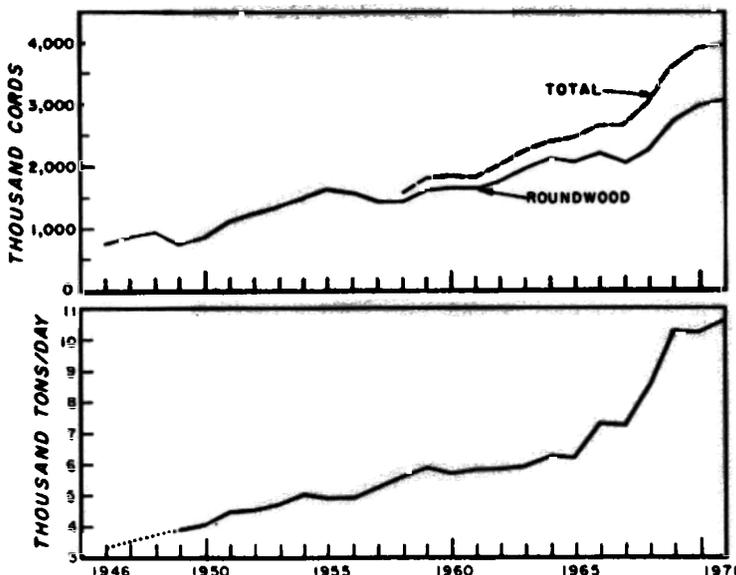
In the 1920s, Louisiana led the South in developing paper production. In 1929, its mills consumed 36 percent of all the pulpwood used in the South, and in 1936, they still consumed 29 percent. In 1946, Louisiana was the site of 20 percent of the South's pulping capacity and 47 percent of Midsouth capacity. Louisiana led the Midsouth in pulping capacity until 1964, when it was overtaken by Alabama. Louisiana's pulping capacity grew steadily from 3,283 tons per day in 1946 to 6,235 tons in 1965, then jumped to 10,595 by 1971. This rapid growth has carried the state from tenth nationally in woodpulp output to third in just ten years. Louisiana now contains about one-ninth of the South's capacity. In 1971, the state's loggers harvested 3.2 million cords of round pulpwood (Figure 3).

The number of mills doubled over the period while capacity tripled, indicating the trend toward larger mills. These larger mills have permitted significant productivity advances—the tripling of pulp capacity was accomplished with only a slight addition to employment. As in many southern states, paper mills pay higher wages than the average for all manufacturing. Louisiana's mills, in fact, pay the highest wages in the southern paper industry.

Two developments in utilization have had profound impacts upon the state's forest industries. In the early 1950s sawmill chipping facilities were first introduced. Their rapid adoption significantly improved the financial status of the lumber industry and relieved pressure on the pulpwood resource. By 1971, 23 percent of the pulpwood input in Louisiana was from residues. Also, changes in pulping technology have permitted increasing utilization of hardwoods. In 1946, Louisiana cut only 21,000 cords of hardwood pulpwood, or 3 percent of its harvest. In 1971, the hardwood harvest was 816,000 cords or about one-fourth of the total roundwood cut.

Softwood Plywood

The forest industry success story of the last decade is the new pine plywood industry. In 1965, three mills produced



**Fig. 3.—
Pulpwood production (above) and pulping capacity (below)
in Louisiana, 1946–1971.**

Data for Figures 2, 3, and 4.^{1/} (This table has been added to the reprint; it does not appear in the original article.)

| Year | Pulpwood production | | Pulping capacity | Softwood plywood MM sq. ft. | Lumber production | |
|------|---------------------|-------|------------------|--------------------------------|-------------------|-------------------|
| | M cords | | | | MM bd. ft. | |
| | Round | Total | | | Softwood | Hardwood |
| 1946 | 787 | ... | 3,283 | ... | 549 | 517 |
| 1947 | 870 | ... | ... | ... | 757 | 512 |
| 1948 | 954 | ... | ... | ... | ... | ... |
| 1949 | 760 | ... | 3,948 | ... | 590 | 329 |
| 1950 | 883 | ... | 4,065 | ... | 536 | 414 |
| 1951 | 1,111 | ... | 4,517 | ... | 448 | 398 |
| 1952 | 1,235 | ... | 4,560 | ... | 446 | 433 |
| 1953 | 1,376 | ... | 4,760 | ... | 333 | 474 |
| 1954 | 1,504 | ... | 5,055 | ... | 395 | 387 |
| 1955 | 1,650 | ... | 4,925 | ... | 362 | 407 |
| 1956 | 1,574 | ... | 4,945 | ... | 358 | 399 |
| 1957 | 1,440 | ... | 5,260 | ... | 396 | 335 |
| 1958 | 1,438 | 1,584 | 5,605 | ... | 406 | 360 |
| 1959 | 1,612 | 1,800 | 5,905 | ... | 430 | 471 |
| 1960 | 1,646 | 1,857 | 5,765 | ... | 377 | 339 |
| 1961 | 1,630 | 1,838 | 5,835 | ... | 394 | 319 |
| 1962 | 1,783 | 2,006 | 5,835 | ... | 420 | 363 |
| 1963 | 1,968 | 2,238 | 5,935 | ... | 472 | 395 |
| 1964 | 2,109 | 2,399 | 6,290 | ... | 481 | 396 |
| 1965 | 2,096 | 2,454 | 6,235 | 88 | 549 | 415 |
| 1966 | 2,200 | 2,675 | 7,340 | 426 | 557 | 402 |
| 1967 | 2,050 | 2,662 | 7,280 | 537 | 523 | 346 |
| 1968 | 2,275 | 3,012 | 8,600 | 769 | 580 | 330 |
| 1969 | 2,720 | 3,596 | 10,295 | 719 | 656 | 330 |
| 1970 | 2,989 | 3,916 | 10,280 | 958 | 492 | 326 |
| 1971 | 3,165 | 3,996 | 10,595 | 940 | 540 ^{2/} | 320 ^{2/} |

^{1/} Sources: Pulpwood cut, pulping capacity, annual pulpwood reports, Southern Forest Experiment Station, Southeastern MSR MS.
Lumber: SFPA tables from Census data.
Plywood: Annual plywood issues, Forest Industries magazine.

^{2/} Author's estimates.

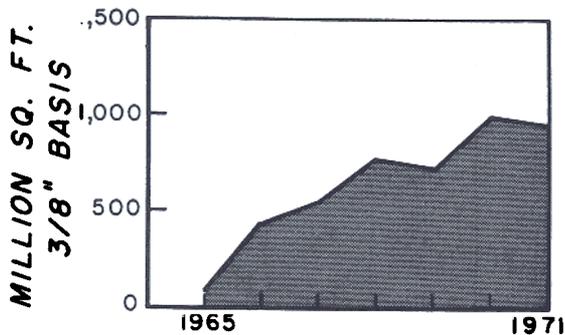
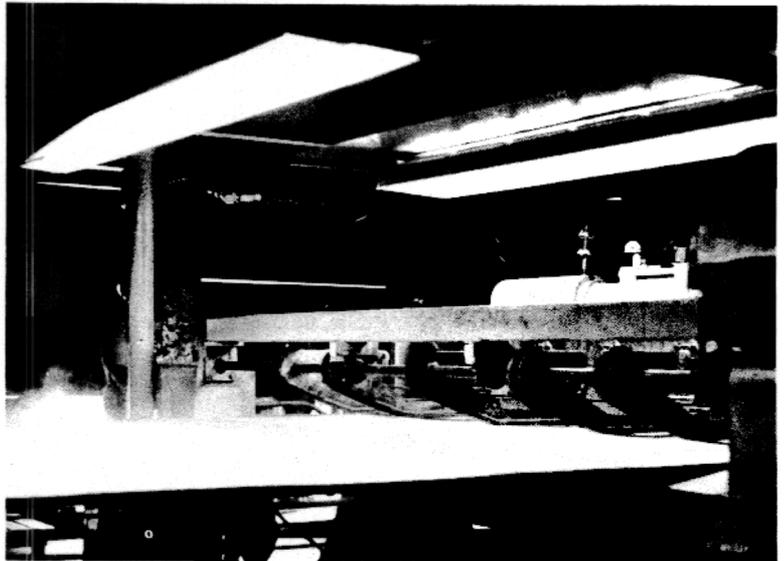


Fig. 4.-
Softwood plywood production in Louisiana since the industry started in 1965.



High speed equipment has helped Louisiana become a leading producer of softwood plywood.

88 million square feet of plywood, primarily sheathing (Figure 4). By 1971, nine plants were operating in Louisiana, out of a total of 51 southern mills. Output totalled 940 million square feet, making the state third in the nation (tied with California), after Oregon and Washington. This production was 6 percent of the nation's total. The rapid growth of pine plywood output in Louisiana was encouraged by the state's reserves of large timber in well-managed industrial holdings. The state also produces more than 110 million square feet of hardwood plywood.

The growing pine plywood industry has made the South virtually self-sufficient in many grades of plywood and provided material for shipment to northern markets. Today, mills are widening their product mix from original sheathing items, to improve dollar realization from their timber. For example, the South is now a major source of widely used BB plyform grades. Recently, the South has provided about 10 percent of the nation's sanded output, but accounted for 36 percent of the sheathing. Economic studies suggest that by 1975 the South could produce 6 billion square feet, or 30 percent of the nation's softwood plywood.

This record of improved productivity, increased output,

and better timber utilization is no accident. It is firmly based on a series of continuing and successful private and public programs. Of major importance is the improved forest resource, which has been strongly upgraded since the 1940's. This improvement, in turn, is based on Louisiana's successful forestry program, which is one of the oldest in the South. Reforestation, fire control, and forest tax reform were pursued in Louisiana at an early date. In addition, the prevalence of large industrial and tree farm holdings has aided the spread of forestry practices.

Improved timber utilization and higher worker incomes have been promoted by rapid technical change. Outstanding developments include sawing and peeling of small timber, utilization of sawmill residues, and pulping of hardwoods. Expanding markets for Louisiana's forest products have encouraged industrialists to make the substantial investments needed to exploit these advances.

What of the future? The nation's demands for timber products seem certain to rise in the years ahead. What will be Louisiana's share? The answer in large measure depends on the extent to which landowners make rewarding investments to expand the supply of timber for industry.

Reprinted from FORESTS & PEOPLE, volume 23, number 1, pages 20-22, 37. First Quarter 1973.