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FORESTS — AN IMPORTANT ASSET OF THE SOUTHWEST

CARL H. MOORE, *Agricultural Economist*
Federal Reserve Bank of Dallas

Early settlers of the southwestern plains soon learned the value of trees as a source of fuel, building material, shade, and protection from the wind and sun. In other areas, where trees had to be cleared from the land before crops could be sown, forests sometimes were considered a nuisance. Today, growing trees on a commercial scale is rapidly becoming an important enterprise on many farms of east Texas, eastern Oklahoma, and parts of Louisiana; in the mountain timbered areas of Arizona and New Mexico, a program of forest conservation has been in operation for half a century.

In the Southwest, 10 percent — about 37,000,000 acres[1] — of the total land area is commercial forest land, i.e., land that is producing or is capable of producing commercial timber. In Louisiana and the eastern portion of Texas, commercial forests cover 56 percent of all land. These figures do not include approximately 30,000,000 acres of mesquite, oak, and cedar brakes in the western portions of Oklahoma and Texas and nearly 29,000,000 acres of pinyon-juniper and more than 4,000,000 acres inaccessible and reserved from cutting in New Mexico and Arizona. While posts, fuel wood, and a limited amount of timber are cut from parts of these regions, their productivity is considered to be so low that they are not classified by the Forest Service as commercial timber areas.

It is of interest that the acreage of commercial forests in the five-state area is only slightly smaller than the 41,000,000 acres of cultivated crops harvested in the Southwest in 1952. In Louisiana, forest lands occupy five times as large an area as do cultivated crops.

Ownership of Commercial Forest Lands

About 82 percent of the commercial forest lands in Arizona and New Mexico is federally owned or managed, with most of the area included in national forests or Indian reservations. There are 13 national forests in these states, comprising a total of 20,495,000 acres. The Carson, Santa Fe, Cibola, Lincoln, Gila, and parts of the Coronado and Apache National Forests are in New Mexico. The Kaibab, Prescott, Coconino, Tonto, Sitgreaves, Crook, and parts of the Apache and Coronado are found in Arizona. Actual logging operations in national forests and other areas supervised by the Forest Service are done by private individuals or firms under a working agreement with the Forest Service.

In Texas, Oklahoma, and Louisiana, 93 percent of the commercial forest land is privately owned, and it is estimated that in east Texas and parts of Louisiana more than half of the commercially valuable timber land is in holdings of less than 3,000 acres. There are six national forests in these three states: the Kisatchie in central Louisiana (538,000 acres); the Ouachita (western portion) in southeastern Oklahoma (176,000 acres); and the Sam Houston (161,500 acres), Davy Crockett (161,500 acres), Angelina (154,200 acres), and Sabine (184,500 acres) in southeast Texas.

Prior to 1934, there were no federally owned lands in Texas, inasmuch as the State retained title to all public lands under the Treaty of Annexation of 1845. In 1934, the Texas Legislature invited the Federal Government to establish national forests in Texas through the purchase of certain lands where forestry conservation measures were needed urgently. Under this program, 1,714,000 acres have been approved for purchase by the Federal Government and are included within the boundaries of four national forests. Only about 661,800 acres have been purchased to date.

COMMERCIAL FOREST LAND, BY OWNERSHIP

(In thousands of acres)

State	Total all ownerships	Federally owned or managed	State, county, and municipal	Private		
				Total	Farm	Industrial and other
Arizona	2,815	2,744	30	41	36	5
Louisiana	16,169	747	265	15,157	2,969	12,188
New Mexico	3,465	2,405	149	911	693	218
Oklahoma	4,308	619	23	3,666	812	2,854
Texas	10,788	696	16	10,076	2,813	7,263

SOURCE: Based on United States Forest Service Reappraisal, 1945

[1] *The United States Forest Service Reappraisal of 1945 provides the most recent data on area and ownership of commercial forests. Figures from the survey are the basis of this report. They were reviewed, however, by forestry officials in the area and are believed to be reasonably current.*

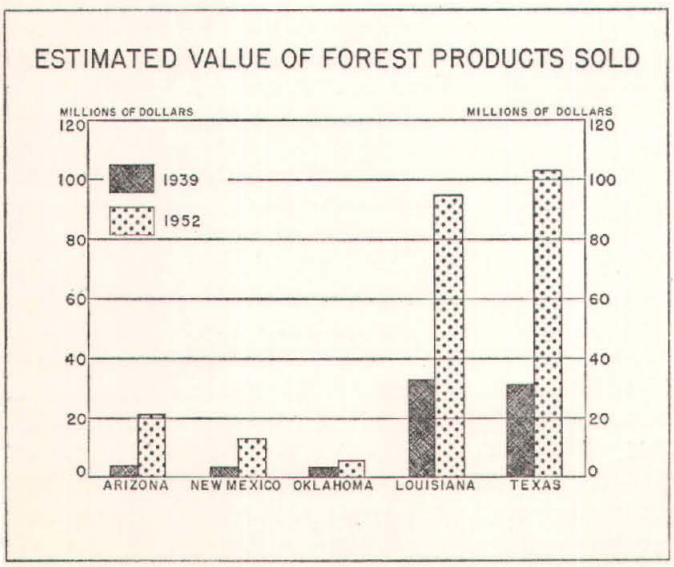
Value of Forest Products

The mill value of forest products sold in 1952 in the Southwest is estimated at $237,000,000 — three times the value of forest products marketed in 1939. During the process of milling, this value is more than doubled, so that the estimated dollar value of milled forest products of the Southwest in 1952 exceeded $500,000,000.

Lumber constitutes the largest single item, accounting for virtually all income from forest products in Arizona and New Mexico and about two-thirds of the total in Texas, Louisiana, and Oklahoma. Sales of pulpwood have become an important item in the latter states during the past decade and in 1952 represented about one-fourth of all sales of forest products in Texas and Louisiana and about one-seventh in Oklahoma. In 1939, pulpwood sales were only about 10 percent of the total in Texas and Louisiana, while no sales were reported in Oklahoma. Other forest products of the Southwest include fuel wood, poles, posts, veneer, cooperage stock for making barrels, and railroad ties.

Income from the sale of forest products in the Southwest represents a relatively small proportion of all agricultural income. For example, the total in 1952 is equal to about 6 percent of cash receipts from farm marketings (excluding forest products sold by farmers and ranchers). However, in Louisiana, where forestry occupies a more prominent position in the economy, sales of forest products were equal to 25 percent of cash receipts from farm marketings. Estimates for east Texas indicate that sales of forest products in that area were only slightly lower than the total sales of field crops, livestock, and livestock products.

The importance of forests to the economy of eastern sections of the Southwest is emphasized further by the potential earning capacity of much of the land if it were properly stocked with trees and managed for a sustained income. A survey by the United States Forest Service shows that of the commercial forest land, 15 percent in Texas, 20 percent in Louisiana, and 26 percent in Oklahoma are poorly stocked or denuded. Efficient utilization of this forest land would add materially to the income of many communities.



The wide variation in geographic location, tree species, and management practices of the forest areas in the Southwest makes it desirable to divide the region into two sections for discussion. The western area includes the mountain timbered lands of Arizona and New Mexico. The eastern forest lands are composed of the timbered areas of the coastal plains and adjoining hill lands of east Texas, eastern Oklahoma, and Louisiana.

Mountain Timbered Areas of Arizona and New Mexico

Virgin stands of ponderosa pine stretch for nearly 300 miles from the Gila wilderness of southwestern New Mexico in a northwesterly direction to the Grand Canyon of the Colorado River in northwestern Arizona. The forests are unbroken for miles in many areas, completely covering the mountain slopes. Other stands of ponderosa pine, spruce, and Douglas-fir are found in many sections of both states.

The total forested area in Arizona and New Mexico amounts to 39,540,000 acres, of which only 6,300,000 acres are classified as "commercial saw-timber forest." There are saw-timber stands on an additional 4,440,000 acres that would be classified as commercial saw timber except for their inaccessibility or location in areas where cutting is restricted. The remaining 28,800,000 acres are noncommercial woodland from which only limited quantities of minor products are cut.

The forests of the area are softwoods, except for fairly extensive stands of quaking aspen which, as yet, has not become commercially important. The aspen of Arizona and New Mexico has been found to produce an excellent quality of excelsior, and three small excelsior mills, cutting about 2,000 cords annually, have been established during the past decade, with production going largely into air cooler pads and packing for fruit and furniture. Two sawmills in northern New Mexico cut aspen timber during 1951 and 1952, the lumber going largely for crating and furniture squares and a small amount into panel stock for interior finish.

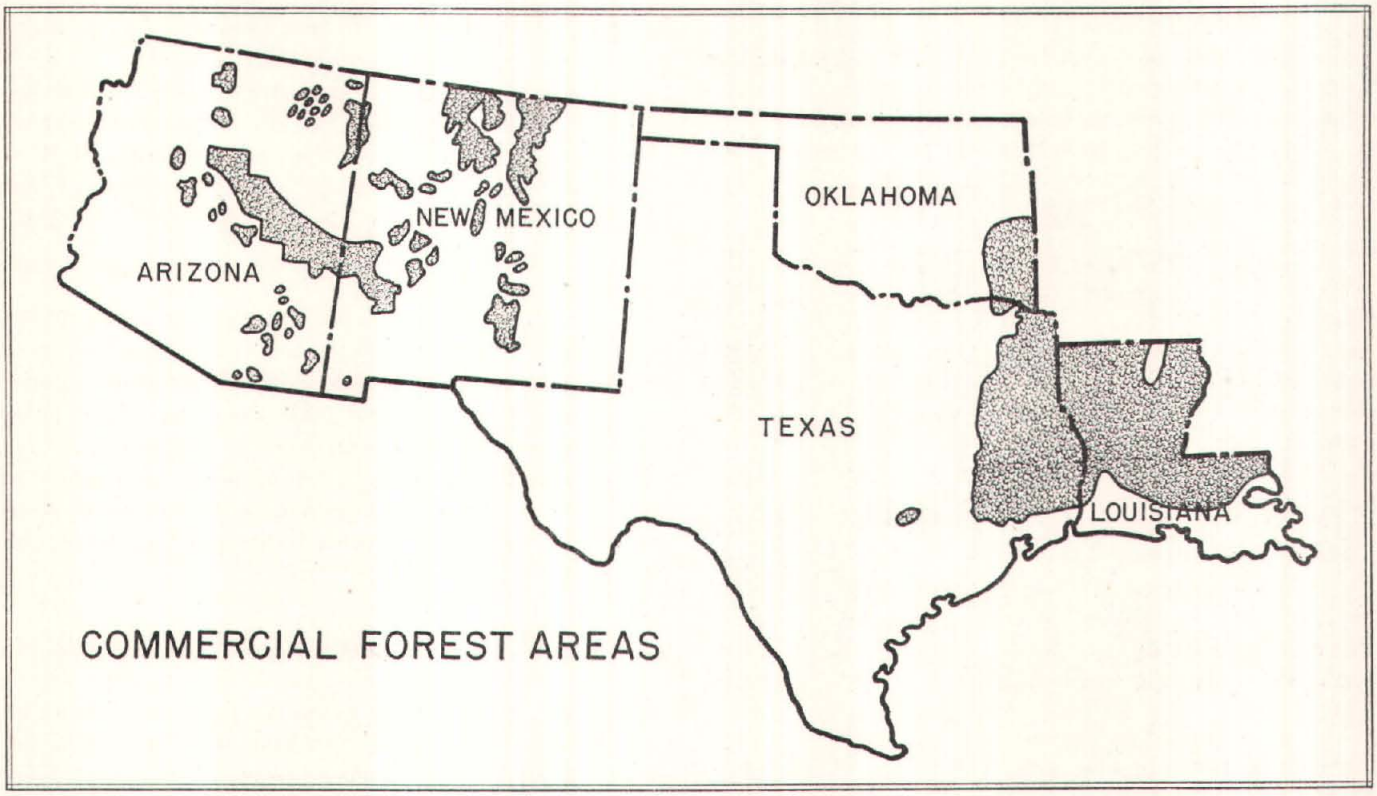
Virtually all of the forest land is in the mountain areas at elevations between 5,000 and 11,500 feet. Rainfall below 5,000 feet is insufficient to support tree growth, and the upper timber line is generally reached at about 11,500 feet.

COMMERCIAL FOREST LAND, BY STAND SIZE

(In thousands of acres)

State	Total	Saw timber	Pole timber	Seedling and sapling	Poorly stocked seedling and sapling or denuded
Arizona.....	2,815	2,735	50	—	30
Louisiana.....	16,169	10,041	1,502	1,400	3,226
New Mexico.....	3,465	2,615	700	—	150
Oklahoma.....	4,308	2,059	830	297	1,122
Texas.....	10,788	7,109	1,149	942	1,588

SOURCE: Based on United States Forest Service Reappraisal, 1945.



The commercial forests, where ponderosa pine, Douglas-fir, and spruce trees grow abundantly, are found at altitudes from 6,500 to 10,000 feet. It is from this region that virtually all of the saw logs are cut. Very little timber is cut above 10,000 feet elevation because slopes are generally too steep and rocky to permit logging to be done economically and the standing timber is more valuable for watershed protection and as soil cover to prevent erosion than it would be if sawed into lumber. The pinyon-juniper, Arizona cypress, and the evergreen-oak-type trees found below altitudes of around 6,500 feet provide fuel wood and posts but are not suitable for commercial timber production.

The best-known forest management practices are used in the commercial timber areas, and cuttings are made with due regard to improving the stand, maintaining the forest in a productive state, and providing the logging operators with a sufficient volume from each area to make an economical operation. Nearly all logging areas in national forests are managed on a sustained yield basis. It has been necessary to make cuts of 35 to 60 percent of the volume from virgin stands to remove overmature and decadent timber and convert the area to a stand of more desirable, younger, fast-growing trees. Regular annual cuttings have been maintained by rotating the harvest between different sections within the harvesting area on a periodic cutting basis.

Nearly 85 percent of the commercial forest land in this region is classified as saw timber. The total volume of saw timber is estimated at about 25 billion board feet. This represents the net volume of the potential saw logs in trees with a diameter at breast height of 12 or more inches. The estimated annual growth added to the saw-timber volume is about 370,000,000 board feet, or about 1½ percent of the total volume. Growth on national forest stands which have been cut over is between 2 and 2½ percent of total volume per year, but in many of the virgin stands where no cuttings have been made, growth is largely offset by loss in old decadent trees. Over the area, cutting is now about equal to the computed sustained yield, but this — at least in the national forests — will increase as the first cutting is completed and the entire stand is placed in a growing condition. In recent years about 370,000,000 board feet have been cut annually.

Timbered Areas of Eastern Oklahoma, East Texas, and Louisiana

The pineywoods and bottomland and mountain hardwoods of eastern Oklahoma, east Texas, and Louisiana represent the western end of the Southern Pine Belt, which extends from Virginia to Texas and produces about 40 percent of the lumber cut in the United States and more than one-half of the Nation's pulpwood. The pines and other softwoods represent about 60 percent of the standing timber in Oklahoma and Texas and about 30 percent in Louisiana. About 18 percent of all southern pine lumber is cut in this three-state region.

Some small areas of virgin longleaf pine are still found in east Texas and Louisiana, but most of the conifers are in faster-growing second-growth stands, with loblolly and shortleaf pines predominating. All of these pines as a group usually are referred to as "southern yellow pine." They are generally found on the sandier, better-drained soils and are familiar to all who have traveled in east Texas or western Louisiana. For the most part, in Texas the pineywoods section is confined to about 36 eastern counties. The only exception is the area of approximately 85,000 acres in Bastrop, Fayette, and Caldwell counties east and southeast of Austin known as "The Lost Pines." This stand is composed almost entirely of loblolly pine and is unusual in that the rainfall in that area is from 10 to 15 inches lower than in any other area where this species is found.

The hardwood trees consist principally of oaks and gums. The better stands usually are found along the bottomlands of streams. The more abundant lesser species include hickory, elm, ash, willow, cypress, hackberry, and cottonwood. In this section of the Southwest the volume of oak timber exceeds that of all other hardwood species by a wide margin.

About 62 percent of the total area of commercial forests is classified as saw-timber size. This classification applies to stands with a net volume of at least 600 board feet per acre in softwood species 9 inches or larger in diameter at breast height and hardwoods 13 inches in diameter. Eleven percent is classified as pole timber — trees 5 to 9 inches in diameter — and 8 percent as seedlings or saplings less than 5 inches in diameter. Nineteen percent, or about 6,000,000 acres, is poorly stocked or denuded. Heavy cutting and lack of attention to restocking or care of forest lands until recent years have left the timber stand of this area with a relatively high percentage of young trees. Practically no virgin stands remain. Much of the land that should have been replanted with pine after the original cutting has grown up to poor-quality hardwoods. In many respects, the forestry of the area is in its infancy, as it has just begun to build permanent forests that will yield a sustained level of production year after year.

There are between 65 and 70 billion board feet of saw timber in this region. About two-thirds is softwood in Oklahoma and Texas, and two-thirds, hardwood in Louisiana. Limited data on the area covering the period 1935 to 1948 suggest that the total volume increased in some areas, such as southeastern Texas and southcentral Louisiana, but declined in other regions, such as northeastern Texas and northwestern Louisiana.

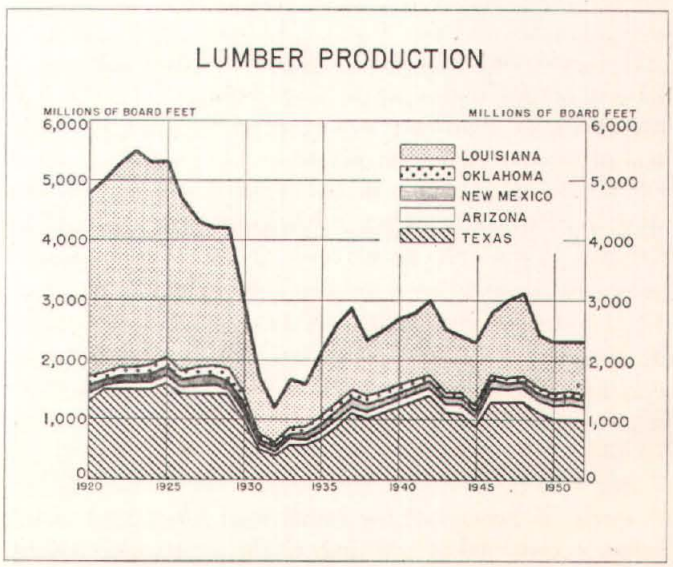
It is estimated that each year about 3.7 billion board feet — equal to about 5½ percent of the saw-timber volume — are added to the stand by new growth. The faster-growing softwoods add about 7 percent to their saw-timber volume, while hardwoods add only about 4 percent. Most estimates of the annual drain, or harvest, of the saw-timber area are about equal to the volume of new growth — 5.5 percent of the saw-timber volume. However, there is considerable variation in this relationship between drain and growth among different species, trees of different size and quality, and from area to area and year to year. General economic conditions, species preference of consumers, quality requirements, and other factors influence the amount and quality of timber products used.

In addition to the 65 to 70 billion board feet of saw timber, it is estimated that there are an additional 10 billion cubic feet in trees smaller than saw-timber size or of inferior quality and in the tops and main branches of saw-timber stands. Much of this represents potential saw-timber volume, if the smaller trees are left to grow. It also is a source of timber for other uses, such as pulpwood, fuel, poles, posts, and ties. A substantial volume is harvested each year for these purposes.

Considering all of the timber uses, estimated annual drain is slightly less than annual new growth. This indicates a more judicial use of our timber resources than was true a few decades ago. However, much can be done to improve further this relationship and to build a reserve of timber resources for future years when the pressure of population and the demands of industry may easily increase our need for lumber and other timber products.

Products of the Forest

Forest products that are used in industry and agriculture include lumber, veneer, pulpwood, poles, posts, railroad ties, and fuel. Lumber is by far the most important in both volume and value. More than half of the total volume of wood cut goes into lumber, and the value of timber used for lumber



accounts for about two-thirds of the total value of all forest products.

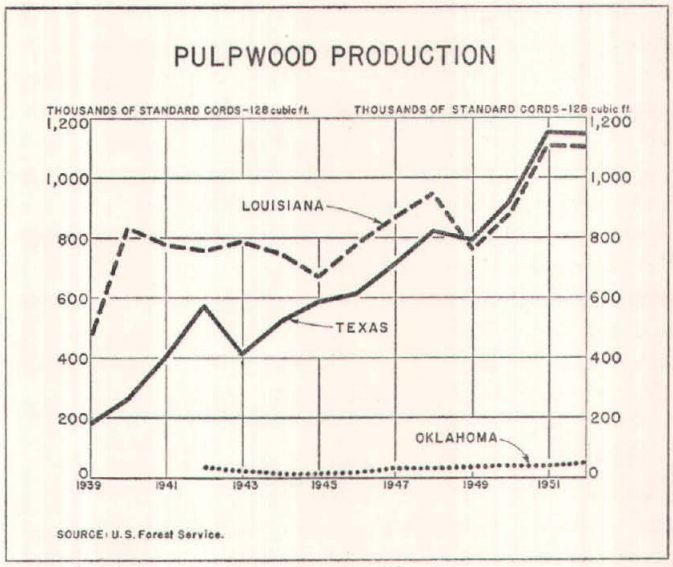
In 1951, about 6 percent of the Nation's lumber was produced in the Southwest, an amount substantially less than the 15 percent contributed by the area in the mid-1920's. The change has been due primarily to a decline in production of lumber in Louisiana. In recent years the Southwest has produced about 18 percent of all southern yellow pine lumber, 24 percent of the willow, and 10 percent of the oak. Although the total volume is relatively small, the area also produces 56 percent of all pecan and 25 percent of the sweetgum logs cut in the United States.

Pulpwood used for making paper, paper products, and rayon is the second most important forest product in the Southwest. It is estimated that from 15 to 18 percent of the total volume of timber cut is used for making wood pulp. In a sense, pulpwood is a by-product of the forest, inasmuch as trees are seldom grown for the specific purpose of producing pulpwood. Thinning of stands and improvement cutting of inferior trees, plus the utilization of tops and branches of saw-log trees, provide virtually all of the pulpwood. Capitalizing upon this use of wood enables the owner of a timber tract to receive some income from his property many years before the stand is large enough for saw-log operations.

The fast-growing southern pine trees, such as the loblolly and slash, can be cut for pulpwood about 15 years after planting. On the other hand, spruce, grown in the northern areas of the United States and Canada and formerly the primary source of pulpwood, requires 50 to 60 years to reach the same size.

The use of pulpwood has increased rapidly in recent years, with an exceptionally sharp increase occurring in east Texas during the past decade. The three states of Texas, Louisiana, and Oklahoma produced more than 9 percent of the total United States output in 1951, compared with 6 percent in 1939. The 12 southern states in which most of the southern pine is grown produced 56 percent in 1951 and 46 percent in 1939. In 1951, Texas ranked eighth in the South and eleventh in the Nation in pulpwood production. Montgomery County, Texas, with 84,726 cords cut in 1951, ranked eleventh in pulpwood production in the South.

Much of the rapid increase in pulpwood production in Texas stems from the development of techniques permitting the production of newsprint from southern pine. The pine trees of the South have been used for many years in the manufacture of kraft pulp — the kind used for container board, wrapping paper, bags, magazine papers, and specialties — but it was not until 1939 that southern pine was used commercially for the manufacture of newsprint. In the spring of that year the first pulp mill for commercial manufacture of newsprint using southern pine was opened in Lufkin, Texas. A great deal of research had gone into the development of the processing methods, and southwestern newspaper publishers had agreed to purchase each year at least 30,000 tons of newsprint made from southern pine. This assured a market, and production was begun in May 1939.



Since that date the original mill has increased its capacity several times, and it now produces about 500 tons of pulp daily. A second mill has been built at Pasadena, Texas, which manufactures high-grade paper for use in magazines. Total capacity of these two plants is now approximately 1,000 tons of pulp daily, compared with 665 tons in 1946.

Recently, it was announced that a third pulp mill will be constructed at Evadale, Texas, in Jasper County. The preliminary announcement of this plant indicates that it will also manufacture high-grade paper for use in magazines.

In Louisiana there are eight pulp mills, located at Shreveport, West Monroe, Elizabeth, New Orleans, Bogalusa, Bastrop, Spring Hill, and Hodge. The total capacity of these plants is about 4,500 tons of pulp daily, compared with a little over 3,000 tons in 1946. These mills draw pulpwood from Texas, Oklahoma, Arkansas, Mississippi, and Louisiana. About one-third to one-half of the pulpwood cut in Texas is shipped to pulp mills in Louisiana for processing, although Texas mills draw some of their pulpwood from Louisiana.

Fuel wood represented about 20 percent of the volume of wood cut a decade ago, but the almost universal use of natural gas, coal, or oil in industry and the recent expansion in the use of low-pressure gas for rural homes have reduced the demand for wood fuel. Today, wood-burning fireplaces in urban homes and the use of slabs, edgings, and sawdust as fuel in certain lumber mills represent the largest uses of wood for fuel. In 1948, it was estimated that fuel wood represented only 13 percent of the total volume cut in east Texas.

Veneer has become a very important forest product. The development of mechanical equipment to cut thin pieces of wood, plus the improvement in adhesives that enable fabricators to glue several thicknesses of wood together to produce a strong structure, opened up an almost entirely new field of wood products. The process enables the furniture manufacturer to give a desired finish to an item without using solid wood, which is more expensive and adds considerable weight. Veneer-cut woods also are used in the manufacture of boxes, crates, and other containers which must be light in weight and yet strong. In fact, until recent years this "package veneer" was the major use, volumewise, of veneer. However, plywood production is now developing rapidly.

The bonding together of two or more thin layers of wood gives additional strength without increasing weight or volume. In recent years the shortage of certain structural steel items has increased research in the use of laminated wood beams and other structural parts of buildings. In many instances, these products have compared favorably with metals in strength and durability. Moreover, greater utilization of timber can be achieved in making veneer and laminated products, since short logs (usually called bolts) that would not be suitable for lumber production can be utilized.

Another forest product that long has been used by industry is cooperage stock, usually cut from oak or some other hardwood and used in the manufacture of barrels. This still represents an important use of timber, although on a much smaller scale than a generation ago. Metal materials have replaced it in many uses.

Crossties for railroads take about 4 percent of the volume of timber harvested in east Texas each year, and it is estimated that in the neighborhood of 4,000,000 ties are cut in that region annually. Other forest products that are important include poles and fence posts. These products usually are treated with chemicals or creosote materials that make them resistant to decay and insects. Such treatment, usually under pressure, frequently triples or quadruples the useful life of the poles or posts. Many farmers have devised homemade equipment for treating their own posts cut from the farm woodlot.

In addition to these uses of forest products, the forested areas also are valuable for recreational purposes and as an important link in a sound water conservation program. The recreational use of woodlands is of particular interest to sportsmen and others who enjoy camping, fishing, hunting, and hiking. The extent of this interest is indicated by the fact that more than 25,000,000 persons annually visit our national forests to use the recreational facilities. Many others make frequent use of state and municipally owned parks.

Conservation of water resources has become increasingly important in the Southwest, and while it is not possible to evaluate accurately the importance of forests in reducing runoff and maintaining the level of underground water reservoirs, it is known that runoff is reduced sharply and percolation of rainfall into underground reservoirs is facilitated by the cover of vegetation and residue provided by forests.

Some Economic Aspects of Forest Production

A substantial portion of the forest products of the Southwest is grown on relatively large tracts owned by paper or lumber mills. Many of these holdings cover thousands of acres, and timber production is virtually the only use made of the land. These firms, for the most part, recognize the value of sound forestry management to provide continuous timber production. Following proved management practices enables them to prolong the productive life of their forest land and, thus, to place their mill operations on a more permanent basis. Some of the important practices recommended by foresters and used by progressive forest managers include fire control, careful selection of trees for cutting, careful logging operations to avoid unnecessary injury to younger trees, and making provision for perpetuating the stand, either through natural reseeding or planting of seedlings.

Similar practices also have proved to be profitable for the small operators of commercial timber tracts and for farmers in managing their woodlots. Timber production requires a minimum of labor and equipment prior to the logging operation and a relatively small investment. It does require the development of a sound plan for the use of forest stands, in order to protect the investment and to insure a reasonable return when the timber is of merchantable size.

The costs involved in establishing and managing a plantation of trees, as well as the returns from timber products sold,

ESTIMATED VALUE PER ACRE OF ALTERNATIVE FOREST PRODUCTS[1]

Years after planting	Average diameter breast high (inches)	Alternative products: Pulpwood	Alternative products: Saw logs	Alternative products: Saw logs and pulpwood
	STUMPAGE VALUE			
15	6.1	$ 22	—	$ 22
20	7.7	24	—	24
25	9.2	24	—	24
30	10.7	24	$ 15	22
35	12.2	23	27	33
40	13.7	23	37	42
45	15.2	22	52	56
50	16.7	21	64	67
55	18.2	20	77	79
60	19.7	101	459	467
65	21.2	44	231	234
Total	—	$348	$962	$1,070
	VALUE OF DELIVERED PRODUCTS			
15	6.1	$ 89	—	$ 89
20	7.7	95	—	95
25	9.2	96	—	96
30	10.7	95	$ 39	68
35	12.2	93	63	87
40	13.7	91	80	99
45	15.2	89	102	118
50	16.7	84	122	134
55	18.2	79	138	146
60	19.7	406	810	844
65	21.2	176	397	409
Total	—	$1,393	$1,751	$2,185

[1] From slash pine plantations; based on 1950 prices.
SOURCE: United States Forest Service.

ESTIMATED ANNUAL RANGE FORAGE YIELD AND GRAZING CAPACITY[1]

Southwest Louisiana

Age of plantation	Green forage (air dry) per acre	Stocking rate per animal unit
(Years)	(Pounds)	(Acres)
1— 5	575	13
6—10	525	14
11—15	125	58
16—20	150	49
21—25	150	49
26—30	160	46
31—35	160	46
36—40	175	42
41—45	175	42
46—50	200	37
51—55	225	32
56—60	275	27
61—65	400	18

[1] For managed slash pine plantations.
SOURCE: United States Forest Service.

vary considerably depending on location, species of trees grown, demand for forest products, and other factors. However, a study in Louisiana by the United States Forest Service shows some of the costs and probable returns on a plantation of slash pine. Results of the study are fairly typical for a large area in the eastern section of the Southwest.

One of the initial costs of establishing a tree plantation, of course, is that of suitable land. Many farmers and other residents now own land as a part of their farms or in separate tracts that would be most profitable if used to grow trees.

Another initial cost is that of the seedlings with which to plant the area. In Louisiana, slash pine seedlings can be purchased from the Louisiana Forestry Commission for about $2.50 per thousand. With a recommended planting rate of about 900 trees per acre, this item costs about $2.25 per acre. The seedlings can be machine-planted, on a custom basis, for about $4.25 per acre giving a total per-acre cost of $6.50, exclusive of land, to establish the plantation. If the area is fenced, there is an additional cost of around $500 per mile of fence constructed.

Management and maintenance costs also vary, but if all of the labor is hired, the Louisiana study indicates the following annual costs per acre, based on 1950 wage rates: taxes, 20 cents; fire protection, 6 cents; management, 10 cents; evaluating and marking the trees to be cut, 15 cents; and fence maintenance, 4 cents. This total of 55 cents per acre per year can be reduced considerably if the owner performs most of the functions himself. Even the tax cost is much less when the homestead exemption, which applies to most farms, can be used.

No sales of forest products from the plantation should be anticipated before the fifteenth year after planting. In some instances, unusually favorable growing conditions will give some pulpwood earlier, but in most plantations the first cutting of pulpwood is made about the fifteenth year. Additional cuttings are made each 5 years thereafter, with the first saw logs usually cut when the trees are about 30 years of age.

Approximately eight cords of pulpwood per acre can be harvested at each cutting. At the 1950 price of $3.00 per cord, stump value, this gives a return of about $24 per acre every 5 years, beginning in the fifteenth year after planting — an amount 1.6 times the original investment, plus accumulated annual maintenance costs but exclusive of land cost or valuation. The first cutting of lumber is quite small, but the volume increases with successive cuttings.

In addition to the value of forest products, the forested land also can be used for grazing. This combination of forestry and grazing is increasing rapidly in parts of east Texas, eastern Oklahoma, and Louisiana. Some of these operations are quite large, with several hundred head of cattle involved and thousands of acres of forest land leased for pasture. Most of them, however, are on a relatively small scale. During the spring and early summer months, usually from March to June, the native grasses provide excellent grazing. At this stage of growth, the forage is abundant and nutritious, with the protein content ranging in the neighborhood of 11 to 13 percent. Cows frequently gain a pound per day, and calves may increase in weight at the rate of 1½ or more pounds per day. The accompanying table indicates the estimated volume of range forage produced annually and the recommended stocking rates. Grazing becomes very poor in the fall and winter months, and cattle should be moved to other areas during this period.

Cattle grazing of pine forests also may be beneficial to timber production. Perhaps the most important benefit is the reduction of fire hazard by keeping the undergrowth of grass and weeds from accumulating. Several rules should be followed, however, if this combination of livestock and forestry is to be profitable. The more important include: no grazing with sheep until trees are at least 4 feet high, no grazing with any livestock during winter and early spring months, no grazing with hogs on young stands of longleaf or slash pine, and no grazing with goats at any time.

Problems

Balancing production with the expanding demand for forest products is a major problem facing forestry today. A growing population, plus a high level of industrial activity and construction, has pushed the demand for forest products higher and higher. Lumber consumption is now at higher levels than at any time since 1925 and is one-third higher than in 1945. Pulpwood consumption has increased 2½ times since 1937 and 27 percent since 1945. These increases have been offset only partially by declines in consumption of cooperage stock, fuel wood, and a few other uses of timber. Moreover, because of different requirements for different uses, a reduction in one item does not always permit an increase in another. The problem of boosting the output of forest products is complicated by the fact that forest production is a slow process, and the investment in land and seedlings will not pay a dividend until the plantation of trees is from 15 to 25 years old.

The total annual drain of timber resources is an elusive figure because of the many small operators harvesting timber products and the difficulty of obtaining comparable measurements of different forest products. In 1945 the United States Forest Service made a rather comprehensive appraisal of the Nation's forest resources and estimated that in 1944 the total drain of saw-timber volume amounted to about 54 billion board feet. In that same year, new growth added to saw timber was estimated at 35 billion board feet. Another indication that national consumption is exceeding production is that the estimated total volume of saw timber in our forests in 1945 was 1.6 trillion board feet, compared with 2.2 trillion in 1922.

It does not follow necessarily that during the next 25 years the inventory of saw timber will decline at this same rate, even if current levels of consumption are maintained. The volume of new growth added each year varies with the age of the tree, weather conditions, and other factors. Moreover, millions of seedling trees have been planted during the past 20 years, and these plantations will become a part of the inventory as they reach saw-timber size.

It is true, however, that there is ample opportunity to increase the productivity of our forests. Millions of acres of valuable timber land are not being managed properly to give maximum output. For example, a study in east Texas in 1945 showed that three-fourths of the owners controlling more than half of the total acreage were not following proper cutting practices to obtain the maximum yield over a period of years. Moreover, there are an estimated 75,000,000 acres of potential forest land in the United States that are now idle or growing up to inferior trees and brush. Only a relatively small per-acre investment would be required to plant many of the acres to trees.

What steps can be taken to bring about more efficient utilization of our forest resources and the potential forest lands? They include (1) control of fires; (2) cutting of established stands to allow continuous growth of high-quality trees; (3) planting productive, adapted species on denuded land or acres with a thin stand of seedlings; and (4) controlling growth of inferior hardwood species in pine areas.

Fire control. Fire control is essential, for fire can destroy the entire stand within a few hours. It is impossible to assure complete fire protection, but certain things can be done which will reduce materially this hazard. If the plantation is in a fire protection area of the United States or state Forest Services, this in itself will be a major step toward fire control. In any event, firebreaks should be provided around the plantation and the necessary tools for fighting fire kept in a convenient location ready for immediate use.

In setting up a fire control program, it should be kept in mind that most forest fires are man-made and can be prevented. Uncontrolled burning of waste areas, camp fires that are not put out, and many other careless or actually incendiary acts of man pose one of the greatest threats to forests. Controlled burning carried out under very restricted weather conditions and with adequate supervision is an accepted forest management practice in the longleaf pine area, but wild fires have no place in the building of more productive woodlands.

Selective cutting. Mature stands of trees should be thinned to remove the larger trees and to open up the stand so that younger trees may grow. By harvesting the mature trees and eliminating the poor-quality trees, the smaller, second-story undergrowth is given access to more light and moisture and will grow much more rapidly. All timbered areas should be inspected periodically — at least every 5 years — and trees that have reached maximum growth or that are retarding the development of the stand should be removed. As young plantations become thickened by growth, cuttings to thin the stand should be made.

Planting seedlings. Older forest areas are sometimes restocked naturally by seed from the mature trees. However, in many logging operations of the past, all trees were removed from an area and no "seed trees" remained to reseed the area. In such cases, it is advisable to purchase seedlings of the desired species from a nursery and replant the area. Slash and loblolly pine are recommended species in the eastern area of the Southwest. Mechanical planters have been developed that can be attached to a tractor and make the task of setting out seedlings relatively easy and quick.

Control of Hardwoods. The first step in establishing a profitable stand of trees in a large part of the Southwest is the control or removal of inferior hardwood species — mostly oaks. When the original stand of pine was cut and no provision made for re-establishing pines, the area usually grew up to hardwoods. Where these species dominate, they must be removed before a profitable stand of pine can be grown. Once the pine plantation is well established, it will keep the hardwoods under control.

An appreciation of the value of trees as a crop by the majority of landowners in the Southwest would go a long way toward increasing the efficiency and productivity of our forest lands. The United States Forest Service, the state forest associations, and the state Forest Services have made considerable progress in this direction, and it is encouraging to see many new plantations of desirable tree species in the east Texas, eastern Oklahoma, and Louisiana areas. However, much more can be done.

Timber resources are a valuable and ever-renewable asset of the Southwest and, if properly managed, can be made even more productive and profitable. They form the basis for a substantial and growing wood-using industry in the Southwest, and if proper attention is given to output from our forest lands, this industry will continue to grow and prosper.

REVIEW OF BUSINESS, AGRICULTURAL, AND FINANCIAL CONDITIONS

Retail sales at reporting department stores in the Eleventh Federal Reserve District during the 2 weeks ended January 10 were 9 percent above the same period in 1952 but declined sharply the following week. Sales in December were 11 percent above a year earlier and the highest for any month on record.

Accounts receivable at district department stores at the end of December were 15 percent higher than a year earlier; instalment accounts and charge accounts represented 36 percent and 64 percent, respectively, of total accounts outstanding. Department store stocks at the end of December were up 5 percent from the same date in 1951.

Conditions in the District during the first half of January generally were favorable for agriculture, although there is still need for more moisture in many parts of the area. Winter crops are making only fair progress; development of the wheat crop in the Texas Panhandle has been retarded by low temperatures and lack of moisture. Preparations for planting of crops in the spring have been making good progress over most of the District. Farm commodity prices average about 20 percent below a year ago.

Activity in the oil industry in the District in December and early January was above a year earlier. Crude oil production in the District during December averaged 224,000 barrels per day above the December 1951 rate of output. Crude runs to refinery stills also showed a marked gain. Year-end crude oil stocks in the District were 7 percent above a year earlier. Seasonal declines occurred during December and early January in district stocks of major refined petroleum products, except gasoline. Marketed production of natural gas in the District in the third quarter of 1952 was 8 percent higher than in the corresponding period of 1951.

Nonfarm employment in the District reached a record high in late 1952, although seasonal declines occurred in January. Manufacturing employment, also running at record levels, is continuing to expand, as seasonal layoffs in some lines are more than offset by the opening of new manufacturing plants.

Construction activity in the District continues to expand. The value of construction contracts awarded in December was up sharply from November and was the highest for any month on record. Nonresidential awards accounted for the increase over November. Construction contracts awarded in the District in 1952 were valued at 10 percent more than in 1951, with residential and nonresidential awards gaining 1 percent and 17 percent, respectively. All of the gain in 1952 came in the fourth quarter.

Between December 17, 1952, and January 21, 1953, commercial, industrial, and agricultural loans at weekly reporting member banks in the District rose somewhat less than 1 percent. During the same period, investments of these banks declined about 2 percent. Deposits rose 1.7 percent, with about two-thirds of the increase occurring in demand deposits of individuals, partnerships, and corporations. Time deposits also rose. During December 1952, gross demand deposits of all member banks in the District averaged about 1 percent above November and 5 percent over December 1951; time deposits showed a year-to-year gain of 11 percent. Debits to deposit accounts reported by banks in the larger cities of the District in December were 9 percent above a year earlier.

Total retail sales at reporting department stores in the Eleventh District during the 2 weeks ended January 10 were approximately 9 percent ahead of the comparable period in 1952. During the following week, however, sales dropped off sharply, largely as a result of cold weather over the District, and the year-to-year gain for the 3 weeks ended January 17 was reduced to 4 percent.

The month of December, with its 11-percent gain over December 1951, established a new record for sales at department stores in the District for a single month. Final figures for 1952 show sales during the year 6 percent above the previous record in 1951; department store sales in the Nation during 1952 are estimated at 1 percent above the previous year.

In this District, sales during the first quarter of 1952 lagged 4 percent behind 1951. The upturn occurred in April, with the exceptionally heavy Easter trade, and was followed by a sharp rise in May, due in part to the suspension of credit controls on May 7.

RETAIL TRADE STATISTICS

(Percentage change)

Line of trade by area	NET SALES			STOCKS[1]	
	Dec. 1952 from		12 mo. 1952 comp. with 12 mo. 1951	Dec. 1952 from	
	Dec. 1951	Nov. 1952		Dec. 1951	Nov. 1952
DEPARTMENT STORES					
Total Eleventh District	11	61	6	5	—18
Corpus Christi	22	62	23	29	—24
Dallas	12	61	4	2	—18
El Paso	15	57	9	8	—14
Fort Worth	7	73	3	10	—21
Houston	14	66	10	4	—17
San Antonio	11	54	6	8	—15
Shreveport, La.	14	56	10	8	—26
Waco	4	48	12	2	—20
Other cities	—#	56	—1	#	—16
FURNITURE STORES					
Total Eleventh District	8	43	—	—7	—7
Austin	36	46	—	5	—6
Dallas	4	25	—	—4	8
Houston	17	68	—	—	—
Port Arthur	—3	13	—	—18	—3
San Antonio	4	53	—	—	—
Shreveport, La.	5	48	—	—9	—13
Wichita Falls	22	14	—	—	—
HOUSEHOLD APPLIANCE STORES					
Total Eleventh District	34	40	—	—	—
Dallas	26	38	—	—	—

[1] Stocks at end of month.
# Indicates change of less than one-half of 1 percent.

The stimulative effect of the removal of credit restrictions was observed in the immediate increase in the volume of instalment buying, which accounted for the greater portion of the year-to-year net gain in total sales from May through the summer months. From late August through the remainder of the year, in the face of heavy seasonal demand for wearing apparel and other regular fall and winter goods, instalment buying diminished in dollar volume and in relative importance to total sales.

Despite spectacular percentage gains during the year in the sales of some of the major appliances and other durable items, wearing apparel and other soft goods lines accounted for 83 percent of total annual sales and 77 percent of the net gain over 1951.

INDEXES OF DEPARTMENT STORE SALES AND STOCKS

(1947-49 = 100)

Area	UNADJUSTED				ADJUSTED[1]			
	Dec. 1952	Nov. 1952	Oct. 1952	Dec. 1951	Dec. 1952	Nov. 1952	Oct. 1952	Dec. 1951
SALES—Daily average								
Eleventh District	215	145r	134	202r	130	129	128	122
Dallas	206	138r	133	192r	127	119r	124	118r
Houston	248	162	149	226	148	145	150	135
STOCKS—End of month								
Eleventh District	120p	146r	141	114r	131p	130	129	124r

[1] Adjusted for seasonal variation.
r—Revised.
p—Preliminary.

Accounts receivable at the end of December were 15 percent greater than a year earlier. Instalment accounts represented 36 percent of total outstandings — the remainder, 64 percent, was on the basis of regular charge accounts. The collection period on instalment accounts in December averaged about 14½ months, compared with 10 months during December 1951. Charge accounts showed an average collection period of about 63 days, compared with 65 days a year earlier.

Inventories during 1952 reflected a uniformly conservative buying policy. During the first quarter of the year monthly inventories were lower than in 1951. Following the upturn in retail sales in April, department stores increased their stocks on order, and a month-to-month build-up of inventories began during July. By the end of October, stocks on hand had risen 3 percent above a year earlier; by the end of the year they were 5 percent greater than at the end of 1951, reflecting about the same proportionate increase as occurred in sales. The ratio of stocks at the beginning of December 1952 to sales during the month was 1.69, or not significantly different from the corresponding month in 1951.

Furniture store trade in this District showed a moderate decline in the first month of 1952 but recovered in February, and monthly sales for the remainder of the year held substantially above year-earlier figures. The year 1952 showed a gain of 11 percent. Inventories, despite the higher sales volume, were kept at a lower level throughout the year and on December 31 were 7 percent smaller than at the end of 1951. The higher level of sales and longer credit terms combined to raise end-of-year accounts receivable 24 percent above the previous year.

The aggregate value of the principal crops produced in 1952 in the five states lying wholly or partly in this District is estimated to be slightly higher than in 1951. The total acreage of harvested crops is virtually the same, but larger crops of rice, sweet potatoes, and wheat, plus slightly higher average prices for corn, sorghums, rice, and a few minor crops, were sufficient to push the total value above a year ago. In Texas the total value of the principal crops produced in 1952, estimated by the Bureau of Agricultural Economics at $1,321,000,000, is 1 percent less than a year ago, largely because of a 3-percent decline in total harvested acreage. Smaller crops of cotton, sorghum grain, and peanuts more than offset increases in small grains and rice.

Conditions during the first half of January were favorable for general field work in most of the District. In eastern sections, warm, open weather dried fields and permitted farmers to begin seedbed preparation for spring-planted crops. Moisture conditions in the District are generally adequate for immediate needs, although more than the usual

WHOLESALE TRADE STATISTICS

Eleventh Federal Reserve District

(Percentage change)

Line of trade	NET SALESp			STOCKS[1]p	
	December 1952 from		12 mo. 1952 comp. with 12 mo. 1951	December 1952 from	
	December 1951	November 1952		December 1951	November 1952
Dry goods	7	—22	—	—15	—16
Grocery (full-line wholesalers not sponsoring groups)	35	—#	—	5	—3
Hardware	17	—21	—2	—3	—9
Industrial supplies	—6	—15	3	—6	—11
Machinery equipment and supplies except electrical	—30	9	—	20	—2
Metals	30	37	—	4	—#
Tobacco products	16	11	5	—2	—1
Wines and liquors	5	8	—	—12	5
Wiring supplies, construction materials distributors	10	—5	—	14	—10

[1] Stocks at end of month.
p—Preliminary.
#—Indicates change of less than one-half of 1 percent.
SOURCE: United States Bureau of the Census.

CROP PRODUCTION

Texas and Five Southwestern States

(In thousands of bushels)

Crop	Texas			Five southwestern states[1]		
	Average 1941-50	1951	1952	Average 1941-50	1951	1952
Cotton[2]	3,020	4,074	3,750	4,406	6,372	6,095
Corn	56,861	42,143	41,292	101,839	81,042	65,587
Wheat	60,347	17,946	34,626	136,455	58,206	142,966
Oats	28,263	8,145	20,910	52,904	15,004	32,198
Rice[3]	8,668	13,514	13,662	18,916	25,448	26,304
Sorghum grain	79,096	72,250	48,236	94,930	93,536	55,057
Peanuts[4]	317,066	118,300	80,500	434,851	239,695	132,650
Flaxseed	737	75	1,062	1,357	233	1,150
Pecans	26,418	4,700	34,400	52,906	40,450	46,950
Irish potatoes	4,402	2,204	2,040	9,365	5,005	4,800
Sweet potatoes	4,855	1,365	1,215	14,850	8,890	9,235
Hay, all[5]	1,550	1,456	1,512	4,729	4,648	4,605

[1] Arizona, Louisiana, New Mexico, Oklahoma, and Texas.
[2] In thousands of bales.
[3] In thousands of bags, 100 pounds each.
[4] In thousands of pounds.
[5] In thousands of tons.
SOURCE: United States Department of Agriculture.

amount of winter snow and rains will be required to provide ample moisture reserves for the growing season. Irrigation water continues short in the Lower Rio Grande Valley.

On the Texas High Plains, late-sown wheat was coming up to a stand by mid-January, but growth was brought to a standstill by sharply lower temperatures the week of January 15. Most acreage that is up to a stand in the Low Rolling Plains is developing a good root system, and some additional acreage was planted in January. Small grains in north Texas and northern Louisiana are making satisfactory growth and supplying some grazing.

Preparation for early spring vegetable crops is under way in many sections of the District, with the east Texas tomato growers starting their plants in hotbeds and farmers in parts of north and northeast Texas preparing seedbeds for the early onion crop. Planting of cantaloupes and watermelons in the Lower Rio Grande Valley was under way by mid-January, and considerable acreage was prepared for sweet corn. Growth of winter vegetables was retarded by the sharply lower temperatures around the middle of the month.

Indicated production of commercial winter vegetables in Texas is 30 percent above a year ago and 11 percent higher than the 1949-51 average. This estimate covers winter production of beets, cabbage, cauliflower, lettuce, broccoli, onions, and spinach. Total acreage of these crops is about 19 percent above a year ago, and generally favorable yields are forecast.

Range and pasture conditions in the District improved during the past 2 month in most central and eastern sections, where some green feed is available from small grains, winter legumes, and grass. However, most pastures are still short, as cool nights retarded growth. In western areas there is very little range feed, and supplemental feeding continues on a wide scale.

The January 1 report of range and pasture conditions prepared by the United States Department of Agriculture indicates a sharp improvement during the month of December in the condition of ranges in Oklahoma, a moderate improvement in Texas and Arizona, and a slight decline in New Mexico. Compared with a year ago, Oklahoma ranges are in much better condition, while those in other western parts of the District are generally unchanged. Prospects for early spring grazing are somewhat improved, although additional rains will be needed to assure growth of new feed.

Cattle are wintering in fairly good condition in district states as a result of heavy supplemental feeding and relatively mild and open weather, at least to mid-January. The condition of cattle on January 1 as reported by the Department of Agriculture shows improvement over December 1 and over a year earlier. Sheep are wintering in good condition except in west Texas, where range feed has been short for many months and most breeding flocks are in poor condition. Prospects for feed in the eastern part of the Edwards Plateau have improved, with some new feed now becoming available. However, most of the major sheep-producing areas in the State are continuing heavy supplemental feeding.

LIVESTOCK RECEIPTS

(Number)

Class	FORT WORTH MARKET			SAN ANTONIO MARKET		
	December 1952	December 1951	November 1952	December 1952	December 1951	November 1952
Cattle	59,335	32,411	67,588	19,276	17,926	21,506
Calves	22,734	20,553	25,217	11,060	15,552	15,925
Hogs	83,215	93,073	57,875	3,132	6,632	—
Sheep	45,677	29,631	49,535	[1]10,392	[1]9,556	[1]16,022

[1] Includes goats.

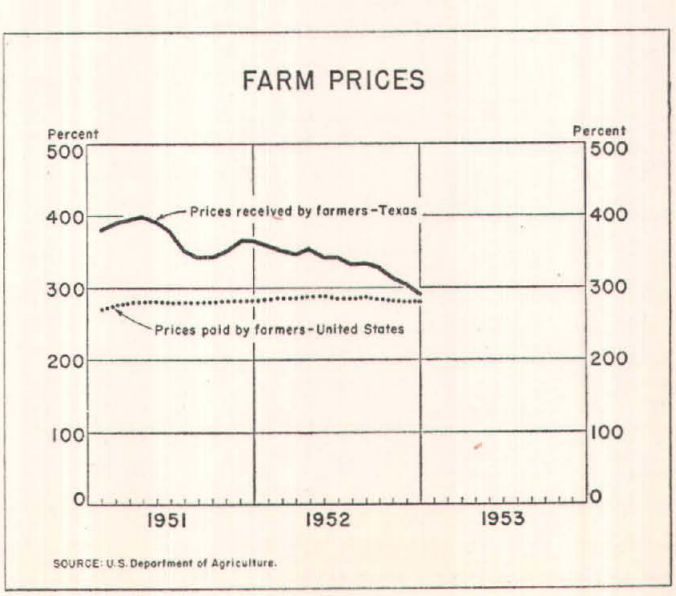
Prices received by farmers for most commodities declined further during December, and the Bureau of Agricultural Economics reported the over-all index of prices received by Texas farmers at 290 percent of the 1910-14 base, reflecting a decline of 4 percent from the previous month. During January, reports from farm commodity markets indicated relatively small price changes, although most grains tended to show considerable weakness. Fed-slaughter cattle prices also declined, while prices of stocker cows and steers strengthened.

Farm commodity prices in the District averaged about 20 percent below the level of a year ago. Livestock have shown the sharpest declines, but wheat, corn, oats, flaxseed, cotton,

FARM COMMODITY PRICES

Top Prices Paid in Local Southwest Markets

Commodity and market	Unit	Week ended Jan. 22, 1953	Comparable week last month	Comparable week last year
COTTON, Middling 15/16-inch, Dallas	lb.	$32.15	$32.20	$41.80
WHEAT, No. 1 hard, Fort Worth	bu.	2.68¼	2.70¼	2.77¼
OATS, No. 2 white, Fort Worth	bu.	1.09¾	1.13¼	1.22
CORN, No. 2 yellow, Fort Worth	bu.	1.88¼	1.89	2.21¼
SORGHUMS, No. 2 yellow milo, Fort Worth	cwt.	3.20	3.43	3.16
HOGS, Choice, Fort Worth	cwt.	20.00	17.50	18.50
SLAUGHTER STEERS, Choice, Fort Worth	cwt.	25.50	28.00	34.00
SLAUGHTER CALVES, Choice, Fort Worth	cwt.	25.00	25.00	33.00
STOCKER STEERS, Choice, Fort Worth	cwt.	23.50	21.00	32.00
SLAUGHTER LAMBS, Choice, Fort Worth	cwt.	22.50	20.00	28.00
HENS, 3-4 pounds, Fort Worth	lb.	.22	.24	.24
FRYERS, Commercial, Fort Worth	lb.	.27	.32	.32
BROILERS, south Texas	lb.	.27	.32	—
TURKEYS, No. 1 hens, Fort Worth	lb.	.35	.37	.35



cottonseed, and citrus fruit also have declined substantially. The average price received by Texas farmers for cotton on December 15, 1952, was 29 cents per pound, compared with 38.4 cents in December 1951. During the same period, beef cattle declined from an average of $23.80 per hundredweight to $15.50.

Between December 17, 1952, and January 21, 1953, total resources, loans, cash assets, and deposits of the weekly reporting member banks in the District rose. Investments of these banks declined. In most cases, these changes in major categories of assets and liabilities during the 5 weeks contrast with those reported during the comparable period ended January 23, 1952.

Commercial, industrial, and agricultural loans rose $6,700,000, or somewhat less than 1 percent. In most weeks, commodity dealers, wholesale and retail trade establishments, construction firms, and transportation companies liquidated substantial amounts of their outstanding bank borrowings. These reductions were more than offset, however, by increases in loans to manufacturers of petroleum and chemical products, sales finance companies, and a miscellaneous group of other borrowers.

Other changes in loans included an increase of $20,912,000 in loans to banks and a reduction of $1,543,000 in loans for financing security transactions. "All other" loans, a category which includes consumer-type loans, rose $9,579,000, or somewhat less than 3 percent. Real estate loans were unchanged. On January 21, loans of these banks amounted to $1,789,478,000, reflecting an increase of $234,069,000, or 15 percent, over the comparable total for 1952.

CONDITION STATISTICS OF WEEKLY REPORTING MEMBER BANKS IN LEADING CITIES

Eleventh Federal Reserve District

(In thousands of dollars)

Item	January 21, 1953	January 23, 1952	December 17, 1952
Total loans (gross) and investments	$3,242,583	$2,927,075	$3,236,255
Total loans—Net[1]	1,770,649	1,539,131	1,735,253
Total loans—Gross	1,789,478	1,555,409	1,753,772
Commercial, industrial, and agricultural loans	1,188,331	1,089,497	1,181,631
Loans to brokers and dealers in securities	10,297	8,914	10,670
Other loans for purchasing or carrying securities	64,948	53,598	66,118
Real estate loans	128,127	114,927	128,069
Loans to banks	32,535	132	11,623
All other loans	365,240	288,341	355,661
Total investments	1,453,105	1,371,666	1,482,483
U. S. Treasury bills	209,688	241,232	240,113
U. S. Treasury certificates of indebtedness	153,029	162,833	148,918
U. S. Treasury notes	211,163	181,272	214,636
U. S. Government bonds (incl. guaranteed obligations)	704,678	617,786	700,974
Other securities	174,547	168,543	177,842
Reserves with Federal Reserve Bank	577,962	574,110	613,259
Balances with domestic banks	455,876	488,638	448,780
Demand deposits—adjusted[2]	2,528,817	2,395,837	2,537,728
Time deposits except Government	490,262	457,196	482,621
United States Government deposits	84,570	51,388	110,136
Interbank demand deposits	938,643	879,501	927,102
Borrowings from Federal Reserve Bank	8,000	3,000	14,800

[1] After deductions for reserves and unallocated charge-offs.
[2] Includes all demand deposits other than interbank and United States Government, less cash items reported as on hand or in process of collection.

During the 5 weeks ended January 21, investments declined $29,378,000, or 2.0 percent, to a total of $1,453,105,000. Sales or redemptions of Treasury bills accounted for slightly more than this over-all reduction. Increases in holdings of Treasury certificates of indebtedness and bonds were approximately offset by reductions in Treasury notes and municipal securities.

Deposits at these banks rose $72,383,000, or 1.7 percent, during the 5 weeks, as compared with a reduction of $52,663,000, or 1.3 percent, during the comparable period ended January 23, 1952. Approximately two-thirds of the increase — $47,989,000 — was reflected in an expansion of demand deposits of individuals, partnerships, and corporations. Increases in deposits of banks and of states and local subdivisions were offset by a contraction of deposits of the United States Government. Time deposits rose $7,641,000, or 1.5 percent, with deposits of individuals and businesses accounting for slightly more than the increase. These deposit changes during the 5 weeks reflect, in part, the effects of a return flow of currency from circulation and net Treasury expenditures in the District.

GROSS DEMAND AND TIME DEPOSITS OF MEMBER BANKS

Eleventh Federal Reserve District

(Averages of daily figures. In thousands of dollars)

Date	COMBINED TOTAL		RESERVE CITY BANKS		COUNTRY BANKS	
	Gross demand	Time	Gross demand	Time	Gross demand	Time
December 1950..	$6,256,210	$646,999	$3,044,765	$397,983	$3,211,445	$249,016
December 1951..	6,753,139	706,327	3,170,047	390,143	3,583,092	316,184
August 1952.....	6,546,078	758,238	3,123,616	414,837	3,422,462	343,401
September 1952.	6,692,788	767,553	3,190,957	421,871	3,501,831	345,682
October 1952...	6,828,512	770,099	3,262,180	420,233	3,566,332	349,866
November 1952..	7,025,207	780,156	3,338,376	421,427	3,686,831	358,729
December 1952..	7,090,304	784,739	3,380,098	422,356	3,710,206	362,383

Gross demand deposits of all member banks in the District averaged $7,090,304,000 during December 1952, reflecting an increase of slightly less than 1 percent during the month and an increase of 5 percent over December 1951. The reserve city banks accounted for 64 percent of the increase in December and for 62 percent of the expansion during the year. Time deposits averaged $784,739,00 in December, a level which is slightly higher than that for November but 11 percent above December 1951. Country banks accounted for approximately 59 percent of the expansion in time deposits during 1952.

Debits to deposit accounts reported by banks in 24 cities of the District rose 17 percent during December 1952, as compared with the total for November 1952. The increased volume of spending which these figures reflect was general over the District and represents in part the influence of seasonal factors. The volume of charges to deposit accounts in December was 9 percent above the total reported for December 1951. The annual rate of turnover of deposits rose from 13.8 in November to 16.0 in December. The latter rate is identical with the rate of turnover for December 1951.

The annual volume of debits during 1952 reported by banks in these 24 centers of the District was 9 percent above the total for 1951, reflecting a somewhat higher level of

BANK DEBITS, END-OF-MONTH DEPOSITS

AND ANNUAL RATE OF TURNOVER OF DEPOSITS

(Amounts in thousands of dollars)

City	DEBITS[1] December 1952	DEBITS[1] Percentage change from Dec. 1951	DEBITS[1] Percentage change from Nov. 1952	DEPOSITS[2] Dec. 31, 1952	DEPOSITS[2] Annual rate of turnover Dec. 1952	DEPOSITS[2] Annual rate of turnover Dec. 1951	DEPOSITS[2] Annual rate of turnover Nov. 1952
ARIZONA							
Tucson	$ 109,287	21	3	$ 117,660	11.3	10.6	11.2
LOUISIANA							
Monroe	53,695	5	8	57,545	11.8	11.5	11.8
Shreveport	213,583	2	18	208,453	12.2	12.4	10.7
NEW MEXICO							
Roswell	29,010	23	11	32,221	10.9	9.6	10.2
TEXAS							
Abilene	58,891	6	8	59,080	12.1	11.9	11.5
Amarillo	145,032	#	8	124,641	14.2	15.2	13.3
Austin	135,666	6	—#	128,981	13.1	13.3	13.2
Beaumont	140,885	5	8	106,655	16.1	16.3	15.0
Corpus Christi	152,799	13	7	121,166	15.1	15.7	14.4
Corsicana	17,349	2	36	23,723	9.0	9.0	6.8
Dallas	1,938,584	12	30	1,148,407	19.3	20.0	15.2
El Paso	246,483	21	20	176,520	17.4	16.9	15.4
Fort Worth	586,293	9	16	432,463	16.6	17.0	14.5
Galveston	83,897	—1	7	103,509	9.7	10.2	9.2
Houston	1,867,786	10	16	1,246,896	18.2	17.8	16.0
Laredo	26,431	20	25	26,561	11.9	11.4	9.6
Lubbock	152,614	—2	—8	126,218	15.2	17.3	18.0
Port Arthur	49,771	6	10	45,101	13.3	12.7	12.4
San Angelo	38,555	—8	6	54,636	8.6	9.1	8.3
San Antonio	405,126	4	15	414,188	11.9	12.1	10.7
Texarkana[3]	20,196	1	3	28,769	8.5	9.7	8.4
Tyler	59,185	—11	19	60,647	12.1	11.6	10.6
Waco	83,802	10	21	98,160	10.3	9.8	8.6
Wichita Falls	96,125	10	9	113,333	10.3	9.8	9.7
Total—24 cities	$6,711,045	9	17	$5,055,533	16.0	16.0	13.8

[1] Debits to deposit accounts except interbank accounts.
[2] Demand and time deposits, including certified and officers' checks outstanding but excluding deposits to the credit of banks.
[3] These figures include only one bank in Texarkana, Texas. Total debits for all banks in Texarkana, Texas-Arkansas, including two banks located in the Eighth District ,amounted to $39,308,000 for the month of December 1952.
# Indicates change of less than one-half of 1 percent.

general spending by individuals, businesses, and others. The annual rate of turnover of deposits, or the annual rate of use of deposit accounts, declined slightly — from 14.8 in 1951 to 14.7 in 1952.

Between December 15, 1952, and January 15, 1953, the principal changes in the condition of the Federal Reserve Bank of Dallas included an increase of $50,562,000 in total earning assets, which was more than accounted for by the expansion of holdings of Government securities, and a reduction of $52,866,000 in total gold certificate reserves. Member bank reserve deposits rose $26,627,000, while discounts for member banks declined $14,970,000. On January 15, Federal Reserve notes of this bank in actual circulation amounted to $734,834,000, reflecting a decrease of $24,265,000 from December 15, 1952, but an increase of $54,794,000 over January 15, 1952.

CONDITION OF THE FEDERAL RESERVE BANK OF DALLAS

(In thousands of dollars)

Item	Jan. 15, 1953	Jan. 15, 1952	Dec. 15, 1952
Total gold certificate reserves	$ 716,674	$ 631,099	$ 769,540
Discounts for member banks	1,030	3,000	16,000
Industrial advances	0	16	0
Foreign loans on gold	945	0	1,691
U. S. Government securities	1,160,352	1,097,752	1,094,074
Total earning assets	1,162,327	1,100,768	1,111,765
Member bank reserve deposits	1,087,501	1,060,473	1,060,874
Federal Reserve notes in actual circulation	734,834	680,040	759,099

Life insurance company investments in four southwestern states — Louisiana, Oklahoma, Texas, and Arkansas — rose rather sharply during 1951, according to data released on January 16 by the Life Insurance Association of America. Investments of a group of life companies which accounts for 88 percent of the assets of all life insurance companies in the country rose $614,355,000, or 11.6 percent, to a total of $5,931,912,000 on January 1, 1952. The net flow of capital funds to the Southwest which these figures reflect was greater than that to any other region of the country, with the exception of the Pacific Coast states. These latter states showed an increase of $698,099,000, or 12.6 percent. During the decade ended January 1, 1952, investments of these companies in the Southwest increased 221 percent, a greater relative growth than that shown by any other region of the country. On January 1, 1952, investments in Arkansas, Louisiana, Oklahoma, and Texas accounted for 11.1 percent of the total investments of these companies in the United States. This proportion compares with 6.7 percent on January 1, 1942.

The Board of Governors of the Federal Reserve System announced on January 15 approval of an increase in the discount rate of eight of the twelve Federal Reserve Banks — New York, Philadelphia, Cleveland, Atlanta, Chicago, St. Louis, Minneapolis, and Kansas City — from 1¾ percent to 2 percent, effective January 16. The Board approved a similar increase in the discount rate of three of the four remaining Reserve banks, effective January 20 for the Federal Reserve Bank of Boston and the Federal Reserve Bank of San Francisco and January 23 for the Federal Reserve Bank of Dallas. The discount rate of these banks had been at a level of 1¾ percent since August 1950, when an increase from a level of 1½ percent was announced.

Budget expenditures of the United States Government during the first half of fiscal 1953 — from July 1, 1952, to December 31, 1952 — amounted to $36,496,977,000, as compared with expenditures of $31,276,342,000 in the first half of fiscal 1952. Net budget receipts (after deduction of appropriation to Federal Old-Age and Survivors Insurance Trust Fund and of refunds of receipts) during the first half of the current fiscal year amounted to $27,203,928,000, or $9,293,049,000 less than expenditures. This deficit in the budget accounts, for the July-December half of the fiscal year, compares with an excess of expenditures of $7,467,242,000 during the comparable 6 months of fiscal 1952.

The President transmitted the budget of the United States Government, for the fiscal year ending June 30, 1954, to Congress on January 9. Budget expenditures for the Government's programs, as recommended by the President, are estimated at $78,587,000,000. Receipts are estimated at $68,665,000,000. On the basis of these spending and receipts totals, the budget deficit for the fiscal year is estimated at $9,922,000,000.

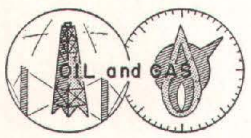
Expenditures by the military services — estimated at $46,296,000,000 — constitute the largest proposed item of spending in the budget and account for 59 percent of total estimated expenditures. Outlays for international security

and foreign relations — $7,861,000,000 — and for interest on the public debt — $6,420,000,000 — account for an additional 18 percent of total proposed spending. On the receipts side, direct taxes (on the basis of present tax laws) on individuals and corporations are expected to supply $34,334,000,000 and $23,300,000,000, respectively. The yield from excise taxes is estimated at $9,869,000,000. On the basis of the budget totals for fiscal 1954 and estimated receipts and expenditures for the remainder of the current fiscal year, the public debt is expected to rise to $273,800,000,000 by June 30, 1954.

NEW MEMBER BANKS

The First National Bank of Strawn and the Strawn National Bank, Strawn, Texas, merged on December 31, 1952, under the name of the First Strawn National Bank, Strawn, Texas. The merged institution has capital stock of $75,000; surplus of $50,000; and undivided profits of $15,000. The officers are J. I. Encke, President; J. A. Ferguson, Vice President; Mac D. King, Vice President and Cashier; Ruth Messimer, Assistant Cashier; and Maggie Cato, Assistant Cashier. The bank is located in the territory served by the Head Office of the Federal Reserve Bank of Dallas.

The American National Bank of Houston, Houston, Texas, a newly organized bank located in the territory served by the Houston Branch of the Federal Reserve Bank of Dallas, opened for business January 24, 1953. The new bank has capital of $200,000, surplus of $100,000, and undivided profits of $50,000. The officers are: Damon Wells, President; Marlin E. Sandlin, Vice President; E. J. Rhodes, Vice President; Harold Harty, Vice President; and G. A. Dahlberg, Cashier.



No significant change occurred in the national supply and demand picture for petroleum during December and the first part of January. While the demand for major refined products was moderately above a year ago, refining activity, crude oil production, and imports also were higher. The seasonal decline in stocks of heating oils was a little less than a year earlier. Stocks of the major refined products and crude oil at the beginning of January continued in ample supply.

Daily average crude oil production in the Eleventh Federal Reserve District during the first half of January was down about 75,000 barrels from the December rate of 3,292,000 barrels. This decline was largely the result of the reduction in the Texas January allowables. Not much change in production is anticipated for February, in view of the small change announced in the Texas allowables for that month. Daily average production in December was 78,000 barrels less than in November but 224,000 barrels higher than in December 1951. Daily average production in the Nation in December, at 6,558,000 barrels, was 75,000 barrels less than in November but 344,000 barrels greater than a year earlier.

CRUDE OIL PRODUCTION

(Barrels)

Area	December 1952		Increase or decrease in daily average production from	
	Total production	Daily avg. production	Dec. 1951	Nov. 1952
ELEVENTH DISTRICT				
Texas R. R. Com. Districts				
1 South Central	1,203,400	38,819	5,938	—438
2 Middle Gulf	5,404,400	174,335	8,056	—4,863
3 Upper Gulf	15,792,600	509,439	23,526	—9,884
4 Lower Gulf	8,462,800	272,994	16,736	—7,562
5 East Central	1,706,800	55,058	2,214	766
6 Northeast	12,480,600	402,600	7,502	8,183
East Texas	8,215,050	265,002	—3,775	8,277
Other fields	4,265,550	137,598	11,277	—94
7b North Central	3,657,850	117,995	33,677	—433
7c West Central	5,440,150	175,489	52,397	—8,483
8 West	30,663,400	989,142	32,358	—57,705
9 North	5,889,400	189,981	31,905	—1,689
10 Panhandle	2,501,650	80,698	—2,841	—60
Total Texas	93,203,050	3,006,550	211,468	—82,168
New Mexico	5,333,300	172,042	24,936	2,580
North Louisiana	3,518,000	113,484	—12,484	1,097
Total Eleventh District	102,054,350	3,292,076	223,920	—78,491
OUTSIDE ELEVENTH DISTRICT	101,234,950	3,265,643	120,414	3,477
UNITED STATES	203,289,300	6,557,719	344,334	—75,014

SOURCE: Estimated from American Petroleum Institute weekly reports.

Refinery activity in both the District and the Nation dipped during the first half of December but recovered strongly in the latter part of the month. Crude runs to refinery stills in the Nation reached a record high of 7,221,000 barrels daily in the week ended January 3. For the month of December as a whole, daily average crude runs to refinery stills in the District amounted to 2,068,000 barrels, reflecting a decline of 59,000 barrels from November but a gain of 124,000 barrels over December 1951. Refinery runs in the Nation in December averaged 6,928,000 barrels per day, also declining from November but higher than a year earlier.

Crude oil stocks in the District rose 4,500,000 barrels during December and at the end of the month stood at 144,000,000 barrels, or 7 percent higher than in the corresponding week of 1951. While crude stocks in the Nation as a whole showed a smaller rise during the month, month-end stocks of 268,300,000 barrels were over 4 percent above a year earlier. Seasonal declines were evident during December and the first part of January in district and national stocks of distillate and residual fuel oil and kerosene, while stocks of gasoline showed a typical increase.

The United States demand for all oils for domestic use and export in 1953 is expected to average 8,000,000 barrels per day, according to a forecast released by the Bureau of Mines. Such a demand would represent an increase of 3.8 percent over that of 1952, as compared with estimated year-to-year increases of 3.4 percent in 1952, 9 percent in 1951, and 11 percent in 1950. Despite the 3.8-percent increase forecast in the total demand for the current year, the demand for domestic crude oil is estimated at only about 1 percent higher than in 1952. Moreover, the forecast demand for domestic crude of 6,329,000 barrels per day is substantially less than the current production level. The relatively smaller increase in the demand for domestic crude as compared with that for the total demand results from the increases expected in oil imports and in domestic production of light oils from natural gas. The Bureau of Mines' forecast shows increases in total imports of oil at 9 percent and in the production of light oils from natural gas at 5 percent. No change is anticipated in the level of stocks.

The daily average volume of imports forecast for 1953 is only a little less than the daily average rate of imports during the fourth quarter of 1952. Imports in October, November, and December were at record levels for those months, averaging more than 1,000,000 barrels per day, or about 30 percent above the same 3 months in 1951. In the week ended January 10, imports reached an all-time high of 1,305,000 barrels daily.

Marketed production of natural gas in the Southwest continued to expand during the third quarter of 1952. Total marketed production in the four gas producing states lying wholly or partly within the Eleventh Federal Reserve District — Louisiana, New Mexico, Oklahoma, and Texas — amounted to 1,495 billion cubic feet. This figure represents a slight contraseasonal increase over the previous quarter and is 8 percent higher than in the third quarter of 1951. New Mexico and Louisiana were the southwestern states experiencing the largest year-to-year increases, gaining 15 percent each, while Texas and Oklahoma reported increases of 7 percent and 4 percent, respectively. These four states accounted for 80 percent of the Nation's marketed production in the third quarter of 1952.

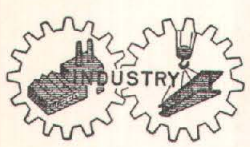
MARKETED PRODUCTION OF NATURAL GAS

(In millions of cubic feet)

Area	Third quarter 1952	Third quarter 1951	Second quarter 1952
Louisiana	279,800	243,700	254,400
New Mexico	83,100	72,200	85,600
Oklahoma	134,100	129,200	163,500
Texas	998,100	935,000	970,900
Total	1,495,100	1,380,100	1,474,400

SOURCE: United States Bureau of Mines.

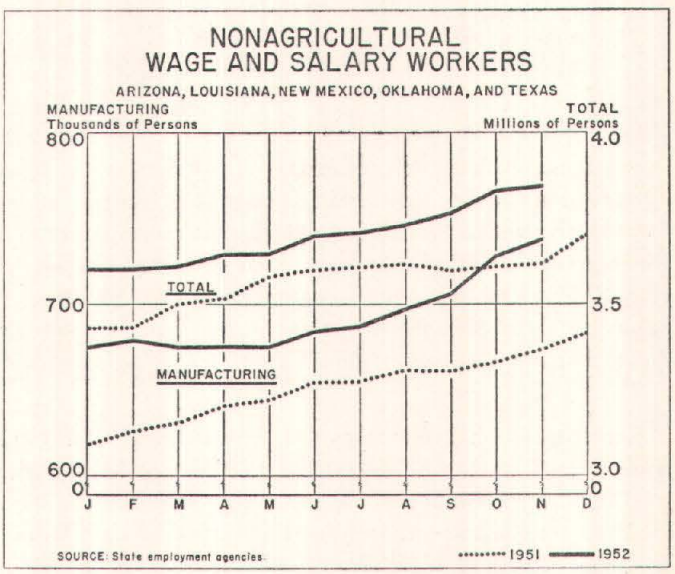
Utility sales to natural gas customers in the Nation in 1952 were 10 percent higher than in 1951, according to data released by the American Gas Association. Sales to industrial customers were almost 12 percent higher. Meanwhile, residential and commercial sales increased about 8 percent and 9 percent, respectively. The relatively mild weather during the usually cold months in 1952 tended to limit the increases in sales to residential and commercial users. There were 16 percent more residential customers at the end of 1952 than a year earlier, and the number of commercial customers was up 14 percent; there were also about 19 percent more industrial customers.



Estimates by the state employment agencies indicate that the total number of nonagricultural wage and salary workers in the five states lying wholly or partly within the District rose to 3,843,000 in November, or about 10,000 above the revised estimate of 3,833,900 for October. The revision in the October estimate, as well as for earlier months, was occasioned by the recent release of Bureau of Census tabulations of construction workers. It is expected that reports for December will show a record 3,852,000 nonagricultural wage and salary workers employed in the five-state area. The January total was off seasonally from December and is estimated unofficially at about 3,830,000 workers, or near the October level.

Manufacturing employment in the states of the District also increased from a revised estimate of 726,500 workers in October to 737,000 in November. It is expected that reports will show a total of 745,000 manufacturing workers in the five states in December. Even though some seasonal layoffs occurred in January, the total number of manufacturing workers continued to increase as new plants were placed in operation.

A recent tabulation by the Texas Employment Commission reveals that it has paid out $7,944,993 in unemployment insurance during 1952, which is 33 percent more than in 1951. Meanwhile, the unemployment trust fund for Texas workers increased to $266,126,000. The interest from this fund, amounting to $5,558,300, accounted for about 70 percent of the money paid out to unemployed workers during 1952.



Announcement has been made of a projected $4,000,000 chemical plant to be constructed near Beaumont, Texas. The plant will produce chemicals for use as feed supple-

NONAGRICULTURAL EMPLOYMENT

Five Southwestern States[1]

Type of employment	Number of persons			Percent change Nov. 1952 from	
	November 1952p	November 1951	October 1952	Nov. 1951	Oct. 1952
Total nonagricultural wage and salary workers	3,843,800	3,705,500	3,833,900	3.7	.3
Manufacturing	737,000	691,600	726,500	6.6	1.4
Nonmanufacturing	3,106,800	3,013,900	3,107,400	3.1	—.01
Mining	228,300	219,900	228,300	3.8	0
Construction	286,300	286,200	292,800	.03	—2.2
Transportation and public utilities	410,600	408,600	410,000	.5	.1
Trade	975,000	942,500	966,700	3.4	.9
Finance	144,200	132,500	144,300	8.8	—.06
Service	441,400	424,600	443,700	4.0	—.5
Government	621,000	599,600	621,600	3.6	—.09

[1] Arizona, Louisiana, New Mexico, Oklahoma, and Texas.
p—Preliminary.
SOURCE: State employment agencies.

ments for poultry and other animals. Construction is scheduled to be completed in 1954, and over 100 workers will be employed. At the same time, it has been announced that the initial shipment of acrylonitrile, a raw material for synthetic fibers, has been made from a new plant at Texas City.

Of particular importance at the moment is the expected start of production of steel pipe in February at the Daingerfield, Texas, plant. This new steel mill is the first of two such mills to be placed in operation at Daingerfield. The combined yearly capacity of the two mills will be 350,000 tons of electric-weld tubing. The entire plant now employs about 1,250 workers and will add 1,650 more when in full operation. The importance of tubular goods to this area is emphasized by recent reports which show that oil and oil products now move through nearly 49,000 miles of common-carrier pipelines in the State of Texas. This mileage compares with an estimated 47,500 miles at the end of 1951.

The value of construction contracts awarded in the District in December totaled $189,147,000, by far the largest for any month on record. All major categories experienced sharp increases as compared with a year earlier, with several large contracts for industrial and other nonresidential construction adding greatly to the total. Nonresidential awards accounted for $153,000,000, which compares with the previous monthly record of $101,000,000 reported in May 1951. Residential awards, on the other hand, were valued at about $36,000,000, which is less than the total for November but still higher than for any previous December.

Construction contracts awarded in the District in 1952 were valued at $1,467,559,000, or 10 percent above the previous record established in 1951; the United States total in 1952 rose 6 percent. Residential awards in the District in 1952, valued at $565,057,000, also were a record high, showing a fractional gain over the previous year. Nonresidential awards for the year reached a total value of $902,502,000, which is 17 percent above the record of 1951. It is particularly significant that total awards for construction in the District through the first 9 months of 1952 ran 4 percent below a year earlier, but the total for the fourth quarter was 84 percent higher than that for the same quarter in 1951.

Reports on construction contracts awarded in Texas in 1952 show that, in terms of value, 32 percent of the awards was for public construction, while the remaining 68 percent was privately financed. Contracts for private construction constituted 65 percent of the total in 1951 and 74 percent in 1950.

Information on residential building in Dallas, supplied by the Dallas Power and Light Company, indicates that in the week ended January 17, 1953, there were 1,726 one-family units (residences, duplexes, and apartment buildings) under construction, compared with 1,518 a year earlier. However, completions during 1952 totaled only 7,935 units as against 9,728 in 1951. Residential building in Dallas in 1952 showed a marked trend toward more construction of single-family residences and less duplexes and apartment units.

Total production of building materials in the United States in most months of 1952 for which data are available was significantly below levels in corresponding months of 1951 and sharply below the peak rate of output in late 1950 and early 1951. Construction costs, on the other hand, have continued to edge upward and in 1952 averaged around 4 to 5 percent higher than in 1951. In the latter part of the year, wholesale prices of paints, lumber, millwork, plywood, plumbing and heating equipment, and fabricated structural metal products were slightly lower than a year earlier, while prices of structural clay products, gypsum products, paper and paperboard, construction machinery and equipment, flat glass, concrete products, asphalt roofing, and construction wages averaged higher.

VALUE OF CONSTRUCTION CONTRACTS AWARDED

(In thousands of dollars)

Area and type	December 1952p	December 1951	November 1952	January—December 1952p	January—December 1951
ELEVENTH DISTRICT	$ 189,147	$ 69,337	$ 101,747	$ 1,467,559	$ 1,330,606
Residential	36,103	23,420	40,413	565,057	562,345
All other	153,044	45,917	61,334	902,502	768,261
UNITED STATES[1]	1,467,384	1,099,509	1,248,803	16,774,936	15,751,131
Residential	438,580	346,104	528,429	6,667,504	6,205,388
All other	1,028,804	753,405	720,374	10,107,432	9,545,743

[1] 37 states east of the Rocky Mountains.
p—Preliminary.
SOURCE: F. W. Dodge Corporation.

BUILDING PERMITS

City	December 1952 Number	December 1952 Valuation	Percentage change in valuation from Dec. 1951	Percentage change in valuation from Nov. 1952	12 months 1952 Number	12 months 1952 Valuation	Percentage change in valuation from 12 months 1951
LOUISIANA							
Shreveport	265	$ 1,356,672	175	73	4,163	$ 19,477,033	24
TEXAS							
Abilene	56	260,989	19	—70	1,344	8,158,707	17
Amarillo	248	1,595,059	4	66	4,546	24,184,331	13
Austin	211	1,626,098	14	7	3,122	27,281,960	—6
Beaumont	71	171,377	—1	—50	2,697	7,482,898	5
Corpus Christi	349	1,476,594	98	6	4,413	21,076,368	16
Dallas	1,237	6,349,864	46	—56	21,037	116,716,303	20
El Paso	270	1,279,031	197	9	3,647	15,493,595	6
Fort Worth	736	3,214,492	100	41	11,000	45,190,885	6
Galveston	48	119,040	—51	—61	1,326	6,442,540	—14
Houston	665	8,300,301	—4	—19	11,413	113,906,805	—13
Lubbock	216	1,160,258	47	—8	3,244	20,157,940	11
Port Arthur	82	623,019	26	203	2,108	4,436,754	—28
San Antonio	1,139	6,193,922	207	125	17,198	46,714,939	5
Waco	159	668,051	—31	20	3,190	13,401,910	—12
Wichita Falls	100	745,600	246	267	1,170	18,687,526	123
Total	5,852	$35,140,367	44	—11	95,618	$508,810,494	5