Series 1930 Number 4

UNITED STATES DEPARTMENT OF AGRICULTURE

Soil Survey
of
Hancock County, Mississippi

By

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Bureau of Chemistry and Soils

In cooperation with the Mississippi Geological Survey

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SOIL SURVEY OF HANCOCK COUNTY, MISSISSIPPI

By CLARENCE LOUNSBURY, in Charge, E. B. DEETER, S. R. BACON, and J. T. MILLER

COUNTY SURVEYED

Hancock County is the westernmost of the three counties of Mississippi which border the Gulf of Mexico (Fig. 1.) Pearl River forms the southwestern boundary, separating the county from the State of Louisiana, and Mississippi Sound forms the southern boundary. Bay St. Louis, the county seat and principal town, is about 53 miles by rail from New Orleans The land area of the county is 479 square miles, or 306,560 acres.

FIGURE 1.—Sketch map showing location of Hancock County, Miss.

The county occupies two main physiographic divisions. The southern and southwestern parts, comprising about 60 per cent of the total area, consist of comparatively low country locally called "flatwoods." North of this, the remainder of the county is higher lying and presents a distinct contrast to the lower flatter country.

The maximum length, north and south, of the flatwoods section is about 18 miles A projection, about 5 miles wide, extends northwesterly along Pearl River into Pearl River County. Toward the east the flatwoods continue into Harrison County. The surface is in general nearly level, in few places becoming more than undulating or very slightly rolling Slightly higher land occurs in places in a narrow strip bordering Pearl River and as irregular scattered low ridges throughout this topographic division The lower areas are nearly level, with a very slight slope, mainly eastward, and drainage water moves slowly, following shallow depressions which are in many places only a few feet below the general level of the surrounding country. In a few places, as in the Devils Swamp locality, stream channels have not developed or are indistinct, and the water moves in sheet form to points where the gradient becomes sufficient to cause channel cutting. All this lower-lying land has a high water table, and poor drainage prevails to greater or less extent. The extreme southern part of the county is marshy and is subject to inundations by tides.

The uplands, occupying the northern part of the county, are typical of the more rolling country of the coastal plain. They are, geologically, an older region in which the streams have dissected the surface more thoroughly and cut deeper valleys, although much of the original plainlike form is preserved in the flatter interstream ridges and divides. Most of the ridges are comparatively narrow, or, where wider, are broken by small drainage ways leading to the main streams. This condition exists in the northwestern part of the county where drainage is carried by Catahoula Creek, Hickory Creek, Bayou Bacon,

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and other streams. Here the main streams have a trellislike arrangement, though some of the smaller drainage ways are of a more dendritic form. Toward the eastern upland part of the county the drainage arrangement is more variable but conforms to the dendritic type. Slopes leading to stream courses are for the most part gradual, though in a few places bordering some of the larger streams are narrow strips of blufflike character. The drainage ways have penetrated the more elevated areas so that excess waters escape readily. At the heads of some of the branches and along some of the slopes, drainage is somewhat deficient. The land along nearly all the smaller streams is very poorly drained as also are the upland borders of the wider stream bottoms Such land is generally saturated, except during the drier seasons of the year.

The elevation decreases from north to south, but probably in no part of the county does it greatly exceed 200 feet above sea level. At the point where the road to Poplarville crosses the Pearl River County line, the elevation is nearly 190 feet; at the road fork about 1½ miles south of Necaise, 170 feet; just south of the bridge crossing White Cypress Creek, about 93 feet; just south of the bridge crossing Bayou Bacon, about 68 feet; at Kiln, at the half-section corner on the line between sections 29 and 30, about 30½ feet; and at the bridge crossing over Rotten Bayou on the Gulfport road, about 19 feet. The elevation at the crossroads about 2 miles east of Caesar on the Caesar and Picayune road, is nearly 169 feet; on the road just south of the fork leading to Picayune, about 135 feet; near the bridge crossing Hickory Creek, about 64 feet, near the bridge crossing Orphan Creek, nearly 31 feet; near the main road leading from the Old Spanish Trail to Logtown, about 21 feet; at the railway station at Bay St Louis, 26 feet; at Waveland, 15 feet; at Lakeshore, about 12 feet; and at Baldwin Lodge at the Pearl River crossing, about 10 feet.[1]

Hancock County is included within the longleaf pine region of the South. This tree predominated on the upland part of the county, and until a few years ago the original stand remained. Lumbering operations have removed this as well as most of the merchantable timber from all parts of the county, and the greater part is now cut-over land The southern flatwoods region had a more mixed tree growth, consisting of some longleaf pine, slash pine, and shortleaf pine, and cypress and gums grew on the poorly drained flats and along drainage channels. The bottoms of Pearl River are covered with hardwoods, such as sweetgum, bay, birch, ironwood, and holly. Many of the smaller drainage ways, especially in the uplands, are bordered by strips, ranging in width from a few rods to more than one-fourth mile, of dense vegetation consisting of bay, grass, a variety of shrubs, thorny vines, and briers Many of these thickets are difficult to penetrate.

The cut-over land (pl. 1, A), aside from scattered small trees, is covered by a growth of native grasses, largely broom sedge which has an inferior feeding value. Some areas are covered with carpet grass, and in places Bermuda grass and Lespedeza grow.

[1] Elevations on public roads were furnished by E S Drake, surveyor, Bay St Louis, and railroad elevations were furnished by Mr Morris, resident engineer of the Louisville & Nashville Railroad at Bay St Louis

Hancock County was established in 1812,[2] in the territorial period of the State. At that time Jackson County and Hancock County comprised the Gulf section of the State In 1841 a part of Hancock County was taken to form Harrison County, and in 1890 and again in 1918, parts were detached to form parts of Pearl River County. At one time the county seat was located at Gainesville.

A large proportion of the present population, both in the towns and rural sections, is of French extraction, but many of the people are of Scotch, Irish, and English descent. The 1930 Federal census reports the population of the county as 11,415, of which 7,691 are classed as rural. Of the rural population, 3,346 are classed as rural-farm and 4,345 as rural-nonfarm population. The negro population is given as 2,815. Bay St. Louis, the county seat and principal town, had a population of 3,724 in 1930 This place, with Waveland and other adjacent towns and villages, are important as residential and Gulf resort centers. Other towns in the county are Kiln, Pearlington, Logtown, and Gainesville, which were established chiefly as sawmill towns, but as the timber supply is practically exhausted they are declining in importance. Prior to the coming of the railroads, Gainesville was an important river shipping point for cotton and other produce.

The main line of the Louisville & Nashville Railroad leading to New Orleans passes through the southern part of the county. The principal public roads are gravel surfaced and are generally kept in good condition.

Some rural sections are provided with telephone service, and rural mail delivery serves most of the county. Schools, most of which are consolidated, are well maintained, and the pupils are transported in busses

Until recently, lumbering was the leading industry of the county, and many of the residents were employed more or less regularly either at the sawmills or in logging operations. Some hardwood timber is at present being cut from the Pearl River bottoms, but this will be exhausted in a few years. Some pulpwood is being cut and marketed.

A study of the map shows that the eastern part of the county is fairly well settled. Some farming is done in this section though very little is on a self-supporting basis. The better farms are in the western part of the county

Charcoal burning formerly was, and still is, a minor industry. Charcoal formerly was sent to New Orleans and other markets, but most of that now made is used locally. In the marshes and swamps of the southern part of the county, trapping of fur-bearing animals, as muskrat, mink, and raccoon, gives satisfactory returns to a number of people Fishing in Mississippi Sound and in the bays and rivers for various fish, as well as oysters, shrimp, and crabs, is a business followed by many coast residents Turpentining, which was an important industry when the virgin forest remained, is still carried on to some extent on some of the second-growth longleaf and slash pines, and one turpentine plant still renders the gum into turpentine and rosin.

CLIMATE

The climate of Hancock County is like that of much of the Gulf coast region, where the extreme temperatures of both summer and

[2] ROWLAND, D HISTORY OF MISSISSIPPI, THE HEART OF THE SOUTH 2 v , illus Jackson, Miss 1925.

winter are tempered by the moderating effect of the Gulf breezes. This is especially noticeable as compared with the more variable temperatures of places farther north in the State. The sea winds render the summers agreeably cool and pleasant, and, for the same reason, the winters are mild, with only a few cold periods of short duration The equable climate is valued and enjoyed by many northern people who visit this section of the country during the winter

The greater part of the precipitation falls during the winter and spring and the least during the fall, which is favorable for harvesting late crops. Snow is seldom seen

The average length of the frost-free season, as determined from records of the United States Weather Bureau station at Bay St. Louis, is about 278 days, from February 27 to December 1. However, frost has been recorded at this station as early as November 10 and as late as April 4. In the northern part of the county, which is higher and at a greater distance from the coast, the frost-free season averages a few days shorter. The winter climate is favorable for carrying on all the usual farm labor. Some of the hardier vegetables, such as collards, cabbage, and onions, can be grown in most years throughout December and January. The early opening of the spring season gives opportunity for the production of truck crops to follow the earlier shipments from Florida and other subtropical regions. Cover crops and winter pasture crops can easily be established.

Table 1, compiled from records of the Weather Bureau station at Bay St. Louis, gives details of the more important climatic data applicable to Hancock County.

TABLE 1.—*Normal monthly, seasonal, and annual temperature and precipitation at Bay St Louis, Hancock County, Miss*

[Elevation, 28 feet]

Month	Temperature			Precipitation		
	Mean	Absolute maximum	Absolute minimum	Mean	Total amount for the driest year (1924)	Total amount for the wettest year (1900)
	°F	°F	°F.	*Inches*	*Inches*	*Inches*
December	53 2	81	15	5 17	6 27	7 02
January	52.4	82	14	4 81	5 49	8 16
February	54 2	81	2	4 91	5 24	9 86
Winter	53 3	82	2	14 89	17 00	25.04
March	62.0	87	25	5 11	2 92	6 84
April	67 8	89	32	5 53	2 97	10 83
May	74 3	93	41	4 66	4 60	3 71
Spring	68 0	93	25	15 30	10 49	27 38
June	80 4	102	53	4 80	1 44	20 21
July	81 4	101	62	6 48	1 09	10 85
August	81 7	101	62	6 93	3 23	6 42
Summer	81 2	102	53	18 21	5 76	37 48
September	79 2	100	48	5 33	1 12	8 51
October	69 5	97	33	3 76	13	2.35
November	60 4	85	24	2 98	15	71
Fall	69 7	100	24	12 07	1 40	11 57
Year	68 1	102	2	60 47	34 65	101.47

AGRICULTURE

Agriculture in Hancock County has never been very extensively developed Some of the more desirable lands have been under cultivation many years, but at present the land in farms totals only 45,743 acres, of which only 20 per cent is classed as improved land.

The early settlers subsisted in a primitive way, by hunting, fishing, and raising some livestock, chiefly cattle and hogs. The livestock were given the freedom of the forested land, where in the summer they grazed the native grasses, and in winter the canebrakes of the bottom land furnished additional pasturage. Mast was a valued forage for hogs Some of the staple crops, such as corn, cotton, sweetpotatoes, sugarcane, and different vegetables, were grown mostly for home use, with a small surplus for sale Until 20 years ago, the greater part of the county was covered with a thick stand of virgin pine, and now, with the last of the timber recently removed, the agriculture is still not far from the pioneer stage.

Of the field crops, corn leads in acreage, 2,960 acres being reported by the 1930 census for 1929. This showed an increase from 1,316 acres in 1909 The average yield in 1929 was 24.3 bushels an acre.

Cotton has never been an important crop. Only 349 acres, which produced 128 bales in 1929, were reported by the 1930 census, an increase from 13 acres in 1909. At present culture of this crop is discouraged by the ravages of the boll weevil. Yields have ranged from one-third to one-half bale an acre and in 1929 averaged 0.36 bale.

Both potatoes and sweetpotatoes have long been grown for home use, with a small surplus for sale. In 1929, 495 acres were planted to sweetpotatoes yielding 49,340 bushels. The average yield was less than 100 bushels an acre. It is common practice to make settings of sweetpotatoes in April or May, and on many farms they follow some winter cover crop. The Porto Rico variety is commonly grown.

Only 66 acres were devoted to potatoes in 1929, with a total yield of 4,598 bushels. Potatoes are of the early varieties and red-skinned ones are preferred in the local markets The Triumph is a favorite variety Plantings are made as early as the first of March, and the crop usually matures about May 25.

The 1930 census reported 297 acres of vegetables, having a value of $22,581, harvested for sale in 1929. Chief among these are snap beans which are an early planted crop They are picked the latter part of May. Some of the crop is sold to canneries and some is shipped to the larger city markets (Pl. 1, B.)

In 1929, 710 acres of hay crops yielded 995 tons. This acreage included 129 acres of legumes, 59 acres of wild grasses, 168 acres of timothy and clover mixed, 264 acres of clover alone, and 90 acres of other cultivated grasses

Sugarcane is grown by many farmers for making sirup for home use, and whatever surplus is produced is disposed of locally or at near-by markets In 1929, 92 acres produced 18,089 gallons of sirup. Several varieties of sugarcane are grown, but strains of the P. O. J. variety seem to be favored for the quality and yield of sirup.

Most of the work animals are horses. The 1930 census reports 443 horses, valued at $26,750; 185 mules, valued at $15,858; 5,855 cattle, valued at $168,843; 11,173 sheep, valued at $47,716; 1,815 goats, valued at $2,727; 5,121 swine, valued at $39,217; and 19,869

chickens, valued at $15,697 A few turkeys, ducks, and geese are raised on some farms.

The amount expended for fertilizers in 1929 was $23,857 on 367 farms reporting its use, an average of $65 a farm. A little lime is used Practically all the fertilizer is purchased ready mixed and is largely a 4–8–4[3] mixture. Some nitrate of soda is used Commercial fertilizers are used to some extent with most cultivated crops, though there is much difference in the quantities used with different crops Where a crop follows an earlier-planted crop in the same season, little or no fertilizer may be used on the second crop, as the effects of the earlier application are relied on. Comparatively little barnyard manure is available

Twenty per cent of the farms employ hired labor in their operation. On 112 farms reporting labor in 1929, a total of $20,048 was expended for that purpose, or $179 a farm. Most of the laborers are white, and the present wage is about $1.25 a day with board If labor is hired by the month, the wage is about $30

In 1930, there were 563 farms in the county Most of the farms range in size from about 20 to 100 acres; a few are as large as 500 acres; and four farms contain more than 1,000 acres each The average size is 81.2 acres. The average size of farms has not changed greatly in the last two or three decades, but the number has more than doubled since 1920.

Owners operate 86.2 per cent of the farms of the county; tenants, 13.7 per cent; and managers, 0 1 per cent Almost 50 per cent of the rented farms or lands are leased for cash and the remainder on a share basis The usual terms of rental provide that the owner furnishes work animals, plows, and necessary implements, each party shares half the expense of fertilizer and seed, and each receives half the crop.

Many farmhouses are sufficiently commodious and well built to be suited to the regional climate, but others are small, many of them poorly constructed. Most of the outbuildings are rather poor and on many farms are not sufficient to store hay and forage or to properly protect animals and equipment In most places the fences are of wire construction and are maintained in good condition. Work implements are mainly of the lighter types and are usually operated with one horse or mule. In some of the heavier operations 2-animal teams are used, and on a few of the larger farms, tractors

Very little improved farm land is being sold at present. Well-located improved land on the better soils, such as the Norfolk, Ruston, and Orangeburg soils, is considered the most valuable by those familiar with local conditions; cut-over land, such as Norfolk fine sandy loam, is offered at lower prices; and poorly drained land suitable only for pasture or forestry has a very low sale value

Various kinds of livestock have been kept ever since the first settlement of the county and have been depended on as a reliable source of income. At present the livestock includes cattle, sheep, hogs, goats, horses, mules, and poultry Until recently the number of cattle has exceeded the number of sheep, but, according to the 1930 census, sheep now outnumber cattle. Nearly all the cattle, sheep, hogs, and goats graze on the open range. Although a state-wide livestock law exists in Mississippi, it is not being enforced in Hancock

[3] Percentages, respectively, of nitrogen, phosphoric acid, and potash.

County because of the large areas of unfenced undeveloped land. Each livestock owner has his animals marked, and community round-ups are made at convenient times to mark young animals and choose individuals for sale or slaughter

The practice of maintaining livestock on the open range does not promote much care in breeding, feeding, or general attention. Most of the cattle are of mixed indifferent breeding, though a few farmers have introduced purebred sires Some Brahman cattle have been used experimentally, in crosses, with a view to improving the stamina and weight of the native animals. Some of the more careful stockmen keep watch of their cattle at calving time and, when grazing is short or during severe stormy winter periods, assist the weaker animals with supplementary feed and other attention. Comparatively little forage is provided for livestock feeding. Dipping of cattle for elimination of the cattle fever tick has now progressed to the point where it is expected that this county will soon be declared tick free.

The breeding and care of sheep is about the same as for cattle. No particular breed seems to predominate, as no continued or concerted policy has been followed to improve the animals On the range, mortality is rather high, owing to disease, accident, and weakness The sheep are small, and the fleeces are of light weight, averaging not more than 3 or 4 pounds each. About February, the sheep are rounded up, the lambs are marked, and general inspections are made. Shearing is done during May or June, as by that time the fleeces have acquired a maximum weight.

Goats, although less numerous than sheep, are very common. Because they are more hardy than sheep, goats thrive much better but are less desirable from an economic standpoint.

Swine are of mixed breeding, being crosses of old native stock with Duroc-Jersey, Hampshire, Poland China, and other breeds. Some farmers give more attention to hog breeding, and the animals are kept within fences for close observation and feeding. Swine on the range are usually brought to inclosures, to be finished on corn or other concentrated feeds, when they are desired for sale or slaughter.

Both horses and cattle are allowed to clean up the cornfields, utilizing the farm roughage and interplanted crops, such as velvet-beans and cowpeas, or other crops.

Little or no dairying, as such, is followed on farms. Many farmers keep a few milk cows to supply home needs In the vicinity of Bay St. Louis a number of dairies, keeping from 6 to 10 cows, are maintained to supply the local milk trade Many of the dairy cows are well bred and include Jerseys, Guernseys, and a few Holstein-Friesians. The herds are kept in small lots or inclosures, and all feed, both concentrates and roughage, is purchased. Most of these cows do not have any pasture range.

Of the field crops, corn is used in feeding work animals and swine. Livestock on the better farms are fed more or less hay and roughage, such as cowpeas, velvetbeans, Lespedeza, and oat hay. A fairly large surplus of sweetpotatoes, some potatoes (mostly early varieties), snap beans, cabbage, and several other vegetable crops, and cane sirup are produced for sale on some farms, especially in the western part of the county. The production of sale crops, especially those of a quickly perishable character, is limited because of the lack of dependable markets. The uncertain demand for these crops and the low

prices offered have discouraged extensive production. Some shipments of sweetpotatoes, potatoes, and small truck have been made to northern markets when prices have seemed to warrant the venture. Recently, canneries at Biloxi have been taking some of the truck crops, such as snap beans, and some are being marketed and shipped from Picayune.

As the county is just emerging from its recently forested condition, farming interests have not been extensively developed. Another reason for this lack of development has been the large extent of low poorly drained lands unsuited for any present use except grazing and forestry. The agriculture, therefore, has been limited largely to livestock raising which still retains much of its former importance.

Operations on many farms are carried on in a careful manner, but no detailed systems of rotations or the growing of any predominant crop have been adopted. Corn leads in acreage and production. In addition to corn, attention is given largely to sugarcane, sweetpotatoes, potatoes, and a few special crops, such as snap beans, tomatoes, cucumbers, and other truck crops. Some oats are grown and different forage crops, most of which are legumes, such as cowpeas, velvetbeans, soybeans, and Lespedeza. The leguminous crops are recognized as essential in maintaining and improving soil fertility. In addition, the use of commercial fertilizers is considered necessary in obtaining satisfactory returns of most crops.[4]

Land for corn is prepared during the latter part of the winter, as weather conditions allow. Much of the land is flat broken, and tractors are used on a few farms for this purpose Fields are bedded up with turning plows into rows from 3 to 3½ feet apart; fertilizer, generally a 4–8–4 mixture, is distributed in the bed at different rates, usually from 200 to 300 pounds to the acre. In a 5-year test at the South Mississippi Branch Experiment Station at Poplarville, results show that a highly nitrogenous fertilizer used in rather small quantities gives most economical returns.[5] Most of the planting is done between early March and early April, though later plantings are often made. The earlier-planted corn usually gives better yields From three to five cultivations are usually given corn, first with plows and finally with sweeps which turn the soil to the row. Subsequent fertilization with moderate quantities of nitrate of soda are made on many farms at the time of some of the cultivations. The practice of interplanting legumes with the corn is followed by most farmers, using velvetbeans (pl. 2, A), soybeans, or cowpeas Such crops may be planted in the middles at the last cultivation, but may be alternated with the corn in the row Several varieties of corn are grown. Hastings Prolific is a favorite, as much of it produces three or four ears to the stalk and the yield is usually satisfactory. Strains of the Mosby and Davis are other varieties grown. The earlier corn is laid by the latter part of May, and later plantings are laid by about July 1. Corn is grown by many farmers on the same land several years in succession, but the best farmers recognize that some change in crop succession is desirable.

Oats are not grown very extensively but have some value for the forage they furnish, and the crop fits in conveniently as a winter cover crop. Oats are preferably sown the latter part of October, though

[4] CROSBY, M A FARM PRACTICES THAT INCREASE CROP YIELDS IN THE GULF COAST REGION. U S. Dept Agr Farmers' Bul 986, 28 p , illus 1918

[5] PERKINS, W R , ANDERSON, W S , and WELBORNE, W W REPORT OF THE SOUTH MISSISSIPPI BRANCH EXPERIMENT STATION FOR 1928 Miss. Agr Expt Sta. Bul 266, 38 p. 1928.

they may be sown as late as January. They mature about the last of May. Rarely is the grain threshed, but the whole plant is cured as hay and fed in this form.

Although no recognized crop rotations are practiced, certain successions of crops are followed successfully. One successful farmer on Orangeburg fine sandy loam is following early potatoes with late-planted corn, this to be followed with a winter cover crop, probably oats. At present an oat crop which will yield from 25 to 30 bushels an acre follows soybeans planted on the land the previous year. Leguminous crops, such as velvetbeans or cowpeas, are planted with the corn crop With regular applications of commercial fertilizer on the principal crops this farm seems to be in a good state of fertility

Most farmers have (for home use) small orchards or plantings of peaches, pears, plums, and figs, in addition to grapevines. Strawberries are grown on some farms.

Fruit growing has attained some importance. Soils which are at least fairly drained are essential for fruit growing and the more successful orchards are on the Eulonia, Dunbar, Norfolk, or Ruston soils. (Pl 2, B.) Land well cleared and in a fair state of productivity is desirable Satsuma oranges, peaches, and pecans are grown to some extent commercially and plums, pears, figs, and grapes to less extent. In some orchards oranges are grown with pecans and in others with peaches. The pecan, being a slower-maturing tree than the Satsuma orange, is interplanted in many orchards with oranges which are allowed to bear until the pecans come into bearing, after which the orange trees are removed The better orchards are given clean cultivation especially during the early stages of growth. For successful results the use of a complete fertilizer is considered necessary, two or three applications a year being made. Cover crops are regarded as desirable, and with pecans soybeans seem well adapted for the purpose as the crop can be removed or disposed of by the time the nuts have ripened. Among the pecan varieties that thrive successfully here are the Stuart, Van Deman, Moneymaker, and Frotscher. Most of the nuts are sorted into two or three grades and marketed in 50-pound bags.

Satsuma oranges are capable of giving satisfactory results, but the main difficulty in their culture is the likelihood of destructive winter freezes. Some of the more resistant trees can withstand a temperature as low as 15° F., but others are injured at higher temperatures. All the marketable fruit so far produced has found a ready sale.

SOILS AND CROPS

The soils of Hancock County show in their individual characteristics differences which have an important bearing on their productiveness and their agricultural values. All the well-drained soils and most of the poorly drained soils are comparatively light in color; some have fair or good natural drainage and make desirable farming lands; and others lie in low, flat situations, are poorly drained, and therefore have limited possibilities for crop production in their present condition. Nearly all have more or less sandy surface soils which facilitate tillage operations and aid in maintaining good tilth. Some of the higher-lying soils have yellow friable sandy clay subsoils, some have red friable sandy clay subsoils, and others have subsoils of dense tough materials.

The lower southern flatwoods part of the county, which covers more than half the total area, is occupied by soils in which, for the most part, drainage ranges from poor to moderately deficient. This condition is due in large measure to the low flat areas in which the surface-water movement is sluggish and the downward percolation through the soil is prevented by high ground water and in many places by heavy comparatively impervious subsoils A noticeable feature of these poorly drained soils is the abundance of crawfish holes. Some of the low ridges and marginal areas have better drainage and hence are of more promising agricultural value

For convenience in description, the soils of the county may be associated in several groups based on similarity of features. In the well-drained uplands, those soils having yellow and generally friable subsoil materials may be discussed as a Norfolk group. This group includes only the Norfolk and Kalmia soils A second group of well-drained soils having red or red-tinged friable subsoil materials will be considered as the Orangeburg group This group comprises the Orangeburg, Ruston, and Cahaba soils A third group may be recognized as soils having in common stiff more or less plastic subsoils and poor or imperfect drainage. This group includes the Eulonia, Cuthbert, Caddo, Plummer, Leaf, Myatt, and Bibb soils which occur chiefly in the northern part of the county, and the Coxville, Weston, Bladen, Scranton, and Dunbar soils which are largely mapped in the southern, or flatwoods, region. This may be called the Eulonia group. Besides these three groups, a fourth group includes several miscellaneous soils of small extent or of little agricultural value. This group includes the Blanton, Johnston, and Thompson soils, and swamp, muck, tidal marsh, and made land.

In the following pages the soils of Hancock County are described in groups and in detail, and their agricultural adaptabilities are discussed. Their distribution in the county is shown on the accompanying soil map, and their acreage and proportionate extent are given in Table 2.

TABLE 2.—*Acreage and proportionate extent of the soils mapped in Hancock County, Miss*

Type of soil	Acres	Per cent	Type of soil	Acres	Per cent
Norfolk fine sandy loam	61,696	20 1	Myatt very fine sandy loam	9,856	3 2
Norfolk fine sandy loam, flatwoods phase	6,080	2 0	Leaf fine sandy loam	320	1
Norfolk sandy loam	896	3	Bibb very fine sandy loam	4,288	1 4
Norfolk sand	384	1	Bibb silty clay loam	8,256	2 7
Kalmia very fine sandy loam	6,464	2 1	Coxville very fine sandy loam	24,640	8 0
Kalmia loamy fine sand	64	1	Scranton very fine sandy loam	14,208	4 6
Ruston fine sandy loam	15,680	5 1	Scranton fine sandy loam	23,552	7 7
Ruston fine sandy loam, flatwoods phase	320	1	Scranton sandy loam	1,088	4
Orangeburg fine sandy loam	2,624	8	Bladen loam	11,840	3 9
Orangeburg loamy sand	256	1	Weston very fine sandy loam	6,592	2 1
Cahaba loamy fine sand	320	1	Weston silty clay loam	1,920	6
Eulonia fine sandy loam	1,408	5	Blanton fine sand	448	1
Eulonia very fine sandy loam	4,416	1 4	Thompson fine sand	2,240	7
Cuthbert fine sandy loam	6,016	2 0	Johnston loam	384	1
Caddo fine sandy loam	4,544	1 5	Muck	2,048	7
Dunbar very fine sandy loam	13,376	4 4	Tidal marsh	28,224	9 2
Plummer fine sandy loam	26,368	8 6	Swamp	640	2
Plummer fine sandy loam, flatwoods phase	11,392	3 7	Made land	64	1
Plummer very fine sandy loam	3,520	1 1	Pits and gravel pits	128	1
			Total	306,560	

NORFOLK SOILS GROUP

The Norfolk soils group concerns chiefly Norfolk fine sandy loam. This soil occupies much of the undulating or rolling upland area of the county but not all of the watershed ridges, many of which, because of better drainage, are occupied by soils of the Orangeburg group Norfolk fine sandy loam occurs principally on the subordinate divides and in positions extending down to drainage ways or bottom lands, although it is dominant in the interior of the northern part of the county. Occupying some of the low ridges of the southern part of the county and associated in most places with the Dunbar soils, are a few areas of the flatwoods phase of Norfolk fine sandy loam.

Norfolk sandy loam has a small total area and occurs in only a few areas south of Fenton, where it is associated with the related Norfolk fine sandy loam and with the Orangeburg soils.

Norfolk sand is a loose leachy soil occurring on low ridges of small extent, chiefly south of Standard and south of Fenton

The Kalmia soils are similar to the Norfolk soils, but they occur on terraces bordering the larger streams. They are derived from stream-laid materials very similar to those giving rise to the Norfolk soils The principal occurrence of these soils is along the streams of the northern part of the county, where they occupy the higher parts of the bottoms, in most places adjacent to the streams. Some of the areas are subject to overflow during heavy rains Kalmia very fine sandy loam and Kalmia loamy fine sand occur along Jourdan River southwest of Kiln.

The soils of the Norfolk group are good general-purpose soils, though in Hancock County comparatively small areas are improved, especially of the Kalmia soils which are sour, or acid in reaction.

The better soils in this group afford fairly satisfactory locations for plantings of pecans, Satsuma oranges, peaches, pears, and figs. To some extent, as in the vicinity of Kiln and Bay St Louis, many different truck crops are grown on Norfolk fine sandy loam Under good management, snap beans, peas, melons, okra, cucumbers, radishes, onions, cabbage, and strawberries do well on these soils.

Norfolk fine sandy loam.—Norfolk fine sandy loam has a surface soil of grayish-brown or brownish-gray fine sandy loam or loamy fine sand, which in the lower part of the plow soil becomes more yellow and a little more loamy. Below this the subsoil grades from the overlying sandy materials into yellow somewhat firm friable fine sandy clay which, with depth, becomes firmer, and between depths of 3 and 4 feet stains or streaks of brown, gray, or dull red may appear. A few brown iron "pebbles" occur in places on the surface and through the soil material.

A variation of this soil occurs in a few of the flatter locations, in which, at a depth of about 24 inches, the soil material is slightly compact heavy fine sandy clay mottled with grayish yellow, gray, and in places red or yellowish red. Such areas seem to be essentially Pheba fine sandy loam Other variations include gradations toward the Caddo, Cuthbert, or Ruston soils.

Norfolk fine sandy loam is regarded by farmers as of average productiveness It is easily tilled and is adapted to a wide range of crops. The soil does not maintain its tilth quite so readily as some of the other better-developed soils, as Ruston or Orangeburg fine

sandy loams Although it responds well to applications of fertilizers, the benefits to succeeding crops are not so noticeable as in the Ruston and Orangeburg soils.

General-purpose crops are grown for the most part. Corn leads in acreage and with fertilization yields from 18 to 25 bushels an acre Cotton is grown on a few farms but is considered unprofitable because of the ravages of the boll weevil rather than because of any special soil deficiencies. Good results are obtained with sugarcane, sweetpotatoes, potatoes, and peanuts, and such forage crops as peas, velvetbeans, soybeans, and Lespedeza are grown to some extent on the better farms.

Norfolk fine sandy loam, flatwoods phase.—The flatwoods phase of Norfolk fine sandy loam, which occurs in a few places in the southern part of the county, has, in general, characteristics similar to those of the larger bodies of the typical soil. In many places, this soil is developed in situations similar to those occupied by the Dunbar soils. Some areas, as the one at Bay St. Louis, are less loamy than typical, and in a few higher-lying areas the soil approximates loamy fine sand or loamy sand. Land of this phase has a smooth surface and most of it is suited for cultivation. It occurs in small scattered areas which are, for the most part, unimproved.

Norfolk sandy loam.—Norfolk sandy loam is similar to Norfolk fine sandy loam. The texture of the sand is coarser, and consequently the soil is a little less retentive of moisture. In a few areas the yellow sandy clay subsoil lies at a little greater depth from the surface. Most of the sandy loam areas are not improved but are used for pasture

Norfolk sand.—Norfolk sand consists of loose sand to the extent that it is not retentive of moisture It has a gray or yellowish-gray surface soil of slightly loamy sand to about plow depth Below this is brownish-yellow slightly loamy sand which becomes a little more compact at a depth of about 3 feet. The lower part of the layer may contain faint streaks of brownish gray and light brown.

Norfolk sand, being a loose leachy soil, gives very little promise as an agricultural soil, and none of the land is cultivated It is used for its sparse pasture and for the scrubby forest growth which it supports.

Kalmia very fine sandy loam.—The Kalmia soils have some promise for crop production and compare favorably with Norfolk fine sandy loam The generally flat smooth surface facilitates tillage operations, and there is less tendency to surface washing with these soils than with the more rolling Norfolk soils The flat surface, however, hinders free drainage, and for this reason crops may not develop so well, and during wet periods less favorable opportunity is afforded for proper cultivation. In Hancock County these soils are used mainly for pasture range. A small acreage of the land is cultivated

Kalmia very fine sandy loam is the most extensive of the Kalmia soils. The upper soil layers present much the same appearance as the corresponding layers of Norfolk fine sandy loam, though in many places the subsoil is firmer or slightly more compact. In many places the subsoil at a depth ranging from 24 to more than 30 inches has more or less pronounced staining or faint mottling of gray and brownish yellow, and at a greater depth it may be more compact and splotched with reddish yellow or pale red. In some of the higher-

lying areas the friable subsoil material of clean yellow color extends to a depth of 3 or 4 feet before any staining or streaking is noticeable.

Kalmia loamy fine sand.—Kalmia loamy fine sand has a brownish-gray loamy fine sand surface soil which, below a depth ranging from 6 to 10 inches, is underlain by yellow or brownish-yellow friable loamy fine sand. At a greater depth the material assumes a paler color and is in most places less loamy. Evidences of stratification in the lower part of the subsoil are apparent in a few places.

ORANGEBURG SOILS GROUP

The soils of the Orangeburg group have as their dominant characteristics gray sandy surface soils and friable red or red-tinged subsoils. They have good drainage, though the Ruston soils are a little less well drained than the Orangeburg or Cahaba soils. The Ruston and Orangeburg soils occur rather extensively in the northern part of the county. Ruston fine sandy loam has the larger total area and is well distributed in the northwestern, northern, and northeastern parts of the county. The areas occupy positions similar to those occupied by Norfolk fine sandy loam, but in most places the land is a little more elevated and drainage is slightly better.

Orangeburg fine sandy loam is associated with Ruston fine sandy loam and more generally occupies the higher-lying positions marked by some of the principal watershed ridges. This soil is less extensive than the Ruston and occurs in smaller and more isolated bodies. It has the best drainage of any of the more productive soils of the county. The surface is generally smooth and well suited for cultivation, though some of the marginal areas bordering stream courses are a little broken and gullied. The principal area extends from north of Necaise southeast to Sellers School, and smaller bodies occur in the western part of the county east of Caesar and in the vicinity of Leetown School. A few areas occur in other sections of the upland part of the county. A small area of Orangeburg loamy sand is mapped southeast of Fenton.

The Cahaba soils have characteristics similiar to the Ruston soils as regards color and structural features, but they occupy terrace positions along some of the principal streams They have the same relation to the Ruston soils as the Kalmia soils have to the Norfolk soils. The surface, in general, is smooth Small areas of two Cahaba soils are mapped as Cahaba loamy fine sand. Cahaba loamy fine sand occurs in a few places along lower Bayou Bacon and Jourdan River, and Cahaba loamy sand in three bodies on the river bottom southwest of Tigerville. As these soils are of light texture, they are not very retentive of moisture, and because of this and for various economic reasons they are not generally improved

Ruston fine sandy loam.—In its upper layers, Ruston fine sandy loam closely resembles Norfolk fine sandy loam. The plow soil is grayish-brown loamy fine sand, with a browner cast than the corresponding layer of the Norfolk soil, especially in cultivated fields, where some of the underlying red-tinged material has been intermixed. At a depth ranging from 6 to 10 inches is reddish-yellow or yellowish-red friable fine sandy loam This, at a depth ranging from 20 to 24 inches, in most places becomes somewhat less friable and firmer and in many places at and below a depth of about 30 inches is streaked or somewhat mottled with yellow, yellowish red, and dull gray.

Ruston fine sandy loam, flatwoods phase.—A few areas of Ruston fine sandy loam were mapped in the southern flatwoods section of the county. These areas occupy better-drained situations, in association with Dunbar very fine sandy loam and other soils of the region The soil is very similiar to that of typical Ruston fine sandy loam, with perhaps a somewhat finer textured surface soil and heavier, more plastic, deeper, subsoil layers

Orangeburg fine sandy loam.—Orangeburg fine sandy loam may be considered a more pronounced or fully developed soil than Ruston fine sandy loam It has essentially perfect drainage throughout and for a long time has not been influenced by a high ground water level Where cultivated the surface soil is dark-gray or grayish-brown fine sandy loam, and just below ordinary plow depth the color in most places is yellowish brown or brown but becomes tinged with red downward. Below a depth of 15 or 16 inches, the typical material is red friable sandy clay or fine sandy clay At a depth ranging from 4 to 5 feet the material becomes a little more granular, and this condition may prevail downward In places at a depth ranging from 20 to 30 inches streaks or mottles of yellowish red, brownish red, or other shades of red may occur Some small areas contain enough scattered ferruginous pebbles or smooth chert gravel to be noticeable on the surface and in the soil material, but the quantity is nowhere sufficient to interfere with cultivation

This soil is considered by the owners as highly desirable farm land, and in this county probably 50 or 60 per cent of it is improved It warms up well in the spring, and drainage is so good that the land can be cultivated very soon after rains The soil responds well to applications of fertilizer, and the benefits from fertilization are usually apparent in the growth of succeeding crops to a greater extent than of crops on Ruston fine sandy loam and to a much greater extent than of crops on Norfolk fine sandy loam. Most of the general crops of the region, including corn, sweetpotatoes, potatoes, sugarcane, cowpeas, velvetbeans, soybeans, and other forage crops, are grown with profitable yields when care is exercised in planting and cultivation This soil is well adapted to peaches, figs, Satsuma oranges, and other fruits adapted to the climate. Cotton is considered unprofitable under present conditions, and not much is grown.

Corn yields from 18 to 25 bushels an acre on well-prepared Orangeburg fine sandy loam, this being slightly higher than the yield on Ruston fine sandy loam.

Orangeburg loamy sand.—Orangeburg loamy sand differs from the related Orangeburg fine sandy loam in the coarser texture of the sandy material and the greater depth to the red sandy clay This soil has a thin surface layer of dark-gray loamy sand overlying dull-yellow loamy sand which within a depth of a few inches becomes ruddy-yellow loamy sand. At an average depth between 14 and 16 inches is the red friable sandy clay characteristic of the Orangeburg soils The coarser sandy material with its greater depth makes this soil somewhat more droughty than Orangeburg fine sandy loam or similar soils of heavier texture. Most of this soil is unimproved and is used as pasture. It supports some longleaf pine, blackjack oak, pin oak, black oak, and other trees

Cahaba loamy fine sand.—Cahaba loamy fine sand consists of brown or dull-drown loamy fine sandy material to the ordinary plow depth.

Below a depth of 7 or 8 inches is reddish-brown or yellowish-red somewhat heavier loamy fine sand or fine sandy loam which at a depth of 16 or 18 inches becomes a little redder and the sand becomes a little coarser. At a greater depth the soil material is heavier in most places.

A few areas of Cahaba loamy sand are included in mapping with the loamy fine sand. These areas differ from the typical soil in the coarser texture of the sand, especially in the upper soil layers. Most of this included soil is looser and rather more droughty than the typical soil. Some of the loamy fine sand areas, which are more retentive of moisture than typical, are being used with some success in growing the common farm crops.

EULONIA SOILS GROUP

The Eulonia soils group includes soils having heavier soil materials than the soils of either the Norfolk or the Orangeburg group. Some of the soils are rather more compact than heavy, and some difference in their drainage exists The soils of this group are distinctly different in agricultural value from the soils of the Norfolk and Orangeburg groups The heavier soil material and generally poorer drainage make them rather undesirable for cultivation. The better-drained soils of this group are those of the Eulonia, Cuthbert, Caddo, and Dunbar series. Those of poorer drainage occur chiefly in the flatwoods, on stream bottoms and terraces, and may be considered a subgroup These include the Scranton, Coxville, Weston, Bladen, Plummer, Leaf, Myatt, and Bibb soils

Eulonia fine sandy loam, as well as Cuthbert fine sandy loam, occurs almost entirely in the four northern townships of the county. Eulonia fine sandy loam occupies small isolated areas and is nearly everywhere associated with Cuthbert fine sandy loam which is more extensive It also occurs where the uplands abruptly terminate along some of the stream bottoms as in a few areas of this soil along Crane Creek. The larger developments of Cuthbert fine sandy loam are south of Bennett and from 2 to 4 miles west of Necaise. Smaller areas of these two soils are well distributed, but no areas occur along the western side of this part of the county. These soils occur in topographic positions similar to those occupied by the Norfolk soils. Very little of either soil is cultivated Even under cultivation these soils are regarded as inferior to Norfolk fine sandy loam, because of the more or less stiff character of the subsoils and less free drainage.

Caddo fine sandy loam also occurs in association with these soils, but it has a more friable subsoil and its characteristics more nearly resemble those of the Norfolk soil. It has poorer drainage, and for this reason is not well suited to cultivation. It occurs in small isolated areas scattered over the northern part of the county. It occupies depressed or flat situations, in many places around the heads of some of the smaller streams.

Typical Plummer fine sandy loam occurs along many of the small streams, in low positions adjacent to or along the stream bottoms. Some alluvial materials are included in many places where the stream deposits are too small to be shown on the soil map. This soil has such poor drainage that it is unsuited to cultivation.

Leaf fine sandy loam differs from Eulonia fine sandy loam chiefly in its terrace position along streams and in its smoother surface It occurs in only a few places, the principal area being along Wolf River

above the mouth of Crane Creek. Smaller tracts occur in the angle formed by Dead Tiger and Catahoula Creeks. None of the land is cultivated.

Myatt very fine sandy loam has developed under conditions of imperfect drainage, is light in color, and is compact in the subsoil. It occurs on poorly drained low terraces along a number of the streams in the uplands of the county. High water from the streams sometimes overflows some of this soil.

The Bibb soils, including Bibb very fine sandy loam and Bibb silty clay loam, are similar to Myatt very fine sandy loam, but they are more recent stream-deposited soils. They occupy low positions along the streams and are subject to frequent overflow.

Most of the soils of this group, which occur in the southern, or flatwoods, part of the county, occupy low flat land which does not allow free run-off of drainage waters. A few slightly higher ridges and elevated areas have better drainage, and here the soils are better and most of them are fairly well adapted to cultivation which would be suitable in connection with the use of the poorly drained soils in livestock raising. All these soils are more or less sour, or acid in reaction.

The better-drained soils of this group have been recognized as Dunbar very fine sandy loam and Eulonia very fine sandy loam. These soils occupy the more elevated positions and are more or less associated with each other. They occur along the western side of the flatwoods area bordering the river bottom. Here bands of the Eulonia soil occupy positions fronting along the bottom, as a rule, and the Dunbar soil extends back on the more elevated positions. The Dunbar soil, as well as the Eulonia in some places, also occurs in narrow bands bordering many of the drainage ways and in ridge positions in many parts of this division of the county. The Eulonia soil, although occurring similarly, is situated more exclusively in marginal positions and is less extensive. Some small areas of the flatwoods phases of Norfolk fine sandy loam and of Ruston fine sandy loam are included in a few places.

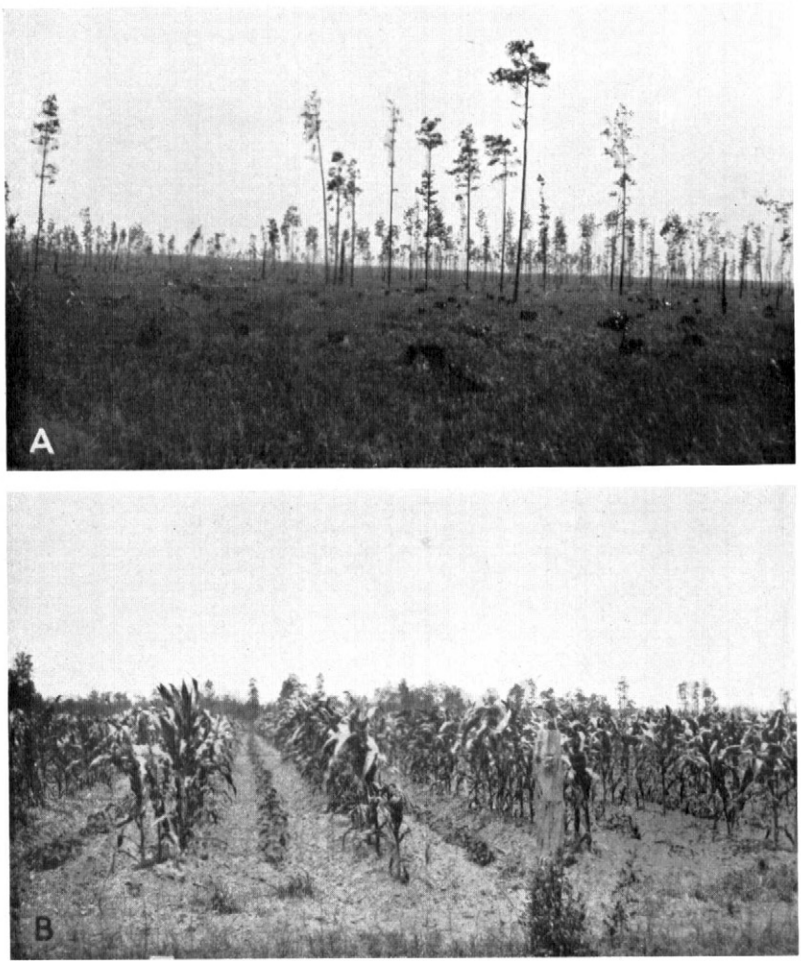
Of the less well drained soils, Coxville very fine sandy loam is regarded as representative. This soil occurs mainly south and west of Jourdan River in some of the flatter positions and in a few other scattered areas.

The Scranton soils, represented by Scranton fine sandy loam, Scranton very fine sandy loam, and Scranton sandy loam, are similar to the Caddo soils but differ in having tough plastic materials in the substratum. These soils are well distributed throughout this soil region and are associated with the Dunbar and Coxville soils.

Bladen loam occupies somewhat lower positions than the above-mentioned soils of this group. It is fairly extensive in the central part of the region drained by Bayou La Croix.

Similar to Bladen loam is the flatwoods phase of Plummer fine sandy loam, which occurs associated with the Scranton, Coxville, and Dunbar soils It is fairly extensive northwest of Devils Swamp between Dead Tiger Creek and Pearl River

The Weston and Bibb soils have a close relationship, the Bibb being derived from true alluvial deposits and the Weston being distributed in broader areas, seemingly composed more of marine material. These soils occupy gum-swamp areas, such as the flatter parts



A, Cut-over longleaf pine land northwest of Kiln B, Snap beans and corn on Orangeburg fine sandy loam near Leetown

A, Corn interplanted with velvetbeans on Ruston fine sandy loam, in northern part of county
B, Clean-cultivated peach orchard on Ruston fine sandy loam Satsuma orange trees in foreground

of Devils Swamp, Lower Devils Swamp, and a few other locations in the flatter part of the county.

These more poorly drained soils have very little value for cultivated crops, but very small areas of the better-drained parts of the Scranton and Coxville soils are used to some extent for a limited range of crops.

Eulonia fine sandy loam.—Eulonia fine sandy loam is characterized by its stiff plastic intractable subsoil. The fine sandy loam surface soil is dark gray, and below a depth of 1 or 2 inches is grayish-yellow or yellow fine sandy loam. This material grades at a depth ranging from 7 to 14 inches into stiff plastic heavy clay of streaked or mottled red, yellow, and gray colors. In most places the color is redder in the upper part of the layer, with lighter-colored variations below. In areas in which the surface sandy material is thin, the soil is very difficult to bring into satisfactory tilth. When broken in a dry condition it produces coarse irregular fragments difficult to pulverize. and when moist the material is still less manageable. The stiff subsoil does not allow free downward movement of moisture or easy root penetration. Small quantities of cherty and ironstone pebbles and some larger rough fragments of ironstone occur on the surface and in the soil in many places. Practically none of this soil is cultivated, but it furnishes pasture and supports a growth of pines.

Eulonia very fine sandy loam.—Eulonia very fine sandy loam occurs in the flatwoods section of the county. Although imperfectly drained, it has better drainage than most of the associated flatwoods soils. It is similar throughout to Eulonia fine sandy loam except in the fine texture of the sand. It occurs in similar locations to the Dunbar soils but has a much heavier more plastic lower subsoil layer. The surface soil is gray or grayish-yellow very fine sand underlain by fairly friable dull-yellow fine sandy clay or very fine sandy clay. Below a depth of about 18 or 20 inches is compact rather plastic mottled red, yellow, and light-gray loamy sandy clay or very fine sandy clay.

Cuthbert fine sandy loam.—Cuthbert fine sandy loam has a somewhat heavy subsoil, approaching that of the Eulonia subsoils, but the soil as a whole is more friable, having some of the characteristics of the Norfolk soils. The surface soil is grayish-brown or light grayish-yellow fine sand which, below the plow depth, overlies yellow fine sandy loam grading below into yellow friable fine sandy clay. At a depth of 16 or 18 inches this material rests on firm mottled red and yellow fine sandy clay which with depth becomes more compact and plastic. Some small areas of Norfolk fine sandy loam on small ridges and borders of slopes are included in mapping.

This soil has more promising agricultural possibilities in that it has better drainage and better tilth can be maintained than on the Eulonia soils, but as a whole it is less desirable than Norfolk fine sandy loam. Very little of the land is improved.

Caddo fine sandy loam.—Caddo fine sandy loam has characteristics less like the Eulonia soils than has the Cuthbert soil. Instead of having a heavy plastic subsoil it has a compact or cemented lower layer. Its somewhat more friable character and yellow color more closely resemble those features of the Norfolk soils. The outstanding agricultural feature of this soil is poor drainage which limits its value.

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The surface soil is dark-gray or gray fine sandy loam which below a depth of 4 or 5 inches becomes yellow or pale yellow Where cultivated the soil to plow depth is grayish yellow. This layer overlies yellow or pale-yellow moderately friable fine sandy loam in the better-drained areas, and in the more poorly drained areas the material may be faintly mottled with light gray With depth the mottling becomes stronger, and below a depth of 30 or 32 inches there is usually a compact or slightly cemented layer Crawfish holes are prominent on the more poorly drained areas

The inferior character of this soil does not encourage much agricultural development, and it is used almost entirely for pasture range and forestry

Dunbar very fine sandy loam.—Dunbar very fine sandy loam resembles the flatwoods phase of Norfolk fine sandy loam. However, the material in the lower part of the subsoil is heavier than in the Norfolk soil. The surface soil where cultivated is grayish-yellow very fine sandy loam which in most places is friable and crumbly. Below the ordinary plow depth is light-yellow friable very fine sandy clay which, at a depth ranging from 18 to 24 inches, becomes heavier and contains mottlings of brownish yellow, brown, and reddish brown. The heavier texture continues downward, the color in general becomes lighter, and the mottlings are more distinct Fair surface drainage prevails. Small included areas of Dunbar fine sandy loam differ only in the slightly coarser texture of the sandy materials, and this condition makes the included soil a little easier to cultivate.

This soil has some value for cultivation, though only small areas are improved It is not a very satisfactory corn soil, though the better-drained areas, with fertilization, may yield from 15 to 18 bushels an acre. Little or no cotton is grown The experience of farmers indicates satisfactory results with sugarcane, sweetpotatoes, peanuts, cowpeas, and various vegetable and forage crops. Dunbar very fine sandy loam has a subsoil rather too heavy and dense for the best drainage and very satisfactory cultivation

Plummer fine sandy loam.—Plummer fine sandy loam is lower lying than Caddo fine sandy loam, and its position in the upland region is that of a transition from uplands to stream bottoms. Much of this soil occupies practically first-bottom positions, especially the narrow bands along many of the smaller drainage ways and the bay basins and swales The outer margins of the areas of Plummer soil terminate sharply where they adjoin the higher-lying soils.

In most places the surface soil is dark-gray or dull-gray fine sandy loam which at a depth of 4 or 5 inches grades into gray and yellow mottled sticky fine sandy loam. This material, in turn, at a depth ranging from 15 to 20 inches becomes mottled gray or bluish-gray and yellow plastic fine sandy clay At a greater depth some mottlings of rust-yellow and red may appear in the compact sticky clay.

Crawfish work freely in this soil, and in many places, when the soft oozy soil is stepped on, water may spurt from the crawfish holes. During wet seasons the soil is saturated and water may stand on the surface for long periods. In dry seasons the soil dries, but to a hard condition, and it may crack open With this soil are included a number of small areas of muck, Portsmouth soils, Johnston loam, and Bibb soils of too small extent to be mapped separately.

Many areas of this soil support practically no tree growth, but some pine grows in places Wild grasses, pitcherplants, and water-loving plants thrive, and thickets of bay and a variety of shrubs and vines grow in some of the swales and along drainage ways Some pasture is afforded, especially in the spring season. In its natural condition this soil has practically no value for cultivated crops

Plummer fine sandy loam, flatwoods phase.—The flatwoods phase of Plummer fine sandy loam occurs only in the southern part of the county. It is similar throughout, in its color characterstics, position, and drainage, to Plummer fine sandy loam It differs in containing a higher proportion of fine and medium quartz sand, especially in the surface soil. This feature renders the soil somewhat looser and would tend to favor more rapid internal drainage The run-off, however, is so slow that extensive ditching would be necessary to drain the land The present use and possibilities of the soil are similar to those of Plummer very fine sandy loam

Plummer very fine sandy loam.—Plummer very fine sandy loam has a surface soil of dark-gray very fine sandy loam It grades into dull-gray soft very fine sandy material which may contain some yellow and rust-yellow mottlings or fine streaks Below a depth of 2 feet is somewhat more compact dull-gray very fine sandy material, approximating very fine sandy clay, which contains yellow and brownish-yellow mottlings This material continues downward with the color gradually becoming a little lighter and the material more plastic. In wet seasons the soil is saturated throughout, and water may stand on the surface for a long time In dry seasons the surface soil is much lighter in color, in many places appearing almost white, and the dried soil has a tendency to crack open. Crawfish chimneys are numerous over all the areas of this soil The poor drainage renders the land of little value except for pasture and forestry Wiregrass, pitcherplant, and moisture-loving plants are common. Cypress is characteristic

Myatt very fine sandy loam.—Myatt very fine sandy loam is a light-colored poorly drained soil occurring on low terraces along some of the larger streams The topmost surface soil is gray very fine sandy loam Below a depth of 4 or 5 inches the very fine sandy material assumes a lighter color, and it is more or less plainly mottled with pale yellow and rust yellow. The mottling becomes more pronounced with depth, but the gray color prevails and the compactness increases Below a depth of about 30 inches the color becomes lighter and the compactness in many places assumes an almost hardpanlike condition Myatt fine sandy loam, included with the very fine sandy loam in mapping, occurs in a few areas and has about the same characteristics, except for its somewhat coarser sandy texture Crawfish work on the more poorly drained areas Some of the areas of Myatt soils are overflowed by high water, but the water remains on the land for only brief periods.

Leaf fine sandy loam.—Associated with the Myatt soil are a few areas of Leaf fine sandy loam This soil occupies similar low terrace positions, though it is sufficiently elevated that some of it has fair surface drainage. The characteristics of the soil are very similar to those of Eulonia fine sandy loam, especially as regards color and the tough plastic red clay subsoil None of the land is cultivated, and it is best suited for pasture or for forestry

Bibb very fine sandy loam.—The Bibb soils closely resemble the Myatt soils and differ from those soils in that they occupy lower positions along the streams and are subject to frequent overflows. At times water stands on the surface for long periods.

Included areas of Bibb fine sandy loam occur along some of the upland streams. This included soil varies in texture somewhat, owing to its recent alluvial origin, whereby different velocities of water have deposited varying grades of soil material

Areas of Bibb very fine sandy loam occurring along some of the streams in the lower flatwoods region of the county are typically light colored and very uniform in texture As occurring here the soil grades into areas of the Weston soils.

Bibb silty clay loam.—The Bibb soil on the Pearl River bottoms, designated Bibb silty clay loam, varies greatly in texture from place to place, ranging from fine sandy loam on some of the narrow ridges bordering old stream channels to silty clay loam on some of the broader lower-lying stretches of bottom land. Most of the soil on the higher-lying low ridges has a brown surface soil which is essentially Ochlockonee soil material All the areas of Bibb silty clay loam are subject to inundation and are not suited for cultivation. Like Bibb very fine sandy loam, the land supports a variety of hardwood trees.

Coxville very fine sandy loam.—Coxville very fine sandy loam is representative of the poorly drained soils of the flatwoods area. Its range in texture is similar to that of the Eulonia soils, but the color of the surface soil is darker in most places, it occupies a lower-lying position, and it has poorer surface and internal drainage. In general, the surface soil is dark-gray or gray fine sandy loam or very fine sandy loam. Below a depth of 6 or 8 inches the material is light-gray or yellowish-gray very fine sandy clay containing some mottles of yellow and brown, which grades into mottled red, yellow, and light bluish-gray compact plastic clay

Included with Coxville very fine sandy loam in mapping, are areas of similar soil lying at a little higher elevations, in which drainage is somewhat better and the tough plastic subsoil layers lie at a greater depth below the surface

Crawfish holes are common, and poor drainage makes Coxville very fine sandy loam unsuited for most crops Practically none of the typical Coxville soil and only very small areas of the better-drained soil are cultivated The cultivated land is used mostly for selected vegetable crops, such as sweetpotatoes, beans, radishes, beets, and like crops. Some sugarcane is grown in a few places.

Scranton very fine sandy loam.—Other soils related to the Coxville are the Scranton soils They resemble the Caddo soils of the northern part of the county Scranton very fine sandy loam has a gray or dark-gray moderately friable very fine sandy loam surface soil. Below the plow depth is dull grayish-yellow or light grayish-yellow moderately friable very fine sandy loam, finely mottled with rust brown and yellow, which with depth becomes more compact. Moderately compact brittle silty clay material, mottled in the same manner as the overlying material but with more red, occurs at a depth of about 3 feet This continues downward, and the material below is tough and plastic. An area in which the subsoil is compact occurs north of Devils Swamp. Here the gray surface soil

material is underlain at a depth ranging from 18 to 24 inches by very compact very fine sandy clay, mottled with gray, dingy gray, yellow, and yellowish brown. The compactness is pronounced enough that the material is comparatively dry when the surface material is wet.

Scranton fine sandy loam.—Scranton fine sandy loam is a slightly coarser textured soil but otherwise has about the same characteristics as the very fine sandy loam The lower part of the subsoil in many places is rather dense and crusty at about the average ground water level

Scranton sandy loam.—Scranton sandy loam is slightly coarser in texture than the fine sandy loam but aside from texture has essentially the same characteristics as the fine sandy loam. The coarser sand grains are all quartz and constitute a much higher proportion of the soil mass than in the fine-textured soils.

All the Scranton soils, being low and flat, have poor drainage and are not well suited for cultivation. Practically all the areas are cut-over timberland and serve as pasture range

Bladen loam.—Bladen loam, like the Plummer soils, has very poor drainage and occupies fully as low and in many places lower positions. The surface soil is dull-gray or dark-gray loam or very fine sandy loam. Below a depth of 10 or 12 inches is firmer and somewhat heavier gray or dull bluish-gray very fine sandy clay containing faint mottles of yellow and brownish yellow The material becomes more plastic downward, and below a depth of about 3 feet is still more plastic and dense, the colors are lighter, and the mottling is yellow and light gray. In places the texture is fine sandy loam and in others silt loam. The present low agricultural value, however, makes these differences of little importance. Cypress is common in the tree growth which includes some longleaf and slash pines. The grass cover is broom sedge and various coarse water-loving grasses. Pitcherplant is common. No use is made of this soil except for pasture.

A few included areas have a surface soil of dark-colored or black loam or very fine sandy loam, rich in organic matter, mixed with small quantities of sandy material Underlying this is dull-gray silty loam or fine sandy loam which below a depth of 20 or 30 inches becomes fine sandy clay or gritty dull-gray clay, in most places mottled with yellow. This soil, which is similar to the Portsmouth soils, occupies more or less permanently wet depressions and swales. It supports a growth of bay, myrtle, vines, briers, and various water-loving plants.

Weston very fine sandy loam.—The Weston soils are light in color. They are poorly drained, occur in rather broad expanses, and receive drainage water from higher-lying soils In wet seasons water often stands on the surface for a long time and, being retarded by the level surface and the tree growth, moves sluggishly in sheet form to reach drainage outlets

Weston very fine sandy loam has a dull-gray firm, but friable, very fine sandy loam surface soil which becomes light gray or almost white when dry. Below a depth of 5 or 6 inches is light-gray compact very fine sandy material containing mottles of yellow and rust brown. Compactness and heavier texture increase with depth, and below a depth ranging from 30 to 36 inches the material is compact rather plastic silty clay mottled with bluish gray, yellow, and brown.

Weston silty clay loam.—A heavier soil type, approximately a silty clay loam, resembles Weston very fine sandy loam in essential respects save for a more compact and rather more plastic subsoil Water tends to stand on the surface for longer periods than on the very fine sandy loam Areas of this soil are mostly gum swamps, and practically all are covered with hardwoods, tupelo gum, some water oak, holly, bay, and a few other trees and shrubs. The land affords some pasture and range for livestock

MISCELLANEOUS SOILS GROUP

A number of soil types and miscellaneous separations were recognized and mapped in Hancock County. The areas are small and are of slight agricultural significance.

Blanton fine sand.—Blanton fine sand occurs in a few narrow low barlike ridges stretching across the marshes of the southern part of the county. The surface lies but a few feet above the level of the marsh, and the lower subsoil layer, or substratum, is usually saturated. The surface soil consists of gray loamy fine sand grading below a depth of a few inches into lighter-gray fine sand which becomes faintly mottled with yellow and brown. At a depth ranging from 24 to 30 inches the mottling becomes more noticeable and the sand is compact and crusty This is above the ground-water level, and the saturated fine sand below has a more uniform light-gray color. Some areas of this soil have a light-gray subsurface layer, below which is rich-brown loamy sand In such areas the ground water occurs at greater depths. Very little use is made of this land, owing to its isolated position and sandy character. Small tracts have been in cultivation, and in one place pecan trees have been planted but they do not appear thrifty This is not a desirable farming soil under present conditions. The natural growth includes live oak, some slash pine, sweetgum, and other trees

Thompson fine sand —The surface soil of Thompson fine sand consists of light-gray almost white fine sand or loamy fine sand of variable character The subsoil of light-yellow fine sand is mottled or stained with gray or yellow in many places

This is a first-bottom soil which occurs along some of the larger streams, where the water from the larger channels in overflowing has deposited sand as recent alluvium. The swift overflow waters have left a very uneven surface which is hummocky and marked by depressions and shallow channel ways In places depressions hold water in ponds and marshy spots Small areas of Bibb soils are included in mapping.

As the soil material is loose and sandy, drainage is good, but the land is subject to inundation during periods of high water, and for this reason it has little value for cultivation Nearly all areas support a tree growth of magnolia, bay, water oak, laurel, sweetgum, holly, birch, and palmetto, in addition to several varieties of shrubs and tangled vines

Johnston loam —Johnston loam is a black soil lying along streams where the slight gradient in flat swampy bottoms and sluggish drainage areas has favored the accumulation of organic matter which has become a part of the soil material. The accumulated grasses, leaves, and tree twigs have produced the mucky or somewhat peaty condition noticed in this soil. Some small well-defined areas of muck and peat are included.

The surface soil is black or nearly black gritty loam or mucky fine sandy loam. It overlies dark-gray or dull-black mucky fine sandy material which becomes sticky and somewhat heavier with depth. In many places at a depth ranging from 30 to 36 inches the material is compact more or less impervious grayish-white loamy sand The soil throughout is more or less water saturated, and the ground water nearly everywhere is within 2 or 3 feet of the surface The land is continuously inundated in wet seasons. It supports the usual tree and shrub vegetation which grows on wet bottom land—bay, slash pine, wild grasses, ferns, briers, and vines, which in many places form dense thickets. The only use made of this soil is for the pasture it affords.

Muck.—Muck includes certain areas which have accumulations of decayed plant matter, more or less intermixed with mineral soil material, especially a few inches below the surface. The color of this mixed material is dark gray or nearly black The deposits range in depth from 8 inches to several feet The deeper deposits contain less mineral matter and the organic material is fibrous, being only partly decayed The color of most of the deeper deposits is brown. Muck is underlain by gray or light-gray compact loamy sandy material or fine sandy clay, stained in places with yellow.

Muck occurs along some of the upland streams in areas where the surface is so flat and the vegetation so dense as to retard the flow of water. Bodies too small to show on the map border the outer margins of Plummer fine sandy loam areas Except in the drier seasons, most of the muck land is saturated with water

Muck supports a mixed vegetation including bay, gum, cypress, titi, huckleberry, pitcherplant, and Sphagnum moss. Some areas, especially those associated with the Plummer soils, have only a grassy cover.

Tidal marsh.—Tidal marsh includes the low marshes in the southern coastal parts of the county, where the land is subject to periodic inundation by tidal salt water. It is most extensive in the extreme southern part and extends up Pearl River to a point more than a mile above Logtown It also occurs along the lower courses of Jourdan River and Bayou La Croix.

The tidal-marsh areas are covered with a dense growth of various water-loving plants, such as sedges, rushes, saw grass, flags, and various coarse wiry grasses The larger expanses are more or less dissected with bayous having tortuous courses, in which the water moves with the advancing or receding tides. Coastal storms blowing from the south often cause the marshes to be covered with several feet of water, and the more severe storms sometimes force water back on the adjoining higher lands

The soil material varies somewhat but in most places consists of dark oozy sediments more or less mottled with brown and blue, and it contains a rather large quantity of decaying vegetable matter held together in a mass of grass roots. In some places the vegetable matter is of a peaty character and in other places is dark-colored soft clay loam or sticky sandy clay.

In places where the marsh adjoins the higher land are marginal areas with somewhat better drainage. These areas have a dark-gray or gray sticky fine sandy loam or fine sandy clay surface soil which, below a depth of 6 or 7 inches, becomes dull bluish-gray moist fine

sandy clay containing yellow and brown streaks in the lower part of the subsoil. One area of such land has been used for growing rice. No strictly agricultural use is made of any of the marshland, except for the scant pasture it affords. Some people take advantage of the marsh areas in fishing and in trapping for muskrats and mink

Swamp.—Swamp comprises a number of poorly drained forested areas which are difficult to classify otherwise They differ from tidal marsh in being forested, receiving fresh water, and in having a firmer soil. The trees include cypress, tupelo gum, bay, magnolia, holly, titi, and others. Some of the soil resembles the Weston and Bibb soils. It has little immediate agricultural value.

Made land.—Made land, which occurs in a few places in the county, is a name applied to areas in which sand has been pumped from the shallow bay water, as at Waveland, filling in depressions back from the sea wall.

SOILS AND THEIR INTERPRETATION

The soils of Hancock County conform in their general characteristics to those of the Gulf coastal region, in which they lie. Most of them are light in color, and under cultivation this feature becomes more apparent. The uncultivated soils, the area of which strongly predominates in this county at present, have a dark-colored surface layer over which has accumulated more or less decomposed vegetable matter consisting of leaves, largely pine needles, and grassy residues. This accumulation of dark material, however, is so thin that when the surface layer is mixed by plowing and tillage operations, the principal soils present a distinct light-colored appearance.

The soils generally recognized as having substantial agricultural value have developed without an excess of moisture, that is, the ground water level has remained sufficiently low that rain and surface waters have percolated downward readily This condition has allowed free air and water movements within the soil mass and favored development of desirable structure and color characteristics. Such soils are well drained and are considered normally developed soils.

Many areas, largely in the lower flatwoods section of the county, include soils which, owing to their low flat position, have for long periods had deficient drainage This excess of moisture has precluded normal soil development, and the soils are immature.

The whole county, aside from some of the marshes, was originally forested. The higher-lying northern parts, until the last few years, were covered largely with longleaf pine. The included lowlands, terraces and bottom land, also supported much pine but more deciduous trees, such as sweetgum, black gum, and water oak. Along the stream courses, bay, gum, magnolia, holly, titi, cypress, and a variety of shrubs and vines grew. There was comparatively little brushy undergrowth in the pine forests on the higher lands, but broom sedge and other grassy growths abounded.

Hardwoods of many varieties, in addition to longleaf, shortleaf, and slash pines, were common on the lower flatwoods The more poorly drained areas supported much cypress which was a typical growth The broader bottoms and swamps in this part of the county supported and still support a heavy growth of gum, water oak, and bay, in addition to other trees and shrubs, but outside the swamps most of the land has always supported a more or less heavy grass undergrowth.

A small scattered growth of the same trees still remains over the county. More than 90 per cent of the land is either cut-over or forested land. As only a small part of the county has been brought under cultivation, the soils remain largely in a virgin condition.

Nearly all the soils are sandy in the surface layers, but most of them have more or less heavy subsoils. The surface material, especially in the better-drained soils, most of which are designated fine sandy loams or very fine sandy loams, are not strictly fine sandy loams or very fine sandy loams, but are loamy fine sands or loamy very fine sands, according to the particular area, overlying heavier-textured materials. This condition likewise prevails where heavy plastic subsoil materials have a comparatively shallow surface soil covering. These characteristics of the sandy soils are similar to those in other parts of the southern coastal plain, but in Hancock County the sandy material contains a higher percentage of fine sand and very fine sand. In the higher-lying northern parts of the county fine sandy loams predominate, and among the soils on the broader terraces and in the southern flatwoods region very fine sandy loams predominate. In the northern more rolling upland parts of the county, the parent material is coarser and small quantities of ferric and quartzite gravel are present. In the southern flatwoods part, the soil materials seem originally to have been formed in a marine embayment where water movements were sufficiently slow that the finer grades of sand, especially very fine sand, and the heavy subsoil and substratum clays were deposited.

Most of the well-drained soils are on the divides and ridges in the northern upland which constitutes about 40 per cent of the county. Here the predominant soil is Norfolk fine sandy loam Smaller areas of the better-developed Ruston fine sandy loam, and still smaller areas of Orangeburg fine sandy loam, the most fully developed soil in the county, are present.

Although the Norfolk soils occur in the uplands, they are less extensive on the main watershed ridges and more extensive on the minor divides and in the somewhat flatter locations. Ruston fine sandy loam, closely related to Norfolk fine sandy loam, is less extensive. It occupies similar positions, but it is more rolling and has somewhat better drainage. On the higher elevations, favoring deeper dissection and more thorough drainage, are several developments of Orangeburg fine sandy loam.

Although Norfolk fine sandy loam is the most extensive soil in this part of the county, its development has not reached the degree of maturity that is apparent in the Ruston and especially in the Orangeburg soils. The Norfolk soils seemed to have developed under conditions of slightly deficient drainage to the extent that they have not acquired the uniform somewhat red color in the B horizon as have the Ruston soils, which is even more noticeable in the same horizon of the Orangeburg soils All these soils have developed from similar parent material, and the differences in the degree of oxidation seem to be accounted for by the differences in drainage

Norfolk fine sandy loam is characterized by a gray surface soil (A horizon) underlain by a yellow friable fine sandy clay subsoil (B horizon) grading into a less friable and usually more or less mottled lower subsoil layer, or substratum (C horizon). The following profile description is representative of this soil:

To a depth of about 1 inch, gray fine sandy loam or loamy fine sand permeated with grass roots and covered with a rather large quantity of grassy residue, pine needles, and other organic remains
From 1 to 7 inches, light grayish-yellow friable loamy fine sand or fine sandy loam, becoming more yellow in the lower part
From 7 to 34 inches, yellow or slightly brownish yellow friable heavy fine sandy loam or fine sandy clay.
From 34 to 46 inches, brownish-yellow firmer less friable fine sandy clay, faintly streaked or irregularly spotted with brown and a few spots of gray and red
From 46 inches and extending to a depth of more than 70 inches, compact brown sandy clay, variably colored with dull streakings or mottlings of brown, brownish gray, yellow, and a little red of different shades

A few small irregularly shaped ironstone pebbles occur throughout the profile.

As indicative of the more advanced development of the Ruston soils, the following description of the profile of Ruston fine sandy loam is given:

To a depth of about 1 inch, dark-gray loamy fine sand containing much organic matter derived from the grass cover and pine needles
From 1 to 6 inches, gray friable loamy fine sand or fine sandy loam
From 6 to 18 inches, yellow or brownish-yellow friable heavy fine sandy loam or loamy fine sandy clay
From about 18 inches and extending to a little more than 40 inches, light yellowish-red or reddish-yellow moderately friable fine sandy clay
Below 40 inches, firm fine sandy clay more or less regularly streaked or variegated with grayish yellow and red, the streaks in many places appearing in vertical arrangement.

Although the materials of the Orangeburg soils are more fully oxidized, in some places some staining or streaking of the red color occurs in the lower part of the subsoil at a depth ranging from 40 to 50 inches. The following is a description of a profile of Orangeburg fine sandy loam taken in an area having a smooth sloping surface:

To a depth of 2 inches, dark grayish-brown loamy fine sand or fine sandy loam, which is permeated with grass roots
From 2 to about 9 inches, yellowish-brown or brown firm friable gritty fine sandy loam becoming yellower or more ruddy in the lower part
From 9 to 28 inches, dull-red or yellowish-red friable heavy gritty fine sandy loam, which seems to be a transitional layer to a depth of about 15 inches, grading into red sandy or fine sandy clay which is friable and crumbly and which seems to be the zone of highest clay concentration.
From 28 to 60 inches, red friable sandy clay which is a little more granular than the material above.
Below a depth of 60 inches and continuing to a depth of more than 100 inches similar red material, but with a little less clay content.

Several small areas of soil, in which the soil material is much heavier than that which produced the Norfolk, Ruston, and Orangeburg soils, are distributed throughout this part of the county. The materials have been so heavy that soil horizons and layers have not developed to a degree and depth comparable with those of the soils named. This material is so heavy and impervious that only a slight degree of oxidation has taken place.

The following profile is typical of Eulonia fine sandy loam:

To a depth of 1 inch, gray or brownish-gray loamy fine sand containing some organic matter derived from the grass cover On the surface are a few scattered roughly rounded ironstone pebbles
From 1 to about 10 inches, light grayish-yellow friable fine sandy loam which also contains some ironstone pebbles
From 10 to 15 inches, light yellowish-brown sticky slightly plastic fine sandy clay.

From 15 to about 30 inches, moderately dense and plastic light-red or yellowish-red loamy clay faintly mottled with yellow
From 30 to 45 inches, dense plastic rather gummy clay, mottled red, yellow, and light gray, with irregular fracture and with smooth cleavage faces
From about 45 to 70 or more inches, tough plastic light bluish-gray clay mottled with dark purplish red and some yellow

Associated with the Eulonia soils, in similar positions, are some areas of Cuthbert fine sandy loam. This soil shows somewhat better development than the Eulonia but less than the Norfolk or Ruston soils. The upper layers of the Cuthbert soil resemble those of the Norfolk and in some places of the Ruston, but the characteristics of the lower layers are more like those of the Eulonia soils but with less plasticity and more granular and open structure Although the parent materials of these two soils evidently are similar, somewhat better drainage has induced more complete weathering to develop the Cuthbert soil.

A soil related to the Norfolk in its parent material, but differing in drainage, is Caddo fine sandy loam. This soil is developed in rather small scattered areas. The upper layers in most places are similar to the corresponding layers of Norfolk fine sandy loam, but below a depth of 16 or 18 inches there is more or less gray mottling, and at and below a depth ranging from 30 to 36 inches more or less noticeable cementation or compaction, which evidently marks the position of the water table, is present. Caddo fine sandy loam is a comparatively poorly drained soil

Still less well drained is Plummer fine sandy loam. This soil occupies a lower-lying position, in many places extending out on the stream bottoms, and it is subject to much seepage from higher-lying soils In wet seasons the whole soil is saturated, and frequently some water stands on the surface

Along many of the streams, especially the larger ones, are several soil types occurring in terrace positions In general these are derived from the same character of materials as the soils on the higher uplands. They differ in character, largely depending on the conditions of drainage that have prevailed. These soils are members of the Kalmia, Cahaba, Myatt, and Leaf series and are very similar to corresponding upland soils. The Kalmia soils have a yellow color similar to the Norfolk The Cahaba soils have red subsoils, or B horizons, like the Ruston The Myatt soils have developed under imperfect drainage conditions which have been caused largely by the low flat positions occupied by these soils. They have very light colored, in many places almost white, surface materials, and the subsoils are varied in color, owing to the excess moisture content The soil material is compact or hardpanlike at a depth ranging from 24 to 30 inches. Leaf fine sandy loam, aside from its low flat position, closely resembles Eulonia fine sandy loam

Recent-alluvial soils, which lack developed profiles, are grouped in the Bibb, Johnston, and Thompson series.

In the flatwoods area in the southern part of the county, the soils have developed under poor drainage Those having the poorest drainage are classified in the Coxville, Bladen, Scranton, Plummer (flatwoods phase), Weston, and Bibb series These soils are characterized by a high water table The somewhat better drained soils of the flatwoods are the Dunbar, Eulonia, and Blanton soils This

flatwoods area seems to be underlain at a varying depth by heavy plastic clay. The depth at which the heavy material occurs, together with slight differences in elevation, governs largely the development which these soils have attained.

Although Coxville very fine sandy loam is rather inextensive, it expresses the prevailing conditions well. It is a comparatively dark soil with moderately friable layers in the upper part and with dense plastic mottled layers below. A description of a profile of this soil follows:

To a depth of 6 inches, gray or dark-gray moderately friable very fine sandy loam which becomes lighter colored and slightly mottled with rust brown in the lower part of the layer.
From 6 to 18 inches, light-gray or light yellowish-gray heavy very fine sandy loam with fine faint mottles of brown and yellow
From 18 to about 36 inches, moderately heavy plastic clay mottled with red, yellow, and light bluish gray
From 36 to 45 inches, plastic silty clay broadly mottled or streaked with light bluish gray, rust brown, and yellow.
From 45 to more than 70 inches, very light gray, more compact moderately plastic silty clay, more or less mottled and stained with rust brown and yellow

Related to the Coxville soils are the Scranton soils. These are very similar to the Caddo soils but differ in having a dense more or less plastic substratum below a depth of about 36 inches, which is lower than in the Coxville soils In the better-drained situations where weathering has been more active, the substratum though dense is rather brittle, and the material of the yellower streakings is soft and somewhat mealy when dry, whereas the redder material is harder and of heavier texture.

The Bladen soils, occupying positions usually lower than do the Coxville or Scranton soils, have very poor drainage, and, except during drier seasons, the soil is saturated Being less well drained than the Coxville soils, the soil materials do not have characteristics due to weathering that are apparent in those soils The following profile is illustrative of the Bladen soils:

To a depth of 12 inches, dull-gray or dark-gray very fine sandy loam which is very slightly friable and contains fine veins of brownish yellow evidently produced by decayed rootlets
From 12 to about 30 inches, somewhat more compact very slightly friable gray very fine sandy loam or very fine sandy clay, finely and faintly mottled with yellow and brownish yellow
From 30 to 42 inches, compact, dense, and moderately plastic dull-blue clay or very fine-sandy clay, finely and distinctly mottled with yellow and brownish yellow
From 42 to 54 or more inches, plastic very dense clay, mottled light bluish gray with bright-yellow and light-gray variations

Associated with the Scranton and with the Bladen soils to some extent, is the flatwoods phase of Plummer fine sandy loam, which is similar to Plummer fine sandy loam of the higher uplands but in most places is firmer.

The Weston soils are similar to the Bibb soils, but they occur in broader expanses, and for this reason are probably derived from material of marine origin rather than from recent alluvium as are the Bibb soils. The following description of a profile of the Bibb soils is representative:

To a depth of about 6 inches, light-gray very fine sandy loam which is rather compact but shows slight friability.
From 6 to 22 inches, light-gray more compact very fine sandy loam or very fine sandy clay, faintly finely mottled with dull yellow and brown.

From about 22 to 36 inches, compact rather plastic light or nearly white very fine sandy clay, distinctly mottled with yellow and some fine lines of yellowish red

From 36 to 55 or more inches, compact plastic clay or silty clay, mottled with bluish gray and yellow and streaked in places with fine veins of brown or slightly dull red

All these poorly drained soils are acid in reaction as revealed by field tests. The field tests are substantiated by hydrogen-ion determinations made in the laboratory by the electrometric method.

In the flatwoods are two better-drained soils, the Dunbar and Eulonia These soils occupy the more elevated positions or low ridges, either irregularly distributed or marginal along drainage courses In the upper layers, Dunbar very fine sandy loam is similar to the Norfolk soils, but at a depth ranging from about 20 to 30 inches the soil material becomes very compact and the yellow color is varied with brown, brownish yellow, and red The compactness increases with depth.

The Eulonia soil of the flatwoods is similar to the Eulonia soil of the higher section of the county and to the somewhat better developed Cuthbert soils It is less well developed than the Dunbar soils. The yellow friable surface material is underlain by compact mottled red, yellow, and bluish-gray clay at a depth ranging from 20 to 30 inches, below which dense compact very plastic clay, mottled dull red, yellow, and bluish gray, occurs, in most places A variation of this soil along the lower course of Turtleskin Creek has less red in the plastic subsoil which is mottled dull gray and yellow.

Small developments of Blanton sand occurring in and along the tidal-marsh area of the southern part of the county, have, in the deeper and better-drained areas, podzollike developments. The following is a description of the profile here:

To a depth of 5 inches, gray or light-gray loose medium sand or fine sand having a surface cover of oak leaves and grass

From 5 to 10 inches, light-gray or slightly brownish gray somewhat compact fine sand or medium sand containing some light-brown and dark-brown streaks

From 10 to 16 inches, brown or light coffee-brown fine sand or medium sand comprising a concentrated layer, as evidenced by the compact slightly cemented condition

From 16 to about 30 inches, loose fine sand or medium sand, which is browner and more compact in the upper part and yellower and looser in the lower part

Below a depth of 30 inches, light brownish-yellow fairly loose sandy material.

Table 3, showing pH values, indicates the reaction profiles of two representative soils of the flatwoods section of the county.

TABLE 3.—*pH determinations of two soils from Hancock County, Miss.*[1]

Sample No	Soil type	Depth	pH	Sample No	Soil type	Depth	pH
425507	Dunbar very fine sandy loam	*Inches* 0-2	4 82	425562	Scranton very fine sandy loam	*Inches* 0-2	4 10
425508	do	2-10	4 82	425563	do	2-12	4 49
425509	do	10-22	4 69	435564	do	12-36	4 49
425510	do	22-32	4 69	425565	do	36-55+	4 49
525511	do	32-40	4 69	425566	do	55-70+	4 53
425512	do	40-50	4 69				
425513	do	50-56	4 62				

[1] Determinations by E H Bailey, Bureau of Chemistry and Soils

SUMMARY

Hancock County, the westernmost of the three Gulf counties of Mississippi, has an area of 479 square miles. Bay St. Louis is the county seat and principal town.

The county is included within two main topographic divisions. The northern, comprising about 40 per cent of the total area, consists of rolling country typical of the Gulf coastal plain. Here the drainage flows southward. The southern part has a low flat surface, is poorly drained, and most of the drainage flows eastward.

Slightly more than 8 per cent of the county is in farms. Most of the land is cut-over land from which the timber has recently been removed. Farming is only slightly developed, and the few good farms are in the western part of the county. General types of farming prevail, and much livestock, especially cattle, hogs, and sheep, graze on the open range Some special crops, such as beans, peas, potatoes, pecans, and Satsuma oranges, are grown.

Most of the soils have fine sandy surface soils, but the subsoils differ from one another, especially in color, texture, structure, and drainage.

In the uplands of the northern part of the county, the soils are considered in a Norfolk group, an Orangeburg group, and a Eulonia group.

The Norfolk soils, as represented by the fine sandy loam, have grayish-brown fine-textured surface soils overlying yellow friable fine sandy clay subsoils. They are well distributed in the uplands, have a moderate profile development, fair drainage, and some areas are in cultivation. A flatwoods phase of Norfolk fine sandy loam occurs in the southern part of the county. A few areas of Norfolk sandy loam are in the county. The Kalmia soils are similar to the Norfolk but occur at lower levels as second-bottom soils.

The soils of the Orangeburg group have gray sandy surface soils and red friable subsoils, and all are better drained and more mature than the Norfolk soils The Orangeburg soils have deep-red friable subsoils, and the Ruston soils have light-red or yellowish-red subsoils. The Cahaba soils, like the Kalmia, are second-bottom soils but otherwise resemble the Ruston soils. The Orangeburg soils lead in agricultural value, and all soils in the group have good farming possibilities.

The soils of the Eulonia group have heavy plastic or compact subsoils The subsoils of the Eulonia soils are dense, plastic, and intractable, and drainage is somewhat deficient The Cuthbert soils are somewhat more friable and better developed. The Plummer soils are lower lying and poorly drained, but the subsoils are not so dense. The Caddo soils are composed of yellow soil materials, have poor drainage, and the subsoils are rather compact and in some places a little crusty. The Leaf and Myatt soils are second-bottom soils. The Leaf soils have fair drainage and resemble the Eulonia soils. The Myatt soils have poor drainage, a light color, and compact rather than plastic and tough subsoils. The Bibb soils are similar to the Myatt soils, but they occupy first-bottom positions The soils of this group have low crop value, and little use, other than for pasture, is made of them.

The Coxville soils resemble the Eulonia soils but have darker-colored surface soils, flatter surface relief, and poor drainage. The Scranton soils are similar to the Caddo soils of the uplands but have

a tough plastic substratum. The Dunbar soils are associated with the Eulonia soils and resemble the flatwoods phase of Norfolk fine sandy loam, but they have more compact and denser subsoil materials. These two soils have some agricultural possibilities. The Bladen soils resemble the Plummer soils, are dark gray in color, and have very poor drainage. The other soils of small extent included in this group have poor drainage and are unimportant agriculturally.

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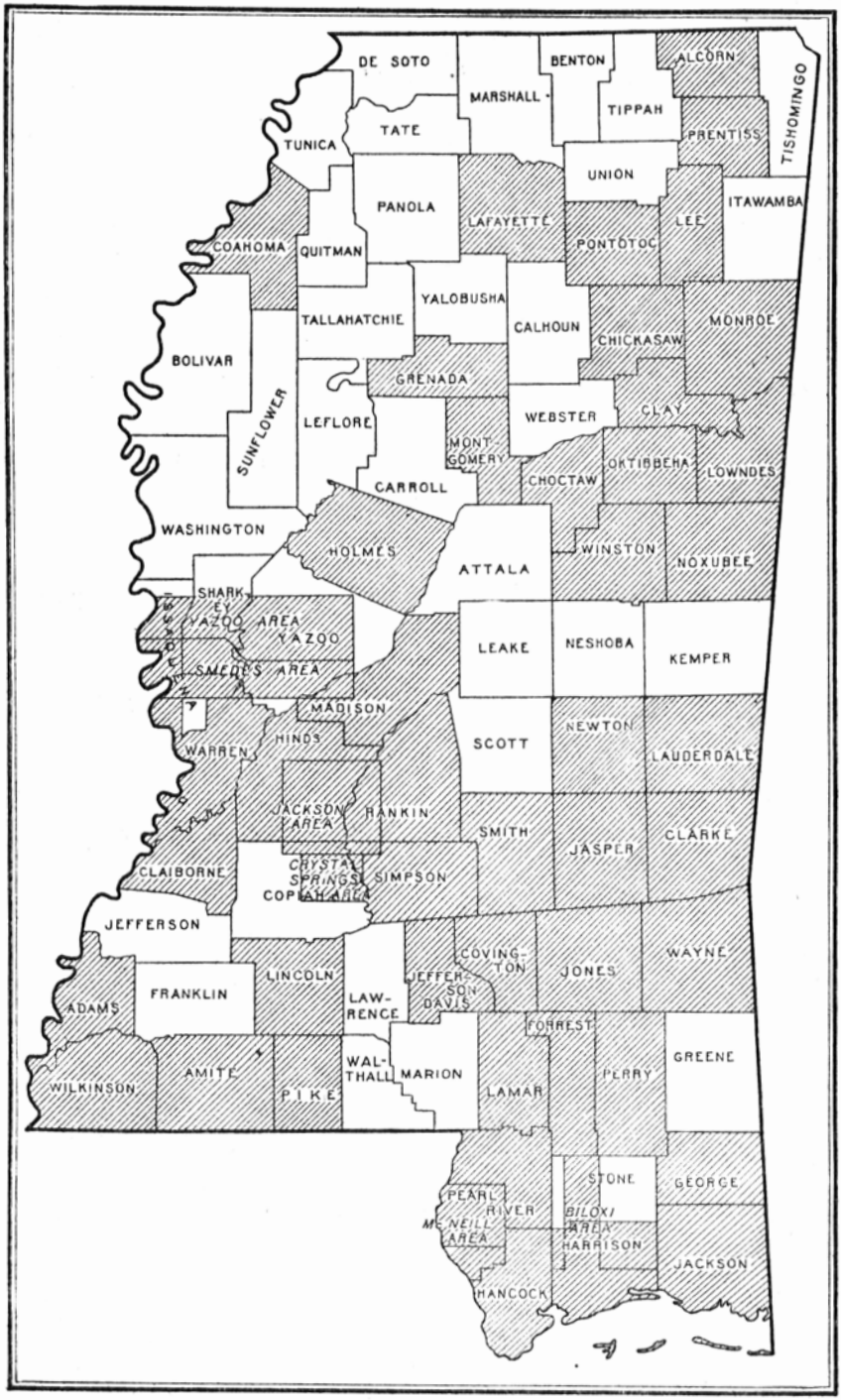
There shall be printed as soon as the manuscript can be prepared with the necessary maps and illustrations to accompany it a report on each soil area surveyed by the Bureau of Chemistry and Soils, Department of Agriculture, in the form of advance sheets bound in paper covers, of which not more than two hundred and fifty copies shall be for the use of each Senator from the State and not more than one thousand copies for the use of each Representative for the congressional district or districts in which a survey is made, the actual number to be determined on inquiry by the Secretary of Agriculture made to the aforesaid Senators and Representatives, and as many copies for the use of the Department of Agriculture as in the judgment of the Secretary of Agriculture are deemed necessary.



Areas surveyed in Mississippi, shown by shading
Detailed surveys shown by northeast-southwest hatchings

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Office of the Assistant Secretary for Civil Rights
1400 Independence Avenue, SW
Washington, D.C. 20250-9410;

(2) fax: (202) 690-7442; or

(3) email: program.intake@usda.gov.

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