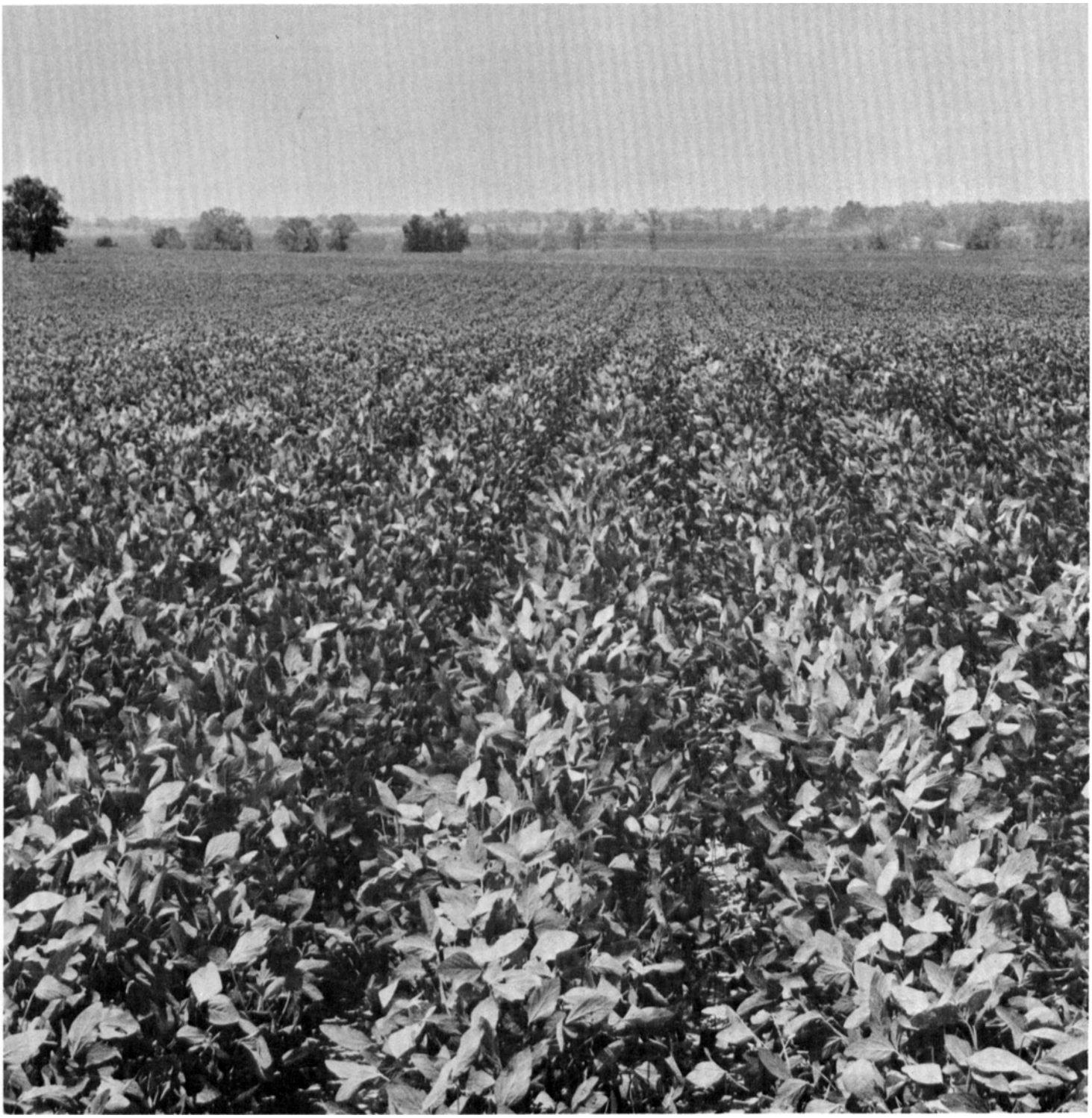
United States Department of Agriculture

Soil Conservation Service

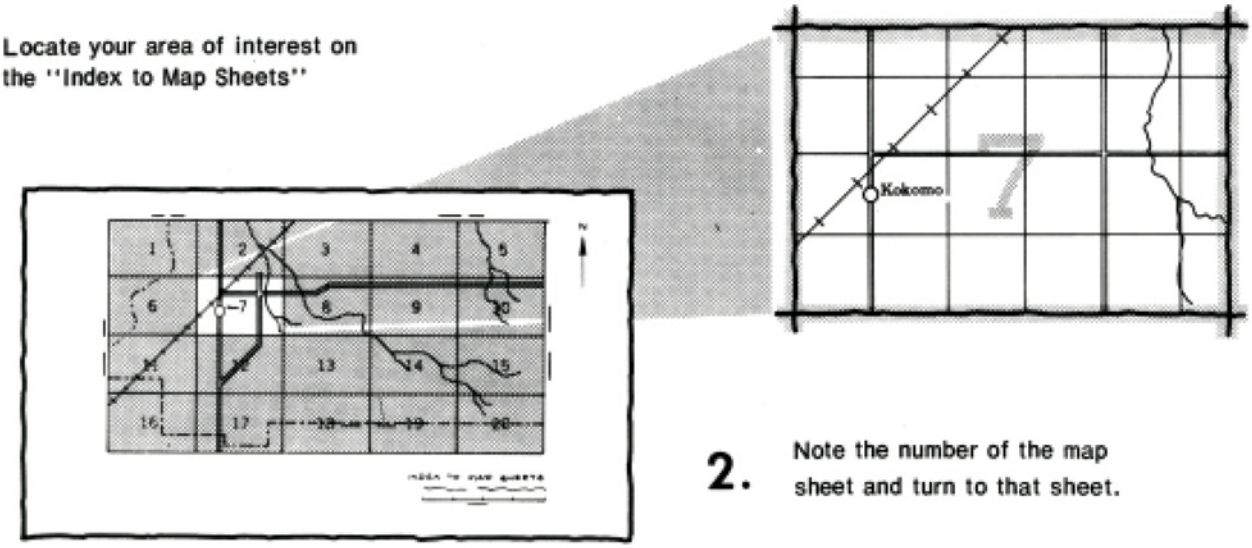
In Cooperation with United States Department of Agriculture, Forest Service, and Mississippi Agricultural and Forestry Experiment Station

Soil Survey of Pearl River County Mississippi



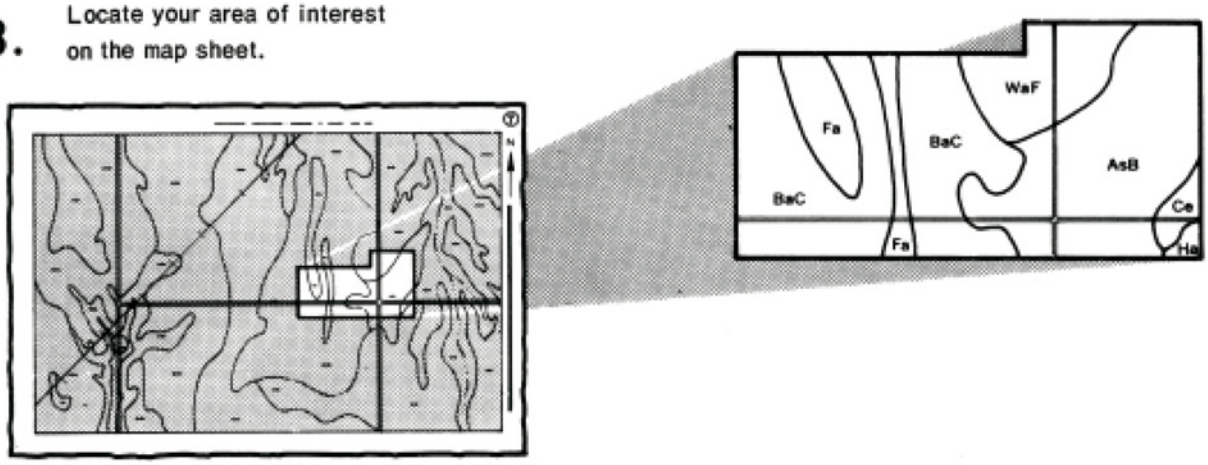
HOW TO USE

1. Locate your area of interest on the "Index to Map Sheets"

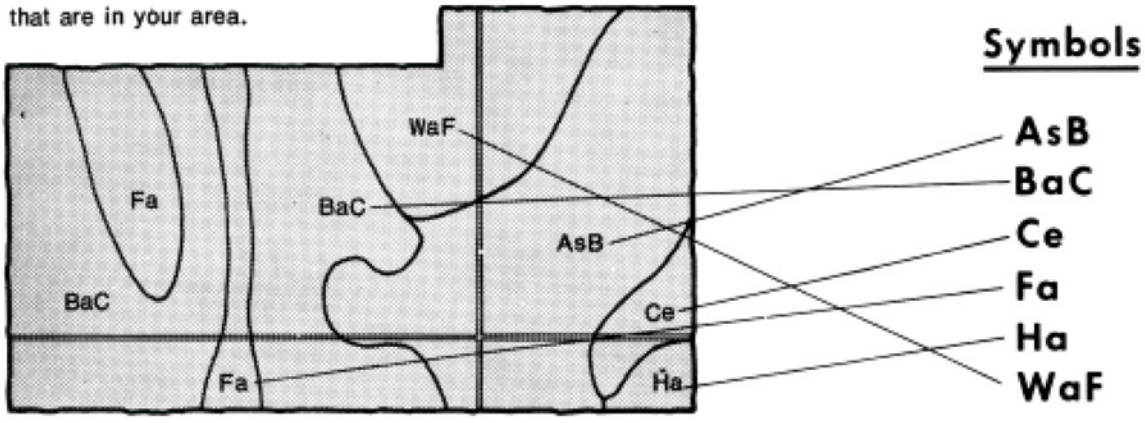


2. Note the number of the map sheet and turn to that sheet.

3. Locate your area of interest on the map sheet.

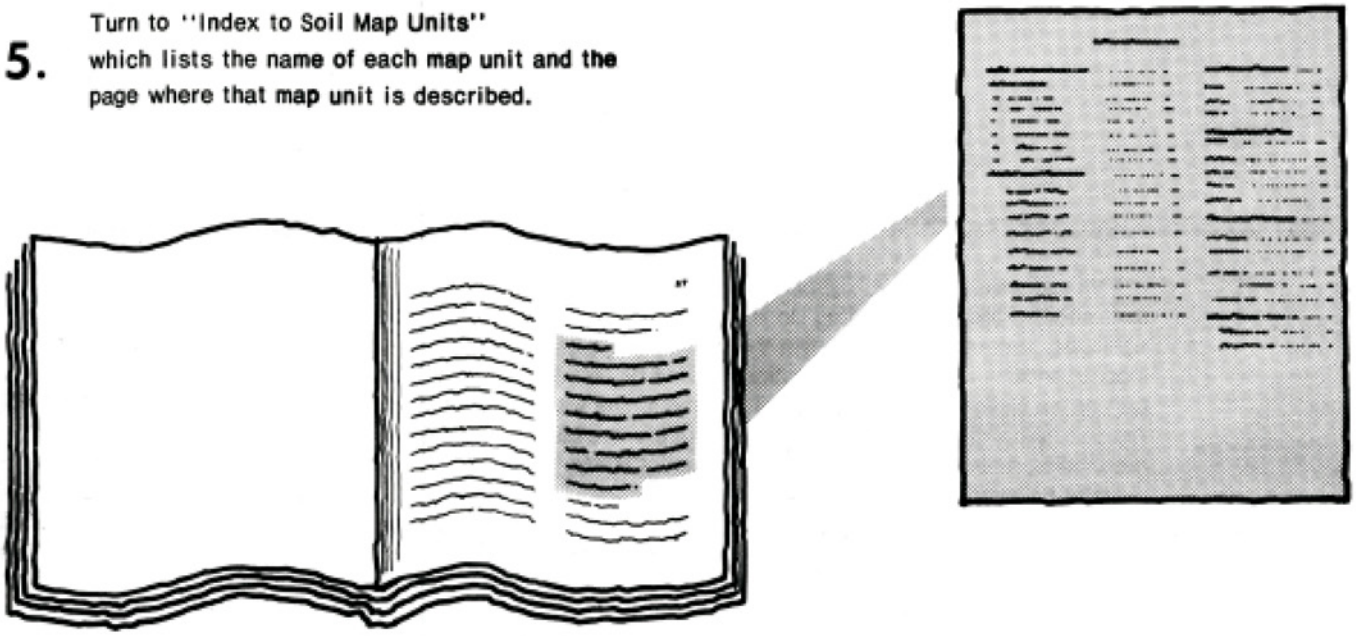


4. List the map unit symbols that are in your area.

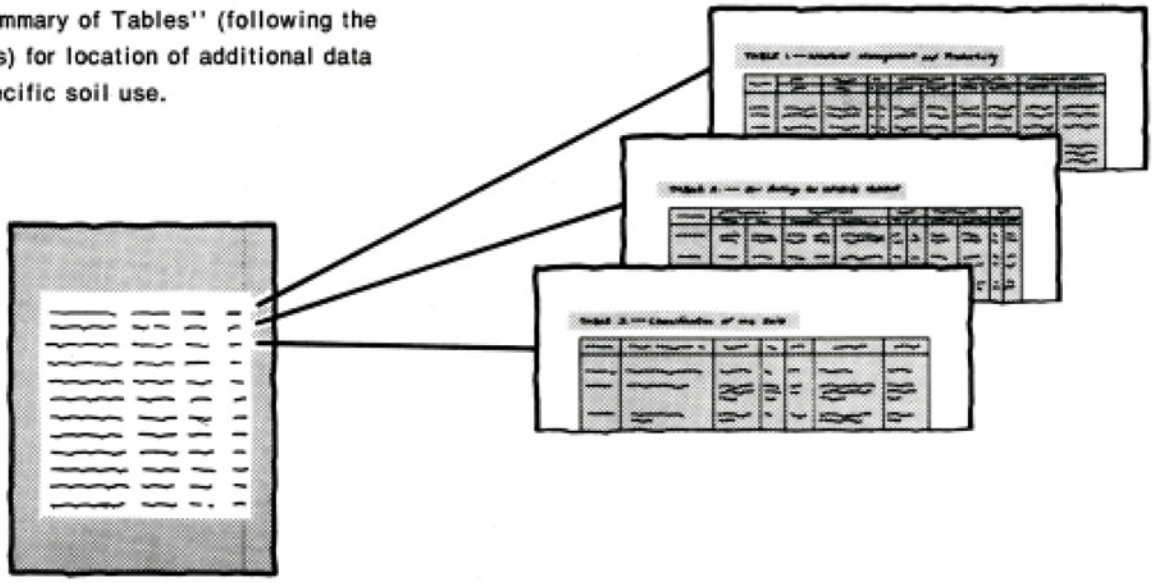


THIS SOIL SURVEY

5. Turn to "Index to Soil Map Units" which lists the name of each map unit and the page where that map unit is described.



6. See "Summary of Tables" (following the Contents) for location of additional data on a specific soil use.



7. Consult "Contents" for parts of the publication that will meet your specific needs. This survey contains useful information for farmers or ranchers, foresters or agronomists; for planners, community decision makers, engineers, developers, builders, or homebuyers; for conservationists, recreationists, teachers, or students; to specialists in wildlife management, waste disposal, or pollution control.

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other federal agencies, state agencies including the Agricultural Experiment Stations, and local agencies. The Soil Conservation Service has leadership for the federal part of the National Cooperative Soil Survey. In line with Department of Agriculture policies, benefits of this program are available to all, regardless of race, color, national origin, sex, religion, marital status, or age.

Major fieldwork for this soil survey was performed in the period 1972-79. Soil names and descriptions were approved in 1979. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1979. This survey was made cooperatively by the Soil Conservation Service and Forest Service and the Mississippi Agricultural and Forestry Experiment Station. It is part of the technical assistance furnished to the Pearl River County Soil and Water Conservation District.

Soil maps in this survey may be copied without permission. Enlargement of these maps, however, could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale.

This survey updates the soil survey of Pearl River County published in 1920 (*5*).

Cover: Soybeans on Malbis fine sandy loam, 0 to 2 percent slopes.

contents

soil series

January 21, 1983

index to soil map units

summary of tables

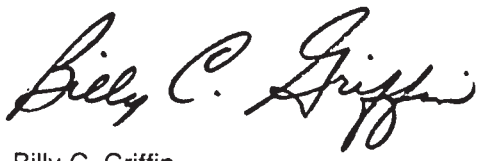
foreword

This soil survey contains information that can be used in land-planning programs in Pearl River County, Mississippi. It contains predictions of soil behavior for selected land uses. The survey also highlights limitations and hazards inherent in the soil, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

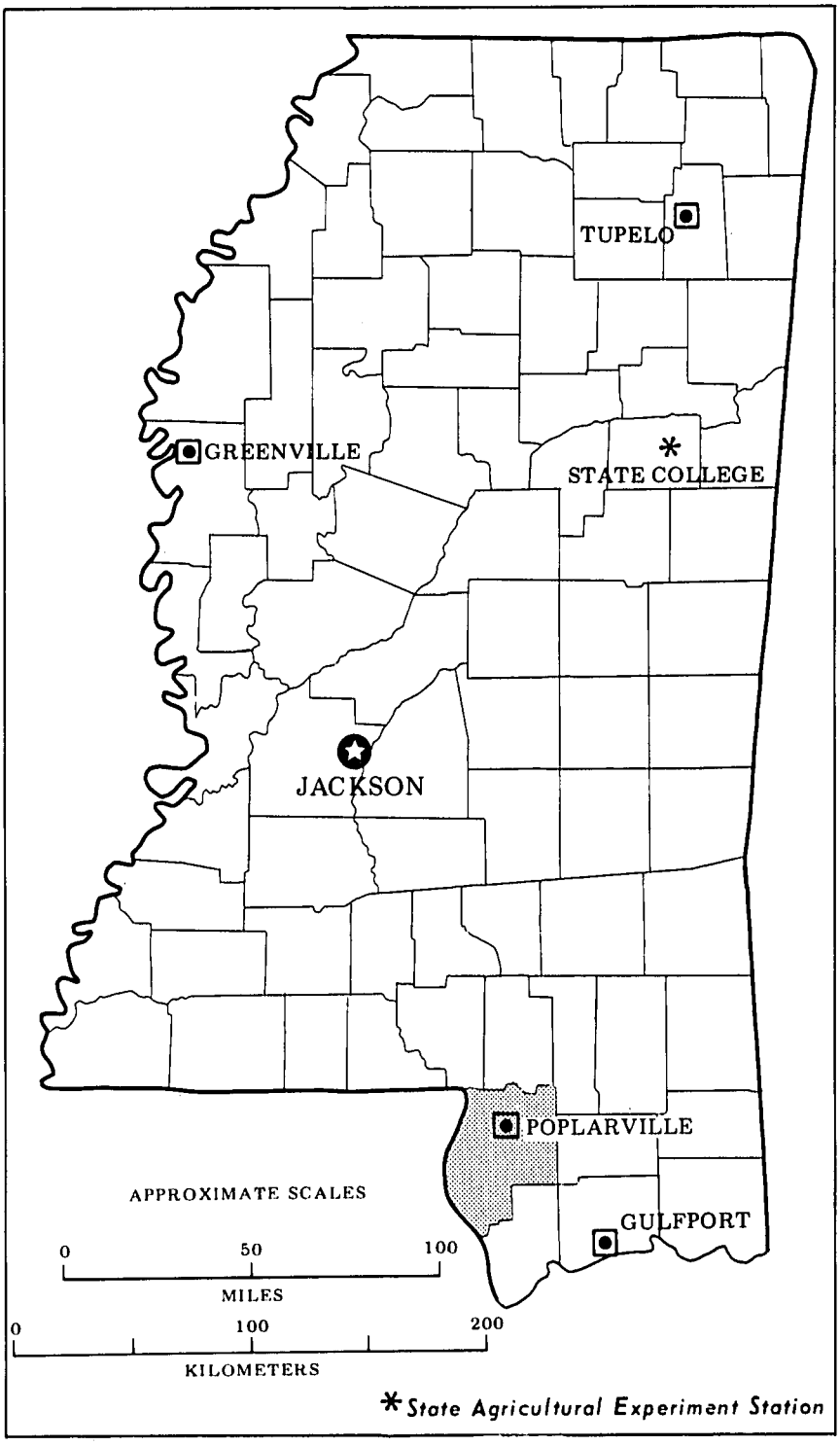
This soil survey is designed for many different users. Farmers, foresters, and agronomists can use it to evaluate the potential of the soil and the management needed for maximum food and fiber production. Planners, community officials, engineers, developers, builders, and home buyers can use the survey to plan land use, select sites for construction, and identify special practices needed to insure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the survey to help them understand, protect, and enhance the environment.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

These and many other soil properties that affect land use are described in this soil survey. Broad areas of soils are shown on the general soil map. The location of each soil is shown on the detailed soil maps. Each soil in the survey area is described. Information on specific uses is given for each soil. Help in using this publication and additional information are available at the local office of the Soil Conservation Service or the Cooperative Extension Service.



Billy C. Griffin
State Conservationist
Soil Conservation Service



Location of Pearl River County in Mississippi.

soil survey of
Pearl River County, Mississippi

By Paul Nichols, Jr., Albert R. Leggett, and Lloyd B. Walton
Soil Conservation Service

United States Department of Agriculture
Soil Conservation Service and Forest Service
in cooperation with
Mississippi Agricultural and Forestry Experiment Station

PEARL RIVER COUNTY is in the southern part of Mississippi. It has a land area of 529,920 acres, or about 828 square miles. Lakes smaller than 40 acres and streams less than one-eighth of a mile wide are included.

The county is bounded on the north by Lamar and Marion Counties, on the east by Forrest and Stone Counties, on the south by Hancock County, and on the west by St. Tammany and Washington Parishes, Louisiana.

Poplarville, the county seat, is in the north-central part of the county. Picayune, the largest city, is in the southwestern part. In 1970, the population of the county was 27,802, which represented a gain of more than 24 percent since 1960.

general nature of the survey area

This section provides information about the climate; geology; history and development; transportation; physiography, relief, and drainage; and agriculture of Pearl River County.

climate

Prepared by the National Climatic Center, Asheville, North Carolina.

Table 1 gives data on temperature and precipitation for the survey area as recorded at Poplarville in the period 1951 to 1978. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on length of the growing season.

In winter the average temperature is 53 degrees F, and the average daily minimum temperature is 42 degrees. The lowest temperature on record, which occurred at Poplarville on January 24, 1963, is 7 degrees. In summer the average temperature is 81 degrees, and the average daily maximum temperature is 91 degrees. The highest recorded temperature, which occurred on June 14, 1963, is 103 degrees.

Growing degree days are shown in table 1. They are equivalent to "heat units." During the month, growing degree days accumulate by the amount that the average temperature each day exceeds a base temperature (50 degrees F). The normal monthly accumulation is used to schedule single or successive plantings of a crop between the last freeze in spring and the first freeze in fall.

The total annual precipitation is 60 inches. Of this, 32 inches, or 53 percent, usually falls in April through September, which includes the growing season for most crops. In 2 years out of 10, the rainfall in April through September is less than 26 inches. The heaviest 1-day rainfall during the period of record was 10.52 inches at Poplarville on December 10, 1961. Thunderstorms occur on about 70 days each year, and most occur in summer.

Snowfall is rare. In 90 percent of the winters, there is no measurable snowfall. In 10 percent, the snowfall, usually of short duration, is more than 2 inches. The heaviest 1-day snowfall on record was more than 7 inches.

The average relative humidity in midafternoon is about 60 percent. Humidity is higher at night, and the average at dawn is about 90 percent. The sun shines 60 percent of the time possible in summer and 50 percent in winter. The prevailing wind is from the south. Average windspeed is highest, 10 miles per hour, in winter.

geology

Pearl River County is underlain by a series of sediments that generally dip southwestward toward the Mississippi River Delta. These sediments range from Miocene to Pleistocene in age.

Materials of the six geologic groups exposed in Pearl River County, from oldest to youngest, are the Graham Ferry and Pascagoula Formations, Citronelle Formation, High Terrace deposits, Pamlico Sand, alluvium, and eolian sand (*3*).

The Graham Ferry and Pascagoula Formations, the most extensive in the area, are exposed at intermediate and lower elevations and extend from the northern and northwestern parts to the southeastern part of the county. Streambanks and road cuts expose a few feet of undifferentiated clays, silty clay and shale, sandy shale, sand, and silty sands.

The Citronelle Formation is exposed in long, narrow areas on uplands in the northeastern and north-central parts of the county and in broad, irregular areas in the south-central part. Areas are mainly 2 to 6 miles wide and 10 to 24 miles long. The Citronelle Formation includes reddish sands and gravelly sands. The pebbles are mostly of brown chert and milky quartz, generally crossbedded. Many of the soils are well drained and reddish in color.

The High Terrace deposits are exposed on the higher parts of the Pearl River terrace. These areas are in the northwestern part of the county. The largest area is about 2 miles wide and 8 miles long. This formation includes sand and gravel. The quartz is more abundant and the chert less abundant than in the older, adjacent Citronelle Formation.

The Pamlico Formation, in the southwestern part of the county, consists mostly of grayish and brownish sands, and in former lagoons, much clay and silt. The relief is low and rather flat, and drainage is a problem.

The alluvium deposits, on the flood plain of the Pearl River and its tributaries, extend the entire length of the western part of the county. Chert and quartz gravel and sand of the river grade up to sandy clays and silt.

The eolian sand deposits are in relatively small areas in the northeastern and east-central parts of the county. These areas are characterized by erosion blowouts and dunes.

history and development

Pearl River County was organized by an act of the Legislature in 1890 and was named after the Pearl River, which is the boundary between the county and the State of Louisiana. Pearl River County was formed from parts of Marion and Hancock Counties. The first inhabitants were Indians of the Caesar tribe. The first settlers on record were from Virginia and North Carolina.

The New Orleans and Northeastern Railroad, now the Southern, was built about 1871 (*5*). The land selected was owned by Jim "Poplar" Smith, for whom the county seat, Poplarville, was named.

The first courthouse was built in 1892. In 1908, Picayune, in Hancock County, was part of the land annexed to Pearl River County. Pearl River College, in Poplarville, was established in 1923. The South Mississippi Agricultural Experiment Station was established at McNeill in 1902 but was moved to Poplarville in 1918.

In 1910, the population of the county was about 10,500 (*5*). In 1930 it was about 18,000, and by 1970 it had increased to about 27,802.

The main enterprise in the survey area is farming. Forest products, livestock, and soybeans are the most important farm products. The forest products industry and the chemical and garment industries were introduced into the county only recently.

transportation

Transportation facilities in Pearl River County include the Picayune Municipal Airport, which can handle small aircraft, and the Southern Railroad, which generally runs from Meridian in Lauderdale County southwest through the center of the county to New Orleans. The county is traversed generally from northeast to southwest by Interstate Highway 59 and U.S. Highway 11 and from east to west across the central part of the county by State Highway 26. State Highway 43 runs north and south along the western part of the county. State Highway 53 runs from Poplarville southeastward to U.S. Highway 49 at Lyman, which is in Harrison County.

physiography, relief, and drainage

Pearl River County is in the Southern Pine Hills physiographic region. The county has three major landforms—the terraces and flood plains of the Pearl River, the flatwoods, and the higher lying Coastal Plain uplands and flood plains.

The western part of the county, about 8 percent of the land area, consists of nearly level, low lying terraces and flood plains bordering the Pearl River. This area is about 38 miles long north to south. In width it ranges from less than 1 mile in the extreme northern and southern parts to about 3.5 miles in the central part. The landscape has low relief. Generally, the soils are nearly level, have a seasonal high water table, and are somewhat poorly drained or poorly drained. Stream channels are well defined, but overflow is frequent on the flood plains.

The southwestern part of the county lying east of the Pearl River flood plains and terraces consists of nearly level, low-lying areas locally called flatwoods. It makes up about 10 percent of the county. The flatwoods are about 10 miles long from north to south and extend

south into Hancock County. They are about 5 miles wide. The landscape is distinctly flat and has a very slight incline, mainly to the south. Drainage water moves slowly, following shallow depressions that are only slightly lower than the surrounding land. The soils are nearly level to gently sloping, have a high water table, and in many areas are poorly drained. The better drained soils are in narrow strips at slightly higher elevations along streams and scattered low ridges throughout the flatwoods.

The Coastal Plain uplands and flood plains make up the north-central, south-central and eastern parts and some of the western part of the county, about 82 percent of the land area. The soils of the uplands are nearly level to steep and are dominantly well drained or moderately well drained. Many of the soils on the flood plains and drainageways are poorly drained. The stream valleys are deeper than those in other parts of the county. Most of the ridgetops are nearly level, and many are broad and have short, moderately steep side slopes. A few of the ridges are narrow and have steeper side slopes. The principal streams flow southward and are roughly parallel before intersecting. Some of the smaller drainageways are of a more dendritic form.

The larger streams such as the Wolf River, Hobolochito Creek, and Crane Creek flow through nearly level flood plains. They range from about one-fourth to more than one-half mile in width. Many of the stream terraces, which are subject to flooding, are only slightly higher than the stream bottoms. The Pearl River drains the western part of the county. The north-central and south-central parts of the county are drained by East Creek and West Hobolochito Creek. The eastern part of the county is drained by the Wolf River and its tributaries, which empty into St. Louis Bay.

agriculture

The chief farm products in Pearl River County are timber, soybeans, corn, watermelon, beef cattle, and dairy products. About 67 percent of the county is commercial forest. Large paper companies own part of the acreage.

Beef cattle number about 33,000 head. About 2,500 hogs, 300 sheep, and 2,400 head of dairy cattle are in the county. There are about 23,000 acres of soybeans, 1,500 acres of corn, and 800 acres of watermelon. A small acreage of hay and potatoes is grown mainly for home use.

Catfish farms take in about 250 acres in the county. The catfish are processed at plants in nearby counties and sold as frozen food.

how this survey was made

Soil scientists made this survey to learn what soils are in the survey area, where they are, and how they can be used. They observed the steepness, length, and shape of slopes; the size of streams and the general pattern of drainage; the kinds of native plants or crops; and the kinds of rock. They dug many holes to study soil profiles. A profile is the sequence of natural layers, or horizons, in a soil. It extends from the surface down into the parent material, which has been changed very little by leaching or by plant roots.

The soil scientists recorded the characteristics of the profiles they studied and compared those profiles with others in nearby counties and in more distant places. They classified and named the soils according to nationwide uniform procedures. They drew the boundaries of the soils on aerial photographs. These photographs show trees, buildings, fields, roads, and other details that help in drawing boundaries accurately. The soil maps at the back of this publication were prepared from aerial photographs.

The areas shown on a soil map are called map units. Most map units are made up of one kind of soil. Some are made up of two or more kinds. The map units in this survey area are described under "General soil map units" and "Detailed soil map units."

While a soil survey is in progress, samples of some soils are taken for laboratory measurements and for engineering tests. All soils are field tested to determine their characteristics. Interpretations of those characteristics may be modified during the survey. Data are assembled from other sources, such as test results, records, field experience, and state and local specialists. For example, data on crop yields under defined management are assembled from farm records and from field or plot experiments on the same kinds of soil.

But only part of a soil survey is done when the soils have been named, described, interpreted, and delineated on aerial photographs and when the laboratory data and other data have been assembled. The mass of detailed information then needs to be organized so that it can be used by farmers, woodland managers, engineers, planners, developers and builders, home buyers, and others.

general soil map units

The general soil map at the back of this publication shows broad areas that have a distinctive pattern of soils, relief, and drainage. Each map unit on the general soil map is a unique natural landscape. Typically, a map unit consists of one or more major soils and some minor soils. It is named for the major soils. The soils making up one unit can occur in other units but in a different pattern.

The general soil map can be used to compare the suitability of large areas for general land uses. Areas of suitable soils can be identified on the map. Likewise, areas where the soils are not suitable can be identified.

Because of its small scale, the map is not suitable for planning the management of a farm or field or for selecting a site for a road or building or other structure. The soils in any one map unit differ from place to place in slope, depth, drainage, and other characteristics that affect management.

soil descriptions

Dominantly nearly level to gently sloping, somewhat poorly drained, poorly drained, and well drained soils that have a loamy subsoil; on uplands

In this group are two map units that are made up of nearly level to gently sloping soils. The soils are on broad wet upland flats, in drainageways, and on low ridges. The major soils are the loamy Escambia, Poarch, and Smithton soils. Only Smithton soils are subject to flooding. The soils are well drained to poorly drained and have a loamy surface layer. The slope range is 0 to 5 percent. This group makes up about 9.5 percent of the county.

1. Escambia-Smithton-Poarch

Nearly level to gently sloping, somewhat poorly drained, poorly drained, and well drained loamy soils; on broad low ridges and wet flats on uplands

This map unit is in the western part of the county. The landscape is one of broad wet flats and gently sloping, low ridges. The slopes are dissected by many short drainageways and narrow flood plains. The slope range is 0 to 5 percent.

This map unit makes up about 9 percent of the county. It is about 32 percent Escambia soils, 25 percent Smithton soils, and 21 percent Poarch soils. Of minor extent are Bibb soils in drainageways and Benndale and Basin soils on low ridges.

Escambia and Poarch soils are on low ridges. Escambia soils are somewhat poorly drained. Poarch soils are well drained loamy soils that have more than 5 percent plinthite nodules in the subsoil. Smithton soils are on broad wet flats. They are poorly drained loamy soils.

The soils in this map unit are mainly in woodland. A small acreage is in pasture or urban areas. Escambia and Poarch soils are well suited to corn, soybeans, and pasture grasses and legumes. Smithton soils are poorly suited to row crops and pasture because of wetness and flooding.

These soils are well suited to use as woodland. Wetness is a limitation to harvesting tree crops on Escambia soils and Smithton soils. Flooding is a hazard on Smithton soils. Poarch soils have few limitations to woodland management.

Escambia soils are severely limited for urban uses because of wetness. Smithton soils are severely limited because of flooding and wetness. The nearly level and gently sloping Poarch soils are moderately limited for those uses because of wetness.

Escambia and Poarch soils have good potential for the development of openland and woodland wildlife habitat. Smithton soils have fair potential. Escambia and Smithton soils have fair potential for wetland wildlife habitat, and Poarch soils have poor potential.

2. Smithton-Escambia

Nearly level, poorly drained and somewhat poorly drained loamy soils; on broad wet flats, in drainageways, and on low ridges on uplands

This map unit is in the southern part of the county. The landscape is one of broad wet flats, wide poorly defined drainageways, and low ridges. The slope range is 0 to 2 percent.

This map unit makes up about 0.5 percent of the county. It is about 55 percent Smithton soils and 35 percent Escambia soils. Of minor extent are Bibb soils in drainageways and Basin soils on low ridges.

Smithton soils are on broad wet flats and in drainageways. They are poorly drained loamy soils. Escambia soils are on low ridges. They are somewhat poorly drained loamy soils that contain plinthite.

The soils in this map unit are mainly in woodland. A small acreage is in pasture. Escambia soils are well

suited to corn, soybeans, and pasture grasses and legumes. Smithton soils are poorly suited to row crops and pasture because of wetness.

The soils in this map unit are well suited to use as woodland, but wetness is a limitation to harvesting tree crops. Flooding is a hazard on Smithton soils.

Smithton soils are severely limited for urban uses because of flooding and wetness. Escambia soils are severely limited for those uses because of wetness.

Smithton soils have fair potential and Escambia soils have good potential for the development of openland and woodland wildlife habitat. These soils have fair potential for wetland wildlife habitat.

Dominantly nearly level to steep, well drained to poorly drained soils that have a loamy subsoil; on uplands

In this group are six map units made up of nearly level to steep soils. The soils are on broad ridges and short side slopes. The major soils are Basin, Escambia, Malbis, McLaurin, Poarch, Ruston, Smithdale, Smithton, and Troup soils. These well drained to poorly drained soils are loamy in the lower part of the subsoil. Smithton soils are the only major soils subject to flooding. The slope range is 0 to 20 percent. This group makes up about 20.5 percent of the county.

3. Poarch-Escambia-Smithton

Nearly level to sloping, well drained, somewhat poorly drained, and poorly drained loamy soils; on broad ridges and short side slopes on uplands and in drainageways

This map unit is in the southern part of the county. The landscape is gently undulating. It is marked by broad ridges that are generally more than one-fourth mile wide, short gently sloping to sloping side slopes, and narrow drainageways. The slopes are dissected by short drainageways and narrow flood plains. The slope range is 0 to 8 percent.

This map unit makes up about 2 percent of the county. It is about 48 percent Poarch soils, 18 percent Escambia soils, and 14 percent Smithton soils. Of minor extent are Malbis and Benndale soils on ridges and side slopes and Bibb soils in drainageways.

Poarch soils are on broad ridges and side slopes. These well drained loamy soils contain plinthite. Escambia soils are on the low ridges. The subsoil of these somewhat poorly drained loamy soils contains more than 5 percent plinthite nodules. Smithton soils are on wet flats and in drainageways. They are poorly drained loamy soils.

The soils in this map unit are mainly in woodland. A small acreage is in row crops or pasture. Poarch and Escambia soils are well suited to corn, soybeans, and pasture grasses and legumes. Smithton soils are poorly suited to row crops and pasture because of flooding and wetness.

These soils are well suited to use as woodland. Poarch soils have few limitations to woodland management. Wetness is a limitation on Escambia soils. Wetness and flooding are limitations to harvesting tree crops on Smithton soils.

The nearly level and gently sloping Poarch soils are moderately limited for urban uses because of wetness. Escambia soils are severely limited for those uses because of wetness. Smithton soils are severely limited because of wetness and flooding.

Potential is good for the development of openland and woodland wildlife habitat on Poarch and Escambia soils and is fair on Smithton soils. For wetland wildlife habitat, Poarch soils have poor potential and Escambia and Smithton soils have fair potential.

4. Malbis-Basin-Escambia

Nearly level to sloping, moderately well drained and somewhat poorly drained loamy soils; on broad ridges and short side slopes on uplands

This map unit is in the west-central part of the county. The landscape is gently undulating. It is marked by broad ridgetops that are generally more than one-fourth mile wide and by gently sloping to sloping, short side slopes, and nearly level, narrow drainageways. The slopes are dissected by short drainageways and narrow flood plains. The slope range is 0 to 8 percent.

This map unit makes up about 1 percent of the county. It is about 45 percent Malbis soils, 35 percent Basin soils, and 15 percent Escambia soils. Of minor extent are Poarch soils on ridges and side slopes and Smithton soils in drainageways.

Malbis soils are on broad ridges and side slopes. They are moderately well drained loamy soils that contain plinthite. The nearly level to gently sloping Basin soils are on ridgetops. They are somewhat poorly drained loamy soils that contain plinthite. Escambia soils are on low ridges. They are somewhat poorly drained loamy soils that contain plinthite.

The soils in this map unit are used mainly for pasture or row crops. A small acreage is in woodland. These soils are well suited to corn, soybeans, and pasture grasses and legumes.

These soils are well suited to use as woodland. On Malbis soils, there are few significant limitations to woodland management. Wetness is the main limitation to harvesting tree crops on Basin and Escambia soils.

The nearly level and gently sloping Malbis soils are moderately limited for urban uses because of wetness. Basin and Escambia soils are severely limited because of wetness.

Potential is good for development of openland and woodland wildlife habitat on the soils of this map unit. For wetland wildlife habitat, potential is very poor on Malbis soils, fair or very poor on Basin soils, and fair on Escambia soils.

5. Ruston-Smithdale-Poarch

Nearly level to moderately steep, well drained loamy soils; on broad ridges and short side slopes on uplands

This map unit is in the central and south-central parts of the county. The landscape is mainly gently undulating. It is marked by broad ridges that are generally more than one-fourth mile wide and by moderately steep side slopes and narrow drainageways. The slopes are dissected by many short drainageways and narrow flood plains. The slope range is 0 to 17 percent.

This map unit makes up about 8.5 percent of the county. It is about 40 percent Ruston soils, 35 percent Smithdale soils, and 15 percent Poarch soils. Of minor extent are Benndale, Malbis, McLaurin, and Troup soils on ridges, Cadeville and Troup soils on side slopes, and Escambia soils on lower ridges.

Ruston and Poarch soils are on ridges and side slopes. They are well drained loamy soils. Smithdale soils are on moderately steep side slopes. They are well drained loamy soils.

The soils in this map unit are mainly in woodland. A small acreage is in row crops or pasture. Ruston and Poarch soils are well suited to corn, soybeans, and pasture grasses and legumes. Smithdale soils are poorly suited to row crops and moderately suited to pasture because of steepness of slope.

These soils are well suited to use as woodland. Ruston and Poarch soils have few limitations to woodland management. Plant competition is the main limitation on Smithdale soils.

The nearly level and gently sloping Ruston soils are slightly limited for urban uses. Smithdale soils are severely limited for urban uses because of steepness of slope. The nearly level and gently sloping Poarch soils are moderately limited for those uses because of wetness.

Potential is good for the development of openland wildlife habitat on Ruston and Poarch soils and is fair on Smithdale soils. Potential is good for development of woodland wildlife habitat but is poor or very poor for wetland habitat.

6. Smithdale-Malbis-Ruston

Nearly level to steep, well drained and moderately well drained loamy soils; on broad ridges and short side slopes on uplands

This map unit is in the southwestern and northeastern parts of the county. The landscape is mainly rolling. It is marked by ridges that are generally less than one-fourth mile wide, sloping to steep side slopes, and narrow drainageways. The slopes are dissected by many short drainageways and narrow flood plains. The slope range is 0 to 20 percent.

This map unit makes up about 6 percent of the county. It is about 45 percent Smithdale soils, 22 percent Malbis soils, and 20 percent Ruston soils. Of minor extent are Benndale, McLaurin, and Poarch soils on ridges, Cadeville soils on strongly sloping and moderately steep side slopes, and Escambia soils on the lower lying ridges.

The moderately steep and steep Smithdale soils are on side slopes. They are well drained loamy soils. Malbis and Ruston soils are on ridges and gently sloping and sloping side slopes. They are well drained and moderately well drained loamy soils.

The soils in this map unit are mainly in woodland; a small acreage is in row crops or pasture. Malbis and Ruston soils are well suited to corn, soybeans, and pasture grasses and legumes. Smithdale soils are poorly suited to row crops, and they are moderately suited to pasture because of steepness of slope.

These soils are well suited to use as woodland. Plant competition is the main limitation on Smithdale soils. Malbis and Ruston have few limitations to woodland use.

Smithdale soils are severely limited for urban uses because of steepness of slope. The nearly level and gently sloping Malbis soils are moderately limited for urban uses because of wetness. The nearly level and gently sloping Ruston soils are slightly limited for those uses.

Potential for the development of openland wildlife habitat is good on Malbis and Ruston soils and is fair on Smithdale soils. Potential is good for development of woodland wildlife habitat but is very poor for wetland habitat.

7. Poarch-Smithdale-McLaurin

Nearly level to moderately steep, well drained loamy soils; on ridges and short side slopes on uplands

This map unit is in the southern part of the county. The landscape is mainly gently undulating and is marked by ridges that are generally less than one-fourth mile wide, sloping to moderately steep side slopes, and narrow drainageways. The slopes are dissected by many short drainageways and narrow flood plains. The slope range is 0 to 17 percent.

This map unit makes up about 2 percent of the county. It is about 45 percent Poarch soils, 30 percent Smithdale soils, and 15 percent McLaurin soils. Of minor extent are Benndale, Malbis, Ruston, and Troup soils on ridges, Cadeville soils on side slopes, and Escambia soils on lower ridges.

Poarch and McLaurin soils are on ridges and side slopes. Smithdale soils are well drained soils on side slopes.

The soils of this map unit are mainly in cropland or pasture. A small acreage is in woodland. Poarch and McLaurin soils are well suited to corn, soybeans, and pasture grasses and legumes. Smithdale soils are poorly suited to row crops and are moderately suited to pasture because of steepness of slope.

These soils are well suited to use as woodland. Plant competition is the main limitation on Smithdale soils. Poarch and McLaurin have few limitations to woodland use.

The nearly level and gently sloping Poarch soils are moderately limited for urban uses because of wetness.

Smithdale soils are severely limited because of steepness of slope. The gently sloping McLaurin soils have slight limitations.

Potential is good for the development of openland and woodland wildlife habitat on Poarch and McLaurin soils. Smithdale soils have fair potential for openland wildlife habitat and good potential for woodland wildlife habitat. The soils of this map unit have poor or very poor potential for wetland wildlife habitat.

8. McLaurin-Troup-Smithdale

Gently sloping to moderately steep, well drained loamy and sandy soils; on broad ridges and short side slopes on uplands

This map unit consists of loamy and sandy soils in the northeastern part of the county. The landscape is mainly gently undulating. It is marked by ridges that are generally more than one-fourth mile wide and by sloping to moderately steep side slopes and gently sloping flood plains less than one-eighth mile wide. The slope range is 2 to 17 percent.

This map unit makes up about 1 percent of the county. It is about 35 percent McLaurin soils, 30 percent Troup soils, and 25 percent Smithdale soils. Of minor extent are Cadeville soils on strongly sloping and moderately steep side slopes and Ruston soils on ridges.

McLaurin and Troup soils are on ridges and gently sloping and sloping side slopes. Smithdale soils are on moderately steep side slopes. They are well drained loamy soils.

The soils in this map unit are used mainly as cropland or pasture. A small acreage is in woodland. McLaurin soils of this map unit are well suited to corn, soybeans, and pasture grasses and legumes. Troup soils are poorly suited to row crops because they are droughty and are moderately suited to pasture grasses and legumes. Smithdale soils are poorly suited to row crops and are moderately suited to pasture grasses and legumes.

McLaurin and Smithdale soils are well suited to use as woodland. Limitations to woodland management are slight on McLaurin soils. Plant competition is the main limitation on Smithdale soils. Troup soils are moderately suited to use as woodland. The higher seedling mortality, reduced trafficability of harvesting equipment, and reduced growth on Troup soils is attributed to the deep sand in the surface layer.

The gently sloping McLaurin and Troup soils have slight limitations for most urban uses. Smithdale soils are severely limited for those uses because of steepness of slope.

Potential is good for the development of openland wildlife habitat on McLaurin soils and is fair on Troup and Smithdale soils. Potential is good for development of woodland wildlife habitat on McLaurin and Smithdale soils, and it is poor on Troup soils. All of these soils have very poor potential for wetland wildlife habitat.

Dominantly nearly level to moderately steep, well drained to somewhat poorly drained soils that are loamy or clayey in the lower part of the subsoil; on uplands

In this group are four map units that are made up of nearly level to moderately steep soils. The soils are on broad ridges and short side slopes. The major soils are Basin, Cadeville, Falkner, Malbis, McLaurin, Ruston, Saucier, Smithdale, and Susquehanna soils. The soils are somewhat poorly drained to well drained and have a loamy or clayey subsoil. The slope range is 0 to 17 percent. This group makes up about 45 percent of the county.

9. Malbis-Susquehanna-Ruston

Nearly level to strongly sloping, well drained to somewhat poorly drained loamy soils; on broad ridges and short side slopes on uplands

This map unit is in the central and northern parts of the county. The landscape is mainly gently undulating. It is marked by broad ridges that are generally more than one-fourth mile wide, sloping and strongly sloping side slopes, low ridges, and narrow drainageways. The slopes are dissected by many short drainageways and narrow flood plains. The slope range is 0 to 10 percent.

This map unit makes up about 26 percent of the county. It is about 25 percent Malbis soils, 23 percent Susquehanna soils, and 12 percent Ruston soils. Of minor extent are Basin, McLaurin, and Poarch soils on ridges, Cadeville soils on strongly sloping and moderately steep side slopes, and Escambia soils on the lower lying ridges.

The loamy Malbis and Ruston soils are on ridges and side slopes. They are well drained and moderately well drained. Susquehanna soils are on ridges and side slopes. They are somewhat poorly drained soils that have a clayey subsoil.

The soils in this map unit are used mainly as woodland. A small acreage is in row crops or pasture. Malbis and Ruston soils are well suited to corn, soybeans, and pasture grasses and legumes. Susquehanna soils are poorly suited to row crops and are moderately suited to pasture.

Malbis and Ruston soils are well suited to use as woodland. They have few limitations to woodland management. Susquehanna soils are moderately suited to woodland use. They have a higher rate of seedling mortality and are generally somewhat less productive than other soils of the map unit. They also have poor trafficability in wet weather.

Malbis soils are moderately limited for urban uses because of wetness. Susquehanna soils are severely limited because they are shallow to clay, which has high shrink-swell potential. Ruston soils are slightly limited for urban uses.

These soils have good potential for openland and woodland wildlife habitat and very poor potential for wetland wildlife habitat.

10. McLaurin-Malbis-Saucier

Nearly level to sloping, well drained and moderately well drained loamy soils; on broad ridges and short side slopes on uplands

This map unit is in the northern and eastern parts of the county. The landscape is mainly gently undulating. It is marked by broad ridges that are generally more than one-fourth mile wide, short, sloping side slopes, and narrow drainageways. The slopes are dissected by many short drainageways and narrow flood plains. The slope range is 0 to 8 percent.

This map unit makes up about 16 percent of the county. It is about 29 percent McLaurin soils, 25 percent Malbis soils, and 23 percent Saucier soils. Of minor extent are Basin, Poarch, Ruston, and Troup soils on ridges and side slopes.

McLaurin, Malbis, and Saucier soils are on ridges and side slopes. McLaurin soils are well drained loamy soils. Malbis and Saucier soils are moderately well drained loamy soils that contain plinthite.

The soils in this map unit are used mainly as cropland or pasture. A small acreage is in woodland. McLaurin, Malbis, and Saucier soils are well suited to corn, soybeans, and pasture grasses and legumes.

These soils are well suited to use as woodland. McLaurin and Malbis soils have few significant limitations to woodland use. Plant competition and reduced trafficability during wet seasons are the main limitations to this use on Saucier soils.

McLaurin soils have slight limitations for urban uses. Malbis and Saucier soils are moderately limited for those uses because of wetness.

The potential of these soils is good for the development of openland and woodland wildlife habitat and poor or very poor for wetland wildlife habitat.

11. Malbis-Falkner-Basin

Nearly level to sloping, moderately well drained and somewhat poorly drained loamy and silty soils; on broad ridges and short side slopes on uplands

This map unit is in the southwestern part of the county. The landscape is mainly gently undulating. It is marked by broad ridges that are generally more than one-fourth mile wide and by short side slopes and narrow drainageways. The slopes are dissected by many short drainageways and narrow flood plains. The slope range is 0 to 8 percent.

This map unit makes up about 1 percent of the county. It is about 45 percent Malbis soils, 20 percent Falkner soils, and 20 percent Basin soils. Of minor extent are Escambia soils on the lower lying ridges, Poarch and Saucier soils on ridges and side slopes, and Susquehanna soils on ridges and sloping or strongly sloping side slopes.

Malbis soils are on broad ridges and side slopes. They are moderately well drained loamy soils that contain plinthite. Falkner soils are on broad ridges and short side slopes. They are somewhat poorly drained silty soils. Basin soils are on ridges. They are somewhat poorly drained loamy soils, and their subsoil contains more than 5 percent plinthite nodules.

The soils in this map unit are used mainly for row crops or pasture. A small acreage is in woodland. These soils are well suited to corn, soybeans, and pasture grasses and legumes.

These soils are well suited to use as woodland. On Malbis soils, there are few limitations to woodland management. On Basin and Falkner soils, reduced trafficability in wet weather and plant competition are limitations to harvesting tree crops.

Malbis soils are moderately limited for urban uses because of wetness. Falkner soils are severely limited for those uses because of wetness and the clayey subsoil material, which has high shrink-swell potential. Basin soils are severely limited because of wetness.

Potential is good for the development of openland and woodland wildlife habitat. Potential for wetland wildlife habitat is very poor on Malbis soils and is fair to very poor on Falkner and Basin soils.

12. Smithdale-Malbis-Cadeville

Nearly level to moderately steep, well drained and moderately well drained loamy soils; on ridges and side slopes on uplands

This map unit is in the east-central part of the county. The landscape is mainly hilly. It is marked by ridges that are generally less than one-fourth mile wide, sloping to moderately steep side slopes, and narrow drainageways. The slopes are dissected by many short drainageways and narrow flood plains. The slope range is 0 to 17 percent.

This map unit makes up about 2 percent of the county. It is about 45 percent Smithdale soils, 25 percent Malbis soils, and 20 percent Cadeville soils. Of minor extent are Basin, McLaurin, Poarch, Susquehanna, and Troup soils on ridges and side slopes.

The moderately steep Smithdale soils are on side slopes. They are well drained loamy soils. Malbis soils are on ridges and gently sloping and sloping side slopes. They are moderately well drained loamy soils that contain plinthite. Cadeville soils are on side slopes. They are moderately well drained loamy soils that have a clayey subsoil.

The soils in this map unit are used mainly as woodland. A small acreage is in row crops and pasture. Smithdale and Cadeville soils are poorly suited to row crops and moderately suited to pasture grasses and legumes because of steep slope. Malbis soils are well suited to corn, soybeans, and pasture grasses and legumes.

Smithdale and Malbis soils are well suited to use as woodland. Plant competition is the main limitation on Smithdale soils. Malbis soils have few limitations to woodland management. Cadeville soils are moderately suited to use as woodland. Lower productivity, seedling mortality, and reduced trafficability of equipment in wet weather are limitations on Cadeville soils.

Smithdale and Cadeville soils are severely limited for urban uses because of steepness of slope. Malbis soils are moderately limited for those uses because of wetness.

On Smithdale soils, potential is fair for development of openland wildlife habitat and good for woodland wildlife habitat. On Malbis and Cadeville soils, potential is good for the development of openland and woodland wildlife habitat. The soils of this map unit have very poor potential for wetland wildlife habitat.

Dominantly nearly level, somewhat poorly drained to very poorly drained soils; on flood plains and terraces and in drainageways

In this group are two map units that are made up of nearly level soils. The soils are on wide flood plains, in drainageways, and on stream terraces. The major soils are Arkabutla, Bibb, Dorovan, Rosebloom, and Smithton soils. The soils are somewhat poorly drained to very poorly drained and have a loamy, silty, or mucky surface layer. All the soils are subject to flooding. The slope range is 0 to 2 percent. This group makes up about 25 percent of the county.

13. Arkabutla-Rosebloom

Nearly level, somewhat poorly drained and poorly drained silty soils; on broad flood plains

The soils in this map unit are on the broad flood plains along the Pearl River. These soils are silty and somewhat poorly drained and poorly drained. The landscape is dissected by many short drainageways and smaller, narrow flood plains. The slope range is 0 to 2 percent.

This map unit makes up about 6 percent of the county. It is about 51 percent Arkabutla soils and 31 percent Rosebloom soils. Of minor extent are Eustis soils at the higher elevations and the moderately well drained silty soils near the Pearl River and larger streams.

The soils of this map unit are wooded. A few small areas are mined for sand and gravel. These soils are poorly suited to row crops and pasture because of flooding.

These soils are well suited to woodland, but wetness and flooding are severe limitations to harvesting tree crops.

These soils are severely limited for urban uses because of wetness and flooding.

Potential is fair for the development of openland wildlife habitat on the soils of this map unit. For woodland wildlife habitat, Arkabutla soils have good potential and Rosebloom soils have fair potential. For wetland wildlife habitat, Arkabutla soils have fair potential and Rosebloom soils have good potential.

14. Smithton-Bibb-Dorovan

Nearly level, poorly drained loamy soils and very poorly drained mucky soils; on terraces and flood plains and in drainageways

This map unit consists of mucky and loamy soils along flood plains throughout the county. The landscape is marked by long wide to narrow areas along streams, on stream terraces, and in drainageways. The slope range is 0 to 2 percent.

This map unit makes up about 19 percent of the county. It is about 39 percent Smithton soils, 11 percent Bibb soils, and 10 percent Dorovan soils. Of minor extent are Escambia soils on the lower lying ridges and Jena and Croatan soils on flood plains and in drainageways.

Smithton soils are on stream terraces and in drainageways. They are poorly drained loamy soils. Bibb soils are in drainageways and on flood plains. They are poorly drained loamy soils. Dorovan soils, in drainageways and on flood plains, are very poorly drained organic soils.

The soils in this map unit are used mainly as woodland. A small acreage is pasture. These soils are poorly suited to row crops. Smithton and Bibb soils are moderately suited, and Dorovan soils are poorly suited to pasture grasses and legumes because of wetness and flooding.

These soils are well suited to use as woodland, but wetness and flooding are severe limitations to harvesting tree crops.

Flooding and soil wetness are severe limitations for urban uses. These limitations are difficult to overcome.

Potential is fair for the development of openland and woodland wildlife habitat on Smithton and Bibb soils and is poor on Dorovan soils. For wetland wildlife habitat, Smithton soils have fair potential and Bibb and Dorovan soils have good potential.

broad land use considerations

The soils in Pearl River County vary widely in their suitability and limitations for major land uses. Cultivated cropland makes up about 5 percent of the total land area. Soybeans, corn, and watermelon are the major row crops grown. This cropland is mainly in map units 5, 6, 7, and 9. The erosion hazard is slight or moderate on the nearly level or gently sloping ridges. Steepness of slopes is a significant limitation to cropland use in map units 5, 6, and 7. No crops are grown on soils in map units 13 and 14, and only a few are grown on soils in map unit 10. Flooding and wetness are the main limitations to the

use of the soils in map units 13 and 14 for row crops. Much of the land in map unit 10 is owned by large paper companies and is used exclusively for woodland.

Pasture makes up about 18 percent of the land area in the county. Most of the pasture is grown on the soils of map units 6, 7, 8, and 9. Many of these soils are well suited or moderately suited to pasture grasses and legumes.

Woodland makes up most of the land area in the county, about 67 percent. The soils of map units 1, 2, 3, 4, 5, 6, 7, 10, 11, and 13 are well suited to use as woodland. Most of the soils of map units 8, 9, 12, and 14 are well suited to this use. Troup soils of map unit 10, Susquehanna soils of map unit 11, and Cadeville soils of map unit 12 are only moderately suited, mainly because of lower productivity. Dorovan soils are poorly suited, mainly because of low productivity and excessive wetness. Hardwoods are dominant on the drainageways and flood plains, and longleaf, slash, and loblolly pines are dominant on uplands.

Less than 10 percent of the land area in the county is urban or built-up areas or miscellaneous land uses. The soils in map units 1, 2, 13, and 14 are severely limited for urban uses because of flooding or wetness. These soils are on uplands in the western and southern parts of the county and on drainageways throughout the county. In the northern, central, and south-central parts of the county, soils on the nearly level and gently sloping ridges of map units 3, 4, 5, 6, 7, 8, 9, 10, 11, and 12 are slightly limited or are moderately limited for urban uses because of wetness. These are the most suitable soils for urban development in Pearl River County.

detailed soil map units

The map units on the detailed soil maps at the back of this survey represent the soils in the survey area. The map unit descriptions in this section, along with the soil maps, can be used to determine the suitability and potential of a soil for specific uses. They also can be used to plan the management needed for those uses. More information on each map unit, or soil, is given under "Use and management of the soils."

Each map unit on the detailed soil maps represents an area on the landscape and consists of one or more soils for which the unit is named.

A symbol identifying the soil precedes the map unit name in the soil descriptions. Each description includes general facts about the soil and gives the principal hazards and limitations to be considered in planning for specific uses.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer or of the underlying material, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer or of the underlying material. They also can differ in slope, stoniness, salinity, wetness, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, McLaurin fine sandy loam, 2 to 5 percent slopes, is one of several phases in the McLaurin series.

Some map units are made up of two or more major soils. These map units are called soil associations.

A *soil association* is made up of two or more geographically associated soils that are shown as one unit on the maps. Because of present or anticipated soil uses in the survey area, it was not considered practical or necessary to map the soils separately. The pattern and relative proportion of the soils are somewhat similar. Malbis-Saucier association, sloping, is an example.

Most map units include small scattered areas of soils other than those for which the map unit is named. Some of these included soils have properties that differ substantially from those of the major soil or soils. Such differences could significantly affect use and management of the soils in the map unit. The included soils are identified in each map unit description. Some small areas of strongly contrasting soils are identified by a special symbol on the soil maps.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Pits is an example. Miscellaneous areas are shown on the soil maps.

Table 4 gives the acreage and proportionate extent of each map unit. Other tables (see "Summary of tables") give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils.

soil descriptions

AR—Arkabutla-Rosebloom association, frequently flooded. This map unit consists of nearly level, somewhat poorly drained and poorly drained silty soils. These soils are in a regular and repeating pattern on the flood plain of the Pearl River. This area is densely wooded with bottom land hardwoods. It has many old sloughs, oxbow lakes, and channel cutoffs. From January to April, it is subject to flooding for long periods. The slope range is 0 to 2 percent. Areas range from about 200 to more than 1,000 acres. Composition of the mapped areas varies, but mapping has been controlled well enough for the expected uses of the soils.

The somewhat poorly drained Arkabutla soils are near stream channels and drainageways. The poorly drained Rosebloom soils are on wet flats and in drainageways.

About 51 percent of the acreage is somewhat poorly drained Arkabutla soils. Typically, the surface layer is dark brown silt loam about 6 inches thick. The subsoil to a depth of about 18 inches is brown silty clay loam. From 18 to 26 inches it is grayish brown silty clay loam. From 26 to 40 inches it is light brownish gray silty clay loam. Below that, to a depth of 62 inches, it is gray silty clay loam.

Arkabutla soils are very strongly acid or strongly acid throughout. Permeability is moderate, and the available water capacity is high. Runoff is slow, and the erosion hazard is slight. During wet seasons, the water table is between 1.5 and 2.5 feet.

About 31 percent of the acreage is poorly drained Rosebloom soils. Typically, the surface layer is dark grayish brown silt loam about 5 inches thick. The upper part of the subsoil, to a depth of about 16 inches, is light brownish gray silty clay loam. The middle part, to a depth of about 30 inches, is light brownish gray silty clay loam.

The lower part of the subsoil to a depth of 62 inches is gray silty clay loam mottled in shades of brown.

Rosebloom soils are very strongly acid or strongly acid throughout the profile. Permeability is slow, and the available water capacity is very high. Runoff is very slow, and the erosion hazard is slight. The seasonal high water table is within 1 foot of the surface.

Included in mapping and making up about 18 percent of the association, are Jena soils on natural levees and moderately well drained silty soils near the Pearl River and the larger streams.

The soils in this map unit are wooded. They are poorly suited to crops and pasture because of seasonal wetness and frequent flooding. Arkabutla soils, which are in the better drained areas near stream channels, are well suited to cherrybark oak, green ash, loblolly pine, Nuttall oak, slash pine, sweetgum, water oak, and yellow-poplar. The poorly drained Rosebloom soils,

Figure 1.—Flooded hardwood timber in an area of Arkabutla-Rosebloom association, frequently flooded.

which are in flat, wetter areas, are well suited to green ash, Nuttall oak, water oak, willow oak, loblolly pine, and sweetgum. Wetness and flooding (fig. 1) are the main limitations to woodland management and harvesting of the tree crop. These limitations can be partly overcome by logging during the drier seasons.

The soils in this map unit are severely limited for urban uses and septic tank absorption fields because of flooding and wetness.

This map unit is in capability subclass Vw; Arkabutla soils are in woodland suitability group 1w8, and Rosebloom soils are in woodland suitability group 2w9.

BaA—Basin loam, 0 to 2 percent slopes. This nearly level, somewhat poorly drained soil is on broad ridgetops on uplands.

Typically, the surface layer is very dark gray loam about 5 inches thick. The subsoil to a depth of about 16 inches is light olive brown loam. From 16 to 22 inches it is yellowish brown loam with mottles in shades of gray. From 22 to 32 inches it is mottled in shades of brown and gray, is slightly compact and brittle, and contains about 6 percent plinthite nodules. Below that, to a depth of 65 inches, it is loam mottled in shades of brown and gray and is compact and brittle in about 45 percent of the volume.

This soil is very strongly acid or strongly acid throughout. Permeability is moderate in the upper part of the subsoil and is slow in the lower part. The available water capacity is medium. Runoff is slow, and the erosion hazard is slight. The seasonal high water table is between 1 foot and 2 feet in winter and early in spring.

Included in mapping are small areas of Malbis soils in slightly higher areas. Also included are a few areas of Escambia soils that are intermingled with the Basin soil.

This soil is used mainly for pasture or row crops. A small acreage is in woodland.

This soil is well suited to corn, soybeans, and pasture grasses and legumes. Seedbed preparation and tillage may be delayed in spring because of wetness. Conservation practices such as return of crop residue, crop rotation, minimum tillage, and alining crop rows to carry excess water to surface field ditches are needed. Good pasture management includes proper stocking, controlled grazing, and weed and brush control.

This soil is well suited to loblolly and slash pines. Wetness is the main limitation to woodland management and to harvesting tree crops. This limitation can be partly overcome by logging during the drier seasons.

This soil is severely limited for most urban uses because of wetness. Wetness and slow permeability in the lower part of the subsoil are severe limitations for septic tank absorption fields. These limitations can be partly overcome by increasing the size of the absorption field.

This map unit is in capability subclass IIw and woodland suitability group 2w2.

BaB—Basin loam, 2 to 5 percent slopes. This gently sloping, somewhat poorly drained soil is on broad ridgetops on uplands.

Typically, the surface layer is dark grayish brown loam about 6 inches thick. The subsoil to a depth of about 18 inches is yellowish brown loam. To a depth of about 23 inches it is pale brown loam with mottles in shades of brown and gray. From 23 to 30 inches it is yellowish brown loam with mottles in shades of gray. More than 40 percent of this horizon is brittle and compact and contains about 5 percent plinthite nodules. From 30 to 44 inches it is loam mottled in shades of red, brown, and gray. It is slightly compact and brittle and contains from 5 to 10 percent plinthite nodules. The subsoil to a depth of 65 inches is sandy clay loam mottled in shades of red, brown, and gray.

This soil is very strongly acid or strongly acid throughout. Permeability is moderate in the upper part of the subsoil and slow in the lower part. The available water capacity is medium. Runoff is slow, and the erosion hazard is slight to moderate. The water table during wet seasons is at a depth of 1 to 2 feet.

Included in mapping are small areas of Malbis soils in slightly higher areas and a few areas of Escambia soils on similar positions on the landscape.

This soil is used mainly for pasture or row crops. A small acreage is in woodland.

This soil is moderately suited to corn, soybeans, and pasture grasses and legumes. Seedbed preparation and tillage may be slight problems because of seasonal wetness in spring. Conservation practices such as return of crop residue, crop rotation, minimum tillage, contour farming or terracing, and use of grassed waterways are recommended to reduce the erosion hazard. Good pasture management includes proper stocking, controlled grazing, and weed and brush control.

This soil is well suited to loblolly and slash pines. Wetness is the main limitation to woodland management and to harvesting tree crops. This limitation can be partly overcome by logging during the drier seasons.

This soil is severely limited for most urban uses because of wetness. Wetness and slow permeability of the lower part of the subsoil are severe limitations for septic tank absorption fields. They can be partly overcome by increasing the size of the absorption field.

This map unit is in capability subclass IIIe and woodland suitability group 2w2.

BbA—Bassfield sandy loam, 0 to 3 percent slopes. This nearly level, well drained soil is on stream terraces.

Typically, the surface layer is brown sandy loam about 8 inches thick. The upper part of the subsoil, to a depth of about 14 inches, is yellowish red sandy loam. The middle part, to a depth of about 30 inches, is yellowish red loam mottled with shades of brown in the lower part.

The lower part of the subsoil, to a depth of about 41 inches, is yellowish red sandy loam mottled with yellow. The underlying material, to a depth of 50 inches, is reddish yellow loamy sand mottled with yellow. Below that, to a depth of 62 inches, it is light yellowish brown sand mottled with shades of brown.

This soil is very strongly acid or strongly acid throughout. Permeability is moderately rapid in the subsoil and is rapid in the underlying material. The available water capacity is medium. Runoff is slow, and the erosion hazard is slight.

Included in mapping are small areas of Latonia soils on stream terraces, Escambia soils on slightly higher positions, and Smithton soils on stream terraces and in drainageways.

This soil is used mainly for row crops or pasture. A small acreage is in woodland.

This soil is well suited to corn, soybeans, and pasture grasses and legumes. It is somewhat droughty. Fertilizer is leached from this soil faster than in soils with slower permeability. Conservation practices such as return of crop residue, minimum tillage, and alining crop rows to remove excess surface water are recommended. Good pasture management includes proper stocking, controlled grazing, and weed and brush control.

This soil is well suited to loblolly and slash pine. There are few significant limitations to woodland management.

This soil has slight limitations for most urban uses. It is severely limited for septic tank absorption fields because the sandy underlying material is a poor filter for the effluent.

This map unit is in capability subclass IIs and woodland suitability group 2o7.

BcB—Baxterville fine sandy loam, 2 to 5 percent slopes. This gently sloping, moderately well drained soil is on uplands.

Typically, the surface layer is dark grayish brown fine sandy loam about 5 inches thick. The subsurface layer, to a depth of about 12 inches, is yellowish brown fine sandy loam with a few dark yellowish brown mottles. The subsoil to a depth of 22 inches is yellowish red loam. From 22 to 35 inches it is red loam with a few yellowish brown mottles. Below that, to a depth of 62 inches, it is red sandy clay loam mottled in shades of red, brown, and gray. It contains about 6 percent plinthite nodules in the upper part.

This soil is very strongly acid or strongly acid throughout the profile. Permeability is moderately slow. The available water capacity is high. Runoff is medium, and the erosion hazard is moderate. The water table is between 3 and 5 feet in winter and early in spring.

Included in mapping are small areas of Malbis, McLaurin, and Ruston soils on similar positions on the landscape.

Almost all the acreage is in row crops or pasture. A small acreage is in woodland.

This soil is well suited to corn, soybeans, and pasture grasses and legumes. Conservation practices such as return of crop residue, crop rotations, contour farming, terracing, or minimum tillage may be needed. Good pasture management includes proper stocking, controlled grazing, and weed and brush control.

This soil is well suited to loblolly, longleaf, and slash pines. There are few significant limitations to woodland management.

This soil is moderately limited for most urban uses because of the shrink-swell potential and wetness. The moderately slow permeability of the subsoil and wetness are severe limitations for septic tank absorption fields.

This map unit is in capability subclass IIe and woodland suitability group 2o1.

BeA—Benndale sandy loam, 0 to 2 percent slopes. This nearly level, well drained soil is on ridgetops on uplands and high terraces.

Typically, the surface layer is dark gray sandy loam about 4 inches thick. The subsurface layer, to a depth of about 7 inches, is light yellowish brown sandy loam. The upper part of the subsoil, to a depth of 24 inches, is yellowish brown loam. The middle part, to a depth of about 50 inches, is brownish yellow loam that has strong brown mottles and contains a few fine plinthite nodules. The lower part of the subsoil to a depth of 60 inches is strong brown loam mottled in shades of brown and red. It contains a few fine plinthite nodules. Below that, to a depth of 70 inches, it is sandy loam mottled in shades of red, yellow, and gray.

This soil is very strongly acid or strongly acid throughout the profile. Permeability is moderate. The available water capacity is medium. Runoff is slow, and the erosion hazard is slight.

Included in mapping are small areas of Poarch and Ruston soils on similar positions on the landscape.

This soil is used mainly for row crops or pasture. A small acreage is in woodland.

This soil is well suited to corn, soybeans, and pasture grasses and legumes. Conservation practices such as return of crop residue, minimum tillage, and alining crop rows to remove excess surface water are recommended. Good pasture management includes proper stocking, controlled grazing, and weed and brush control.

This soil is well suited to loblolly, longleaf, and slash pines. Plant competition is moderate. There are few other limitations to woodland management.

This soil has slight limitations for urban uses. It has slight limitations for septic tank absorption fields.

This map unit is in capability subclass IIs and woodland suitability group 2o1.

BeB—Benndale sandy loam, 2 to 5 percent slopes. This gently sloping, well drained soil is on ridgetops on uplands and high terraces.

Typically, the surface layer is dark gray sandy loam about 6 inches thick. The subsoil to a depth of about 11 inches is yellowish brown sandy loam. From 11 to 35 inches it is brownish yellow sandy loam. Below that, to a

depth of about 50 inches, it is brownish yellow sandy loam that has a few red mottles and contains a few fine plinthite nodules. From 50 to 70 inches the subsoil is loam that is mottled in shades of yellow and red and contains a few fine plinthite nodules.

This soil is very strongly acid or strongly acid throughout the profile. Permeability is moderate. The available water capacity is medium. Runoff is medium, and the erosion hazard is moderate.

Included in mapping are small areas of Poarch and Ruston soils on similar positions on the landscape.

This soil is used mainly for row crops or pasture. A small acreage is in woodland.

This soil is well suited to corn, soybeans, and pasture grasses and legumes. Conservation practices such as the return of crop residue, minimum tillage, contour farming, and terracing are needed to reduce erosion when row crops are grown. Good pasture management includes proper stocking, controlled grazing, and weed and brush control.

This soil is well suited to loblolly, longleaf, and slash pines. Plant competition is moderate. There are few other limitations to woodland management.

This soil has slight limitations for urban uses. It has slight limitations for septic tank absorption fields.

This map unit is in capability subclass IIe and woodland suitability group 2o1.

BeC—Benndale sandy loam, 5 to 8 percent slopes. This well drained soil is on side slopes in uplands.

Typically, the surface layer is dark grayish brown sandy loam about 4 inches thick. The subsurface layer, to a depth of about 8 inches, is light yellowish brown sandy loam. The upper part of the subsoil, to a depth of 48 inches, is brownish yellow loam that has a few red mottles and a few fine plinthite nodules below a depth of 38 inches. The lower part of the subsoil to a depth of about 65 inches is yellowish brown sandy loam mottled with shades of gray and red.

This soil is very strongly acid or strongly acid throughout the profile. Permeability is moderate. The available water capacity is medium. Runoff is medium, and the hazard of erosion is moderate.

Included in mapping are small areas of Poarch and Ruston soils on similar positions on the landscape.

Almost all the acreage of this soil is used for row crops or pasture. A small acreage is in woodland.

This soil is moderately suited to corn and soybeans and is well suited to pasture grasses and legumes. Because of the erosion hazard, conservation practices such as return of crop residue, minimum tillage, contour farming, and terracing are needed. Grassed waterways are recommended. Good pasture management includes proper stocking, controlled grazing, and weed and brush control.

This soil is well suited to loblolly, longleaf, and slash pines. Plant competition is moderate. There are few other limitations to woodland management.

This soil has slight limitations for most urban uses and for septic tank absorption fields.

This map unit is in capability subclass IIIe and woodland suitability group 2o1.

Bd—Bibb sandy loam. This nearly level, poorly drained soil is on narrow flood plains. It is flooded for brief periods several times a year, usually in winter and early spring. The slope range is 0 to 2 percent.

Typically, the surface layer is dark grayish brown sandy loam about 3 inches thick. The subsurface layer to a depth of about 6 inches is gray sandy loam with dark brown mottles. Below this, to a depth of about 10 inches, is light gray loamy sand mottled in shades of brown. From 10 to 15 inches the soil material is gray sandy loam mottled in shades of gray and brown. The next layers, to a depth of about 48 inches, are light brownish gray grading to gray sandy loam mottled in shades of brown, gray, and yellow. Below that, to a depth of 65 inches, is gray loamy sand.

This soil is very strongly acid or strongly acid throughout the profile. Permeability is moderate. The available water capacity is medium. Runoff is very slow, and the erosion hazard is slight. The water table is near the surface during wet seasons.

Included in mapping are small areas of Dorovan and Smithton soils on similar positions on the landscape.

Almost all of the acreage of this soil is woodland, mainly mixed hardwoods and pines. A small acreage is in pasture.

This soil is poorly suited to row crops because of frequent overflow and seasonal wetness. It is moderately suited to pasture grasses and legumes, but surface field ditches are needed to remove excess surface water. Good pasture management includes proper stocking, controlled grazing, and weed and brush control.

This soil is well suited to hardwoods and slash pine. Flooding and a high water table in winter and early in spring are the main limitations to woodland management and to harvesting the tree crops. These limitations can be partly overcome by logging in the drier season.

This soil is severely limited for urban uses because of flooding and a seasonal high water table in winter and spring. Flooding and wetness are severe limitations for septic tank absorption fields.

This map unit is in capability subclass Vw and woodland suitability group 2w9.

CaD—Cadeville fine sandy loam, 8 to 15 percent slopes. This strongly sloping, moderately well drained soil is on uplands.

Typically, the surface layer is dark grayish brown fine sandy loam that is about 8 inches thick and has a few pale brown mottles. The upper part of the subsoil, to a depth of about 30 inches, is red clay mottled in shades of red and gray. The lower part of the subsoil, to a depth of about 36 inches, is clay mottled in shades of red, yellow, and gray. Below that, to a depth of about 60

inches, is light gray silty clay loam mottled in shades of red and brown. The underlying material to a depth of 70 inches is silty clay loam mottled in shades of red and gray.

This soil is very strongly acid or strongly acid throughout. Permeability is very slow, and the available water capacity is high. Runoff is rapid, and the erosion hazard is severe if a vegetative cover is not maintained.

Included in mapping are small areas of Susquehanna soils on adjacent ridges and Smithdale soils on moderately steep and steep side slopes.

Most of the acreage of this soil is in woodland. A small acreage is in pasture.

This soil is poorly suited to crops because of steepness of slope. It is moderately suited to pasture grasses and legumes.

This soil is moderately suited to loblolly and slash pines. The poor trafficability in wet weather is the main limitation to woodland use.

This soil is severely limited for most urban uses because the clayey subsoil has high shrink-swell potential. The slow permeability of the clayey subsoil is a severe limitation for septic tank absorption fields.

This map unit is in capability subclass VIe and woodland suitability group 3c2.

DC—Dorovan-Croatan association. This map unit consists of nearly level, very poorly drained organic soils. These soils are in a regular and repeating pattern. They formed in well-decomposed plant parts and are in narrow drainageways and on flood plains. These soils are ponded and flooded frequently for long periods. The slope is less than 1 percent. Areas are mostly long and narrow in shape and range from 10 to 100 acres in size. The composition of the mapped areas varies, but mapping has been controlled well enough for the expected uses of the soils.

About 55 percent of the map unit is the very poorly drained Dorovan soils. Typically, the surface layer is a very dark grayish brown mucky peat about 3 inches thick. From 3 to 14 inches is very dark brown muck, and from 14 to 56 inches is black muck. Below that, to a depth of 65 inches, is grayish brown sandy loam with brown mottles.

Dorovan soils are extremely acid throughout. Permeability is moderate, and the available water capacity is high. Runoff is very slow, and the erosion hazard is slight. The water table is at or above the surface in wet seasons.

About 29 percent of the map unit is the very poorly drained Croatan soils. Typically, the surface layer is very dark grayish brown organic matter about 5 inches thick. From 5 to 22 inches is very dark brown muck. From 22 to 39 inches is black muck. Below that, to a depth of 62 inches, is light brownish gray sandy loam.

Croatan soils are extremely acid in the organic layers and very strongly acid in the underlying material. Permeability is slow, and the available water capacity is high. Runoff is very slow. The water table is at or above the surface in wet seasons. The erosion hazard is slight.

Included in mapping, and making up about 16 percent of the association, are Bibb and Smithton soils. These mineral soils are on similar positions on the landscape.

This map unit is in mixed swamp hardwoods and conifers. It is poorly suited to crops and pasture because of wetness. It is well suited to blackgum, sweetbay, red maple, and baldcypress and poorly suited to slash, loblolly, and longleaf pines. Wetness and poor trafficability are the main limitations to woodland management and especially to harvesting tree crops.

These soils are severely limited for urban uses and for septic tank absorption fields because of wetness and standing water.

This map unit is in capability subclass VIIw and woodland suitability group 4w9.

EaA—Escambia fine sandy loam, 0 to 2 percent slopes. This nearly level, somewhat poorly drained soil is on broad uplands.

Typically, the surface layer is very dark gray fine sandy loam about 6 inches thick. The subsurface layer, to a depth of about 12 inches, is grayish brown fine sandy loam. The upper part of the subsoil, to a depth of about 18 inches, is light yellowish brown fine sandy loam mottled with shades of gray. The middle part, to a depth of about 48 inches, is loam that is brownish yellow mottled with shades of gray to a depth of 26 inches and, below that depth, is yellowish brown mottled in shades of gray and about 15 percent plinthite nodules. The lower part of the subsoil to a depth of 65 inches is loam mottled in shades of brown and gray. It contains about 10 percent plinthite nodules.

This soil is very strongly acid or strongly acid throughout. Permeability is moderate in the upper part of the subsoil and slow in the lower part. The available water capacity is high. Runoff is slow, and the erosion hazard is slight. The water table in late winter and spring fluctuates between 1.5 and 2.5 feet.

Included in mapping are small areas of Basin and Malbis soils in higher areas and Smithton soils in slightly lower areas.

This soil is used mainly for row crops or pasture. A small acreage is in woodland.

This soil is well suited to corn, soybeans, and pasture grasses and legumes. Seedbed preparation and tillage are sometimes problems because of seasonal wetness. Conservation practices such as return of crop residue, minimum tillage, and alining crop rows to carry excess water to surface field ditches are needed. Good management for pasture includes proper stocking, controlled grazing, and weed and brush control.

This soil is well suited to loblolly, longleaf, and slash pines and sweetgum. Wetness is the main limitation to woodland management and to harvesting tree crops. This limitation can be partly overcome by logging during the drier season.

This soil is severely limited for most urban uses because of wetness. Wetness and slow permeability are also severe limitations for septic tank absorption fields.

This map unit is in capability subclass IIw and woodland suitability group 2w8.

FaA—Falkner silt loam, 0 to 2 percent slopes. This nearly level, somewhat poorly drained soil is on broad uplands.

Typically, the surface layer is dark grayish brown silt loam about 7 inches thick. The subsoil to a depth of about 19 inches is yellowish brown silt loam. Below that, to a depth of 48 inches, it is silty clay loam mottled in shades of red, brown, and gray. The lower part of the subsoil to a depth of 65 inches is silty clay mottled in shades of red, yellow, and gray.

The soil is very strongly acid or strongly acid throughout the profile. Permeability is slow. The available water capacity is high. Runoff is slow, and the erosion hazard is slight. During prolonged wet seasons late in winter and early in spring, the water table is between 1.5 and 2.5 feet.

Included in mapping are small areas of Saucier and Malbis soils on higher ridges and Susquehanna soils on similar positions on the landscape.

Almost all the acreage of this soil is in row crops or pasture. A small acreage is in woodland.

This soil is well suited to corn, soybeans, and pasture grasses (fig. 2) and legumes. Seedbed preparation is sometimes delayed because of the seasonal wetness. Conservation practices such as minimum tillage, return of crop residue, and alining crop rows to carry excess water to surface field ditches are needed. Good pasture management includes proper stocking, controlled grazing, and weed and brush control.

This soil is well suited to loblolly pine and sweetgum. Poor trafficability in wet weather and plant competition are limitations to woodland management. These limitations can be partly overcome by logging during drier seasons.

This soil is severely limited for most urban uses because of wetness and depth to the clayey subsoil, which has high shrink-swell potential. Wetness and slow

Figure 2.—Bahiagrass and white Dutch clover pasture on Falkner silt loam, 0 to 2 percent slopes.

permeability are severe limitations for septic tank absorption fields.

This map unit is in capability subclass IIw and woodland suitability group 2w8.

FaB—Falkner silt loam, 2 to 5 percent slopes. This gently sloping, somewhat poorly drained soil is on broad uplands.

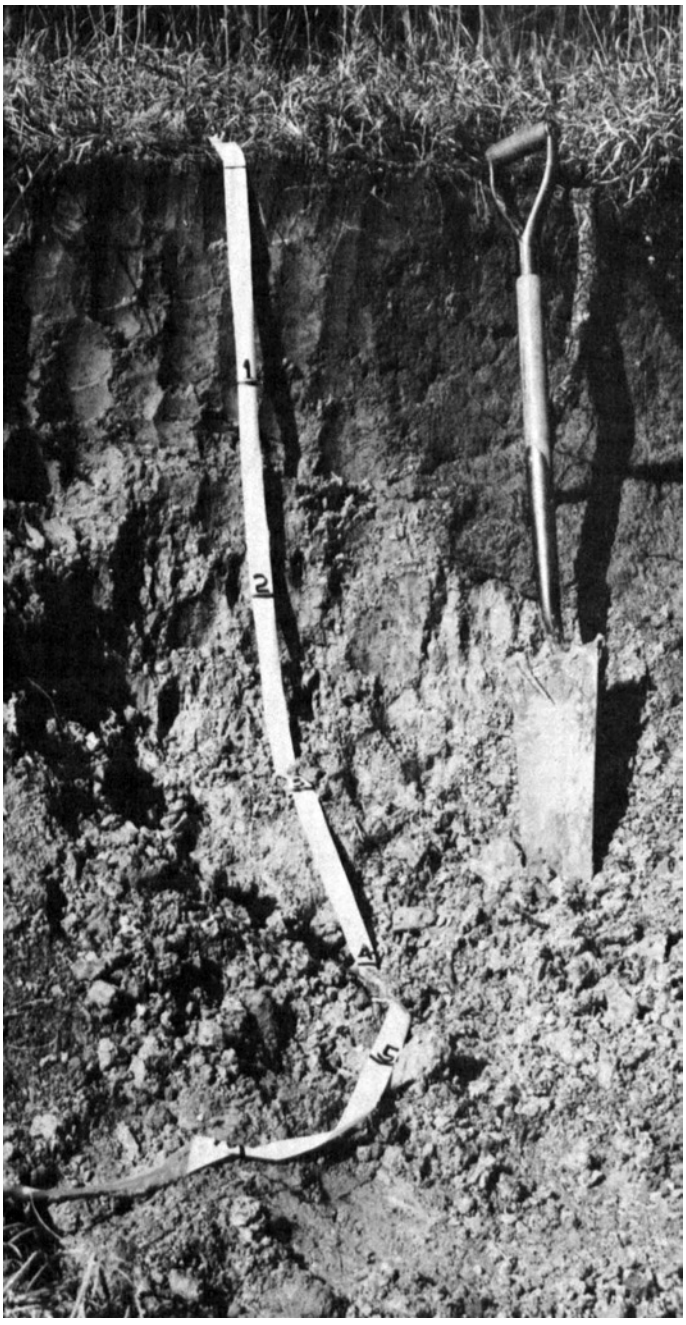


Figure 3.—Profile of Falkner silt loam, 2 to 5 percent slopes. The scale is in feet.

Typically, the surface layer is dark grayish brown silt loam about 7 inches thick. The subsoil to a depth of 18 inches is yellowish brown silt loam with a few red mottles. From 18 to 45 inches it is silty clay loam mottled in shades of red and gray. The lower part of the subsoil to a depth of 68 inches is silty clay mottled in shades of red, yellow, and gray (fig. 3).

This soil is very strongly acid or strongly acid throughout. Permeability is slow. The available water capacity is high. Runoff is medium, and the erosion hazard is moderate. During prolonged wet seasons late in winter and early in spring, the water table is between 1.5 and 2.5 feet.

Included in mapping are small areas of Saucier and Malbis soils on higher ridges and Susquehanna soils on similar positions on the landscape.

This soil is used mainly for row crops or pasture. A small acreage is in woodland.

This soil is moderately suited to corn and soybeans and is well suited to pasture grasses and legumes. Seedbed preparation may be delayed because of seasonal wetness. If this soil is cultivated, erosion is a hazard. Conservation practices such as minimum tillage, return of crop residue, crop rotations, contour tillage, contour stripcropping, and grassed waterways are recommended. Good pasture management includes proper stocking, controlled grazing, and weed and brush control.

This soil is well suited to loblolly pine and sweetgum. Poor trafficability in wet weather and plant competition are limitations to woodland management. They can be partly overcome by logging during the drier seasons.

This soil is severely limited for most urban uses because of wetness and depth to the clayey subsoil, which has high shrink-swell potential. Wetness and slow permeability are severe limitations for septic tank absorption fields.

This map unit is in capability subclass IIIe and woodland suitability group 2w8.

LaA—Latonia fine sandy loam, 0 to 2 percent slopes. This well drained soil is on stream terraces.

Typically, the surface layer is very dark grayish brown fine sandy loam about 5 inches thick. The upper part of the subsoil, to a depth of 18 inches, is loam that is yellowish brown in the upper part and brownish yellow below. The lower part of the subsoil, to a depth of 36 inches, is brownish yellow fine sandy loam. The underlying material to a depth of 70 inches is loamy sand mottled in shades of brown.

This soil is very strongly acid or strongly acid. Permeability is moderately rapid. The available water capacity is medium. Runoff is slow, and the erosion hazard is slight.

Included in mapping are small areas of Bassfield soils on similar positions on the landscape and Escambia and Smithton soils in lower lying areas.

Almost the entire acreage of this soil is in row crops or pasture. This soil is moderately well suited to corn, soybeans, and pasture grasses and legumes. It is somewhat droughty. Conservation practices such as return of crop residue, minimum tillage, and alining crop rows to remove excess surface water are recommended. Good pasture management includes proper stocking, controlled grazing, and weed and brush control.

This soil is well suited to loblolly and slash pines. There are few significant limitations to woodland management.

This soil has slight limitations for most urban uses. It is severely limited for septic tank absorption fields because the sandy substratum may be a poor filter for the effluent.

This map unit is in capability subclass IIs and woodland suitability group 2o1.

LuA—Lucedale fine sandy loam, 0 to 2 percent slopes. This nearly level, well drained soil is on broad uplands.

Typically, the surface layer is dark reddish brown fine sandy loam about 7 inches thick. The upper part of the subsoil, to a depth of about 14 inches, is dark reddish brown sandy clay loam. The lower part of the subsoil to a depth of about 70 inches is dark red sandy clay loam.

This soil is very strongly acid or strongly acid throughout. Permeability is moderate, and the available water capacity is high. Runoff is slow, and the erosion hazard is slight.

Included in mapping are small areas of Ruston and Malbis soils on similar positions on the landscape.

Almost all the acreage of this soil is used for row crops and pasture. A small acreage is in woodland.

This soil is well suited to corn, soybeans, and pasture grasses and legumes. Conservation practices such as return of crop residue and alining crop rows to remove excess surface water are needed. This soil has good tilth. Good pasture management includes proper stocking, controlled grazing, and weed and brush control.

This soil is well suited to slash and loblolly pines. There are few significant limitations to woodland management.

This soil has slight limitations for most urban uses and for septic tank absorption fields.

This map unit is in capability class I and woodland suitability group 2o1.

MaA—Malbis fine sandy loam, 0 to 2 percent slopes. This nearly level, moderately well drained soil is on broad ridgetops in uplands.

Typically, the surface layer is very dark grayish brown fine sandy loam about 7 inches thick. The upper part of the subsoil, to a depth of about 30 inches, is yellowish brown fine sandy loam. Below that, to a depth of about 46 inches, is brownish yellow sandy clay loam mottled with shades of brown and red and containing about 10 percent plinthite nodules (fig. 4). The lower part of the subsoil to a depth of 80 inches is strong brown sandy clay loam that is mottled with shades of red and gray and is about 5 percent plinthite nodules.

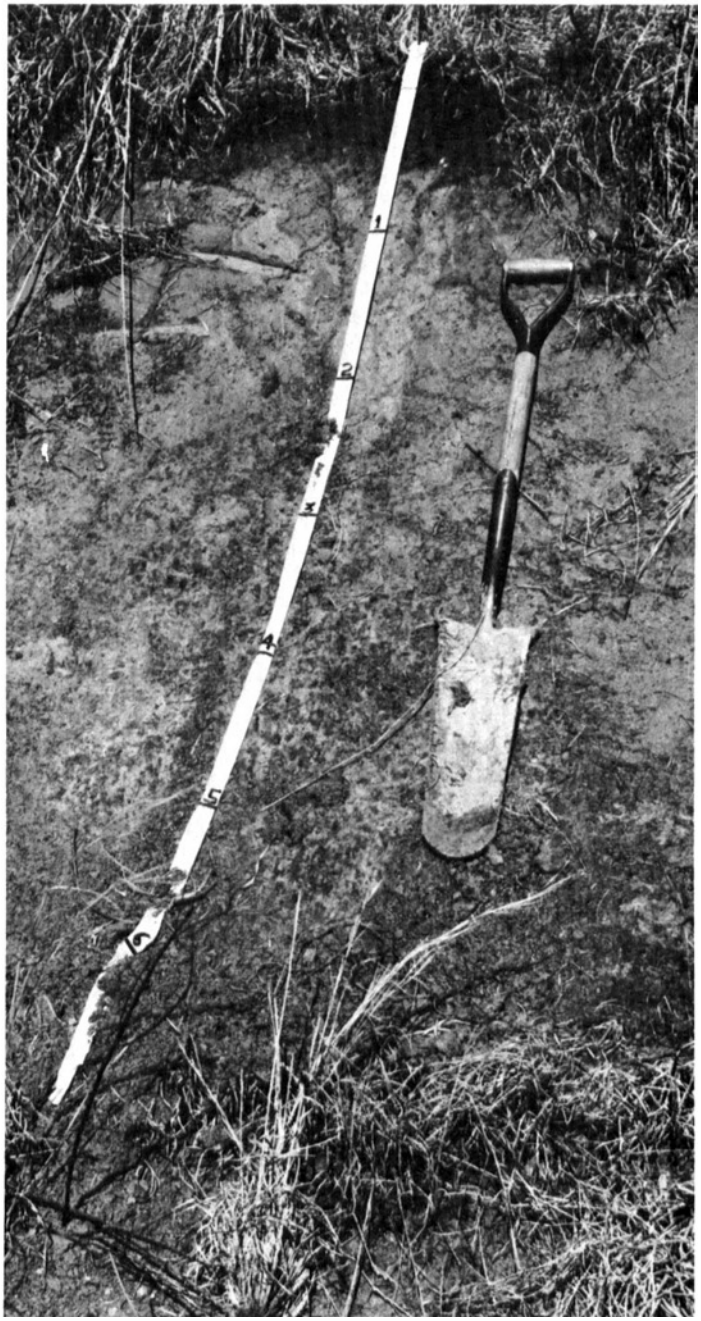


Figure 4.—Profile of Malbis fine sandy loam, 0 to 2 percent slopes. The horizons near top of the spade blade and below contain reddish plinthite nodules less than 1 inch in diameter. The scale is in feet.

The reaction ranges from very strongly acid to medium acid throughout, except where the surface layer has been limed. Permeability is moderate in the upper part of the subsoil and moderately slow in the lower part. The available water capacity is medium. Runoff is slow, and the erosion hazard is slight. During prolonged wet seasons, a perched water table fluctuates between 2.5 and 4 feet.

Included in mapping are small areas of Poarch soils on similar positions on the landscape and Basin soils on slightly lower positions.

This soil is used mainly for row crops or pasture. A small acreage is in woodland.

This soil is well suited to corn, soybeans, and pasture grasses and legumes. This soil has good tilth. Conservation practices such as return of crop residue and alining crop rows to remove excess surface water are needed. Good pasture management includes proper stocking, controlled grazing, and weed and brush control.

This soil is well suited to loblolly, longleaf, and slash pines. There are few significant limitations to woodland management.

This soil is moderately limited for some urban uses because of wetness. It has slight limitations for dwellings without basements and small commercial buildings. Wetness is a severe limitation for septic tank absorption fields.

This map unit is in capability class I and woodland suitability group 2o1.

MaB—Malbis fine sandy loam, 2 to 5 percent slopes. This gently sloping, moderately well drained soil is on broad ridgetops in uplands.

Typically, the surface layer is dark grayish brown fine sandy loam about 6 inches thick. The subsurface layer, to a depth of about 11 inches, is light yellowish brown fine sandy loam. The upper part of the subsoil, to a depth of about 14 inches, is yellowish brown loam. The next layer, to a depth of about 46 inches, is yellowish brown sandy clay loam that is mottled with shades of brown. It contains 8 to 12 percent plinthite nodules in the lower part. The lower part of the subsoil to a depth of 70 inches is yellowish brown sandy clay loam that is mottled in shades of brown and gray and contains about 6 percent plinthite nodules.

Soil reaction ranges from very strongly acid to medium acid throughout, except where the surface layer has been limed. Permeability is moderate in the upper part of the subsoil and moderately slow in the lower part. The available water capacity is medium. Runoff is medium, and the erosion hazard is moderate. In late winter and early spring during prolonged wet seasons, the water table fluctuates 2.5 to 4 feet.

Included in mapping are small areas of Poarch soils on similar positions on the landscape and Basin soils in slightly lower areas.

Most of the acreage is in row crops or pasture. A small acreage is in woodland.

This soil is well suited to corn, soybeans, and pasture grasses and legumes. Because of the erosion hazard, conservation practices such as return of crop residue, crop rotation, contour farming, terracing, or minimum tillage are needed. Good pasture management includes proper stocking, controlled grazing, and weed and brush control.

This soil is well suited to loblolly, longleaf, and slash pines. There are few significant limitations to woodland management.

This soil is moderately limited for some urban uses because of wetness. It has slight limitations for dwellings without basements and small commercial buildings. Wetness is a severe limitation for septic tank absorption fields.

This map unit is in capability subclass IIe and woodland suitability group 2o1.

MaC—Malbis fine sandy loam, 5 to 8 percent slopes. This sloping, moderately well drained soil is on side slopes on uplands.

Typically, the surface layer is dark grayish brown fine sandy loam about 5 inches thick. The subsurface layer, to a depth of 8 inches, is light yellowish brown fine sandy loam. The upper part of the subsoil, to a depth of 18 inches, is strong brown sandy clay loam. Below that, to a depth of 36 inches, is strong brown sandy clay loam mottled in shades of red and containing about 10 percent plinthite nodules. The lower part of the subsoil to a depth of 65 inches is strong brown sandy clay loam mottled in shades of gray and containing about 5 percent plinthite nodules.

Soil reaction ranges from very strongly acid to medium acid throughout, except where the surface layer has been limed. Permeability is moderate in the upper part of the subsoil and moderately slow in the lower part. The available water capacity is medium. Runoff is medium, and the erosion hazard is moderate. In late winter and early spring, the water table is between 2.5 and 4 feet.

Included in mapping are small areas of Poarch soils on similar positions on the landscape and Basin soils in slightly lower areas.

This soil is used mainly for row crops or pasture. A small acreage is in woodland.

This soil is moderately suited to corn and soybeans and is well suited to pasture grasses and legumes. Because of the erosion hazard, conservation practices such as return of crop residue, crop rotation, contour farming, terracing or minimum tillage, and grassed waterways are needed. Good pasture management includes proper stocking, controlled grazing, and weed and brush control.

This soil is well suited to loblolly, longleaf, and slash pines. There are few significant limitations to woodland management.

This soil is moderately limited for some urban uses because of wetness. It has slight limitations for dwellings without basements. Slope is a moderate limitation for

small commercial buildings. Wetness is a severe limitation for septic tank absorption fields.

This map unit is in capability subclass IIIe and woodland suitability group 2o1.

MD—Malbis-Saucier association, sloping. This map unit consists of nearly level to sloping, moderately well drained loamy soils in large, wooded areas. It is in a regular and repeating pattern on uplands. The topography is dissected by many narrow drainageways. The slope range is 0 to 8 percent. Areas range from about 100 to 400 acres. The composition of this map unit varies, but mapping has been controlled well enough for the expected uses of the soils.

The moderately well drained Malbis soils are on the ridgetops and side slopes, and the moderately well drained Saucier soils are at the lower elevations near streams and at the head of drainageways.

About 34 percent of the acreage is the moderately well drained Malbis soils. Typically, the surface layer is dark grayish brown fine sandy loam about 4 inches thick. The subsurface layer, to a depth of about 8 inches, is light yellowish brown fine sandy loam. The subsoil to a depth of about 16 inches is yellowish brown loam. From 16 to 40 inches it is yellowish brown sandy clay loam that contains about 10 percent plinthite nodules in the lower part. From 40 to 65 inches it is yellowish brown sandy clay loam that is mottled in shades of red, gray, and brown and is about 5 percent plinthite nodules.

Malbis soils range from very strongly acid to medium acid throughout. Permeability is moderate in the upper part of the subsoil and moderately slow in the lower part. The available water capacity is medium. Runoff is medium, and the erosion hazard is moderate. In wet seasons, the water table is between 2.5 and 4 feet.

About 22 percent of the acreage is Saucier soils. Typically, the surface layer is very dark grayish brown sandy loam about 3 inches thick. The subsurface layer, to a depth of about 6 inches, is pale brown sandy loam. The subsoil to a depth of about 26 inches is yellowish brown sandy clay loam. From 26 to 42 inches it is clay loam that is mottled in shades of brown, gray, and red and is about 10 percent plinthite nodules. Below that, to a depth of 65 inches, the subsoil is clay that is mottled in shades of red, gray, and brown and contains about 3 percent plinthite nodules.

Saucier soils range from extremely acid to strongly acid throughout the profile. Permeability is moderate in the upper part of the subsoil and moderately slow in the lower part. The available water capacity is high. Runoff is medium, and the erosion hazard is moderate. In wet seasons, the water table is perched above the slowly permeable subsoil at a depth of 2.5 to 4 feet.

Included in mapping, and making up about 44 percent of the association, are small areas of Benndale, Bibb, Cadeville, Poarch, Ruston, and Smithton soils. Benndale, Poarch, and Ruston soils are on similar positions. Cadeville soils are on side slopes. Bibb and Smithton soils are in drainageways.

This map unit is in woodland. The soils are moderately suited to row crops and are well suited to pasture grasses and legumes.

The soils of this map unit are well suited to slash and loblolly pines. There are few significant limitations to woodland management on Malbis soils. Plant competition and poor trafficability during wet seasons are limitations on Saucier soils.

The major soils in this map unit are moderately limited for most urban uses because of wetness. Wetness is a severe limitation for septic tank absorption fields.

Malbis and Saucier soils are in capability subclass IIIe; Malbis soils are in woodland suitability group 2o1; Saucier soils are in woodland suitability group 2w2.

ME—Malbis-Susquehanna-Saucier association, sloping. This map unit consists of nearly level to sloping, moderately well drained and somewhat poorly drained soils on uplands. These soils are in large wooded areas. They are in a regular and repeating pattern. The landscape is dissected by many narrow drainageways. The slope range is 0 to 8 percent. Areas range from about 200 to more than 600 acres. The composition of this unit varies, but mapping has been controlled well enough for the expected uses of the soils.

The moderately well drained Malbis soils are on the upper slopes, and the moderately well drained Saucier soils and the somewhat poorly drained Susquehanna soils are on the lower lying side slopes and bordering drainageways.

About 25 percent of the map unit is the moderately well drained Malbis soils. Typically, the surface layer is dark grayish brown sandy loam about 3 inches thick. The subsurface layer, to a depth of about 6 inches, is light yellowish brown sandy loam. The subsoil, to a depth of about 45 inches, is brownish yellow sandy clay loam. From 45 to 57 inches it is brownish yellow sandy clay loam that is mottled in shades of red and is about 6 percent plinthite nodules. The subsoil to a depth of 65 inches is clay loam mottled in shades of red, gray, and yellow.

Malbis soils range from very strongly acid to medium acid throughout. Permeability is moderate in the upper part of the subsoil and moderately slow in the lower part. The available water capacity is medium. Runoff is medium, and the erosion hazard is moderate. The seasonal high water table is between 2.5 and 4 feet.

About 20 percent of the map unit is somewhat poorly drained Susquehanna soils. Typically, the surface layer is dark gray loam about 4 inches thick. The subsurface layer, to a depth of 7 inches, is light yellowish brown loam with brown mottles. The subsoil to a depth of 20 inches is red clay mottled in shades of red and gray. Below that, to a depth of about 36 inches, it is clay mottled in shades of red, yellow, and gray. The lower part of the subsoil to a depth of 65 inches is light gray clay mottled in shades of red.

Susquehanna soils are very strongly acid or strongly acid throughout. Permeability is very slow. The available

water capacity is high. Runoff is medium to rapid, and the erosion hazard is moderate.

About 17 percent of the map unit is moderately well drained Saucier soils. Typically, the surface layer is very dark gray sandy loam about 4 inches thick. The subsurface layer to a depth of about 9 inches, is dark gray sandy loam. The subsoil to a depth of about 20 inches is light yellowish brown sandy loam mottled in shades of brown. Below that, to a depth of 24 inches, it is yellowish brown sandy clay loam mottled with brown. From 24 to 45 inches it is sandy clay loam that is mottled in shades of red, brown, and gray and is about 6 percent plinthite nodules. Below that, to a depth of 58 inches, it is light gray sandy clay loam mottled in shades of brown. The subsoil to a depth of 75 inches is light gray clay mottled with shades of brown.

Saucier soils range from extremely acid to strongly acid throughout. Permeability is moderate in the upper part of the subsoil and is slow in the lower part. The available water capacity is high. Runoff is medium, and the erosion hazard is moderate. The seasonal high water table is at a depth of 2.5 to 4 feet.

Included in mapping, and making up about 38 percent of the association, are small areas of Benndale, Poarch, and Ruston soils on the same landscape positions; small areas of Cadeville soils on strongly sloping and moderately steep side slopes; and Bibb and Smithton soils in drainageways.

This map unit is in woodland. Malbis soils, on ridgetops and side slopes, are moderately suited to crops and are well suited to pasture grasses and legumes, Susquehanna soils, on ridgetops and side slopes, are poorly suited to crops and are moderately suited to pasture grasses and legumes. Saucier soils, on the lower elevations near streams and heads of drainageways, are moderately suited to crops and are well suited to pasture grasses and legumes. Because of the erosion hazard, crop rotation, minimum tillage, return of crop residue, contour farming, terracing, contour stripcropping, and grassed waterways are recommended for Malbis and Saucier soils. Susquehanna soils are best suited to a permanent vegetative cover of trees or grasses and legumes.

Malbis and Saucier soils are well suited to slash and loblolly pines, and Susquehanna soils are moderately suited. Malbis soils have few limitations to woodland management. Plant competition and poor trafficability during wet seasons are limitations on Saucier and Susquehanna soils.

Malbis and Saucier soils are severely limited for most urban uses because of wetness. Susquehanna soils are severely limited because of the clayey texture and high shrink-swell potential. Wetness and slow permeability are severe limitations for septic tank absorption fields.

Malbis soils are in capability subclass IIIe and woodland suitability group 2o1. Susquehanna soils are in capability subclass VIe and woodland suitability group 3c2. Saucier soils are in capability subclass IIIe and woodland suitability group 2w2.

MnB—McLaurin fine sandy loam, 2 to 5 percent slopes. This gently sloping, well drained soil is on ridgetops on uplands.

Typically, the surface layer is dark grayish brown fine sandy loam about 5 inches thick. The subsurface layer, to a depth of about 19 inches, is yellowish brown fine

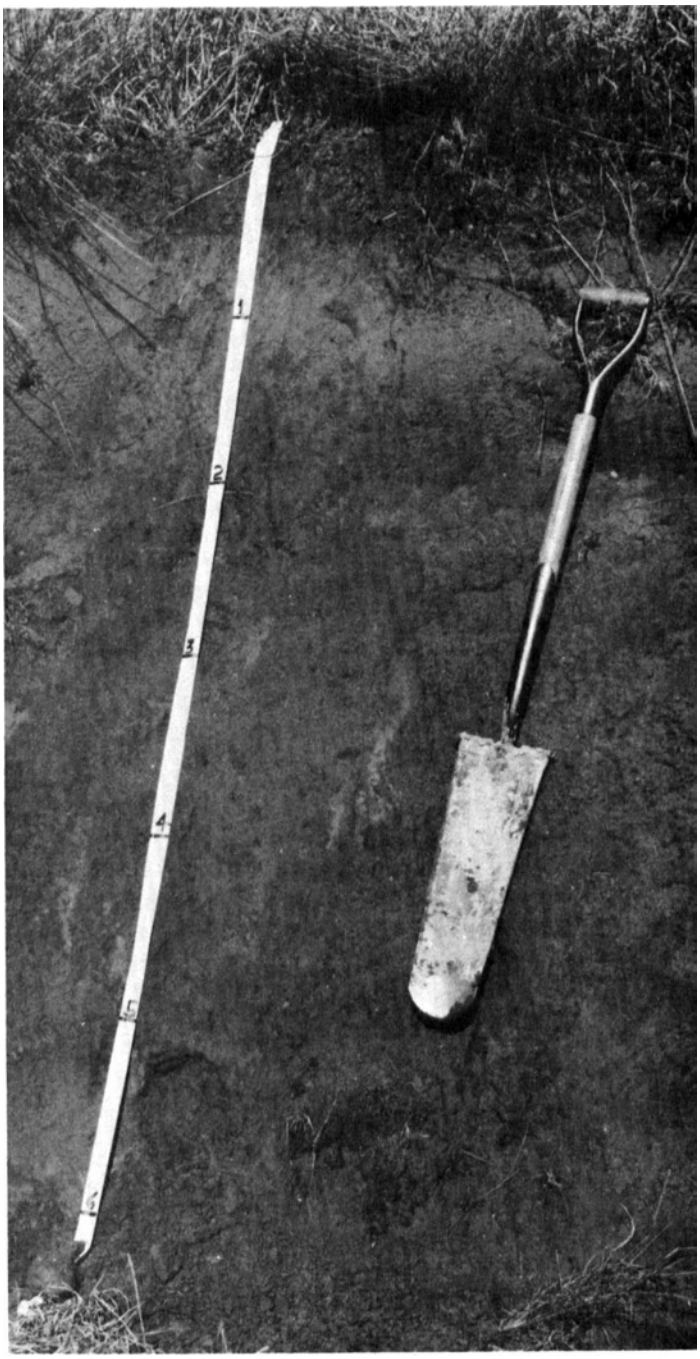


Figure 5.—Profile of the well drained McLaurin fine sandy loam, 2 to 5 percent slopes. The scale is in feet.

sandy loam that grades to yellowish brown sandy loam. The upper part of the subsoil, to a depth of about 48 inches, is red sandy loam. Below that, to a depth of about 60 inches, is yellowish red loamy sand. The lower part of the subsoil to a depth of 80 inches is red sandy clay loam (fig. 5).

This soil is very strongly acid or strongly acid throughout. Permeability is moderate. The available water capacity is medium. Runoff is medium, and the erosion hazard is moderate.

Included in mapping are small areas of Ruston and Troup soils on similar positions on the landscape.

This soil is used mainly for row crops or pasture. A small acreage is in woodland.

This soil is well suited to corn, soybeans, and pasture grasses (fig. 6) and legumes. Fertilizer is leached faster from this soil than in more slowly permeable soils. Conservation practices such as return of crop residue, minimum tillage, contour farming, and terracing are needed to reduce erosion when row crops are grown. Good pasture management includes proper stocking, controlled grazing, and weed and brush control.

This soil is well suited to loblolly, longleaf, and slash pines. It has few significant limitations to woodland management.

This soil has slight limitations for urban uses and for septic tank absorption fields.

This map unit is in capability subclass IIe and woodland suitability group 2o1.

MnC—McLaurin fine sandy loam, 5 to 8 percent slopes. This sloping, well drained soil is on side slopes in uplands.

Figure 6.—Coastal bermudagrass hay on McLaurin fine sandy loam, 2 to 5 percent slopes.

Typically, the surface layer is dark grayish brown fine sandy loam about 5 inches thick. The subsurface layer, to a depth of 12 inches, is yellowish brown fine sandy loam. The subsoil to a depth of 18 inches is yellowish red sandy loam. To a depth of 38 inches, it is red sandy loam. Below that, to a depth of about 50 inches, it is loamy sand with a few pockets of uncoated sand grains. The lower part of the subsoil to a depth of 70 inches is red sandy clay loam.

This soil is very strongly acid or strongly acid throughout. Permeability is moderate. The available water capacity is medium. Runoff is medium, and the erosion hazard is moderate.

Included in mapping are small areas of Ruston and Troup soils on similar positions on the landscape.

This soil is used mainly for row crops or pasture. A small acreage is in woodland.

This soil is moderately suited to corn and soybeans and is well suited to pasture grasses and legumes. It is slightly droughty. Conservation practices such as return of crop residue, minimum tillage, contour farming, terracing, and grassed waterways are recommended. Good pasture management includes proper stocking, controlled grazing, and weed and brush control.

This soil is well suited to loblolly, longleaf, and slash pines. It has few significant limitations to woodland management.

This soil has slight limitations for most urban uses and for septic tank absorption fields. Slope is a moderate limitation to some uses.

This map unit is in capability subclass IIIe and woodland suitability group 2o1.

MS—McLaurin-Smithdale association, rolling. This map unit consists of gently sloping to steep, well drained loamy soils in large, wooded areas on uplands. These soils are in a regular and repeating pattern. The landscape is dominantly broad, rolling hilltops and short steep side slopes, which border narrow drainageways. Slopes range from 2 to 20 percent. Areas range from about 100 to 400 acres. The composition of this map unit varies, but mapping has been controlled well enough for the expected uses of the soils.

McLaurin soils are on gently sloping and sloping ridgetops and side slopes. The slope gradient is less than 8 percent. Smithdale soils are on the strongly sloping and steep side slopes. The slope gradient is 8 to 20 percent.

About 45 percent of the map unit is McLaurin soils. Typically, the surface layer is dark grayish brown sandy loam about 9 inches thick. The subsurface layer, to a depth of about 14 inches, is brown sandy loam. The subsoil to a depth of about 18 inches is yellowish red sandy loam. From 18 to 36 inches it is red sandy loam. From 36 to 48 inches, it is yellowish red sandy loam with pockets of very pale brown uncoated sand grains. The lower part of the subsoil to a depth of 78 inches is red sandy loam.

McLaurin soils are very strongly acid or strongly acid throughout. Permeability is moderate, and the available water capacity is medium. Runoff is medium, and the erosion hazard is moderate.

About 20 percent of the map unit is Smithdale soils. Typically, the surface layer is dark grayish brown sandy loam about 4 inches thick. The subsurface layer, to a depth of about 8 inches, is light yellowish brown sandy loam. The subsoil to a depth of about 34 inches is red sandy clay loam. From 34 to 50 inches it is red sandy clay loam with yellow mottles. Below that, to a depth of 70 inches, it is red sandy loam with yellow mottles and a few pockets of uncoated sand grains.

Smithdale soils are very strongly acid or strongly acid throughout the profile. Permeability is moderate, and the available water capacity is medium. Runoff is rapid, and the erosion hazard is severe.

Included in mapping, and making up about 35 percent of the association, are Benndale, Poarch, Ruston, and Troup soils on ridgetops and side slopes.

These soils are in woodland. McLaurin soils are moderately suited to corn, soybeans, and pasture grasses and legumes. They are droughty. Smithdale soils are poorly suited to row crops and are moderately suited to pasture grasses and legumes because of steep slopes.

These soils are well suited to slash, loblolly, and longleaf pines. There are few significant limitations to woodland management.

McLaurin soils have slight to moderate limitations for most urban uses. In areas of Smithdale soils steepness of slopes is a moderate to severe limitation for most urban uses. The limitations of McLaurin soils for septic tank absorption fields are slight. The Smithdale soils that have slope of less than 15 percent are moderately limited for use as septic tank absorption fields. Those that have slope of more than 15 percent are severely limited.

Smithdale soils are in capability subclass VIe and McLaurin soils are in subclass IIIe; these soils are in woodland suitability group 2o1.

NJ—Nugent-Jena association, frequently flooded. This map unit consists of nearly level, excessively drained and well drained sandy and loamy soils on the flood plain of the Pearl River. These soils are in a regular and repeating pattern that includes many sandbars, oxbow lakes, narrow meandering sloughs, and old river runs. Flooding commonly occurs several times each year in winter and spring for brief to long periods. Slopes range from 0 to 2 percent. Areas range from 10 to 100 acres. The composition of this map unit varies, but mapping has been controlled well enough for the expected uses of the soils.

The excessively drained Nugent soils are on sandbars adjacent to the river and are almost devoid of

vegetation. The well drained Jena soils, on higher places on the flood plain, support a dense mixed forest of pines and bottom land hardwoods.

About 54 percent of the map unit is Nugent soils. Typically, the surface layer is brown fine sandy loam about 3 inches thick. Below this, to a depth of 65 inches, is stratified loamy sand and sand in varying shades of brown.

Nugent soils range from very strongly acid to slightly acid throughout the profile. Permeability is moderately rapid. The available water capacity is low. Runoff is slow, and the erosion hazard is slight. During wet seasons a water table fluctuates between 3.5 and 6 feet.

About 32 percent of the map unit is Jena soils. Typically the surface layer is dark brown silt loam about 3 inches thick. The subsoil, to a depth of about 9 inches, is yellowish brown silt loam. From 9 to 18 inches, it is light yellowish brown fine sandy loam mottled in shades of brown. From 18 to 36 inches it is pale brown fine sandy loam with yellowish brown mottles. The substratum to a depth of about 65 inches is light yellowish brown and pale brown loamy fine sand. Below that are layers of sand or gravel.

Jena soils are very strongly acid or strongly acid throughout the profile. Permeability is moderate. The available water capacity is medium. Runoff is medium, and the erosion hazard is slight.

Included in mapping, and making up about 14 percent of the association, are Arkabutla and Rosebloom soils in sloughs and drainageways, and small areas of somewhat excessively drained sandy soils, sand and gravel pits, and riverwash.

Nugent soils are almost devoid of vegetation. Jena soils are mostly in woodland. A small acreage is open land where sand and gravel have been mined.

These soils are poorly suited to crops and pasture because of flooding. Jena soils are well suited to yellow-poplar and longleaf, loblolly, and slash pines; however, Nugent soils are flooded too frequently to establish seedlings. Flooding is the main limitation to woodland management and harvesting tree crops on both soils, but this limitation can be partly overcome by logging during the drier seasons.

The soils of this map unit are severely limited for urban uses and for use as septic tank absorption fields because of flooding.

This map unit is in capability subclass Vw; Nugent soils are not suitable for production of commercial trees; Jena soils are in woodland suitability group 1w7.

Pa—Pits. This miscellaneous area consists of gravel pits, sand pits, and borrow pits. Some areas consist mainly of sandy tailings from hydraulic dredging operations in the river channel. Areas range from 2 to 75 acres.

Pits are open excavations from which gravel, sand, and other fill material have been removed. The largest sand and gravel pits are along the terraces and flood plain of the Pearl River. Borrow pits from which soil and the underlying material have been removed to use in constructing roads or as fill material. The largest borrow pits are near Interstate 59, where the material was used in highway construction.

Pits require major reclamation before they can be used for crops or pasture. Pine trees protect the soil against erosion, but they grow slowly because the exposed substratum is low in fertility.

This map unit has not been assigned to a capability subclass or woodland suitability group.

PoA—Poarch loam, 0 to 2 percent slopes. This nearly level, well drained soil is on broad ridgetops in uplands.

Typically, the surface layer is very dark grayish brown loam about 6 inches thick. The subsoil to a depth of about 26 inches is brownish yellow loam. From 26 to 36 inches it is brownish yellow loam that contains about 5 percent plinthite nodules. From 36 to 44 inches the subsoil is mottled brownish yellow loam that contains about 15 percent plinthite nodules. Below that, to a depth of 64 inches, it is yellowish brown loam that is mottled with shades of brown and gray and contains a few fine plinthite nodules.

This soil is very strongly acid or strongly acid throughout the profile. Permeability is moderate in the upper part of the subsoil and moderately slow in the lower part. The available water capacity is medium. Runoff is slow, and the erosion hazard is slight. There is a seasonal high water table in winter and spring at a depth of 4 to 5 feet.

Included in mapping are small areas of Benndale and Malbis soils on similar positions on the landscape and Escambia soils in lower lying positions.

This soil is used mainly for row crops or pasture. A small acreage is in woodland. This soil is well suited to corn, soybeans, and pasture grasses and legumes. Seedbed preparation and tillage are no problems. Conservation practices such as return of crop residue and alining crop rows to remove excess surface water are needed. Good pasture management includes proper stocking, controlled grazing, and weed and brush control.

This soil is well suited to loblolly, longleaf, and slash pines. There are few significant limitations to woodland management.

The seasonal high water table is a moderate limitation for most urban uses. Limitations for dwellings without basements and small commercial buildings are slight. The moderately slow permeability of the lower part of the subsoil and a seasonal high water table are severe limitations for septic tank absorption fields.

This map unit is in capability class I and woodland suitability group 2o1.

PoB—Poarch loam, 2 to 5 percent slopes. This gently sloping, well drained soil is on broad ridgetops in uplands.

Typically, the surface layer is dark grayish brown loam about 4 inches thick. The subsurface layer, to a depth of about 10 inches, is light yellowish brown loam. The subsoil to a depth of 28 inches is yellowish brown sandy loam. From 28 to 46 inches it is light yellowish brown sandy loam that is mottled in shades of red and contains about 7 percent plinthite nodules. The subsoil to a depth of 65 inches is sandy loam that is mottled in shades of red, brown, and gray and contains a few fine plinthite nodules.

This soil is very strongly acid or strongly acid throughout. Permeability is moderate in the upper part of the subsoil and moderately slow in the lower part. The available water capacity is medium. Runoff is slow to medium, and the erosion hazard is slight. The seasonal high water table in late winter and early spring is at a depth of about 4 to 5 feet.

Included in mapping are small areas of Benndale and Malbis soils on similar positions on the landscape and Escambia soils in lower lying areas.

Most of the acreage is in row crops or pasture. A small acreage is in woodland.

This soil is well suited to corn (fig. 7), soybeans, and pasture grasses and legumes. It has good tilth. Conservation practices such as return of crop residue, minimum tillage, contour farming, and terracing are needed. Good pasture management includes proper stocking, controlled grazing, and weed and brush control.

This soil is well suited to loblolly, longleaf, and slash pines. There are few limitations to woodland management.

Wetness is a moderate limitation for some urban uses. Limitations for dwellings without basements and small commercial buildings are slight. The moderately slow permeability of the lower part of the subsoil and a seasonal high water table are severe limitations for septic tank absorption fields.

This map unit is in capability subclass IIe and woodland suitability group 2o1.

PoC—Poarch loam, 5 to 8 percent slopes. This well drained soil is on upland side slopes.

Typically, the surface layer is dark grayish brown loam about 5 inches thick. The subsoil to a depth of about 18 inches is yellowish brown loam. From 18 to 32 inches it is brownish yellow loam. Below that, to a depth of 64 inches, it is yellowish brown loam that is mottled in

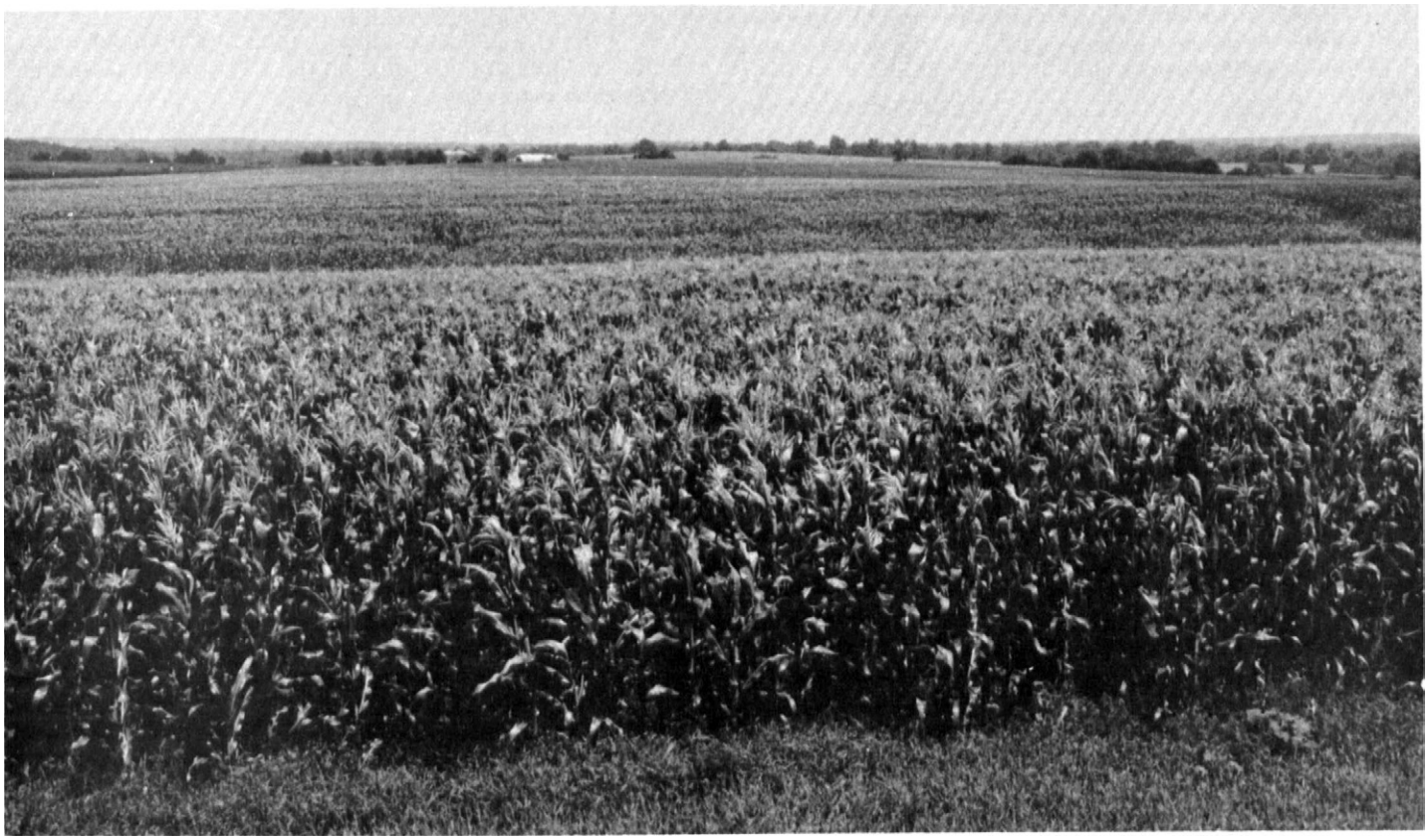


Figure 7.—Corn grown for silage on Poarch loam, 2 to 5 percent slopes.

shades of red and gray and contains about 6 percent plinthite nodules.

This soil is very strongly acid or strongly acid throughout the profile. Permeability is moderate in the upper part of the subsoil and is moderately slow in the lower part. The available water capacity is medium. Runoff is medium, and the erosion hazard is moderate. In late winter and early spring, the seasonal high water table is at a depth of about 4 to 5 feet.

Included in mapping are small areas of Benndale and Malbis soils on similar positions on the landscape and Escambia soils in lower lying areas.

Most of the acreage is in row crops or pasture. A small acreage is in woodland.

This soil is moderately suited to corn and soybeans and is well suited to pasture grasses and legumes. It has good tilth. Conservation practices such as return of crop residue, minimum tillage, terracing, contour farming, contour stripcropping, grassed waterways, and crop rotations are needed. Good pasture management includes proper stocking, controlled grazing, and weed and brush control.

This soil is well suited to loblolly, longleaf, and slash pines. There are few limitations to woodland management.

This soil is moderately limited for some urban uses because of wetness. Limitations are slight for dwellings without basements. Slope is a moderate limitation for small commercial buildings. Wetness and the moderately slow permeability of the lower part of the subsoil are severe limitations for septic tank absorption fields.

This map unit is in capability subclass IIIe and woodland suitability group 2o1.

RuA—Ruston fine sandy loam, 0 to 2 percent slopes. This nearly level, well drained soil is on ridgetops on uplands.

Typically, the surface layer is dark grayish brown fine sandy loam about 6 inches thick. The subsoil to a depth of about 14 inches is yellowish red sandy clay loam. From 14 to 48 inches it is red sandy clay loam. From 48 to 58 inches it is red sandy loam mottled with shades of brown. Below that, to a depth of 75 inches, it is red sandy clay loam.

The reaction ranges from strongly acid to medium acid throughout, except for the surface layer in limed areas. Permeability is moderate. The available water capacity is medium. Runoff is slow, and the erosion hazard is slight.

Included in mapping are small areas of McLaurin and Malbis soils on similar positions on the landscape and Escambia soils in lower lying areas.

Most of the acreage is in row crops or pasture. A small acreage is in woodland.

This soil is well suited to corn, soybeans, and grasses and legumes. It has good tilth. Conservation practices such as the return of crop residue and alining crop rows to remove excess water and help reduce erosion are needed. Good pasture management includes proper stocking, controlled grazing, and weed and brush control.

This soil is well suited to loblolly, longleaf, and slash pines. There are few limitations to woodland management.

This soil has slight limitations for urban uses and for septic tank absorption fields.

This map unit is in capability class I and woodland suitability group 2o1.

RuB—Ruston fine sandy loam, 2 to 5 percent slopes. This gently sloping, well drained soil is on ridgetops in uplands.

Typically, the surface layer is dark brown fine sandy loam about 5 inches thick. The subsurface layer to a depth of about 12 inches is yellowish brown fine sandy loam that has a few faint pale brown mottles. The subsoil to a depth of about 32 inches is yellowish red sandy clay loam. From 32 to 42 inches it is yellowish red sandy loam with yellow mottles. From 42 to 58 inches it is red sandy clay loam. Below that, to depth of 75 inches, it is red sandy clay loam mottled in shades of brown and red.

The reaction ranges from very strongly acid to medium acid throughout, except where the surface layer has been limed. Permeability is moderate. The available water capacity is medium. Runoff is slow to medium, and the erosion hazard is moderate.

Included in mapping are small areas of McLaurin and Malbis soils on similar positions on the landscape and Escambia soils in lower lying areas.

Most of the acreage is in row crops or pasture. A small acreage is in woodland.

This soil is well suited to corn, soybeans, and pasture grasses and legumes. Good tilth is easy to maintain. Conservation practices such as return of crop residue, crop rotation, contour farming, terracing, or minimum tillage may be needed. Good pasture management includes proper stocking, controlled grazing, and weed and brush control.

This soil is well suited to loblolly and slash pines. There are few limitations to woodland management.

This soil has slight limitations for urban uses and septic tank absorption fields.

This map unit is in capability subclass IIe and woodland suitability group 2o1.

RuC—Ruston fine sandy loam, 5 to 8 percent slopes. This sloping, well drained soil is on side slopes on uplands.

Typically, the surface layer is dark grayish brown fine sandy loam about 6 inches thick. The subsoil to a depth of about 10 inches is yellowish red fine sandy loam. From 10 to 30 inches it is yellowish red sandy clay loam.

From 30 to 40 inches it is yellowish red sandy loam mottled with shades of brown. Below that, to a depth of 70 inches, it is red sandy clay loam mottled in shades of yellow.

The reaction ranges from very strongly acid to medium acid throughout, except where the surface layer has been limed. Permeability is moderate. The available water capacity is medium. Runoff is medium, and the erosion hazard is moderate.

Included in mapping are small areas of McLaurin and Poarch soils on similar positions.

This soil is used mainly for row crops or pasture. A small acreage is in woodland.

This soil is moderately suited to corn, soybeans, and pasture grasses and legumes. It has good tilth. The use of crop residue, crop rotation, contour farming, contour stripcropping, minimum tillage, terracing, and grassed waterways are recommended. Good pasture management includes proper stocking, controlled grazing, and weed and brush control.

This soil is well suited to longleaf, loblolly, and slash pines. There are few limitations to woodland management.

This soil has slight limitations for most urban uses and septic tank absorption fields. It is moderately limited for small commercial buildings because of slope.

This map unit is in capability subclass IIIe and woodland suitability group 2o1.

SaA—Saucier loam, 0 to 2 percent slopes. This nearly level, moderately well drained soil is on ridgetops on uplands.

Typically, the surface layer is dark grayish brown loam about 6 inches thick. The subsoil to a depth of about 16 inches is yellowish brown loam. To a depth of about 28 inches it is brownish yellow loam that has a few fine plinthite nodules. From 28 to 42 inches it is brownish yellow clay loam that is mottled in shades of red and gray and contains 5 to 8 percent plinthite nodules. Below that, to a depth of 64 inches, it is clay mottled in shades of red, brown, and gray.

The reaction ranges from extremely acid to strongly acid throughout, except where the surface layer has been limed. Permeability is moderate in the upper part of the subsoil and is slow in the lower part. The available water capacity is high. Runoff is slow, and the erosion hazard is slight. In late winter and early spring, the seasonal high water table is between 2.5 and 4 feet.

Included in mapping are small areas of Basin soils in slightly lower areas and Malbis soils on similar positions on the landscape.

Most of the acreage is in row crops or pasture. A small acreage is in woodland.

This soil is well suited to corn, soybeans, and pasture grasses and legumes. Seedbed preparation and tillage can be delayed because of wetness. Conservation practices such as return of crop residue, minimum tillage, and alining crop rows to carry excess water to surface field ditches are needed. Good pasture management includes proper stocking, controlled grazing, and weed and brush control.

This soil is well suited to loblolly, longleaf, and slash pines. Plant competition and poor trafficability during wet seasons are the main limitations to woodland management and to harvesting tree crops but can be partly overcome by logging during the drier seasons.

This soil is moderately limited for some urban uses because of wetness. Limitations for dwellings without basements and small commercial buildings are slight. Wetness and slow permeability are severe limitations for septic tank absorption fields.

This map unit is in capability subclass IIw and woodland suitability group 2w2.

SaB—Saucier loam, 2 to 5 percent slopes. This gently sloping, moderately well drained soil is on ridgetops on uplands.

Typically, the surface layer is dark brown loam about 6 inches thick. The subsoil to a depth of about 18 inches is yellowish brown loam. From 18 to 38 inches it is brownish yellow clay loam mottled in shades of red and gray. To a depth of 46 inches it is silty clay mottled in shades of red, gray, and brown and containing about 5 to 10 percent plinthite nodules. Below that, to a depth of 62 inches, it is silty clay mottled in shades of yellow, red, and gray.

The reaction ranges from extremely acid to strongly acid throughout, except where the surface layer has been limed. Permeability is moderate in the upper part of the subsoil and slow in the lower part. The available water capacity is high. Runoff is slow to medium, and the erosion hazard is slight. The seasonal high water table is from 2.5 and 4 feet.

Included in mapping are small areas of Basin soils in slightly lower areas and Malbis soils in similar positions on the landscape.

Most of the acreage is in row crops and pasture. A small acreage is in woodland.

This soil is well suited to corn, soybeans, and pasture grasses and legumes. Seedbed preparation and tillage can be slight problems because of seasonal wetness. Returning crop residue to the soil, crop rotation, minimum tillage, contour farming, and terracing are practices that may be needed. Good pasture management includes proper stocking, controlled grazing, and weed and brush control.

This soil is well suited to loblolly (fig. 8), longleaf, and slash pines. Plant competition and poor trafficability during wet seasons are the main limitations to woodland management and to harvesting tree crops. These limitations can be partly overcome by logging during the drier season.

This soil is moderately limited for some urban uses because of wetness. It has slight limitations for dwellings

Figure 8.—This area of loblolly pines is on Saucier loam, 2 to 5 percent slopes.

without basements, but slope is a moderate limitation for small commercial buildings. Wetness and slow permeability are severe limitations for septic tank absorption fields.

This map unit is in capability subclass IIe and woodland suitability group 2w2.

SmE—Smithdale sandy loam, 15 to 20 percent slopes. This moderately steep and steep, well drained soil is on side slopes on uplands.

Typically, the surface layer is dark gray sandy loam about 5 inches thick. The subsoil to a depth of about 38 inches is red sandy clay loam. To a depth of 80 inches it is red sandy loam; below a depth of about 50 inches it has reddish yellow mottles and few to common small pockets of uncoated sand grains.

This soil is very strongly acid or strongly acid throughout. Permeability is moderate. The available water capacity is medium. Runoff is rapid, and the erosion hazard is severe.

Included in mapping are small areas of McLaurin soils on adjacent ridges and Cadeville soils on strongly sloping and moderately steep side slopes.

Most of the acreage is in woodland. A small acreage is in pasture.

This soil is poorly suited to row crops and is moderately suited to pasture grasses and legumes. It should be kept in permanent vegetation of grasses and legumes or trees. Proper stocking, controlled grazing, and weed and brush control are needed.

This soil is well suited to loblolly, longleaf, and slash pines. Plant competition is the main limitation to woodland management.

This soil is severely limited for urban uses and for use as septic tank absorption fields because of slope.

This map unit is in capability subclass VIe and woodland suitability group 2o1.

SN—Smithdale-Troup association, rolling. This map unit consists of sloping to moderately steep, well drained

loamy soils that occur in wooded uplands in a regular and repeating pattern. The topography is dominantly rolling and is dissected by many narrow drainageways. The slope range is 5 to 17 percent. Areas range from 160 to 300 acres. The composition of this map unit varies, but mapping has been controlled well enough for the expected uses of the soils.

Smithdale soils are on the moderately steep side slopes. Troup soils are on sloping to strongly sloping ridges and side slopes.

About 40 percent of the map unit is Smithdale soils. Typically, the surface layer is dark grayish brown fine sandy loam about 3 inches thick. The subsurface layer, to a depth of about 10 inches, is brown fine sandy loam. The subsoil to a depth of about 46 inches is yellowish red sandy clay loam with brown mottles in the lower part. To a depth of about 64 inches it is red sandy loam mottled with shades of brown and red. Below that, to a depth of 80 inches, it is red sandy loam.

Smithdale soils are very strongly acid or strongly acid throughout the profile. Permeability is moderate, and the available water capacity is medium. Runoff is rapid, and the erosion hazard is severe.

About 23 percent of the map unit is Troup soils. Typically, the surface layer is dark brown loamy fine sand about 4 inches thick. The subsurface layer to a depth of about 10 inches is brown loamy fine sand. To a depth of about 24 inches it is yellowish brown loamy sand. Below that, to a depth of about 46 inches, it is strong brown loamy sand. The subsoil to a depth of about 56 inches is red sandy clay loam. Below that, to a depth of 65 inches, it is red sandy loam with brownish yellow mottles.

Troup soils are very strongly acid or strongly acid throughout the profile. Permeability is rapid in the upper part of the profile and moderate in the lower part. The available water capacity is low. Runoff is slow, and the erosion hazard is slight.

Included in mapping, and making up about 37 percent of the association, are Benndale and Ruston soils on ridgetops and side slopes and Bibb, Croatan, Dorovan, and Smithton soils in drainageways.

The soils in this map unit are mainly in woodland; a small acreage is in pasture. These soils are poorly suited to row crops and moderately suited to pasture grasses and legumes because of the steepness of slope. Troup soils are droughty.

Smithdale soils are well suited to slash, loblolly, and longleaf pines and Troup soils are moderately suited. Plant competition is the main limitation to woodland management on Smithdale soils. Poor trafficability of the sandy surface of Troup soils is a limitation.

The soils in this map unit are severely limited for many urban uses because of the steepness of slope. The use of the Smithdale soils for septic tank absorption fields is slightly or moderately limited by slope if the gradient is less than 15 percent and severely limited if the gradient is more. Troup soils are severely limited for that use because the rapidly permeable subsurface layer may be a poor filter for the effluent.

Smithdale soils are in capability subclass VIe, and Troup soils are in subclass VIIs. Smithdale soils are in woodland suitability group 2o1, and Troup soils are in group 3s2.

Sp—Smithton sandy loam. This nearly level, poorly drained soil is on stream terraces and in drainageways. It is flooded for brief periods in winter and early spring. The slope range is 0 to 2 percent.

Typically, the surface layer is dark gray sandy loam about 5 inches thick. The subsurface layer, to a depth of about 12 inches, is gray sandy loam with brownish mottles. The subsoil to a depth of 36 inches is gray loam mottled with shades of brown and yellow. Below that, to a depth of 70 inches, it is fine sandy loam mottled in shades of light brownish gray and brown.

This soil is very strongly acid or strongly acid throughout. Permeability is moderately slow. The available water capacity is medium. Runoff is slow, and the erosion hazard is slight. The water table is at the surface during wet seasons.

Included in mapping are small areas of Bibb soils on similar positions on the landscape and Escambia soils on slightly higher positions.

Most of the acreage is in woodland (fig. 9). A small acreage is in pasture and row crops.

This soil is moderately suited to row crops and pasture grasses and legumes. Returning crop residue to the soil and alining crop rows to carry excess water to surface field ditches are practices needed. Seedbed preparation is usually delayed because of wetness. Good pasture management includes proper stocking, controlled grazing, and weed and brush control.

This soil is well suited to sweetgum, water oak, cherrybark oak, and loblolly and slash pines. Flooding and wetness (fig. 10) are the main limitations in woodland management and harvesting tree crops. These limitations can be partly overcome by logging during the drier season.

This soil is severely limited for urban uses and for use as septic tank absorption fields because of wetness and flooding.

This map unit is in capability subclass IIIw and woodland suitability group 2w9.

SR—Smithton association, occasionally flooded. This map unit consists of poorly drained, nearly level soils in drainageways and on stream terraces. These soils occur in a regular and repeating pattern. They are flooded for brief periods during winter and early spring in years with heavy rainfall. The slope range is 0 to 2 percent. Areas range from about 50 to 300 acres. The composition of this unit varies, but mapping has been controlled well enough for the expected uses of the soils.

About 70 percent of this unit is the poorly drained Smithton soils and areas of closely similar soils. The

Figure 9.—This slash pine plantation is on Smithton sandy loam.

closely similar soils are soils that have a more clayey subsoil and those that have more than 5 percent plinthite nodules in the lower part of the subsoil. Typically, the surface layer of Smithton soils is very dark grayish brown sandy loam about 6 inches thick. The subsoil to a depth of about 18 inches is light brownish gray sandy loam with brownish mottles. From 18 to 39 inches it is light brownish gray sandy loam with brownish mottles. Below that, to a depth of 70 inches, it is gray loam with brownish mottles.

Smithton soils are very strongly acid or strongly acid throughout. Permeability is moderately slow, and the available water capacity is medium. Runoff is very slow, and the erosion hazard is slight. The water table is at the surface during wet seasons.

Included in mapping, and making up about 30 percent of the association, are Bibb soils in similar positions on flood plains and Escambia and Latonia soils on low terraces.

The soils in this unit are mainly in woodland; a small acreage is in pasture. The soils are poorly suited to crops and are moderately suited to pasture because of wetness and occasional flooding.

These soils are well suited to loblolly and slash pines, sweetgum, and water oak. Flooding and wetness are the main limitations to woodland management and harvesting tree crops. They can be partly overcome by logging during the drier seasons.

These soils are severely limited for urban uses and for use as septic tank absorption fields because of wetness and flooding (fig. 11).

This map unit is in capability subclass IVw and woodland suitability group 2w9.

ST—Smithton association, frequently flooded. This map unit consists of nearly level, poorly drained soils in drainageways and on low stream terraces. These soils are in a regular and repeating pattern. Flooding occurs for long periods several times during winter and early spring. The slope range is 0 to 2 percent. Areas range from about 40 to 200 acres. The composition of this unit

Figure 10.—This drainage ditch in an area of Smithton sandy loam helps to overcome the wetness limitation to woodland management.

varies, but mapping has been controlled well enough for the expected uses of the soils.

About 79 percent of the map unit is the poorly drained Smithton soils. Typically, the surface layer is dark grayish brown sandy loam about 8 inches thick. The subsoil to a depth of about 24 inches is gray sandy loam with brown mottles. From 24 to 36 inches, it is light brownish gray sandy loam with brown mottles. From 36 to 50 inches it is light brownish gray loam with brown mottles. Below that, to a depth of 62 inches, it is loam mottled in shades of brown and gray.

Smithton soils are very strongly acid or strongly acid throughout. Permeability is moderately slow, and the available water capacity is medium. Runoff is very slow, and the erosion hazard is slight. The water table is at or near the surface during wet seasons.

Included in mapping, and making up about 21 percent of the association, are Bibb and Croatan soils, which are on similar positions on the landscape.

Most of the acreage of this map unit is in woodland, but a small acreage is in pasture. The soils are poorly suited to crops and pasture because of wetness and flooding.

These soils are well suited to loblolly and slash pines, sweetgum, and water oak. Flooding and wetness are the main limitations to woodland management and harvesting tree crops. They can be partly overcome by logging during the drier seasons.

These soils are severely limited for urban uses and for use as septic tank absorption fields because of flooding and wetness.

This map unit is in capability subclass Vw and woodland suitability group 2w9.

SuB—Susquehanna loam, 2 to 5 percent slopes. This gently sloping, somewhat poorly drained soil is on upland ridges.

Typically, the surface layer is dark grayish brown loam about 4 inches thick. The subsurface layer, to a depth of about 6 inches, is brown loam mottled with shades of brown and red. The subsoil to a depth of about 27 inches is red clay mottled with shades of gray, yellow, and red. From 27 to 70 inches it is clay mottled in

shades of red, yellow, brown, and gray. Below that, to a depth of 80 inches, it is light gray silty clay loam mottled in shades of brown.

This soil is very strongly acid or strongly acid throughout. Permeability is very slow. The available water capacity is high. Runoff is slow to medium, and the erosion hazard is moderate. The shrink-swell potential is high. This soil is wet during periods of high rainfall, but the water table is at a depth below 6 feet.

Included in mapping are small areas of Malbis soils on ridgetops, Saucier soils on ridgetops and side slopes, and Cadeville soils on side slopes.

Most of the acreage is in woodland. A small acreage is in pasture and row crops.

This soil is poorly suited to corn and soybeans and is moderately suited to pasture grasses and legumes. Good pasture management includes proper stocking, controlled grazing, and weed and brush control.

This soil is moderately suited to loblolly, longleaf (fig. 12), and slash pines. Poor trafficability during wet seasons and plant competition are the main limitations to woodland management and to harvesting tree crops.

This soil is severely limited for urban uses because of shallowness to clay, which has high shrink-swell potential. Seasonal wetness and very slow permeability of the clayey subsoil are severe limitations for septic tank absorption fields.

This map unit is in capability subclass IVe and woodland suitability group 3c2.

SuD—Susquehanna loam, 5 to 10 percent slopes. This sloping and strongly sloping, somewhat poorly drained soil is on side slopes on uplands.

Typically, the surface layer is grayish brown loam about 5 inches thick. The subsurface layer, to a depth of about 8 inches, is yellowish brown loam. The subsoil to a depth of about 14 inches is red clay with gray mottles. From 14 to 20 inches it is yellowish red clay mottled in shades of red and gray. To a depth of about 36 inches it is clay mottled in shades of red, brown, and gray. Below that, to a depth of 80 inches, it is light gray clay mottled in shades of red and yellow.

This soil is very strongly acid or strongly acid throughout. Permeability is very slow. The available

Figure 11.—This dwelling site is in an area of Smithton association, occasionally flooded.

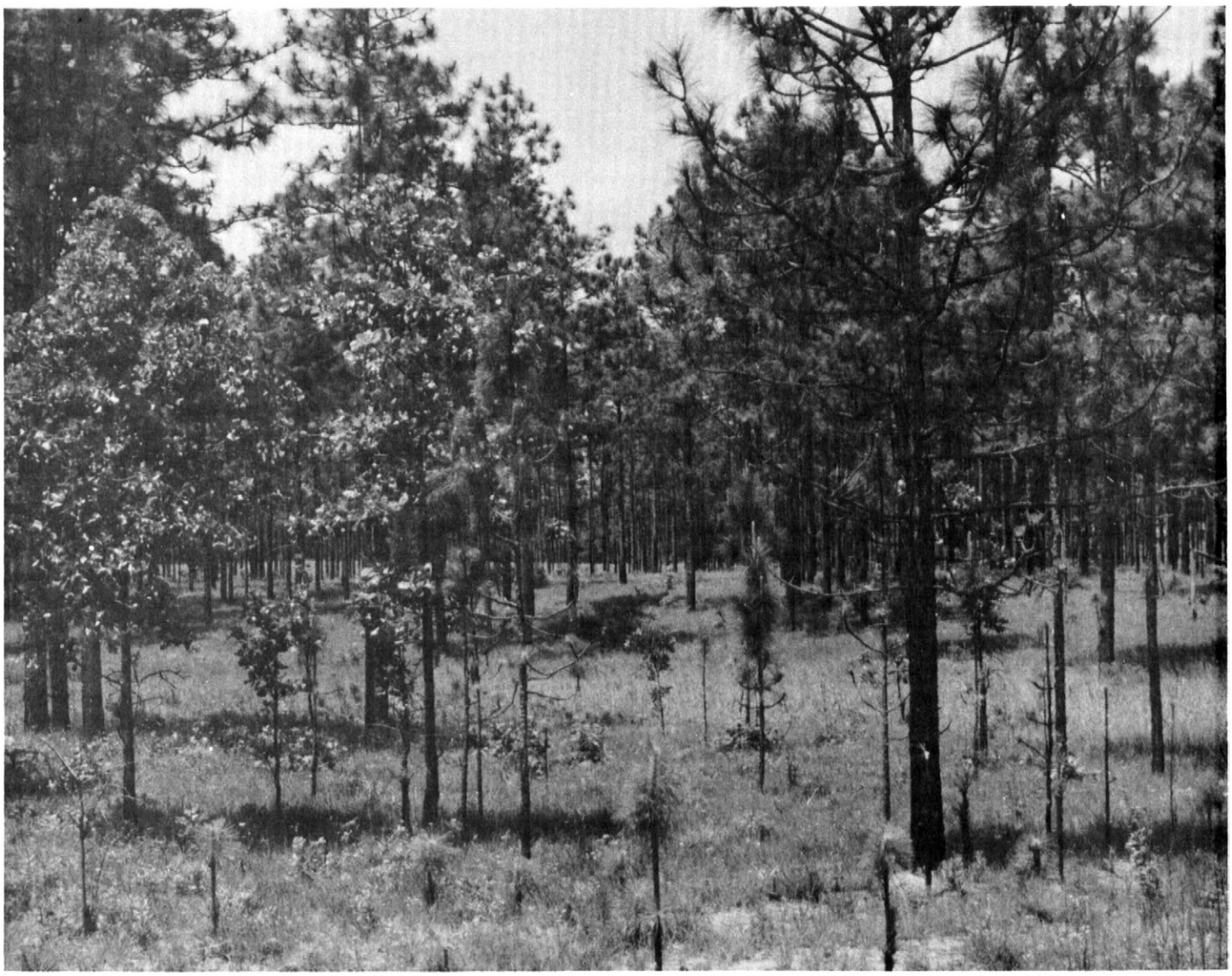


Figure 12.—Longleaf pine and scrub oak understory on Susquehanna loam, 2 to 5 percent slopes.

water capacity is high. If a vegetative cover is not maintained, runoff is rapid and the erosion hazard is severe. The shrink-swell potential is high. The soil is wet during periods of high rainfall but does not have a free water table.

Included in mapping are small areas of Cadeville soils on side slopes.

Most of the acreage is in woodland. A small acreage is in pasture.

This soil is poorly suited to corn and soybeans and is moderately suited to pasture grasses and legumes. Good pasture management includes proper stocking, controlled grazing, and weed and brush control.

This soil is moderately suited to loblolly, longleaf, and slash pines. Poor trafficability during wet seasons and plant competition are the main limitations in woodland management and in harvesting tree crops.

This soil is severely limited for urban uses because of shallowness to clay, which has high shrink-swell potential. Steepness of slope and very slow permeability of the subsoil are severe limitations for septic tank absorption fields.

This map unit is in capability subclass VIe and woodland suitability group 3c2.

TaB—Troup sand, 2 to 8 percent slopes. This gently sloping to sloping, well drained soil is on ridges and side slopes in uplands.

Typically, the surface layer is very dark grayish brown sand about 5 inches thick. The subsurface layer to a depth of about 14 inches is mottled brown sand. To a depth of about 30 inches it is yellowish brown sand. Below that, to a depth of about 56 inches, it is reddish yellow sand. The subsoil to a depth of 80 inches is yellowish red sandy clay loam.

This soil is very strongly acid or strongly acid throughout. Permeability is rapid in the upper part of the profile and moderate in the lower part. The available water capacity is low. Runoff is slow, and the erosion hazard is slight.

Included in mapping are small areas of McLaurin and Ruston soils in similar positions on the landscape.

Most of the acreage of this soil is in woodland. A small acreage is in row crops and pasture.

This soil is poorly suited to corn and soybeans and is moderately suited to pasture grasses and legumes. It is droughty. Conservation practices such as return of crop residue, minimum tillage, crop rotation, contour farming, and grassed waterways are needed. Good pasture management includes proper stocking, controlled grazing, and weed and brush control.

This soil is moderately suited to loblolly, longleaf, and slash pines. Seedling mortality and poor trafficability on the sandy surface are limitations to woodland management.

This soil has slight limitations for most urban uses. It is moderately limited for small commercial buildings if its slope is more than 4 percent. It is severely limited for use as septic tank absorption fields because the rapidly permeable subsurface layer may be a poor filter for effluent.

This map unit is in capability subclass IVs and woodland suitability group 3s2.

prime farmland

Prime farmland, as defined by the U.S. Department of Agriculture, is that land that is best suited to producing food, feed, forage, fiber, and oilseed crops. It has the soil quality, growing season, and moisture supply needed to economically produce sustained high crop yields if acceptable farming methods are used. Prime farmland produces the highest yields with minimal inputs of energy and money and farming it results in the least damage to the environment. Prime farmland is of major importance in satisfying the nation's short- and long-range needs for food and fiber. The supply of high quality farmland is limited, and it should be used with wisdom and foresight.

Prime farmland is either currently used for producing food or fiber or is available for this use. Urban or built-up land or water areas are not included. Urban and built-up land includes any unit of land of 10 acres or more that is used for residences, industrial sites, commercial sites, contruction sites, institutional sites, railroad yards, small parks, cemeteries, airports, golf courses, sanitary landfills, sewage treatment plants, spillways, shooting ranges, and so forth.

Prime farmland usually has an adequate and dependable supply of moisture from precipitation or irrigation. It has favorable temperature and growing season and acceptable reaction. It has few or no rocks and is permeable to water and air. Prime farmland is not excessively erodible or saturated with water for long periods or frequently flooded during the growing season. Slope ranges mainly from 0 to 5 percent.

About 144,000 acres, or nearly 27 percent, of Pearl River County meets the soil requirements for prime farmland. Approximately 27,000 acres of this prime farmland is used for crops, mainly corn and soybeans, which account for much of the county's total farm income each year.

A recent trend in land use in some parts of the county has been the loss of prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal land, which generally is more erodible, more droughty, more difficult to cultivate, and less productive.

The map units that make up prime farmland in Pearl River County are listed in this section. This list does not constitute a recommendation for a particular land use. The extent of each map unit is shown in table 4. The location is shown on the detailed soil maps at the back of this publication. The use and management of the soils is described in the section "Detailed soil map units."

The soils in the following list meet the requirements for prime farmland. Smithton sandy loam is considered prime farmland only in areas that are adequately drained.

BaA—Basin loam, 0 to 2 percent slopes
BaB—Basin loam, 2 to 5 percent slopes
BbA—Bassfield sandy loam, 0 to 3 percent slopes
BcB—Baxterville fine sandy loam, 2 to 5 percent slopes
BeA—Benndale sandy loam, 0 to 2 percent slopes
BeB—Benndale sandy loam, 2 to 5 percent slopes
EaA—Escambia fine sandy loam, 0 to 2 percent slopes
FaA—Falkner silt loam, 0 to 2 percent slopes
FaB—Falkner silt loam, 2 to 5 percent slopes
LaA—Latonia fine sandy loam, 0 to 2 percent slopes
LuA—Lucedale fine sandy loam, 0 to 2 percent slopes
MaA—Malbis fine sandy loam, 0 to 2 percent slopes
MaB—Malbis fine sandy loam, 2 to 5 percent slopes
MnB—McLaurin fine sandy loam, 2 to 5 percent slopes
PoA—Poarch loam, 0 to 2 percent slopes
PoB—Poarch loam, 2 to 5 percent slopes
RuA—Ruston fine sandy loam, 0 to 2 percent slopes
RuB—Ruston fine sandy loam, 2 to 5 percent slopes
SaA—Saucier loam, 0 to 2 percent slopes
SaB—Saucier loam, 2 to 5 percent slopes
Sp—Smithton sandy loam (where drained)

use and management of the soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help avoid soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavior characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as rangeland and woodland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreation facilities; and for wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

Health officials, highway officials, engineers, and others may also find this survey useful. The survey can help them plan the safe disposal of wastes and locate sites for pavements, sidewalks, campgrounds, playgrounds, lawns, and trees and shrubs.

crops and pasture

David A. Smith, district conservationist, Soil Conservation Service, helped prepare this section.

General management needed for crops and pasture is suggested in this section. The crops or pasture plants best suited to the soils, including some not commonly grown in the survey area, are identified; the system of land capability classification used by the Soil Conservation Service is explained; and the estimated yields of the main crops and hay and pasture plants are listed for each soil.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under "Detailed soil map units." Specific information can be obtained from the local office of the Soil Conservation Service or the Cooperative Extension Service.

In this survey area, more than 65,856 acres was used for crops and pasture, according to the 1974 Census of Agriculture. Of this total, about 44,500 acres was used for permanent pasture and about 17,890 acres for row crops, mainly soybeans (*10*).

The acreage in cropland has increased significantly in recent years because of the increased production of soybeans. The acreage in pastureland has gradually increased.

Soil erosion is a major concern on about 40 percent of the cropland and about 28 percent of the pastureland in Pearl River County.

Loss of the surface layer through erosion is damaging for two reasons. Productivity is reduced as the surface layer is lost and part of the subsoil is incorporated into the plow layer. Loss of the surface layer is especially damaging to soils that have a clayey subsoil, such as Susquehanna and Cadeville soils. Also, soil erosion on farmland results in sedimentation of streams. Controlling erosion minimizes the pollution of streams by sediment and improves the water quality for recreation and for fish and wildlife.

Erosion control reduces runoff, increases infiltration, and provides protective surface cover. The use of a cropping system that keeps a vegetative cover on the soil for extended periods can hold soil erosion losses to amounts that will not reduce the productive capacity of the soil. On livestock farms, which require pasture and hay, the legume and grass forage crops in the cropping system reduce erosion on sloping land and also provide nitrogen and improve tilth for the following crop.

Infiltration can be increased and the hazards of runoff and erosion can be reduced by minimizing tillage and leaving crop residue on the surface. These practices can be adapted to most soils in the county. Minimum tillage is effective in reducing erosion on sloping land and can be adapted to most soils in the county.

Terraces and diversions reduce slope length, thus reducing runoff and erosion. They are more practical on soils that have regular slopes, such as Ruston, Malbis, McLaurin, and Poarch soils.

Contouring is widely used as an erosion control practice in the county. The practice is best suited to soils that have smooth, uniform slopes.

Information on the design of erosion control practices for each kind of soil can be found in the Technical Guide, available in the local office of the Soil Conservation Service.

On some soils used for crops and pasture, drainage is a major management need, particularly in the southern part of the county. Some of the soils are so wet that crops common to the area generally cannot be grown. Examples are the poorly drained and somewhat poorly drained Smithton, Escambia, and Bibb soils, which make up about 16 percent of the survey area.

Ruston, McLaurin, and Poarch soils have good natural drainage most of the year. Small areas of wetter soils, found in drainageways and in depressions, are sometimes near areas of well drained soils. Some type of artificial drainage is needed in these areas of wet soils.

Low fertility is a problem in most of the soils in the survey area. Many of the soils are very strongly acid or strongly acid and need applications of ground limestone to raise the pH sufficiently for good plant growth. The available phosphorous and potash levels are naturally low. The addition of lime and fertilizer to any soil should be based on the results of soil tests, on the needs of the crop, and on the expected level of yields. The Cooperative Extension Service can help in determining the kind and amount of fertilizer and lime to be added.

Soil tilth is an important factor in the germination of seeds and in the infiltration of water into the soil. Soils that have good tilth are granular and porous.

The surface layer of most of the soils in the survey area is loam or fine sandy loam. It is light in color and low in content of organic matter. The structure of such soils is weak, and intense rainfall can cause crusting of the surface, which reduces infiltration and increases runoff. Regular additions of crop residue, manure, and other organic material can help to improve soil structure and to reduce crusting.

Fall plowing is generally not a good practice on soils that have a silt loam surface layer because of the crust that forms during winter and spring. Even after fall plowing, many of the soils are nearly as dense and hard at planting time as they were before they were plowed. Also, much of the cropland consists of sloping soils that are subject to erosion if they are plowed in the fall.

Field crops suited to the soils and climate of the survey area include many that are not now commonly grown. Soybeans is the principal row crop. Watermelon and some corn for livestock feed are also grown. Grain sorghum, rice, potatoes, and other similar crops can be grown if economic conditions are favorable. Ryegrass and oats are common winter grazing crops.

Latest information and suggestions for growing special crops can be obtained from the local office of the Cooperative Extension Service or the Soil Conservation Service.

yields per acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in table 5. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations are also considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green-manure crops; and harvesting that insures the smallest possible loss.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in table 5 are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Soil Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils.

land capability classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The grouping does not take into account major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor does it consider possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, for woodland, and for engineering purposes.

In the capability system, soils are generally grouped at three levels: capability class, subclass, and unit. Only class and subclass are used in this survey. These levels are defined in the following paragraphs.

Capability classes, the broadest groups, are designated by Roman numerals I through VIII. The numerals indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class I soils have few limitations that restrict their use.

Class II soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.

Class III soils have severe limitations that reduce the choice of plants or that require special conservation practices, or both.

Class IV soils have very severe limitations that reduce the choice of plants or that require very careful management, or both.

Class V soils are not likely to erode but have other limitations, impractical to remove, that limit their use.

Class VI soils have severe limitations that make them generally unsuitable for cultivation.

Class VII soils have very severe limitations that make them unsuitable for cultivation.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e, w, s,* or *c,* to the class numeral, for example, IIe. The letter *e* shows that the main limitation is risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c*, used in only some parts of the United States, shows that the chief limitation is climate that is very cold or very dry.

In class I there are no subclasses because the soils of this class have few limitations. Class V contains only the subclasses indicated by *w, s,* or *c* because the soils in class V are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, woodland, wildlife habitat, or recreation.

The acreage of soils in each capability class and subclass is shown in table 6. The capability classification of each map unit is given in the section "Detailed soil map units."

woodland management and productivity

Terrill D. Allen, forester, Soil Conservation Service, helped prepare this section.

Commercial forests cover an area of approximately 352,800 acres, or about 67 percent, of Pearl River County (*11*). Commercial forests are made up of five dominant types. The longleaf-slash pine forest type, the most important, occupies 100,800 acres, or 29 percent, of the commercial forest land; the oak-gum-cypress type about 75,600 acres, or 21 percent; the loblolly-shortleaf pine type about 75,600 acres, or 21 percent; oak-pine type about 69,300 acres, or 20 percent; and the oak-hickory type about 31,500 acres, or 9 percent.

The loblolly-shortleaf pine, oak-pine, and oak-hickory forest types are in the uplands. The longleaf-slash pine forest type is in the uplands and on the flatwood terraces in the extreme southern part of the county. The oak-gum-cypress type is on the flood plains of the Pearl River and along other streams and drainageways of the county. Longleaf pine occurs in the sloping areas and slash pine in the level areas.

Five southern pines are well adapted to Pearl River County—longleaf, slash, loblolly, shortleaf, and spruce pines. All are upland species except the spruce pine, which occurs in the oak-gum-cypress forest type along the flood plains of the main streams. The occurrence varies because of the soil-water relationship and the past treatment of the soil and forest resources by man.

Farmers and other private owners control about 211,700 acres, or 60 percent, of the forest land; forest industries about 127,000 acres, or 36 percent; national forests about 5,300 acres, or 1.5 percent; and other public ownership about 8,800 acres, or 2.5 percent (*2*).

In Pearl River County much of the woodland is grazed. The grasses, legumes, and many of the woody plants in the understory can be used for forage and browse. It is essential that proper stocking of grazing animals, in relation to the amount of forage produced, be maintained to prevent damage to desirable trees.

Table 7 can be used by woodland owners or forest managers in planning the use of soils for wood crops. Only those soils suitable for wood crops are listed. The table lists the ordination (woodland suitability) symbol for each soil. Soils assigned the same ordination symbol require the same general management and have about the same potential productivity.

The first part of the *ordination symbol*, a number, indicates the potential productivity of the soils for important trees. The number 1 indicates very high productivity; 2, high; 3, moderately high; 4, moderate; and 5, low. The second part of the symbol, a letter, indicates the major kind of soil limitation. The letter *w*, indicates excessive water in or on the soil; *c*, clay in the upper part of the soil; and *s*, sandy texture. The letter *o* indicates that limitations or restrictions are insignificant. If a soil has more than one limitation, the priority is as follows: w, c, and s.

The third part of the symbol, a number, indicates the kind of trees for which the soils in a group are best suited, and also the severity of the limitation. The numbers 1, 2, and 3 indicate slight, moderate, and severe limitations, respectively, and suitability for needleleaf trees; 4, 5, and 6, slight, moderate, and severe limitations, respectively, and suitability for broadleaf trees; and 7, 8, and 9, slight, moderate, and severe limitations, respectively, and suitability for both needleleaf and broadleaf trees.

In table 7, *slight, moderate,* and *severe* indicate the degree of the major soil limitations to be considered in management.

Ratings of the *erosion hazard* indicate the risk of loss of soil in well managed woodland. The risk is *slight* if the expected soil loss is small, *moderate* if measures are needed to control erosion during logging and road construction, and *severe* if intensive management or

special equipment and methods are needed to prevent excessive loss of soil.

Ratings of *equipment limitation* reflect the characteristics and conditions of the soil that restrict use of the equipment generally needed in woodland management or harvesting. A rating of *slight* indicates that use of equipment is not limited to a particular kind of equipment or time of year; *moderate* indicates a short seasonal limitation or a need for some modification in management or in equipment; and *severe* indicates a seasonal limitation, a need for special equipment or management, or a hazard in the use of equipment.

Seedling mortality ratings indicate the degree to which the soil affects the mortality of tree seedlings. Plant competition is not considered in the ratings. The ratings apply to seedlings from good stock that are properly planted during a period of sufficient rainfall. A rating of *slight* indicates that the expected mortality is less than 25 percent; *moderate*, 25 to 50 percent; and *severe*, more than 50 percent.

Ratings of *plant competition* indicate the degree to which undesirable plants are expected to invade where there are openings in the tree canopy. The invading plants compete with native plants or planted seedlings. A rating of *slight* indicates little or no competition from other plants; *moderate* indicates that plant competition is expected to hinder the development of a fully stocked stand of desirable trees; *severe* indicates that plant competition is expected to prevent the establishment of a desirable stand unless the site is intensively prepared, weeded, or otherwise managed to control undesirable plants.

The *potential productivity* of merchantable or *common trees* on a soil is expressed as a *site index*. This index is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. Site index was determined at age 30 years for eastern cottonwood, 35 years for American sycamore, and 50 years for all other species. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that woodland managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability.

Trees to plant are those that are suited to the soils and to commercial wood production.

woodland understory vegetation

David W. Sanders, range conservationist, Soil Conservation Service, helped prepare this section.

Understory vegetation consists of grasses, forbs, shrubs, and other plants. Some woodland, if well managed, can produce enough understory vegetation to support grazing of livestock or wildlife, or both, without damage to the trees.

The quantity and quality of understory vegetation vary with the kind of soil, the age and kind of trees in the canopy, the density of the canopy, and the depth and condition of the litter. The density of the canopy determines the amount of light that understory plants receive. Significant changes in the kind and abundance of plants occur as the canopy changes, often regardless of grazing use. The forage value of grazable woodland is not an ecological evaluation of the understory. Forage value is based on the percentage of the existing understory made up of plants preferred for livestock.

Table 8 shows, for each soil suitable for woodland use, the potential for producing understory vegetation. The total production of understory vegetation includes the herbaceous plants and the leaves, twigs, and fruit of woody plants up to a height of 4 1/2 feet. It is expressed in pounds per acre of air-dry vegetation in favorable, normal, and unfavorable years. In a favorable year, soil moisture is above average during the optimum part of the growing season; in a normal year, soil moisture is average; and in an unfavorable year, it is below average.

Table 8 also lists the common names of the characteristic vegetation on each soil and the percentage composition, by air-dry weight, of each kind of plant. The table shows the kind and percentage of understory plants expected under a canopy density that is most nearly typical of woodland in which the production of wood crops is highest.

recreation

The soils of the survey area are rated in table 9 according to limitations that affect their suitability for recreation. The ratings are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewerlines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation are also important. Soils subject to flooding are limited for recreation use by the duration and intensity of flooding and the season when flooding occurs. In planning recreation facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

In table 9, the degree of soil limitation is expressed as slight, moderate, or severe. *Slight* means that soil properties are generally favorable and that limitations are minor and easily overcome. *Moderate* means that limitations can be overcome or alleviated by planning, design, or special maintenance. *Severe* means that soil properties are unfavorable and that limitations can be offset only by costly soil reclamation, special design, intensive maintenance, limited use, or by a combination of these measures.

The information in table 9 can be supplemented by other information in this survey, for example,

interpretations for septic tank absorption fields in table 12 and interpretations for dwellings without basements and for local roads and streets in table 11.

Camp areas require site preparation such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp areas are subject to heavy foot traffic and some vehicular traffic. The best soils have mild slopes and are not wet or subject to flooding during the period of use. The surface has few or no stones or boulders, absorbs rainfall readily but remains firm, and is not dusty when dry. Strong slopes and stones or boulders can greatly increase the cost of constructing campsites.

Picnic areas are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The best soils for picnic areas are firm when wet, are not dusty when dry, are not subject to flooding during the period of use, and do not have slopes or stones or boulders that increase the cost of shaping sites or of building access roads and parking areas.

Playgrounds require soils that can withstand intensive foot traffic. The best soils are almost level and are not wet or subject to flooding during the season of use. The surface is free of stones and boulders, is firm after rains, and is not dusty when dry. If grading is needed, the depth of the soil over bedrock or a hardpan should be considered.

Paths and trails for hiking, horseback riding, and bicycling should require little or no cutting and filling. The best soils are not wet, are firm after rains, are not dusty when dry, and are not subject to flooding more than once a year during the period of use. They have moderate slopes and few or no stones or boulders on the surface.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. The best soils for use as golf fairways are firm when wet, are not dusty when dry, and are not subject to prolonged flooding during the period of use. They have moderate slopes and no stones or boulders on the surface. The suitability of the soil for tees or greens is not considered in rating the soils.

wildlife habitat

David R. Thomas, wildlife biologist, Soil Conservation Service, helped prepare this section.

Pearl River County has a large and varied population of wildlife. Whitetail deer, turkey, and squirrel inhabit the wooded areas. Bobwhite quail, dove, cottontail, meadowlark, and many types of songbirds live in the farm areas, where they can fine food and cover. The wetlands support wood ducks, mallards, Canadian geese, rails, shore birds, coots, cranes, and snipe, along with muskrat, mink, nutria, otter, beaver, raccoon, alligators, turtles, and crawfish.

The kinds and numbers of wild animals in Pearl River County have varied over the years since the area was settled. Of all the factors that affect wildlife populations, the way man uses the land is the most important.

Before Pearl River County was settled, it was predominantly forest. Pines were dominant, and hardwoods grew along the streams. Animals adapted to forests were abundant.

Logging and land clearing destroyed woodland habitat and created vegetative patterns that meet the needs of openland wildlife. Wolves and panthers then deer and turkeys disappeared. Bobwhite quail, rabbit, dove, and many types of songbirds became dominant. But after World War II, reforestation and wildlife management efforts began and populations of deer and turkey were restored. More intensive farming methods have caused some decline in the number of farm animals and openland wild animals. The kind and number of wild animals will continue to change as man's demands on the land change.

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. They also affect the construction of water impoundments. The kind and abundance of wildlife depend largely on the amount and distribution of food, cover, and water. Wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by promoting the natural establishment of desirable plants.

In table 10, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat. The suitability of individual sites has to be determined by onsite inspection.

The potential of the soil is rated good, fair, poor, or very poor. A rating of *good* indicates that the element or kind of habitat is easily established, improved, or maintained. Few or no limitations affect management, and satisfactory results can be expected. A rating of *fair* indicates that the element or kind of habitat can be established, improved, or maintained in most places. Moderately intensive management is required for satisfactory results. A rating of *poor* indicates that limitations are severe for the designated element or kind of habitat. Habitat can be created, improved, or maintained in most places, but management is difficult and must be intensive. A rating of *very poor* indicates that restrictions for the element or kind of habitat are very severe and that unsatisfactory results can be expected. Creating, improving, or maintaining habitat is impractical or impossible.

The elements of wildlife habitat are described in the following paragraphs.

Grain and seed crops are domestic grains and seed-producing herbaceous plants. Soil properties and

features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, and flood hazard. Soil temperature and soil moisture are also considerations. Examples of grain and seed crops are corn, wheat, oats, and barley.

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, flood hazard, and slope. Soil temperature and soil moisture are also considerations. Examples of grasses and legumes are fescue, lovegrass, bromegrass, and clover.

Wild herbaceous plants are native or naturally established grasses and forbs, including weeds. Soil properties and features that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, and flood hazard. Soil temperature and soil moisture are also considerations. Examples of wild herbaceous plants are bluestem, goldenrod, beggarweed, and wheatgrass.

Hardwood trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Soil properties and features that affect the growth of hardwood trees and shrubs are depth of the root zone, the available water capacity, and wetness. Examples of these plants are oak, poplar, cherry, sweetgum, hawthorn, dogwood, and hickory. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are Russian-olive, autumn-olive, and crabapple.

Coniferous plants furnish browse, seeds, and cones. Soil properties and features that affect the growth of coniferous trees, shrubs, and ground cover are depth of the root zone, available water capacity, and wetness. Examples of coniferous plants are longleaf, loblolly, slash, and spruce pines.

Shrubs are bushy woody plants that produce fruit, buds, twigs, bark, and foliage. Soil properties and features that affect the growth of shrubs are depth of the root zone, available water capacity, salinity, and soil moisture. Examples of shrubs are wild grape, viburnam, honeysuckle, huckleberry, and pokeberry.

Wetland plants are annual and perennial wild herbaceous plants that grow on moist or wet sites. Submerged or floating aquatic plants are excluded. Soil properties and features affecting wetland plants are texture of the surface layer, wetness, reaction, and slope. Examples of wetland plants are smartweed, wild millet, wildrice, cordgrass, rushes, sedges, and reeds.

Shallow water areas have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures. Soil properties and features affecting shallow water areas are wetness, slope, and permeability. Examples of shallow water areas are marshes, waterfowl feeding areas, and ponds.

The habitat for various kinds of wildlife is described in the following paragraphs.

Habitat for openland wildlife consists of cropland, pasture, meadows, and areas that are overgrown with grasses, herbs, shrubs, and vines. These areas produce grain and seed crops, grasses and legumes, and wild herbaceous plants. The wildlife attracted to these areas include bobwhite quail, dove, meadowlark, field sparrow, cottontail, and red fox.

Habitat for woodland wildlife consists of areas of deciduous plants or coniferous plants or both and associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, thrushes, woodpeckers, squirrels, gray fox, raccoon, and deer.

Habitat for wetland wildlife consists of open or swampy shallow water areas. Some of the wildlife attracted to such areas are ducks, geese, shore birds, muskrat, mink, and beaver.

engineering

William A. Walker, project engineer, Soil Conservation Service, helped prepare this section.

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. The ratings are given in the following tables: Building site development, Sanitary facilities, Construction materials, and Water management. The ratings are based on observed performance of the soils and on the estimated data and test data in the "Soil properties" section.

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil within a depth of 5 or 6 feet. The data generally are not given for soil material below a depth of 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations need to be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about grain-size distribution, liquid limit, plasticity index, soil reaction, depth to

bedrock, hardness of bedrock within 5 to 6 feet of the surface, soil wetness, depth to a seasonal high water table, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kind of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to (1) evaluate the potential of areas for residential, commercial, industrial, and recreation uses; (2) make preliminary estimates of construction conditions; (3) evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; (4) evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; (5) plan detailed onsite investigations of soils and geology; (6) locate potential sources of gravel, sand, earthfill, and topsoil; (7) plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and (8) predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

building site development

Table 11 shows the degree and kind of soil limitations that affect shallow excavations, dwellings with and without basements, small commercial buildings, local roads and streets, and lawns and landscaping. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required. Special feasibility studies may be required where the soil limitations are severe.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for basements, graves, utility lines, open ditches, and other purposes. The ratings are based on soil properties, site features, and observed performance of the soils. The ease of digging, filling, and compacting is affected by the depth to bedrock, a cemented pan, or a very firm dense layer; stone content; soil texture; and slope. The time of the year that excavations can be made is affected by the depth to a seasonal high water table and the susceptibility of the soil to flooding. The resistance of the excavation walls or banks to sloughing or caving is affected by soil texture and the depth to the water table.

Dwellings and small commercial buildings are structures built on shallow foundations on undisturbed soil. The load limit is the same as that for single-family dwellings no higher than three stories. Ratings are made for small commercial buildings without basements, for dwellings with basements, and for dwellings without basements. The ratings are based on soil properties, site features, and observed performance of the soils. A high water table, flooding, shrink-swell potential, and organic layers can cause the movement of footings. A high water table, depth to bedrock or to a cemented pan, large stones, and flooding affect the ease of excavation and construction. Landscaping and grading that require cuts and fills of more than 5 to 6 feet are not considered.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material, a base of gravel, crushed rock, or stabilized soil material, and a flexible or rigid surface. Cuts and fills are generally limited to less than 6 feet. The ratings are based on soil properties, site features, and observed performance of the soils. Depth to bedrock or to a cemented pan, a high water table, flooding, large stones, and slope affect the ease of excavating and grading. Soil strength (as inferred from the engineering classification of the soil), shrink-swell potential, frost action potential, and depth to a high water table affect the traffic supporting capacity.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. The ratings are based on soil properties, site features, and observed performance of the soils. Soil reaction, a high water table, depth to bedrock or to a cemented pan, the available water capacity in the upper 40 inches, and the content of salts, sodium, and sulfidic materials affect plant growth. Flooding, wetness, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer affect trafficability after vegetation is established.

sanitary facilities

Table 12 shows the degree and the kind of soil limitations that affect septic tank absorption fields, sewage lagoons, and sanitary landfills. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required.

Table 12 also shows the suitability of the soils for use as daily cover for landfills. A rating of *good* indicates that soil properties and site features are favorable for the use and good performance and low maintenance can be expected; *fair* indicates that soil properties and site features are moderately favorable for the use and one or more soil properties or site features make the soil less desirable than the soils rated good; and *poor* indicates that one or more soil properties or site features are unfavorable for the use and overcoming the unfavorable properties requires special design, extra maintenance, or costly alteration.

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 72 inches is evaluated. The ratings are based on soil properties, site features, and observed performance of the soils. Permeability, a high water table, depth to bedrock or to a cemented pan, and flooding affect absorption of the effluent. Large stones and bedrock or a cemented pan interfere with installation.

Unsatisfactory performance of septic tank absorption fields, including excessively slow absorption of effluent, surfacing of effluent, and hillside seepage, can affect public health. Ground water can be polluted if highly permeable sand and gravel or fractured bedrock is less than 4 feet below the base of the absorption field, if slope is excessive, or if the water table is near the surface. There must be unsaturated soil material beneath the absorption field to effectively filter the effluent. Many local ordinances require that this material be of a certain thickness.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Lagoons generally are designed to hold the sewage within a depth of 2 to 5 feet. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water.

Table 12 gives ratings for the natural soil that makes up the lagoon floor. The surface layer and, generally, 1 or 2 feet of soil material below the surface layer are excavated to provide material for the embankments. The ratings are based on soil properties, site features, and observed performance of the soils. Considered in the ratings are slope, permeability, a high water table, flooding, large stones, and content of organic matter.

Excessive seepage due to rapid permeability of the soil or a water table that is high enough to raise the level of sewage in the lagoon causes a lagoon to function unsatisfactorily. Pollution results if seepage is excessive or if floodwater overtops the lagoon. A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor.

Sanitary landfills are areas where solid waste is disposed of by burying it in soil. There are two types of landfill—trench and area. In a trench landfill, the waste is placed in a trench. It is spread, compacted, and covered daily with a thin layer of soil excavated at the site. In an area landfill, the waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site.

Both types of landfill must be able to bear heavy vehicular traffic. Both types involve a risk of ground water pollution. Ease of excavation and revegetation needs to be considered.

The ratings in table 12 are based on soil properties, site features, and observed performance of the soils. Permeability, depth to bedrock or to a cemented pan, a high water table, slope, and flooding affect both types of landfill. Texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium affect trench type landfills. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, a limitation rated slight or moderate may not be valid. Onsite investigation is needed.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area type sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste.

Soil texture, wetness, coarse fragments, and slope affect the ease of removing and spreading the material during wet and dry periods. Loamy or silty soils that are free of large stones or excess gravel are the best cover for a landfill. Clayey soils are sticky or cloddy and are difficult to spread; sandy soils are subject to soil blowing.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as final cover for a landfill should be suitable for plants. The surface layer generally has the best workability, more organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

construction materials

Table 13 gives information about the soils as a source of roadfill, sand, gravel, and topsoil. The soils are rated *good, fair,* or *poor* as a source of roadfill and topsoil. They are rated as a probable or improbable source of sand and gravel. The ratings are based on soil properties and site features that affect the removal of the soil and its use as construction material. Normal compaction, minor processing, and other standard construction practices are assumed. Each soil is evaluated to a depth of 5 or 6 feet.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the soil material below the surface layer to a depth of 5 or 6 feet. It is assumed that soil layers will be mixed during excavating and spreading. Many soils have layers of contrasting suitability within their profile. The table showing engineering index properties provides detailed information about each soil layer. This information can help determine the suitability of each layer for use as roadfill. The performance of soil after it is stabilized with lime or cement is not considered in the ratings.

The ratings are based on soil properties, site features, and observed performance of the soils. The thickness of suitable material is a major consideration. The ease of excavation is affected by large stones, a high water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the engineering classification of the soil) and shrink-swell potential.

Soils rated *good* contain significant amounts of sand or gravel or both. They have at least 5 feet of suitable material, low shrink-swell potential, few cobbles and stones, and slopes of 15 percent or less. Depth to the water table is more than 3 feet. Soils rated *fair* are more than 35 percent silt- and clay-sized particles and have a plasticity index of less than 10. They have moderate shrink-swell potential, slopes of 15 to 25 percent, or many stones. Depth to the water table is 1 to 3 feet. Soils rated *poor* have a plasticity index of more than 10, a high shrink-swell potential, many stones, or slopes of more than 25 percent. They are wet, and the depth to the water table is less than 1 foot. They may have layers of suitable material, but the material is less than 3 feet thick.

Sand and gravel are natural aggregates suitable for commercial use with a minimum of processing. Sand and gravel are used in many kinds of construction. Specifications for each use vary widely. In table 13, only the probability of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material.

The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the engineering classification of the soil), the thickness of suitable material, and the content of rock fragments. Kinds of rock, acidity, and stratification are given in the soil series descriptions. Gradation of grain sizes is given in the table on engineering index properties.

A soil rated as a probable source has a layer of clean sand or gravel or a layer of sand or gravel that is up to 12 percent silty fines. This material must be at least 3 feet thick and less than 50 percent, by weight, large stones. All other soils are rated as an improbable source. Coarse fragments of soft bedrock, such as shale and siltstone, are not considered to be sand and gravel.

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area.

Plant growth is affected by toxic material and by such properties as soil reaction, available water capacity, and fertility. The ease of excavating, loading, and spreading is affected by rock fragments, slope, a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, a water table, rock fragments, bedrock, and toxic material.

Soils rated *good* have friable loamy material to a depth of at least 40 inches. They are free of stones and cobbles, have little or no gravel, and have slopes of less than 8 percent. They are low in content of soluble salts, are naturally fertile or respond well to fertilizer, and are not so wet that excavation is difficult.

Soils rated *fair* are sandy soils, loamy soils that have a relatively high content of clay, soils that have only 20 to 40 inches of suitable material, soils that have an appreciable amount of gravel, stones, or soluble salts, or soils that have slopes of 8 to 15 percent. The soils are not so wet that excavation is difficult.

Soils rated *poor* are very sandy or clayey, have less than 20 inches of suitable material, have a large amount of gravel, stones, or soluble salts, have slopes of more than 15 percent, or have a seasonal water table at or near the surface.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

water management

Table 14 gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; and aquifer-fed ponds. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and are easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increase in construction costs, and possibly increased maintenance are required.

This table also gives for each soil the restrictive features that affect drainage, terraces and diversions, and grassed waterways.

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low

seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Drainage is the removal of excess surface and subsurface water from the soil. How easily and effectively the soil is drained depends on the depth to bedrock, to a cemented pan, or to other layers that affect the rate of water movement; permeability; depth to a high water table or depth of standing water if the soil is subject to ponding; slope; susceptibility to flooding; subsidence of organic layers; and potential frost action. Excavating and grading and the stability of ditchbanks are affected by depth to bedrock or to a cemented pan, large stones, slope, and the hazard of cutbanks caving. The productivity of the soil after drainage is adversely affected by extreme acidity or by toxic substances in the root zone, such as salts, sodium, or sulfur. Availability of drainage outlets is not considered in the ratings.

Terraces and diversions are embankments or a combination of channels and ridges constructed across a slope to reduce erosion and conserve moisture by intercepting runoff. Slope, wetness, large stones, and depth to bedrock or to a cemented pan affect the construction of terraces and diversions. A restricted rooting depth, a severe hazard of wind or water erosion, an excessively coarse texture, and restricted permeability adversely affect maintenance.

Grassed waterways are natural or constructed channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity. Large stones, wetness, slope, and depth to bedrock or to a cemented pan affect the construction of grassed waterways. A hazard of wind erosion, low available water capacity, restricted rooting depth, toxic substances such as salts or sodium, and restricted permeability adversely affect the growth and maintenance of the grass after construction.

soil properties

Data relating to soil properties are collected during the course of the soil survey. The data and the estimates of soil and water features, listed in tables, are explained on the following pages.

Soil properties are determined by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine grain-size distribution, plasticity, and compaction characteristics. These results are reported in table 20.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help characterize key soils.

The estimates of soil properties shown in the tables include the range of grain-size distribution and Atterberg limits, the engineering classifications, and the physical and chemical properties of the major layers of each soil. Pertinent soil and water features also are given.

engineering index properties

Table 15 gives estimates of the engineering classification and of the range of index properties for the major layers of each soil in the survey area. Most soils have layers of contrasting properties within the upper 5 or 6 feet.

Depth to the upper and lower boundaries of each layer is indicated. The range in depth and information on other properties of each layer are given for each soil series under "Soil series and their morphology."

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If a soil contains particles coarser than sand, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (*2*) and the system adopted by the American Association of State Highway and Transportation Officials (*1*).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to grain-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as Pt. Soils exhibiting engineering properties of two groups can have a dual classification, for example, SP-SM.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of grain-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest. The AASHTO classification for soils tested, with group index numbers in parentheses, is given in table 20.

Rock fragments larger than 3 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination.

The estimates of grain-size distribution, liquid limit, and plasticity index are rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is omitted in the table.

physical and chemical properties

Table 16 shows estimates of some characteristics and features that affect soil behavior. These estimates are given for the major layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In this table, the estimated clay content of each major soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The amount and kind of clay greatly affect the fertility and physical condition of the soil. They determine the ability of the soil to adsorb cations and to retain moisture. They influence shrink-swell potential, permeability, and plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earth-moving operations.

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at 1/3 bar moisture tension. Weight is determined after drying the soil at 105 degrees C. In this table, the estimated moist bulk density of each major soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. A bulk density of more than 1.6 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Permeability refers to the ability of a soil to transmit water or air. The estimates indicate the rate of downward movement of water when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems, septic tank absorption fields, and construction where the rate of water movement under saturated conditions affects behavior.

Available water capacity refers to the quantity of water that the soil is capable of storing for use by plants. The capacity for water storage is given in inches of water per inch of soil for each major soil layer. The capacity varies, depending on soil properties that affect the retention of water and the depth of the root zone. The most important properties are the content of organic matter, soil texture, bulk density, and soil structure. Available water capacity is an important factor in the choice of plants or crops to be grown and in the design and management of irrigation systems. Available water capacity is not an estimate of the quantity of water actually available to plants at any given time.

Soil reaction is a measure of acidity or alkalinity and is expressed as a range in pH values. The range in pH of each major horizon is based on many field tests. For many soils, values have been verified by laboratory analyses. Soil reaction is important in selecting crops and other plants, in evaluating soil amendments for fertility and stabilization, and in determining the risk of corrosion.

Shrink-swell potential is the potential for volume change in a soil with a loss or gain in moisture. Volume change occurs mainly because of the interaction of clay minerals with water and varies with the amount and type of clay minerals in the soil. The size of the load on the soil and the magnitude of the change in soil moisture content influence the amount of swelling of soils in place. Laboratory measurements of swelling of undisturbed clods were made for many soils. For others, swelling was estimated on the basis of the kind and amount of clay minerals in the soil and on measurements of similar soils.

If the shrink-swell potential is rated moderate to very high, shrinking and swelling can cause damage to buildings, roads, and other structures. Special design is often needed.

Shrink-swell potential classes are based on the change in length of an unconfined clod as moisture content is increased from air-dry to field capacity. The change is based on the soil fraction less than 2 millimeters in diameter. The classes are *low*, a change of less than 3 percent; *moderate*, 3 to 6 percent; and *high*, more than 6 percent. *Very high*, greater than 9 percent, is sometimes used.

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter (up to 4 percent) and on soil structure and permeability. Values of K range from 0.05 to 0.69. The higher the value the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor T is an estimate of the maximum average annual rate of soil erosion by wind or water that can occur without affecting crop productivity over a sustained period. The rate is in tons per acre per year.

Organic matter is the plant and animal residue in the soil at various stages of decomposition.

In table 16, the estimated content of organic matter of the plow layer is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter of a soil can be maintained or increased by returning crop residue to the

soil. Organic matter affects the available water capacity, infiltration rate, and tilth. It is a source of nitrogen and other nutrients for crops.

soil and water features

Table 17 gives estimates of various soil and water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are used to estimate runoff from precipitation. Soils not protected by vegetation are assigned to one of four groups. They are grouped according to the intake of water when the soils are thoroughly wet and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a permanent high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Flooding, the temporary inundation of an area, is caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt and water in swamps and marshes are not considered flooding.

Table 17 gives the frequency and duration of flooding and the time of year when flooding is most likely.

Frequency, duration, and probable dates of occurrence are estimated. Frequency is expressed as none, rare, common, occasional, and frequent. *None* means that flooding is not probable; *rare* that it is unlikely but possible under unusual weather conditions; *common* that it is likely under normal conditions; *occasional* that it occurs on an average of once or less in 2 years; and *frequent* that it occurs on an average of more than once in 2 years. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, and *long* if more than 7 days. Probable dates are expressed in months; November-May, for example, means that flooding can occur during the period November through May.

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and absence of distinctive horizons that form in soils that are not subject to flooding.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

High water table (seasonal) is the highest level of a saturated zone in the soil in most years. The depth to a seasonal high water table applies to undrained soils. The estimates are based mainly on the evidence of a saturated zone, namely grayish colors or mottles in the soil. Indicated in table 17 are the depth to the seasonal high water table; the kind of water table—that is, perched, artesian, or apparent; and the months of the year that the water table commonly is high. A water table that is seasonally high for less than 1 month is not indicated in table 17.

An apparent water table is a thick zone of free water in the soil. It is indicated by the level at which water stands in an uncased borehole after adequate time is allowed for adjustment in the surrounding soil. An artesian water table is under hydrostatic head, generally beneath an impermeable layer. When this layer is penetrated, the water level rises in an uncased borehole. A perched water table is water standing above an unsaturated zone. In places an upper, or perched, water table is separated from a lower one by a dry zone.

Only saturated zones within a depth of about 6 feet are indicated. A plus sign preceding the range in depth indicates that the water table is above the surface of the soil. The first numeral in the range indicates how high the water rises above the surface. The second numeral indicates the depth below the surface.

Depth to bedrock is given if bedrock is within a depth of 5 feet. The depth is based on many soil borings and on observations during soil mapping.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that dissolves or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors creates a severe corrosion environment. The steel in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than steel in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil drainage class,

total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion is also expressed as *low*, *moderate*, or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

physical and chemical analyses of selected soils

D. E. Pettry, agronomist, Department of Agronomy, Mississippi Agricultural and Forestry Experiment Station, Mississippi State University, prepared this section.

The results of physical analysis of several typical pedons in the survey area are given in table 18 and the results of chemical analysis in table 19. The data are for soils sampled at carefully selected sites. Some of the pedons are typical of the series and are described in the section "Soil series and their morphology." Soil samples were analyzed by the Soil Genesis and Morphology Laboratory of the Mississippi Agricultural and Forestry Experiment Station.

physical analyses

The particle size analyses shown in table 18 were obtained using Day's hydrometer method (*4*). Forty grams of soil were dispersed in 0.5 percent Calgon solution (sodium metaphosphate) by mixing 5 minutes in a milk shaker. The dispersed soil was transferred to a sedimentation cylinder, made to 1,000 millimeters and equilibrated overnight in a water bath at 30 degrees C. The suspension was then mixed and allowed to settle. Hydrometer readings were taken at predetermined times to determine the clay content. The sand was separated on a 325-mesh sieve, dried, and weighed. All results are expressed on the basis of ovendry weight at 110 degrees C.

The physical properties of soils, such as infiltration rate and conduction, shrink-swell potential, crusting, ease of tillage, consistence, and available water capacity, are closely related to soil texture (the percentage of sand, silt, and clay).

The deep, sloping loamy soils of the uplands such as Smithdale, Ruston, Lucedale, Benndale, and Troup soils are high in sand content. They tend to be droughty because water infiltration is rapid in the coarse-textured surface layer.

The siliceous alluvium of the Pearl and Jordan Rivers and Hobolochito Creek and tributaries give rise to sandy soils on the flood plains and stream terraces. Jena, Nugent, Bassfield, and Latonia soils are deep sandy soils that have a high infiltration rate and medium to low water-holding capacity. These soils tend to be droughty during prolonged dry spells.

Soils that formed in loamy materials such as Malbis, Poarch, and Saucier soils have a loam texture.

The clayey Susquehanna soils are high in content of expansive clays. These soils have a high water-holding capacity, but they tend to shrink and swell upon drying and wetting. The plastic nature of these clayey soils necessitates special management.

chemical analyses

Soil chemical properties, in combination with other soil features, such as permeability, structure, texture, and consistence, influence the limitations and potential of a soil. Chemical properties are not evident in visual observations of a soil, and laboratory analyses are necessary to define the soil characteristics. The amount and type of clay minerals present and the organic matter content largely regulate the chemical nature of soils. These substances have the capacity to attract and hold cations. Exchangeable cations are positive-charged elements that are bonded to clay minerals and to organic matter, both of which have a negative charge. Laboratory data for representative soils, as shown in table 19, help to properly classify the soils and manage them effectively.

Soil chemical data are expressed as milliequivalents per 100 grams of dry soil. It is useful to convert milliequivalents per 100 grams of the various cations to the common units of pounds per acre for the plow layer. The plow layer, or topsoil, of average soils to a depth of 6.67 inches weighs about 2 million pounds per acre. The conversions for the cations listed in table 19 are as follows:

Calcium (Ca) meq./100 grams x 400 = pounds per acre.
Magnesium (Mg) meq./100 grams x 240 = pounds per acre.
Potassium (K) meq./100 grams x 780 = pounds per acre.
Sodium (Na) meq./100 grams x 460 = pounds per acre.

The exchangeable cations may be removed or exchanged through leaching or plant uptake. Through the mechanism of cation exchange, soil acidity may be corrected by liming. It is useful to note that 1 milliequivalent per 100 grams of extractable acidity (hydrogen + aluminum) requires 1,000 pounds of calcium carbonate per acre to neutralize it.

Many of the soils in Pearl River County are acid and have a relatively low capacity to retain plant nutrients (cations) because of the influence of siliceous parent materials. Deep, well drained loamy soils at higher elevations, such as Ruston, McLaurin, and Lucedale soils are very strongly acid or strongly acid and have a relatively low capacity to retain plant nutrients. Crops on these soils, however, respond to proper fertilization and management. Siliceous soils on the Pearl River flood plains on the western side of the county have similar chemical properties.

Susquehanna, Falkner, and Cadeville soils make up a considerable acreage in the northern and central parts of the county. These soils are underlain by clay and silt. Their subsoil has a base saturation level greater than 35

percent. The clayey Susquehanna soils have a relatively high cation-exchange capacity, which is related to the expansive montmorillonitic type of clay in the soil.

Intensive weathering and leaching in some soils has resulted in subsoil accumulations of plinthite, which is rich in iron and aluminum oxides and very low in organic matter. Basin, Baxterfield, Escambia, Malbis, Poarch, and Saucier soils contain more than 5 percent plinthite within a depth of 60 inches.

Most soils in Pearl River County have a low organic-matter content except Dorovan and Croatan soils, which are organic soils that are dominantly organic materials.

The method used in obtaining the data in table 19 are indicated in the list that follows. The codes in parentheses refer to published methods (*8*). The samples were prepared by airdrying, carefully crushing, and screening through a standard 20-mesh sieve.

Extractable cations—ammonium acetate pH 7.0, uncorrected; calcium (6N2), magnesium (602), sodium (6P2), potassium (6Q2).

Extractable acidity—barium chloride-triethanolamine I (6H1a).

Cation-exchange capacity—sum of cations (5A3a).

Base saturation—sum of cations, TEA, pH 8.2 (5C3).

Reaction (pH)—1:1 water dilution (8C1a).

engineering index test data

Table 20 shows laboratory test data for two pedons sampled at carefully selected sites in the survey area. The pedon of the Falkner soil is typical of the series and is described in the section "Soil series and their morphology." The pedon of the Malbis soil is not typical of the series; however, the soil behavior is the same as in the named series. The soil samples were tested by the Mississippi State Highway Department, Testing Division, Jackson, Mississippi.

The testing methods generally are those of the American Association of State Highway and Transportation Officials (AASHTO) or the American Society for Testing and Materials (ASTM).

The tests and methods are: AASHTO classification—M 145 (AASHTO), D 3282 (ASTM); Unified classification—D 2487 (ASTM); Mechanical analysis—T 88 (AASHTO), D 2217 (ASTM); Liquid limit—T 89 (AASHTO), D 423 (ASTM); Plasticity index—T 90 (AASHTO), D 424 (ASTM); Moisture density, Method A—T 99 (AASHTO), D 698 (ASTM); and Shrinkage—T 92 (AASHTO), D 427 (ASTM).

classification of the soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (*9*). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. In table 21, the soils of the survey area are classified according to the system. The categories are defined in the following paragraphs.

ORDER. Ten soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Entisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Aquent (*Aqu*, meaning water, plus *ent*, from Entisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Fluvaquents (*Fluv*, meaning flood plain plus *aquent*, the suborder of the Entisols that have an aquic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other known kind of soil. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Fluvaquents.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Mostly the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineral content, temperature regime, depth of the root zone, consistence, moisture equivalent, slope, and permanent cracks. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-silty, mixed, acid, thermic Typic Fluvaquents.

SERIES. The series consists of soils that have similar horizons in their profile. The horizons are similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. The texture of the surface layer or of the substratum can differ within a series. The Rosebloom series is an example of fine-silty, mixed, acid, thermic Typic Fluvaquents in Pearl River County.

soil series and their morphology

In this section, each soil series recognized in the survey area is described. The descriptions are arranged in alphabetic order.

Characteristics of the soil and the material in which it formed are identified for each series. The soil is compared with similar soils and with nearby soils of other series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the Soil Survey Manual (*7*). Many of the technical terms used in the descriptions are defined in Soil Taxonomy (*9*). Unless otherwise stated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

The map units of each soil series are described in the section "Detailed soil map units."

Arkabutla series

The Arkabutla series consists of somewhat poorly drained soils that formed in silty sediment on the flood plain of the Pearl River. Slopes range from 0 to 2 percent. The soils of the Arkabutla series are fine-silty, mixed, acid, thermic Aeric Fluvaquents.

Arkabutla soils are associated with Bassfield, Rosebloom, and Troup soils. Bassfield soils are well drained and are on stream terraces. They have a redder subsoil than Arkabutla soils and have a coarse-loamy control section. Rosebloom soils, which are in lower lying

depressions, sloughs, and drainageways, are gleyed throughout the B horizon. Troup soils, which are on adjacent side slopes and ridgetops, have a sandy A horizon more than 40 inches thick over a sandy loam or sandy clay loam Bt horizon.

Typical pedon of Arkabutla silt loam in an area of Arkabutla-Rosebloom association, frequently flooded, 13 miles west of Poplarville on State Highway 26, 4 miles north on State Highway 43, 1.25 miles west along Florida gasline, NW1/4NE1/4 sec. 14, T. 2 S., R. 18 W.

A1—0 to 6 inches; dark brown (10YR 4/3) silt loam; weak fine subangular blocky structure; friable; many fine roots; strongly acid; abrupt wavy boundary.
B21—6 to 18 inches; dark brown (10YR 4/3) silty clay loam; common medium distinct light brownish gray (10YR 6/2) mottles; weak fine subangular blocky structure; friable; many fine and medium roots; strongly acid; clear wavy boundary.
B22g—18 to 26 inches; grayish brown (10YR 5/2) silty clay loam; many medium faint gray (10YR 6/1) and common medium distinct dark brown (10YR 4/3) mottles; weak fine subangular blocky structure; friable; few fine roots; common black concretions; strongly acid; clear wavy boundary.
B23g—26 to 40 inches; light brownish gray (10YR 6/2) silty clay loam; common medium distinct yellowish brown (10YR 5/6) mottles; weak fine subangular blocky structure; firm, slightly plastic; common black concretions; strongly acid; clear wavy boundary.
B24g—40 to 62 inches; gray (10YR 6/1) silty clay loam; common medium distinct strong brown (7.5YR 5/6) mottles; weak fine subangular blocky structure; firm, slightly plastic; few black and brown concretions; strongly acid.

The thickness of the solum exceeds 40 inches. Reaction is very strongly acid or strongly acid.

The A horizon is dark brown, brown, or dark yellowish brown.

The B21 horizon is dark grayish brown or grayish brown, is mottled in shades of brown, yellow, and gray, or has dark brown matrix with few to many mottles of chroma 2 or less. Texture is silt loam or silty clay loam.

The Bg horizon is dark grayish brown, light brownish gray, grayish brown, or gray and is mottled in shades of brown. Texture is silty clay loam, silt loam, or loam. The 10- to 40-inch control section contains 20 to 35 percent clay.

Basin series

The Basin series consists of somewhat poorly drained soils that formed in loamy marine sediment on broad, nearly level to gently sloping uplands. Slopes range from 0 to 5 percent. The soils of the Basin series are coarse-loamy, siliceous, thermic Fragiaquic Paleudults.

Basin soils are associated with Falkner, Malbis, and Saucier soils. Falkner soils are on similar positions on the landscape but do not have plinthite in the subsoil. Malbis soils, which are on higher positions on the landscape, do not have mottles of chroma 2 or less within a depth of 30 inches and do not have fragic properties in the subsoil. Saucier soils are moderately well drained, are on slightly higher positions on the landscape, and are in a fine-loamy family.

Typical pedon of Basin loam, 2 to 5 percent slopes, in pasture 6.5 miles west of Poplarville along State Highway 26, then 300 yards north of White Sands Experiment Station headquarters, SW1/4SW1/4 sec. 10, T. 3 S., R. 17 W.

Ap—0 to 6 inches; dark grayish brown (10YR 4/2) loam; weak fine granular structure; very friable; many fine roots; strongly acid; abrupt smooth boundary.
B21t—6 to 18 inches; yellowish brown (10YR 5/6) loam; few fine distinct gray (10YR 6/1) mottles; moderate medium subangular blocky structure; friable; many uncoated sand grains; many fine roots; few fine pores; very strongly acid; abrupt smooth boundary.
A'2&B'22t—18 to 23 inches; pale brown (10YR 6/3) loam (A'2); few fine faint light gray mottles; many medium distinct yellowish brown (10YR 5/6) (B'2t) bodies; weak medium subangular blocky structure; friable; many fine roots; pockets of uncoated sand grains; very strongly acid; abrupt smooth boundary.
B'23t—23 to 30 inches; yellowish brown (10YR 5/6) loam; common medium distinct light gray (10YR 7/2) mottles; weak coarse prismatic structure parting to weak medium subangular blocky; firm, brittle, and compact in about 40 percent of the volume, many fine pores and vesicules; common clay films on faces of seams; few brown concretions; about 5 percent fine plinthite nodules; very strongly acid; clear wavy boundary.
B'24t—30 to 44 inches; mottled red (2.5YR 4/6), yellowish brown (10YR 5/6), and gray (10YR 6/1) loam; moderate medium subangular blocky structure; firm, slightly compact, and brittle in about 45 percent of volume; 5 to 10 percent plinthite; clay films on faces of peds; very strongly acid; clear wavy boundary.
B'25t—44 to 65 inches; mottled yellowish brown (10YR 5/6), strong brown (7.5YR 5/6), red (10R 4/6), and light gray (10YR 7/2) sandy clay loam; moderate medium subangular blocky structure; firm, slightly compact, and brittle in about 40 percent of volume; clay films on faces of peds; about 5 percent plinthite nodules; gray material is clayey; very strongly acid.

The thickness of the solum exceeds 60 inches. The depth to the horizon containing more than 5 percent plinthite ranges from 18 to 30 inches. Reaction is very strongly acid or strongly acid.

The Ap horizon is brown, dark grayish brown, or grayish brown.

The B21t horizon is yellowish brown, brownish yellow, light yellowish brown, or light olive brown, and it has few

to common gray mottles. It is fine sandy loam or loam. Many of the sand grains are stripped of clay.

The A'2&B'22t horizon is light brownish gray, grayish brown, or pale brown, or is mottled in shades of red, brown, and gray. Some pedons have a B'2t&A'2 horizons. Texture is sandy loam or loam. Clay content of the upper 20 inches ranges from 10 to 16 percent.

The lower part of the B'2t horizon is yellowish brown or light olive brown and has few to common mottles of chroma 2 or less, or it is mottled in shades of yellow, red, gray, and brown. Texture is loam, fine sandy loam, or sandy clay loam. The plinthite content of the B'2t horizon ranges from 5 to 15 percent by volume. About 40 to 50 percent of the B'2t horizon is brittle and compact and restricts roots in the browner part.

Bassfield series

The Bassfield series consists of well drained soils that formed in loamy stream or marine deposits on terraces. Slope ranges from 0 to 3 percent. The soils of the Bassfield series are coarse-loamy, siliceous, thermic Typic Hapludults.

Bassfield soils are associated with Arkabutla, Cadeville, and Latonia soils. Arkabutla soils, which are on flood plains, have a brownish fine-silty control section with mottles of chroma 2 in the upper part. Cadeville soils, which are on upland side slopes, have a clayey control section. Latonia soils, which are on adjacent nearly level stream terraces, have a B2t horizon with hue of 7.5YR or browner.

Typical pedon of Bassfield sandy loam, 0 to 3 percent slopes, in pasture, 5 miles northwest of Picayune on State Highway 43, 1.75 miles west on Walkiah Bluff Road, 0.9 mile north on county road, and 700 feet southwest of road, SW1/4NE1/4 sec. 28, T. 5 S., R. 18 W.

Ap—0 to 8 inches; brown (10YR 4/3) sandy loam; weak fine granular structure; very friable; many fine roots; strongly acid; abrupt smooth boundary.

B1—8 to 14 inches; yellowish red (5YR 5/6) sandy loam; weak fine granular structure; friable; many fine roots; few uncoated sand grains; strongly acid; clear smooth boundary.

B21t—14 to 21 inches; yellowish red (5YR 5/8) loam; moderate medium subangular blocky structure; friable; many fine roots; sand grains coated and bridged with clay; very strongly acid; clear smooth boundary.

B22t—21 to 30 inches; yellowish red (5YR 5/6) loam; few medium distinct yellowish brown (10YR 5/6) and light brown (7.5YR 6/4) mottles; moderate medium subangular blocky structure; friable; few fine roots; sand grains coated and bridged with clay; very strongly acid; gradual smooth boundary.

B23t—30 to 41 inches; yellowish red (5YR 5/6) sandy loam; few fine distinct yellowish brown (10YR 5/6) mottles; weak medium subangular blocky structure; friable; few fine roots; sand grains coated and bridged with clay; strongly acid; abrupt smooth boundary.

IIC1—41 to 50 inches; reddish yellow (7.5YR 6/6) loamy sand; common medium faint brownish yellow (10YR 6/6) mottles; single grained; loose; few uncoated sand grains; strongly acid; clear wavy boundary.

IIC2—50 to 62 inches; light yellowish brown (10YR 6/4) sand; common medium distinct strong brown (7.5YR 5/6) mottles; single grained; loose; few fine pockets of uncoated sand grains; few fine and medium quartz pebbles; strongly acid.

The thickness of the solum is 40 to 60 inches. Reaction is very strongly acid or strongly acid.

The A horizon is dark gray, dark grayish brown, or brown.

The B1 and Bt horizons are reddish brown, red, or yellowish red. The texture is sandy loam or loam. Average clay content of the upper 20 inches of the Bt horizon ranges from 8 to 18 percent.

The IIC horizon is very pale brown, reddish yellow, yellow, light yellowish brown, or strong brown, or is mottled in shades of these colors. Texture ranges from loamy sand to sand. This horizon may contain as much as 20 percent gravel by volume.

Baxterville series

The Baxterville series consists of moderately well drained soils on uplands. These soils formed in loamy marine sediment. Slopes range from 2 to 5 percent. The soils of the Baxterville series are fine-loamy, siliceous, thermic Plinthic Paleudults.

Baxterville soils are associated with Cadeville, Malbis, and Smithdale soils. Cadeville and Smithdale soils are on steeper slopes than Baxterville soils, and they do not have horizons with more than 5 percent plinthite nodules. Malbis soils are in similar positions, but they have a Bt horizon of yellowish brown or strong brown.

Typical pedon of Baxterville fine sandy loam, 2 to 5 percent slopes, in a cultivated field, 7 miles north of Poplarville on I-59 to Exit No. 9, 2.7 miles east on county road to Gum Pond church, 500 feet east of church, and 20 feet north of road, SW1/4SE1/4 sec. 32, T. 1 S., R. 14 W.

A1—0 to 5 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak fine granular structure; very friable; many fine and medium roots; strongly acid; clear smooth boundary.

A2—5 to 12 inches; yellowish brown (10YR 5/6) fine sandy loam; few fine faint dark yellowish brown mottles; weak fine granular structure; very friable; common fine and medium roots; strongly acid; clear smooth boundary.

B21t—12 to 22 inches; yellowish red (5YR 4/6) loam; weak medium subangular blocky structure; friable;

few fine roots; less than 2 percent plinthite nodules; sand grains coated and bridged with clay; few patchy clay films on faces of peds; strongly acid; gradual wavy boundary.

B22t—22 to 35 inches; red (2.5YR 4/8) loam; few fine prominent yellowish brown (10YR 5/8) mottles; weak medium subangular blocky structure; friable; few fine roots; less than 2 percent plinthite nodules; few medium and coarse iron concretions; sand grains coated and bridged with clay; strongly acid; abrupt smooth boundary.

B23t—35 to 46 inches; red (10R 4/6) sandy clay loam; common medium and coarse distinct strong brown (7.5YR 5/8) and yellowish brown (10YR 5/8) mottles; moderate medium subangular and angular blocky structure; firm; slightly brittle in about 15 percent of the volume; about 6 percent plinthite nodules; patchy clay films on faces of peds; sand grains coated and bridged with clay; few iron concretions; strongly acid; gradual wavy boundary.

B24t—46 to 62 inches; red (2.5YR 4/8) sandy clay loam; many medium and coarse faint yellowish red (5YR 5/8) and few fine prominent light gray (10YR 7/1) and red (10R 4/8) mottles; moderate fine and medium subangular blocky structure; firm; patchy clay films on faces of peds; sand grains coated and bridged with clay; few fine plinthite nodules; few iron concretions; strongly acid.

The thickness of the solum exceeds 60 inches. Reaction is very strongly acid or strongly acid. The depth to horizons with more than 5 percent plinthite ranges from 20 to 50 inches.

The A1 horizon is very dark grayish brown, dark grayish brown, or brown. The A2 horizon is yellowish brown, brownish yellow, or light olive brown. Texture of the A2 horizon is fine sandy loam, sandy loam, or loam.

The B2t horizon is dark red, red, or yellowish red. Few to many mottles in shades of brown and gray may occur in the lower part. Texture is loam, sandy clay loam, or clay loam. Clay content in the upper 20 inches of the Bt horizon ranges from 18 to 30 percent.

Benndale series

The Benndale series consists of well drained loamy soils on uplands and terraces. These soils formed in stream or marine deposits. Slopes range from 0 to 8 percent. The soils of the Benndale series are coarse-loamy, siliceous, thermic Typic Paleudults.

Benndale soils are associated with Lucedale, McLaurin, and Poarch soils. Lucedale soils, which are on adjacent broad, nearly level upland ridges, have a dark red argillic horizon and a fine-loamy control section. McLaurin soils, which are on higher positions in the landscape, have a redder B2t horizon than Benndale soils and are bisequel. Poarch soils, which are on similar positions on the landscape, contain more than 5 percent plinthite nodules.

Typical pedon of Benndale sandy loam, 2 to 5 percent slopes, in planted pines 6.5 miles east of Lumberton on State Highway 13, 1.5 miles south on county road, 0.4 mile west on woods road, and 30 feet south of road, SE1/4SE1/4 sec. 12, T. 1 S., R. 14 W.

Ap—0 to 6 inches; dark gray (10YR 4/1) sandy loam; weak fine granular structure; very friable; many fine roots; strongly acid; abrupt smooth boundary.

B21t—6 to 11 inches; yellowish brown (10YR 5/6) sandy loam; weak fine granular structure; friable; many fine roots; sand grains coated and bridged with clay; strongly acid; clear wavy boundary.

B22t—11 to 35 inches; brownish yellow (10YR 6/8) sandy loam; weak and moderate medium subangular blocky structure; friable; few fine roots; sand grains coated and bridged with clay; strongly acid; clear wavy boundary.

B23t—35 to 50 inches; brownish yellow (10YR 6/6) sandy loam; few fine distinct red (2.5YR 4/8) mottles; weak and moderate medium subangular blocky structure; friable; sand grains coated and bridged with clay; thin patchy clay films on faces of peds; few nodules of plinthite that are less than 2 percent of volume; strongly acid; clear wavy boundary.

B24t—50 to 70 inches; mottled brownish yellow (10YR 6/6) and red (2.5YR 4/8) loam; weak and moderate medium subangular blocky structure; friable; thin patchy clay films on faces of peds; about 2 percent fine plinthite nodules by volume; strongly acid.

The thickness of the solum exceeds 60 inches. Reaction is very strongly acid or strongly acid.

The A horizon is dark gray, dark grayish brown, dark brown, or brown.

The B2t horizon is yellowish brown, light yellowish brown, brownish yellow, or strong brown. Few to many gray, brown, and red mottles may occur in the lower part. Texture is sandy loam, fine sandy loam, sandy clay loam, or loam. Clay content of the upper 20 inches of the B2t horizon ranges from 8 to 18 percent.

The lower part of the B2t horizon is mottled in shades of red, gray, yellow, and brown or has a matrix color of red, reddish brown, or yellowish red.

Bibb series

The Bibb series consists of poorly drained soils that formed in stratified loamy alluvium in drainageways and on flood plains. Slopes range from 0 to 2 percent. The soils of the Bibb series are coarse-loamy, siliceous, acid, thermic Typic Fluvaquents.

Bibb soils are associated with Croatan, Dorovan, and Smithton soils. The very poorly drained Croatan and Dorovan soils, which are in sloughs and depressions of flood plains, have a surface layer formed in sapric material. The poorly drained Smithton soils, which are on

broad stream terraces and in drainageways, have an argillic horizon.

Typical pedon of Bibb sandy loam, in woods about 5 miles northwest of Poplarville, 4.25 miles west of U.S. Highway 11 on county road, and 350 feet south of road, NE1/4NE1/4 sec. 33, T. 1 S., R. 16 W.

A11—0 to 3 inches; dark grayish brown (10YR 4/2) sandy loam; common medium distinct light yellowish brown (10YR 6/4) mottles; weak fine granular structure; very friable; many fine roots; strongly acid; abrupt smooth boundary.

A12g—3 to 6 inches; gray (10YR 5/1) sandy loam; common medium distinct dark brown (10YR 4/3) mottles; weak fine granular structure; very friable; many fine roots; strongly acid; abrupt smooth boundary.

C1g—6 to 10 inches; light gray (10YR 7/2) loamy sand; few fine faint pale brown mottles; structureless, single grained; loose; many fine roots; strongly acid; abrupt smooth boundary.

C2g—10 to 15 inches; gray (10YR 6/1) sandy loam; few fine faint light gray and very pale brown mottles; weak fine granular structure; very friable; many fine roots; strongly acid; clear wavy boundary.

C3g—15 to 32 inches; light brownish gray (10YR 6/2) sandy loam; few fine distinct yellowish brown (10YR 5/6) and few fine faint light gray mottles; massive; loose; many fine roots; strongly acid; clear wavy boundary.

C4g—32 to 48 inches; gray (10YR 6/1) sandy loam; common medium distinct brownish yellow (10YR 6/6) mottles; massive; loose; few fine roots; strongly acid; clear wavy boundary.

C5g—48 to 65 inches; gray (10YR 6/1) loamy sand; structureless, single grained; loose; strongly acid.

Reaction is very strongly acid or strongly acid.

The A11 horizon is gray, dark gray, dark grayish brown, or brown. The A12g horizon is light gray or gray.

The Cg horizon is gray, light gray, dark gray, or light brownish gray, and it has few to many mottles in shades of gray, brown, and yellow. Texture is sandy loam, loam, or loamy sand and is commonly stratified. Clay content averages less than 18 percent in the 10- to 40-inch control section.

Cadeville series

The Cadeville series consists of moderately well drained soils on uplands. These soils formed in clayey marine deposits. Slopes range from 8 to 15 percent. The soils of the Cadeville series are fine, mixed, thermic Albaquic Hapludalfs.

Cadeville soils are associated with Bassfield, Baxterville, Falkner, and Susquehanna soils. Bassfield soils, which are on stream terraces, have a coarse-loamy control section. Baxterville soils, which are on upland ridges, have a fine-loamy control section and contain more than 5 percent plinthite nodules. Falkner soils are on lower lying slopes and have a fine-silty control section. Susquehanna soils are on lower landscape positions and have a solum more than 60 inches thick.

Typical pedon of Cadeville fine sandy loam, 8 to 15 percent slopes, in a pasture; 9 miles northwest of Poplarville, 1.5 miles east of Fords Creek Church, and 125 yards north of county road, SW1/4NW1/4 sec. 24, T. 1 S., R. 17 W.

Ap—0 to 8 inches; dark grayish brown (10YR 4/2) fine sandy loam; few fine faint pale brown mottles; weak fine granular structure; very friable; many fine roots; strongly acid; abrupt smooth boundary.

B21t—8 to 17 inches; red (2.5YR 5/8) clay; common medium faint yellowish red (5YR 5/8) and common medium distinct light brownish gray (10YR 6/2) mottles; moderate medium subangular blocky structure; firm, plastic and sticky; many fine roots; clay films on faces of peds; strongly acid; clear wavy boundary.

B22t—17 to 30 inches; red (2.5YR 5/8) clay; common medium distinct light gray (10YR 7/1) and few medium faint red (10R 4/8) mottles; moderate medium angular blocky structure; firm, plastic and sticky; few fine roots; clay films on faces of peds; very strongly acid; clear wavy boundary.

B23t—30 to 36 inches; mottled red (2.5YR 5/8), yellow (10YR 7/6) and light gray (10YR 7/1) clay; moderate medium angular blocky structure; firm, plastic and sticky; clay films on faces of peds; very strongly acid; clear wavy boundary.

C1—36 to 60 inches; light gray (5Y 7/2) silty clay loam; common medium prominent red (10R 4/8) and few fine prominent strong brown (7.5YR 5/6) mottles; moderate medium angular blocky structure; firm, slightly plastic and sticky; very strongly acid; clear wavy boundary.

C2—60 to 70 inches; mottled red (2.5YR 5/6) and light gray (5Y 7/2) silty clay loam; moderate medium subangular blocky structure; firm, slightly plastic and sticky; very strongly acid.

The thickness of the solum is 30 to 60 inches. Reaction is very strongly acid or strongly acid.

The A horizon is dark grayish brown, dark brown, or brown. Some pedons have a thin A2 horizon of light yellowish brown or brown.

The B21t horizon is yellowish red, red, or brown. Texture is clay loam, sandy clay loam, or clay. The B22t horizon is red, reddish brown, and yellowish red, and it has few to many mottles in shades of gray. Texture is silty clay loam, silty clay, or clay. Few to many mottles in shades of gray are in the upper 10 inches of the B horizon. The B23t horizon is mottled in shades of red, gray, brown, and yellow. Texture is clay, silty clay, or silty clay loam.

The C horizon is light gray and has few to many mottles in shades of red, yellow, and gray or is mottled in shades of these colors. Texture is silty clay loam or silty clay.

Croatan series

The Croatan series consists of very poorly drained soils in drainageways. These soils formed in decomposed organic materials underlain by loamy alluvium. Slopes are less than 1 percent. The soils of the Croatan series are loamy, siliceous, dysic, thermic Terric Medisaprists.

Croatan soils are associated with Bibb, Dorovan, and Smithton soils. Bibb and Smithton soils are on flood plains and are mineral soils. Dorovan soils are on similar positions on the same landscape but have organic horizons extending to a depth of more than 51 inches.

Typical pedon of Croatan muck, in an area of Dorovan-Croatan association, in swamp hardwoods on a narrow flood plain 1 mile southwest of intersection of State Highways 26 and 53 at Poplarville, on old Highway 11, 1 mile south on county road, and 0.5 mile east of road, SW1/4SE1/4 sec. 6, T. 3 S., R. 15 W.

Oa1—0 to 5 inches; very dark grayish brown (10YR 3/2) decomposed organic matter; about 30 percent fiber unrubbed and less than 5 percent rubbed; fibers remaining after rubbing are woody; weak fine granular structure; very friable; many fine and medium roots; few fine clean sand grains; few partially decomposed leaves, roots, and twigs; extremely acid; gradual wavy boundary.

Oa2—5 to 22 inches; very dark brown (10YR 2/2), decomposed organic matter; about 25 percent fiber when unrubbed and less than 4 percent rubbed; fibers remaining after rubbing are woody; massive; nonsticky; common fine and medium roots; few fine clean sand grains; common fragments of partially decomposed roots and plant parts; extremely acid; diffuse wavy boundary.

Oa3—22 to 39 inches; black (10YR 2/1), decomposed organic matter; about 20 percent fibers unrubbed and less than 3 percent rubbed; fibers remaining after rubbing are woody; massive; nonsticky; few fine roots; common fragments of partially decomposed roots and limbs; extremely acid; clear wavy boundary.

IICg—39 to 62 inches; light brownish gray (10YR 6/2) sandy loam, few fine distinct strong brown (7.5YR 5/8) mottles; weak medium subangular blocky structure; nonsticky; very strongly acid.

The thickness of the organic material ranges from 16 to 40 inches.

The O horizon is black, very dark gray, very dark grayish brown, very dark brown, and brown. The fiber content is 2 to 30 percent unrubbed and less than 10 percent rubbed.

The IICg horizon is gray, dark gray, grayish brown, and light brownish gray. Texture is loam, sandy loam, sandy clay loam, and silty clay loam.

Dorovan series

The Dorovan series consists of very poorly drained soils. These soils formed in sapric material in drainageways and on flood plains. They are underlain by loamy marine or fluvial sediments. Slopes are less than 1 percent. These soils are dysic, thermic Typic Medisaprists.

Dorovan soils are associated with Bibb, Croatan, and Smithton soils. Bibb and Smithton soils are mineral soils on flood plains. Croatan soils are in similar positions, but the organic horizons are less than 51 inches thick.

Typical pedon of Dorovan muck in an area of Dorovan-Croatan association, in swamp hardwoods on a narrow flood plain 5.5 miles southwest of Millard on county road, 600 feet east of road, NE1/4NW1/4 sec. 22, T. 4 S., R. 17 W.

Oa1—0 to 3 inches; very dark grayish brown (10YR 3/2) mucky peat; about 35 percent fiber unrubbed and less than 5 percent rubbed; fibers remaining after rubbing are woody; massive; nonsticky; common fine and medium roots; few partially decomposed leaves, roots, and twigs; very strongly acid; gradual wavy boundary.

Oa2—3 to 14 inches; very dark brown (10YR 2/2) muck; about 25 percent fiber unrubbed and less than 4 percent rubbed; fibers are woody; massive; nonsticky; common fine and medium roots; few partially decomposed roots and twigs; very strongly acid; diffuse wavy boundary.

Oa3—14 to 56 inches; black (10YR 2/1) muck; about 20 percent fibers unrubbed and less than 3 percent rubbed; fibers are woody; massive; nonsticky; few fine roots; few woody fragments; thin discontinous stratum of sandy material in lower part; very strongly acid; gradual wavy boundary.

IICg—56 to 65 inches; grayish brown (10YR 5/2) sandy loam; few fine faint brown mottles; weak medium subangular blocky structure; nonsticky; very strongly acid.

The thickness of the organic material ranges from 51 to more than 80 inches.

The O horizon is black, very dark gray, very dark brown, or very dark grayish brown. It contains 10 to 40 percent fiber unrubbed and less than 1/6 of the volume when rubbed.

The IICg horizon is gray, grayish brown, dark grayish brown, or very dark grayish brown. Texture is sand, loamy sand, sandy loam, or loam.

Escambia series

The Escambia series consists of somewhat poorly drained soils that formed on broad uplands in loamy and sandy marine sediments. Slopes range from 0 to 2 percent. The soils of the Escambia series are coarse-loamy, siliceous, thermic Plinthaquic Paleudults.

Escambia soils are associated with Latonia, Poarch, Rosebloom, and Smithton soils. Latonia soils, which are on stream terraces, have a solum less than 60 inches thick and do not have plinthite. Poarch soils, which are on higher lying ridges and side slopes, are browner than Escambia soils and do not have mottles of chroma 2 within 30 inches of the surface. Rosebloom soils, which are on the flood plains, have a grayish fine-silty control section. Smithton soils, which are in lower lying drainageways and on broad wet flats, do not contain horizons with more than 5 percent plinthite.

Typical pedon of Escambia fine sandy loam, 0 to 2 percent slopes, in woodland, 1.25 miles east of intersection of U.S. Highway 11 and State Highway 43 at Picayune, 0.75 mile south on service road along I-59 and 50 feet right of road, SE1/4SE1/4 sec. 23, T. 6 S., R. 17 W.

A1—0 to 6 inches; very dark gray (10YR 3/1) fine sandy loam; weak fine granular structure; very friable; many fine roots; strongly acid; abrupt smooth boundary.

A2—6 to 12 inches; grayish brown (10YR 5/2) fine sandy loam; weak fine granular structure; very friable; many fine roots; strongly acid; abrupt smooth boundary.

B1—12 to 18 inches; light yellowish brown (2.5Y 6/4) fine sandy loam; common medium distinct light brownish gray (10YR 6/2) mottles; weak fine subangular blocky structure; friable; about 5 percent of sand grains are uncoated; many fine roots; strongly acid; clear wavy boundary.

B21t—18 to 26 inches; brownish yellow (10YR 6/6) loam; common medium distinct light gray (10YR 7/2) mottles; weak fine subangular blocky structure; friable; few fine roots; sand grains coated and bridged with clay; strongly acid; clear wavy boundary.

B22t—26 to 48 inches; yellowish brown (10YR 5/6) loam; many medium distinct light gray (10YR 7/2) mottles; weak fine subangular blocky structure; friable; patchy clay films on faces of peds; 15 percent plinthite; very strongly acid; clear wavy boundary.

B23t—48 to 65 inches; mottled yellowish brown (10YR 5/6) and light gray (10YR 7/2) loam; weak fine subangular blocky structure; friable; patchy clay films on faces of peds; 10 percent plinthite; very strongly acid.

The thickness of the solum exceeds 60 inches. Reaction is very strongly acid or strongly acid. Mottles of chroma 2 or less occur at depths between 12 and 30 inches. The depth to horizons with more than 5 percent plinthite ranges from 20 to 42 inches.

The A1 horizon is very dark gray, dark gray, or dark grayish brown. The A2 horizon is grayish brown, very pale brown, pale brown, or light yellowish brown. Texture is fine sandy loam or very fine sandy loam.

The B1 horizon is pale yellow or light yellowish brown. The B2t horizon is light yellowish brown, brownish yellow, yellowish brown, and gray and has mottles in shades of gray, brown, yellow, or red. The lower part of the B2t horizon may be mottled in shades of red, brown, gray, and yellow. Texture is loam, fine sandy loam, or sandy clay loam. Plinthite content ranges from 5 to 20 percent by volume.

Falkner series

The Falkner series consists of somewhat poorly drained soils on uplands. These soils formed in a silty mantle overlying clayey marine deposits. Slopes range from 0 to 5 percent. The soils of the Falkner series are fine-silty, siliceous, thermic Aquic Paleudalfs.

Falkner soils are associated with Basin, Cadeville, Saucier, and Susquehanna soils. Basin soils, which are on similar positions on the landscape, are bisequel. They have more than 5 percent plinthite nodules in some horizon between depths of 18 and 30 inches. Cadeville soils are on higher positions on the landscape and are in a fine family. Saucier soils are gently sloping and have horizons with more than 5 percent plinthite nodules between depths of 20 and 45 inches. Susquehanna soils, which are on adjacent side slopes, are in a fine montmorillonitic family.

Typical pedon of Falkner silt loam, 2 to 5 percent slopes, in pasture, 10 miles west of Poplarville on State Highway 26, 0.25 mile north on county road, and 150 feet west of road, NE1/4SE1/4 sec. 8, T. 3 S., R. 17 W.

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; very friable; many fine roots; strongly acid; abrupt smooth boundary.

B21t—7 to 18 inches; yellowish brown (10YR 5/4) silt loam; few fine prominent red (2.5YR 4/8) mottles; moderate medium subangular blocky structure; friable; many fine roots; thin patchy clay films on faces of peds; very strongly acid; abrupt smooth boundary.

B22t—18 to 30 inches; mottled red (2.5YR 4/8) and light brownish gray (10YR 6/2) silty clay loam; moderate medium angular blocky structure; friable; few fine roots; common clay films on faces of peds; very strongly acid; clear wavy boundary.

B23t—30 to 45 inches; mottled light gray (10YR 7/2), red (2.5YR 4/8), and dusky red (10R 3/4) silty clay loam; moderate medium angular blocky structure; firm, plastic and sticky; patchy clay films on pressure faces on peds; strongly acid; clear wavy boundary.

IIB24t—45 to 68 inches; mottled light gray (10YR 7/2), light brownish gray (10YR 6/2), brownish yellow (10YR 6/6), red (2.5YR 4/8), and dusky red (10R 3/4) silty clay; moderate medium angular blocky structure; firm, plastic and sticky; patchy clay films and pressure faces on faces of peds; very strongly acid.

The solum is more than 60 inches thick. Reaction is very strongly acid or strongly acid. The silty upper part of the solum is 36 to 50 inches thick.

The A1 and Ap horizons are dark grayish brown or brown. The A2 horizon, if present, is pale brown or light yellowish brown, and texture is loam or silt loam.

The B2t horizon is light yellowish brown and yellowish brown mottled in shades of gray and yellow, or it is mottled in shades of red, gray, brown, and yellow. Texture is silt loam or silty clay loam. The upper 20 inches of the Bt horizon is 20 to 35 percent clay.

The IIB2t horizon is mottled in shades of brown, gray, red, and yellow. Texture is silty clay loam, silty clay, or clay. Clay content is more than 38 percent.

The Falkner soils in this survey area are considered taxadjuncts to the Falkner series because the depth to the underlying silty clay layer is slightly greater than is defined in the range for the series.

Jena series

The Jena series consists of well drained soils that formed in loamy sediment on the flood plain of the Pearl River. Slopes range from 0 to 2 percent. The soils of the Jena series are coarse-loamy, siliceous, thermic Fluventic Dystrochrepts.

Jena soils are associated with Nugent soils. Nugent soils, which are on adjacent sandbars next to the streams, are stratified and have a sandy control section.

Typical pedon of Jena silt loam, in an area of Nugent-Jena association, frequently flooded, 15 miles west of Poplarville on State Highway 26, 1.5 miles north on State Highway 43, about 0.5 mile west on private gravel road, 0.75 mile south along Pearl River on woods road, and 150 feet east of road, NW1/4SW1/4 sec. 4, T. 3 S., R. 18 W.

A1—0 to 3 inches; dark brown (10YR 4/3) silt loam; weak fine granular structure; friable; common fine and medium roots; strongly acid; gradual smooth boundary.

B21—3 to 9 inches; yellowish brown (10YR 5/4) silt loam; few fine faint pale brown and dark yellowish brown mottles; weak medium subangular blocky structure; friable; few fine and medium roots; clear smooth boundary.

B22—9 to 18 inches; light yellowish brown (10YR 6/4) fine sandy loam; common medium faint yellowish brown and few fine faint pale brown mottles; weak fine subangular blocky structure; friable; few fine roots; strongly acid; gradual smooth boundary.

B23—18 to 36 inches; pale brown (10YR 6/3) fine sandy loam; common medium faint yellowish brown mottles; weak fine subangular blocky structure; friable; few fine roots; few thin discontinuous sands of silt loam; few small pockets of clean sand grains; strongly acid; abrupt smooth boundary.

C1—36 to 50 inches; light yellowish brown (10YR 6/4) loamy fine sand; few fine faint yellowish brown and pale brown mottles; structureless; very friable; very strongly acid; gradual smooth boundary.

C2—50 to 65 inches; pale brown (10YR 6/3) loamy fine sand; few fine faint yellowish brown mottles; structureless; very friable; very strongly acid.

The thickness of the solum is 20 to 50 inches. Reaction is very strongly acid or strongly acid.

The A horizon is dark grayish brown, grayish brown, dark brown, or brown.

The B horizon is pale brown, light yellowish brown, yellowish brown, or brown. Texture is silt loam through loamy fine sand; in the 10- to 40-inch control section, it is 10 to 18 percent sand coarser than very fine sand.

The C horizon is pale brown, light yellowish brown, light brown, brown, yellowish brown, or dark yellowish brown. Texture is fine sandy loam through loamy fine sand.

Latonia series

The Latonia series consists of well drained soils that formed in loamy alluvium on terraces. Slopes range from 0 to 2 percent. The soils of the Latonia series are coarse-loamy, siliceous, thermic Typic Hapludults.

Latonia soils are associated with Bassfield, Escambia, and Troup soils. Bassfield soils, which are in similar positions, have a redder Bt horizon. Escambia soils, which are on broad slopes on uplands, have horizons with more than 5 percent plinthite. Troup soils, which are on adjacent side slopes and ridges, have a sandy A horizon that is more than 40 inches thick.

Typical pedon of Latonia fine sandy loam, 0 to 2 percent slopes, in a cultivated field 8 miles west of Poplarville on State Highway 26, 1.25 miles northwest of White Sands church on county road, 0.5 mile north on farm road, and 300 feet west of road, SE1/4SE1/4 sec. 3, T. 3 S., R. 17 W.

Ap—0 to 5 inches; very dark grayish brown (10YR 3/2) fine sandy loam; weak fine granular structure; very friable; many roots; strongly acid; abrupt smooth boundary.

B21t—5 to 10 inches; yellowish brown (10YR 5/4) loam; weak fine granular structure; very friable; many fine roots; sand grains coated and bridged with clay; many worm casts of very dark grayish brown (10YR 3/2); strongly acid; abrupt smooth boundary.

B22t—10 to 18 inches; brownish yellow (10YR 6/6) loam; weak fine granular and subangular blocky

structure; friable; many fine roots; sand grains coated and bridged with clay; very strongly acid; clear wavy boundary.
B3—18 to 36 inches; brownish yellow (10YR 6/6) fine sandy loam; weak fine granular structure; very friable; many fine roots; sand grains coated and bridged with clay; very strongly acid; abrupt smooth boundary.
IIC—36 to 70 inches; mottled yellowish brown (10YR 5/4) and very pale brown (10YR 7/3) loamy sand; single grained; loose; very strongly acid.

The thickness of the solum ranges from 20 to 40 inches. Reaction is very strongly acid or strongly acid.

The A horizon is dark gray, dark grayish brown, or very dark grayish brown.

The B2t horizon is strong brown, brownish yellow, yellowish brown, or dark yellowish brown. Texture is sandy loam, fine sandy loam, or loam. Clay content in the upper 20 inches of the B horizon ranges from 10 to 16 percent.

The IIC horizon ranges from white to yellowish brown. Texture is loamy sand or sand.

Lucedale series

The Lucedale series consists of well drained, nearly level soils in uplands. These soils formed in loamy marine sediment. Slopes range from 0 to 2 percent. The soils of the Lucedale series are fine-loamy, siliceous, thermic Rhodic Paleudults.

Lucedale soils are associated with Benndale, McLaurin, and Ruston soils. Benndale soils, which are on adjacent ridgetops and side slopes, are browner than Lucedale soils and have a coarse-loamy control section. McLaurin soils and Ruston soils are on adjacent ridges and side slopes. McLaurin soils are bisequel and have a coarse-loamy control section. Ruston soils are bisequel and have moist values of 4 or more throughout the solum.

Typical pedon of Lucedale fine sandy loam, 0 to 2 percent slopes, in pasture, 5 miles northeast of Picayune on I-59 to Carriere exit, 0.5 mile southeast on paved road, and 100 feet north of pavement, NW1/4SW1/4 sec. 21, T. 5 S., R. 16 W.

Ap—0 to 7 inches; dark reddish brown (5YR 3/2) fine sandy loam; weak fine granular structure; very friable; many fine roots; strongly acid; abrupt smooth boundary.
B21t—7 to 14 inches; dark reddish brown (2.5YR 3/4) sandy clay loam; moderate medium subangular blocky structure; friable; many fine roots; patchy clay films on faces of peds; few root channels and worm casts coated with Ap material; strongly acid; clear smooth boundary.
B22t—14 to 70 inches; dark red (2.5YR 3/6) sandy clay loam; moderate medium subangular blocky structure; friable; few fine roots; sand grains coated and bridged with clay; patchy clay films on faces of peds; strongly acid; clear wavy boundary.
B23t—70 to 80 inches; red (2.5YR 4/6) sandy clay loam; moderate medium subangular blocky structure; friable; sand grains coated and bridged with clay; strongly acid.

The thickness of the solum ranges from 60 inches to more than 80 inches. Reaction is very strongly acid or strongly acid.

The A horizon is dark reddish brown, dusky red, or dark brown.

The Bt horizon is dusky red, dark reddish brown, or dark red. The lower part of this horizon may be red. Texture is sandy clay loam, clay loam, or loam. Clay content is 20 to 30 percent.

Malbis series

The Malbis series consists of moderately well drained soils on uplands. These soils formed in thick beds of loamy and clayey marine sediments. Slopes range from 0 to 8 percent. These soils are fine-loamy, siliceous, thermic Plinthic Paleudults.

Malbis soils are associated with Basin, Baxterville, Poarch, and Saucier soils. Basin soils, which are on lower lying slopes, have horizons that are brittle and compact in more than 40 percent of the volume. Baxterville soils, which are in similar positions, have a B horizon in hue 5YR or redder. Poarch soils, which are on adjacent ridges and side slopes, have a coarse-loamy control section. Saucier soils, which are also on adjacent ridges and side slopes, have mottles of chroma 2 within a depth of 30 inches and are clayey in the lower part of the subsoil.

Typical pedon of Malbis fine sandy loam, 2 to 5 percent slopes, in a cultivated field, 14 miles west of Poplarville on State Highway 26, 7 miles north on State Highway 43, 2 miles southeast on county road, and 800 feet north of county road, SE1/4NE1/4 sec. 16, T. 2 S., R. 17 W.

Ap—0 to 6 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak fine granular structure; very friable; many fine roots; strongly acid; abrupt smooth boundary.
A2—6 to 11 inches; light yellowish brown (10YR 6/4) fine sandy loam; weak fine granular structure; very friable; many fine roots; worm castings and root channels filled with Ap material; strongly acid; abrupt smooth boundary.
B1—11 to 14 inches; yellowish brown (10YR 5/6) loam; weak fine subangular blocky structure; friable; many fine roots; strongly acid; abrupt smooth boundary.
B21t—14 to 33 inches; yellowish brown (10YR 5/8) sandy clay loam with few fine faint very pale brown mottles; moderate medium subangular blocky

structure; friable; few fine roots; few fine plinthite nodules; clay films on faces of peds; strongly acid; clear wavy boundary.

B22t—33 to 46 inches; yellowish brown (10YR 5/8) sandy clay loam with pockets of light yellowish brown (10YR 6/4) clean sand; moderate medium subangular blocky structure; friable; firm in areas around plinthite nodules; 8 to 12 percent plinthite nodules less than 1 inch in diameter; common clay films on faces of peds; strongly acid; clear wavy boundary.

B23t—46 to 70 inches; yellowish brown (10YR 5/4), sandy clay loam with common medium distinct yellowish brown (10YR 5/8), light gray (10YR 7/2), and strong brown (7.5YR 5/6) mottles; moderate medium subangular blocky structure; friable; about 6 percent plinthite nodules; patchy clay films on faces of peds; sand grains coated and bridged with clay; strongly acid.

The thickness of the solum exceeds 60 inches. The depth to horizons that are more than 5 percent plinthite ranges from 28 to 33 inches. Reaction is very strongly acid or strongly acid, except where the surface layer has been limed.

The Ap horizon is dark grayish brown, brown, or dark brown. The A2 horizon is yellowish brown or light yellowish brown; texture is fine sandy loam, sandy loam, or loam.

The B1 and B21t horizons are yellowish brown, strong brown, or brown. Texture is loam, sandy clay loam, or clay loam. The B22t and B23t horizons are brownish yellow, yellowish brown, strong brown, or brown; chroma 2 mottles commonly occur below a depth of 30 inches. Texture is loam, sandy clay loam, or clay loam. The upper 20 inches of the B2t horizon is 22 to 35 percent clay. Content of plinthite nodules ranges from 5 to 25 percent by volume in the lower part of the B2t horizon.

McLaurin series

The McLaurin series consists of well drained upland soils that formed in loamy marine deposits. Slopes range from 2 to 8 percent. The soils of the McLaurin series are coarse-loamy, siliceous, thermic Typic Paleudults.

McLaurin soils are associated with Benndale, Lucedale, Ruston, and Smithdale soils. Benndale soils, which are on lower lying ridges and side slopes, are browner than McLaurin soils and are not bisequel. Lucedale soils, which are on adjacent broad nearly level ridges, are redder and have a fine-loamy control section. Ruston soils, which are on adjacent ridges and upper side slopes, have a fine-loamy control section. Smithdale soils, which are steeper, have a fine-loamy control section.

Typical pedon of McLaurin fine sandy loam, 2 to 5 percent slopes, in a cultivated field, 7 miles east of Poplarville on State Highway 26, north on county road to 1 mile north of Gum Pond Church, and 100 feet east of road, NE1/4NE1/4 sec. 32, T. 1 S., R. 14 W.

A1—0 to 5 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak fine granular structure; very friable; many fine roots; very strongly acid; abrupt smooth boundary.

A2—5 to 10 inches; yellowish brown (10YR 5/4) fine sandy loam; weak fine granular structure; very friable; many fine roots; very strongly acid; abrupt smooth boundary.

A3—10 to 19 inches; yellowish brown (10YR 5/6) sandy loam; many medium faint yellowish brown (10YR 5/4) mottles; weak fine granular structure; friable; many fine roots; very strongly acid; abrupt smooth boundary.

B21t—19 to 36 inches; red (2.5YR 4/6) sandy loam; weak fine subangular blocky structure; friable; few fine roots; sand grains coated and bridged with clay; very strongly acid; clear wavy boundary.

B22t—36 to 48 inches; red (2.5YR 5/6) sandy loam; weak fine subangular blocky structure; friable; sand grains coated and bridged with clay; few uncoated sand grains; very strongly acid; abrupt smooth boundary.

B&A'2—48 to 60 inches; yellowish red (5YR 5/8) loamy sand (B); weak fine granular structure; very friable; common medium pale brown (10YR 6/3) pockets of uncoated sand grains (A'2); very strongly acid; abrupt smooth boundary.

B't—60 to 80 inches; red (2.5YR 4/6) sandy clay loam; weak fine subangular blocky structure; friable; sand grains coated and bridged with clay; very strongly acid.

The thickness of the solum ranges from 60 to more than 80 inches. Reaction is very strongly acid or strongly acid.

The A1 horizon is very dark grayish brown, dark brown, or dark grayish brown. The A2 horizon is yellowish brown, brown, or dark grayish brown. Texture is fine sandy loam, sandy loam, or loamy sand. The A3 horizon is light yellowish brown, yellowish brown, or strong brown. Texture is sandy loam or loamy sand.

The B2t horizon is yellowish red, reddish brown, or red. Texture is sandy loam or fine sandy loam. Clay content is 10 to 18 percent. The B&A'2 horizon is similar in color to the B2t horizon, except the A'2 material is reddish yellow, pale brown, or light yellowish brown. The A'2 material makes up 10 to 25 percent of the volume in a discontinuous pattern. Texture is loamy sand, sandy loam, or fine sandy loam. The B't horizon is red, yellowish red, or reddish brown. Texture is sandy clay loam, sandy loam, or loam.

Nugent series

The Nugent series consists of excessively drained soils that formed in stratified sandy materials on the

flood plain and sandbars of the Pearl River. Slopes range from 0 to 2 percent. The soils of the Nugent series are sandy, siliceous, thermic Typic Udifluvents.

Nugent soils are associated with Jena soils. Jena soils, which are on adjacent, higher elevations, have a coarse-loamy control section and are not stratified.

Typical pedon of Nugent fine sandy loam in an area of Nugent-Jena association, frequently flooded, 15 miles west of Poplarville on State Highway 26, 1.5 miles north on State Highway 43, 0.5 mile west on private gravel road, 0.75 mile south along Pearl River on woods road, and 200 feet west of road, NW1/4SW1/4 sec. 4, T. 3 S., R. 18 W.

A1—0 to 3 inches; brown (10YR 5/3) fine sandy loam; weak fine granular structure; very friable; few fine roots; strongly acid; clear smooth boundary.
C1—3 to 9 inches; light yellowish brown (10YR 6/4) sand; structureless; loose; thin strata of fine sandy loam about 0.25 inch thick; few small quartz pebbles; strongly acid; clear smooth boundary.
C2—9 to 20 inches; pale brown (10YR 6/3) sand; structureless; loose; strongly acid; clear smooth boundary.
C3—20 to 38 inches; light yellowish brown (10YR 6/4) sand; structureless; loose; strongly acid; clear smooth boundary.
C4—38 to 48 inches; very pale brown (10YR 7/3) loamy sand; structureless; loose; strongly acid; clear smooth boundary.
C5—48 to 56 inches; yellowish brown (10YR 5/4) sand; common medium faint dark yellowish brown mottles; structureless; loose; few small quartz pebbles; strongly acid; gradual smooth boundary.
C6—56 to 65 inches; light yellowish brown (10YR 6/4) sand; structureless; loose; strongly acid.

Reaction is very strongly acid through slightly acid.

The A horizon is brown, dark brown, dark grayish brown, grayish brown, pale brown, or very pale brown.

The C horizon is brown, strong brown, pale brown, very pale brown, dark yellowish brown, light yellowish brown, or yellowish brown. Texture is sand or loamy sand. Some pedons have thin strata of fine sandy loam, very fine sandy loam, loam, or silt loam. Content of coarse fragments ranges from 0 to 10 percent by volume. In some pedons, the lower part of the C horizon has thin strata of gravel.

Poarch series

The Poarch series consists of well drained soils on uplands. These soils formed in loamy marine sediment. Slopes range from 0 to 8 percent. The soils of the Poarch series are coarse-loamy, siliceous, thermic Plinthic Paleudults.

Poarch soils are associated with Benndale, Escambia, and Malbis soils. Benndale soils are on adjacent ridges and side slopes, and they do not have horizons with more than 5 percent plinthite. Escambia soils, which are on lower lying ridges, are grayer and less brown in the upper part of the Bt horizon. Malbis soils, which are on adjacent ridges and side slopes, have a fine-loamy control section.

Typical pedon of Poarch loam, 0 to 2 percent slopes, in pasture, 3 miles east of Picayune on State Highway 43, 1.25 miles north on county road, and 100 feet east of road, SE1/4SE1/4 sec. 9, T. 6 S., R. 16 W.

Ap—0 to 6 inches; very dark grayish brown (10YR 3/2) loam; weak fine granular structure; very friable; many fine roots; very strongly acid; abrupt smooth boundary.
B21t—6 to 26 inches; brownish yellow (10YR 6/8) loam; weak fine subangular blocky structure; friable; many fine roots; clay films on faces of peds; very strongly acid; clear wavy boundary.
B22t—26 to 36 inches; brownish yellow (10YR 6/6) loam; weak fine subangular blocky structure; friable; few fine roots; patchy clay films on faces of peds; 5 percent plinthite nodules by volume; very strongly acid; clear wavy boundary.
B23t—36 to 44 inches; brownish yellow (10YR 6/8) loam with common medium distinct pale brown (10YR 6/3) and light yellowish brown (10YR 6/4) mottles; weak fine subangular blocky structure; friable; patchy clay films on faces of peds; 15 percent plinthite nodules by volume; very strongly acid; clear wavy boundary.
B24t—44 to 64 inches; yellowish brown (10YR 5/8) loam with common medium distinct light yellowish brown (10YR 6/4) and strong brown (7.5YR 5/6) mottles and few fine distinct light brownish gray (10YR 6/2) mottles; weak fine subangular blocky structure; friable; few fine plinthite nodules; sand grains coated and bridged with clay; very strongly acid.

The thickness of the solum exceeds 60 inches. Reaction is very strongly acid or strongly acid. The depth to horizons with 5 percent or more plinthite ranges from 24 to 58 inches.

The A horizon is very dark grayish brown, dark grayish brown, or yellowish brown.

The B2t horizon is brownish yellow, yellowish brown, or brown. Mottles in shades of red, brown, yellow, and olive commonly occur below the B21t horizon. Mottles of chroma 2 or less commonly occur below a depth of 32 inches. Texture is sandy loam, loam, or fine sandy loam. The upper part of the Bt horizon is 8 to 18 percent clay.

Rosebloom series

The Rosebloom series consists of poorly drained soils formed in silty alluvial sediment. These soils are on the flood plain of the Pearl River. Slopes range from 0 to 2 percent. The soils of the Rosebloom series are fine-silty, mixed, acid, thermic Typic Fluvaquents.

Rosebloom soils are associated with Arkabutla, Escambia, and Troup soils. Arkabutla soils are near stream channels and drainageways. They are slightly higher than Rosebloom soils and are not as gray in the subsoil. Escambia soils, which are on adjacent broad upland ridges, have a B2t horizon that is brownish and coarse-loamy in the upper part. Troup soils, which are on adjacent upland ridges and side slopes, have a sandy surface layer more than 40 inches thick.

Typical pedon of Rosebloom silt loam, in an area of Arkabutla-Rosebloom association, frequently flooded, 13 miles west of Poplarville on State Highway 26, 4 miles north on State Highway 43 and 1 mile west along Florida gasline, NW1/4NE1/4 sec. 14, T. 2 S., R. 18 W.

A1—0 to 5 inches; dark grayish brown (10YR 4/2) silt loam; weak fine subangular blocky structure; friable; many fine and medium roots; very strongly acid; abrupt smooth boundary.

B21g—5 to 16 inches; light brownish gray (10YR 6/2) silty clay loam; few fine distinct yellowish brown (10YR 5/6) mottles; weak fine subangular blocky structure; friable, slightly plastic; many fine and medium roots; very strongly acid; abrupt smooth boundary.

B22g—16 to 30 inches; light brownish gray (10YR 6/2) silty clay loam; many coarse distinct yellowish brown (10YR 5/6) mottles along root channels; weak fine subangular blocky structure; friable, slightly plastic; few medium roots; many fine black and brown concretions; very strongly acid; clear wavy boundary.

B23g—30 to 45 inches; gray (10YR 6/1) silty clay loam with common medium distinct dark brown (10YR 4/3) mottles; weak fine subangular blocky structure; friable, slightly plastic; few fine black concretions; very strongly acid; clear wavy boundary.

B24g—45 to 62 inches; gray (10YR 6/1) silty clay loam with few fine distinct strong brown (7.5YR 5/8) mottles; weak fine subangular blocky structure; friable, slightly plastic; few fine black concretions; very strongly acid.

The thickness of the solum exceeds 40 inches. Reaction is very strongly acid or strongly acid.

The A1 horizon is dark grayish brown, pale brown, brown, or grayish brown. It may be mottled with these colors.

The Bg horizon is light brownish gray, gray, dark gray, or light gray and has few to many mottles in shades of brown and red. The texture is silty clay loam or silt loam.

Ruston series

The Ruston series consists of well drained soils on uplands. These soils formed in loamy marine sediment. Slopes range from 0 to 8 percent. The soils of the Ruston series are fine-loamy, siliceous, thermic Typic Paleudults.

Ruston soils are associated with Lucedale, McLaurin, Smithdale, and Troup soils. Lucedale soils, which are on broader nearly level slopes, are redder than Ruston soils and are not bisequel. McLaurin soils, which are on adjacent ridges and side slopes, have a coarse-loamy control section. Smithdale soils, which are on steep side slopes, are not bisequel. Troup soils, which are on adjacent ridges and side slopes, have a sandy A horizon that is more than 40 inches thick.

Typical pedon of Ruston fine sandy loam, 2 to 5 percent slopes, in pasture, 11 miles east of Poplarville on State Highway 26, 4.25 miles northwest on county road, and 30 feet west of road, NE1/4NE1/4 sec. 3, T. 2 S., R. 14 W.

Ap—0 to 5 inches; dark brown (10YR 4/3) fine sandy loam; weak fine granular structure; very friable; many fine roots; strongly acid; abrupt smooth boundary.

A2—5 to 12 inches; yellowish brown (10YR 5/4) fine sandy loam; few fine faint pale brown mottles; weak fine granular structure; very friable; many fine roots; strongly acid; clear wavy boundary.

B2t—12 to 32 inches; yellowish red (5YR 5/8) sandy clay loam; moderate medium subangular blocky structure; friable; common fine roots; sand grains coated and bridged with clay; few small quartz pebbles; strongly acid; clear wavy boundary.

B&A'2—32 to 42 inches; yellowish red (5YR 5/6) sandy loam (B); weak fine subangular blocky structure; friable; few fine roots; pockets of light yellowish brown (10YR 6/4) fine sandy loam (A'); few fine faint brownish yellow mottles; few thin clay film on faces of peds; mottled areas are uncoated sand; strongly acid; clear wavy boundary.

B'21t—42 to 58 inches; red (2.5YR 4/8) sandy clay loam; moderate medium subangular blocky structure; friable; patchy clay film on faces of peds; few quartz pebbles; very strongly acid; gradual wavy boundary.

B'22t—58 to 75 inches; red (2.5YR 4/8) sandy clay loam; few fine distinct red (10R 4/8) and light yellowish brown (10YR 6/4) mottles; moderate medium subangular blocky structure; common clay film on faces of peds; very strongly acid.

The solum thickness exceeds 60 inches. Reaction ranges from very strongly acid to medium acid.

The A horizon is dark grayish brown, pale brown, light yellowish brown, brown, yellowish brown, or dark brown.

The B2t horizon is red or yellowish red. Texture is sandy clay loam, fine sandy loam, loam, or clay loam. The lower part of the B't horizon has colors similar to those in the B2t horizon and none to many mottles in shades of brown, red, or gray. Clay content in the upper 20 inches of the B2t horizon is from 18 to 30 percent. The A'2 horizon occurs as streaks and pockets in shades of brown and has none to many uncoated sand grains.

Saucier series

The Saucier series consists of moderately well drained, gently sloping soils on uplands. These soils formed in loamy and clayey marine sediment. Slopes range from 0 to 5 percent. The soils of the Saucier series are fine-loamy, siliceous, thermic Plinthaquic Paleudults.

Saucier soils are associated with Basin, Falkner, Malbis, and Susquehanna soils. Basin soils are on lower lying broad slopes and contain horizons in which more than 40 percent of the volume is brittle and compact. Falkner soils are on lower lying broad flats and do not have horizons with more than 5 percent plinthite. Malbis soils, which are on ridges and side slopes, do not have mottles of chroma 2 above a depth of 30 inches. Susquehanna soils, which are on adjacent ridges and side slopes, have vertic properties.

Typical pedon of Saucier loam, 2 to 5 percent slopes, in a cultivated field, 9 miles west of Poplarville on State Highway 26, 4 miles south on county road, and 50 feet east of road, SW1/4SW1/4 sec. 34, T. 3 S., R. 17 W.

Ap—0 to 6 inches; dark brown (10YR 4/3) loam; weak fine granular structure; very friable; many fine roots; strongly acid; abrupt smooth boundary.

B21t—6 to 18 inches; yellowish brown (10YR 5/6) loam; moderate medium subangular blocky structure; friable; many fine roots; thin patchy clay film on faces of peds; strongly acid; abrupt smooth boundary.

B22t—18 to 38 inches; brownish yellow (10YR 6/6) clay loam; few fine prominent red (2.5YR 4/8) and few fine distinct light brownish gray (10YR 6/2) mottles; moderate medium subangular blocky structure; friable; few fine roots; clay films on faces of peds; strongly acid; clear wavy boundary.

IIB23t—38 to 46 inches; mottled yellowish brown (10YR 5/6), light gray (10YR 7/2), and red (2.5YR 4/8) silty clay; moderate medium angular blocky structure; firm; slightly sticky and plastic; clay film on faces of peds; 5 to 10 percent plinthite nodules; very strongly acid; clear wavy boundary.

IIB24t—46 to 56 inches; mottled brownish yellow (10YR 6/6), light gray (10YR 7/1), and red (2.5YR 5/8) silty clay; moderate medium angular blocky structure; firm; plastic; clay film on faces of peds; few plinthite nodules; very strongly acid; clear wavy boundary.

IIB25t—56 to 62 inches; mottled brownish yellow (10YR 6/6), light gray (10YR 7/1), and red (10R 4/8) silty clay; moderate medium angular blocky structure; firm, plastic; clay film on faces of peds; strongly acid.

The thickness of the solum exceeds 60 inches. Plinthite content ranges from 5 to 25 percent by volume within a depth of 20 to 45 inches. Reaction ranges from extremely acid to strongly acid.

The A horizon is dark brown, brown, dark grayish brown, and very dark gray.

The B21t and B22t horizons are brownish yellow, yellow, or yellowish brown and have mottles in shades of brown, yellow, gray, and red or are mottled in those colors. Grayish mottles are within 30 inches of the surface. Texture is loam, sandy clay loam, sandy loam, or clay loam. Clay content of the upper 20 inches of the Bt horizon ranges from 20 to 35 percent. The B23t horizon, if present, is similar in color and texture to the upper part of the Bt horizon but includes silty clay loam.

The IIB horizon is mottled in shades of brown, gray, yellow, and red. It is clay, clay loam, silty clay, silty clay loam, or sandy clay loam.

Smithdale series

The Smithdale series consists of well drained soils on hilly uplands. These soils formed in loamy marine sediment. Slopes range from 8 to 20 percent. The soils of the Smithdale series are fine-loamy, siliceous, thermic Typic Paleudults.

Smithdale soils are associated with Baxterville, McLaurin, Ruston, and Troup soils. Baxterville soils, which are on adjacent ridges and side slopes, contain horizons that are more than 5 percent plinthite. McLaurin and Ruston soils are bisequel and have slopes of less than 8 percent. Troup soils have a sandy A horizon more than 40 inches thick.

Typical pedon of Smithdale sandy loam, 15 to 20 percent slopes, in pasture, 0.25 mile west of Pearl River Junior College Campus on State Highway 26, and 120 feet north of highway, NE1/4SE1/4 sec. 25, T. 2 S., R. 16 W.

Ap—0 to 5 inches; dark brown (10YR 4/3) sandy loam; weak fine granular structure; very friable; many fine and medium roots; strongly acid; abrupt smooth boundary.

B21t—5 to 20 inches; red (2.5YR 4/8) sandy clay loam; moderate medium subangular blocky structure; friable; many fine roots; clay films on faces of peds; strongly acid; gradual wavy boundary.

B22t—20 to 38 inches; red (2.5YR 5/8) sandy clay loam; few fine distinct reddish yellow (7.5YR 6/6) mottles; moderate medium subangular blocky structure; friable; few fine roots; clay films on faces of peds; strongly acid; gradual wavy boundary.

B23t—38 to 50 inches; red (2.5YR 5/8) sandy loam; few fine distinct reddish yellow (7.5YR 6/6) mottles; weak medium subangular blocky structure; friable; sand grains coated and bridged with clay; few small pockets of uncoated sand grains; strongly acid; gradual wavy boundary.

B24t—50 to 80 inches; red (2.5YR 4/8) sandy loam; few fine and medium distinct reddish yellow (7.5YR 6/6) mottles; weak medium subangular blocky structure; friable; sand grains coated and bridged with clay;

common pockets of uncoated sand grains; strongly acid.

The thickness of the solum exceeds 60 inches. Reaction is very strongly acid or strongly acid.

The A1 horizon is dark grayish brown, dark gray, brown, or dark grayish brown. The A2 horizon, if present, is dark brown, pale brown, grayish brown, yellowish brown, or light yellowish brown; texture is sandy loam, fine sandy loam, or loamy sand.

Some pedons have a thin strong brown, dark brown, or yellowish red B1 horizon.

The upper part of the Bt horizon is red or yellowish red. Texture is sandy loam or sandy clay loam. The lower part of the Bt horizon is similar in color to the upper part. It has few to many pockets of uncoated sand grains and is loam or sandy loam. The upper 20 inches of the Bt horizon is 18 to 33 percent clay.

Smithton series

The Smithton series consists of poorly drained soils that formed in loamy material on stream terraces and in drainageways. Slopes range from 0 to 2 percent. The soils of the Smithton series are coarse-loamy, siliceous, thermic Typic Paleaquults.

Smithton soils are associated with Bibb, Croatan, Dorovan, and Escambia soils. Bibb soils, in adjacent drainageways, do not have an argillic horizon. Croatan and Dorovan soils are in lower lying drainageways and formed in organic materials. Escambia soils, which are in adjacent, slightly higher positions, have horizons with more than 5 percent plinthite.

Typical pedon of Smithton sandy loam in woods 3 miles northeast of Picayune on county road and 60 feet east of road, NE1/4SW1/4 sec. 33, T. 5 S., R. 16 W.

A1—0 to 5 inches; dark gray (10YR 4/1) sandy loam; weak fine granular structure; very friable; many fine roots; strongly acid; abrupt smooth boundary.

A2g—5 to 12 inches; gray (10YR 5/1) sandy loam; common medium distinct yellowish brown (10YR 5/6) mottles; weak fine granular structure; very friable; many fine roots; strong brown (7.5YR 5/6) root stains; strongly acid; clear wavy boundary.

B1g—12 to 24 inches; gray (10YR 6/1) fine sandy loam; common medium distinct yellowish brown (10YR 5/8) mottles; weak medium subangular blocky structure; friable; few fine roots; sand grains coated and bridged with clay; strongly acid; gradual smooth boundary.

B21tg—24 to 36 inches; gray (10YR 5/1) fine sandy loam; few fine faint light gray and common medium distinct light olive brown (2.5Y 5/6) mottles; weak medium subangular blocky structure; friable; few fine roots; sand grains coated and bridged with clay; very strongly acid; clear smooth boundary.

B22tg—36 to 48 inches; mottled light brownish gray (10YR 6/2), yellowish brown (10YR 5/6), gray (10YR 5/1), and strong brown (7.5YR 5/8) fine sandy loam; weak medium subangular blocky structure; friable; sand grains coated and bridged with clay; very strongly acid; gradual wavy boundary.

B23tg—48 to 62 inches; mottled light gray (10YR 7/1), light brownish gray (10YR 6/2), olive yellow (2.5Y 6/6), and reddish yellow (7.5YR 6/8) fine sandy loam; weak medium subangular blocky structure; friable; sand grains coated and bridged with clay; very strongly acid.

The thickness of the solum exceeds 60 inches. The soil is saturated with water for several months most years. Reaction is very strongly acid or strongly acid.

The A1 horizon is very dark grayish brown, dark grayish brown, dark gray, or grayish brown. The A2g horizon is gray, grayish brown, or light grayish brown. Texture is loam or sandy loam.

The B1g horizon is light brownish gray or gray with mottles in shades of brown. Texture is fine sandy loam or loam. The B2tg horizon is light brownish gray or gray and has common to many mottles in shades of brown, yellow, or gray. Texture is loam, sandy loam, or fine sandy loam. The upper 20 inches of the B horizon is 12 to 18 percent clay.

Susquehanna series

The Susquehanna series consists of somewhat poorly drained soils on uplands. These soils formed in clayey marine sediment. Slopes range from 2 to 10 percent. The soils of the Susquehanna series are fine, montmorillonitic, thermic Vertic Paleudalfs.

Susquehanna soils are associated with Cadeville, Falkner, and Saucier soils. Cadeville soils are on steeper slopes and have a solum less than 60 inches thick. Falkner soils are on broad, nearly level to gently sloping uplands and stream terraces and have a fine-silty control section. Saucier soils are on similar positions but have horizons with more than 5 percent plinthite.

Typical pedon of Susquehanna loam, 2 to 5 percent slopes, in a woodland, 9 miles east of Poplarville on State Highway 26, and 150 feet south of highway, SE1/4SE1/4 sec. 22, T. 2 S., R. 14 W.

A1—0 to 4 inches; dark grayish brown (10YR 4/2) loam; weak fine granular structure; very friable; many fine roots; very strongly acid; abrupt smooth boundary.

A2—4 to 6 inches; brown (10YR 5/3) loam; few fine faint dark grayish brown and few fine prominent yellowish red (5YR 5/6) mottles; weak fine subangular blocky structure; friable; many fine roots; very strongly acid; abrupt smooth boundary.

B21t—6 to 27 inches; red (2.5YR 4/8) clay; common medium prominent light gray (10YR 7/1), yellow (10YR 7/6), and yellowish red (5YR 5/6) mottles; moderate medium angular blocky structure; firm, very plastic and very sticky; few fine roots; shiny

grooved faces on peds; very strongly acid; clear wavy boundary.
B22t—27 to 50 inches; mottled red (2.5YR 4/8), yellow (10YR 7/6), and light gray (5Y 7/2) clay; strong coarse angular blocky structure; very firm, very sticky, and very plastic; shiny grooved faces on peds; very strongly acid; abrupt smooth boundary.
B23t—50 to 60 inches; mottled red (2.5YR 4/8) and light gray (5Y 7/2) clay; strong coarse angular blocky structure; very firm, very sticky, and very plastic; shiny grooved faces on peds; strongly acid; clear wavy boundary.
B24t—60 to 70 inches; mottled light gray (2.5Y 7/2), pale yellow (2.5Y 8/4), and light reddish brown (5YR 6/4) clay; moderate medium angular blocky structure; very firm, very sticky, and very plastic; few slickensides; shiny grooved faces on peds; strongly acid; clear wavy boundary.
B3g—70 to 80 inches; light gray (2.5Y 7/2) silty clay loam; common medium prominent light reddish brown (5YR 6/4) mottles; moderate medium angular blocky structure; firm, sticky, and plastic; clay films on faces of peds; strongly acid.

The thickness of the solum exceeds 60 inches, and the argillic horizon is more than 50 inches thick. The soil is very strongly acid or strongly acid.

The A1 horizon is dark grayish brown, grayish brown, or dark gray. The A2 horizon is dark yellowish brown, strong brown, brown, yellowish brown, or brownish yellow. Texture is loam, fine sandy loam, sandy loam, or silt loam.

The upper part of the B2t horizon is red, yellowish red, or strong brown. Few to many mottles of chroma 2 or less occur in the upper 10 inches, or the horizon is mottled in shades of gray, red, and yellow. The lower part of the B horizon has gray matrix colors or is mottled in shades of gray, red, brown, or yellow. The B horizon is silty clay loam, clay loam, silty clay, or clay. Clay content ranges from 35 to 60 percent in the upper 20 inches.

Troup series

The Troup series consists of well drained soils that formed in sandy and loamy marine and fluvial deposits. Slopes range from 2 to 17 percent. The soils of the Troup series are loamy, siliceous, thermic Grossarenic Paleudults.

Troup series are associated with Arkabutla, Latonia, Rosebloom, Ruston, and Smithdale soils. Arkabutla and Rosebloom soils, which are on adjacent, lower lying flood plains of the Pearl River, have a fine-silty control section. Latonia soils, which are on adjacent, lower lying stream terraces, have a solum that is from 20 to 45 inches thick. Ruston soils, which are on ridgetops, have a fine-loamy control section and are bisequel. Smithdale soils, which are on adjacent steep side slopes, do not have a thick sandy epipedon.

Typical pedon of Troup sand, 2 to 8 percent slopes, in woods, 8 miles north of Poplarville on I-59 to Exit 9, east 4.7 miles on county road to intersection, then south 0.9 mile and 60 feet west of road, NE1/4NE1/4 sec. 3, T. 2 S., R. 14 W.

A1—0 to 5 inches; very dark grayish brown (10YR 3/2) sand; weak fine granular structure; very friable; many fine roots; very strongly acid; abrupt smooth boundary.
A21—5 to 14 inches; brown (10YR 5/3) sand; few fine faint very dark grayish brown mottles; structureless; single grained; loose; many fine roots; very strongly acid; abrupt smooth boundary.
A22—14 to 30 inches; mixed light yellowish brown (10YR 6/4) and yellowish brown (10YR 5/4) sand; structureless; single grained; loose; many fine roots; very strongly acid; clear wavy boundary.
A23—30 to 56 inches; reddish yellow (7.5YR 6/6) sand; structureless; single grained; loose; few fine roots; very strongly acid; abrupt smooth boundary.
B2t—56 to 80 inches; yellowish red (5YR 5/8) sandy clay loam; moderate medium subangular blocky structure; sand grains coated and bridged with clay; strongly acid.

The thickness of the solum exceeds 80 inches. Reaction is very strongly acid or strongly acid.

The A1 horizon is dark gray, very dark grayish brown, grayish brown, strong brown, or brown. The A2 horizon is light yellowish brown, yellowish brown, dark brown, brown, dark yellowish brown, brownish yellow, strong brown, or reddish yellow. Texture is sand, fine sand, loamy sand, or loamy fine sand. Thickness of the A horizon ranges from 40 to 72 inches.

The B2t horizon is reddish brown, yellowish red, reddish yellow, or red. Texture is sandy loam or sandy clay loam.

formation of the soils

In this section the factors of soil formation are discussed as they relate to the soils of Pearl River County. In addition, the processes of soil formation are described.

factors of soil formation

Soil is the product of the combined effects of parent material, climate, plant and animal life, relief, and time (*6*). The characteristics of a soil at any place depend upon a combination of these five environmental factors at that particular place. In many places, however, one or two of the factors are dominant and fix most of the properties of a particular soil.

parent material

Parent material, the unconsolidated mass in which a soil forms, largely determines the chemical and mineral composition of a soil. Most of the soils in Pearl River County formed in unconsolidated beds of fine textured to coarse textured Coastal Plain sediments (*3*). Some soils formed in alluvium; others formed in deposits of highly decomposed plant remains in drainageways and on flood plains.

The bright-colored soils of Pearl River County formed in material that was above the ground water level and was subjected to the influence of water percolating downward from the surface. The grayish colored soils are in low, flat areas where the water table is high and the drainage is poor.

Soils formed in place from Coastal Plain sediments of sand, silt, and clay throughout the county. Slopes are nearly level through moderately steep.

Soils that formed in alluvium, washed from upland soils, are along the larger streams. They are dominantly of sandy texture. Soils on first bottoms have a weakly defined profile because floodwaters still deposit fresh soil material.

Soils that formed in organic materials are in drainageways and on flood plains under forest. A water table at or near the surface almost continuously retards decomposition of the vegetation, which is still depositing more organic material in these areas. These areas are flooded most of the year.

climate

The warm, moist climate of Pearl River County has favored rapid development of soils. Warm temperatures accelerate the growth of many kinds of organisms and accelerate chemical reaction. The relatively high precipitation leaches the soluble material, such as bases, and accelerates the translocation of less soluble material, such as colloidal matter, downward through the profile. As a result, the soils are strongly leached and have strongly expressed horizons in which the effects of other soil-forming factors are not easy to see.

plant and animal life

Plants, animals, and micro-organisms that live on and in the soil are important in the formation of soils. Bacteria, fungi, and other micro-organisms help to weather rock and decompose organic matter. They are mostly in the uppermost few inches of the soil. Earthworms and other small invertebrates are mostly in the surface layer; crayfish dig into the subsoil of the wetter soils. Together, they continually mix the soil material. Plants alter the soil microclimate, supply organic matter, and transfer minerals from the subsoil to the surface layer.

The native vegetation of the well drained uplands was mainly longleaf and slash pines. On the broad stream terraces, it was mainly loblolly and slash pines, sweetgum, and sweet bay. On the better drained bottom lands, it was mainly oaks, magnolia, holly, and beech and loblolly, slash, and spruce pines. The native vegetation in old sloughs and depressions included tupelo, gum, cypress, bay, and magnolia trees.

relief

In Pearl River County the relief is of such low intensity that differences in microclimate are not of great importance. Soils on north slopes are very similar to soils on south slopes. Soils on many side slopes are not much different from those on ridgetops.

The southwestern part of the county, known locally as the flatwoods, is low and mostly nearly level. The drainage is very poor, and runoff is very slow. During the wet seasons the lower, flat areas have water at the surface.

Toward the northern part of the county the elevation gradually increases and culminates in a series of ridges. Soils on uplands are much better drained than those in flatwoods. The relief is greater, and the streams have cut definite valleys. The soils on the uplands have more clearly expressed horizons than those in the flatwoods.

The soils that formed on ridgetops and slopes have less organic matter in the surface layer. Oxidation of iron and translocation of silicate clay minerals have affected those soils more than the associated soils at the base of slopes, in draws, and in depressions.

time

Time is necessary for the development of soils from parent material. Generally a long time is required for formation of a soil that has distinct horizons. The length of time required for a mature soil to develop depends largely on the other factors of soil formation. Young soils have a weakly developed profile and retain most of the characteristics of the parent material, except for the darkening of the surface layer. In content, the old soils have well defined horizons that are far different from the parent material in which they developed.

In Pearl River County, the flatwoods date from the Pleistocene epoch, and the upper part of the Coastal Plain dates from the Miocene.

processes of horizon differentiation

Several processes were involved in the formation of horizons in the soils of Pearl River County. These processes are the accumulation of organic matter; the leaching of calcium carbonates and bases; the formation and translocation of silicate clay minerals; and the liberation, reduction, and transfer of iron. In most soils more than one of these processes have been active in the development of horizons.

The accumulation or organic matter in the upper part of the soil profile contributes to the formation of an A1 horizon. In Pearl River County the content of organic matter ranges from low on well drained uplands to very high in the drainageways and on flood plains.

Carbonates and bases have been leached from nearly all the soils. Most of the soils are moderately to strongly leached. Leaching of bases from the upper horizons of a soil commonly precedes the translocation of silicate clay.

Translocation of silicate clay, which has occurred in many of the soils, contributes to the development of an eluviated A2 horizon that contains less clay and is generally lighter in color than the B horizon. The B horizon commonly has clay accumulated in films, in pores, and on the surface of peds. Saucier soils, for example, have films of translocated clay in the B horizon.

Reduction, segregation, and transfer of iron, a process called gleying, is evident in the poorly drained soils of the county. Reduction and loss of iron are indicated by gray colors in the subsoil. Segregation of iron is indicated by reddish or brownish mottles and concretions.

references

(1) American Association of State Highway [and Transportation] Officials. 1970. Standard specifications for highway materials and methods of sampling and testing. Ed. 10, 2 vol., illus.

(2) American Society for Testing and Materials. 1974. Method for classification of soils for engineering purposes. ASTM Stand. D 2487-69. *In* 1974 Annual Book of ASTM Standards, Part 19, 464 pp., illus.

(3) Brown, Glen Francis, Foster, V.M., Adams, R.W., Reed, E.W., and D.H. Padgell, Jr. 1944. Geology and ground-water resources of the coastal area in Mississippi. Miss. State Geol. Surv. Bull. 60, 166 pp.

(4) Day, Paul R. and others. 1956. Report of the committee on physical analysis, 1954-1955. Soil Sci. Soc. Am. Proc. 20: 167-169.

(5) United States Department of Agriculture. 1920. Soil Survey of Pearl River County, Mississippi. Bur. Soils, 38 pp., illus.

(6) United States Department of Agriculture. 1938. Soils and men. U.S. Dep. Agric. Yearb., 1,232 pp., illus.

(7) United States Department of Agriculture. 1951. Soil survey manual. U.S. Dep. Agric. Handb. 18, 503 pp., illus. [Supplements replacing pp. 173-188 issued May 1962]

(8) United States Department of Agriculture. 1967. Soil survey laboratory methods and procedures for collecting soil samples. Soil. Surv. Invest. Rep. 1, 50 pp., illus.

(9) United States Department of Agriculture. 1975. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. Soil Conserv. Serv., U.S. Dep. Agric. Handb. 436, 754 pp., illus.

(10) United States Department of Agriculture. 1977. 1974 census of agriculture. Soc. and Econ. Statis. Admin., Bur. Census. Vol. 1, pt. 2, book 2, p. 3.

(11) United States Department of Agriculture. 1978. Forest statistics for Mississippi counties. For. Serv. Resour. Bull. SO-69, pp. 4 and 72.

glossary

ABC soil. A soil having an A, a B, and a C horizon.

AC soil. A soil having only an A and a C horizon. Commonly such soil formed in recent alluvium or on steep rocky slopes.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Association, soil. A group of soils geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as—

	Inches
Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	More than 12

Base saturation. The degree to which material having cation exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, K), expressed as a percentage of the total cation exchange capacity.

Bedding planes. Fine stratifications, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediments.

Bisequum. Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Blowout. A shallow depression from which all or most of the soil material has been removed by wind. A blowout has a flat or irregular floor formed by a resistant layer or by an accumulation of pebbles or cobbles. In some blowouts the water table is exposed.

Bottom land. The normal flood plain of a stream, subject to flooding.

Broad-base terrace. A ridge-type terrace built to control erosion by diverting runoff along the contour at a nonscouring velocity. The terrace is 10 to 20 inches high and 15 to 30 feet wide and has gently sloping sides, a rounded crown, and a dish-shaped channel along the upper side. It may be nearly level or have a grade toward one or both ends.

Capillary water. Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.

Catena. A sequence, or "chain," of soils on a landscape that formed in similar kinds of parent material but have different characteristics as a result of differences in relief and drainage.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity, but is more precise in meaning.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Claypan. A slowly permeable soil horizon that contains much more clay than the horizons above it. A claypan is commonly hard when dry and plastic or stiff when wet.

Coarse textured soil. Sand or loamy sand.

Compressible (in tables). Excessive decrease in volume of soft soil under load.

Concretions. Grains, pellets, or nodules of various sizes, shapes, and colors consisting of concentrated compounds or cemented soil grains. The composition of most concretions is unlike that of the surrounding soil. Calcium carbonate and iron oxide are common compounds in concretions.

Consistence, soil. The feel of the soil and the ease with which a lump can be crushed by the fingers. Terms commonly used to describe consistence are—

Loose.—Noncoherent when dry or moist; does not hold together in a mass.

Friable.—When moist, crushes easily under gentle pressure between thumb and forefinger and can be pressed together into a lump.

Firm.—When moist, crushes under moderate pressure between thumb and forefinger, but resistance is distinctly noticeable.
Plastic.—When wet, readily deformed by moderate pressure but can be pressed into a lump; will form a "wire" when rolled between thumb and forefinger.
Sticky.—When wet, adheres to other material and tends to stretch somewhat and pull apart rather than to pull free from other material.
Hard.—When dry, moderately resistant to pressure; can be broken with difficulty between thumb and forefinger.
Soft.—When dry, breaks into powder or individual grains under very slight pressure.
Cemented.—Hard; little affected by moistening.

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Corrosive. High risk of corrosion to uncoated steel or deterioration of concrete.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Drainage class (natural). Refers to the frequency and duration of periods of saturation or partial saturation during soil formation, as opposed to altered drainage, which is commonly the result of artificial drainage or irrigation but may be caused by the sudden deepening of channels or the blocking of drainage outlets. Seven classes of natural soil drainage are recognized:
Excessively drained.—Water is removed from the soil very rapidly. Excessively drained soils are commonly very coarse textured, rocky, or shallow. Some are steep. All are free of the mottling related to wetness.
Somewhat excessively drained.—Water is removed from the soil rapidly. Many somewhat excessively drained soils are sandy and rapidly pervious. Some are shallow. Some are so steep that much of the water they receive is lost as runoff. All are free of the mottling related to wetness.
Well drained.—Water is removed from the soil readily, but not rapidly. It is available to plants throughout most of the growing season, and wetness does not inhibit growth of roots for significant periods during most growing seasons. Well drained soils are commonly medium textured. They are mainly free of mottling.
Moderately well drained.—Water is removed from the soil somewhat slowly during some periods. Moderately well drained soils are wet for only a short time during the growing season, but periodically they are wet long enough that most mesophytic crops are affected. They commonly have a slowly pervious layer within or directly below the solum, or periodically receive high rainfall, or both.
Somewhat poorly drained.—Water is removed slowly enough that the soil is wet for significant periods during the growing season. Wetness markedly restricts the growth of mesophytic crops unless artificial drainage is provided. Somewhat poorly drained soils commonly have a slowly pervious layer, a high water table, additional water from seepage, nearly continuous rainfall, or a combination of these.
Poorly drained.—Water is removed so slowly that the soil is saturated periodically during the growing season or remains wet for long periods. Free water is commonly at or near the surface for long enough during the growing season that most mesophytic crops cannot be grown unless the soil is artificially drained. The soil is not continuously saturated in layers directly below plow depth. Poor drainage results from a high water table, a slowly pervious layer within the profile, seepage, nearly continuous rainfall, or a combination of these.
Very poorly drained.—Water is removed from the soil so slowly that free water remains at or on the surface during most of the growing season. Unless the soil is artificially drained, most mesophytic crops cannot be grown. Very poorly drained soils are commonly level or depressed and are frequently ponded. Yet, where rainfall is high and nearly continuous, they can have moderate or high slope gradients.

Drainage, surface. Runoff, or surface flow of water, from an area.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.
Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of the activities of man or other animals or of a catastrophe in nature, for example, fire, that exposes the surface.

Excess fines (in tables). Excess silt and clay in the soil. The soil does not provide a source of gravel or sand for construction purposes.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity.*

Fine textured soil. Sandy clay, silty clay, and clay.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Forb. Any herbaceous plant not a grass or a sedge.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors and mottles.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock up to 3 inches (2 millimeters to 7.5 centimeters) in diameter. An individual piece is a pebble.

Ground water (geology). Water filling all the unblocked pores of underlying material below the water table.

Gully. A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hardpan. A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an upper case letter represents the major horizons. Numbers or lower case letters that follow represent subdivisio s of the major horizons. An explanation of the subdivisions is given in the *Soil Survey Manual.* The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue at the surface of a mineral soil.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the undgrlying C horizon. The B horizon also has distinctive characteristics such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these. The combined A and B horizons are generally called the solum, or true soil. If a soil does not have a B horizon, the A horizon alone is the solum.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the A or B horizon. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, the Roman numeral II precedes the letter C.

R layer.—Consolidated rock beneath the soil. The rock commonly underlies a C horizon, but can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff-producing characteristics. The chief consideration is the inherent capacity of soil bare of vegetation to permit infiltration. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff. Soils are assigned to four groups. In group A are soils having a high infiltration rate when thoroughly wet and having a low runoff potential. They are mainly deep, well drained, and sandy or gravelly. In group D, at the other extreme, are soils having a very slow infiltration rate and thus a high runoff potential. They have a claypan or clay layer at or near the surface, have a permanent high water table, or are shallow over nearly impervious bedrock or other material. A soil is assigned to two hydrologic groups if part of the acreage is artificially drained and part is undrained.

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually

expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Leaching. The removal of soluble material from soil or other material by percolating water.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Low strength. The soil is not strong enough to support loads.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Miscellaneous area. An area that has little or no natural soil and supports little or no vegetation.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Mottling generally indicates poor aeration and impeded drainage. Descriptive terms are as follows: abundance—*few, common,* and *many*; size—*fine, medium,* and *coarse*; and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium*, from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse*, more than 15 millimeters (about 0.6 inch).

Muck. Dark colored, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Munsell notation. A designation of color by degrees of the three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color of 10YR hue, value of 6, and chroma of 4.

Neutral soil. A soil having a pH value between 6.6 and 7.3. (See Reaction, soil.)

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The downward movement of water through the soil.

Percs slowly (in tables). The slow movement of water through the soil adversely affecting the specified use.

Permeability. The quality of the soil that enables water to move downward through the profile. Permeability is measured as the number of inches per hour that water moves downward through the saturated soil. Terms describing permeability are:

Very slow	less than 0.06 inch
Slow	0.06 to 0.20 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

Phase, soil. A subdivision of a soil sgries based on features that affect its use and management. For example, slope, stoniness, and thickness.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plinthite. The sesquioxide-rich, humus-poor, highly weathered mixture of clay with quartz and other diluents. It commonly appears as red mottles, usually in platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to an ironstone hardpan or to irregular aggregates on repeated wetting and drying, especially if it is exposed also to heat from the sun. In a moist soil, plinthite can be cut with a spade. It is a form of laterite.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Rangeland. Land on which the potential natural vegetation is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction

because it is neither acid nor alkaline. The degree of acidity or alkalinity is expressed as—

	pH
Extremely acid	Below 4.5
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Medium acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Mildly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Relief. The elevations or inequalities of a land surface, considered collectively.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sapric soil material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Seepage (in tables). The movement of water through the soil. Seepage adversely affects the specified use.

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer or of the underlying material. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shrink-swell. The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75 feet.

Slickensides. Polished and grooved surfaces produced by one mass sliding past another. In soils, slickensides may occur at the bases of slip surfaces on the steeper slopes; on faces of blocks, prisms, and columns; and in swelling clayey soils, where there is marked change in moisture content.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soil separates. Mineral particles less than 2 mm in equivalent diameter and ranging between specified size limits. The names and sizes of separates recognized in the United States are as follows:

	Millimeters
Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the underlying material. The living roots and plant and animal activities are largely confined to the solum.

Stripcropping. Growing crops in a systematic arrangement of strips or bands which provide vegetative barriers to wind and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum. The part of the soil below the solum.

Subsurface layer. Technically, the A2 horizon. Generally refers to a leached horizon lighter in color and lower in content of organic matter than the overlying surface layer.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from

4 to 10 inches (10 to 25 centimeters). Frequently designated as the "plow layer," or the "Ap horizon."

Terrace. An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field is generally built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Unstable fill (in tables). Risk of caving or sloughing on banks of fill material.

Upland (geology). Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Weathering. All physical and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.

tables

TABLE 1.--TEMPERATURE AND PRECIPITATION

[Recorded in the period 1951-78 at Poplarville, Miss.]

Month	Temperature						Precipitation				
	Average daily maximum	Average daily minimum	Average daily	2 years in 10 will have-- Maximum temperature higher than--	2 years in 10 will have-- Minimum temperature lower than--	Average number of growing degree days*	Average	2 years in 10 will have-- Less than--	2 years in 10 will have-- More than--	Average number of days with 0.10 inch or more	Average snowfall
	°F	°F	°F	°F	°F	Units	In	In		In	
January----	61.3	40.8	51.1	78	16	179	4.79	2.98	6.41	8	.1
February---	65.1	42.9	54.0	81	21	194	5.15	2.85	7.18	7	.1
March------	71.3	48.9	60.1	84	27	327	5.52	2.91	7.81	7	.0
April------	78.6	56.7	67.7	88	37	531	4.66	2.12	6.84	6	.0
May--------	85.0	63.3	74.2	95	46	750	4.72	1.80	7.16	6	.0
June-------	90.7	68.9	79.8	99	57	894	4.72	2.14	6.92	7	.0
July-------	91.3	71.2	81.3	98	65	970	6.60	4.21	8.74	11	.0
August-----	90.8	70.9	80.8	97	62	955	5.85	3.66	7.81	9	.0
September--	86.9	67.6	77.3	95	52	819	5.08	2.10	7.59	7	.0
October----	79.9	56.9	68.4	91	37	570	2.95	.83	4.71	4	.0
November---	69.9	48.2	59.1	83	26	286	4.01	2.03	5.72	5	.0
December---	63.9	43.1	53.5	80	18	171	6.43	3.30	9.15	8	.3
Yearly:											
Average--	77.9	56.6	67.3	---	---	---	---	---	---	---	---
Extreme--	---	---	---	100	15	---	---	---	---	---	---
Total----	---	---	---	---	---	6,646	60.48	49.52	70.90	85	.5

*A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (50° F).

TABLE 2.--FREEZE DATES IN SPRING AND FALL

[Recorded in the period 1951-78 at Poplarville, Miss.]

Probability	Temperature		
	24° F or lower	28° F or lower	32° F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	February 27	March 20	March 24
2 years in 10 later than--	February 17	March 9	March 17
5 years in 10 later than--	January 30	February 18	March 3
First freezing temperature in fall:			
1 year in 10 earlier than--	November 24	November 11	October 30
2 years in 10 earlier than--	December 4	November 18	November 6
5 years in 10 earlier than--	December 25	December 3	November 19

TABLE 3.--GROWING SEASON

[Recorded in the period 1951-78 at Poplarville, Miss.]

Probability	Daily minimum temperature during growing season		
	Higher than 24° F	Higher than 28° F	Higher than 32° F
	Days	Days	Days
9 years in 10	287	250	234
8 years in 10	298	263	243
5 years in 10	321	288	260
2 years in 10	>365	313	277
1 year in 10	>365	326	287

TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS

Map symbol	Soil name	Acres	Percent
AR	Arkabutla-Rosebloom association, frequently flooded	34,292	6.5
BaA	Basin loam, 0 to 2 percent slopes	5,246	1.0
BaB	Basin loam, 2 to 5 percent slopes	1,582	0.3
BbA	Bassfield sandy loam, 0 to 3 percent slopes	2,668	0.5
BcB	Baxterville fine sandy loam, 2 to 5 percent slopes	700	0.1
Bd	Bibb sandy loam	11,754	2.2
BeA	Benndale sandy loam, 0 to 2 percent slopes	838	0.2
BeB	Benndale sandy loam, 2 to 5 percent slopes	2,150	0.4
BeC	Benndale sandy loam, 5 to 8 percent slopes	829	0.2
CaD	Cadeville fine sandy loam, 8 to 15 percent slopes	13,619	2.6
DC	Dorovan-Croatan association	19,378	3.7
EaA	Escambia fine sandy loam, 0 to 2 percent slopes	19,219	3.6
FaA	Falkner silt loam, 0 to 2 percent slopes	879	0.2
FaB	Falkner silt loam, 2 to 5 percent slopes	1,112	0.2
LaA	Latonia fine sandy loam, 0 to 2 percent slopes	3,653	0.7
LuA	Lucedale fine sandy loam, 0 to 2 percent slopes	1,420	0.3
MaA	Malbis fine sandy loam, 0 to 2 percent slopes	6,501	1.2
MaB	Malbis fine sandy loam, 2 to 5 percent slopes	28,538	5.4
MaC	Malbis fine sandy loam, 5 to 8 percent slopes	14,330	2.7
MD	Malbis-Saucier association, sloping	21,774	4.1
ME	Malbis-Susquehanna-Saucier association, sloping	63,980	12.0
MnB	McLaurin fine sandy loam, 2 to 5 percent slopes	6,823	1.3
MnC	McLaurin fine sandy loam, 5 to 8 percent slopes	2,508	0.5
MS	McLaurin-Smithdale association, rolling	76,539	14.4
NJ	Nugent-Jena association, frequently flooded	530	0.1
Pa	Pits	530	0.1
PoA	Poarch loam, 0 to 2 percent slopes	12,179	2.3
PoB	Poarch loam, 2 to 5 percent slopes	9,408	1.8
PoC	Poarch loam, 5 to 8 percent slopes	4,015	0.8
RuA	Ruston fine sandy loam, 0 to 2 percent slopes	2,989	0.6
RuB	Ruston fine sandy loam, 2 to 5 percent slopes	32,162	6.0
RuC	Ruston fine sandy loam, 5 to 8 percent slopes	6,957	1.3
SaA	Saucier loam, 0 to 2 percent slopes	1,529	0.3
SaB	Saucier loam, 2 to 5 percent slopes	2,015	0.4
SmE	Smithdale sandy loam, 15 to 20 percent slopes	29,922	5.6
SN	Smithdale-Troup association, rolling	6,678	1.3
Sp	Smithton sandy loam	12,344	2.3
SR	Smithton association, occasionally flooded	9,806	1.9
ST	Smithton association, frequently flooded	32,729	6.1
SuB	Susquehanna loam, 2 to 5 percent slopes	8,640	1.6
SuD	Susquehanna loam, 5 to 10 percent slopes	10,177	1.9
TaB	Troup sand, 2 to 8 percent slopes	3,378	0.6
	Water	3,600	0.7
	Total	529,920	100.0

TABLE 5.--YIELDS PER ACRE OF CROPS AND PASTURE

[Yields are those that can be expected under a high level of management. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil]

Soil name and map symbol	Corn	Soybeans	Bahiagrass	Improved bermudagrass	Tall fescue
	Bu	Bu	AUM*	AUM*	AUM*
AR**:					
Arkabutla	70	20	9.0	10.0	9.0
Rosebloom.					
BaA---- Basin	75	25	8.0	8.0	8.0
BaB---- Basin	65	20	7.5	7.5	7.5
BbA---- Bassfield	75	30	8.5	10.0	---
BcB---- Baxterville	70	25	8.5	10.0	6.5
Bd---- Bibb	---	---	---	8.0	8.0
BeA---- Benndale	80	30	9.0	11.0	---
BeB---- Benndale	75	30	8.5	10.5	---
BeC---- Benndale	70	25	8.0	9.0	---
CaD---- Cadeville	---	---	4.0	4.0	---
DC**:					
Dorovan	---	---	---	---	---
Croatan	---	---	---	---	---
EaA---- Escambia	100	30	9.0	9.0	9.0
FaA---- Falkner	75	35	9.0	9.5	8.0
FaB---- Falkner	70	30	8.5	9.0	7.5
LaA---- Latonia	60	25	8.5	9.5	---
LuA---- Lucedale	80	40	10.0	10.0	---
MaA---- Malbis	100	40	9.0	10.0	---
MaB---- Malbis	95	37	8.5	9.5	---
MaC---- Malbis	80	30	8.0	9.0	---
MD**:					
Malbis	80	30	8.0	9.0	---

See footnotes at end of table.

TABLE 5.--YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Soil name and map symbol	Corn	Soybeans	Bahiagrass	Improved bermudagrass	Tall fescue
	Bu	Bu	AUM*	AUM*	AUM*
MD**: Saucier	75	25	7.5	8.5	8.0
ME**: Malbis	80	30	8.0	9.0	---
Susquehanna	---	---	5.5	5.0	6.5
Saucier	75	25	7.5	8.5	8.0
MnB McLaurin	75	25	8.0	10.0	---
MnC McLaurin	70	25	7.0	8.5	---
MS**: McLaurin	60	20	6.0	7.5	---
Smithdale	50	25	7.5	9.0	---
NJ**: Nugent	---	---	---	---	---
Jena	---	---	---	---	---
Pa**. Pits					
PoA Poarch	90	30	9.5	5.5	---
PoB Poarch	80	25	9.5	5.5	---
PoC Poarch	65	25	8.5	5.0	---
RuA Ruston	75	30	9.5	12.5	---
RuB Ruston	70	30	9.5	12.0	---
RuC Ruston	65	25	9.5	12.0	---
SaA Saucier	90	35	9.0	9.0	8.5
SaB Saucier	85	30	8.5	9.0	8.5
SmE Smithdale	---	---	7.0	9.0	---
SN**: Smithdale	50	25	7.5	9.0	---
Troup	---	---	5.0	6.5	---
Sp Smithton	---	25	7.5	---	7.0
SR** Smithton	---	20	7.0	---	6.0

See footnotes at end of table.

TABLE 5.--YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Soil name and map symbol	Corn	Soybeans	Bahiagrass	Improved bermudagrass	Tall fescue
	Bu	Bu	AUM*	AUM*	AUM*
ST**---------- Smithton	---	---	---	---	---
SuB---------- Susquehanna	---	20	6.5	---	7.5
SuD---------- Susquehanna	---	---	5.5	---	6.5
TaB---------- Troup	55	22	7.0	7.3	---

* Animal-unit-month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

** See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 6.--CAPABILITY CLASSES AND SUBCLASSES

[Miscellaneous areas are excluded. Absence of an entry indicates no acreage]

Class	Total acreage	Major management concerns (Subclass)			
		Erosion (e)	Wetness (w)	Soil problem (s)	Climate (c)
		Acres	Acres	Acres	Acres
I	23,089	---	---	---	---
II	180,467	146,435	26,873	7,159	---
III	96,488	84,144	12,344	---	---
IV	87,285	52,840	31,067	3,378	---
V	79,404	---	79,404	---	---
VI	57,925	57,925	---	---	---
VII	21,847	---	19,377	2,470	---
VIII	---	---	---	---	---

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY

[Only the soils suitable for production of commercial trees are listed. Absence of an entry indicates that information was not available]

Soil name and map symbol	Ordination symbol	Management concerns				Potential productivity		Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Plant competition	Common trees	Site index	
AR[1]:								
Arkabutla	1w8	Slight	Severe	Moderate	Moderate	Cherrybark oak	105	Cherrybark oak, eastern cottonwood, green ash, loblolly pine, sweetgum, American sycamore, yellow-poplar, slash pine.
						Eastern cottonwood	110	
						Green ash	95	
						Loblolly pine	100	
						Nuttall oak	110	
						Sweetgum	100	
						Water oak	100	
						Yellow-poplar	110	
						Slash pine	---	
Rosebloom	2w9	Slight	Severe	Moderate	Moderate	Green ash	95	Green ash,[2] eastern cottonwood, cherrybark oak, Nuttall oak, water oak, willow oak, loblolly pine,[2] sweetgum.[2]
						Eastern cottonwood	100	
						Cherrybark oak	95	
						Nuttall oak	95	
						Water oak	95	
						Willow oak	90	
						Sweetgum	95	
						American sycamore	80	
BaA, BaB Basin	2w2	Slight	Moderate	Moderate	Moderate	Loblolly pine	90	Loblolly pine, slash pine.
						Slash pine	90	
BbA Bassfield	2o7	Slight	Slight	Slight	Slight	Cherrybark oak	90	Cherrybark oak, loblolly pine, sweetgum.
						Loblolly pine	90	
						Shortleaf pine	80	
						Sweetgum	90	
BcB Baxterville	2o1	Slight	Slight	Slight	Slight	Loblolly pine	86	Loblolly pine, slash pine.
						Longleaf pine	70	
						Slash pine	86	
Bd Bibb	2w9	Slight	Severe	Severe	Severe	Loblolly pine	90	Eastern cottonwood, loblolly pine,[2] sweetgum,[2] yellow-poplar, slash pine,[2] green ash.[2]
						Sweetgum	90	
						Water oak	90	
						Willow oak	---	
						Slash pine	---	
BeA, BeB, BeC Benndale	2o1	Slight	Slight	Slight	Moderate	Loblolly pine	94	Loblolly pine, slash pine, longleaf pine.
						Longleaf pine	79	
						Slash pine	94	
CaD Cadeville	3c2	Slight	Severe	Moderate	---	Loblolly pine	80	Loblolly pine, slash pine.
						Shortleaf pine	70	
DC[1]:								
Dorovan	4w9	Slight	Severe	Severe	---	Blackgum	70	Baldcypress.
						Sweetbay	---	
						Red maple	---	
						Slash pine	70	
						Baldcypress	---	
Croatan	4w9	Slight	Severe	Severe	---	Blackgum	70	Baldcypress.
						Sweetbay	---	
						Red maple	---	
						Slash pine	70	
						Baldcypress	---	
EaA Escambia	2w8	Slight	Moderate	Slight	Slight	Blackgum	---	Loblolly pine, slash pine.
						Loblolly pine	90	
						Longleaf pine	80	
						Slash pine	90	
						Sweetgum	90	

See footnotes at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns				Potential productivity		Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Plant competition	Common trees	Site index	
FaA, FaB---------- Falkner	2w8	Slight	Moderate	Slight	Moderate	Loblolly pine-------	85	Cherrybark oak, loblolly pine, shortleaf pine, sweetgum.
						Shortleaf pine------	75	
						Sweetgum----------	90	
LaA---------- Latonia	2o1	Slight	Slight	Slight	Slight	Loblolly pine-------	90	Loblolly pine, slash pine, longleaf pine.
						Longleaf pine-------	70	
						Slash pine----------	90	
LuA---------- Lucedale	2o1	Slight	Slight	Slight	Slight	Loblolly pine-------	90	Loblolly pine, slash pine.
						Longleaf pine-------	75	
						Slash pine----------	90	
MaA, MaB, MaC------ Malbis	2o1	Slight	Slight	Slight	--------	Loblolly pine-------	90	Loblolly pine, slash pine.
						Slash pine----------	90	
						Longleaf pine-------	80	
MD[1]:								
Malbis----------	2o1	Slight	Slight	Slight	--------	Loblolly pine-------	90	Loblolly pine, slash pine.
						Slash pine----------	90	
						Longleaf pine-------	80	
Saucier----------	2w2	Slight	Moderate	Slight	Moderate	Loblolly pine-------	80	Loblolly pine, slash pine.
						Longleaf pine-------	60	
						Slash pine----------	80	
ME[1]:								
Malbis----------	2o1	Slight	Slight	Slight	--------	Loblolly pine-------	90	Loblolly pine, slash pine.
						Slash pine----------	90	
						Longleaf pine-------	80	
Susquehanna-------	3c2	Slight	Moderate	Slight	Moderate	Loblolly pine-------	78	Loblolly pine, slash pine, longleaf pine.
						Slash pine----------	85	
						Longleaf pine-------	70	
Saucier----------	2w2	Slight	Moderate	Slight	Moderate	Loblolly pine-------	80	Loblolly pine, slash pine.
						Longleaf pine-------	60	
						Slash pine----------	80	
MnB, MnC---------- McLaurin	2o1	Slight	Slight	Slight	Slight	Loblolly pine-------	90	Loblolly pine, slash pine.
						Longleaf pine-------	72	
						Slash pine----------	90	
MS[1]:								
McLaurin----------	2o1	Slight	Slight	Slight	Slight	Loblolly pine-------	90	Loblolly pine, slash pine.
						Longleaf pine-------	72	
						Slash pine----------	90	
Smithdale---------	2o1	Slight	Slight	Slight	Moderate	Loblolly pine-------	86	Loblolly pine, longleaf pine, slash pine.
						Longleaf pine-------	69	
						Slash pine----------	85	
NJ[1]:								
Nugent.[3]								
Jena----------	1w7	Slight	Severe	Moderate	--------	Loblolly pine-------	100	Loblolly pine, slash pine, American sycamore, eastern cottonwood.
						Sweetgum----------	90	
						Water oak----------	80	
						White oak----------	---	
						Slash pine----------	---	
PoA, PoB, PoC------ Poarch	2o1	Slight	Slight	Slight	Slight	Slash pine----------	90	Slash pine, loblolly pine, longleaf pine.
						Loblolly pine-------	90	
						Longleaf pine-------	73	
RuA, RuB, RuC------ Ruston	2o1	Slight	Slight	Slight	--------	Loblolly pine-------	91	Loblolly pine, slash pine, longleaf pine.
						Slash pine----------	91	
						Longleaf pine-------	76	

See footnotes at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns				Potential productivity		Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Plant competition	Common trees	Site index	
SaA, SaB---------- Saucier	2w2	Slight	Moderate	Slight	Moderate	Loblolly pine-------	80	Loblolly pine, slash pine.
						Longleaf pine-------	60	
						Slash pine----------	80	
SmE---------- Smithdale	2o1	Slight	Slight	Slight	Moderate	Loblolly pine-------	86	Loblolly pine, longleaf pine, slash pine.
						Longleaf pine-------	69	
						Slash pine----------	85	
SN[1]: Smithdale---------	2o1	Slight	Slight	Slight	Moderate	Loblolly pine-------	86	Loblolly pine, longleaf pine, slash pine.
						Longleaf pine-------	69	
						Slash pine----------	85	
Troup----------	3s2	Slight	Moderate	Moderate	Slight	Loblolly pine-------	82	Loblolly pine, longleaf pine, slash pine.
						Longleaf pine-------	64	
						Slash pine----------	84	
Sp, SR[1], ST[1]------- Smithton	2w9	Slight	Severe	Severe	--------	Loblolly pine-------	90	Loblolly pine,[2] sweetgum[2], cherrybark oak, Shumard oak, slash pine.[2]
						Sweetgum------------	90	
						Cherrybark oak------	90	
						Water oak-----------	90	
						Slash pine----------	90	
SuB, SuD---------- Susquehanna	3c2	Slight	Moderate	Slight	Moderate	Loblolly pine-------	78	Loblolly pine, slash pine.
						Slash pine----------	85	
						Longleaf pine-------	70	longleaf pine.
TaB---------- Troup	3s2	Slight	Moderate	Moderate	Slight	Loblolly pine-------	82	Loblolly pine, longleaf pine, slash pine.
						Longleaf pine-------	64	
						Slash pine----------	84	

[1]See description of the map unit for composition and behavior characteristics of the map unit.
[2]Tree planting is feasible only in areas with adequate surface drainage.
[3]Nugent soils are flooded too frequently for the establishment of tree seedlings.

TABLE 8.--WOODLAND UNDERSTORY VEGETATION

[Only the soils suitable for production of commercial trees are listed]

Soil name and map symbol	Total production		Characteristic vegetation	Composition
	Kind of year	Dry weight		
		Lb/acre		Pct
AR*:				
Arkabutla	Favorable	---	Pinehill bluestem	33
	Normal	1,500	Switchcane	26
	Unfavorable	---	Longleaf uniola	20
			Switchgrass	7
Rosebloom	Favorable	---	Pinehill bluestem	33
	Normal	1,500	Switchcane	26
	Unfavorable	---	Longleaf uniola	20
			Beaked panicum	7
BaA, BaB	Favorable	---	Pinehill bluestem	25
Basin	Normal	1,200	Cutover muhly	15
	Unfavorable	---	Longleaf uniola	15
BbA	Favorable	---	Pinehill bluestem	23
Bassfield	Normal	1,000	Longleaf uniola	23
	Unfavorable	---	Beaked panicum	12
			Slender bluestem	4
BcB	Favorable	---	Pinehill bluestem	46
Baxterville	Normal	1,300	Beaked panicum	15
	Unfavorable	---	Slender bluestem	15
			Panicum	11
Bd	Favorable	---	Pinehill bluestem	25
Bibb	Normal	1,200	Cutover muhly	17
	Unfavorable	---	Longleaf uniola	17
			Grassleaf goldaster	13
			Beaked panicum	7
BeA, BeB, BeC	Favorable	---	Pinehill bluestem	46
Benndale	Normal	1,300	Beaked panicum	15
	Unfavorable	---	Slender bluestem	15
			Panicum	11
CaD	Favorable	---	Pinehill bluestem	34
Cadeville	Normal	1,000	Longleaf uniola	34
	Unfavorable	---	Beaked panicum	15
			Panicum	10
DC*:				
Dorovan	Favorable	---	---	---
	Normal	---	---	---
	Unfavorable	---	---	---
Croatan	Favorable	---	---	---
	Normal	---	---	---
	Unfavorable	---	---	---
EaA	Favorable	---	Pinehill bluestem	55
Escambia	Normal	1,200	Cutover muhly	17
	Unfavorable	---	Longleaf uniola	17
			Beaked panicum	8
FaA, FaB	Favorable	---	Pinehill bluestem	34
Falkner	Normal	1,500	Switchcane	27
	Unfavorable	---	Longleaf uniola	20
LaA	Favorable	---	Pinehill bluestem	46
Latonia	Normal	1,300	Beaked panicum	15
	Unfavorable	---	Slender bluestem	15
LuA	Favorable	---	Pinehill bluestem	46
Lucedale	Normal	1,300	Beaked panicum	15
	Unfavorable	---	Slender bluestem	15

See footnote at end of table.

TABLE 8.--WOODLAND UNDERSTORY VEGETATION--Continued

Soil name and map symbol	Total production		Characteristic vegetation	Composition
	Kind of year	Dry weight		
		Lb/acre		Pct
MaA, MaB, MaC------ Malbis	Favorable	---	Pinehill bluestem	46
	Normal	1,300	Beaked panicum	15
	Unfavorable	---	Slender bluestem	15
MD*:				
Malbis----------	Favorable	---	Pinehill bluestem	46
	Normal	1,300	Beaked panicum	15
	Unfavorable	---	Slender bluestem	15
Saucier----------	Favorable	---	Pinehill bluestem	25
	Normal	1,200	Cutover muhly	17
	Unfavorable	---	Longleaf uniola	17
			Beaked panicum	8
ME*:				
Malbis----------	Favorable	---	Pinehill bluestem	46
	Normal	1,300	Beaked panicum	15
	Unfavorable	---	Slender bluestem	15
Susquehanna-------	Favorable	---	Pinehill bluestem	30
	Normal	1,000	Beaked panicum	15
	Unfavorable	---	Panicum	10
			Longleaf uniola	30
Saucier----------	Favorable	---	Pinehill bluestem	30
	Normal	1,200	Beaked panicum	20
	Unfavorable	---	Cutover muhly	17
			Longleaf uniola	17
MnB, MnC---------- McLaurin	Favorable	---	Pinehill bluestem	46
	Normal	1,300	Slender bluestem	15
	Unfavorable	---	Beaked panicum	15
			Panicum	11
MS*:				
McLaurin----------	Favorable	---	Pinehill bluestem	46
	Normal	1,300	Slender bluestem	15
	Unfavorable	---	Beaked panicum	15
			Panicum	11
Smithdale---------	Favorable	---	Pinehill bluestem	46
	Normal	1,300	Beaked panicum	15
	Unfavorable	---	Panicum	15
			Slender bluestem	11
NJ*:				
Nugent----------	Favorable	---	---	---
	Normal	---	---	---
	Unfavorable	---	---	---
			---	---
			---	---
			---	---
Jena----------	Favorable	---	Pinehill bluestem	46
	Normal	1,300	Longleaf uniola	23
	Unfavorable	---	Beaked panicum	11
			Panicum	8
			Slender bluestem	4
PoA, PoB, PoC------ Poarch	Favorable	---		
	Normal	1,200	Pinehill bluestem	46
	Unfavorable	---	Beaked panicum	15
			Slender bluestem	15
			Panicum	11
RuA, RuB, RuC------ Ruston	Favorable	---	Pine bluestem	46
	Normal	1,200	Beaked panicum	15
	Unfavorable	---	Slender bluestem	15
			Panicum	11

See footnote at end of table.

TABLE 8.--WOODLAND UNDERSTORY VEGETATION--Continued

Soil name and map symbol	Total production		Characteristic vegetation	Composition
	Kind of year	Dry weight		
		Lb/acre		Pct
SaA, SaB----------	Favorable	---	Pinehill bluestem----------	25
Saucier	Normal	1,200	Cutover muhly----------	17
	Unfavorable	---	Longleaf uniola----------	17
			Beaked panicum----------	8
SmE----------	Favorable	---	Pinehill bluestem----------	46
Smithdale	Normal	1,300	Beaked panicum----------	15
	Unfavorable	---	Panicum----------	15
			Slender blustem----------	11
SN*:				
Smithdale---------	Favorable	---	Pinehill bluestem----------	46
	Normal	1,300	Beaked panicum----------	15
	Unfavorable	---	Panicum----------	15
			Slender bluestem----------	11
Troup----------	Favorable	---	Pinehill bluestem----------	50
	Normal	800	Threeawn----------	13
	Unfavorable	---	Panicum----------	12
			Running oak----------	6
Sp, SR*, ST*-------	Favorable	---	Pinehill bluestem----------	25
Smithton	Normal	1,200	Longleaf uniola----------	17
	Unfavorable	---	Beaked panicum----------	8
			Panicum----------	5
SuB, SuD----------	Favorable	---	Pinehill bluestem----------	30
Susquehanna	Normal	1,200	Beaked panicum----------	15
	Unfavorable	---	Panicum----------	10
			Slender bluestem----------	5
TaB----------	Favorable	---	Pinehill bluestem----------	50
Troup	Normal	800	Threeawn----------	13
	Unfavorable	---	Panicum----------	12
			Running oak----------	6

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 9.--RECREATIONAL DEVELOPMENT

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not rated]

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
AR*:					
Arkabutla	Severe: flooding.	Moderate: flooding, wetness.	Severe: flooding.	Moderate: flooding, wetness.	Severe: flooding.
Rosebloom	Severe: flooding, wetness.	Moderate: flooding, wetness, percs slowly.	Severe: wetness, flooding.	Severe: wetness.	Severe: wetness, flooding.
BaA, BaB Basin	Severe: wetness.	Moderate: wetness, percs slowly.	Severe: wetness.	Moderate: wetness.	Moderate: wetness, droughty.
BbA Bassfield	Slight	Slight	Moderate: small stones.	Slight	Slight.
BcB Baxterville	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: slope, percs slowly.	Slight	Slight.
Bd Bibb	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness, flooding.	Severe: wetness.	Severe: wetness, flooding.
BeA Benndale	Slight	Slight	Slight	Slight	Slight.
BeB Benndale	Slight	Slight	Moderate: slope.	Slight	Slight.
BeC Benndale	Slight	Slight	Severe: slope.	Slight	Slight.
CaD Cadeville	Severe: percs slowly.	Severe: percs slowly.	Severe: slope, percs slowly.	Severe: erodes easily.	Moderate: slope.
DC*:					
Dorovan	Severe: flooding, ponding, excess humus.	Severe: ponding, excess humus.	Severe: excess humus, ponding, flooding.	Severe: ponding, excess humus.	Severe: ponding, flooding, excess humus.
Croatan	Severe: flooding, wetness, excess humus.	Severe: wetness, excess humus.	Severe: excess humus, wetness.	Severe: wetness, excess humus.	Severe: wetness, excess humus.
EaA Escambia	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: wetness.	Moderate: wetness.
FaA Falkner	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Severe: erodes easily.	Moderate: wetness.
FaB Falkner	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: slope, wetness, percs slowly.	Severe: erodes easily.	Moderate: wetness.
LaA Latonia	Slight	Slight	Moderate: small stones.	Slight	Moderate: droughty.

See footnote at end of table.

TABLE 9.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
LuA---- Lucedale	Slight----	Slight----	Slight----	Slight----	Slight.
MaA---- Malbis	Slight----	Slight----	Slight----	Slight----	Slight.
MaB---- Malbis	Slight----	Slight----	Moderate: slope.	Slight----	Slight.
MaC---- Malbis	Slight----	Slight----	Severe: slope.	Slight----	Slight.
MD*: Malbis----	Slight----	Slight----	Moderate: slope.	Slight----	Slight.
Saucier----	Slight----	Slight----	Moderate: slope, small stones.	Slight----	Slight.
ME*: Malbis----	Slight----	Slight----	Moderate: slope.	Slight----	Slight.
Susquehanna----	Severe: percs slowly.	Severe: percs slowly.	Severe: percs slowly.	Slight----	Slight.
Saucier----	Slight----	Slight----	Moderate: slope, small stones.	Slight----	Slight.
MnB---- McLaurin	Slight----	Slight----	Moderate: slope.	Slight----	Slight.
MnC---- McLaurin	Slight----	Slight----	Severe: slope.	Slight----	Slight.
MS*: McLaurin----	Slight----	Slight----	Moderate: slope.	Slight----	Slight.
Smithdale----	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight----	Moderate: slope.
NJ*: Nugent----	Severe: flooding.	Moderate: flooding.	Severe: flooding.	Moderate: flooding.	Severe: flooding.
Jena----	Severe: flooding.	Moderate: flooding.	Severe: flooding.	Severe: erodes easily.	Severe: flooding.
Pa*. Pits					
PoA---- Poarch	Slight----	Slight----	Slight----	Slight----	Slight.
PoB---- Poarch	Slight----	Slight----	Moderate: slope.	Slight----	Slight.
PoC---- Poarch	Slight----	Slight----	Severe: slope.	Slight----	Slight.
RuA---- Ruston	Slight----	Slight----	Moderate: small stones.	Slight----	Slight.

See footnote at end of table.

TABLE 9.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
RuB---------- Ruston	Slight----------	Slight----------	Moderate: slope, small stones.	Slight----------	Slight.
RuC---------- Ruston	Slight----------	Slight----------	Severe: slope.	Slight----------	Slight.
SaA---------- Saucier	Slight----------	Slight----------	Moderate: small stones.	Slight----------	Slight.
SaB---------- Saucier	Slight----------	Slight----------	Moderate: slope, small stones.	Slight----------	Slight.
SmE---------- Smithdale	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
SN*: Smithdale----------	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight----------	Moderate: slope.
Troup----------	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight----------	Moderate: droughty, slope.
Sp, SR*---------- Smithton	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
ST*---------- Smithton	Severe: flooding, wetness.	Severe: wetness.	Severe: flooding, wetness.	Severe: wetness.	Severe: flooding, wetness.
SuB---------- Susquehanna	Severe: percs slowly.	Severe: percs slowly.	Severe: percs slowly.	Slight----------	Slight.
SuD---------- Susquehanna	Severe: percs slowly.	Severe: percs slowly.	Severe: slope, percs slowly.	Slight----------	Slight.
TaB---------- Troup	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: droughty.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 10.--WILDLIFE HABITAT

[See text for definitions of "good," "fair," "poor," and "very poor." Absence of an entry indicates that the soil was not rated]

Soil name and map symbol	Potential for habitat elements								Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
AR*:											
Arkabutla	Poor	Fair	Fair	Good	Good	---	Fair	Fair	Fair	Good	Fair
Rosebloom	Poor	Fair	Fair	Fair	---	Fair	Good	Good	Fair	Fair	Good.
BaA----------Basin	Fair	Good	Good	Good	---	Good	Fair	Fair	Good	Good	Fair
BaB----------Basin	Fair	Good	Good	Good	---	Good	Poor	Very poor.	Good	Good	Very poor.
BbA----------Bassfield	Good	Good	Good	Good	Poor	---	Very poor.	Very poor.	Good	Good	Very poor.
BcB----------Baxterville	Good	Good	Good	Good	Good	---	Poor	Very poor.	Good	Good	Very poor.
Bd----------Bibb	Poor	Fair	Fair	Fair	Fair	---	Good	Good	Fair	Fair	Good
BeA, BeB----------Benndale	Good	Good	Good	Good	Good	---	Poor	Very poor.	Good	Good	Very poor.
BeC----------Benndale	Fair	Good	Good	Good	Good	---	Very poor.	Very poor.	Good	Good	Very poor.
CaD----------Cadeville	Fair	Good	Good	Poor	Good	---	Very poor.	Very poor.	Good	Good	Very poor.
DC*:											
Dorovan	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	---	Good	Good	Very poor.	Very poor.	Good
Croatan	Very poor.	Poor	Poor	Poor	Poor	---	Good	Good	Poor	Poor	Good
EaA----------Escambia	Fair	Good	Good	Good	Good	---	Fair	Fair	Good	Good	Fair
FaA----------Falkner	Good	Good	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
FaB----------Falkner	Good	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
LaA----------Latonia	Good	Good	Good	Good	Poor	---	Very poor.	Very poor.	Good	Good	Very poor.
LuA----------Lucedale	Good	Good	Good	Good	Good	---	Very poor.	Very poor.	Good	Good	Very poor.
MaA----------Malbis	Good	Good	Good	Good	Good	---	Poor	Very poor.	Good	Good	Very poor.
MaB----------Malbis	Good	Good	Good	Good	Good	---	Poor	Very poor.	Good	Good	Very poor.
MaC----------Malbis	Fair	Good	Good	Good	Good	---	Poor	Very poor.	Good	Good	Very poor.
MD*:											
Malbis	Good	Good	Good	Good	Good	---	Poor	Very poor.	Good	Good	Very poor.

See footnote at end of table.

TABLE 10.--WILDLIFE HABITAT--Continued

Soil name and map symbol	Potential for habitat elements								Potential as habitat		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
MD*: Saucier	Good	Good	Good	Good	Good	---	Poor	Poor	Good	Good	Poor
ME*: Malbis	Good	Good	Good	Good	Good	---	Poor	Very poor.	Good	Good	Very poor.
Susquehanna	Fair	Good	Good	Good	Good	---	Very poor.	Very poor.	Good	Good	Very poor.
Saucier	Good	Good	Good	Good	Good	---	Poor	Poor	Good	Good	Poor
MnB--McLaurin	Good	Good	Good	Good	Good	---	Poor	Very poor.	Good	Good	Very poor.
MnC--McLaurin	Fair	Good	Good	Good	Good	---	Poor	Very poor.	Good	Good	Very poor.
MS*: McLaurin	Fair	Good	Good	Good	Good	---	Poor	Very poor.	Good	Good	Very poor.
Smithdale	Fair	Good	Good	Good	Good	---	Very poor.	Very poor.	Good	Good	Very poor.
NJ*: Nugent	Poor	Poor	Fair	Poor	Poor	---	Very poor.	Very poor.	Poor	Poor	Very poor.
Jena	Poor	Fair	Fair	Good	Good	---	Poor	Poor	Fair	Good	Poor
Pa*. Pits											
PoA, PoB, PoC--Poarch	Good	Good	Good	Good	Good	---	Poor	Poor	Good	Good	Poor
RuA, RuB--Ruston	Good	Good	Good	---	Good	---	Poor	Very poor.	Good	Good	Very poor.
RuC--Ruston	Fair	Good	Good	---	Good	---	Very poor.	Very poor.	Good	Good	Very poor.
SaA, SaB--Saucier	Good	Good	Good	Good	Good	---	Poor	Poor	Good	Good	Poor
SmE--Smithdale	Poor	Fair	Good	Good	Good	---	Very poor.	Very poor.	Fair	Good	Very poor.
SN*: Smithdale	Fair	Good	Good	Good	Good	---	Very poor.	Very poor.	Good	Good	Very poor.
Troup	Poor	Fair	Fair	Poor	Poor	---	Very poor.	Very poor.	Fair	Poor	Very poor.
Sp, SR*, ST*--Smithton	Poor	Fair	Fair	Fair	Fair	---	Good	Fair	Fair	Fair	Fair
SuB, SuD--Susquehanna	Fair	Good	Good	Good	Good	---	Very poor.	Very poor.	Good	Good	Very poor.
TaB--Troup	Poor	Fair	Fair	Poor	Poor	---	Very poor.	Very poor.	Fair	Poor	Very poor.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 11.--BUILDING SITE DEVELOPMENT

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not rated]

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
AR*:						
Arkabutla	Severe: wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Severe: low strength, flooding.	Severe: flooding.
Rosebloom	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: low strength, flooding.	Severe: wetness, flooding.
BaA, BaB----- Basin	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness, droughty.
BbA----- Bassfield	Severe: cutbanks cave.	Slight-----	Slight-----	Slight-----	Slight-----	Slight.
BcB----- Baxterville	Moderate: wetness.	Moderate: shrink-swell.	Moderate: wetness, shrink-swell.	Slight-----	Moderate: shrink-swell.	Slight.
Bd----- Bibb	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: wetness, flooding.
BeA, BeB----- Benndale	Slight-----	Slight-----	Slight-----	Slight-----	Slight-----	Slight.
BeC----- Benndale	Slight-----	Slight-----	Slight-----	Moderate: slope.	Slight-----	Slight.
CaD----- Cadeville	Moderate: too clayey, slope.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell, slope.	Severe: low strength, shrink-swell.	Moderate: slope.
DC*:						
Dorovan	Severe: excess humus, ponding.	Severe: flooding, ponding, low strength.	Severe: flooding, ponding.	Severe: flooding, ponding, low strength.	Severe: ponding, flooding.	Severe: ponding, flooding, excess humus.
Croatan	Severe: excess humus, wetness.	Severe: low strength, flooding, wetness.	Severe: low strength, flooding, wetness.	Severe: low strength, flooding, wetness.	Severe: wetness, low strength.	Severe: wetness, excess humus.
EaA----- Escambia	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.
FaA, FaB----- Falkner	Severe: wetness.	Severe: shrink-swell.	Severe: wetness, shrink-swell.	Severe: shrink-swell.	Severe: low strength, shrink-swell.	Moderate: wetness.
LaA----- Latonia	Severe: cutbanks cave.	Slight-----	Slight-----	Slight-----	Slight-----	Moderate: droughty.
LuA----- Lucedale	Slight-----	Slight-----	Slight-----	Slight-----	Slight-----	Slight.
MaA, MaB----- Malbis	Moderate: wetness.	Slight-----	Moderate: wetness.	Slight-----	Moderate: low strength.	Slight.
MaC----- Malbis	Moderate: wetness.	Slight-----	Moderate: wetness.	Moderate: slope.	Moderate: low strength.	Slight.

See footnote at end of table.

TABLE 11.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
MD*:						
Malbis	Moderate: wetness.	Slight	Moderate: wetness.	Moderate: slope.	Moderate: low strength.	Slight.
Saucier	Moderate: wetness.	Slight	Moderate: wetness.	Moderate: slope.	Slight	Slight.
ME*:						
Malbis	Moderate: wetness.	Slight	Moderate: wetness.	Moderate: slope.	Moderate: low strength.	Slight.
Susquehanna	Moderate: too clayey.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: low strength, shrink-swell.	Slight.
Saucier	Moderate: wetness.	Slight	Moderate: wetness.	Moderate: slope.	Slight	Slight.
MnB McLaurin	Severe: cutbanks cave.	Slight	Slight	Slight	Slight	Slight.
MnC McLaurin	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Slight	Slight.
MS*:						
McLaurin	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Slight	Slight.
Smithdale	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
NJ*:						
Nugent	Severe: cutbanks cave.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.
Jena	Severe: cutbanks cave.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.
Pa*. Pits						
PoA, PoB Poarch	Moderate: wetness.	Slight	Moderate: wetness.	Slight	Slight	Slight.
PoC Poarch	Moderate: wetness.	Slight	Moderate: wetness.	Moderate: slope.	Slight	Slight.
RuA, RuB Ruston	Slight	Slight	Slight	Slight	Moderate: low strength.	Slight.
RuC Ruston	Slight	Slight	Slight	Moderate: slope.	Moderate: low strength.	Slight.
SaA, SaB Saucier	Moderate: wetness.	Slight	Moderate: wetness.	Slight	Slight	Slight.
SmE Smithdale	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
SN*:						
Smithdale	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Troup	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: droughty, slope.

See footnote at end of table.

TABLE 11.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
Sp, SR*---------- Smithton	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: wetness.
ST*---------- Smithton	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: flooding, wetness.
SuB, SuD---------- Susquehanna	Moderate: too clayey.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: low strength, shrink-swell.	Slight.
TaB---------- Troup	Severe: cutbanks cave.	Slight---------	Slight---------	Moderate: slope.	Slight---------	Severe: droughty.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 12.--SANITARY FACILITIES

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," "good," "fair," and other terms. Absence of an entry indicates that the soil was not rated]

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
AR*:					
Arkabutla	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Fair: too clayey, wetness.
Rosebloom	Severe: flooding, wetness, percs slowly.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Poor: wetness.
BaA, BaB Basin	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Poor: wetness.
BbA Bassfield	Severe: poor filter.	Severe: seepage.	Severe: seepage.	Severe: seepage.	Fair: thin layer.
BcB Baxterville	Severe: wetness, percs slowly.	Severe: wetness.	Moderate: wetness, too clayey.	Slight	Fair: too clayey, wetness.
Bd Bibb	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Poor: wetness.
BeA Benndale	Slight	Moderate: seepage.	Severe: seepage.	Slight	Good.
BeB, BeC Benndale	Slight	Moderate: seepage, slope.	Severe: seepage.	Slight	Good.
CaD Cadeville	Severe: percs slowly.	Severe: slope.	Severe: too clayey.	Moderate: slope.	Poor: too clayey, hard to pack.
DC*:					
Dorovan	Severe: flooding, ponding, wetness.	Severe: flooding, excess humus, ponding.	Severe: flooding, seepage, ponding.	Severe: flooding, ponding.	Poor: ponding, excess humus.
Croatan	Severe: flooding, ponding.	Severe: flooding, excess humus, wetness.	Severe: wetness.	Severe: wetness.	Poor: wetness.
EaA Escambia	Severe: wetness, percs slowly.	Moderate: seepage.	Severe: wetness.	Severe: wetness.	Fair: wetness.
FaA Falkner	Severe: wetness, percs slowly.	Slight	Severe: wetness, too clayey.	Moderate: wetness.	Poor: too clayey, hard to pack.
FaB Falkner	Severe: wetness, percs slowly.	Moderate: slope.	Severe: wetness, too clayey.	Moderate: wetness.	Poor: too clayey, hard to pack.
LaA Latonia	Severe: poor filter.	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: seepage, too sandy.

See footnote at end of table.

TABLE 12.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
LuA---------- Lucedale	Slight----------	Moderate: seepage.	Moderate: too clayey.	Slight----------	Fair: too clayey.
MaA---------- Malbis	Severe: wetness, percs slowly.	Slight----------	Moderate: wetness.	Moderate: wetness.	Fair: wetness.
MaB, MaC---------- Malbis	Severe: wetness, percs slowly.	Moderate: slope.	Moderate: wetness.	Moderate: wetness.	Fair: wetness.
MD*:					
Malbis----------	Severe: wetness, percs slowly.	Moderate: slope.	Moderate: wetness.	Moderate: wetness.	Fair: wetness.
Saucier----------	Severe: wetness, percs slowly.	Severe: wetness.	Moderate: wetness, too clayey.	Moderate: wetness.	Fair: too clayey, wetness.
ME*:					
Malbis----------	Severe: wetness, percs slowly.	Moderate: slope.	Moderate: wetness.	Moderate: wetness.	Fair: wetness.
Susquehanna--------	Severe: percs slowly.	Moderate: slope.	Severe: too clayey.	Slight----------	Poor: too clayey, hard to pack.
Saucier----------	Severe: wetness, percs slowly.	Severe: wetness.	Moderate: wetness, too clayey.	Moderate: wetness.	Fair: too clayey, wetness.
MnB, MnC---------- McLaurin	Slight----------	Severe: seepage.	Slight----------	Severe: seepage.	Good.
MS*:					
McLaurin----------	Slight----------	Severe: seepage.	Slight----------	Severe: seepage.	Good.
Smithdale----------	Moderate: slope.	Severe: seepage, slope.	Severe: seepage.	Severe: seepage.	Fair: too clayey, slope.
NJ*:					
Nugent----------	Severe: flooding, wetness.	Severe: seepage, flooding.	Severe: flooding, seepage, wetness.	Severe: flooding, seepage.	Poor: seepage.
Jena----------	Severe: flooding.	Severe: seepage, flooding.	Severe: flooding, seepage.	Severe: flooding, seepage.	Fair: too sandy.
Pa*. Pits					
PoA---------- Poarch	Severe: wetness, percs slowly.	Moderate: seepage.	Severe: wetness.	Moderate: wetness.	Fair: wetness.
PoB, PoC---------- Poarch	Severe: wetness, percs slowly.	Moderate: slope, seepage.	Severe: wetness.	Moderate: wetness.	Fair: wetness.
RuA---------- Ruston	Slight----------	Moderate: seepage.	Moderate: too clayey.	Slight----------	Fair: too clayey.

See footnote at end of table.

TABLE 12.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
RuB, RuC---------- Ruston	Slight----------	Moderate: seepage, slope.	Moderate: too clayey.	Slight----------	Fair: too clayey.
SaA, SaB---------- Saucier	Severe: wetness, percs slowly.	Severe: wetness.	Moderate: wetness, too clayey.	Moderate: wetness.	Fair: too clayey, wetness.
SmE---------- Smithdale	Severe: slope.	Severe: seepage, slope.	Severe: seepage, slope.	Severe: seepage, slope.	Poor: slope.
SN*: Smithdale----------	Severe: slope.	Severe: seepage, slope.	Severe: seepage, slope.	Severe: seepage, slope.	Fair: too clayey, slope.
Troup----------	Severe: poor filter.	Severe: seepage, slope.	Moderate: slope, too sandy.	Severe: seepage.	Fair: too sandy, slope.
Sp, SR*, ST*-------- Smithton	Severe: flooding, wetness, percs slowly.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Poor: wetness.
SuB---------- Susquehanna	Severe: percs slowly.	Moderate: slope.	Severe: too clayey.	Slight----------	Poor: too clayey, hard to pack.
SuD---------- Susquehanna	Severe: percs slowly.	Severe: slope.	Severe: too clayey.	Slight----------	Poor: too clayey, hard to pack.
TaB---------- Troup	Slight----------	Severe: seepage.	Severe: too sandy.	Severe: seepage.	Poor: too sandy.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 13.--CONSTRUCTION MATERIALS

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "good," "fair," "poor," "probable," and "improbable." Absence of an entry indicates that the soil was not rated]

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
AR*:				
Arkabutla	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Good.
Rosebloom	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.
BaA, BaB Basin	Fair: wetness, low strength.	Improbable: excess fines.	Improbable: excess fines.	Good.
BbA Bassfield	Good	Probable	Improbable: too sandy.	Fair: small stones.
BcB Baxterville	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Good.
Bd Bibb	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.
BeA, BeB, BeC Benndale	Good	Improbable: excess fines.	Improbable: excess fines.	Good.
CaD Cadeville	Poor: low strength, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Poor: thin layer.
DC*:				
Dorovan	Poor: wetness.	Probable	Improbable: too sandy.	Poor: excess humus, wetness.
Croatan	Poor: wetness, low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: excess humus, wetness.
EaA Escambia	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Good.
FaA, FaB Falkner	Poor: low strength, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Fair: thin layer.
LaA Latonia	Good	Probable	Improbable: too sandy.	Fair: small stones, thin layer.
LuA Lucedale	Good	Improbable: excess fines.	Improbable: excess fines.	Good.
MaA, MaB, MaC Malbis	Fair: low strength, wetness.	Improbable: excess fines.	Improbable: excess fines.	Good.
MD*:				
Malbis	Fair: low strength, wetness.	Improbable: excess fines.	Improbable: excess fines.	Good.
Saucier	Fair: thin layer, wetness.	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones.

See footnote at end of table.

TABLE 13.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
ME*:				
Malbis	Fair: low strength, wetness.	Improbable: excess fines.	Improbable: excess fines.	Good.
Susquehanna	Poor: low strength, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Poor: thin layer.
Saucier	Fair: thin layer, wetness.	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones.
MnB, MnC--- McLaurin	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones.
MS*:				
McLaurin	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones.
Smithdale	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones, slope.
NJ*:				
Nugent	Good	Probable	Improbable: too sandy.	Fair: small stones.
Jena	Good	Improbable: excess fines.	Improbable: excess fines.	Good.
Pa*. Pits				
PoA, PoB, PoC--- Poarch	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Good.
RuA, RuB, RuC--- Ruston	Fair: low strength.	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones.
SaA, SaB--- Saucier	Fair: thin layer, wetness.	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones.
SmE--- Smithdale	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope.
SN*:				
Smithdale	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones, slope.
Troup	Good	Probable	Improbable: too sandy.	Fair: too sandy, slope.
Sp, SR*, ST*--- Smithton	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.
SuB, SuD--- Susquehanna	Poor: low strength, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Poor: thin layer.
TaB--- Troup	Good	Probable	Improbable: too sandy.	Poor: too sandy.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 14.--WATER MANAGEMENT

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not evaluated]

Soil name and map symbol	Limitations for--			Features affecting--		
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Terraces and diversions	Grassed waterways
AR*:						
Arkabutla	Moderate: seepage.	Severe: wetness.	Moderate: slow refill.	Flooding	Erodes easily, wetness.	Erodes easily.
Rosebloom	Slight	Severe: wetness.	Severe: slow refill.	Percs slowly, flooding.	Erodes easily, wetness, percs slowly.	Wetness, erodes easily, percs slowly.
BaA---- Basin	Moderate: seepage.	Severe: piping.	Severe: no water.	Percs slowly	Wetness, percs slowly.	Wetness, droughty, percs slowly.
BaB---- Basin	Moderate: seepage.	Severe: piping.	Severe: no water.	Percs slowly, slope.	Wetness, percs slowly.	Wetness, droughty, percs slowly.
BbA---- Bassfield	Severe: seepage.	Severe: piping.	Severe: no water.	Deep to water	Favorable	Favorable.
BcB---- Baxterville	Slight	Slight	Severe: no water.	Deep to water	Erodes easily	Erodes easily.
Bd---- Bibb	Moderate: seepage.	Severe: piping, wetness.	Moderate: slow refill.	Flooding	Wetness	Wetness.
BeA, BeB, BeC---- Benndale	Moderate: seepage.	Severe: piping.	Severe: no water.	Deep to water	Favorable	Favorable.
CaD---- Cadeville	Slight	Moderate: piping, hard to pack.	Severe: no water.	Deep to water	Slope, erodes easily, percs slowly.	Slope, erodes easily, percs slowly.
DC*:						
Dorovan	Moderate: seepage.	Severe: excess humus, ponding.	Severe: cutbanks cave.	Ponding, flooding, subsides.	Ponding	Wetness.
Croatan	Slight	Severe: excess humus, wetness, ponding, seepage.	Slight	Ponding, subsides.	Wetness, percs slowly, ponding.	Wetness, percs slowly.
EaA---- Escambia	Moderate: seepage.	Severe: wetness.	Severe: slow refill.	Percs slowly	Wetness, percs slowly.	Percs slowly.
FaA---- Falkner	Slight	Severe: hard to pack.	Severe: no water.	Percs slowly	Erodes easily, wetness, percs slowly.	Erodes easily, percs slowly.
FaB---- Falkner	Slight	Severe: hard to pack.	Severe: no water.	Percs slowly, slope.	Erodes easily, wetness, percs slowly.	Erodes easily, percs slowly.
LaA---- Latonia	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Deep to water	Too sandy	Droughty.
LuA---- Lucedale	Moderate: seepage.	Severe: piping.	Severe: no water.	Deep to water	Favorable	Favorable.
MaA---- Malbis	Moderate: seepage.	Severe: piping.	Severe: no water.	Deep to water	Favorable	Favorable.

See footnote at end of table.

TABLE 14.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for--			Features affecting--		
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Terraces and diversions	Grassed waterways
MaB, MaC---------- Malbis	Moderate: seepage.	Severe: piping.	Severe: no water.	Deep to water	Favorable------	Favorable.
MD*: Malbis----------	Moderate: seepage.	Severe: piping.	Severe: no water.	Deep to water	Favorable------	Favorable.
Saucier----------	Moderate: seepage.	Severe: piping.	Severe: no water.	Slope----------	Wetness, percs slowly.	Favorable.
ME*: Malbis----------	Moderate: seepage.	Severe: piping.	Severe: no water.	Deep to water	Favorable------	Favorable.
Susquehanna------	Slight---------	Severe: hard to pack.	Severe: no water.	Deep to water	Percs slowly---	Percs slowly.
Saucier----------	Moderate: seepage.	Severe: piping.	Severe: no water.	Slope----------	Wetness, percs slowly.	Favorable.
MnB, MnC---------- McLaurin	Severe: seepage.	Severe: piping.	Severe: no water.	Deep to water	Favorable------	Favorable.
MS*: McLaurin---------	Severe: seepage.	Severe: piping.	Severe: no water.	Deep to water	Favorable------	Favorable.
Smithdale--------	Severe: seepage.	Severe: piping.	Severe: no water.	Deep to water	Slope----------	Slope.
NJ*: Nugent----------	Severe: seepage.	Severe: seepage, piping.	Severe: cutbanks cave.	Deep to water	Too sandy------	Droughty.
Jena----------	Severe: seepage.	Severe: piping.	Severe: no water.	Deep to water	Erodes easily	Erodes easily, droughty.
Pa*. Pits						
PoA---------- Poarch	Moderate: seepage.	Severe: piping.	Severe: slow refill.	Favorable------	Wetness--------	Favorable.
PoB, PoC---------- Poarch	Moderate: seepage.	Severe: piping.	Severe: slow refill.	Slope----------	Wetness--------	Favorable.
RuA, RuB---------- Ruston	Moderate: seepage.	Severe: thin layer.	Severe: no water.	Deep to water	Favorable------	Favorable.
RuC---------- Ruston	Moderate: seepage.	Severe: thin layer.	Severe: no water.	Deep to water	Favorable------	Favorable.
SaA, SaB---------- Saucier	Moderate: seepage.	Severe: piping.	Severe: no water.	Slope----------	Wetness, percs slowly.	Favorable.
SmE---------- Smithdale	Severe: seepage.	Severe: piping.	Severe: no water.	Deep to water	Slope----------	Slope.
SN*: Smithdale--------	Severe: seepage.	Severe: piping.	Severe: no water.	Deep to water	Slope----------	Slope.
Troup----------	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Deep to water	Slope----------	Slope, droughty.

See footnote at end of table.

TABLE 14.--WATER MANAGEMENT--Continued

Soil name and map symbol	Limitations for--			Features affecting--		
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Terraces and diversions	Grassed waterways
Sp, SR*, ST*------- Smithton	Slight----------	Severe: piping, wetness.	Severe: no water.	Flooding--------	Wetness---------	Wetness.
SuB, SuD---------- Susquehanna	Slight----------	Severe: hard to pack.	Severe: no water.	Deep to water	Percs slowly----	Percs slowly.
TaB---------- Troup	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Deep to water	Too sandy------	Droughty.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 15.--ENGINEERING INDEX PROPERTIES

[The symbol < means less than; > means more than. Absence of an entry indicates that data were not estimated]

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
AR*:											
Arkabutla	0-6	Silt loam	CL, CL-ML	A-4, A-6	0	100	100	85-100	60-95	25-35	7-15
	6-62	Silty clay loam, loam, silt loam.	CL	A-6, A-7	0	100	100	85-100	70-90	30-45	12-25
Rosebloom	0-5	Silt loam	CL	A-4, A-6	0	100	100	90-100	80-95	28-40	9-20
	5-62	Silty clay loam, silt loam.	CL	A-4, A-6	0	100	100	90-100	80-95	28-40	9-20
BaA, BaB	0-6	Loam	SM, ML	A-4	0	100	100	85-100	40-60	---	NP
Basin	6-18	Loam, fine sandy loam.	SM, ML, CL-ML, SM-SC	A-4	0	100	100	70-95	45-65	<25	NP-7
	18-65	Loam, sandy loam	CL-ML, SM-SC, CL, SC	A-4, A-6	0	100	100	65-95	36-70	25-35	5-12
BbA	0-8	Sandy loam	SM, ML	A-2, A-4	0	90-100	85-100	55-96	25-58	<20	NP-3
Bassfield	8-41	Sandy loam, loam	SM, SC, SM-SC	A-2, A-4	0	90-100	85-100	60-92	30-50	<30	NP-10
	41-62	Loamy sand, sand	SP-SM, SM	A-2, A-3	0	90-100	80-100	65-85	5-20	<20	NP-3
BcB	0-12	Fine sandy loam	SM, SC, SM-SC	A-4	0	100	100	70-95	40-50	<30	NP-10
Baxterville	12-35	Loam, sandy clay loam.	CL	A-6	0	100	100	80-100	55-75	28-36	12-18
	35-62	Clay loam, sandy clay loam, loam.	CL	A-6, A-7	0	100	100	85-100	60-80	32-48	12-25
Bd	0-48	Sandy loam	SM, SM-SC, ML, CL-ML	A-2, A-4	0-5	95-100	90-100	60-90	30-60	<25	NP-7
Bibb	48-65	Sandy loam, loam, silt loam.	SM, SM-SC, ML, CL-ML	A-2, A-4	0-10	60-100	50-100	40-100	30-90	<30	NP-7
BeA, BeB, BeC	0-6	Sandy loam	ML, SM, CL-ML, SM-SC	A-4, A-2	0	100	100	60-96	30-55	<25	NP-7
Benndale	6-35	Loam, sandy loam, fine sandy loam.	ML, SM, CL-ML, SM-SC	A-4	0	100	100	70-95	40-75	18-25	3-7
	35-70	Loam, sandy loam, sandy clay loam.	ML, SM, CL-ML, SM-SC	A-4, A-6	0	100	100	70-98	40-75	18-38	3-15
CaD	0-8	Fine sandy loam	ML, CL-ML	A-4	0	100	100	95-100	55-65	<28	NP-7
Cadeville	8-36	Silty clay, clay	CH, CL	A-7	0	100	100	95-100	80-95	41-60	22-35
	36-70	Clay, silty clay, silty clay loam.	CH, CL	A-7, A-6	0	100	100	95-100	75-95	30-55	12-30
DC*:											
Dorovan	0-3	Mucky peat	Pt	---	0	---	---	---	---	---	---
	3-56	Muck	Pt	---	0	---	---	---	---	---	---
	56-65	Sand, loamy sand, loam.	SP-SM, SM-SC, SM	A-1, A-3, A-4, A-2	0	100	100	5-70	5-49	<25	NP-7

See footnote at end of table.

TABLE 15.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Fragments > 3 inches	Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
DC*:											
Croatan	0-39	Sapric material	Pt	---	---	---	---	---	---	---	---
	39-62	Sandy loam, fine sandy loam, mucky sandy loam.	SM, SC, SM-SC	A-2, A-4	0	100	100	60-85	30-49	<30	NP-10
EaA	0-12	Fine sandy loam	SM, SM-SC, ML, CL-ML	A-4	0	95-100	95-100	70-90	40-65	<25	NP-7
Escambia	12-26	Fine sandy loam, loam, silt loam.	SC, SM-SC, CL, CL-ML	A-4, A-6	0	95-100	95-100	70-95	40-75	20-30	4-15
	26-65	Fine sandy loam, loam, silt loam.	SC, CL, SM-SC	A-4, A-6	0	87-95	87-95	60-95	35-80	20-35	4-20
FaA, FaB	0-7	Silt loam	CL-ML, CL	A-4	0	100	100	95-100	90-100	20-30	5-10
Falkner	7-18	Silt loam, silty clay loam.	CL	A-6, A-7	0	100	100	95-100	85-95	30-45	15-30
	18-30	Silty clay, clay, silty clay loam.	CH	A-7	0	100	100	90-100	85-95	51-75	30-50
	30-68	Silty clay, clay, silty clay loam.	CH	A-7	0	100	100	90-100	85-95	51-75	30-50
LaA	0-5	Fine sandy loam	SM	A-2, A-4	0	90-100	85-100	60-75	30-50	---	NP
Latonia	5-36	Sandy loam, loam, fine sandy loam.	SM	A-2, A-4	0	90-100	85-100	60-85	30-50	---	NP
	36-70	Sand, loamy sand	SM, SP-SM	A-2	0	90-100	85-100	50-75	10-30	---	NP
LuA	0-7	Fine sandy loam	SM, ML	A-2, A-4	0	100	95-100	80-95	25-65	<20	NP-3
Lucedale	7-80	Sandy clay loam, clay loam, loam.	CL-ML, SC, CL, SM-SC	A-4, A-6, A-2	0	95-100	95-100	80-100	30-75	25-40	4-15
MaA, MaB, MaC	0-11	Fine sandy loam	SM, ML	A-4	0	100	97-100	92-97	40-62	<20	NP-3
Malbis	11-33	Loam, sandy clay loam, clay loam.	CL-ML, CL	A-4	0	99-100	95-100	91-100	55-62	25-35	5-10
	33-46	Sandy clay loam, clay loam.	ML	A-4, A-5, A-6, A-7	0	98-100	96-100	90-100	56-80	30-49	4-15
	46-70	Sandy clay loam, clay loam.	ML, CL	A-4, A-5, A-6, A-7	0	98-100	96-100	90-100	56-80	30-49	4-15
MD*:											
Malbis	0-11	Fine sandy loam	SM, ML	A-4	0	100	97-100	92-97	40-62	<30	NP-5
	11-33	Loam, sandy clay loam, clay loam.	CL-ML, CL	A-4, A-6	0	99-100	95-100	91-100	55-70	25-35	5-11
	33-46	Sandy clay loam, clay loam.	ML, CL	A-4, A-5, A-6, A-7	0	98-100	96-100	90-100	56-80	29-49	4-15
	46-70	Sandy clay loam, clay loam.	ML, CL	A-4, A-5, A-6, A-7	0	98-100	96-100	90-100	56-80	30-49	4-15
Saucier	0-6	Sandy loam	SM, ML, SM-SC	A-4	0	90-100	85-100	70-86	40-55	<20	NP-4
	6-38	Loam, clay loam, sandy clay loam.	CL, SM-SC, SC, CL-ML	A-6, A-4	0	80-100	78-95	75-95	40-75	25-38	5-15
	38-46	Silty clay loam, clay loam, sandy clay loam.	CL, SM-SC, SC, CL-ML	A-7, A-6, A-4	0	80-100	75-100	70-100	40-95	28-48	6-25
	46-64	Clay, silty clay, clay loam.	CH, CL	A-7	0	100	90-100	90-100	80-90	47-60	22-34
ME*:											
Malbis	0-11	Fine sandy loam	SM, ML	A-4	0	100	97-100	92-97	40-62	<30	NP-5
	11-33	Loam, sandy clay loam, clay loam.	CL-ML, CL	A-4, A-6	0	99-100	95-100	91-100	55-70	25-35	5-11
	33-46	Sandy clay loam, clay loam.	ML, CL	A-4, A-5, A-6, A-7	0	98-100	96-100	90-100	56-80	29-49	4-15
	46-70	Sandy clay loam, clay loam.	ML, CL	A-4, A-5, A-6, A-7	0	98-100	96-100	90-100	56-80	30-49	4-15

See footnote at end of table.

TABLE 15.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
ME*:											
Susquehanna-----	0-6	Loam----------	CL-ML, CL	A-4, A-6	0	100	100	85-100	70-95	20-35	5-15
	6-80	Clay, silty clay loam, silty clay.	CH	A-7	0	100	100	88-100	80-98	50-90	28-56
Saucier---------	0-6	Sandy loam-------	SM, ML, SM-SC	A-4	0	90-100	85-100	70-86	40-55	<20	NP-4
	6-38	Loam, clay loam, sandy clay loam.	CL, SM-SC, SC, CL-ML	A-6, A-4	0	80-100	78-95	75-95	40-75	25-38	5-15
	38-46	Silty clay loam, clay loam, sandy clay loam.	CL, SM-SC, SC, CL-ML	A-7, A-6, A-4	0	80-100	75-100	70-100	40-95	28-48	6-25
	46-64	Clay, silty clay, clay loam.	CH, CL	A-7	0	100	90-100	90-100	80-90	47-60	22-34
MnB, MnC---------	0-19	Fine sandy loam	SM, SM-SC	A-4	0	90-100	90-100	70-85	36-45	<20	NP-4
McLaurin	19-48	Sandy loam, fine sandy loam.	SM, SC, SM-SC	A-4	0	90-100	90-100	85-95	36-45	<30	NP-10
	48-60	Loamy fine sand	SM, SM-SC	A-2	0	90-100	90-100	50-75	15-30	<20	NP-4
	60-80	Sandy loam, sandy clay loam, loam.	SC, ML, CL, SM	A-4, A-6	0	90-100	90-100	70-80	36-55	30-40	6-15
MS*:											
McLaurin---------	0-19	Sandy loam-------	SM, SM-SC	A-4	0	90-100	90-100	70-85	36-45	<20	NP-4
	19-48	Sandy loam, fine sandy loam.	SM, SC, SM-SC	A-4	0	90-100	90-100	85-95	36-45	<30	NP-10
	48-60	Loamy fine sand	SM, SM-SC	A-2	0	90-100	90-100	50-75	15-30	<20	NP-4
	60-80	Sandy loam, sandy clay loam, loam.	SC, ML, CL, SM	A-4, A-6	0	90-100	90-100	70-80	36-55	30-40	6-15
Smithdale-------	0-5	Sandy loam-------	SM, SM-SC	A-4	0	100	85-100	60-80	36-49	<20	NP-5
	5-38	Clay loam, sandy clay loam, loam.	SM-SC, SC, CL, CL-ML	A-6, A-4	0	100	85-100	80-95	45-75	23-38	7-15
	38-80	Loam, sandy loam	SM, ML, CL, SC	A-4	0	100	85-100	65-80	36-70	<30	NP-10
NJ*:											
Nugent----------	0-3	Fine sandy loam	SM, ML	A-4	0	85-100	75-100	70-100	40-60	<20	NP-3
	3-65	Stratified loamy sand to fine sandy loam.	SM, SP-SM	A-2	0	85-100	75-100	60-100	10-30	<20	NP-3
Jena------------	0-3	Silt loam--------	ML, CL-ML	A-4	0	100	100	85-95	60-75	<22	NP-4
	3-36	Silt loam, very fine sandy loam, loam.	SM, ML, CL-ML, SM-SC	A-4, A-2	0	100	100	55-90	25-70	<22	NP-4
	36-65	Fine sandy loam, sandy loam, loamy fine sand.	SM	A-2, A-4	0	100	100	50-80	20-50	<22	NP
Pa*. Pits											
PoA, PoB, PoC----	0-6	Loam----------	ML, CL-ML	A-4	0	95-100	95-100	80-95	51-75	<25	NP-5
Poarch	6-26	Loam, fine sandy loam, silt loam.	ML, CL-ML, CL	A-4	0	95-100	95-100	85-95	51-75	<30	NP-10
	26-64	Loam, fine sandy loam, silt loam.	ML, CL, CL-ML	A-4	0	85-100	85-100	85-95	51-75	20-30	2-10
RuA, RuB, RuC----	0-12	Fine sandy loam	SM, ML	A-4, A-2	0	85-100	78-100	65-100	30-75	<20	NP-3
Ruston	12-32	Sandy clay loam, loam, clay loam.	SC, CL	A-6	0	85-100	78-100	70-100	36-75	30-40	11-20
	32-42	Fine sandy loam, sandy loam, loamy sand.	SM, ML, CL-ML, SM-SC	A-4, A-2	0	85-100	78-100	65-100	30-75	<27	NP-7
	42-75	Sandy clay loam, loam, clay loam.	SC, CL	A-6	0	85-100	78-100	70-100	36-75	30-42	11-20

See footnote at end of table.

TABLE 15.--ENGINEERING INDEX PROPERTIES--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
SaA, SaB----------	0-6	Loam----------	ML, CL-ML, CL	A-4	0	90-100	85-100	85-90	60-75	20-34	2-10
Saucier	6-38	Loam, clay loam, sandy clay loam.	CL, SM-SC, SC, CL-ML	A-6, A-4	0	80-100	78-95	75-95	40-75	25-38	5-15
	38-64	Clay, silty clay, clay loam.	CH, CL	A-7	0	100	90-100	90-100	80-90	47-60	22-34
SmE----------	0-5	Sandy loam-------	SM, SM-SC	A-4	0	100	85-100	60-80	36-49	<20	NP-5
Smithdale	5-38	Clay loam, sandy clay loam, loam.	SM-SC, SC, CL, CL-ML	A-6, A-4	0	100	85-100	80-95	45-75	23-38	7-15
	38-80	Loam, sandy loam	SM, ML, CL, SC	A-4	0	100	85-100	65-80	36-70	<30	NP-10
SN*:											
Smithdale-------	0-5	Fine sandy loam	SM, SM-SC	A-4	0	100	85-100	60-80	36-49	<20	NP-5
	5-38	Clay loam, sandy clay loam, loam.	SM-SC, SC, CL, CL-ML	A-6, A-4	0	100	85-100	80-95	45-75	23-38	7-15
	38-80	Loam, sandy loam	SM, ML, CL, SC	A-4	0	100	85-100	65-80	36-70	<30	NP-10
Troup----------	0-56	Loamy fine sand	SM	A-2, A-4	0	100	100	65-90	15-40	---	NP
	56-80	Sandy clay loam, sandy loam.	SC, SM-SC, CL-ML, CL	A-4, A-2	0	95-100	95-100	70-90	24-55	19-30	4-10
Sp, SR*, ST*-----	0-12	Sandy loam-------	ML, SM	A-2, A-4	0	95-100	95-100	60-95	30-65	---	NP
Smithton	12-38	Fine sandy loam, loam.	ML, CL-ML	A-4	0	95-100	95-100	85-95	55-80	15-25	2-7
	38-72	Fine sandy loam, loam, silt loam.	CL-ML, CL	A-4, A-6	0	95-100	95-100	90-100	60-90	20-30	5-15
SuB, SuD----------	0-6	Loam----------	CL-ML, CL	A-4, A-6	0	100	100	85-100	70-95	20-35	5-15
Susquehanna	6-80	Clay, silty clay loam, silty clay.	CH	A-7	0	100	100	88-100	80-98	50-90	28-56
TaB----------	0-56	Sand----------	SM, SP-SM	A-2	0	100	100	50-75	10-30	---	NP
Troup	56-80	Sandy clay loam, sandy loam.	SC, SM-SC, CL-ML, CL	A-4, A-2	0	95-100	95-100	70-90	24-55	19-30	4-10

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 16.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS

[The symbol < means less than; > means more than. Entries under "Erosion factors--T" apply to the entire profile. Entries under "Organic matter" apply only to the surface layer. Absence of an entry indicates that data were not available or were not estimated]

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors		Organic matter
								K	T	
	In	Pct	G/cm³	In/hr	In/in	pH				Pct
AR*:										
Arkabutla	0-6	5-25	1.40-1.50	0.6-2.0	0.20-0.22	4.5-5.5	Low	0.37	5	1-3
	6-62	20-35	1.45-1.55	0.6-2.0	0.18-0.21	4.5-5.5	Low	0.32		
Rosebloom	0-62	18-30	1.40-1.55	0.06-0.2	0.20-0.24	4.5-5.5	Moderate	0.37	3	1-3
BaA, BaB	0-6	3-10	1.45-1.55	0.6-2.0	0.12-0.16	3.6-5.5	Low	0.28	3	1-3
Basin	6-18	10-16	1.65-1.75	0.6-2.0	0.12-0.20	3.6-5.5	Low	0.28		
	18-65	5-16	1.65-1.75	0.06-0.2	0.05-0.10	3.6-5.5	Low	0.28		
BbA	0-8	4-10	1.40-1.50	2.0-6.0	0.10-0.15	4.5-5.5	Low	0.20	4	1-3
Bassfield	8-41	8-18	1.45-1.55	2.0-6.0	0.10-0.15	4.5-5.5	Low	0.20		
	41-62	1-7	1.40-1.50	6.0-20	0.05-0.08	4.5-5.5	Very low	0.17		
BcB	0-12	5-18	1.40-1.50	0.6-2.0	0.10-0.15	4.5-5.5	Low	0.24	4	5-2
Baxterville	12-35	18-30	1.50-1.60	0.2-0.6	0.15-0.20	4.5-5.5	Low	0.37		
	35-62	28-35	1.50-1.60	0.2-0.6	0.15-0.20	4.5-5.5	Moderate	0.37		
Bd	0-48	2-18	---	0.6-2.0	0.12-0.18	4.5-5.5	Low	0.20	5	5-2
Bibb	48-65	2-18	---	0.6-2.0	0.12-0.20	4.5-5.5	Low	0.37		
BeA, BeB, BeC	0-6	6-14	1.45-1.55	0.6-2.0	0.10-0.15	4.5-5.5	Low	0.20	5	1-3
Benndale	6-35	10-18	1.55-1.65	0.6-2.0	0.12-0.18	4.5-5.5	Low	0.28		
	35-70	14-28	1.55-1.65	0.6-2.0	0.12-0.18	4.5-5.5	Low	0.32		
CaD	0-8	10-22	1.30-1.65	0.6-2.0	0.14-0.22	5.1-6.0	Low	0.43	3	5-1
Cadeville	8-36	39-60	1.20-1.45	<0.06	0.18-0.20	3.6-5.5	High	0.32		
	36-70	30-60	1.20-1.65	<0.2	0.18-0.20	3.6-5.5	High	0.32		
DC*:										
Dorovan	0-3	---	0.25-0.40	0.6-2.0	0.25-0.50	4.5-5.5	---	---	---	---
	3-56	---	0.35-0.55	0.6-2.0	0.25-0.50	4.5-5.5	---	---		
	56-65	5-20	1.40-1.65	6.0-20	0.05-0.08	4.5-5.5	Low	---		
Croatan	0-39	---	0.40-0.65	0.06-6.0	0.35-0.45	<4.5	---	---	---	25-60
	39-62	8-20	1.40-1.60	0.2-6.0	0.10-0.15	3.6-6.5	Low	---		
EaA	0-12	5-14	---	2.0-6.0	0.11-0.15	5.1-5.5	Low	0.24	4	5-2
Escambia	12-26	8-18	---	0.6-2.0	0.15-0.20	4.5-5.5	Low	0.24		
	26-65	8-10	---	0.06-0.6	0.12-0.18	4.5-5.5	Low	0.28		
FaA, FaB	0-7	5-18	1.40-1.55	0.2-0.6	0.20-0.22	4.5-6.0	Low	0.43	4	5-3
Falkner	7-18	20-35	1.35-1.55	0.2-0.6	0.19-0.22	4.5-6.0	Moderate	0.43		
	18-30	38-60	1.40-1.50	0.06-0.2	0.16-0.18	4.5-6.5	High	0.24		
	30-68	38-60	1.40-1.50	0.06-0.2	0.16-0.18	4.5-6.5	High	0.24		
LaA	0-5	10-20	1.40-1.50	2.0-6.0	0.10-0.15	4.5-5.5	Low	0.20	4	---
Latonia	5-36	10-16	1.40-1.50	2.0-6.0	0.10-0.15	4.5-5.5	Low	0.20		
	36-70	3-10	1.40-1.50	6.0-20	0.05-0.10	4.5-5.5	Very low	0.17		
LuA	0-7	1-10	1.40-1.55	0.6-2.0	0.15-0.20	5.1-6.5	Low	0.24	5	5-2
Lucedale	7-80	20-30	1.55-1.70	0.6-2.0	0.14-0.18	4.5-5.5	Low	0.24		
MaA, MaB, MaC	0-11	10-25	---	0.6-2.0	0.10-0.15	4.5-6.0	Low	0.28	5	5-1
Malbis	11-33	22-35	---	0.6-2.0	0.12-0.20	4.5-5.5	Low	0.28		
	33-46	20-35	---	0.6-2.0	0.12-0.17	4.5-5.5	Low	0.28		
	46-70	20-35	---	0.2-0.6	0.12-0.17	4.5-5.5	Low	0.28		

See footnote at end of table.

TABLE 16.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors		Organic matter
								K	T	
	In	Pct	G/cm³	In/hr	In/in	pH				Pct
MD*:										
Malbis	0-11	10-25	---	0.6-2.0	0.10-0.15	4.5-6.0	Low	0.28	5	.5-1
	11-33	22-35	---	0.6-2.0	0.12-0.20	4.5-5.5	Low	0.28		
	33-46	20-35	---	0.6-2.0	0.12-0.17	4.5-5.5	Low	0.28		
	46-70	20-35	---	0.2-0.6	0.12-0.17	4.5-5.5	Low	0.28		
Saucier	0-6	8-18	1.50-1.55	2.0-6.0	0.12-0.15	3.6-5.5	Low	0.24	4	1-3
	6-38	18-35	1.55-1.60	0.6-2.0	0.16-0.19	3.6-5.5	Low	0.32		
	38-46	18-38	1.55-1.60	0.06-0.2	0.16-0.20	3.6-5.5	Low	0.32		
	46-64	35-50	1.35-1.45	0.06-0.2	0.16-0.20	3.6-5.5	Moderate	0.32		
ME*:										
Malbis	0-11	10-25	---	0.6-2.0	0.10-0.15	4.5-6.0	Low	0.28	5	.5-1
	11-33	22-35	---	0.6-2.0	0.12-0.20	4.5-5.5	Low	0.28		
	33-46	20-35	---	0.6-2.0	0.12-0.17	4.5-5.5	Low	0.28		
	46-70	20-35	---	0.2-0.6	0.12-0.17	4.5-5.5	Low	0.28		
Susquehanna	0-6	5-27	1.40-1.50	0.6-2.0	0.18-0.20	4.5-5.5	Low	0.43	3	---
	6-80	35-60	1.25-1.50	<0.06	0.15-0.20	4.5-5.5	High	0.32		
Saucier	0-6	8-18	1.50-1.55	2.0-6.0	0.12-0.15	3.6-5.5	Low	0.24	4	1-3
	6-38	18-35	1.55-1.60	0.6-2.0	0.16-0.19	3.6-5.5	Low	0.32		
	38-46	18-38	1.55-1.60	0.06-0.2	0.16-0.20	3.6-5.5	Low	0.32		
	46-64	35-50	1.35-1.45	0.06-0.2	0.16-0.20	3.6-5.5	Moderate	0.32		
MnB, MnC	0-19	5-10	1.40-1.60	0.6-2.0	0.12-0.15	4.5-5.5	Low	0.20	5	---
McLaurin	19-48	10-18	1.40-1.60	0.6-2.0	0.10-0.15	4.5-5.5	Low	0.20		
	48-60	5-15	1.30-1.70	2.0-6.0	0.05-0.10	4.5-5.5	Very low	0.20		
	60-80	5-27	1.40-1.60	0.6-2.0	0.10-0.15	4.5-5.5	Low	0.20		
MS*:										
McLaurin	0-19	5-10	1.40-1.60	0.6-2.0	0.12-0.15	4.5-5.5	Low	0.20	5	---
	19-48	10-18	1.40-1.60	0.6-2.0	0.10-0.15	4.5-5.5	Low	0.20		
	48-60	5-15	1.30-1.70	2.0-6.0	0.05-0.10	4.5-5.5	Very low	0.20		
	60-80	5-27	1.40-1.60	0.6-2.0	0.10-0.15	4.5-5.5	Low	0.20		
Smithdale	0-5	2-15	1.40-1.50	2.0-6.0	0.14-0.16	4.5-5.5	Low	0.28	5	---
	5-38	18-33	1.40-1.55	0.6-2.0	0.15-0.17	4.5-5.5	Low	0.24		
	38-80	12-27	1.40-1.55	2.0-6.0	0.14-0.16	4.5-5.5	Low	0.28		
NJ*:										
Nugent	0-3	2-8	1.30-1.50	2.0-6.0	0.10-0.15	4.5-6.5	Low	0.17	5	.5-2
	3-65	2-8	1.40-1.55	2.0-6.0	0.05-0.10	4.5-6.5	Low	0.17		
Jena	0-3	14-27	1.30-1.80	0.6-2.0	0.12-0.20	4.5-6.0	Low	0.37	5	.5-2
	3-36	10-18	1.40-1.80	0.6-2.0	0.10-0.20	4.5-5.5	Low	0.28		
	36-65	5-20	1.35-1.65	2.0-6.0	0.08-0.14	4.5-5.5	Low	0.24		
Pa*.										
Pits										
PoA, PoB, PoC	0-6	7-15	---	2.0-6.0	0.10-0.15	4.5-5.5	Low	0.20	5	.5-1
Poarch	6-26	8-18	---	0.6-2.0	0.10-0.20	4.5-5.5	Low	0.24		
	26-64	10-25	---	0.2-0.6	0.10-0.20	4.5-5.5	Low	0.24		
RuA, RuB, RuC	0-12	5-20	1.30-1.70	0.6-2.0	0.09-0.16	4.5-6.5	Low	0.32	5	.5-2
Ruston	12-32	18-35	1.40-1.80	0.6-2.0	0.12-0.17	4.5-6.0	Low	0.28		
	32-42	10-20	1.30-1.70	0.6-2.0	0.12-0.15	4.5-6.0	Low	0.32		
	42-75	15-38	1.40-1.70	0.6-2.0	0.12-0.17	4.5-6.0	Low	0.28		
SaA, SaB	0-6	8-18	1.50-1.55	2.0-6.0	0.14-0.18	3.6-5.5	Low	0.24	4	1-3
Saucier	6-38	18-35	1.55-1.60	0.6-2.0	0.16-0.19	3.6-5.5	Low	0.32		
	38-64	35-50	1.35-1.45	0.06-0.2	0.16-0.20	3.6-5.5	Moderate	0.32		
SmE	0-5	2-15	1.40-1.50	2.0-6.0	0.14-0.16	4.5-5.5	Low	0.28	5	---
Smithdale	5-38	18-33	1.40-1.55	0.6-2.0	0.15-0.17	4.5-5.5	Low	0.24		
	38-80	12-27	1.40-1.55	2.0-6.0	0.14-0.16	4.5-5.5	Low	0.28		

See footnote at end of table.

TABLE 16.--PHYSICAL AND CHEMICAL PROPERTIES OF THE SOILS--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors		Organic matter
								K	T	
	In	Pct	G/cm^3	In/hr	In/in	pH				Pct
SN*:										
Smithdale	0-5	2-15	1.40-1.50	2.0-6.0	0.14-0.16	4.5-5.5	Low	0.28	5	---
	5-38	18-33	1.40-1.55	0.6-2.0	0.15-0.17	4.5-5.5	Low	0.24		
	38-80	12-27	1.40-1.55	2.0-6.0	0.14-0.16	4.5-5.5	Low	0.28		
Troup	0-56	1-10	---	6.0-20	0.05-0.10	4.5-5.5	Very low	0.17	5	<1
	56-80	15-35	---	0.6-2.0	0.10-0.13	4.5-5.5	Low	0.20		
Sp, SR*, ST*- Smithton	0-12	5-18	1.30-1.50	0.6-2.0	0.10-0.20	4.5-5.5	Low	0.32	5	1-3
	12-62	12-18	1.30-1.50	0.2-0.6	0.11-0.20	4.5-5.5	Low	0.32		
	38-72	15-25	1.25-1.45	0.2-0.6	0.11-0.24	4.5-5.5	Low	0.37		
SuB, SuD- Susquehanna	0-6	5-27	1.40-1.50	0.6-2.0	0.18-0.20	4.5-5.5	Low	0.43	3	---
	6-80	35-60	1.25-1.50	<0.06	0.15-0.20	4.5-5.5	High	0.32		
TaB- Troup	0-56	1-10	---	6.0-20	0.03-0.10	4.5-5.5	Very low	0.20	5	<1
	56-80	15-35	---	0.6-2.0	0.10-0.13	4.5-5.5	Low	0.20		

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 17.--SOIL AND WATER FEATURES

["Flooding" and "water table" and terms such as "rare," "brief," "apparent," and "perched" are explained in the text. The symbol < means less than; > means more than. Absence of an entry indicates that the feature is not a concern or that data were not estimated]

Soil name and map symbol	Hydrologic group	Flooding			High water table			Depth to bedrock	Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months		Uncoated steel	Concrete
					Ft			In		
AR*:										
Arkabutla	C	Frequent	Brief to long.	Jan-Apr	1.5-2.5	Apparent	Jan-Apr	>60	High	High.
Rosebloom	D	Frequent	Brief to long.	Jan-Apr	0-1.0	Apparent	Jan-Mar	>60	High	Moderate.
BaA, BaB---------- Basin	C	None	---	---	1.0-2.0	Perched	Jan-Mar	>60	High	High.
BbA---------- Bassfield	B	None	---	---	>6.0	---	---	>60	Low	Moderate.
BcB---------- Baxterville	B	None	---	---	3.0-5.0	Perched	Oct-Mar	>60	Moderate	Moderate.
Bd---------- Bibb	C	Frequent	Brief	Dec-May	0.5-1.5	Apparent	Dec-Apr	>60	High	Moderate.
BeA, BeB, BeC----- Benndale	B	None	---	---	>6.0	---	---	>60	Low	Moderate.
CaD---------- Cadeville	D	None	---	---	>6.0	---	---	>60	Moderate	Moderate.
DC*:										
Dorovan	D	Frequent	Very long	Jan-Dec	+1-0.5	Apparent	Jan-Dec	>60	---	High.
Croatan	D	Frequent	Very long	Jan-Dec	+1-0.5	Apparent	Jan-Dec	>60	High	High.
EaA---------- Escambia	C	None	---	---	1.5-2.5	Apparent	Dec-Mar	>60	Moderate	High.
FaA, FaB---------- Falkner	C	None	---	---	1.5-2.5	Perched	Jan-Mar	>60	High	Moderate.
LaA---------- Latonia	B	None	---	---	>6.0	---	---	>60	Low	Moderate.
LuA---------- Lucedale	B	None	---	---	>6.0	---	---	>60	Moderate	Moderate.
MaA, MaB, MaC----- Malbis	B	None	---	---	2.5-4.0	Perched	Dec-Mar	>60	Moderate	Moderate.
MD*:										
Malbis	B	None	---	---	2.5-4.0	Perched	Dec-Mar	>60	Moderate	Moderate.
Saucier	C	None	---	---	2.5-4.0	Perched	Jan-Mar	>60	Moderate	High.
ME*:										
Malbis	B	None	---	---	2.5-4.0	Perched	Dec-Mar	>60	Moderate	Moderate.
Susquehanna	D	None	---	---	>6.0	---	---	>60	High	High.
Saucier	C	None	---	---	2.5-4.0	Perched	Jan-Mar	>60	Moderate	High.
MnB, MnC---------- McLaurin	B	None	---	---	>6.0	---	---	>60	Low	Moderate.
MS*:										
McLaurin	B	None	---	---	>6.0	---	---	>60	Low	Moderate.
Smithdale	B	None	---	---	>6.0	---	---	>60	Low	Moderate.

See footnote at end of table.

TABLE 17.--SOIL AND WATER FEATURES--Continued

Soil name and map symbol	Hydrologic group	Flooding			High water table			Depth to bedrock	Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months		Uncoated steel	Concrete
					Ft			In		
NJ*:										
Nugent	A	Frequent	Brief to long.	Dec-Apr	3.5-6.0	Apparent	Jan-Apr	>60	Low	Moderate.
Jena	B	Frequent	Brief to long.	Dec-Apr	>6.0	---	---	>60	Low	High.
Pa*. Pits										
PoA, PoB, PoC Poarch	B	None	---	---	2.5-5.0	Apparent	Dec-Mar	>60	Low	High.
RuA, RuB, RuC Ruston	B	None	---	---	>6.0	---	---	>60	Moderate	Moderate.
SaA, SaB Saucier	C	None	---	---	2.5-4.0	Perched	Jan-Mar	>60	Moderate	High.
SmE Smithdale	B	None	---	---	>6.0	---	---	>60	Low	Moderate.
SN*:										
Smithdale	B	None	---	---	>6.0	---	---	>60	Low	Moderate.
Troup	A	None	---	---	>6.0	---	---	>60	Low	Moderate.
Sp Smithton	D	Common	Brief	Dec-May	0-1.0	Perched	Dec-May	>60	High	High.
SR* Smithton	D	Occasional	Brief	Dec-May	0-1.0	Perched	Dec-May	>60	High	High.
ST* Smithton	D	Frequent	Brief to long.	Dec-May	0-1.0	Perched	Dec-May	>60	High	High.
SuB, SuD Susquehanna	D	None	---	---	>6.0	---	---	>60	High	High.
TaB Troup	A	None	---	---	>6.0	---	---	>60	Low	Moderate.

* See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 18.--PHYSICAL ANALYSES

[Analyzed by the Soil Genesis and Morphology Laboratory of the Mississippi Agricultural and Forestry Experiment Station, Mississippi State University]

Soil series	Horizon	Depth	Particle-size distribution							
			Very coarse sand (2.0-1.0 mm)	Coarse sand (1.0-0.5 mm)	Medium sand (0.5-0.25 mm)	Fine sand (0.25-0.10 mm)	Very fine sand (0.10-0.05 mm)	Total sand (2.0-0.05 mm)	Silt (0.05-0.002 mm)	Clay (<0.002 mm)
		In	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct
Falkner[1]	Ap	0-7	0.8	1.1	2.1	8.5	17.6	30.1	63.4	6.5
	B21t	7-18	0.4	0.4	1.2	5.9	13.1	21.0	56.6	22.4
	B22t	18-30	0.2	0.3	1.1	4.8	11.6	18.0	44.6	37.4
	IIB23t	30-45	0.1	0.2	0.9	4.8	11.1	17.1	45.7	37.2
	IIB24t	45-68	0.1	0.2	0.6	3.2	8.3	12.4	40.3	47.3
Malbis[2]	Ap	0-6	0.6	3.9	24.2	23.2	6.4	58.3	38.2	3.5
	A2	6-11	0.6	3.7	23.8	23.1	6.5	57.8	37.4	4.8
	B1	11-14	0.3	3.0	21.7	21.5	6.0	52.4	34.8	12.8
	B21t	14-33	0.3	3.1	20.9	19.8	5.2	49.3	27.9	22.8
	B22t	33-46	0.3	3.7	22.5	19.3	4.7	50.6	25.6	23.8
	B23t	46-70	0.2	3.6	24.1	21.1	5.0	53.9	23.0	23.1
Poarch	Ap	0-6	0.1	1.1	10.5	27.5	11.9	51.1	41.2	7.7
	B21t	6-26	0.1	0.5	7.2	22.3	11.3	41.4	43.4	15.2
	B22t	26-36	0.1	0.6	8.2	25.2	13.0	47.1	38.5	14.4
	B23t	36-44	0.1	0.5	8.5	25.3	12.1	46.5	38.1	15.4
	B24t	44-64	0.1	0.4	8.9	27.8	12.7	49.9	31.7	18.4
Saucier	B21t	6-18	0.2	0.3	0.2	18.8	12.8	32.3	44.8	22.9
	B22t	18-38	0.1	0.2	1.5	15.2	10.6	27.6	40.6	31.8
	IIB23t	38-46	---	0.1	0.9	9.8	7.7	18.5	40.1	41.4
	IIB24t	46-56	---	0.1	0.4	4.0	4.3	8.8	50.0	41.2
	IIB25t	56-62	---	0.1	0.4	2.6	7.3	10.4	48.2	41.4

[1]This soil is a taxadjunct to the Falkner series because depth to the underlying silty clay layer is slightly greater than is defined for the Falkner series.

[2]This pedon is not the typical pedon described in "Soil series and their morphology." It is 14 miles west of Poplarville on State Highway 26, 7 miles north on State Highway 43, 2 miles southeast on county road, and 200 feet south of road; NE1/4SE1/4 sec. 16, T. 2 S., R. 17 W.

TABLE 19.--CHEMICAL ANALYSES

[Analyzed by the Soil Genesis and Morphology Laboratory of the Mississippi Agricultural and Forestry Experiment Station, Mississippi State University]

Soil series	Horizon	Depth	Reaction	Extractable cations				Extractable acidity	Sum of cations	Base saturation
				Ca	Mg	K	Na			
		In	pH	Meq/100g	Meq/100g	Meq/100g	Meq/100g	Meq/100g	Meq/100g	Pct
Falkner[1]	Ap	0-7	5.1	1.6	0.7	0.1	0.1	5.1	7.6	32.9
	B21tg	7-18	4.7	0.5	0.9	0.1	0.2	8.0	9.7	17.5
	B22tg	18-30	5.0	0.3	3.0	0.2	0.5	13.1	17.1	23.4
	IIB23t	30-45	5.1	0.4	3.8	0.2	0.7	13.7	18.8	27.1
	IIB24t	45-68	4.6	1.4	7.2	0.4	1.1	17.9	28.0	36.1
Malbis[2]	Ap	0-6	6.0	6.1	0.9	0.2	---	5.1	12.3	58.5
	B1	6-11	5.3	1.6	0.7	0.1	0.1	2.7	5.2	48.1
	B21t	11-25	4.8	0.9	0.9	0.1	---	5.9	7.8	24.3
	B22t	25-30	4.9	0.2	0.2	0.1	---	4.5	5.0	10.0
	B23t	30-42	4.9	0.2	0.4	0.1	---	4.6	5.3	13.2
	B24t	42-68	4.8	0.1	0.4	0.1	---	5.5	6.1	9.8
Poarch	Ap	0-6	4.9	2.1	0.3	0.1	---	7.7	10.2	24.5
	B21t	6-26	4.6	0.7	0.3	---	---	4.9	5.9	16.9
	B22t	26-36	4.4	0.3	0.1	---	---	4.7	5.1	7.8
	B23t	36-44	4.5	0.1	0.2	---	---	9.0	9.3	3.2
	B24t	44-64	4.7	0.1	0.2	---	0.1	5.5	5.9	6.8

[1]This soil is a taxadjunct to the Falkner series because depth to the underlying silty clay layer is slightly greater than is defined for the Falkner series.

[2]This pedon is not the typical pedon in the section "Soil series and their morphology." It is 14 miles west of Poplarville on State Highway 26, 7 miles north on State Highway 43, 2 miles southeast on county road and 200 feet south of road; NE1/4SE1/4 sec. 16, T. 2 S., R. 17 W.

TABLE 20.--ENGINEERING INDEX TEST DATA

[Tests performed by the Mississippi State Highway Department, in cooperation with the Federal Highway Administration, Department of Transportation, in accordance with standard procedures of the American Association of State Highway and Transportation Officials (AASHTO) (1)]

Soil name, report number, horizon, and depth in inches	Classification		Grain-size distribution							Liquid limit	Plasticity index	Moisture density		Shrinkage		
			Percentage passing sieve--				Percentage smaller than--									
	AASHTO	Unified	No. 4	No. 10	No. 40	No. 200	.02 mm	.005 mm	.002 mm			Max. dry density	Optimum moisture	Limit	Linear	Ratio
										Pct		Lb/ft^3	Pct	Pct	Pct	Pct
Falkner silt loam:[1] (S77MS-109-003)																
B21t----- 7 to 18	A-4 (08)	CL	100	100	99	85	44	26	22	31	10	110	15	17.0	0.0	1.7
B22t-----18 to 30	A-7-6(32)	CH	100	100	100	89	59	43	38	57	32	101	22	12.0	0.0	1.8
B23t and IIB24t--30 to 68	A-7-6(38)	CH	100	100	100	89	62	47	41	63	39	100	22	13.0	0.0	1.7
Malbis fine sandy loam:[2] (S77MS-109-002)																
B21t-----14 to 33	A-6 (06)	CL	100	100	99	69	45	27	21	30	11	114	15	15.0	0.0	1.7
B22t-----33 to 46	A-4 (03)	CL	100	100	99	63	39	25	21	29	8	115	13	15.0	0.0	1.7
B23t-----46 to 70	A-6 (05)	CL	100	100	99	60	37	27	22	33	11	114	14	15.0	0.0	1.7

[1]Falkner silt loam:
10 miles west of Poplarville on Highway 26, 1/4 mile north on county road and 150 feet west, sec. 8, NE1/4SE1/4, T. 3 S., R. 17 W. The B23t horizon and the IIB24t horizon were mixed together in sampling and tests were made on the mixture.

[2]Malbis fine sandy loam:
14 miles west of Poplarville on Highway 26, 7 miles north on Highway 43, 2 miles southeast on road, 200 feet south, sec. 16, NE1/4SE1/4 T. 2 S., R. 17 W. This pedon is not typical of the series.

TABLE 21.--CLASSIFICATION OF THE SOILS

Soil name	Family or higher taxonomic class
Arkabutla	Fine-silty, mixed, acid, thermic Aeric Fluvaquents
Basin	Coarse-loamy, siliceous, thermic Fragiaquic Paleudults
Bassfield	Coarse-loamy, siliceous, thermic Typic Hapludults
Baxterville	Fine-loamy, siliceous, thermic Plinthic Paleudults
Benndale	Coarse-loamy, siliceous, thermic Typic Paleudults
Bibb	Coarse-loamy, siliceous, acid, thermic Typic Fluvaquents
Cadeville	Fine, mixed, thermic Albaquic Hapludalfs
Croatan	Loamy, siliceous, dysic, thermic Terric Medisaprists
Dorovan	Dysic, thermic Typic Medisaprists
Escambia	Coarse-loamy, siliceous, thermic Plinthaquic Paleudults
Falkner	Fine-silty, siliceous, thermic Aquic Paleudalfs
Jena	Coarse-loamy, siliceous, thermic Fluventic Dystrochrepts
Latonia	Coarse-loamy, siliceous, thermic Typic Hapludults
Lucedale	Fine-loamy, siliceous, thermic Rhodic Paleudults
Malbis	Fine-loamy, siliceous, thermic Plinthic Paleudults
McLaurin	Coarse-loamy, siliceous, thermic Typic Paleudults
Nugent	Sandy, siliceous, thermic Typic Udifluvents
Poarch	Coarse-loamy, siliceous, thermic Plinthic Paleudults
Rosebloom	Fine-silty, mixed, acid, thermic Typic Fluvaquents
Ruston	Fine-loamy, siliceous, thermic Typic Paleudults
Saucier	Fine-loamy, siliceous, thermic Plinthaquic Paleudults
Smithdale	Fine-loamy, siliceous, thermic Typic Paleudults
Smithton	Coarse-loamy, siliceous, thermic Typic Paleaquults
Susquehanna	Fine, montmorillonitic, thermic Vertic Paleudalfs
Troup	Loamy, siliceous, thermic Grossarenic Paleudults

*The soil is a taxadjunct to the series. See text for a description of those characteristics of the soil that are outside the range of the series.

* U.S. GOVERNMENT PRINTING OFFICE: 1983 -343-931/2042

NRCS Accessibility Statement

This document is not accessible by screen-reader software. The Natural Resources Conservation Service (NRCS) is committed to making its information accessible to all of its customers and employees. If you are experiencing accessibility issues and need assistance, please contact our Helpdesk by phone at 1-800-457-3642 or by e-mail at ServiceDesk-FTC@ftc.usda.gov. For assistance with publications that include maps, graphs, or similar forms of information, you may also wish to contact our State or local office. You can locate the correct office and phone number at http://offices.sc.egov.usda.gov/locator/app.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.