United States Department of Agriculture

Natural Resources Conservation Service

In cooperation with U.S. Forest Service and the Mississippi Agricultural and Forestry Experiment Station

Soil Survey of Perry County, Mississippi

Interim Publication—January 1999

How to Use This Soil Survey

General Soil Map

The general soil map, which is the color map preceding the detailed soil maps, shows the survey area divided into groups of associated soils called general soil map units. This map is useful in planning the use and management of large areas.

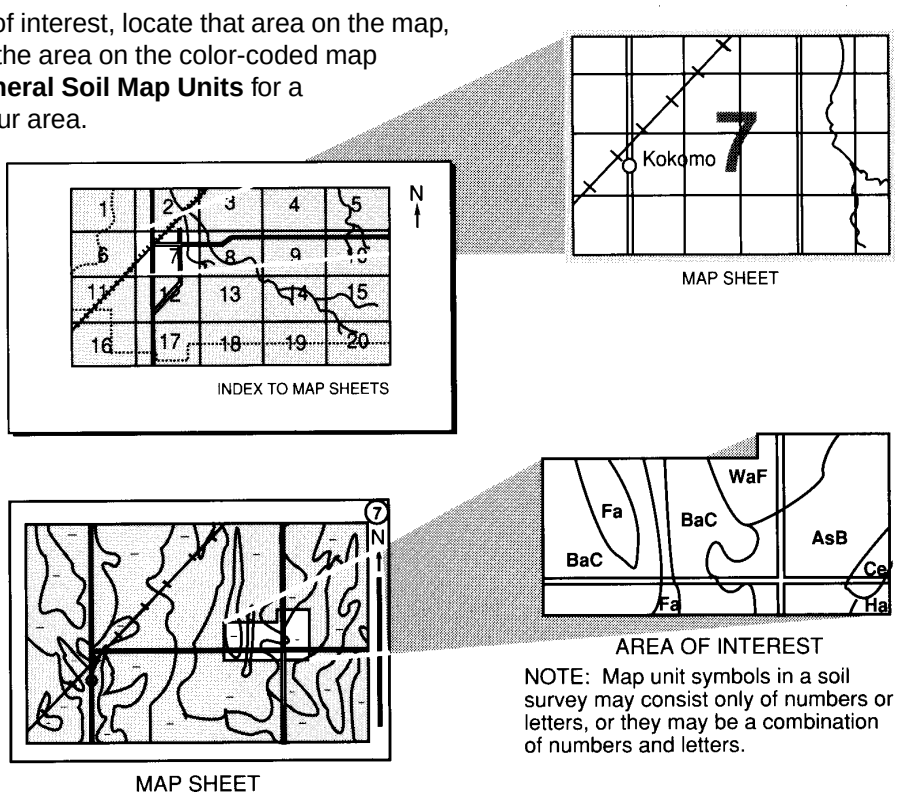
To find information about your area of interest, locate that area on the map, identify the name of the map unit in the area on the color-coded map legend, then refer to the section **General Soil Map Units** for a general description of the soils in your area.

Detailed Soil Maps

The detailed soil maps follow the general soil map. These maps can be useful in planning the use and management of small areas.

To find information about your area of interest, locate that area on the **Index to Map Sheets**, which precedes the soil maps. Note the number of the map sheet and turn to that sheet.

Locate your area of interest on the map sheet. Note the map units symbols that are in that area. Turn to the **Contents**, which lists the map units by symbol and name and shows the page where each map unit is described.



NOTE: Map unit symbols in a soil survey may consist only of numbers or letters, or they may be a combination of numbers and letters.

The **Contents** shows which table has data on a specific land use for each detailed soil map unit. Also see the **Contents** for sections of this publication that may address your specific needs.

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 Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey.

Major fieldwork for this soil survey was completed in 1992. Soil names and descriptions were approved in 1997. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1992. This survey was made cooperatively by the Natural Resources Conservation Service, the U.S. Forest Service, and the Mississippi Agricultural and Forestry Experiment Station. The survey is part of the technical assistance furnished to the Perry 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.

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Cover: An area of Trebloc silt loam, 0 to 1 percent slopes, frequently flooded, in the foreground. This area is used for wildlife habitat.

Additional information about the Nation's natural resources is available on the Natural Resources Conservation Service home page on the World Wide Web. The address is http://www.nrcs.usda.gov (click on "Technical Resources").

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Issued 2000

Foreword

This soil survey contains information that affects land use planning in this survey area. It contains predictions of soil behavior for selected land uses. The survey also highlights soil limitations, 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, ranchers, 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 ensure 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.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. The information in this report is intended to identify soil properties that are used in making various land use or land treatment decisions. Statements made in this report are intended to help the land users identify and reduce the effects of soil limitations that affect various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are shallow to bedrock. 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 Natural Resources Conservation Service or the Cooperative Extension Service.

Homer L. Wilkes
State Conservationist
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Soil Survey of
Perry County, Mississippi

By W.D. Daniels, Natural Resources Conservation Service

Fieldwork by W.D. Daniels, Margaret M. Rice, Charlie D. Breland, Thomas T. Kilpatrick, and Rex E. Davis, Natural Resources Conservation Service

DeSoto National Forest surveyed by Len Weeks and Paul Johnson, U.S. Forest Service

United States Department of Agriculture, Natural Resources Conservation Service, in cooperation with
the U.S. Forest Service and the Mississippi Agricultural and Forestry Experiment Station

PERRY COUNTY is in the southeastern part of Mississippi (fig. 1). It has a total area of 416,400 acres, or about 650 square miles. It is bordered on the south by Stone and George Counties, on the west by Forrest County, on the north by Jones and Wayne Counties, and on the east by Greene and George Counties. New Augusta is the county seat. In 1990, the population of the county was 10,865.

Crops, mainly soybeans, and livestock are important agricultural sources of income in Perry County. In 1987, the average farm size was 165 acres *(9)*. Woodland covers about 84 percent of the county, and cropland and pastureland cover about 16 percent. The DeSoto National Forest, which is managed by the U.S. Forest Service, covers 39 percent of the county. More than 5,000 acres of the DeSoto National Forest is designated the Black Creek Wilderness Area and is limited to recreational use. A 21-mile long segment of Black Creek is part of the Wild and Scenic River System. About 80 percent of the operational area of Camp Shelby is in the DeSoto National Forest in Perry County. Camp Shelby is a training and mobilization facility for National Guard units. Part of the Leaf River Game Management Area is in the southeastern part of the county.

Soil scientists have determined that about 30 different soils are in the county. The soils range widely in texture, natural drainage, slope, and other characteristics.

Descriptions, names, and delineations of soils in this county do not fully agree with those on soil maps for adjacent counties. Differences are the result of better knowledge of soils, modifications in series concepts, and variations in the intensity of mapping or in the extent of soils within the survey area.

This soil survey updates the survey of Perry County, Mississippi, published in 1922 *(6)*. It provides additional information and has larger maps, which show the soils in greater detail.

General Nature of the County

This section provides general information about Perry County. If briefly describes climate, history, relief and drainage, natural resources, and water resources.

Climate

Table 1 gives data on temperature and precipitation for the survey area as recorded at Richton, Mississippi, in the period 1958 to 1987. 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 48 degrees F and the average daily minimum temperature is 34 degrees. The lowest temperature on record, which occurred on January 21, 1985, is 3 degrees. In summer, the average temperature is 79 degrees and the average daily maximum temperature is 91 degrees.

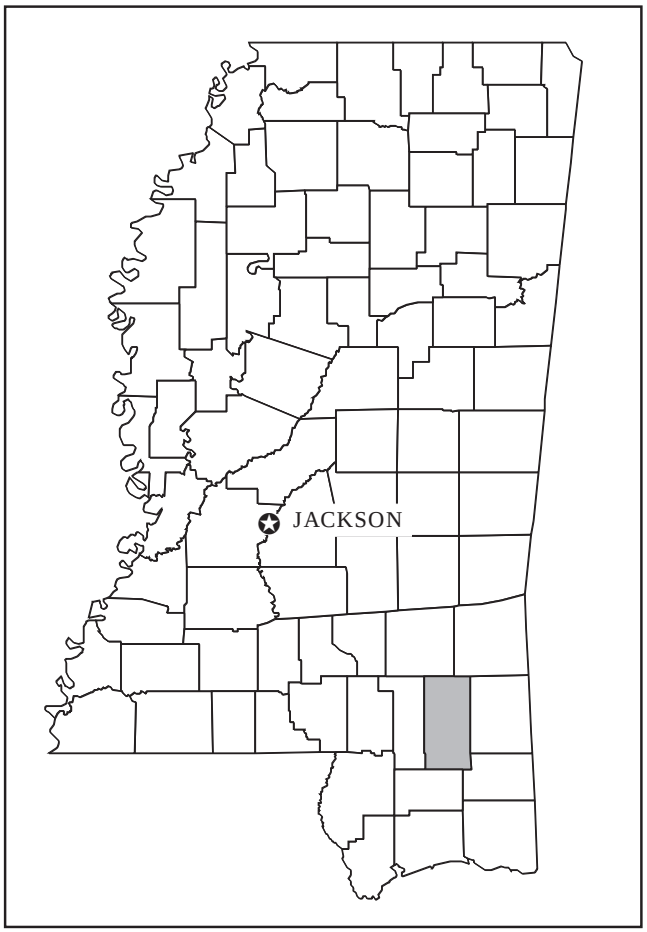

Figure 1.—Location of Perry County, Mississippi.

The highest recorded temperature, which occurred on June 15, 1963, is 105 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 about 60 inches. Of this, 30 inches, or 50 percent, usually falls in April through September. The growing season for most crops falls within this period. In 2 years out of 10, the rainfall in April through September is less than 24 inches. The heaviest 1-day rainfall during the period of record was 9.6 inches on April 7, 1983. Thunderstorms occur on about 67 days each year, and most occur in summer.

The average seasonal snowfall is about 0 inches. The greatest snow depth at any one time during the period of record was 15 inches. On the average, no days have at least 1 inch of snow on the ground.

The average relative humidity in midafternoon is about 60 percent. Humidity is higher at night, and the average at dawn is about 85 percent. The sun shines 65 percent of the time possible in summer and 50 percent in winter. The prevailing wind is from the south. Average windspeed is highest, 9 miles per hour, in spring.

Severe local storms, including tornadoes, strike occasionally in or near the area. They are short in duration and cause variable and spotty damage. Every few years in summer or autumn, a tropical depression or remnant of a hurricane that has moved inland causes extremely heavy rains for 1 to 3 days.

History

Perry County was established on February 3, 1820, from the western part of Greene County. It was named in honor of Commodore Oliver Hazard Perry, a hero of the War of 1812 *(10)*. It originally had a county seat at both Hattiesburg and Augusta. The county seat was moved to New Augusta after the courthouse burned in 1877.

The first pioneers in the county settled along the Leaf River and its tributaries *(7)*. Perry County remains mostly rural. Most of the nonrural population is in the small villages of Beaumont, New Augusta, and Richton.

Relief and Drainage

Perry County is gently rolling to hilly, except for the nearly level stream terraces along the Leaf River and the smaller tributaries. Relief between valley and summit ranges from 60 to 120 feet.

Perry County is in the drainage basin of the Pascagoula River. The major tributary is the Leaf River, which flows west to east across the center of the county. From north to south, the main tributaries of the Leaf River system are Tallahala Creek, Bogue Homo Creek, and Gaines Creek. The southwestern part of the county is drained by Black Creek. The main tributaries of Black Creek are Beaverdam, Cypress, and Hickory Creeks. All of the streams have relatively wide flood plains, except in their upper courses. The streams form a dendritic pattern.

Natural Resources

About 84 percent of Perry County is woodland. Climax vegetation was predominantly beech, magnolia, oak, sweetgum, hickory, and pine *(8)*. Pine and

hardwoods are on the uplands, and oak, hickory, sweetgum, sugarberry, elm, tupelo gum, and baldcypress are on the flood plains. The wood from these forests is used mostly for paper, lumber, and plywood products.

Almost 21 percent of Perry County is prime farmland, most of which is used for crop production.

Several large sand and gravel mines are in the county, mainly in the central part. The gravel is used locally for roads, and much of it is hauled to surrounding areas. There have been a few oil wells in the county.

Water Resources

The quantity and quality of water for household use and for livestock generally is adequate in the county. Although most of the water for household use is from wells, several communities in the county have a water system. The water used by livestock is mainly from perennial streams, artificial ponds, and springs. In winter, most of the intermittent streams have sufficient flow to water livestock.

Many small, privately owned lakes are in the county. They are used to control erosion and sediment, for fishing and other recreation, and as sources of water for livestock.

How This Survey Was Made

This survey was made to provide information about the soils and miscellaneous areas in the survey area. The information includes a description of the soils and miscellaneous areas and their location and a discussion of their suitability, limitations, and management for specified uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of unconsolidated material. They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

The soils and miscellaneous areas in the survey area are in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept or model of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information,

production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

This survey area was mapped at two levels of detail. At the more detailed level, map units are narrowly defined. Map unit boundaries were plotted and verified at closely spaced intervals. At the less detailed level, map units are broadly defined. Boundaries were plotted and verified at wider intervals. In the legend for the detailed soil maps, narrowly defined units are indicated by symbols in which the first letter is a capital and the second is lowercase. For broadly defined units, the first and second letters are capitals.

The descriptions, names, and delineations of the soils in this survey area do not fully agree with those of the soils in adjacent survey areas. Differences are the result of a better knowledge of soils, modifications in series concepts, or variations in the intensity of mapping or in the extent of the soils in the survey areas.

Confidence Limits of Soil Survey Information

The statements regarding soil behavior in this survey can be thought of in terms of probability. They are predictions. Confidence limits are statistical expressions of the probability that the composition of a map unit or a property of a soil will vary within prescribed limits. They can be assigned numerical values based on random sampling.

If specific data are not available for use in determining confidence limits, the natural variability of soils and the details of the soil survey procedures are considered. The composition of map units and other information is derived largely by extrapolating from a small sample. The map units contain contrasting inclusions and are not described below a depth of 80 inches.

The information in this soil survey is not intended as a substitute for onsite investigation. Soil survey information can be used to select from alternative practices or general designs that may be needed to minimize the possibility of soil-related failures. It cannot be used to interpret specific points on the landscape.

Specific confidence limits for the composition of soil complexes in Perry County were determined by taking samples from random transects made across mapped areas. Soil scientists made enough transects and took enough samples to characterize each map unit at an 80 percent confidence level.

The composition of the other kinds of map units in this survey is based on the judgment of the soil scientist and was not determined by a statistical procedure.

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, it consists of one or more major soils or miscellaneous areas and some minor soils or miscellaneous areas. It is named for the major soils or miscellaneous areas. The components of one map unit can occur in another 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

1. McLaurin-Benndale-Smithdale

Dominantly nearly level to strongly sloping, well drained loamy soils weathered from unconsolidated loamy sediments; on uplands

Setting

Location in the survey area: Mostly in the northern part
Landscape: Coastal Plain
Landform: Uplands
Landform position: Primarily ridges, summits, and shoulders with Smithdale soils on hillslopes
Slope range: Dominantly 0 to 15 percent; minor soils may exceed 15 percent

Composition

Percent of the survey area: 12
McLaurin soils: 65 percent
Benndale soils: 12 percent
Smithdale soils: 10 percent
Minor soils: 13 percent, including Wadley, Heidel, Lorman, and Bibb soils

Soil Characteristics

McLaurin

Surface layer: Dark grayish brown fine sandy loam
Subsurface layer: Yellowish brown fine sandy loam
Subsoil: Upper part—yellowish red sandy loam that has red mottles; lower part—red sandy loam
Depth class: Very deep
Drainage class: Well drained
Depth to seasonal high water table: More than 6.0 feet
Slope range: 0 to 8 percent
Parent material: Loamy sediments

Benndale

Surface layer: Dark grayish brown fine sandy loam
Subsurface layer: Grayish brown fine sandy loam
Subsoil: Upper part—yellowish brown sandy loam; lower part—yellowish brown sandy loam that has brownish yellow and light gray mottles
Depth class: Very deep
Drainage class: Well drained
Depth to seasonal high water table: More than 6.0 feet
Slope range: 0 to 12 percent
Parent material: Loamy sediments

Smithdale

Surface layer: Dark grayish brown fine sandy loam
Subsurface layer: Light yellowish brown sandy loam
Subsoil: Upper part—red sandy clay loam; lower part—red sandy loam
Depth class: Very deep
Drainage class: Well drained
Depth to seasonal high water table: More than 6.0 feet
Slope range: 8 to 15 percent
Parent material: Loamy sediments

Minor soils

- The somewhat excessively drained Wadley soils on ridges and hillslopes
- The well drained Heidel and Lorman soils on hillslopes
- The poorly drained Bibb soils in narrow drainageways

Use and Management

Major uses: Pasture and cropland in the less sloping areas and woodland

Cropland

Management concerns: Erosion and slope

Pasture and hayland

Management concerns: Erosion and slope

Woodland

- No significant limitations affect management.

Urban development

Management concerns: McLaurin—cutbanks cave; Benndale and Smithdale—slope in the steeper areas

Recreational development

Management concerns: Slope

2. Benndale-Smithdale-Heidel

Dominantly gently sloping to moderately steep, well drained loamy soils weathered from unconsolidated loamy sediments; on uplands

Setting

Location in the survey area: Throughout
Landscape: Coastal Plain
Landform: Uplands disected by numerous, deeply incised streams having narrow flood plains
Landform position: Benndale—ridges, summits, and shoulders; Smithdale and Heidel—hillslopes
Slope range: Dominantly 2 to 25 percent; small areas may exceed 25 percent

Composition

Percent of the survey area: 30
Benndale soils: 42 percent
Smithdale soils: 34 percent
Heidel soils: 10 percent
Minor soils: 14 percent, including Bibb, Trebloc, and Freest soils

Soil Characteristics

Benndale

Surface layer: Dark grayish brown fine sandy loam
Subsurface layer: Grayish brown fine sandy loam
Subsoil: Upper part—yellowish brown sandy loam; lower part—yellowish brown sandy loam that has brownish yellow and light gray mottles
Depth class: Very deep
Drainage class: Well drained
Depth to seasonal high water table: More than 6.0 feet
Slope range: 0 to 12 percent
Parent material: Loamy sediments

Smithdale

Surface layer: Dark grayish brown fine sandy loam
Subsurface layer: Light yellowish brown sandy loam
Subsoil: Upper part—red sandy clay loam; lower part—red sandy loam
Depth class: Very deep
Drainage class: Well drained
Depth to seasonal high water table: More than 6.0 feet
Slope range: 8 to 15 percent
Parent material: Loamy sediments

Heidel

Surface layer: Dark brown fine sandy loam
Subsurface layer: Brown sandy loam
Subsoil: Yellowish red sandy loam
Depth class: Very deep
Drainage class: Well drained
Depth to seasonal high water table: More than 6.0 feet
Slope range: 15 to 25 percent
Parent material: Loamy sediments

Minor soils

- The poorly drained Bibb and Trebloc soils in broad concave areas of stream terraces and in narrow drainageways
- The moderately well drained Freest soils on ridges, summits, and shoulders

Use and Management

Major uses: Woodland and pasture

Cropland

Management concerns: Erosion and slope

Pasture and hayland

Management concerns: Erosion and slope

Woodland

- No significant limitations affect management.

Urban development

Management concerns: Slope

Recreational development

Management concerns: Slope

3. McLaurin-Wadley-Smithdale

Dominantly nearly level to strongly sloping, well drained and somewhat excessively drained loamy and sandy soils weathered from unconsolidated loamy and sandy sediments; on uplands

Setting

Location in the survey area: Southern part
Landscape: Coastal Plain
Landform: Uplands dissected by short drainageways
Landform position: McLaurin—ridges, summits, and shoulders; Wadley—ridges and hillslopes; Smithdale—hillslopes
Slope range: Dominantly 0 to 15 percent; small areas may exceed 15 percent

Composition

Percent of the survey area: 7
McLaurin soils: 70 percent
Wadley soils: 15 percent
Smithdale soils: 10 percent
Minor soils: 5 percent, including Irvington and Bibb soils

Soil Characteristics

McLaurin

Surface layer: Dark grayish brown fine sandy loam
Subsurface layer: Yellowish brown fine sandy loam
Subsoil: Upper part—yellowish red sandy loam that has red mottles; lower part—red sandy loam
Depth class: Very deep
Drainage class: Well drained
Depth to seasonal high water table: More than 6.0 feet
Slope range: 0 to 8 percent
Parent material: Loamy sediments

Wadley

Surface layer: Brown fine sand
Subsurface layer: Very pale brown sand
Subsoil: Upper part—yellowish red sandy loam; next part—reddish yellow sandy loam; lower part—yellowish red sandy loam
Depth class: Very deep
Drainage class: Well drained and somewhat excessively drained
Depth to seasonal high water table: More than 6.0 feet
Slope range: 0 to 15 percent
Parent material: Sandy and loamy sediments

Smithdale

Surface layer: Dark grayish brown fine sandy loam
Subsurface layer: Light yellowish brown sandy loam
Subsoil: Upper part—red sandy clay loam; lower part—red sandy loam
Depth class: Very deep
Drainage class: Well drained
Depth to seasonal high water table: More than 6.0 feet
Slope range: 8 to 15 percent
Parent material: Loamy sediments

Minor soils

- The moderately well drained Irvington soils on ridges and summits
- The poorly drained Bibb soils on flood plains

Use and Management

Major uses: Woodland, pasture, and cropland

Cropland

Management concerns: Slope and erosion

Pasture and hayland

Management concerns: Slope and droughtiness

Woodland

Management concerns: Wadley—restricted use of equipment and seedling mortality
- No significant limitations affect management in areas of the McLaurin and Smithdale soils.

Urban development

Management concerns: McLaurin and Wadley—droughtiness and slope; Smithdale—slope

Recreational development

Management concerns: McLaurin—slope and droughtiness; Smithdale—slope; Wadley—slope, sandy textures, and droughtiness

4. Freest-Lorman-Benndale

Dominantly gently sloping to steep, moderately well drained and well drained clayey and loamy soils weathered from unconsolidated clayey and loamy sediments; on uplands

Setting

Location in the survey area: Northern part
Landscape: Coastal Plain
Landform: Uplands
Landform position: Freest and Benndale—ridges, summits, and shoulders; Lorman—hillslopes
Slope range: Dominantly 2 to 40 percent; small areas may exceed 40 percent

Composition

Percent of the survey area: 8
Freest soils: 47 percent
Lorman soils: 21 percent
Benndale soils: 10 percent
Minor soils: 22 percent, including Savannah, Susquehanna, Bibb, and Trebloc soils

Soil Characteristics

Freest

Surface layer: Dark grayish brown fine sandy loam
Subsurface layer: Yellowish brown fine sandy loam
Subsoil: Upper part—yellowish brown loam that has yellowish red and yellowish brown mottles; next part—brownish yellow loam that has red and light brownish gray mottles; lower part—light brownish gray clay loam and silty clay having red, brownish yellow, and yellowish brown mottles
Depth class: Very deep
Drainage class: Moderately well drained
Seasonal high water table: Apparent, at a depth of 1.5 to 2.5 feet from January through April
Slope range: 2 to 8 percent
Parent material: Loamy and clayey sediments

Lorman

Surface layer: Brown fine sandy loam
Subsurface layer: Yellowish brown fine sandy loam
Subsoil: Upper part—yellowish red clay that has brown and light brownish gray mottles; lower part—grayish brown silty clay loam that has yellowish red and light brownish gray mottles
Substratum: Light brownish gray silty clay loam that has olive yellow mottles
Depth class: Very deep
Drainage class: Moderately well drained
Depth to seasonal high water table: More than 6.0 feet
Slope range: 5 to 40 percent
Parent material: Clayey and loamy sediments

Benndale

Surface layer: Dark grayish brown fine sandy loam
Subsurface layer: Grayish brown fine sandy loam
Subsoil: Upper part—yellowish brown sandy loam that has yellowish brown mottles; lower part—yellowish brown sandy loam that has brownish yellow and light gray mottles
Depth class: Very deep
Drainage class: Well drained
Depth to seasonal high water table: More than 6.0 feet
Slope range: 0 to 12 percent
Parent material: Loamy sediments

Minor soils

- The moderately well drained Savannah and somewhat poorly drained Susquehanna soils on ridges and summits
- The poorly drained Bibb soils on flood plains
- The poorly drained Trebloc soils in broad concave areas on stream terraces and in narrow drainageways

Use and Management

Major uses: Woodland, pasture, and cropland

Cropland

Management concerns: Slope and erosion

Pasture and hayland

Management concerns: Slope and erosion

Woodland

Management concerns: Freest—restricted use of equipment and competition from undesirable plants; Lorman—competition from undesirable plants, erosion, and restricted use of equipment; Benndale—competition from undesirable plants

Urban development

Management concerns: Freest—wetness, shrink-swell potential, percs slowly, and low strength; Lorman—slope, shrink-swell potential, and low strength; Benndale—slope

Recreational development

Management concerns: Freest—slope, wetness, and percs slowly; Lorman—slope, percs slowly, and erosion; Benndale—slope

5. Lorman-Freest

Dominantly gently sloping to steep, moderately well drained clayey and loamy soils weathered from unconsolidated clayey and loamy sediments; on uplands

Setting

Location in the survey area: South of the flood plain along the Leaf River
Landscape: Coastal Plain
Landform: Uplands
Landform position: Lorman—hillslopes; Freest—ridges, summits, and shoulders
Slope range: Dominantly 2 to 40 percent; small areas may exceed 40 percent

Composition

Percent of the survey area: 5
Lorman soils: 42 percent
Freest soils: 32 percent
Minor soils: 26 percent, including McLaurin and Smithdale soils

Soil Characteristics

Lorman

Surface layer: Brown fine sandy loam
Subsurface layer: Yellowish brown fine sandy loam
Subsoil: Upper part—yellowish red clay that has brown and light brownish gray mottles; lower part—grayish brown silty clay loam that has yellowish red and light brownish gray mottles
Substratum: Light brownish gray silty clay loam that has olive yellow mottles
Depth class: Very deep
Drainage class: Moderately well drained
Depth to seasonal high water table: More than 6.0 feet
Slope range: 5 to 40 percent
Parent material: Clayey and loamy sediments

Freest

Surface layer: Dark grayish brown fine sandy loam
Subsurface layer: Yellowish brown fine sandy loam
Subsoil: Upper part—yellowish brown loam that has yellowish red and yellowish brown mottles; next part—brownish yellow loam that has red and light brownish gray mottles; lower part—light brownish gray clay loam and silty clay having red, brownish yellow, and yellowish brown mottles
Depth class: Very deep
Drainage class: Moderately well drained
Seasonal high water table: Apparent, at a depth of 1.5 to 2.5 feet from January through April
Slope range: 2 to 8 percent
Parent material: Loamy and clayey sediments

Minor soils

- The well drained McLaurin soils on ridges
- The well drained Smithdale soils on hillslopes

Use and Management

Major uses: Woodland

Cropland

Management concerns: Slope and erosion

Pasture and hayland

Management concerns: Slope and erosion

Woodland

Management concerns: Lorman—competition from undesirable plants, erosion, and restricted use of equipment; Freest—restricted use of equipment and competition from undesirable plants

Urban development

Management concerns: Lorman—slope, shrink-swell potential, percs slowly, and low strength; Freest—wetness, shrink-swell potential, and low strength

Recreational development

Management concerns: Lorman—slope, percs slowly, and erosion; Freest—slope, wetness, and percs slowly

6. Susquehanna-Freest-Lorman

Dominantly gently sloping to steep, somewhat poorly drained and moderately well drained clayey and loamy soils weathered from unconsolidated clayey and loamy sediments; on uplands

Setting

Location in the survey area: Southeastern part
Landscape: Coastal Plain
Landform: Uplands that have strongly dissected hillslopes and narrow drainageways
Landform position: Susquehanna—ridges and summits; Freest—ridges, summits, and shoulders; Lorman—hillslopes
Slope range: Dominantly 2 to 40 percent; small areas may exceed 40 percent

Composition

Percent of the survey area: 5
Susquehanna soils: 41 percent
Freest soils: 23 percent
Lorman soils: 21 percent
Minor soils: 15 percent, including Trebloc and Irvington soils

Soil Characteristics

Susquehanna

Surface layer: Brown fine sandy loam
Subsurface layer: Brown loam
Subsoil: Upper part—yellowish red clay; next part—reddish brown clay that has yellowish red and light brownish gray mottles; lower part—light gray clay and silty clay having red and strong brown mottles
Depth class: Very deep

Drainage class: Somewhat poorly drained
Depth to seasonal high water table: More than 6.0 feet
Slope range: 2 to 15 percent
Parent material: Clayey marine sediments

Freest

Surface layer: Dark grayish brown fine sandy loam
Subsurface layer: Yellowish brown fine sandy loam
Subsoil: Upper part—yellowish brown loam that has yellowish red and yellowish brown mottles; next part—brownish yellow loam that has red and light brownish gray mottles; lower part—light brownish gray clay loam and silty clay having red, brownish yellow, and yellowish brown mottles
Depth class: Very deep
Drainage class: Moderately well drained
Seasonal high water table: Apparent, at a depth of 1.5 to 2.5 feet from January through April
Slope range: 2 to 8 percent
Parent material: Loamy and clayey sediments

Lorman

Surface layer: Brown fine sandy loam
Subsurface layer: Yellowish brown fine sandy loam
Subsoil: Upper part—yellowish red clay that has brown and light brownish gray mottles; lower part—grayish brown silty clay loam that has yellowish red and light brownish gray mottles
Substratum: Light brownish gray silty clay loam that has olive yellow mottles
Depth class: Very deep
Drainage class: Moderately well drained
Depth to seasonal high water table: More than 6.0 feet
Slope range: 5 to 40 percent
Parent material: Clayey and loamy marine sediments

Minor soils

- The poorly drained Trebloc soils on concave stream terraces and in narrow drainageways
- The moderately well drained Irvington soils on ridges and summits

Use and Management

Major uses: Woodland, pasture, and cropland

Cropland

Management concerns: Slope and erosion

Pasture and hayland

Management concerns: Slope and erosion

Woodland

Management concerns: Susquehanna—restricted use of equipment; Freest—restricted use of equipment and competition from undesirable plants; Lorman—competition from undesirable plants, erosion, and restricted use of equipment

Urban development

Management concerns: Susquehanna—shrink-swell potential, low strength, percs slowly, and too clayey; Freest—wetness, shrink-swell potential, percs slowly, and low strength; Lorman—slope, shrink-swell potential, and low strength

Recreational development

Management concerns: Susquehanna—percs slowly and slope; Freest—slope, wetness, and percs slowly; Lorman—slope, percs slowly, and erosion

7. Freest-Irvington

Dominantly nearly level to moderately sloping, moderately well drained loamy soils weathered from unconsolidated loamy sediments; on uplands

Setting

Location in the survey area: Southern part
Landscape: Coastal Plain
Landform: Uplands that have broad ridges, hillslopes, and narrow drainageways
Landform position: Freest—ridges, summits, and shoulders; Irvington—ridges and summits
Slope range: Dominantly 0 to 8 percent; minor soils may exceed 8 percent

Composition

Percent of the survey area: 2
Freest soils: 44 percent
Irvington soils: 38 percent
Minor soils: 18 percent, including Lorman, Dorovan, Croatan, and McLaurin soils

Soil Characteristics

Freest

Surface layer: Dark grayish brown fine sandy loam
Subsurface layer: Yellowish brown fine sandy loam
Subsoil: Upper part—yellowish brown loam that has yellowish red mottles; next part—brownish yellow loam that has red and light brownish gray mottles; lower part—light brownish gray clay loam and silty clay having red, brownish yellow, and yellowish brown mottles
Depth class: Very deep
Drainage class: Moderately well drained
Seasonal high water table: Apparent, at a depth of 1.5

to 2.5 feet from January through April
Slope range: 2 to 8 percent
Parent material: Loamy and clayey sediments

Irvington

Surface layer: Dark grayish brown fine sandy loam
Subsurface layer: Light yellowish brown fine sandy loam
Subsoil: Upper part—yellowish brown fine sandy loam; next part—yellowish brown sandy clay loam that has pale brown mottles; lower part—yellowish brown fine sandy loam that has strong brown, red, and light gray mottles
Substratum: Light gray clay loam that has strong brown and yellowish brown mottles
Depth class: Very deep
Drainage class: Moderately well drained
Seasonal high water table: Perched, at a depth of 1.5 to 3.0 feet from December through May
Slope range: 0 to 5 percent
Parent material: Loamy sediments

Minor soils

- The moderately well drained Lorman soils on hillslopes
- The very poorly drained Dorovan and Croatan soils in depressional areas on stream terraces and flood plains
- The well drained McLaurin soils on ridges, summits, and shoulders

Use and Management

Major uses: Pasture, cropland, and woodland

Cropland

Management concerns: Slope and erosion

Pasture and hayland

Management concerns: Slope and erosion

Woodland

Management concerns: Freest—restricted use of equipment and competition from undesirable plants; Irvington—restricted use of equipment and competition from undesirable plants

Urban development

Management concerns: Freest—wetness, shrink-swell potential, percs slowly, and low strength; Irvington—slope and wetness

Recreational development

Management concerns: Slope, wetness, and percs slowly

8. Prentiss-Trebloc-Cahaba

Dominantly nearly level to gently sloping, moderately well drained, poorly drained, and well drained soils formed in loamy alluvium; on stream terraces and flood plains

Setting

Location in the survey area: Northern part
Landscape: Coastal Plain
Landform: Stream terraces
Landform position: Prentiss—convex stream terraces; Trebloc—broad concave areas and narrow drainageways; Cahaba—convex areas on stream terraces and terrace scarps
Slope range: Dominantly 0 to 5 percent; areas on short side slopes may exceed 5 percent

Composition

Percent of the survey area: 9
Prentiss soils: 67 percent
Trebloc soils: 16 percent
Cahaba soils: 10 percent
Minor soils: 7 percent, including Dorovan, Croatan, and Harleston soils

Soil Characteristics

Prentiss

Surface layer: Brown fine sandy loam
Subsoil: Upper part—yellowish brown sandy loam that has strong brown, brown, and light brownish gray mottles; lower part—yellowish brown sandy loam that has strong brown, brown, and light brownish gray mottles
Depth class: Very deep
Drainage class: Moderately well drained
Seasonal high water table: Perched, at a depth of 2.0 to 2.5 feet from January through March
Slope range: 0 to 5 percent
Parent material: Loamy sediments

Trebloc

Surface layer: Dark grayish brown silt loam
Subsurface layer: Grayish brown silt loam
Subsoil: Upper part—light brownish gray silty clay loam that has yellowish brown mottles; lower part—grayish brown silty clay loam and silty clay having yellowish brown and brownish yellow mottles
Depth class: Very deep
Drainage class: Poorly drained
Seasonal high water table: Apparent, at a depth of 0.5 to 1.0 foot from January through April

Slope range: 0 to 2 percent
Parent material: Moderately fine textured fluvial sediments

Cahaba

Surface layer: Brown fine sandy loam
Subsurface layer: Yellowish brown loam
Subsoil: Upper part—yellowish red clay loam that has red and light yellowish brown mottles; lower part—yellowish red clay loam that has strong brown, red, and pale brown mottles
Substratum: Upper part—yellowish brown sandy loam that has yellowish red mottles; lower part—brownish yellow sand that has light yellowish brown mottles
Depth class: Very deep
Drainage class: Well drained
Depth to seasonal high water table: More than 6.0 feet
Slope range: 0 to 2 percent
Parent material: Loamy and sandy alluvium

Minor soils

- The very poorly drained Dorovan and Croatan soils in depressions
- The moderately well drained Harleston soils in convex areas on stream terraces

Use and Management

Major uses: Pasture, cropland, and woodland

Cropland

Management concerns: Prentiss—wetness and root penetration; Trebloc—flooding and wetness; Cahaba—flooding

Pasture and hayland

Management concerns: Prentiss—wetness and root penetration; Trebloc—flooding and wetness; Cahaba—flooding

Woodland

Management concerns: Prentiss—competition from undesirable plants; Trebloc—seedling mortality, competition from undesirable plants, and restricted use of equipment; Cahaba—competition from undesirable plants

Urban development

Management concerns: Prentiss—percs slowly, wetness, and droughtiness; Trebloc—flooding, wetness, percs slowly, and low strength; Cahaba—flooding and cutbanks cave

Recreational development

Management concerns: Prentiss—wetness, percs slowly, and slope; Trebloc—flooding and wetness; Cahaba—flooding

9. Latonia-Bassfield-Cahaba

Dominantly nearly level, well drained soils that formed in loamy and sandy alluvium; on stream terraces

Setting

Location in the survey area: Throughout
Landscape: Coastal Plain
Landform: Stream terraces
Landform position: Latonia and Bassfield—stream terraces; Cahaba—convex areas on stream terraces and terrace scarps
Slope range: Dominantly 0 to 2 percent; areas on short side slopes may exceed 2 percent

Composition

Percent of the survey area: 7
Latonia soils: 26 percent
Bassfield soils: 25 percent
Cahaba soils: 24 percent
Minor soils: 25 percent, including Trebloc and Alaga soils

Soil Characteristics

Latonia

Surface layer: Dark brown loamy sand
Subsurface layer: Yellowish brown fine sandy loam
Subsoil: Upper part—yellowish brown sandy loam; lower part—strong brown sandy loam
Substratum: Upper part—very pale brown loamy sand; lower part—brownish yellow sand
Depth class: Very deep
Drainage class: Well drained
Depth to seasonal high water table: More than 6.0 feet
Slope range: 0 to 2 percent
Parent material: Loamy and sandy alluvium

Bassfield

Surface layer: Dark grayish brown fine sandy loam
Subsurface layer: Brown fine sandy loam
Subsoil: Upper part—yellowish red loam; lower part—yellowish red sandy loam
Substratum: Brownish yellow loamy sand that has strong brown mottles
Depth class: Very deep
Drainage class: Well drained

Depth to seasonal high water table: More than 6.0 feet
Slope range: 0 to 2 percent
Parent material: Loamy and sandy alluvium

Cahaba

Surface layer: Brown fine sandy loam
Subsurface layer: Yellowish brown loam
Subsoil: Upper part—yellowish red clay loam; lower part—yellowish red clay loam that has strong brown, red, and pale brown mottles
Substratum: Upper part—yellowish brown sandy loam that has yellowish red mottles; lower part—brownish yellow sand that has light yellowish brown mottles
Depth class: Very deep
Drainage class: Well drained
Depth to seasonal high water table: More than 6.0 feet
Slope range: 0 to 2 percent

Minor soils

- The poorly drained Trebloc soils in narrow drainageways
- The somewhat excessively drained Alaga soils on old natural levees

Use and Management

Major uses: Woodland, pasture, and cropland

Cropland

Management concerns: Latonia—flooding and droughtiness; Bassfield and Cahaba—flooding

Pasture and hayland

Management concerns: Latonia—flooding and droughtiness; Bassfield and Cahaba—flooding

Woodland

- No significant limitations affect management.

Urban development

Management concerns: Latonia—flooding and poor filter; Bassfield and Cahaba—flooding and cutbanks cave

Recreational development

Management concerns: Latonia—flooding, small stones, and droughtiness; Bassfield—flooding and small stones; Cahaba—flooding

10. Trebloc-Harleston-Stough

Dominantly nearly level, poorly drained, well drained, and somewhat poorly drained soils that formed in loamy and sandy sediments; on stream terraces and narrow flood plains

Setting

Location in the survey area: Along Thompson's Creek, Bogue Homo Creek, Gaines Creek, and Black Creek
Landscape: Coastal Plain
Landform: Narrow flood plains and stream terraces
Landform position: Trebloc—broad concave areas and narrow drainageways; Harleston and Stough—stream terraces
Slope range: Dominantly 0 to 2 percent; areas on short side slopes may exceed 2 percent

Composition

Percent of the survey area: 10
Trebloc soils: 41 percent
Harleston soils: 22 percent
Stough soils: 15 percent
Minor soils: 22 percent, including Alaga, Bassfield, Prentiss, and Cahaba soils

Soil Characteristics

Trebloc

Surface layer: Dark grayish brown silt loam
Subsurface layer: Grayish brown silt loam
Subsoil: Upper part—light brownish gray silty clay loam that has yellowish brown mottles; lower part—grayish brown silty clay loam and silty clay having yellowish brown and brownish yellow mottles
Depth class: Very deep
Drainage class: Poorly drained
Seasonal high water table: Apparent, at a depth of 0.5 to 1.0 foot from January through April
Slope range: 0 to 2 percent
Parent material: Moderately fine textured fluvial sediments

Harleston

Surface layer: Very dark grayish brown fine sandy loam
Subsurface layer: Light yellowish brown fine sandy loam
Subsoil: Upper part—brownish yellow loam; lower part—light yellowish brown loam that has strong brown and light brownish gray mottles
Substratum: Light brownish gray loam that has red mottles
Depth class: Very deep
Drainage class: Moderately well drained
Seasonal high water table: Apparent, at a depth of 2.0 to 3.0 feet from November through March
Slope range: 0 to 2 percent

Parent material: Loamy and sandy sediments

Stough

Surface layer: Dark grayish brown fine sandy loam
Subsurface layer: Pale brown fine sandy loam
Subsoil: Upper part—light yellowish brown loam that has yellowish brown and light brownish gray mottles; next part—mottled yellowish brown, light brownish gray, and dark yellowish brown loam; lower part—light yellowish brown loam that has light brownish gray mottles
Depth class: Very deep
Drainage class: Somewhat poorly drained
Seasonal high water table: Perched, at a depth of 1.0 to 1.5 feet from January through April
Slope range: 0 to 2 percent
Parent material: Loamy sediments

Minor soils

- The somewhat excessively drained Alaga soils on stream terraces
- The well drained Bassfield soils on low stream terraces
- The moderately well drained Prentiss soils on the higher stream terraces
- The well drained Cahaba soils on terrace scarps

Use and Management

Major uses: Woodland

Cropland

Management concerns: Trebloc and Harleston—wetness; Stough—droughtiness, wetness, and root penetration

Pasture and hayland

Management concerns: Trebloc and Harleston—wetness; Stough—droughtiness, wetness, and root penetration

Woodland

Management concerns: Trebloc—seedling mortality, competition from undesirable plants, and restricted use of equipment; Harleston—competition from undesirable plants; Stough—competiton from undesirable plants and restricted use of equipment

Urban development

Management concerns: Trebloc—flooding, wetness, and low strength; Harleston and Stough—flooding, wetness, and percs slowly

Recreational development

Management concerns: Trebloc—flooding and wetness; Harleston—flooding and wetness; Stough—flooding, wetness, percs slowly, and droughtiness

11. Bigbee-Ouachita-Jena

Dominantly nearly level, excessively drained, moderately well drained, and well drained soils that formed in loamy and sandy alluvium; on stream terraces and flood plains

Setting

Location in the survey area: Northern part
Landscape: Coastal Plain
Landform: Flood plains that have many old channel scars, oxbows, and sloughs that are ponded more than 6 months each year
Landform position: Bigbee—natural levees; Ouachita—between natural levees and uplands and stream escarpments; Jena—slightly convex levees
Slope range: Dominantly 0 to 2 percent; areas on short side slopes may exceed 2 percent

Composition

Percent of the survey area: 5
Bigbee soils: 37 percent
Ouachita soils: 29 percent
Jena soils: 19 percent
Minor soils: 15 percent, including Cahaba, Prentiss, Stough, and Trebloc soils

Soil Characteristics

Bigbee

Surface layer: Dark yellowish brown loamy sand
Substratum: Upper part—light yellowish brown loamy sand; lower part—very pale brown fine sand that has light yellowish brown and very pale brown mottles
Depth class: Very deep
Drainage class: Excessively drained
Seasonal high water table: Apparent, at a depth of 3.5 to 6.0 feet from January through March
Slope range: 0 to 2 percent
Parent material: Sandy alluvium

Ouachita

Surface layer: Brown silt loam
Subsurface layer: Dark yellowish brown silt loam
Subsoil: Yellowish brown silt loam
Substratum: Yellowish brown very fine sandy loam that has light gray mottles
Depth class: Very deep
Drainage class: Well drained

Depth to seasonal high water table: More than 6.0 feet
Slope range: 0 to 1 percent
Parent material: Silty alluvium

Jena

Surface layer: Dark grayish brown silt loam
Subsoil: Upper part—brown silt loam; lower part—dark yellowish brown silt loam
Substratum: Upper part—yellowish brown sandy loam; lower part—light yellowish brown sandy loam
Depth class: Very deep
Drainage class: Well drained
Depth to seasonal high water table: More than 6.0 feet
Slope range: 0 to 1 percent
Parent material: Loamy alluvium

Minor soils

- The well drained Cahaba and moderately well drained Prentiss soils on the higher, isolated stream terrace remnants scattered throughout the flood plain
- The somewhat poorly drained Stough soils on low stream terraces
- The poorly drained Trebloc soils on flood plains

Use and Management

Major uses: Woodland

Cropland

Management concerns: Bigbee—flooding, droughtiness, and wetness; Ouachita and Jena—flooding

Pasture and hayland

Management concerns: Bigbee—flooding, droughtiness, and wetness; Ouachita and Jena—flooding

Woodland

Management concerns: Bigbee and Ouachita—seedling mortality; Jena—competition from undesirable plants and seedling mortality

Urban development

Management concerns: Bigbee—flooding, cutbanks cave, wetness, and poor filter; Ouachita—flooding; Jena—cutbanks cave and flooding

Recreational development

Management concerns: Bigbee—flooding, too sandy, and droughtiness; Ouachita—flooding and percs slowly; Jena—flooding

Detailed Soil Map Units

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

A map unit delineation on a map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils or miscellaneous areas. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils and miscellaneous areas are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some "included" areas that belong to other taxonomic classes.

Most included soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, inclusions. They may or may not be mentioned in the map unit description. Other included soils and miscellaneous areas, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, inclusions. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. The included areas of contrasting soils or miscellaneous areas are mentioned in the map unit descriptions. A few included areas may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of included areas in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans, but if intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit 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, 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, slope, stoniness, salinity, 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, Freest fine sandy loam, 2 to 5 percent slopes, is a phase of the Freest series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Benndale-Smithdale complex, 8 to 15 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. McLaurin and Benndale soils, 0 to 5 percent slopes, is an undifferentiated group in this survey area.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Pits-Udorthents, complex, is an example.

Table 4 gives the acreage and proportionate extent of each map unit. Other 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 or miscellaneous areas.

Soil Descriptions

Al—Alaga loamy sand, 0 to 2 percent slopes

Setting

Landscape: Coastal Plain
Landform: Stream terraces
Landform position: Convex slopes
Shape of areas: Oblong
Size of areas: 10 to 75 acres

Composition

Alaga soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 6 inches—dark brown loamy sand

Substratum:
6 to 16 inches—yellowish brown loamy sand
16 to 22 inches—yellowish brown sand
22 to 42 inches—brownish yellow sand
42 to 53 inches—yellow sand
53 to 80 inches—very pale brown sand

Soil Properties and Qualities

Potential rooting depth: More than 60 inches
Drainage class: Somewhat excessively drained
Permeability: Rapid
Available water capacity: Low
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Low
Flooding: None
Hazard of water erosion: None to slight
Tilth: Fair
Parent material: Sandy alluvium

Minor Components

Dissimilar soils:
- Areas of the loamy Bassfield and Harleston soils in positions similar to those of the Alaga soil

Land Use

Dominant uses: Woodland and pasture
Other uses: Cultivated crops

Cropland

Suitability: Suited
Commonly grown crops: Corn
Management concerns: Droughtiness
- Using supplemental irrigation and planting crop varieties that are adapted to droughty conditions help to increase crop production.
- Conservation tillage, winter cover crops, crop residue management, and a crop rotation that includes grasses and legumes help to increase available water capacity, decrease crusting, and improve soil fertility.

Pasture and hayland

Suitability: Well suited
Commonly grown crops: Common bermudagrass and bahiagrass
Management concerns: Droughtiness
- Using supplemental irrigation and planting drought-tolerant species help to increase productivity.
- Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the condition of the pasture and increase productivity.

Woodland

Suitability: Suited
Management concerns: Equipment limitations and seedling mortality
- Planting appropriate species as recommended by a forester helps to maximize productivity and to ensure seedling survival.
- Using tracked or low pressure ground equipment during harvesting helps to reduce rutting and compaction, which damages roots.
- Selective thinning and removal of undesirable plants can help to minimize plant competition.

Wildlife habitat

Potential as habitat for: Openland wildlife—fair; Woodland wildlife—poor; Wetland wildlife—very poor
Management concerns: Too sandy
• Openland wildlife.—Leaving undisturbed areas of vegetation around cropland and pasture provides food and rest areas that improve habitat for openland wildlife.
• Woodland wildlife.—Habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed producing plants for quail and turkey.
• Wetland wildlife.—A better site can be selected.

Dwellings

Suitability: Suited
Management concerns: Cutbanks cave and droughtiness
• Cutbanks are unstable and are subject to slumping. Support beams should be used to maintain the stability of the cutbanks.
• Properly installed irrigation systems can maintain lawns during periods of low rainfall.

Septic tank absorption fields

Suitability: Poorly suited
Management concerns: Poor filter
• Measures that improve filtering capacity should be considered. The soil readily absorbs, but does not adequately filter, effluent.

Local roads and streets

Suitability: Well suited
Management concerns: None
• No significant limitations affect local roads and streets.

Interpretive Groups

Land capability classification: IIIs
Woodland ordination symbol: 8S

AT—Atmore soils, 0 to 2 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Slight depressions and gently sloping interstream divides
Shape of areas: Long and narrow
Size of areas: 40 to 300 acres

Composition

Atmore soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 5 inches—dark grayish brown fine sandy loam

Subsurface layer:

5 to 15 inches—light grayish brown fine sandy loam that has yellowish brown mottles

Subsoil:
15 to 35 inches—70 percent light brownish gray and 30 percent grayish brown fine sandy loam having black and strong brown mottles
35 to 50 inches—55 percent light brownish gray and 45 percent yellowish brown fine sandy loam
50 to 64 inches—55 percent light brownish gray and 45 percent strong brown loam
64 to 72 inches—35 percent light gray, 35 percent pink, and 30 percent yellowish brown clay loam

Substratum:
72 to 83 inches—yellowish brown loam that has light brownish gray mottles

Soil Properties and Qualities

Potential rooting depth: More than 60 inches
Drainage class: Poorly drained
Permeability: Moderately slow
Available water capacity: High
Seasonal high water table: Perched, at the surface to a depth of 1.0 foot from October through March
Shrink-swell potential: Low
Flooding: None
Hazard of water erosion: None to slight
Tilth: Fair
Parent material: Loamy sediments
Other distinctive properties: More than 5 percent plinthite within a depth of 24 to 50 inches

Minor Components

Dissimilar soils:
• Areas of the moderately well drained Freest and Irvington soils in the slightly higher, more convex positions

Land Use

Dominant uses: Woodland
Other uses: Wildlife habitat

Cropland

Suitability: Poorly suited
Commonly grown crops: Corn and soybeans
Management concerns: Wetness
• A well maintained drainage system helps to minimize wetness and increases productivity.

Pasture and hayland

Suitability: Suited
Commonly grown crops: Common bermudagrass and bahiagrass
Management concerns: Wetness
• Overgrazing and grazing when the soils are too wet cause soil compaction, decreased productivity, and poor tilth.
• Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the condition of the pasture and increase productivity.

Woodland

Suitability: Suited
Management concerns: Equipment limitations, plant competition, and seedling mortality
• Planting appropriate species as recommended by a forester helps to maximize productivity and to ensure seedling survival.
• Restricting the use of standard wheeled and tracked equipment to dry periods helps to reduce the rutting and soil compaction that occur when the soils are saturated.
• Selective thinning and removal of undesirable plants can help to minimize plant competition.

Wildlife habitat

Potential as habitat for: Openland wildlife—fair; Woodland wildlife—fair; Wetland wildlife—good
Management concerns: Wetness
• Openland wildlife.—Leaving undisturbed areas of vegetation around cropland and pasture provides food and rest areas that improve habitat for openland wildlife.
• Woodland wildlife.—Habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed producing plants for quail and turkey.
• Wetland wildlife.—Habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Poorly suited
Management concerns: Wetness
• Constructing dwellings on raised, well compacted fill material helps to reduce the risk of damage from wetness.
• Installing a subsurface drainage system helps to lower the seasonal high water table.

Septic tank absorption fields

Suitability: Poorly suited
Management concerns: Wetness and percs slowly
• This map unit is severely limited as a site for septic tank absorption fields because of the wetness.
• The local Health Department can be contacted for additional guidance.
• Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves septic system performance.

Local roads and streets

Suitability: Poorly suited
Management concerns: Wetness
• Constructing roads on raised, well compacted fill material helps to compensate for the wetness.

Interpretive Groups

Land capability classification: IVw
Woodland ordination symbol: 9W

BaA—Bassfield fine sandy loam, 0 to 2 percent slopes, rarely flooded

Setting

Landscape: Coastal Plain
Landform: Low stream terraces
Landform position: Planar and slightly convex slopes
Shape of areas: Oblong
Size of areas: 10 to 300 acres

Composition

Bassfield and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 4 inches—dark grayish brown fine sandy loam

Subsurface layer:

4 to 9 inches—brown fine sandy loam

Subsoil:
9 to 21 inches—yellowish red loam

21 to 37 inches—yellowish red sandy loam

Substratum:
37 to 46 inches—brownish yellow loamy sand
46 to 80 inches—brownish yellow loamy sand that has strong brown mottles

Soil Properties and Qualities

Potential rooting depth: More than 60 inches
Drainage class: Well drained
Permeability: Moderately rapid
Available water capacity: Moderate
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Low
Flooding: Rare
Hazard of water erosion: None to slight
Tilth: Good
Parent material: Loamy and sandy fluvial sediments

Minor Components

Dissimilar soils:
- Areas of the clayey Annemaine soils in the lower positions
- Areas of the sandy Alaga soils in the slightly higher positions
- Areas of the moderately well drained Harleston soils in the slightly higher positions
- Areas of soils that have short, steep slopes; adjacent to sloughs and drainageways

Similar soils:
- Scattered areas of Latonia soils that have brownish colors in the subsoil
- Scattered areas of Cahaba soils that have more clay than the Bassfield soil in the upper part of the subsoil

Land Use

Dominant uses: Woodland and pasture
Other uses: Cropland and hayland

Cropland

Suitability: Well suited
Commonly grown crops: Corn, soybeans, wheat, and specialty crops (fig. 2)
Management concerns: Droughtiness
- Conservation tillage, winter cover crops, crop residue management, and a crop rotation that includes grasses and legumes help to increase available water capacity, decrease crusting, and improve fertility.

Pasture and hayland

Suitability: Well suited
Commonly grown crops: Common bermudagrass and bahiagrass
Management concerns: Droughtiness
- Using supplemental irrigation and planting grasses that are adapted to droughty conditions help to increase forage production.
- Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the condition of the pasture and increase productivity.

Woodland

Suitability: Well suited
Management concerns: None
- No significant limitations affect woodland management.
- Planting appropriate species as recommended by a forester helps to maximize productivity and to ensure seedling survival.

Wildlife habitat

Potential as habitat for: Openland wildlife—good; Woodland wildlife—good; Wetland wildlife—very poor
Management concerns: Droughtiness
- Openland wildlife.—Leaving undisturbed areas of vegetation around cropland and pasture provides food and rest areas that improve habitat for openland wildlife.
- Woodland wildlife.—Habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed producing plants for quail and turkey.
- Wetland wildlife.—Habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Poorly suited
Management concerns: Cutbanks cave and flooding
- Constructing dwellings on elevated, well compacted fill material helps to minimize damage from floodwater.

Septic tank absorption fields

Suitability: Suited
Management concerns: Flooding
- Septic tank absorption fields do not function properly during flooding and can be damaged by floodwater.

Local roads and streets

Suitability: Well suited
Management concerns: Flooding

Figure 2.—Squash, which is a specialty crop, in an area of Bassfield fine sandy loam, 0 to 2 percent slopes, rarely flooded.

• Constructing roads on raised, well compacted fill material helps to elevate the roads above flood stage.

Interpretive Groups

Land capability classification: IIs
Woodland ordination symbol: 9A

BdB—Benndale fine sandy loam, 2 to 5 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Ridges, shoulders, and summits
Shape of areas: Irregular
Size of areas: 10 to 100 acres

Composition

Benndale and similar soils: 90 percent

Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 4 inches—dark grayish brown fine sandy loam

Subsurface layer:
4 to 8 inches—grayish brown fine sandy loam

Subsoil:
8 to 25 inches—yellowish brown sandy loam
25 to 47 inches—yellowish brown sandy loam that has yellowish brown mottles
47 to 68 inches—yellowish brown sandy loam that has light gray and brownish yellow mottles

Soil Properties and Qualities

Potential rooting depth: More than 60 inches
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Moderate
Depth to seasonal high water table: More than 6.0 feet

Shrink-swell potential: Low
Flooding: None
Hazard of water erosion: Moderate
Tilth: Good
Parent material: Loamy sediments
Other distinctive properties: Less than 5 percent plinthite in the BC horizon (if it occurs)

Minor Components

Dissimilar soils:
- Areas of the less sandy Freest soils in positions similar to those of the Benndale soil
- Areas of the more clayey Susquehanna soils in the higher positions
- Areas of the poorly drained, more silty Atmore soils in the lower positions
- Areas of soils that have short, steep slopes
- Areas of soils in narrow drainageways

Similar soils:
- Areas of the well drained McLaurin soils that are in positions similar to those of the Benndale soil and that have a redder subsoil
- Areas of the well drained Lucedale soils on summits
- Areas of the well drained Smithdale soils in the steeper areas

Land Use

Dominant uses: Woodland
Other uses: Cropland, pasture, and hayland

Cropland

Suitability: Well suited
Commonly grown crops: Corn, soybeans, wheat, and truck crops
Management concerns: None
- No significant limitations affect cropland management.
- A conservation tillage system increases the content of organic matter and soil moisture and helps maintain tilth, retain plant nutrients, and control erosion.

Pasture and hayland

Suitability: Well suited
Commonly grown crops: Common bermudagrass and bahiagrass
Management concerns: None
- No significant limitations affect the management of pasture and hayland.
- Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the condition of the pasture and increase productivity.

Woodland

Suitability: Well suited
Management concerns: Plant competition
- Planting appropriate species as recommended by a forester helps to maximize productivity and to ensure seedling survival.
- Selective thinning and removal of undesirable plants can help to minimize plant competition.

Wildlife habitat

Potential as habitat for: Openland wildlife—good; Woodland wildlife—good; Wetland wildlife—very poor
Management concerns: None
- Openland wildlife.—Leaving undisturbed areas of vegetation around cropland and pasture provides food and rest areas that improve habitat for openland wildlife.
- Woodland wildlife.—Habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed producing plants for quail and turkey.
- Wetland wildlife.—Habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Well suited
Management concerns: None
- No significant limitations affect dwellings.

Septic tank absorption fields

Suitability: Well suited
Management concerns: None
- No significant limitations affect septic tank absorption fields.
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets

Suitability: Well suited
Management concerns: None
- No significant limitations affect local roads and streets.

Interpretive Groups

Land capability classification: IIe
Woodland ordination symbol: 10A

BdC—Benndale fine sandy loam, 5 to 8 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Ridges, shoulders, and summits
Shape of areas: Irregular
Size of areas: 10 to 100 acres

Composition

Benndale and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 4 inches—dark grayish brown fine sandy loam

Subsurface layer:
4 to 8 inches—grayish brown fine sandy loam

Subsoil:
8 to 25 inches—yellowish brown sandy loam
25 to 47 inches—yellowish brown sandy loam that has yellowish brown mottles
47 to 68 inches—yellowish brown sandy loam that has light gray and brownish yellow mottles

Soil Properties and Qualities

Potential rooting depth: More than 60 inches
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Moderate
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Low
Flooding: None
Hazard of water erosion: Severe
Tilth: Good
Parent material: Loamy sediments
Other distinctive properties: Less than 5 percent plinthite in the BC horizon (if it occurs)

Minor Components

Dissimilar soils:
- Areas of the less sandy Freest soils in positions similar to those of the Benndale soil
- Areas of the more clayey Susquehanna soils in the higher positions
- Areas of soils that have short, steep slopes
- Areas of soils in narrow drainageways

Similar soils:
- Areas of the McLaurin soils that have a redder subsoil than the Benndale soil, in positions similar to those of the Benndale soil
- Areas of the well drained Lucedale soils on summits
- Areas of the well drained Smithdale soils in the higher areas
- Areas of the well drained Heidel soils in the higher areas

Land Use

Dominant uses: Woodland
Other uses: Cropland, pasture, and hayland

Cropland

Suitability: Well suited
Commonly grown crops: Corn and soybeans
Management concerns: Erosion
- Using a resource management system that includes terraces and diversions, conservation tillage, stripcropping, contour farming, crop residue management, and a crop rotation that includes soil conserving crops helps to control erosion and surface runoff and maximizes the rate of water infiltration.

Pasture and hayland

Suitability: Well suited
Commonly grown crops: Common bermudagrass and bahiagrass
Management concerns: Erosion
- Preparing seedbeds and using no-till planting on the contour or across the slope help to control erosion and increase germination.
- Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the condition of the pasture and increase productivity.

Woodland

Suitability: Well suited
Management concerns: Plant competition
- Planting appropriate species as recommended by a forester helps to maximize productivity and to ensure seedling survival.
- Selective thinning and removal of undesirable plants can help to minimize plant competition.

Wildlife habitat

Potential as habitat for: Openland wildlife—good; Woodland wildlife—good; Wetland wildlife—very poor
Management concerns: Erosion
- Openland wildlife.—Leaving undisturbed areas of vegetation around cropland and pasture provides food and rest areas that improve habitat for openland wildlife.
- Woodland wildlife.—Habitat can be improved by planting appropriate vegetation, maintaining the

existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed producing plants for quail and turkey.
• Wetland wildlife.—Habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Well suited
Management concerns: Erosion
• Grading or land shaping prior to construction helps to reduce the damage caused by surface water and helps to control erosion.
• Designing structures to conform to the natural slope helps to reduce the hazard of erosion.
• Vegetating cleared and graded areas as soon as possible and installing silt fences help to maintain soil stability and prevent sediments from leaving the site.

Septic tank absorption fields

Suitability: Well suited
Management concerns: None
• No significant limitations affect septic tank absorption fields.
• Installing distribution lines on the contour improves performance of septic tank absorption fields.
• The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets

Suitability: Well suited
Management concerns: None
• No significant limitations affect local roads and streets.
• Designing roads on the contour and providing adequate water-control structures, such as culverts, help to maintain road stability.

Interpretive Groups

Land capability classification: IIIe
Woodland ordination symbol: 10A

BhD—Benndale-Smithdale complex, 8 to 15 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Benndale—shoulders and summits; Smithdale—nose slopes, shoulders, and footslopes
Shape of areas: Irregular
Size of areas: 60 to 600 acres

Composition

Benndale and similar soils: 60 percent
Smithdale and similar soils: 30 percent
Dissimilar soils: 10 percent

Typical Profile

Benndale

Surface layer:
0 to 4 inches—dark grayish brown fine sandy loam

Subsurface layer:
4 to 8 inches—grayish brown fine sandy loam

Subsoil:
8 to 25 inches—yellowish brown sandy loam
25 to 47 inches—yellowish brown sandy loam
47 to 68 inches—yellowish brown sandy loam that has light gray and brownish yellow mottles

Smithdale

Surface layer:
0 to 6 inches—dark grayish brown fine sandy loam

Subsurface layer:
6 to 13 inches—light yellowish brown sandy loam

Subsoil:
13 to 33 inches—red sandy clay loam
33 to 65 inches—red sandy loam

Soil Properties and Qualities

Benndale

Potential rooting depth: More than 60 inches
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Moderate
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Low
Flooding: None
Hazard of water erosion: Severe
Tilth: Good
Parent material: Loamy sediments
Other distinctive properties: Less than 5 percent plinthite in the BC horizon (if it occurs)

Smithdale

Potential rooting depth: More than 60 inches
Drainage class: Well drained
Permeability: Moderate

Available water capacity: Moderate
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Low
Flooding: None
Hazard of water erosion: Severe or very severe
Tilth: Good
Parent material: Loamy sediments

Minor Components

Dissimilar soils:
• Areas of the poorly drained Bibb and Trebloc soils on narrow flood plains

Similar soils:
• Areas of McLaurin soils that have less clay in the subsoil than the Smithdale soil and have reddish colors in the subsoil, on ridgetops
• Scattered areas of Heidel soils that are in positions similar to those of Smithdale soil and that have less clay in the subsoil

Land Use

Dominant uses: Woodland
Other uses: Pasture and hayland

Cropland

Suitability: Poorly suited
Commonly grown crops: Corn and soybeans
Management concerns: Benndale—erosion and droughtiness; Smithdale—erosion
• Using a resource management system that includes terraces and diversions, conservation tillage, stripcropping, contour farming, crop residue management, and a crop rotation that includes soil conserving crops helps to control erosion and surface runoff and maximizes the rate of water infiltration.
• Applying lime and fertilizer on the basis of soil testing helps to increase the availability of plant nutrients and to maximize crop productivity.

Pasture and hayland

Suitability: Well suited to pasture, suited to hayland
Commonly grown crops: Common bermudagrass and bahiagrass
Management concerns: Benndale—droughtiness, erosion, and equipment use; Smithdale—erosion and equipment use
• Preparing seedbeds and using no-till planting on the contour or across the slope help to control erosion and increase germination.
• Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the condition of the pasture and increase productivity.
• If hay is harvested, the slope may limit equipment use in the steeper areas.

Woodland

Suitability: Well suited
Management concerns: Benndale—plant competition; Smithdale—none
• Planting appropriate species as recommended by a forester helps to maximize productivity and to ensure seedling survival.
• Selective thinning and removal of undesirable plants can help to minimize plant competition.

Wildlife habitat

Potential as habitat for: Openland wildlife—good; Woodland wildlife—good; Wetland wildlife—very poor
Management concerns: Benndale—droughtiness and erosion; Smithdale—erosion
• Openland wildlife.—Leaving undisturbed areas of vegetation around cropland and pasture provides food and rest areas that improve habitat for openland wildlife.
• Woodland wildlife.—Habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed producing plants for quail and turkey.
• Wetland wildlife.—Habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Suited
Management concerns: Slope
• Grading or land shaping prior to construction helps to reduce the damage caused by surface water and helps to control erosion.
• Designing structures to conform to the natural slope helps to reduce the hazard of erosion.
• Vegetating cleared and graded areas as soon as possible and installing silt fences help to maintain soil stability and prevent sediments from leaving the site.

Septic tank absorption fields

Suitability: Suited
Management concerns: Slope
• Installing distribution lines on the contour improves performance of septic tank absorption fields.
• The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets

Suitability: Suited
Management concerns: Slope
• Designing roads on the contour and providing adequate water-control structures, such as culverts, help to maintain road stability.

Interpretive Groups

Land capability classification: VIe
Woodland ordination symbol: 9A

Bk—Bibb silt loam, 0 to 1 percent slopes, frequently flooded

Setting

Landscape: Coastal Plain
Landform: Flood plains
Landform position: Planar and slightly convex areas
Shape of areas: Long and narrow
Size of areas: 10 to 100 acres

Composition

Bibb soils: 80 percent
Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 6 inches—very dark grayish brown silt loam
6 to 18 inches—dark grayish brown silt loam

Substratum:
18 to 25 inches—gray silt loam that has strong brown mottles
25 to 30 inches—gray sandy loam
30 to 60 inches—light gray sand

Soil Properties and Qualities

Potential rooting depth: More than 60 inches
Drainage class: Poorly drained
Permeability: Moderate
Available water capacity: Moderate
Seasonal high water table: Apparent, at a depth of 0.5 to 1.0 foot from December through April
Shrink-swell potential: Low
Flooding: Frequent, for brief periods from December through May
Hazard of water erosion: None to slight
Tilth: Good
Parent material: Stratified loamy and sandy alluvium

Minor Components

Dissimilar soils:
• Areas of Croatan and Dorovan soils in the lower areas
• Areas of Trebloc soils in the higher depressions
• Areas of Stough soils in the higher areas

Land Use

Dominant uses: Woodland
Other uses: Pasture, hayland, and cropland

Cropland

Suitability: Unsuited
Management concerns: Flooding and wetness
• This map unit is severely limited as a site for cropland because of the hazard of flooding during the growing season.
• A site that has better suited soils can be selected.

Pasture and hayland

Suitability: Suited to pasture, poorly suited to hayland
Commonly grown crops: Common bermudagrass
Management concerns: Flooding and wetness
• Harvesting as soon as possible reduces the risk of damage from flooding.
• Although most flooding occurs during the winter, livestock and hay may be damaged any time of the year.
• Artificial drainage may be needed to maximize productivity.
• Overgrazing and grazing when the soil is too wet cause soil compaction, decreased productivity, and poor tilth.

Woodland

Suitability: Suited
Management concerns: Seedling mortality, equipment limitations, and plant competition
• Planting species that are appropriate for a poorly drained soil as recommended by a forester helps to maximize productivity and to ensure seedling survival.
• Restricting the use of standard wheeled and tracked equipment to dry periods helps to reduce the rutting and soil compaction that occur when the soil is saturated.
• Selective thinning and removal of undesirable plants can help to minimize plant competition.

Wildlife habitat

Potential as habitat for: Openland wildlife—fair; Woodland wildlife—fair; Wetland wildlife—good
Management concerns: Wetness
• Openland wildlife.—Leaving undisturbed areas of

vegetation around cropland and pasture provides food and rest areas that improve habitat for openland wildlife.
• Woodland wildlife.—Habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed producing plants for quail and turkey.
• Wetland wildlife.—Habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Unsuited
Management concerns: Flooding and wetness
• This map unit is severely limited as a site for dwellings because of the high water table and the frequent flooding.
• A site that has better suited soils can be selected.

Septic tank absorption fields

Suitability: Unsuited
Management concerns: Flooding and wetness
• This map unit is severely limited as a site for septic tank absorption fields because of the high water table and the frequent flooding.
• The local Health Department can be contacted for additional guidance.

Local roads and streets

Suitability: Unsuited
Management concerns: Flooding and wetness
• This map unit is severely limited as a site for local roads and streets because of the high water table and the frequent flooding.
• A site that has better suited soils can be selected.

Interpretive Groups

Land capability classification: Vw
Woodland ordination symbol: 11W

BM—Bibb and Trebloc soils, 0 to 1 percent slopes, frequently flooded

Setting

Landscape: Coastal Plain
Landform: Bibb—flood plains; Trebloc—low stream terraces
Landform position: Bibb—nearly planar areas; Trebloc—broad concave areas and narrow drainageways
Shape of areas: Long and narrow
Size of areas: 100 to 300 acres

Composition

Bibb soils: 45 percent
Trebloc soils: 35 percent
Dissimilar soils: 20 percent

Typical Profile

Bibb

Surface layer:
0 to 6 inches—very dark grayish brown silt loam
6 to 18 inches—dark grayish brown silt loam

Substratum:
18 to 25 inches—gray silt loam that has strong brown mottles
25 to 30 inches—gray sandy loam
30 to 60 inches—light gray sand

Trebloc

Surface layer:
0 to 5 inches—dark grayish brown silt loam

Subsurface layer:
5 to 8 inches—grayish brown silt loam

Subsoil:
8 to 20 inches—light brownish gray silty clay loam that has yellowish brown mottles
20 to 33 inches—grayish brown silty clay loam that has yellowish brown mottles
33 to 48 inches—grayish brown silty clay that has yellowish brown mottles
48 to 60 inches—grayish brown silty clay that has brownish yellow mottles

Soil Properties and Qualities

Bibb

Potential rooting depth: More than 60 inches
Drainage class: Poorly drained
Permeability: Moderate
Available water capacity: Moderate
Seasonal high water table: Apparent, at a depth of 0.5 to 1.0 foot from December through April
Shrink-swell potential: Low
Flooding: Frequent, for brief periods from December through May
Hazard of water erosion: None to slight
Tilth: Good
Parent material: Stratified loamy and sandy alluvium

Trebloc

Potential rooting depth: More than 60 inches

Drainage class: Poorly drained
Permeability: Moderately slow
Available water capacity: High
Seasonal high water table: Apparent, at a depth of 0.5 to 1.0 foot from January through April
Shrink-swell potential: Moderate
Flooding: Frequent, for very brief periods from January through April
Hazard of water erosion: None to slight
Tilth: Good
Parent material: Moderately fine textured deposits
Other distinctive properties: None to common black manganese concretions in the subsoil

Minor Components

Dissimilar soils:
- Areas of Croatan and Dorovan soils in the lower positions
- Areas of Stough soils in the higher positions

Land Use

Dominant uses: Woodland
Other uses: Wildlife habitat

Cropland

Suitability: Unsuited
Management concerns: Flooding and wetness
- This map unit is severely limited as a site for cropland because of the hazard of flooding during the growing season.
- A site that has better suited soils can be selected.

Pasture and hayland

Suitability: Suited to pasture, poorly suited to hayland
Commonly grown crops: Common bermudagrass
Management concerns: Flooding and wetness
- Harvesting as soon as possible reduces the risk of damage from flooding.
- Although most flooding occurs during the winter, livestock and hay crops may be damaged any time of the year.
- Artificial drainage may be needed to maximize productivity.
- Overgrazing and grazing when the soil is too wet cause soil compaction, decreased productivity, and poor tilth.

Woodland

Suitability: Suited
Management concerns: Seedling mortality, equipment limitations, and plant competition
- Planting species that are appropriate for a poorly drained soil as recommended by a forester helps to maximize productivity and to ensure seedling survival.
- Restricting the use of standard wheeled and tracked equipment to dry periods helps to reduce the rutting and soil compaction that occur when the soils are saturated.
- Selective thinning and removal of undesirable plants can help to minimize plant competition.

Wildlife habitat

Potential as habitat for: Openland wildlife—fair; Woodland wildlife—fair; Wetland wildlife—good
Management concerns: Wetness
- Openland wildlife.—Leaving undisturbed areas of vegetation around cropland and pasture provides food and rest areas that improve habitat for openland wildlife.
- Woodland wildlife.—Habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed producing plants for quail and turkey.
- Wetland wildlife.—Habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Unsuited
Management concerns: Flooding and wetness
- This map unit is severely limited as a site for dwellings because of the high water table and the frequent flooding.
- A site that has better suited soils can be selected.

Septic tank absorption fields

Suitability: Unsuited
Management concerns: Flooding and wetness
- This map unit is severely limited as a site for septic tank absorption fields because of the high water table and the frequent flooding.
- The local Health Department can be contacted for additional guidance.

Local roads and streets

Suitability: Unsuited
Management concerns: Bibb—flooding and wetness; Trebloc—low strength, flooding, and wetness
- This map unit is severely limited as a site for local roads and streets because of the high water table and the frequent flooding.
- A site that has better suited soils can be selected.

Interpretive Groups

Land capability classification: Vw
Woodland ordination symbol: Bibb—11W; Trebloc—10W

Bn—Bigbee loamy sand, 0 to 2 percent slopes, occasionally flooded

Setting

Landscape: Coastal Plain
Landform: Flood plains
Landform position: Natural levees
Shape of areas: Long and narrow
Size of areas: 10 to 100 acres

Composition

Bigbee soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 10 inches—dark yellowish brown loamy sand

Substratum:
10 to 16 inches—light yellowish brown loamy sand
16 to 32 inches—light yellowish brown fine sand
32 to 42 inches—very pale brown fine sand
42 to 60 inches—very pale brown fine sand that has light yellowish brown mottles

Soil Properties and Qualities

Potential rooting depth: More than 60 inches
Drainage class: Excessively drained
Permeability: Rapid
Available water capacity: Very low
Seasonal high water table: Apparent, at a depth of 3.5 to 6.0 feet from January through March
Shrink-swell potential: Low
Flooding: Occasional, for brief periods from January through March
Hazard of water erosion: None to slight
Tilth: Fair
Parent material: Sandy alluvium

Minor Components

Dissimilar soils:
- Areas of the loamy Jena soils in positions similar to those of the Bigbee soil
- Areas of the loamy Ouachita soils in the slightly lower areas
- Areas of Bibb soils in the lower positions

Land Use

Dominant uses: Woodland and pasture
Other uses: Cultivated crops

Cropland

Suitability: Suited
Commonly grown crops: Corn
Management concerns: Flooding and droughtiness
- This map unit is difficult to manage for cropland because of the hazard of flooding during the growing season. Although most flooding occurs during the winter and spring, crop loss is a risk during the growing season.
- Using a system of conservation tillage that provides maximum ground cover helps increase the rate of water infiltration and reduces moisture loss caused by evaporation.
- Using supplemental irrigation and planting crop varieties that are adapted to droughty conditions help to increase crop production.

Pasture and hayland

Suitability: Well suited to pasture, suited to hayland
Commonly grown crops: Bahiagrass
Management concerns: Flooding and droughtiness
- Although most flooding occurs during the winter and spring, livestock and hay crops may be damaged any time of the year.
- Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the condition of the pasture and increase productivity.
- Using supplemental irrigation and planting drought-tolerant species help to increase productivity.
- Using equipment that has low pressure tires helps to reduce slippage and rutting caused by the high content of sand.

Woodland

Suitability: Well suited
Management concerns: Seedling mortality and equipment limitations
- Planting appropriate species as recommended by a forester helps to maximize productivity and to ensure seedling survival.
- Using wide tires or crawler-type equipment and harvesting trees when the soil is moist improve trafficability.

Wildlife habitat

Potential as habitat for: Openland wildlife—fair; Woodland wildlife—poor; Wetland wildlife—very poor

Management concerns: Droughtiness
• Openland wildlife.—Leaving undisturbed areas of vegetation around cropland and pasture provides food and rest areas that improve habitat for openland wildlife.
• Woodland wildlife.—Habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed producing plants for quail and turkey.
• Wetland wildlife.—A better site can be selected.

Dwellings

Suitability: Unsuited
Management concerns: Cutbanks cave and flooding
• This map unit is severely limited as a site for dwellings because of the occasional, brief flooding.
• A site that has better suited soils can be selected.

Septic tank absorption fields

Suitability: Unsuited
Management concerns: Flooding and poor filter
• This map unit is severely limited as a site for septic tank absorption fields because of the occasional flooding, a seasonal high water table, and the poor filtering capacity.
• The local Health Department can be contacted for additional guidance.

Local roads and streets

Suitability: Poorly suited
Management concerns: Flooding
• This unit is severely limited as a site for local roads and streets.
• A site that has better suited soils can be selected.

Interpretive Groups

Land capability classification: IIIs
Woodland ordination symbol: 9S

Ca—Cahaba-Annemaine complex, 0 to 2 percent slopes, rarely flooded

Setting

Landscape: Coastal Plain
Landform: Low stream terraces
Landform position: Cahaba—slightly higher, more convex positions; Annemaine—lower, slightly less convex positions
Shape of areas: Oblong
Size of areas: 20 to 500 acres

Composition

Cahaba soils: 50 percent
Annemaine soils: 30 percent
Dissimilar soils: 20 percent

Typical Profile

Cahaba

Surface layer:
0 to 6 inches—brown fine sandy loam

Subsurface layer:
6 to 14 inches—yellowish brown loam

Subsoil:
14 to 25 inches—yellowish red clay loam
25 to 36 inches—yellowish red clay loam that has red and light yellowish brown mottles
36 to 44 inches—yellowish red clay loam that has strong brown, red, and pale brown mottles

Substratum:
44 to 48 inches—yellowish brown sandy loam that has yellowish red mottles
48 to 80 inches—brownish yellow sand that has light yellowish brown mottles

Annemaine

Surface layer:
0 to 3 inches—brown fine sandy loam

Subsurface layer:
3 to 7 inches—light yellowish brown fine sandy loam

Subsoil:
7 to 21 inches—yellowish red clay loam
21 to 32 inches—yellowish red clay loam that has strong brown and light brownish gray mottles
32 to 41 inches—yellowish red sandy clay loam that has yellowish red and light brownish gray mottles

Substratum:
41 to 53 inches—strong brown sandy loam that has brownish yellow and light brownish gray mottles
53 to 62 inches—very pale brown sand that has brownish yellow mottles

Soil Properties and Qualities

Cahaba

Potential rooting depth: More than 60 inches
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Moderate

Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Low
Flooding: Rare, for very brief periods from November through February
Hazard of water erosion: None
Tilth: Good
Parent material: Loamy and sandy alluvium

Annemaine

Potential rooting depth: More than 60 inches
Drainage class: Moderately well drained
Permeability: Slow
Available water capacity: High
Seasonal high water table: Apparent, at a depth of 1.5 to 2.5 feet from January through March
Shrink-swell potential: Moderate
Flooding: Rare, for very brief and brief periods from January through March
Hazard of water erosion: None
Tilth: Fair
Parent material: Stratified clayey and loamy sediments

Minor Components

Dissimilar soils:
• Areas of the poorly drained Bibb soils on flood plains along streams
• Areas of the somewhat excessively drained Alaga soils on old natural levees of stream terraces
• Areas of the well drained Jena soils on slightly convex levees

Land Use

Dominant uses: Woodland
Other uses: Pasture, hayland, and cropland

Cropland

Suitability: Well suited
Commonly grown crops: Cotton, corn, soybeans, and a few specialty crops
Management concerns: Cahaba—none; Annemaine—wetness
• A well maintained drainage system helps to minimize wetness and improves productivity in areas of the Annemaine soil.

Pasture and hayland

Suitability: Well suited
Commonly grown crops: Bahiagrass
Management concerns: Cahaba—none; Annemaine—wetness
• Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the condition of the pasture and increase productivity.
• Overgrazing and grazing when the soils are too wet cause soil compaction, decreased productivity, and poor tilth.

Woodland

Suitability: Well suited
Management concerns: Plant competition
• Selective thinning and removal of undesirable plants can help to minimize plant competition.

Wildlife habitat

Potential of the Cahaba soil as habitat for: Openland wildlife—good; Woodland wildlife—good; Wetland wildlife—very poor
Potential of the Annemaine soil as habitat for: Openland wildlife—good; Woodland wildlife—good; Wetland wildlife—poor
Management concerns: None
• Openland wildlife.—Leaving undisturbed areas of vegetation around cropland and pasture provides food and rest areas that improve habitat for openland wildlife.
• Woodland wildlife.—Habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed producing plants for quail and turkey.
• Wetland wildlife.—Habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Poorly suited
Management concerns: Cahaba—cutbanks cave and flooding; Annemaine—flooding and restricted permeability
• This map unit is severely limited as a site for dwellings because of the flooding.
• Constructing dwellings on elevated, well compacted fill material helps to minimize damage from floodwater.

Septic tank absorption fields

Suitability: Cahaba—suited; Annemaine—poorly suited
Management concerns: Cahaba—flooding; Annemaine—wetness and restricted permeability
• Septic tank absorption fields perform better in areas of the Cahaba soil than in areas of the Annemaine soil.

Local roads and streets

Suitability: Cahaba—well suited; Annemaine—suited
Management concerns: Cahaba—flooding;

Annemaine—low strength and flooding
• Incorporating sand and gravel into the fill material and compacting roadbeds improve soil strength.
• Constructing roads on raised, well compacted fill material helps to compensate for the wetness and helps to elevate the roads above flood stage.

Interpretive Groups

Land capability classification: Cahaba—I; Annemaine—IIw
Woodland ordination symbol: Cahaba—9A; Annemaine—9W

CLB—Cahaba, Latonia, and Bassfield soils, 0 to 2 percent slopes, occasionally flooded

Setting

Landscape: Coastal Plain
Landform: Cahaba and Bassfield—stream terraces; Latonia—flood plains
Landform position: Planar to convex areas
Shape of areas: Oblong
Size of areas: 20 to 500 acres

Composition

Cahaba soils: 35 percent
Latonia soils: 30 percent
Bassfield and similar soils: 20 percent
Dissimilar soils: 15 percent

Typical Profile

Cahaba

Surface layer:
0 to 6 inches—brown fine sandy loam

Subsurface layer:
6 to 14 inches—yellowish brown loam

Subsoil:
14 to 25 inches—yellowish red clay loam
25 to 36 inches—yellowish red clay loam that has red and light yellowish brown mottles
36 to 44 inches—yellowish red clay loam that has strong brown, red, and pale brown mottles

Substratum:
44 to 48 inches—yellowish brown sandy loam that has yellowish red mottles
48 to 80 inches—brownish yellow sand that has light yellowish brown mottles

Latonia

Surface layer:
0 to 6 inches—dark brown loamy sand

Subsurface layer:
6 to 10 inches—yellowish brown fine sandy loam

Subsoil:
10 to 18 inches—yellowish brown sandy loam
18 to 30 inches—strong brown sandy loam
30 to 37 inches—strong brown sandy loam

Substratum:
37 to 58 inches—very pale brown loamy sand
58 to 65 inches—brownish yellow sand

Bassfield

Surface layer:
0 to 4 inches—dark grayish brown fine sandy loam

Subsurface layer:
4 to 9 inches—brown fine sandy loam

Subsoil:
9 to 21 inches—yellowish red loam
21 to 37 inches—yellowish red sandy loam

Substratum:
37 to 46 inches—brownish yellow loamy sand
46 to 80 inches—brownish yellow loamy sand that has strong brown mottles

Soil Properties and Qualities

Cahaba

Potential rooting depth: More than 60 inches
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Moderate
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Low
Flooding: Occasional, for brief periods from November through February
Hazard of water erosion: None
Tilth: Good
Parent material: Loamy and sandy alluvium

Latonia

Potential rooting depth: More than 60 inches
Drainage class: Well drained
Permeability: Moderately rapid
Available water capacity: Low
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Low
Flooding: Occasional, for very brief periods from November through April

Hazard of water erosion: None
Tilth: Fair
Parent material: Loamy and sandy alluvium

Bassfield

Potential rooting depth: More than 60 inches
Drainage class: Well drained
Permeability: Moderately rapid
Available water capacity: Moderate
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Low
Flooding: Occasional, for very brief periods from November through April
Hazard of water erosion: None to slight
Tilth: Good
Parent material: Loamy and sandy alluvium

Minor Components

Dissimilar soils:
- Areas of Alaga soils in the slightly higher areas
- Areas of Jena soils in positions similar to those of the major soils
- Areas of Annemaine and Harleston soils in the higher positions
- Areas of soils that have short, steep slopes; adjacent to sloughs and drainageways

Land Use

Dominant uses: Woodland
Other uses: Pasture, hayland, and cropland

Cropland

Suitability: Suited
Commonly grown crops: Cotton, corn, soybeans, wheat, and a few specialty crops
Management concerns: Cahaba and Bassfield—flooding; Latonia—flooding and droughtiness
- This map unit is difficult to manage for cropland because of the hazard of flooding during the growing season.
- Using supplemental irrigation, planting crop varieties that are adapted to droughty conditions, and leaving crop residue on the surface help to conserve soil moisture and increase productivity.

Pasture and hayland

Suitability: Well suited to pasture, suited to hayland
Commonly grown crops: Common bermudagrass and bahiagrass
Management concerns: Cahaba and Bassfield—flooding; Latonia—flooding and droughtiness
- Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the condition of the pasture and increase productivity.
- Harvesting as soon as possible reduces the risk of damage from flooding.
- Using supplemental irrigation and planting drought-tolerant species help to increase productivity.

Woodland

Suitability: Well suited
Management concerns: Cahaba—plant competition; Latonia—equipment limitations; Bassfield—none
- Planting species that are appropriate for a poorly drained soil as recommended by a forester helps to maximize productivity and to ensure seedling survival.
- Selective thinning and removal of undesirable plants can help to minimize plant competition.
- Using tracked or low pressure ground equipment during harvesting helps to reduce rutting and compaction, which damages roots.

Wildlife habitat

Potential as habitat for: Openland wildlife—good; Woodland wildlife—good; Wetland wildlife—very poor
Management concerns: Flooding
- Openland wildlife.—Leaving undisturbed areas of vegetation around cropland and pasture provides food and rest areas that improve habitat for openland wildlife.
- Woodland wildlife.—Habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed producing plants for quail and turkey.
- Wetland wildlife.—Habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Unsuited
Management concerns: Cutbanks cave and flooding
- This map unit is severely limited as a site for dwellings because of the occasional flooding.
- A site that has better suited soils can be selected.

Septic tank absorption fields

Suitability: Unsuited
Management concerns: Cahaba and Bassfield—flooding; Latonia—flooding and poor filter
- This map unit is severely limited as a site for septic

tank absorption fields because of the occasional flooding and the poor filtering capacity.
• The local Health Department can be contacted for additional guidance.

Local roads and streets

Suitability: Unsuited
Management concerns: Flooding
• This map unit is severely limited as a site for local roads and streets because of the occasional flooding.
• A site that has better suited soils can be selected.

Interpretive Groups

Land capability classification: Cahaba—I; Latonia—IIs; Bassfield—IIs
Woodland ordination symbol: 9A

DO—Dorovan and Croatan soils, ponded

Setting

Landscape: Coastal Plain
Landform: Flood plains
Landform position: Depressional areas
Shape of areas: Oblong
Size of areas: 20 to 200 acres

Composition

Dorovan soils: 50 percent
Croatan soils: 40 percent
Dissimilar soils: 10 percent

Typical Profile

Dorovan

Surface layer:
0 to 30 inches—very dark gray muck

Subsurface layer:
30 to 60 inches—very dark grayish brown muck

Croatan

Surface layer:
0 to 15 inches—black muck

Subsurface layer:
15 to 29 inches—black muck

Substratum:
29 to 41 inches—light gray sandy loam
41 to 60 inches—light gray loam

Soil Properties and Qualities

Dorovan

Potential rooting depth: More than 60 inches
Drainage class: Very poorly drained
Permeability: Moderate
Available water capacity: Very high
Seasonal high water table: Apparent, from 1.0 above the surface to a depth of 0.5 foot from January through December
Shrink-swell potential: Low
Flooding: Ponded, for very long periods from January through December
Hazard of water erosion: None
Parent material: Thick, highly decomposed organic matter

Croatan

Potential rooting depth: More than 60 inches
Drainage class: Very poorly drained
Permeability: Slow
Available water capacity: Very high
Seasonal high water table: Apparent, from 1.0 above the surface to a depth of 1.0 foot from January through December
Shrink-swell potential: Low
Flooding: Ponded, for very long periods from January through December
Hazard of water erosion: None
Parent material: Highly decomposed organic matter over loamy sediments

Minor Components

Dissimilar soils:
• Areas of the loamy Bibb soils in the higher areas
• Areas of soils that have thinner organic layers than those of the major soils

Land Use

Dominant uses: Woodland

Cropland

Suitability: Unsuited
Commonly grown crops: None
Management concerns: Ponding and wetness
• This map unit is severely limited as a site for crop production because of the ponding and wetness.
• A site that has better suited soils can be selected.

Pasture and hayland

Suitability: Poorly suited to pasture, unsuited to hayland
Commonly grown crops: None
Management concerns: Ponding and wetness
• This map unit is severely limited as a site for pasture and the production of hay because of the ponding and wetness.
• A site that has better suited soils can be selected.

Woodland

Suitability: Suited
Management concerns: Equipment limitations, seedling mortality, and plant competition
• Planting species and seedlings that are appropriate for a very poorly drained soil as recommended by a forester helps to maximize productivity and to ensure seedling survival. The seedlings should be planted high enough on the landscape to survive ponding.
• Using low pressure ground equipment during dryer periods helps to prevent rutting.
• Selective thinning and removal of undesirable plants can help to minimize plant competition.

Wildlife habitat

Potential as habitat for: Openland wildlife—very poor; Woodland wildlife—very poor; Wetland wildlife—good
Management concerns: Ponding and wetness
• Openland wildlife.—Leaving undisturbed areas provides food and rest areas that improve habitat for openland wildlife.
• Woodland wildlife.—Habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants.
• Wetland wildlife.—Habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Unsuited
Management concerns: Ponding, flooding, subsides, and excess humus
• This map unit is severely limited as a site for dwellings.
• A site that has better suited soils can be selected.

Septic tank absorption fields

Suitability: Unsuited
Management concerns: Subsides, ponding, and flooding
• This map unit is severely limited as a site for septic tank absorption fields.
• A site that has better suited soils can be selected.

Local roads and streets

Suitability: Unsuited
Management concerns: Subsides, ponding, and flooding
• This map unit is severely limited as a site for local roads and streets.
• A site that has better suited soils can be selected.

Interpretive Groups

Land capability classification: VIIw
Woodland ordination symbol: Dorovan—7W; Croatan—6W

FeC—Freest fine sandy loam, 2 to 5 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Ridges and shoulders
Shape of areas: Irregular
Size of areas: 10 to 100 acres

Composition

Freest soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 7 inches—dark grayish brown fine sandy loam

Subsurface layer:
7 to 13 inches—yellowish brown fine sandy loam

Subsoil:
13 to 20 inches—yellowish brown loam
20 to 25 inches—yellowish brown loam that has yellowish red and yellowish brown mottles
25 to 35 inches—brownish yellow loam that has red and light brownish gray mottles
35 to 43 inches—light brownish gray clay loam that has red and brownish yellow mottles
43 to 51 inches—light brownish gray silty clay that has red mottles
51 to 60 inches—light brownish gray silty clay that has yellowish brown mottles

Soil Properties and Qualities

Potential rooting depth: More than 60 inches
Drainage class: Moderately well drained
Permeability: Moderately slow
Available water capacity: High
Seasonal high water table: Apparent, at a depth of 1.5 to 2.5 feet from January through April
Shrink-swell potential: High
Flooding: None
Hazard of water erosion: Moderate
Tilth: Good
Parent material: Loamy over clayey sediments

Minor Components

Dissimilar soils:
- Areas of the sandier, well drained Benndale soils in positions similar to those of the Freest soil
- Areas of the moderately well drained Savannah soils that have a fragipan at a depth of 18 to 38 inches, in positions similar to those of the Freest soil
- Areas of the clayey Susquehanna soils in positions similar to those of the Freest soil
- Areas of soils that have short, steep slopes in narrow drainageways

Land Use

Dominant uses: Woodland
Other uses: Cropland, pasture, and hayland

Cropland

Suitability: Suited
Commonly grown crops: Cotton and soybeans
Management concerns: Erosion and wetness
- Using a resource management system that includes terraces and diversions, conservation tillage, stripcropping, contour tillage, no-till planting, and crop residue management helps to control erosion and surface runoff and maximizes the rate of water infiltration.
- A well maintained drainage system helps to minimize wetness and increases productivity.

Pasture and hayland

Suitability: Well suited
Commonly grown crops: Common bermudagrass
Management concerns: Erosion and wetness
- Preparing seedbeds and using no-till planting on the contour or across the slope help to control erosion and increase germination.
- Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the condition of the pasture and increase productivity.
- Overgrazing and grazing when the soil is too wet cause soil compaction, decreased productivity, and poor tilth.

Woodland

Suitability: Well suited
Management concerns: Equipment limitations and plant competition
- Planting appropriate species as recommended by a forester helps to maximize productivity and to ensure seedling survival.
- Logging when the soil is saturated causes rutting and compaction, which damages tree roots.
- Selective thinning and removal of undesirable plants can help to minimize plant competition.

Wildlife habitat

Potential as habitat for: Openland wildlife—good; Woodland wildlife—good; Wetland wildlife—poor
Management concerns: Erosion
- Openland wildlife.—Leaving undisturbed areas of vegetation around cropland and pasture provides food and rest areas that improve habitat for openland wildlife.
- Woodland wildlife.—Habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed producing plants for quail and turkey.
- Wetland wildlife.—Habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Poorly suited
Management concerns: Wetness and shrink-swell potential
- Constructing structures on the highest part of the landscape and installing a drainage system help to reduce the risk of damage from wetness.
- Reinforcing foundations and footings or backfilling with coarse textured material helps to strengthen buildings and prevents the damage caused by shrinking and swelling.

Septic tank absorption fields

Suitability: Poorly suited
Management concerns: Wetness and percs slowly
- This map unit is severely limited as a site for septic tank absorption fields because of the wetness.
- The local Health Department can be contacted for additional guidance.
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves septic system performance.

Local roads and streets

Suitability: Poorly suited
Management concerns: Shrink-swell potential and low strength
- Removing as much of the clay that has a high shrink-swell potential as possible and increasing the thickness of the base aggregate help to reduce the hazard of erosion.

• Incorporating sand and gravel into the fill material and compacting roadbeds improve soil strength.

Interpretive Groups

Land capability classification: IIe
Woodland ordination symbol: 9W

HaA—Harleston fine sandy loam, 0 to 2 percent slopes

Setting

Landscape: Coastal Plain
Landform: Terraces and uplands
Landform position: Convex ridges
Shape of areas: Oblong
Size of areas: 10 to 100 acres

Composition

Harleston soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 7 inches—very dark grayish brown fine sandy loam

Subsurface layer:
7 to 13 inches—light yellowish brown fine sandy loam

Subsoil:
13 to 20 inches—brownish yellow loam
20 to 54 inches—light yellowish brown loam that has light brownish gray mottles
54 to 72 inches—light brownish gray loam that has strong brown mottles

Substratum:
72 to 82 inches—light brownish gray loam that has red mottles

Soil Properties and Qualities

Potential rooting depth: More than 60 inches
Drainage class: Moderately well drained
Permeability: Moderate
Available water capacity: Moderate
Seasonal high water table: Apparent, at a depth of 2.0 to 3.0 feet from November through March
Shrink-swell potential: Low
Flooding: None
Hazard of water erosion: None to slight
Tilth: Good
Parent material: Loamy and sandy deposits
Other distinctive properties: Few to common brittle peds in the subsoil

Minor Components

Dissimilar soils:
• Areas of the sandier Bassfield soils in the lower positions
• Areas of the sandier Alaga soils on natural levees on stream terraces
• Areas of the less sandy Quitman soils in the lower positions

Land Use

Dominant uses: Woodland
Other uses: Cropland, pasture, and hayland

Cropland

Suitability: Well suited
Commonly grown crops: Corn, soybeans, wheat, and specialty crops (fig. 3)
Management concerns: Wetness
• No significant limitations affect cropland management.
• This soil can develop a plow pan, which can be broken up by deep plowing.
• A well maintained drainage system helps to minimize wetness and improves productivity.

Pasture and hayland

Suitability: Well suited
Commonly grown crops: Common bermudagrass and bahiagrass
Management concerns: Wetness
• No significant limitations affect the management of pasture and hayland.
• Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the condition of the pasture and increase productivity.
• Overgrazing and grazing when the soil is too wet cause soil compaction, decreased productivity, and poor tilth.

Woodland

Suitability: Well suited
Management concerns: Plant competition
• Planting appropriate species as recommended by a forester helps to maximize productivity and to ensure seedling survival.
• Selective thinning and removal of undesirable plants can help to minimize plant competition.

Wildlife habitat

Potential as habitat for: Openland wildlife—good; Woodland wildlife—good; Wetland wildlife—poor
Management concerns: None
• Openland wildlife.—Leaving undisturbed areas of

Figure 3.—Peanuts planted on the contour in an area of Harleston fine sandy loam, 0 to 2 percent slopes.

vegetation around cropland and pasture provides food and rest areas that improve habitat for openland wildlife.

- Woodland wildlife.—Habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed producing plants for quail and turkey.
- Wetland wildlife.—Habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Suited
Management concerns: Wetness

- Constructing structures on the highest part of the landscape and installing a drainage system help to reduce the risk of damage from wetness.

Septic tank absorption fields

Suitability: Poorly suited
Management concerns: Wetness

- This map unit is severely limited as a site for septic tank absorption fields because of the high water table.
- The local Health Department can be contacted for additional guidance.
- Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves septic system performance.

Local roads and streets

Suitability: Suited
Management concerns: Wetness

- Using road designs that safely remove surface runoff helps to reduce the hazard of erosion.

Interpretive Groups

Land capability classification: IIw
Woodland ordination symbol: 9W

HeF—Heidel fine sandy loam, 15 to 25 percent slopes

Setting

Landscape: Coastal Plain
Landform: Terraces and uplands
Landform position: Hillslopes
Shape of areas: Irregular
Size of areas: 5 to 200 acres

Composition

Heidel and similar soils: 90 percent
Dissimilar soils: 10 percent

Typical Profile

Surface layer:
0 to 3 inches—dark brown fine sandy loam

Subsurface layer:
3 to 8 inches—brown sandy loam

Subsoil:
8 to 64 inches—yellowish red sandy loam

Soil Properties and Qualities

Potential rooting depth: More than 60 inches
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Moderate
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Low
Flooding: None
Hazard of water erosion: Very severe
Tilth: Good
Parent material: Loamy marine sediments

Minor Components

Dissimilar soils:
- Areas of the well drained Benndale soils in the higher positions
- Areas of the less sandy Smithdale soils in positions similar to those of the Heidel soil

Similar soils:
- Areas of the well drained McLaurin soils on broad, adjacent ridgetops

Land Use

Dominant uses: Woodland
Other uses: Wildlife habitat, pasture, and hayland

Cropland

Suitability: Unsuited
Commonly grown crops: None
Management concerns: Erosion and equipment use
- This map unit is severely limited as a site for crop production.
- A site that has better suited soils can be selected.

Pasture and hayland

Suitability: Suited to pasture, poorly suited to hayland
Commonly grown crops: Bahiagrass
Management concerns: Erosion and equipment use
- Preparing seedbeds and using no-till planting on the contour or across the slope help to control erosion and increase germination.
- The slope limits equipment use in the steep areas.
- Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the condition of the pasture and increase productivity.

Woodland

Suitability: Well
Management concerns: None
- Planting appropriate species as recommended by a forester helps to maximize productivity and to ensure seedling survival.
- Installing broad base dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings.
- Reseeding disturbed areas with adapted grasses and legumes helps to prevent erosion and siltation of streams.

Wildlife habitat

Potential as habitat for: Openland wildlife—poor; Woodland wildlife—fair; Wetland wildlife—very poor
Management concerns: Slope
- Openland wildlife.—Leaving undisturbed areas of vegetation around cropland and pasture provides food and rest areas that improve habitat for openland wildlife.
- Woodland wildlife.—Habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed producing plants for quail and turkey.
- Wetland wildlife.—Habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Poorly suited
Management concerns: Slope

• Grading or land shaping prior to construction helps to reduce the damage caused by surface water and helps to control erosion.
• Designing structures to conform to the natural slope helps to reduce the hazard of erosion.
• Vegetating cleared and graded areas as soon as possible and installing silt fences help to maintain soil stability and prevent sediments from leaving the site.

Septic tank absorption fields

Suitability: Poorly suited
Management concerns: Slope
• Installing distribution lines on the contour improves performance of septic tank absorption fields.
• The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets

Suitability: Poorly suited
Management concerns: Slope
• Designing roads on the contour and providing adequate water-control structures, such as culverts, help to maintain road stability.

Interpretive Groups

Land capability classification: VIIe
Woodland ordination symbol: 9A

Ht—Harleston-Trebloc complex, 0 to 2 percent slopes, rarely flooded

Setting

Landscape: Coastal Plain
Landform: Harleston—terraces and uplands; Trebloc—low stream terraces
Landform position: Harleston—slightly convex areas; Trebloc—broad concave areas and narrow drainageways
Shape of areas: Long and narrow
Size of areas: 10 to 200 acres

Composition

Harleston soils: 55 percent
Trebloc soils: 30 percent
Dissimilar soils: 15 percent

Typical Profile

Harleston

Surface layer:
0 to 7 inches—very dark grayish brown fine sandy loam

Subsurface layer:
7 to 13 inches—light yellowish brown fine sandy loam

Subsoil:
13 to 20 inches—brownish yellow loam
20 to 41 inches—light yellowish brown loam that has light brownish gray mottles
41 to 54 inches—light yellowish brown loam that has light brownish gray mottles
54 to 72 inches—light brownish gray loam that has strong brown mottles

Substratum:
72 to 82 inches—light brownish gray loam that has red mottles

Trebloc

Surface layer:
0 to 5 inches—dark grayish brown silt loam

Subsurface layer:
5 to 8 inches—grayish brown silt loam

Subsoil:
8 to 20 inches—light brownish gray silty clay loam that has yellowish brown mottles
20 to 33 inches—grayish brown silty clay loam that has yellowish brown mottles
33 to 48 inches—grayish brown silty clay that has yellowish brown mottles
48 to 60 inches—grayish brown silty clay that has brownish yellow mottles

Soil Properties and Qualities

Harleston

Potential rooting depth: More than 60 inches
Drainage class: Moderately well drained
Permeability: Moderate
Available water capacity: Moderate
Seasonal high water table: Apparent, at a depth of 2.0 to 3.0 feet from November through March
Shrink-swell potential: Low
Flooding: Rare, for very brief periods from January through April
Hazard of water erosion: None
Tilth: Good
Parent material: Loamy and sandy deposits
Other distinctive properties: Few to common brittle peds in the subsoil

Trebloc

Potential rooting depth: More than 60 inches
Drainage class: Poorly drained
Permeability: Moderately slow
Available water capacity: High

Seasonal high water table: Apparent, at a depth of 0.5 to 1.0 foot from January through April
Shrink-swell potential: Moderate
Flooding: Rare, for very brief periods from January through April
Hazard of water erosion: None to slight
Tilth: Good
Parent material: Moderately fine textured fluvial deposits
Other distinctive properties: None to many black manganese concretions in the subsoil

Minor Components

Dissimilar soils:
• Areas of the sandier Bassfield soils in positions similar to those of the major soils
• Areas of the moderately well drained Prentiss soils in the higher areas
• Areas of the somewhat poorly drained Stough soils in the slightly higher areas
• Areas of the excessively drained Bigbee soils on natural levees on flood plains
• Areas of the well drained Jena soils on slightly convex levees

Land Use

Dominant uses: Woodland
Other uses: Pasture, hayland, and cropland

Cropland

Suitability: Well suited
Commonly grown crops: Corn, soybeans, wheat, and a few specialty crops
Management concerns: Wetness
• No significant limitations affect cropland management.
• A well maintained drainage system helps to minimize wetness and increases productivity.

Pasture and hayland

Suitability: Well suited
Commonly grown crops: Common bermudagrass and bahiagrass
Management concerns: Wetness
• Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the condition of the pasture and increase productivity.
• Overgrazing and grazing when the soils are too wet cause soil compaction, decreased productivity, and poor tilth.
• Artificial drainage may be needed to maximize productivity.

Woodland

Suitability: Harleston—well suited; Trebloc—suited
Management concerns: Harleston—plant competition; Trebloc—seedling mortality, plant competition, and equipment limitations
• Planting appropriate species as recommended by a forester helps to maximize productivity and to ensure seedling survival.
• Selective thinning and removal of undesirable plants can help to minimize plant competition.
• Restricting the use of standard wheeled and tracked equipment to dry periods helps to reduce the rutting and soil compaction that occur when the soils are saturated.

Wildlife habitat

Potential of the Harleston soil as habitat for: Openland wildlife—good; Woodland wildlife—good; Wetland wildlife—poor
Potential of the Trebloc soil as habitat for: Openland wildlife—fair; Woodland wildlife—fair; Wetland wildlife—good
Management concerns: Harleston—none; Trebloc—wetness
• Openland wildlife.—Leaving undisturbed areas of vegetation around cropland and pasture provides food and rest areas that improve habitat for openland wildlife.
• Woodland wildlife.—Habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed producing plants for quail and turkey.
• Wetland wildlife.—Habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Poorly suited
Management concerns: Wetness and flooding
• Constructing structures on the highest part of the landscape and installing a drainage system help to reduce the damage from wetness.

Septic tank absorption fields

Suitability: Poorly suited
Management concerns: Harleston—wetness; Trebloc—flooding, wetness, and percs slowly
• This map unit is severely limited as a site for septic tank absorption fields.

• The local Health Department can be contacted for additional guidance.
• Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves the septic system performance.

Local roads and streets

Suitability: Poorly suited
Management concerns: Harleston—wetness and flooding; Trebloc—low strength, wetness, and flooding
• Incorporating sand and gravel into the fill material and compacting roadbeds improve soil strength.
• Constructing roads on raised, well compacted fill material helps to compensate for the wetness and flooding.

Interpretive Groups

Land capability classification: Harleston—IIw; Trebloc—IIIw
Woodland ordination symbol: Harleston—9W; Trebloc—10W

LaA—Latonia loamy sand, 0 to 2 percent slopes, rarely flooded

Setting

Landscape: Coastal Plain
Landform: Low stream terraces
Landform position: Planar to convex slopes
Shape of areas: Oblong
Size of areas: 10 to 100 acres

Composition

Latonia and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 6 inches—dark brown loamy sand

Subsurface layer:
6 to 10 inches—yellowish brown fine sandy loam

Subsoil:
10 to 18 inches—yellowish brown sandy loam
18 to 37 inches—strong brown sandy loam

Substratum:
37 to 58 inches—very pale brown loamy sand
58 to 65 inches—brownish yellow sand

Soil Properties and Qualities

Potential rooting depth: More than 60 inches
Drainage class: Well drained
Permeability: Moderately rapid
Available water capacity: Low
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Low
Flooding: Rare, for very brief periods from November through April
Hazard of water erosion: None to slight
Tilth: Fair
Parent material: Loamy and sandy alluvium

Minor Components

Dissimilar soils:
• Areas of the moderately well drained Prentiss soils that have a fragipan, on high knolls
• Areas of the poorly drained Trebloc soils in drainageways
• Areas of soils that have short, steep slopes along drainageways

Similar soils:
• Areas of Cahaba soils that are in positions similar to those of the major soils and that have more clay in the subsoil

Land Use

Dominant uses: Woodland, pasture, and hayland
Other uses: Cropland

Cropland

Suitability: Well suited
Commonly grown crops: Corn, soybeans, and wheat
Management concerns: Droughtiness
• Conservation tillage, winter cover crops, crop residue management, and a crop rotation that includes grasses and legumes help to increase available water capacity and improve fertility.
• Using supplemental irrigation and planting crop varieties that are adapted to droughty conditions help to increase crop production.

Pasture and hayland

Suitability: Well suited
Commonly grown crops: Common bermudagrass and bahiagrass
Management concerns: Droughtiness
• Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the condition of the pasture and increase productivity.
• Using supplemental irrigation and planting drought-

tolerant species help to increase productivity.

Woodland

Suitability: Well suited
Management concerns: No significant limitations affect woodland management.

Wildlife habitat

Potential as habitat for: Openland wildlife—good; Woodland wildlife—good; Wetland wildlife—very poor
Management concerns: None
• Openland wildlife.—Leaving undisturbed areas of vegetation around cropland and pasture provides food and rest areas that improve habitat for openland wildlife.
• Woodland wildlife.—Habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed producing plants for quail and turkey.

Dwellings

Suitability: Poorly suited
Management concerns: Cutbanks cave, droughtiness, and flooding
• Cutbanks are unstable and are subject to slumping. Support beams should be used to maintain the stability of the cutbanks.
• Properly installed irrigation systems can maintain lawns during periods of low rainfall.
• Constructing dwellings on elevated, well compacted fill material helps to minimize damage from floodwater.

Septic tank absorption fields

Suitability: Suited
Management concerns: Poor filter
• Measures that improve filtering capacity should be considered. The soil readily absorbs, but does not adequately filter, effluent.

Local roads and streets

Suitability: Suited
Management concerns: Flooding
• Using well compacted fill material as a road base can elevate roads above flood stage.

Interpretive Groups

Land capability classification: IIs
Woodland ordination symbol: 9A

LoF—Lorman silt loam, 15 to 40 percent slopes

Setting

Landscape: Coastal Plain
Landform: Upland
Landform position: Hillslopes
Shape of areas: Irregular
Size of areas: 20 to 100 acres

Composition

Latonia and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 3 inches—brown silt loam

Subsurface layer:
3 to 8 inches—yellowish brown fine sandy loam

Subsoil:
8 to 14 inches—yellowish red clay that has brown mottles
14 to 25 inches—yellowish red clay that has brown and brownish gray mottles
25 to 44 inches—grayish brown silty clay loam that has yellowish red and light brownish gray mottles

Substratum:
44 to 65 inches—light brownish gray silty clay loam that has olive yellow mottles

Soil Properties and Qualities

Potential rooting depth: More than 60 inches
Drainage class: Moderately well drained
Permeability: Very slow
Available water capacity: Moderate
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Very high
Flooding: None
Hazard of water erosion: Very severe
Tilth: Good
Parent material: Clayey and loamy marine sediments

Minor Components

Dissimilar soils:
• Areas of the less clayey, well drained McLaurin soils on ridges
• Areas of the somewhat poorly drained Susquehanna soils that have a thicker subsoil than that of the Lorman soil, on ridges and shoulders
• Areas of soils that have a thick surface layer of sand over clay, on hillslopes

• Areas of soils in narrow drainageways that are frequently flooded

Land Use

Dominant uses: Woodland

Cropland

Suitability: Unsuited
Commonly grown crops: None
Management concerns: Erosion
• This map unit is severely limited as a site for crop production because of the slope.
• A site that has better suited soils can be selected.

Pasture and hayland

Suitability: Poorly suited to pasture, unsuited to hayland
Commonly grown crops: None
Management concerns: Erosion
• This map unit is severely limited as a site for pasture and hayland because of the slope.
• A site that has better suited soils can be selected.
• Application of lime, fertilizer, seed, and herbicide by hand helps to increase productivity in the steeper areas.
• Preparing seedbeds and using no-till planting on the contour or across the slope help to control erosion and increase germination.
• Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the condition of the pasture and increase productivity.

Woodland

Suitability: Suited
Management concerns: Plant competition, erosion, and equipment limitations
• Planting appropriate species as recommended by a forester helps to maximize productivity and to ensure seedling survival.
• Installing broad base dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings.
• Reseeding disturbed areas with adapted grasses and legumes helps to prevent erosion and siltation of streams.
• Constructing roads, fire lanes, and skid trails on the contour helps to overcome limitations caused by the slope.
• Cable logging helps to minimize road and trail construction.

Wildlife habitat

Potential as habitat for: Openland wildlife—fair; Woodland wildlife—good; Wetland wildlife—very poor
Management concerns: Slope and erosion
• Openland wildlife.—Leaving undisturbed areas of vegetation around cropland and pasture provides food and rest areas that improve habitat for openland wildlife.
• Woodland wildlife.—Habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed producing plants for quail and turkey.

Dwellings

Suitability: Poorly suited
Management concerns: Slope and shrink-swell potential
• Designing structures to conform to the natural slope or building in less sloping areas helps to reduce the hazard of erosion.
• Grading or land shaping prior to construction helps to reduce the damage caused by surface water and helps to control erosion.
• Reinforcing foundations and footings or backfilling with coarse textured material helps to strengthen buildings and prevents the damage caused by shrinking and swelling.

Septic tank absorption fields

Suitability: Poorly suited
Management concerns: Percs slowly and slope
• Increasing the size of the absorption field and installing distribution lines on the contour improve performance of septic tank absorption fields.
• The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets

Suitability: Unsuited
Management concerns: Low strength, slope, and shrink-swell potential
• This map unit is severely limited as a site for local roads and streets.
• A site that has better suited soils can be selected.

Interpretive Groups

Land capability classification: VIIe
Woodland ordination symbol: 8R

LsD—Lorman-Freest-Susquehanna complex, 5 to 15 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Lorman—hillslopes; Freest—ridges, summits, and shoulders; Susquehanna—summits and ridges
Shape of areas: Irregular
Size of areas: 50 to 600 acres

Composition

Lorman and similar soils: 40 percent
Freest and similar soils: 40 percent
Susquehanna and similar soils: 10 percent
Dissimilar soils: 10 percent

Typical Profile

Lorman

Surface layer:
0 to 3 inches—brown silt loam

Subsurface layer:
3 to 8 inches—yellowish brown fine sandy loam

Subsoil:
8 to 14 inches—yellowish red clay that has brown mottles
14 to 25 inches—yellowish red clay that has brown and brownish gray mottles
25 to 44 inches—grayish brown silty clay loam that has yellowish red and light brownish gray mottles

Substratum:
44 to 65 inches—light brownish gray silty clay loam that has olive yellow mottles

Freest

Surface layer:
0 to 7 inches—dark grayish brown fine sandy loam

Subsurface layer:
7 to 13 inches—yellowish brown fine sandy loam

Subsoil:
13 to 20 inches—yellowish brown loam
20 to 25 inches—yellowish brown loam that has yellowish red and yellowish brown mottles
25 to 35 inches—brownish yellow loam that has red and light brownish gray mottles
35 to 43 inches—light brownish gray clay loam that has red and brownish yellow mottles
43 to 51 inches—light brownish gray silty clay that has red mottles
51 to 60 inches—light brownish gray silty clay that has yellowish brown mottles

Susquehanna

Surface layer:
0 to 4 inches—brown fine sandy loam

Subsurface layer:
4 to 7 inches—brown loam

Subsoil:
7 to 16 inches—yellowish red clay
16 to 23 inches—reddish brown clay that has yellowish red and light brownish gray mottles
23 to 64 inches—light gray clay that has red and strong brown mottles
64 to 79 inches—light gray silty clay that has strong brown mottles
79 to 86 inches—light gray silty clay that has strong brown and black mottles

Soil Properties and Qualities

Lorman

Potential rooting depth: More than 60 inches
Drainage class: Moderately well drained
Permeability: Very slow
Available water capacity: Moderate
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Very high
Flooding: None
Hazard of water erosion: Severe or very severe
Tilth: Good
Parent material: Clayey and loamy marine sediments

Freest

Potential rooting depth: More than 60 inches
Drainage class: Moderately well drained
Permeability: Slow
Available water capacity: High
Seasonal high water table: Apparent, at a depth of 1.5 to 2.5 feet from January through April
Shrink-swell potential: High
Flooding: None
Hazard of water erosion: Moderate to severe
Tilth: Good
Parent material: Loamy over clayey sediments

Susquehanna

Potential rooting depth: More than 60 inches
Drainage class: Somewhat poorly drained
Permeability: Very slow
Available water capacity: High
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: High

Flooding: None
Hazard of water erosion: Severe
Tilth: Good
Parent material: Clayey marine deposits
Other distinctive properties: Few to many fine to coarse, striated, grooved, and tongued slickensides in the subsoil

Minor Components

Dissimilar soils:
- Areas of the well drained McLaurin soils on ridges
- Areas of the poorly drained Bibb soils in drainageways
- Areas of soils that have slopes of more than 15 percent, near the head of drains

Land Use

Dominant uses: Woodland
Other uses: Pasture and hayland

Cropland

Suitability: Lorman—poorly suited; Freest—suited; Susquehanna—poorly suited
Commonly grown crops: None
Management concerns: Lorman and Susquehanna—erosion; Freest—erosion and wetness
- Using a resource management system that includes terraces and diversions, conservation tillage, stripcropping, contour farming, crop residue management, and a crop rotation that includes soil conserving crops helps to control erosion and surface runoff and maximizes the rate of water infiltration.
- A well maintained drainage system helps to minimize wetness and improves productivity in areas of the Freest soils.

Pasture and hayland

Suitability: Well suited
Commonly grown crops: None
Management concerns: Lorman and Susquehanna—erosion; Freest—erosion and wetness
- Preparing seedbeds and using no-till planting on the contour or across the slope help to control erosion and increase germination.
- The slope can limit equipment use in the steeper areas during harvesting.
- Overgrazing and grazing when the soil is too wet cause soil compaction, decreased productivity, and poor tilth.

Woodland

Suitability: Well
Management concerns: Lorman and Freest—plant competition and equipment limitations
- Planting appropriate species as recommended by a forester helps to maximize productivity and to ensure seedling survival.
- Installing broad base dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings.
- Reseeding disturbed areas with adapted grasses and legumes helps to prevent erosion and siltation of streams.
- Constructing roads, fire lanes, and skid trails on the contour helps to overcome limitations caused by the slope.
- Logging during wet periods causes rutting and compaction, which damages roots.
- Selective thinning and removal of undesirable plants can help to minimize plant competition.

Wildlife habitat

Potential of the Lorman and Susquehanna soils as habitat for: Openland wildlife—good; Woodland wildlife—good; Wetland wildlife—very poor
Potential of the Freest soil as habitat for: Openland wildlife—good; Woodland wildlife—good; Wetland wildlife—poor
Management concerns: None
- Openland wildlife.—Leaving undisturbed areas of vegetation around cropland and pasture provides food and rest areas that improve habitat for openland wildlife.
- Woodland wildlife.—Habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed producing plants for quail and turkey.
- Wetland wildlife.—Habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Poorly suited
Management concerns: Lorman—too clayey, shrink-swell potential, and slope; Freest—wetness and shrink-well potential; Susquehanna—too clayey and shrink-swell potential
- Reinforcing foundations and footings or backfilling with coarse textured material helps to strengthen buildings and prevents the damage caused by shrinking and swelling.
- Designing structures to conform to the natural slope or building in less sloping areas helps to reduce the hazard of erosion.

• Constructing structures on the highest part of the landscape and installing a drainage system help to reduce the risk of damage from wetness.

Septic tank absorption fields

Suitability: Poorly suited
Management concerns: Lorman—percs slowly; Freest—wetness and percs slowly; Susquehanna—percs slowly
• This map unit is severely limited as a site for septic tank absorption fields because of seasonal wetness and slow percolation.
• Using suitable fill material to raise the filter a sufficient distance above the seasonal high water table improves septic system performance.
• Increasing the size of the absorption field improves performance.
• Installing the distribution lines during dry periods reduces smearing and sealing of trench walls.
• Installing the distribution lines on the contour improves performance of septic tank absorption fields.
• The local Health Department can be contacted for additional guidance.

Local roads and streets

Suitability: Poorly suited
Management concerns: Low-strength and shrink-swell potential
• Removing as much of the clay that has a high shrink-swell potential as possible and increasing the thickness of the base aggregate help to reduce the hazard of erosion.
• Incorporating sand and gravel into the fill material, compacting roadbeds, and designing roads to conform to the natural slope improve soil strength.

Interpretive Groups

Land capability classification: Lorman—VIe; Freest—IIIe; Susquehanna—VIe
Woodland ordination symbol: Lorman—8C; Freest—9W; Susquehanna—8C

LuA—Lucedale loam, 0 to 2 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Summits
Shape of areas: Oblong
Size of areas: 10 to 50 acres

Composition

Lucedale soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 7 inches—dark brown loam

Subsurface layer:
7 to 11 inches—dark reddish brown loam

Subsoil:
11 to 25 inches—dark red clay loam
25 to 65 inches—dark red sandy clay loam

Soil Properties and Qualities

Potential rooting depth: More than 60 inches
Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Low
Flooding: None
Hazard of water erosion: None to slight
Tilth: Good
Parent material: Loamy sediments

Minor Components

Dissimilar soils:
• Areas of the poorly drained Atmore soils in depressions on upland summits
• Areas of the well drained McLaurin soils on summits and ridges
• Areas of the well drained Benndale soils on ridges, shoulders, and summits

Land Use

Dominant uses: Cropland
Other uses: Pasture, hayland, and woodland

Cropland

Suitability: Well suited
Commonly grown crops: Cotton, corn, soybeans, wheat, and specialty crops (fig. 4)
Management concerns: None
• No significant limitations affect cropland management.

Pasture and hayland

Suitability: Well suited
Commonly grown crops: Common bermudagrass and bahiagrass
Management concerns: None
• No significant limitations affect the management of pasture and hayland.

Figure 4.—Blueberries in an area of Lucedale loam, 0 to 2 percent slopes, which is well suited to specialty crops.

Woodland

Suitability: Well suited
Management concerns: None
• No significant limitations affect woodland management.

Wildlife habitat

Potential as habitat for: Openland wildlife—good; Woodland wildlife—good; Wetland wildlife—very poor
Management concerns: Droughtiness
• Openland wildlife.—Leaving undisturbed areas of vegetation around cropland and pasture provides food and rest areas that improve habitat for openland wildlife.
• Woodland wildlife.—Habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed producing plants for quail and turkey.
• Wetland wildlife.—Habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Well suited
Management concerns: None
• No significant limitations affect dwellings.

Septic tank absorption fields

Suitability: Well suited
Management concerns: None
• No significant limitations affect septic tank absorption fields.

Local roads and streets

Suitability: Well suited
Management concerns: None

• No significant limitations affect local roads and streets.

Interpretive Groups

Land capability classification: I
Woodland ordination symbol: 9A

MA—Irvington fine sandy loam, 0 to 5 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands and interstream divides
Landform position: Ridges
Shape of areas: Irregular
Size of areas: 10 to 100 acres

Composition

Irvington soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 5 inches—brown fine sandy loam

Subsurface layer:
5 to 12 inches—light yellowish brown fine sandy loam

Subsoil:
12 to 23 inches—yellowish brown fine sandy loam
23 to 34 inches—yellowish brown sandy clay loam that has pale brown mottles
34 to 52 inches—yellowish brown fine sandy loam that has strong brown mottles
52 to 82 inches—yellowish brown fine sandy loam that has strong brown, red, and light brownish gray mottles

Soil Properties and Qualities

Potential rooting depth: 20 to 34 inches
Drainage class: Moderately well drained
Permeability: Slow
Available water capacity: Low
Seasonal high water table: Perched, at a depth of 1.5 to 3.0 feet from December through May
Shrink-swell potential: Low
Flooding: None
Hazard of water erosion: None to moderate
Tilth: Good
Parent material: Loamy marine sediments
Other distinctive properties: Fragipan at a depth of 20 to 34 inches; 5 to 30 percent plinthite in the subsoil

Minor Components

Dissimilar soils:
• Areas of the moderately well drained Freest soils on upland ridges and shoulders
• Areas of Lorman soils on hillslopes

Land Use

Dominant uses: Pasture, hayland, and cropland
Other uses: Woodland

Cropland

Suitability: Well suited
Commonly grown crops: Corn, soybeans, wheat, and specialty crops (fig. 5)
Management concerns: Droughtiness, wetness, and slow permeability
• Conservation tillage, winter cover crops, crop residue management, and a crop rotation that includes grasses and legumes help to increase available water capacity and improve fertility.
• Installing a subsurface drainage system improves the productivity of moisture sensitive crops.
• A well maintained drainage system helps to lower the seasonal high water table and increases the productivity of the soil.
• Chisel plowing and subsoiling help to break through hardpans, improving root penetration and increasing the rate of water infiltration.

Pasture and hayland

Suitability: Well suited
Commonly grown crops: Common bermudagrass and bahiagrass
Management concerns: Droughtiness, wetness, and slow permeability
• Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the condition of the pasture and increase productivity.
• Overgrazing and grazing when the soil is too wet cause soil compaction, decreased productivity, and poor tilth.
• When seedbeds are prepared, chisel plowing and subsoiling help to break through hardpans, improving root penetration and increasing the rate of water infiltration.

Woodland

Suitability: Suited
Management concerns: Equipment limitations and plant competition
• Planting appropriate species as recommended by a forester helps to maximize productivity and to ensure seedling survival.

Figure 5.—An area of Irvington fine sandy loam, 0 to 5 percent slopes, which is well suited to soybeans.

• Logging when the soil is saturated causes rutting and compaction, which damages tree roots.
• Selective thinning and removal of undesirable plants can help to minimize plant competition.
• Grazing livestock in areas managed for woodland reduces the value of the areas for wildlife.

Wildlife habitat

Potential as habitat for: Openland wildlife—good; Woodland wildlife—good; Wetland wildlife—poor
Management concerns: Slow permeability
• Openland wildlife.—Leaving undisturbed areas of vegetation around cropland and pasture provides food and rest areas that improve habitat for openland wildlife.
• Woodland wildlife.—Habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed producing plants for quail and turkey.
• Wetland wildlife.—Habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Suited
Management concerns: Wetness
• Constructing structures on the highest part of the landscape or on raised, well compacted fill material and installing a drainage system help to reduce the risk of damage due to the seasonal high water table.

Septic tank absorption fields

Suitability: Poorly suited
Management concerns: Wetness and percs slowly
• Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves system performance.
• Increasing the size of the absorption field improves performance.
• Installing distribution lines during dry periods reduces smearing and sealing of trench walls.

Local roads and streets

Suitability: Suited
Management concerns: Wetness
• Using road designs that safely remove the surface runoff helps to reduce the hazard of erosion.

Interpretive Groups

Land capability classification: IIe
Woodland ordination symbol: 11W

MB—McLaurin and Benndale soils, 0 to 5 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Ridges, shoulders, and summits
Shape of areas: Irregular
Size of areas: 50 to 600 acres

Composition

McLaurin and similar soils: 45 percent
Benndale and similar soils: 40 percent
Dissimilar soils: 15 percent

Typical Profile

McLaurin

Surface layer:
0 to 5 inches—dark grayish brown fine sandy loam

Subsurface layer:
5 to 10 inches—yellowish brown fine sandy loam

Subsoil:
10 to 14 inches—yellowish red sandy loam
14 to 34 inches—yellowish red sandy loam that has red mottles
34 to 43 inches—strong brown loamy sand
43 to 64 inches—yellowish red sandy loam

Benndale

Surface layer:
0 to 4 inches—dark grayish brown fine sandy loam

Subsurface layer:
4 to 8 inches—grayish brown fine sandy loam

Subsoil:
8 to 25 inches—yellowish brown sandy loam
25 to 47 inches—yellowish brown sandy loam that has yellowish brown mottles
47 to 68 inches—yellowish brown sandy loam that has light gray and brownish yellow mottles

Soil Properties and Qualities

McLaurin

Potential rooting depth: More than 60 inches
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Moderate
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Low
Flooding: None
Hazard of water erosion: None to moderate
Tilth: Good
Parent material: Loamy sediments

Benndale

Potential rooting depth: More than 60 inches
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Moderate
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Low
Flooding: None
Hazard of water erosion: None to moderate
Tilth: Good
Parent material: Loamy sediments
Other distinctive properties: Less than 5 percent plinthite in the lower subsoil

Minor Components

Dissimilar soils:
• Areas of the poorly drained Bibb soils on flood plains
• Areas of the very poorly drained Dorovan soils in depressions on stream terraces and flood plains
• Areas of the moderately well drained Freest soils in positions similar to those of the major soils
• Areas of the moderately well drained Lorman soils on hillslopes
• Areas of the well drained Lucedale soils on stream summits
• Areas of the somewhat poorly drained Susquehanna soils in positions similar to those of the major soils
• Areas of soils that have short, steep slopes

Similar soils:
• Areas of the well drained Smithdale soils in positions similar to those of the major soils

Land Use

Dominant uses: Woodland, mostly in the DeSoto National Forest
Other uses: Wildlife habitat

Cropland

Suitability: Well suited

Commonly grown crops: Corn, soybeans, wheat, and specialty crops
Management concerns: Erosion in areas that have a slope of 3 percent or more
• A conservation tillage system increases the content of organic matter and soil moisture and helps maintain tilth, retain plant nutrients, and control erosion.

Pasture and hayland

Suitability: Well suited
Commonly grown crops: Common bermudagrass and bahiagrass
Management concerns: Erosion in areas that have a slope of 3 percent or more
• Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the condition of the pasture and increase productivity.

Woodland

Suitability: Well suited
Management concerns: McLaurin—equipment limitations; Benndale—plant competition
• Planting appropriate species as recommended by a forester helps to maximize productivity and to ensure seedling survival.
• Selective thinning and removal of undesirable plants can help to minimize plant competition.
• Using tracked or low pressure ground equipment during harvesting helps to reduce rutting and compaction, which damages roots.

Wildlife habitat

Potential as habitat for: Openland wildlife—good; Woodland wildlife—good; Wetland wildlife—very poor
Management concerns: Droughtiness
• Openland wildlife.—Leaving undisturbed areas of vegetation around cropland and pasture provides food and rest areas that improve habitat for openland wildlife.
• Woodland wildlife.—Habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed producing plants for quail and turkey.
• Wetland wildlife.—Habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: McLaurin—suited; Benndale—well suited
Management concerns: McLaurin—cutbanks cave, slope, and droughtiness; Benndale—slope
• Cutbanks are unstable and are subject to slumping. Support beams should be used to maintain the stability of the cutbanks.
• Designing structures to conform to the natural slope helps to reduce the hazard of erosion.
• Properly installed irrigation systems can maintain lawns during periods of low rainfall.

Septic tank absorption fields

Suitability: Well suited
Management concerns: None
• No significant limitations affect septic tank absorption fields.
• The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets

Suitability: Well suited
Management concerns: Well suited
• No significant limitations affect local roads and streets.

Interpretive Groups

Land capability classification: IIe
Woodland ordination symbol: McLaurin—9A; Benndale—10A

McA—McLaurin fine sandy loam, 0 to 2 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Ridges, summits, and shoulders
Shape of areas: Irregular
Size of areas: 10 to 100 acres

Composition

McLaurin and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 5 inches—dark grayish brown fine sandy loam

Subsurface layer:
5 to 10 inches—yellowish brown fine sandy loam

Subsoil:
10 to 14 inches—yellowish red sandy loam
14 to 28 inches—yellowish red sandy loam that has red mottles
28 to 40 inches—yellowish red sandy loam
40 to 46 inches—90 percent yellowish red sandy loam and 10 percent brownish yellow loamy sand
46 to 60 inches—red sandy loam

Soil Properties and Qualities

Potential rooting depth: More than 60 inches
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Moderate
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Low
Flooding: None
Hazard of water erosion: None to moderate
Tilth: Good
Parent material: Loamy sediments

Minor Components

Dissimilar soils:
- Areas of the well drained Lucedale soils on upland summits
- Areas of the moderately well drained Savannah soils that have a fragipan, in positions similar to those of the McLaurin soil
- Areas of soils that have short, steep slopes
- Areas of soils in narrow drainageways

Similar soils:
- Areas of the browner, well drained Benndale soils on ridges and shoulders

Land Use

Dominant uses: Cropland, pasture, and hayland
Other uses: Woodland

Cropland

Suitability: Well suited
Commonly grown crops: Cotton, corn, soybeans, wheat, and specialty crops
Management concerns: None
- No significant limitations affect cropland management.
- A conservation tillage system increases the content of organic matter and soil moisture and helps maintain tilth, retain plant nutrients, and control erosion.

Pasture and hayland

Suitability: Well suited
Commonly grown crops: Common bermudagrass and bahiagrass
Management concerns: None
- No significant limitations affect the management of pasture and hayland.
- Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the condition of the pasture and increase productivity.

Woodland

Suitability: Well suited
Management concerns: Equipment limitations
- Using tracked or low pressure ground equipment during harvesting helps to reduce rutting and compaction, which damages roots.

Wildlife habitat

Potential as habitat for: Openland wildlife—good; Woodland wildlife—good; Wetland wildlife—very poor
Management concerns: Droughtiness
- Openland wildlife.—Leaving undisturbed areas of vegetation around cropland and pasture provides food and rest areas that improve habitat for openland wildlife.
- Woodland wildlife.—Habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed producing plants for quail and turkey.
- Wetland wildlife.—Habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Suited
Management concerns: Cutbanks cave
- Cutbanks are unstable and are subject to slumping.
- Support beams should be used to maintain the stability of the cutbanks.

Septic tank absorption fields

Suitability: Well suited
Management concerns: None
- No significant limitations affect septic tank absorption fields.
- The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets

Suitability: Well suited
Management concerns: None

• No significant limitations affect local roads and streets.

Interpretive Groups

Land capability classification: IIs
Woodland ordination symbol: 9A

McB—McLaurin fine sandy loam, 2 to 5 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Ridges, summits, and shoulders
Shape of areas: Irregular
Size of areas: 10 to 100 acres

Composition

McLaurin and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 5 inches—dark grayish brown fine sandy loam

Subsurface layer:
5 to 10 inches—yellowish brown fine sandy loam

Subsoil:
10 to 14 inches—yellowish red sandy loam
14 to 28 inches—yellowish red sandy loam that has red mottles
28 to 40 inches—yellowish red sandy loam
40 to 46 inches—90 percent yellowish red sandy loam and 10 percent brownish yellow loamy sand
46 to 60 inches—red sandy loam

Soil Properties and Qualities

Potential rooting depth: More than 60 inches
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Moderate
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Low
Flooding: None
Hazard of water erosion: Moderate
Tilth: Good
Parent material: Loamy sediments

Minor Components

Dissimilar soils:
• Areas of the well drained Lucedale soils on upland summits
• Areas of the moderately well drained Freest soils in positions similar to those of the McLaurin soil
• Areas of the somewhat poorly drained Susquehanna soils on summits and ridges
• Areas of the moderately well drained Irvington soils on ridges
• Areas of soils that have short, steep slopes
• Areas of soils in narrow drainageways

Similar soils:
• Areas of the browner, well drained Benndale soils on ridges and shoulders

Land Use

Dominant uses: Woodland, pasture, and hayland
Other uses: Cropland

Cropland

Suitability: Well suited
Commonly grown crops: Cotton, corn, soybeans, wheat, and specialty crops
Management concerns: Erosion
• A conservation tillage system increases the content of organic matter and soil moisture and helps maintain tilth, retain plant nutrients, and control erosion.
• This soil can develop a plow pan, which can be broken up by deep plowing.
• Using a resource management system that includes terraces and diversions, stripcropping, contour tillage, no-till planting, and crop residue management helps to control erosion and surface runoff and maximizes the rate of water infiltration.

Pasture and hayland

Suitability: Well suited
Commonly grown crops: Common bermudagrass and bahiagrass
Management concerns: Erosion
• Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the condition of the pasture and increase productivity.
• Preparing seedbeds and using no-till planting on the contour or across the slope help to control erosion and increase germination.

Woodland

Suitability: Well suited
Management concerns: Equipment limitations
• Using tracked or low pressure ground equipment during harvesting helps to reduce rutting and compaction, which damages roots.

Wildlife habitat

Potential as habitat for: Openland wildlife—good;

Woodland wildlife—good; Wetland wildlife—very poor

Management concerns: Droughtiness

• Openland wildlife.—Leaving undisturbed areas of vegetation around cropland and pasture provides food and rest areas that improve habitat for openland wildlife.

• Woodland wildlife.—Habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed producing plants for quail and turkey.

• Wetland wildlife.—Habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Suited

Management concerns: Cutbanks cave

• Cutbanks are unstable and are subject to slumping. Support beams should be used to maintain the stability of the cutbanks.

Septic tank absorption fields

Suitability: Well suited

Management concerns: None

• No significant limitations affect septic tank absorption fields.

• The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets

Suitability: Well suited

Management concerns: None

• No significant limitations affect local roads and streets.

Interpretive Groups

Land capability classification: IIe

Woodland ordination symbol: 9A

McC—McLaurin fine sandy loam, 5 to 8 percent slopes

Setting

Landscape: Coastal Plain

Landform: Uplands

Landform position: Ridges, summits, and shoulders

Shape of areas: Irregular

Size of areas: 10 to 100 acres

Composition

McLaurin and similar soils: 85 percent

Dissimilar soils: 15 percent

Typical Profile

Surface layer:

0 to 5 inches—dark grayish brown fine sandy loam

Subsurface layer:

5 to 10 inches—yellowish brown fine sandy loam

Subsoil:

10 to 14 inches—yellowish red sandy loam

14 to 28 inches—yellowish red sandy loam that has red mottles

28 to 40 inches—yellowish red sandy loam

40 to 46 inches—90 percent yellowish red sandy loam and 10 percent brownish yellow loamy sand

46 to 60 inches—red sandy loam

Soil Properties and Qualities

Potential rooting depth: More than 60 inches

Drainage class: Well drained

Permeability: Moderate

Available water capacity: Moderate

Depth to seasonal high water table: More than 6.0 feet

Shrink-swell potential: Low

Flooding: None

Hazard of water erosion: Severe

Tilth: Good

Parent material: Loamy sediments

Minor Components

Dissimilar soils:

• Areas of the well drained Lucedale soils on upland summits

• Areas of the moderately well drained Freest soils in positions similar to those of the McLaurin soil

• Areas of the moderately well drained Lorman soils on hillslopes

• Areas of soils that have short, steep slopes

• Areas of soils in narrow drainageways

Similar soils:

• Areas of the browner, well drained Benndale soils on ridges and shoulders

• Areas of the well drained Smithdale soils on hillslopes

Land Use

Dominant uses: Woodland, pasture, and hayland

Other uses: Cropland

Cropland

Suitability: Suited
Commonly grown crops: Corn, soybeans, and truck crops
Management concerns: Erosion
• A conservation tillage system increases the content of organic matter and soil moisture and helps maintain tilth, retain plant nutrients, and control erosion.
• This soil can develop a plow pan, which can be broken up by deep plowing.
• Using a resource management system that includes terraces and diversions, conservation tillage, stripcropping, contour tillage, crop residue management, and a crop rotation that includes soil conserving crops helps to control erosion and surface runoff and maximizes the rate of water infiltration.

Pasture and hayland

Suitability: Well suited
Commonly grown crops: Common bermudagrass and bahiagrass
Management concerns: Erosion
• Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the condition of the pasture and increase productivity.
• Preparing seedbeds and using no-till planting on the contour or across the slope help to control erosion and increase germination.

Woodland

Suitability: Well suited
Management concerns: Equipment limitations
• Using tracked or low pressure ground equipment during harvesting helps to reduce rutting and compaction, which damages roots.

Wildlife habitat

Potential as habitat for: Openland wildlife—good; Woodland wildlife—good; Wetland wildlife—very poor
Management concerns: Droughtiness
• Openland wildlife.—Leaving undisturbed areas of vegetation around cropland and pasture provides food and rest areas that improve habitat for openland wildlife.
• Woodland wildlife.—Habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed producing plants for quail and turkey.
• Wetland wildlife.—Habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Suited
Management concerns: Cutbanks cave and slope
• Designing structures to conform to the natural slope helps to reduce the hazard of erosion.
• Cutbanks are unstable and are subject to slumping. Support beams should be used to maintain the stability of the cutbanks.

Septic tank absorption fields

Suitability: Well suited
Management concerns: None
• No significant limitations affect septic tank absorption fields.
• The local Health Department can be contacted for guidance regarding sanitary facilities.

Local roads and streets

Suitability: Well suited
Management concerns: None
• No significant limitations affect local roads and streets.

Interpretive Groups

Land capability classification: IIIe
Woodland ordination symbol: 9A

Oa—Ouachita-Jena complex, 0 to 1 percent slopes, frequently flooded

Setting

Landscape: Coastal Plain
Landform: Flood plains
Landform position: Ouachita—between natural levees and uplands or stream escarpments; Jena—slightly convex natural levees
Shape of areas: Long and narrow
Size of areas: 50 to 600 acres

Composition

Ouachita soils: 50 percent
Jena soils: 35 percent
Dissimilar soils: 15 percent

Typical Profile

Ouachita

Surface layer:
0 to 6 inches—brown silt loam

Subsurface layer:
6 to 12 inches—dark yellowish brown silt loam

Subsoil:
12 to 41 inches—yellowish brown silt loam
41 to 57 inches—yellowish brown silt loam that has light grayish brown mottles

Substratum:
57 to 74 inches—yellowish brown very fine sandy loam
74 to 82 inches—yellowish brown very fine sandy loam that has light gray mottles

Jena

Surface layer:
0 to 3 inches—dark grayish brown silt loam

Subsoil:
3 to 13 inches—brown silt loam
13 to 38 inches—dark yellowish brown silt loam

Substratum:
38 to 48 inches—yellowish brown sandy loam
48 to 62 inches—light yellowish brown sandy loam

Soil Properties and Qualities

Ouachita

Potential rooting depth: More than 60 inches
Drainage class: Well drained
Permeability: Moderate
Available water capacity: High
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Low
Flooding: Frequent, for brief periods from December through May
Hazard of water erosion: None to slight
Tilth: Good
Parent material: Loamy alluvium

Jena

Potential rooting depth: More than 60 inches
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Moderate
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Low
Flooding: Frequent, for brief periods from December through May
Hazard of water erosion: None to slight
Tilth: Good
Parent material: Loamy alluvium

Minor Components

Dissimilar soils:
- Areas of the excessively drained Bigbee soils on natural levees
- Areas of the well drained Cahaba soils on convex parts of stream terraces and terrace scarps
- Areas of the very poorly drained Croatan and Dorovan soils in depressions on flood plains and stream terraces
- Areas of soils that have thin deposits of sand on the surface

Land Use

Dominant uses: Woodland
Other uses: Pasture, hayland, and wildlife habitat

Cropland

Suitability: Ouachita—poorly suited; Jena—unsuited
Commonly grown crops: Soybeans, corn, grain sorghum, and wheat
Management concerns: Flooding
- Areas of the Jena soil are severely limited as sites for crop production because of the flooding.
- A site that has better suited soils can be selected.
- This map unit is difficult to manage for cropland because of the hazard of flooding during the growing season.

Pasture and hayland

Suitability: Suited to pasture, poorly suited to hayland
Commonly grown crops: Bahiagrass and common bermudagrass
Management concerns: Flooding
- Harvesting as soon as possible reduces the risk of damage from flooding.
- Although most flooding occurs during the winter, livestock and hay crops may be damaged any time of the year.
- Artificial drainage may be needed to maximize productivity.
- Overgrazing and grazing when the soils are too wet cause soil compaction, decreased productivity, and poor tilth.

Woodland

Suitability: Well suited
Management concerns: Ouachita—seedling mortality and plant competition; Jena—seedling mortality, plant competition, and equipment limitations
- Planting appropriate species as recommended by a

forester helps to maximize productivity and to ensure seedling survival.
• Selective thinning and removal of undesirable plants can help to minimize plant competition.
• Harvesting timber during the summer helps to reduce the risk of damage from flooding.

Wildlife habitat

Potential of the Ouachita soil as habitat for: Openland wildlife—fair; Woodland wildlife—good; Wetland wildlife—fair
Potential of the Jena soil as habitat for: Openland wildlife—fair; Woodland wildlife—good; Wetland wildlife—poor
Management concerns: Flooding
• Openland wildlife.—Leaving undisturbed areas of vegetation around cropland and pasture provides food and rest areas that improve habitat for openland wildlife.
• Woodland wildlife.—Habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed producing plants for quail and turkey.
• Wetland wildlife.—Habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Unsuited
Management concerns: Ouachita—flooding; Jena—cutbanks cave and flooding
• This map unit is severely limited as a site for dwellings because of the frequent flooding.
• A site that has better suited soils can be selected.

Septic tank absorption fields

Suitability: Unsuited
Management concerns: Flooding
• This map unit is severely limited as a site for septic tank absorption fields because of the frequent flooding.
• A site that has better suited soils can be selected.

Local roads and streets

Suitability: Unsuited
Management concerns: Flooding
• This map unit is severely limited as a site for local roads and streets because of the frequent flooding.
• A site that has better suited soils can be selected.

Interpretive Groups

Land capability classification: Ouachita—IVw; Jena—Vw
Woodland ordination symbol: 11W

Ph—Pits-Udorthents complex

Setting

Landscape: Coastal Plain
Shape of areas: Irregular
Size of areas: 3 to 20 acres

This miscellaneous area consists of gravel pits, sand pits, and piles of spoil material. These areas are scattered throughout the county. Gravel pits, sand pits, and borrow pits are areas where Bigbee, Cahaba, Latonia, McLaurin, Heidel, and Smithdale soils have been removed to depths ranging to more than 25 feet.

Pits make up 50 percent of the map unit. Some abandoned pits are reverting to natural vegetation, such as briars, broomsedge, and stunted, scraggly pine trees. These areas could be reclaimed with proper preparation. A few areas contain a good stand of pine trees. Pits that have a clay floor are intermittently ponded. The water is habitat for aquatic creatures. In areas where the ponds are shallow, mosquitoes breed.

Udorthents make up about 40 percent of the map unit. Typically, they consist of piles of spoil material of varying depth and composition. The areas are so disturbed that soil horizons are destroyed beyond recognition.

In some of the larger pits, the soil material supports low-value grass and trees. Most of this vegetation helps control erosion and provides cover for wildlife, including nesting sites for songbirds. Many areas are bare of vegetation. Pits are not suited to crops, pasture, grasses, legumes, or commercial trees. They have moderate to severe limitations for most urban uses, including landfills. Although many areas are used for waste disposal, rapid permeability in the gravely and sandy underlying material causes a hazard of contamination to ground water and nearby streams.

Minor Components

Dissimilar soils:
• Small areas of Benndale, Bigbee, Heidel, McLaurin, and Smithdale soils

Interpretive Groups

Land capability classification: VIIIs
Woodland ordination symbol: None assigned

PrA—Prentiss fine sandy loam, 0 to 2 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Ridgetops
Shape of areas: Irregular
Size of areas: 10 to 100 acres

Composition

Prentiss soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 6 inches—brown fine sandy loam

Subsoil:
6 to 19 inches—yellowish brown sandy loam that has strong brown mottles
19 to 27 inches—mottled yellowish brown sandy loam
27 to 33 inches—yellowish brown sandy loam that has pale brown and light brownish gray mottles
33 to 68 inches—yellowish brown sandy loam that has strong brown and light brownish gray mottles

Soil Properties and Qualities

Potential rooting depth: 20 to 32 inches
Drainage class: Moderately well drained
Permeability: Moderately slow
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of 2.0 to 2.5 feet from January through March
Shrink-swell potential: Low
Flooding: None
Hazard of water erosion: None to slight
Tilth: Good
Parent material: Loamy sediments
Other distinctive properties: Fragipan at a depth of 20 to 32 inches

Minor Components

Dissimilar soils:
- Areas of the well drained Latonia soils that do not have a fragipan, in positions similar to those of the Prentiss soil
- Areas of the well drained Quitman soils in the lower positions
- Areas of the somewhat poorly drained Stough soils in positions similar to those of the Prentiss soil
- Areas of the poorly drained Trebloc soils in depressions on stream terraces

Land Use

Dominant uses: Pasture, hayland, and cropland
Other uses: Woodland

Cropland

Suitability: Well suited
Commonly grown crops: Cotton, corn, soybeans, wheat, and specialty crops
Management concerns: Root penetration and wetness
- A well maintained drainage system helps to minimize wetness and increases productivity.
- Chisel plowing and subsoiling help to break through hardpans, improving root penetration and increasing the rate of water infiltration.

Pasture and hayland

Suitability: Well suited
Commonly grown crops: Common bermudagrass and bahiagrass
Management concerns: Root penetration and wetness
- Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the condition of the pasture and increase productivity.
- Overgrazing and grazing when the soil is too wet cause soil compaction, decreased productivity, and poor tilth.
- When seedbeds are prepared, chisel plowing and subsoiling help to break through hardpans, improving root penetration and increasing the rate of water infiltration.

Woodland

Suitability: Well suited
Management concerns: Plant competition
- Planting appropriate species as recommended by a forester helps to maximize productivity and to ensure seedling survival.
- Selective thinning and removal of undesirable plants can help to minimize plant competition.

Wildlife habitat

Potential as habitat for: Openland wildlife—good; Woodland wildlife—good; Wetland wildlife—poor
Management concerns: Wetness
- Openland wildlife.—Leaving undisturbed areas of vegetation around cropland and pasture provides food and rest areas that improve habitat for openland wildlife.
- Woodland wildlife.—Habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts

of land, can increase the amount of palatable browse for deer and the number of seed producing plants for quail and turkey.
• Wetland wildlife.—Habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Suited
Management concerns: Wetness
• Constructing structures on the highest part of the landscape and installing a drainage system help to reduce the risk of damage from wetness.

Septic tank absorption fields

Suitability: Unsuited
Management concerns: Wetness and percs slow
• This map unit is severely limited as a site for septic tank absorption fields because of the high water table from January through March and the moderately slow permeability.
• A site that has better suited soils can be selected.
• Accessing public sewage system outlets eliminates the need to use this soil as a site for septic tank systems.

Local roads and streets

Suitability: Suited
Management concerns: Wetness
• Using road designs that safely remove surface runoff helps to reduce the hazard of erosion.

Interpretive Groups

Land capability classification: IIw
Woodland ordination symbol: 9W

PrB—Prentiss fine sandy loam, 2 to 5 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Ridgetops and hillsides
Shape of areas: Irregular
Size of areas: 10 to 100 acres

Composition

Prentiss soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 6 inches—brown fine sandy loam

Subsoil:
6 to 19 inches—yellowish brown sandy loam that has strong brown mottles
19 to 27 inches—mottled yellowish brown sandy loam
27 to 33 inches—yellowish brown sandy loam that has pale brown and light brownish gray mottles
33 to 68 inches—yellowish brown sandy loam that has strong brown and light brownish gray mottles

Soil Properties and Qualities

Potential rooting depth: 20 to 32 inches
Drainage class: Moderately well drained
Permeability: Moderately slow
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of 2.0 to 2.5 feet from January through March
Shrink-swell potential: Low
Flooding: None
Hazard of water erosion: Moderate
Tilth: Good
Parent material: Loamy sediments
Other distinctive properties: Fragipan at a depth of 20 to 32 inches

Minor Components

Dissimilar soils:
• Areas of the well drained Latonia soils that do not have a fragipan, in positions similar to those of the Prentiss soil
• Areas of the somewhat poorly drained Stough soils in positions similar to those of the Prentiss soil
• Areas of the poorly drained Trebloc soils in depressions on stream terraces

Land Use

Dominant uses: Pasture, hayland, and woodland
Other uses: Cropland

Cropland

Suitability: Well suited
Commonly grown crops: Cotton, corn, soybeans, wheat, and specialty crops (fig. 6)
Management concerns: Erosion, root penetration, and wetness
• Using a resource management system that includes terraces and diversions, conservation tillage, stripcropping, contour tillage, crop residue management, and a crop rotation that includes soil conserving crops helps to control erosion and surface runoff and maximizes the rate of water infiltration.
• A well maintained drainage system helps to minimize wetness and increases productivity.
• Chisel plowing and subsoiling help to break through

Figure 6.—Cotton in an area of Prentiss fine sandy loam, 2 to 5 percent slopes.

hardpans, improving root penetration and increasing the rate of water infiltration.

Pasture and hayland

Suitability: Well suited
Commonly grown crops: Common bermudagrass and bahiagrass
Management concerns: Erosion, root penetration, and wetness

- Preparing seedbeds and using no-till planting on the contour or across the slope help to control erosion and increase germination.
- Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the condition of the pasture and increase productivity.
- Overgrazing and grazing when the soil is too wet cause soil compaction, decreased productivity, and poor tilth.
- When seedbeds are prepared, chisel plowing and subsoiling help to break through hardpans, improving root penetration and increasing the rate of water infiltration.

Woodland

Suitability: Well suited
Management concerns: Plant competition

- Planting appropriate species as recommended by a forester helps to maximize productivity and to ensure seedling survival.
- Selective thinning and removal of undesirable plants can help to minimize plant competition.

Wildlife habitat

Potential as habitat for: Openland wildlife—good; Woodland wildlife—good; Wetland wildlife—poor
Management concerns: Erosion

- Openland wildlife.—Leaving undisturbed areas of vegetation around cropland and pasture provides food and rest areas that improve habitat for openland wildlife.
- Woodland wildlife.—Habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse

for deer and the number of seed producing plants for quail and turkey.
• Wetland wildlife.—Habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Suited
Management concerns: Wetness
• Constructing structures on the highest part of the landscape and installing a drainage system help to reduce the risk of damage from wetness.
• Properly installed irrigation systems can maintain lawns during periods of low rainfall.

Septic tank absorption fields

Suitability: Unsuited
Management concerns: Wetness and moderately slow permeability
• This map unit is severely limited as a site for septic tank absorption fields because of the high water table from January through March and the moderately slow permeability.
• A site that has better suited soils can be selected.
• Accessing public sewage system outlets eliminates the need to use this soil as a site for septic tank systems.

Local roads and streets

Suitability: Suited
Management concerns: Wetness
• Using road designs that safely remove surface runoff helps to reduce the hazard of erosion.

Interpretive Groups

Land capability classification: IIe
Woodland ordination symbol: 9W

SaB—Savannah fine sandy loam, 2 to 5 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Ridges, summits, and shoulders
Shape of areas: Irregular
Size of areas: 10 to 100 acres

Composition

Savannah soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 5 inches—dark grayish brown fine sandy loam

Subsurface layer:
5 to 10 inches—brown fine sandy loam

Subsoil:
10 to 17 inches—yellowish brown clay loam
17 to 28 inches—yellowish brown loam
28 to 41 inches—yellowish brown loam that has brown and light brownish gray mottles
41 to 60 inches—yellowish brown clay loam that has strong brown, red, and light brownish gray mottles

Soil Properties and Qualities

Potential rooting depth: 20 to 38 inches
Drainage class: Moderately well drained
Permeability: Moderately slow
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of 1.5 to 3.0 feet from January through March
Shrink-swell potential: Low
Flooding: None
Hazard of water erosion: Moderate
Tilth: Good
Parent material: Loamy sediments
Other distinctive properties: Fragipan at a depth of 20 to 38 inches

Minor Components

Dissimilar soils:
• Areas of the moderately well drained Freest soils on ridges and shoulders
• Areas of the well drained McLaurin soils on ridges and summits
• Areas of the well drained Smithdale soils on hillslopes

Land Use

Dominant uses: Pasture, hayland, and cropland
Other uses: Woodland

Cropland

Suitability: Well suited
Commonly grown crops: Cotton, corn, soybeans, wheat, and specialty crops
Management concerns: Root penetration, erosion, and wetness
• Using a resource management system that includes terraces and diversions, conservation tillage, stripcropping, contour tillage, crop residue management, and a crop rotation that includes soil conserving crops helps to control erosion and surface

Figure 7.—An area of Savannah fine sandy loam, 2 to 5 percent slopes, which is well suited to pasture.

runoff and maximizes the rate of water infiltration.
• A well maintained drainage system helps to minimize wetness and increases productivity.
• Chisel plowing and subsoiling help to break through hardpans, improving root penetration and increasing the rate of water infiltration.

Pasture and hayland

Suitability: Well suited (fig. 7)
Commonly grown crops: Common bermudagrass and bahiagrass
Management concerns: Root penetration, erosion, and wetness
• Preparing seedbeds and using no-till planting on the contour or across the slope help to control erosion and increase germination.
• Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the condition of the pasture and increase productivity.
• Overgrazing and grazing when the soil is too wet cause soil compaction, decreased productivity, and poor tilth.
• When seedbeds are prepared, chisel plowing and subsoiling help to break through hardpans, improving root penetration and increasing the rate of water infiltration.

Woodland

Suitability: Well suited
Management concerns: Equipment limitations and plant competition
• Planting appropriate species as recommended by a forester helps to maximize productivity and to ensure seedling survival.
• Selective thinning and removal of undesirable plants can help to minimize plant competition.
• Restricting the use of standard wheeled and tracked equipment to dry periods helps to reduce the rutting and soil compaction that occur when the soil is saturated.

Wildlife habitat

Potential as habitat for: Openland wildlife—good; Woodland wildlife—good; Wetland wildlife—very poor
Management concerns: Wetness
• Openland wildlife.—Leaving undisturbed areas of vegetation around cropland and pasture provides food

and rest areas that improve habitat for openland wildlife.
• Woodland wildlife.—Habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed producing plants for quail and turkey.
• Wetland wildlife.—Habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Suited
Management concerns: Wetness
• Constructing structures on the highest part of the landscape and installing a drainage system help to reduce the risk of damage from wetness.
• Properly installed irrigation systems can maintain lawns during periods of low rainfall.

Septic tank absorption fields

Suitability: Unsuited
Management concerns: Wetness and moderately slow permeability
• This map unit is severely limited as a site for septic tank absorption fields because of the high water table from January through March and the moderately slow permeability.
• A site that has better suited soils can be selected.
• Accessing public sewage system outlets eliminates the need to use this soil as a site for septic tank systems.

Local roads and streets

Suitability: Suited
Management concerns: Low strength and wetness
• Incorporating sand and gravel into the fill material and compacting roadbeds improve soil strength.
• Using road designs that safely remove surface runoff helps to reduce the hazard of erosion.

Interpretive Groups

Land capability classification: IIe
Woodland ordination symbol: 9W

SmE—Smithdale fine sandy loam, 8 to 15 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Hillslopes
Shape of areas: Irregular
Size of areas: 10 to 500 acres

Composition

Smithdale and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 6 inches—dark grayish brown fine sandy loam

Subsurface layer:
6 to 13 inches—light yellowish brown sandy loam

Subsoil:
13 to 33 inches—red sandy clay loam
33 to 65 inches—red sandy loam

Soil Properties and Qualities

Potential rooting depth: More than 60 inches
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Moderate
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Low
Flooding: None
Hazard of water erosion: Severe or very severe
Tilth: Good
Parent material: Loamy sediments

Minor Components

Dissimilar soils:
• Areas of the poorly drained Bibb on flood plains along streams
• Areas of the poorly drained Trebloc soils in broad concave areas and narrow drainageways
• Areas of the moderately well drained Savannah soils on ridges and shoulders
• Areas of the well drained Lucedale soils on summits

Similar soils:
• Areas of the well drained Benndale soils on ridges and shoulders
• Areas of the well drained McLaurin soils on ridges, summits, and shoulders
• Areas of the well drained Heidel soils in positions similar to those of the Smithdale soil

Land Use

Dominant uses: Woodland
Other uses: Pasture

Cropland

Suitability: Poorly suited
Commonly grown crops: Cotton, corn, and soybeans

Management concerns: Erosion
• Using a resource management system that includes terraces and diversions, conservation tillage, stripcropping, contour farming, crop residue management, and a crop rotation that includes soil conserving crops helps to control erosion and surface runoff and maximizes the rate of water infiltration.

Pasture and hayland

Suitability: Well suited to pasture, suited to hayland
Commonly grown crops: Common bermudagrass and bahiagrass
Management concerns: Erosion
• Preparing seedbeds and using no-till planting on the contour or across the slope help to control erosion and increase germination.
• Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the condition of the pasture and increase productivity.
• The slope can limit equipment use in the steeper areas during harvesting.

Woodland

Suitability: Well
Management concerns: None
• Planting appropriate species as recommended by a forester helps to maximize productivity and to ensure seedling survival.

Wildlife habitat

Potential as habitat for: Openland wildlife—good; Woodland wildlife—good; Wetland wildlife—very poor
Management concerns: Erosion
• Openland wildlife.—Leaving undisturbed areas of vegetation around cropland and pasture provides food and rest areas that improve habitat for openland wildlife.
• Woodland wildlife.—Habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed producing plants for quail and turkey.
• Wetland wildlife.—Habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Suited
Management concerns: Slope
• Grading or land shaping prior to construction helps to reduce the damage caused by surface water and helps to control erosion.
• Designing structures to conform to the natural slope helps to reduce the hazard of erosion.
• Vegetating cleared and graded areas as soon as possible and installing silt fences help to maintain soil stability and prevent sediments from leaving the site.

Septic tank absorption fields

Suitability: Suited
Management concerns: Slope
• Installing distribution lines on the contour improves performance.
• The local Health Department can be contacted for additional guidance regarding sanitary facilities.

Local roads and streets

Suitability: Suited
Management concerns: Slope
• Designing roads on the contour and providing adequate water-control structures, such as culverts, help to maintain road stability.

Interpretive Groups

Land capability classification: IVe
Woodland ordination symbol: 9A

SoA—Stough fine sandy loam, 0 to 2 percent slopes, rarely flooded

Setting

Landscape: Coastal Plain
Landform: Terraces
Landform position: Nearly level areas
Shape of areas: Long and narrow
Size of areas: 10 to 100 acres

Composition

Stough soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 6 inches—dark grayish brown fine sandy loam

Subsurface layer:
6 to 13 inches—pale brown fine sandy loam

Subsoil:
13 to 25 inches—light yellowish brown loam that has yellowish brown and light brownish gray mottles

25 to 37 inches—mottled yellowish brown, light brownish gray, and dark yellowish brown loam
37 to 65 inches—light yellowish brown loam that has light brownish gray mottles

Soil Properties and Qualities

Potential rooting depth: 9 to 26 inches
Drainage class: Somewhat poorly drained
Permeability: Moderately slow
Available water capacity: Low
Seasonal high water table: Perched, at a depth of 1.0 to 1.5 feet from January through April
Shrink-swell potential: Low
Flooding: Rare, for very brief periods from January through April
Hazard of water erosion: None to slight
Tilth: Good
Parent material: Loamy sediments
Other distinctive properties: Fragipan at a depth of 9 to 26 inches

Minor Components

Dissimilar soils:
• Areas of the poorly drained Bibb soils on flood plains
• Areas of the moderately well drained Prentiss soils in positions similar to those of the Stough soil
• Areas of the poorly drained Trebloc soils in depressions on stream terraces

Land Use

Dominant uses: Woodland, pasture, and hayland
Other uses: Cropland

Cropland

Suitability: Well suited
Commonly grown crops: Cotton, corn, soybeans, and wheat
Management concerns: Wetness and root penetration
• Using a resource management system that includes terraces and diversions, conservation tillage, stripcropping, contour tillage, crop residue management, and a crop rotation that includes soil conserving crops helps to control erosion and surface runoff and maximizes the rate of water infiltration.
• A well maintained drainage system helps to minimize wetness and increases productivity.
• Chisel plowing and subsoiling help to break through hardpans, improving root penetration and increasing the rate of water infiltration.

Pasture and hayland

Suitability: Well suited
Commonly grown crops: Common bermudagrass and bahiagrass
Management concerns: Wetness and root penetration
• Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the condition of the pasture and increase productivity.
• Overgrazing and grazing when the soil is too wet cause soil compaction, decreased productivity, and poor tilth.
• When seedbeds are prepared, chisel plowing and subsoiling help to break through hardpans, improving root penetration and increasing the rate of water infiltration.

Woodland

Suitability: Suited
Management concerns: Plant competition and equipment limitations
• Planting appropriate species as recommended by a forester helps to maximize productivity and to ensure seedling survival.
• Selective thinning and removal of undesirable plants can help to minimize plant competition.
• Restricting the use of standard wheeled and tracked equipment to dry periods helps to reduce the rutting and soil compaction that occur when the soil is saturated.

Wildlife habitat

Potential as habitat for: Openland wildlife—good; Woodland wildlife—good; Wetland wildlife—fair
Management concerns: Wetness
• Openland wildlife.—Leaving undisturbed areas of vegetation around cropland and pasture provides food and rest areas that improve habitat for openland wildlife.
• Woodland wildlife.—Habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed producing plants for quail and turkey.
• Wetland wildlife.—Habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Poorly suited
Management concerns: Wetness and flooding
• Constructing dwellings on raised, compacted fill material helps to reduce the risk of damage from wetness.

Septic tank absorption fields

Suitability: Unsuited
Management concerns: Wetness and percs slow
• Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves septic system performance.

Local roads and streets

Suitability: Suited
Management concerns: Wetness and flooding
• Using road designs that safely remove surface runoff helps to reduce the hazard of erosion.
• Using well compacted fill material as a road base can help elevate roads above flood stage.

Interpretive Groups

Land capability classification: IIw
Woodland ordination symbol: 9W

SsB—Susquehanna fine sandy loam, 2 to 5 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Summits and ridges
Shape of areas: Irregular
Size of areas: 10 to 100 acres

Composition

Susquehanna soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 4 inches—brown fine sandy loam

Subsurface layer:
4 to 7 inches—brown loam

Subsoil:
7 to 16 inches—yellowish red clay
16 to 23 inches—reddish brown clay that has yellowish red and light brownish gray mottles
23 to 64 inches—light gray clay that has red and strong brown mottles
64 to 79 inches—light gray silty clay that has strong brown mottles
79 to 86 inches—light gray silty clay that has strong brown and black mottles

Soil Properties and Qualities

Potential rooting depth: More than 60 inches
Drainage class: Somewhat poorly drained
Permeability: Very slow
Available water capacity: High
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: High
Flooding: None
Hazard of water erosion: Moderate
Tilth: Good
Parent material: Clayey marine and stream deposits
Other distinctive properties: Few to many fine to coarse, striated, grooved, and tongued slickensides in the subsoil

Minor Components

Dissimilar soils:
• Areas of the well drained Benndale soils on ridges
• Areas of the moderately well drained Freest soils in positions similar to those of the Susquehanna soil
• Areas of the less developed, moderately well drained Lorman soils on hillslopes

Land Use

Dominant uses: Woodland, pasture, and hayland
Other uses: Cropland

Cropland

Suitability: Suited
Commonly grown crops: Soybeans and wheat
Management concerns: Erosion
• Using a resource management system that includes terraces and diversions, conservation tillage, stripcropping, contour farming, crop residue management, and a crop rotation that includes soil conserving crops helps to control erosion and surface runoff and maximizes the rate of water infiltration.
• This soil can develop a plow pan, which can be broken up by deep plowing.

Pasture and hayland

Suitability: Well suited
Commonly grown crops: Bahiagrass
Management concerns: Erosion
• Preparing seedbeds and using no-till planting on the contour or across the slope help to control erosion and increase germination.
• Overgrazing and grazing when the soil is too wet cause soil compaction, decreased productivity, and poor tilth.

Woodland

Suitability: Well suited
Management concerns: Equipment limitations
• Planting appropriate species as recommended by a

forester helps to maximize productivity and to ensure seedling survival.
• Logging during wet periods causes rutting and compaction, which damages tree roots.

Wildlife habitat

Potential as habitat for: Openland wildlife—good; Woodland wildlife—good; Wetland wildlife—very poor
Management concerns: Erosion
• Openland wildlife.—Leaving undisturbed areas of vegetation around cropland and pasture provides food and rest areas that improve habitat for openland wildlife.
• Woodland wildlife.—Habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed producing plants for quail and turkey.
• Wetland wildlife.—Habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Suited
Management concerns: Too clayey and shrink-swell potential
• Reinforcing foundations and footings or backfilling with coarse textured material helps to strengthen buildings and prevents the damage caused by shrinking and swelling.

Septic tank absorption fields

Suitability: Poorly suited
Management concerns: Percs slowly
• Increasing the size of the absorption field improves performance.
• Installing distribution lines during dry periods reduces smearing and sealing of trench walls.

Local roads and streets

Suitability: Poorly suited
Management concerns: Low strength and shrink-swell potential
• Removing as much of the clay that has a high shrink-swell potential as possible and increasing the thickness of the base aggregate help to reduce the hazard of erosion.
• Incorporating sand and gravel into the fill material and compacting roadbeds improve soil strength.

Interpretive Groups

Land capability classification: IVe
Woodland ordination symbol: 8C

ST—Susquehanna and Freest soils, 2 to 5 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Ridges, summits, and shoulders
Shape of areas: Irregular
Size of areas: 10 to 400 acres

Composition

Susquehanna soils: 50 percent
Freest soils: 35 percent
Dissimilar soils: 15 percent

Typical Profile

Susquehanna

Surface layer:
0 to 4 inches—brown fine sandy loam

Subsurface layer:
4 to 7 inches—brown loam

Subsoil:
7 to 16 inches—yellowish red clay
16 to 23 inches—reddish brown clay that has yellowish red and light brownish gray mottles
23 to 64 inches—light gray clay that has red and strong brown mottles
64 to 79 inches—light gray silty clay that has strong brown mottles
79 to 86 inches—light gray silty clay that has strong brown and black mottles

Freest

Surface layer:
0 to 7 inches—dark grayish brown fine sandy loam

Subsurface layer:
7 to 13 inches—yellowish brown fine sandy loam

Subsoil:
13 to 20 inches—yellowish brown loam
20 to 25 inches—yellowish brown loam that has yellowish red and yellowish brown mottles
25 to 35 inches—brownish yellow loam that has red and light brownish gray mottles
35 to 43 inches—light brownish gray clay loam that has red and brownish yellow mottles

43 to 51 inches—light brownish gray silty clay that has red mottles
51 to 60 inches—light brownish gray silty clay that has yellowish brown mottles

Soil Properties and Qualities

Susquehanna

Potential rooting depth: More than 60 inches
Drainage class: Somewhat poorly drained
Permeability: Very slow
Available water capacity: High
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: High
Flooding: None
Hazard of water erosion: Moderate
Tilth: Good
Parent material: Clayey marine and stream deposits
Other distinctive properties: Few to many fine to coarse, striated, grooved, and tongued slickensides in the subsoil

Freest

Potential rooting depth: More than 60 inches
Drainage class: Moderately well drained
Permeability: Moderately slow
Available water capacity: High
Seasonal high water table: Apparent, at a depth of 1.5 to 2.5 feet from January through April
Shrink-swell potential: High
Flooding: None
Hazard of water erosion: Moderate to severe
Tilth: Good
Parent material: Loamy over clayey sediments

Minor Components

Dissimilar soils:
- Areas of the very poorly drained Croatan and Dorovan soils in depressions on flood plains and stream terraces
- Areas of the moderately well drained Irvington soils on ridges

Land Use

Dominant uses: Woodland, mostly in the DeSoto National Forest
Other uses: Wildlife habitat

Cropland

Suitability: Susquehanna—poorly suited; Freest—suited
Commonly grown crops: None
Management concerns: Susquehanna—erosion; Freest—wetness
- Using a resource management system that includes terraces and diversions, conservation tillage, stripcropping, contour farming, crop residue management, and a crop rotation that includes soil conserving crops helps to control erosion and surface runoff and maximizes the rate of water infiltration.
- A well maintained drainage system helps to minimize wetness and improves productivity in areas of the Freest soil.

Pasture and hayland

Suitability: Well suited
Commonly grown crops: Bahiagrass
Management concerns: Susquehanna—erosion; Freest—wetness
- Preparing seedbeds and using no-till planting on the contour or across the slope help to control erosion and increase germination.
- Overgrazing and grazing when the soils are too wet cause soil compaction, decreased productivity, and poor tilth.

Woodland

Suitability: Well suited
Management concerns: Susquehanna—equipment limitations; Freest—equipment limitations and plant competition
- Planting appropriate species as recommended by a forester helps to maximize productivity and to ensure seedling survival.
- Logging during wet periods causes rutting and compaction, which damages tree roots.
- Selective thinning and removal of undesirable plants can help to minimize plant competition.

Wildlife habitat

Potential of the Susquehanna soil as habitat for: Openland wildlife—good; Woodland wildlife—good; Wetland wildlife—very poor
Potential of the Freest soil as habitat for: Openland wildlife—good; Woodland wildlife—good; Wetland wildlife—poor
Management concerns: Susquehanna—erosion; Freest—wetness
- Openland wildlife.—Leaving undisturbed areas of vegetation around cropland and pasture provides food and rest areas that improve habitat for openland wildlife.
- Woodland wildlife.—Habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts

of land, can increase the amount of palatable browse for deer and the number of seed producing plants for quail and turkey.
• Wetland wildlife.—Habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Suited
Management concerns: Susquehanna—too clayey and shrink-swell potential; Freest—wetness and shrink-swell potential
• Reinforcing foundations and footings or backfilling with coarse textured material helps to strengthen buildings and prevents the damage caused by shrinking and swelling.
• Constructing structures on the highest part of the landscape and installing a drainage system help to reduce the risk of damage from wetness.

Septic tank absorption fields

Suitability: Poorly suited
Management concerns: Susquehanna—percs slowly; Freest—wetness and percs slowly
• Increasing the size of the absorption field improves performance.
• Installing the distribution lines during dry periods reduces smearing and sealing of trench walls.
• Installing the distribution lines on the contour improves performance of septic tank absorption fields.
• Areas of the Freest soil are severely limited as a site for septic tank absorption fields because of the seasonal high water table.
• The local Health Department can be contacted for additional guidance.

Local roads and streets

Suitability: Poorly suited
Management concerns: Susquehanna—low strength and shrink-swell potential; Freest—shrink-swell potential and low strength
• Removing as much of the clay that has a high shrink-swell potential as possible and increasing the thickness of the base aggregate help to reduce the hazard of erosion.
• Incorporating sand and gravel into the fill material, compacting roadbeds, and designing roads to conform to the natural slope improve soil strength.

Interpretive Groups

Land capability classification: Susquehanna—IVe; Freest—IIe
Woodland ordination symbol: Susquehanna—8C; Freest—9W

Tr—Trebloc silt loam, 0 to 1 percent slopes, frequently flooded

Setting

Landscape: Coastal Plain
Landform: Low stream terraces
Landform position: Broad concave areas and narrow drainageways
Shape of areas: Long and narrow
Size of areas: 10 to 100 acres

Composition

Trebloc soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 5 inches—dark grayish brown silt loam

Subsurface layer:
5 to 8 inches—grayish brown silt loam

Subsoil:
8 to 20 inches—light brownish gray silty clay loam that has yellowish brown mottles
20 to 33 inches—grayish brown silty clay loam that has yellowish brown mottles
33 to 48 inches—grayish brown silty clay that has yellowish brown mottles
48 to 60 inches—grayish brown silty clay that has brownish yellow mottles

Soil Properties and Qualities

Potential rooting depth: More than 60 inches
Drainage class: Poorly drained
Permeability: Moderately slow
Available water capacity: High
Seasonal high water table: Apparent, at a depth of 0.5 to 1.0 foot from January through April
Shrink-swell potential: Moderate
Flooding: Frequent, for very brief periods from January through April
Hazard of water erosion: None to slight
Tilth: Good
Parent material: Moderately fine textured fluvial deposits

Minor Components

Dissimilar soils:
• Areas of the poorly drained Bibb soils on flood plains along streams

• Areas of the well drained Latonia soils
• Areas of the moderately well drained Prentiss soils that have a fragipan, in the higher positions
• Areas of the somewhat poorly drained Stough soils in the slightly higher positions
• Areas of the somewhat poorly drained Quitman soils in positions similar to those of the Trebloc soil

Land Use

Dominant uses: Woodland, pasture, and hayland

Cropland

Suitability: Unsuited
Commonly grown crops: None
Management concerns: Wetness and flooding
• This map unit is severely limited as a site for crop production.
• A site that has better suited soils can be selected.

Pasture and hayland

Suitability: Suited to pasture, poorly suited to hayland
Commonly grown crops: Common bermudagrass and bahiagrass
Management concerns: Wetness and flooding
• Harvesting as soon as possible reduces the risk of damage from flooding.
• Although most flooding occurs during the winter, livestock and hay may be damaged any time of the year.
• Artificial drainage may be needed to maximize productivity.
• Overgrazing and grazing when the soil is too wet cause soil compaction, decreased productivity, and poor tilth.
• Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the condition of the pasture and increase productivity.

Woodland

Suitability: Suited
Management concerns: Seedling mortality, plant competition, and equipment limitations
• Planting species that are appropriate for a poorly drained soil as recommended by a forester helps to maximize productivity and to ensure seedling survival.
• Restricting the use of standard wheeled and tracked equipment to dry periods helps to reduce the rutting and soil compaction that occur when the soil is saturated.
• Selective thinning and removal of undesirable plants can help to minimize plant competition.

Wildlife habitat

Potential as habitat for: Openland wildlife—fair; Woodland wildlife—fair; Wetland wildlife—good
Management concerns: Flooding, poorly drained soils, and seasonal high water table
• Openland wildlife.—Leaving undisturbed areas of vegetation around cropland and pasture provides food and rest areas that improve habitat for openland wildlife.
• Woodland wildlife.—Habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed producing plants for quail and turkey.
• Wetland wildlife.—Habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Unsuited
Management concerns: Wetness and flooding
• This map unit is severely limited as a site for dwellings because of the high water table and the frequent flooding.
• A site that has better suited soils can be selected.

Septic tank absorption fields

Suitability: Unsuited
Management concerns: Flooding, wetness, and percs slowly
• This map unit is severely limited as a site for septic tank absorption fields because of the seasonal high water table, the frequent flooding, and the moderately slow permeability.
• The local Health Department can be contacted for additional guidance.

Local roads and streets

Suitability: Unsuited
Management concerns: Low strength, wetness, and flooding
• This map unit is severely limited as a site for local roads and streets because of the high water table and the frequent flooding.
• A site that has better suited soils can be selected.

Interpretive Groups

Land capability classification: Vw
Woodland ordination symbol: 10W

Ts—Trebloc-Quitman complex, 0 to 2 percent slopes, rarely flooded

Setting

Landscape: Coastal Plain
Landform: Low stream terraces
Landform position: Broad concave areas and narrow drainageways
Shape of areas: Long and narrow
Size of areas: 10 to 300 acres

Composition

Trebloc soils: 55 percent
Quitman soils: 30 percent
Dissimilar soils: 15 percent

Typical Profile

Trebloc

Surface layer:
0 to 5 inches—dark grayish brown silt loam

Subsurface layer:
5 to 8 inches—grayish brown silt loam

Subsoil:
8 to 20 inches—light brownish gray silty clay loam that has yellowish brown mottles
20 to 33 inches—grayish brown silty clay loam that has yellowish brown mottles
33 to 48 inches—grayish brown silty clay that has yellowish brown mottles
48 to 62 inches—grayish brown silty clay that has brownish yellow mottles

Quitman

Surface layer:
0 to 5 inches—very dark gray fine sandy loam

Subsurface layer:
5 to 13 inches—brown fine sandy loam

Subsoil:
13 to 19 inches—yellowish brown loam that has yellowish brown mottles
19 to 27 inches—light yellowish brown loam that has yellowish brown, yellowish red, and light brownish gray mottles
27 to 38 inches—light brownish gray loam that has yellowish brown and yellowish red mottles
38 to 60 inches—light brownish gray clay loam that has yellowish brown and yellowish red mottles

Soil Properties and Qualities

Trebloc

Potential rooting depth: More than 60 inches
Drainage class: Poorly drained
Permeability: Moderately slow
Available water capacity: High
Seasonal high water table: Apparent, at a depth of 0.5 to 1.0 foot from January through April
Shrink-swell potential: Moderate
Flooding: Rare, for very brief periods from January through April
Hazard of water erosion: None to slight
Tilth: Good
Parent material: Moderately fine textured fluvial deposits

Quitman

Potential rooting depth: More than 60 inches
Drainage class: Somewhat poorly drained
Permeability: Moderately slow
Available water capacity: Moderate
Seasonal high water table: Perched, at a depth of 1.5 to 2.0 feet from January through March
Shrink-swell potential: Low
Flooding: Rare, for very brief and brief periods from December through May
Hazard of water erosion: None to slight
Tilth: Good
Parent material: Loamy marine or fluvial sediments

Minor Components

Dissimilar soils:
- Areas of the poorly drained Bibb soils in positions similar to those of the major soils
- Areas of the somewhat poorly drained Stough soils on the slightly higher stream terraces
- Areas of the moderately well drained Prentiss soils that have a fragipan, on the higher stream terraces

Land Use

Dominant uses: Woodland
Other uses: Pasture and hayland

Cropland

Suitability: Well suited
Commonly grown crops: None
Management concerns: Wetness
- A well maintained drainage system helps to minimize wetness and increases productivity.

Pasture and hayland

Suitability: Well suited

Commonly grown crops: Common bermudagrass and bahiagrass
Management concerns: Wetness
• Overgrazing and grazing when the soil is too wet cause soil compaction, decreased productivity, and poor tilth.
• Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the condition of the pasture and increase yields.
• Artificial drainage may be needed to maximize productivity.

Woodland

Suitability: Trebloc—suited; Quitman—well suited
Management concerns: Trebloc—seedling mortality, plant competition, and equipment limitations; Quitman—equipment limitations and plant competition
• Planting species that are appropriate for a poorly drained soil as recommended by a forester helps to maximize productivity and to ensure seedling survival.
• Restricting the use of standard wheeled and tracked equipment to dry periods helps to reduce the rutting and soil compaction that occur when the soils are saturated.
• Selective thinning and removal of undesirable plants can help to minimize plant competition.

Wildlife habitat

Potential of the Trebloc soil as habitat for: Openland wildlife—fair; Woodland wildlife—fair; Wetland wildlife—good
Potential of the Quitman soil as habitat for: Openland wildlife—good; Woodland wildlife—good; Wetland wildlife—very poor
Management concerns: Flooding and wetness
• Openland wildlife.—Leaving undisturbed areas of vegetation around cropland and pasture provides food and rest areas that improve habitat for openland wildlife.
• Woodland wildlife.—Habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed producing plants for quail and turkey.
• Wetland wildlife.—Habitat can be improved by constructing shallow ponds that provide open water areas for waterfowl and furbearers.

Dwellings

Suitability: Poorly suited
Management concerns: Wetness and flooding
• This map unit is severely limited as a site for dwellings because of the high water table and the flooding.
• Constructing dwellings on raised, well compacted fill material helps to reduce the risk of damage from wetness and flooding.
• Installing a subsurface drainage system helps to lower the seasonal high water table.

Septic tank absorption fields

Suitability: Poorly suited
Management concerns: Wetness and percs slowly
• This map unit is severely limited as a site for septic tank absorption fields because of the high water table and the moderately slow permeability.
• Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves septic system performance.

Local roads and streets

Suitability: Poorly suited
Management concerns: Low strength, wetness, and flooding
• The soils in this map unit are severely limited as a site for local roads and streets because of the low strength, the seasonal high water table, and the flooding.
• Using well compacted fill material as a road base can help elevate roads above flood stage.
• Incorporating sand and gravel into the fill material and compacting roadbeds improve soil strength.

Interpretive Groups

Land capability classification: Trebloc—IIIw; Quitman—IIw
Woodland ordination symbol: 10W

WdC—Wadley fine sand, 0 to 5 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Ridges and hillslopes
Shape of areas: Irregular
Size of areas: 10 to 60 acres

Composition

Wadley and similar soils: 80 percent

Dissimilar soils: 20 percent

Typical Profile

Surface layer:
0 to 8 inches—brown fine sand

Subsurface layer:
8 to 31 inches—very pale brown sand
31 to 50 inches—very pale brown sand that has dark yellowish brown mottles

Subsoil:
50 to 74 inches—yellowish red sandy loam
74 to 85 inches—yellowish red sandy loam that has pockets of reddish yellow loamy sand
85 to 95 inches—yellowish red sandy loam

Soil Properties and Qualities

Potential rooting depth: More than 60 inches
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Low
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Low
Flooding: None
Hazard of water erosion: None to moderate
Tilth: Poor
Parent material: Sandy and loamy marine sediments

Minor Components

Dissimilar soils:
• Areas of the well drained Benndale, Smithdale, and McLaurin soils in positions similar to those of the Wadley soil

Similar soils:
• Areas of soils that have a surface layer and subsurface layer having a combined thickness of less than 40 inches
• Areas of soils that have a surface layer and subsurface layer that are sand or loamy sand to a depth of more than 80 inches

Land Use

Dominant uses: Woodland
Other uses: Wildlife habitat

Cropland

Suitability: Suited
Commonly grown crops: Corn and soybeans
Management concerns: Droughtiness and erosion
• Using a resource management system that includes terraces and diversions, stripcropping, contour tillage, no-till planting, and crop residue management helps to control erosion and surface runoff and maximizes the rate of water infiltration.
• Conservation tillage, winter cover crops, crop residue management, and a crop rotation that includes grasses and legumes help to increase available water capacity and improve fertility.

Pasture and hayland

Suitability: Well suited
Commonly grown crops: Common bermudagrass and bahiagrass
Management concerns: Droughtiness and erosion
• Preparing seedbeds and using no-till planting on the contour or across the slope help to control erosion and increase germination.
• Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the condition of the pasture and increase productivity.
• Using supplemental irrigation and planting drought-tolerant species help to increase productivity.

Woodland

Suitability: Suited
Management concerns: Equipment limitations, seedling mortality, and plant competition
• Planting appropriate species as recommended by a forester helps to maximize productivity and to ensure seedling survival.
• Selective thinning and removal of undesirable plants can help to minimize plant competition.
• Using tracked or low pressure ground equipment during harvesting helps to reduce rutting and compaction, which damages roots.

Wildlife habitat

Potential as habitat for: Openland wildlife—fair; Woodland wildlife—poor; Wetland wildlife—very poor
Management concerns: Droughtiness
• Openland wildlife.—Leaving undisturbed areas of vegetation around cropland and pasture provides food and rest areas that improve habitat for openland wildlife.
• Woodland wildlife.—Habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed producing plants for quail and turkey.
• Wetland wildlife.—A better site can be selected.

Dwellings

Suitability: Poorly suited

Management concerns: Cutbanks cave, slope, and droughtiness
• Cutbanks are unstable and are subject to slumping. Support beams should be used to maintain the stability of the cutbanks.
• Designing structures to conform to the natural slope or building in less sloping areas helps reduce the hazard of erosion.
• Properly installed irrigation systems can maintain lawns during periods of low rainfall.

Septic tank absorption fields

Suitability: Well suited
Management concerns: None
• No significant limitations affect septic tank absorption fields.

Local roads and streets

Suitability: Well suited
Management concerns: None
• No significant limitations affect local roads and streets.

Interpretive Groups

Land capability classification: IIIs
Woodland ordination symbol: 11S

WdE—Wadley fine sand, 5 to 15 percent slopes

Setting

Landscape: Coastal Plain
Landform: Uplands
Landform position: Ridges and hillslopes
Shape of areas: Irregular
Size of areas: 10 to 60 acres

Composition

Wadley and similar soils: 85 percent
Dissimilar soils: 15 percent

Typical Profile

Surface layer:
0 to 8 inches—brown fine sand

Subsurface layer:
8 to 31 inches—very pale brown sand
31 to 50 inches—very pale brown sand that has dark yellowish brown mottles

Subsoil:
50 to 74 inches—yellowish red sandy loam
74 to 85 inches—yellowish red sandy loam that has pockets of reddish yellow loamy sand
85 to 95 inches—yellowish red sandy loam

Soil Properties and Qualities

Potential rooting depth: More than 60 inches
Drainage class: Well drained
Permeability: Moderate
Available water capacity: Low
Depth to seasonal high water table: More than 6.0 feet
Shrink-swell potential: Low
Flooding: None
Hazard of water erosion: Severe or very severe
Tilth: Poor
Parent material: Sandy and loamy marine sediments

Minor Components

Dissimilar soils:
• Areas of the well drained Heidel and Smithdale soils in positions similar to those of the Wadley soil
• Areas of the moderately well drained Lorman soils in the slightly lower positions

Similar soils:
• Areas of soils that have a surface layer and subsurface layer having a combined thickness of less than 40 inches
• Areas of soils that have a surface layer and subsurface layer that are sand or loamy sand to a depth of more than 80 inches

Land Use

Dominant uses: Woodland
Other uses: Wildlife habitat

Cropland

Suitability: Poorly suited
Commonly grown crops: None
Management concerns: Droughtiness and erosion
• Using a resource management system that includes terraces and diversions, stripcropping, contour tillage, conservation tillage, crop residue management, and a crop rotation that includes soil conserving crops helps to control erosion and surface runoff, maximizes the rate of water infiltration, increases available water capacity, and improves soil fertility.
• Using supplemental irrigation and planting crop varieties that are adapted to droughty conditions help to increase crop production.

Pasture and hayland

Suitability: Well suited
Commonly grown crops: Common bermudagrass and bahiagrass
Management concerns: Droughtiness and erosion
• Preparing seedbeds and using no-till planting on the

contour or across the slope help to control erosion and increase germination.
• Using rotational grazing and implementing a well planned schedule of clipping and harvesting help to maintain the condition of the pasture and increase productivity.
• Using supplemental irrigation and planting drought-tolerant species help to increase productivity.
• The slope can limit equipment use in the steeper areas during harvesting.

Woodland

Suitability: Suited
Management concerns: Equipment limitations, seedling mortality, and plant competition
• Planting appropriate species as recommended by a forester helps to maximize productivity and to ensure seedling survival.
• Selective thinning and removal of undesirable plants can help to minimize plant competition.
• Using tracked or low pressure ground equipment during harvesting helps to reduce rutting and compaction, which damages roots.

Wildlife habitat

Potential as habitat for: Openland wildlife—fair; Woodland wildlife—poor; Wetland wildlife—very poor
Management concerns: Sandy surface layers
• Openland wildlife.—Leaving undisturbed areas of vegetation around cropland and pasture provides food and rest areas that improve habitat for openland wildlife.
• Woodland wildlife.—Habitat can be improved by planting appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Prescribed burning every three years, rotated among several small tracts of land, can increase the amount of palatable browse for deer and the number of seed producing plants for quail and turkey.
• Wetland wildlife.—A better site can be selected.

Dwellings

Suitability: Poorly suited
Management concerns: Cutbanks cave, slope, and droughtiness
• Cutbanks are unstable and are subject to slumping. Support beams should be used to maintain the stability of the cutbanks.
• Designing structures to conform to the natural slope or building in less sloping areas helps reduce the hazard of erosion.
• Properly installed irrigation systems can maintain lawns during periods of low rainfall.

Septic tank absorption fields

Suitability: Suited
Management concerns: Slope
• Installing distribution lines on the contour improves performance.

Local roads and streets

Suitability: Suited
Management concerns: Slope
• Designing roads on the contour and providing adequate water-control structures, such as culverts, help to maintain road stability.

Interpretive Groups

Land capability classification: VIs
Woodland ordination symbol: 11S

Prime Farmland

Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forest land, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. The slope ranges mainly from 0 to 8 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

The map units in the survey area that are considered prime farmland are listed below. This list does not constitute a recommendation for a particular land use. The extent of each listed map unit is shown in table 4. The location is shown on the detailed soil maps at the back of this publication. The soil qualities that affect use and management are described under the heading "Detailed Soil Map Units." Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland.

The map units that meet the requirements for prime farmland are:

BaA	Bassfield fine sandy loam, 0 to 2 percent slopes, rarely flooded
BdB	Benndale fine sandy loam, 2 to 5 percent slopes
BdC	Benndale fine sandy loam, 5 to 8 percent slopes
Ca	Cahaba-Annemaine complex, 0 to 2 percent slopes, rarely flooded
CLB	Cahaba, Latonia, and Bassfield soils, 0 to 2 percent slopes, occasionally flooded
FeC	Freest fine sandy loam, 2 to 5 percent slopes
HaA	Harleston fine sandy loam, 0 to 2 percent slopes
LaA	Latonia loamy sand, 0 to 2 percent slopes, rarely flooded
LuA	Lucedale loam, 0 to 2 percent slopes
MA	Irvington fine sandy loam, 0 to 5 percent slopes
MB	McLaurin and Benndale soils, 0 to 5 percent slopes
McA	McLaurin fine sandy loam, 0 to 2 percent slopes
McB	McLaurin fine sandy loam, 2 to 5 percent slopes
McC	McLaurin fine sandy loam, 5 to 8 percent slopes
PrA	Prentiss fine sandy loam, 0 to 2 percent slopes
PrB	Prentiss fine sandy loam, 2 to 5 percent slopes
SaB	Savannah fine sandy loam, 2 to 5 percent slopes

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 to prevent 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 behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect 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 woodland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational 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

Rex Davis, resource conservationist, Natural Resources Conservation Service, helped prepare this section.

In 1987, about 16,419 acres in Perry County was used for crops and 15,567 was used for pasture. Nearly all of the cropland and pasture is on uplands and terraces along the larger streams. The smaller flood plains generally are too wet to be used for cultivated crops. Bahiagrass and some species of common bermudagrass are deep rooted and perform well on the somewhat droughty soils of the Coastal Plain. In 1987, the major crops were soybeans, wheat, hay, and corn. Horticultural and truck crops were grown on a few farms.

Erosion is a major problem on about 50 percent of the cropland in the county. Soils that have a slope of more than 2 percent are subject to sheet and rill erosion. The productivity of soils is reduced as the topsoil erodes. The topsoil contains valuable nutrients and organic matter. The loss of the surface layer is especially damaging to soils having a fragipan that limits the rooting zone. Irvington, Prentiss, and Savannah soils have a fragipan. Controlling erosion on farmland minimizes the pollution of streams and improves the quality of water for recreational uses, municipal uses, and fish and wildlife.

General management needed for crops and pasture is suggested in this section. The estimated yields of the main crops and pasture plants are listed for each soil, the system of land capability classification used by the Natural Resources Conservation Service is explained, and prime farmland is described.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under the heading “Detailed Soil Map Units.” Specific information can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

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 criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include

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 *(12)*. Only class and subclass are used in this survey.

Capability classes, the broadest groups, are designated by 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.

Class VIII soils and miscellaneous areas have limitations that nearly preclude their use for commercial crop production.

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 hazard is the 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.

Capability units are soil groups within a subclass. The soils in a capability unit are enough alike to be suited to the same crops and pasture plants, to require similar management, and to have similar productivity. Capability units are generally designated by adding an Arabic numeral to the subclass symbol, for example, IIe-4 and IIIe-6.

The capability classification of each map unit is given in the section “Detailed Soil Map Units” and in the yields table.

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 land capability classification of each map unit also is shown in the table.

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 ensures the smallest possible loss.

For yields of irrigated crops, it is assumed that the irrigation system is adapted to the soils and to the crops grown, that good-quality irrigation water is uniformly applied as needed, and that tillage is kept to a minimum.

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 the table 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 Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Woodland Management and Productivity

Linda A. Stine, forester, Natural Resources Conservation Service, helped prepare this section.

About 351,500 acres in Perry County, or 84 percent of the total area of the county, is timberland. Timberland is woodland that is producing, or is capable of producing, industrial wood crops of at least 20 cubic feet per acre per year and is not withdrawn from timber utilization. About 33 percent of the timberland in the county is owned by farmers and other nonindustrial private owners, about 2 percent by corporations, and 22 percent by the forest industry. Fourty-three percent is in the DeSoto National Forest.

Timberland can be subdivided into forest types or stands having similar characteristics. Forest types are based on species composition, site quality, or age and are distinct communities that require separate management and treatment. A forest type is named for the kinds of trees that are present in the greatest number within a stand. In Perry County, 78,800 acres is the longleaf-slash pine forest type, 84,800 acres is loblolly-shortleaf pine, 78,800 acres is oak-pine, 72,700 acres is oak-hickory, and 36,400 acres is oak-gum-cypress *(11)*.

Good forest management maintains or enhances soil productivity and water quality. The forest management activities that have the greatest potential for adversely affecting soil productivity and water quality are timber harvesting and site preparation for future tree crops. Poor application of these practices can cause erosion, nutrient depletion, and compaction. Site-specific management that considers topography, the hazard of erosion, season, and natural site fertility helps to prevent damage to soil and water resources.

Grazing is a suitable secondary use for most of the woodland in the county. Grasses, legumes, forbs, and many of the woody plants in the understory can be utilized for forage. Stocking the proper number of grazing animals for the amount of forage produced prevents damage to desirable trees.

Soils vary in their ability to produce trees. Depth, fertility, texture, and available water capacity influence tree growth. Elevation, aspect, and climate determine the kinds of trees that can grow on a site. Available water capacity and depth of the root zone are major influences affecting tree growth.

Table 6 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 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 an indicator tree species. The number indicates the volume, in cubic meters per hectare per year, that the indicator species can produce in a pure stand under natural conditions. The number 1 indicates low potential productivity; 2 or 3, moderate; 4 or 5, moderately high; 6 to 8, high; 9 to 11, very high; and 12 to 39, extremely high. The second part of the symbol, a letter, indicates the major kind of soil limitation. The letter *R* indicates steep slopes; *W*, excess water in or on the soil; *C*, clay in the upper part of the soil; and *S*, sandy texture. The letter *A* indicates that limitations or restrictions are insignificant. If a soil has more than one limitation, the priority is as follows: R, W, C, and S.

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

Erosion hazard is the probability that damage will occur as a result of site preparation and cutting where the soil is exposed along roads, skid trails, and fire lanes and in log-handling areas. Forests that have been burned or overgrazed are also subject to erosion. Ratings of the erosion hazard are based on the percent of the slope. A rating of *slight* indicates that no particular prevention measures are needed under ordinary conditions. A rating of *moderate* indicates that erosion-control measures are needed in certain silvicultural activities. A rating of *severe* indicates that special precautions are needed to control erosion in most silvicultural activities.

Equipment limitation reflects the characteristics and conditions of the soil that restrict use of the equipment generally needed in woodland management or harvesting. The chief characteristics and conditions considered in the ratings are slope, stones on the surface, rock outcrops, soil wetness, and texture of the surface layer. A rating of *slight* indicates that under normal conditions the kind of equipment and season of use are not significantly restricted by soil factors. Soil wetness can restrict equipment use, but the wet period does not exceed 1 month. A rating of *moderate* indicates that equipment use is moderately restricted because of one or more soil factors. If the soil is wet, the wetness restricts equipment use for a period of 1 to 3 months. A rating of *severe* indicates that equipment use is severely restricted either as to the kind of equipment that can be used or the season of use. If the soil is wet, the wetness restricts equipment use for more than 3 months.

Seedling mortality refers to the death of naturally occurring or planted tree seedlings, as influenced by

the kinds of soil, soil wetness, or topographic conditions. The factors used in rating the soils for seedling mortality are texture of the surface layer, depth to a seasonal high water table and the length of the period when the water table is high, rock fragments in the surface layer, effective rooting depth, and slope aspect. A rating of *slight* indicates that seedling mortality is not likely to be a problem under normal conditions. Expected mortality is less than 25 percent. A rating of *moderate* indicates that some problems from seedling mortality can be expected. Extra precautions are advisable. Expected mortality is 25 to 50 percent. A rating of *severe* indicates that seedling mortality is a serious problem. Extra precautions are important. Replanting may be necessary. Expected mortality is more than 50 percent.

Plant competition ratings indicate the degree to which undesirable species are expected to invade and grow when openings are made in the tree canopy. The main factors that affect plant competition are depth to the water table and the available water capacity. A rating of *slight* indicates that competition from undesirable plants is not likely to prevent natural regeneration or suppress the more desirable species. Planted seedlings can become established without undue competition. A rating of *moderate* indicates that competition may delay the establishment of desirable species. Competition may hamper stand development, but it will not prevent the eventual development of fully stocked stands. A rating of *severe* indicates that competition can be expected to prevent regeneration unless precautionary measures are applied.

The *potential productivity* of merchantable or *common trees* on a soil is expressed as a *site index* and as a *volume* number. The site index is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. 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.

The *volume*, a number, is the yield likely to be produced by the most important trees. This number, expressed as cubic feet per acre per year, indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

The first species listed under *common trees* for a soil is the indicator species for that soil. It generally is the most common species on the soil and is the one that determines the ordination class.

Trees to plant are those that are suitable for commercial wood production.

Woodland Understory Vegetation

Understory vegetation consists of grasses, forbs, shrubs, and other plants. If well managed, some woodland 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.

Table 7 shows, for each soil suitable for woodland, 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 4.5 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.

The table also lists the common names of the *characteristic vegetation* on each soil and the *composition*, by percentage of 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

Perry County contains an extensive acreage set aside for recreational use. The Black Creek Wilderness Area in the DeSoto National Forest has more than 5,000 acres of mature hardwood and pine forests. About 21 miles of Black Creek is part of the Wild and Scenic Rivers System. Campgrounds and canoe landings on Black Creek are at Moody's Landing, Janice, Cypress Creek, and Fairley Bridge Landing.

The soils of the survey area are rated in table 8 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 sewer lines. 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 recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

In the table, 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 a combination of these measures.

The information in the table can be supplemented by other information in this survey, for example, interpretations for septic tank absorption fields in table 11 and interpretations for dwellings without basements and for local roads and streets in table 10.

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 absorbs rainfall readily but remains firm and is not dusty when dry. Strong slopes 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 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 firm after rains and is not dusty when dry. If grading is needed, the depth of the soil over a hardpan should be considered.

Paths and trails for hiking and horseback riding 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.

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. The suitability of the soil for tees or greens is not considered in rating the soils.

Wildlife Habitat

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

Perry County is about 70 percent woodland and 30 percent pasture and cropland. It is primarily hilly uplands. The Leaf River and Black Creek flow through the county. Diverse geographic features and land uses provide habitat for many wildlife species. Demand for quality hunting areas is high, and many woodland tracts are leased by hunting clubs. Many farm ponds and streams provide good to excellent fishing opportunities.

Unmanaged pine forests provide poor habitat for deer, squirrels, rabbits, bobwhite quail, and wild turkey. Managed pine forests, however, provide good habitat for many game and nongame species. Prescribed burning, thinning, clear-cutting small areas, and leaving hardwood corridors along streams benefit wildlife. Some landowners establish wildlife food plots in forest openings.

Hardwoods along major streams and in wetland areas provide good to excellent wildlife habitat. Water oak, overcup oak, swamp chestnut oak, magnolia, red maple, hickory, and water tupelo are in these areas.

Wetlands in the county are mainly on flood plains along major streams and in depressions on stream terraces and uplands. They provide habitat for migrating waterfowl, wood ducks, wading birds, furbearers, reptiles, and amphibians.

Part of the Leaf River Game Management Area is in Perry County. This area is managed for game and nongame wildlife.

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 9, 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 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, surface stoniness, and flooding. Soil temperature and soil moisture are also considerations. Examples of grain and seed crops are corn, wheat, oats, grain sorghum, soybeans, rye, and millet.

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, surface stoniness, flooding, and slope. Soil temperature and soil moisture are also considerations. Examples of grasses and legumes are fescue, bahiagrass, lespedeza, clover, chufa, bermudagrass, and Johnsongrass.

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, surface stoniness, and flooding. Soil temperature and soil moisture are also considerations. Examples of wild herbaceous plants are ragweed, goldenrod, beggarweed, Johnsongrass, and partridge pea.

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, available water capacity, and wetness. Examples of these plants are oak, yellow-poplar, black cherry, sweetgum, hawthorn, dogwood, hickory, persimmon, sumac, holly, and blueberry. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are pyracantha, autumn-olive, and crabapple.

Coniferous plants furnish browse and seeds. 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 pine, cedar, and bald cypress.

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 mountain laurel, strawberry bush, yaupon, and wax-myrtle.

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, salinity, slope, and surface stoniness. Examples of wetland plants are smartweed, wild millet, pondweed, rushes, sedges, cattails, and watershield.

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 depth to bedrock, wetness, surface stoniness, slope, and permeability. Examples of shallow water areas are marshes, waterfowl feeding areas, beaver ponds, and other 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. Wildlife attracted to these areas include bobwhite quail, meadowlark, field sparrow, cottontail, red fox, coyote, armadillo, dove, killdeer, and hawks.

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, woodcock, thrushes, woodpeckers, squirrels, gray fox, raccoon, deer, bears, bobcats, opossum, and skunk.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas. Some of the wildlife attracted to such areas are ducks, geese, herons,

muskrat, mink, otter, beaver, turtles, rails, and kingfisher.

Engineering

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. Ratings are given for 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. 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 should 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 or 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 kinds 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 evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, earthfill, and topsoil; plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and 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 10 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 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 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, shrinking and swelling, and organic layers can cause the movement of footings. A high water table, slope, and flooding affect the ease of excavation and construction. Landscaping and grading that require cuts and fills of more than 5 or 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. A high water table, flooding, 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, and the available water capacity in the upper 40 inches affect plant growth. Flooding, wetness, slope, and the amount of sand, clay, or organic matter in the surface layer affect trafficability after vegetation is established.

Sanitary Facilities

Table 11 shows the degree and 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.

The table also shows the suitability of the soils for use as daily cover for landfill. 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 80 inches is evaluated. The ratings are based on soil properties, site features, and observed performance of the soils. Permeability, a high water table, and flooding affect absorption of the effluent.

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 are 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 filter the effluent effectively. 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.

The table 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, and content of organic matter.

Excessive seepage resulting from rapid permeability in 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 can cause construction problems and 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 should be considered.

The ratings in the table are based on soil properties, site features, and observed performance of the soils. Permeability, a high water table, slope, and flooding affect both types of landfill. Texture, highly organic layers, and soil reaction affect trench 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 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 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 wind erosion.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over the water table to permit revegetation. The soil material used as the 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 12 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 to 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 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, a low shrink-swell potential, 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 a moderate shrink-swell potential or slopes of 15 to 25 percent. 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, or slopes of more than 25 percent. They are wet and have a water table at a depth of 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. They are used in many kinds of construction. Specifications for each use vary widely. In the table, 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 slope, a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, a water table, and rock fragments.

Soils rated *good* have friable, loamy material to a depth of at least 40 inches. They are free of gravel and have slopes of less than 8 percent. They 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, 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, have slopes of more than 15 percent, or have a seasonal high 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 13 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 excavated 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, irrigation, 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 the 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 organic matter. 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 and permeability of the aquifer.

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 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; and susceptibility to flooding. Excavating and grading and the stability of ditchbanks are affected by slope and the hazard of cutbanks caving. The productivity of the soil after drainage is adversely affected by extreme acidity. Availability of drainage outlets is not considered in the ratings.

Irrigation is the controlled application of water to supplement rainfall and support plant growth. The design and management of an irrigation system are affected by depth to the water table, the need for drainage, flooding, available water capacity, intake

rate, permeability, erosion hazard, and slope. The construction of a system is affected by large stones and depth to bedrock or to a cemented pan. The performance of a system is affected by the depth of the root zone, the amount of salts or sodium, and soil reaction.

Terraces and diversions are embankments or a combination of channels and ridges constructed across a slope to control erosion and conserve moisture by intercepting runoff. Slope and wetness affect the construction of terraces and diversions. A restricted rooting depth, a severe hazard of 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. Wetness and slope affect the construction of grassed waterways. A hazard of erosion, low available water capacity, restricted rooting depth, 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. These results are reported in table 17.

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 to characterize key soils.

The estimates of soil properties shown in the tables include the range of grain-size distribution and Atterberg limits, the engineering classification, 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 14 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 the heading "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 the content of particles coarser than sand is as much as about 15 percent, 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, CL-ML.

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.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an ovendry 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 generally 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 15 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, plasticity, the ease of soil dispersion, and other soil properties. The amount and kind of clay in a soil also affect tillage and earthmoving 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 and septic tank absorption fields.

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 classes are *low*, a change of less than 3 percent; *moderate*, 3 to 6 percent; *high*, more than 6 percent; and *very high*, greater than 9 percent.

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 0.02 to 0.64. Other factors being equal, 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 the table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in 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 16 gives estimates of various soil and water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, 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 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 is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

The table 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, occasional, and frequent. *None* means that flooding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of flooding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of flooding is more than 50 percent in any year). *Common* is used when the occasional and frequent classes are grouped for certain purposes. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 days to 1 month, and *very long* if more than 1 month. Probable dates are expressed in months. About two-thirds to three-fourths of all flooding occurs during the stated period.

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 little or no horizon development.

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 estimates are based mainly on observations of the water table at selected sites and on the evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. Indicated in the table are the depth to the seasonal high water table; the kind of water table—that is, perched, apparent, or artesian; 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 the table.

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. 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.

Two numbers in the column showing depth to the water table indicate the normal range in depth to a saturated zone. Depth is given to the nearest half foot. The first numeral in the range indicates the highest water level. A plus sign preceding the range in depth indicates that the water table is above the surface of the soil. “More than 6.0” indicates that the water table is below a depth of 6 feet or that it is within a depth of 6 feet for less than a month.

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 results in a severe hazard of corrosion. 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

Dr. D.E. Pettry, professor of soil science, Mississippi State University, prepared this section.

The results of physical and chemical analyses of typical pedons in the survey area are given in table 17 and table 18, respectively. The data in the tables are for soils sampled at carefully selected sites. 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.

Many of the sites in Perry County are acid and have a relatively low capacity to retain plant nutrients (cations) because of the influence of siliceous parent material. Very deep, well drained, siliceous soils that are in the higher positions on the landscape are strongly acid or very strongly acid and have a relatively low capacity to retain nutrients. Examples are Wadley and Smithdale soils. Crops grown on these soils, however, respond to fertilizer. In contrast, Susquehanna soils are very strongly acid but have a high capacity to retain plant nutrients due to a high content of smectitic clay.

The physical properties of soils, such as infiltration rate, conduction, shrink-swell potential, tendency for crusting, consistence, and available water capacity, are closely related to the soil texture, which is determined by the percentage of sand, silt, and clay in the soil.

The very deep, loamy Smithdale soils on ridgetops and side slopes and the very deep, sandy Wadley soils in the sandy uplands have a relatively high content of sand. The coarse texture of the surface layer of these soils enhances rapid water infiltration.

Within a depth of 4 feet, Susquehanna soils contain layers that have a high content of expansive smectitic clay. The volume of these layers changes as moisture is lost or gained. These changes can cause damage to buildings, roads, and other structures.

The chemical properties of a soil, in combination with other features, such as permeability, structure, and texture, influence the limitations and potentials of the soil. Chemical properties are not evident by visual observations of a soil; laboratory analyses are necessary to determine the properties. The amount and type of clay minerals present and the content of organic matter largely regulate the chemical nature of a soil. These substances have the capacity to attract and hold cations. Exchangeable cations are positively charged elements that are bonded to negatively charged clay minerals and organic matter.

The exchangeable cations can be removed or exchanged by leaching or plant uptake. Through the mechanism of cation exchange, soil acidity is corrected by liming. Note that 1,000 pounds of calcium carbonate (lime) per acre is required to neutralize 1 milliequivalent per 100 grams of extractable acidity (hydrogen + aluminum).

Chemical data regarding soils are expressed as milliequivalents per 100 grams of dry soil. These data can be converted for the various cations to the more common units of pounds per acre for the surface plow

layer. To a depth of 6.67 inches, the plow layer, or topsoil, of an average soil weighs about 2 million pounds per acre. To convert the cations listed in table 18 to pounds per acre, multiply the milliequivalents per 100 grams by 400 for calcium, 240 for magnesium, 780 for potassium, and 460 for sodium.

The soil taxonomy classification system used by the National Cooperative Soil Survey uses chemical properties as differentiating criteria in some categories. The Alfisols and Ultisols, which are classes in the highest category of the system, are separated on the basis of percentage of base saturation deep in the subsoil. Base saturation is related to weathering and reflects the replacement of bases by hydrogen. Ultisols have base saturation of less than 35 percent in the lower part of the soil; in Alfisols, such values are greater than 35 percent. For example, Susquehanna soils have base saturation levels of more than 35 percent below a depth of 5 feet; they are Alfisols. Most of the soils in Perry County are highly weathered and have base saturation levels of less than 35 percent.

Determinations were made on soil material smaller than 2 millimeters in diameter. The samples were prepared for the analyses by air-drying, carefully crushing, and screening through a standard 20-mesh sieve. Measurements reported as percent or quantity of unit weight were calculated on an oven-dry basis. The particle-size analyses shown in table 18 were obtained using Day's hydrometer method *(3).* The methods used in obtaining the other data are indicated in the list that follows. The codes in parenthesis refer to published methods *(14)*.

Sand—(0.05-2.0 mm fraction) weight percentage of materials less than 2 mm (3A1).

Silt—(0.002 mm-0.05 mm fraction) hydrometer method, weight, percentages of all materials less than 2 mm (3A1).

Clay—(fraction less than 0.002mm) hydrometer method, weight, percentages of material less than 2 mm (3A1).

Extractable cations—ammonium acetate pH 7.0, uncorrected; calcium (6N2), magnesium (602), sodium (6P2), potassium (6Q2).

Extractable acidity—barium chloride-triethanolamine I (6H1).

Cation exchange capacity—sum of cations (5A3).

Base saturation—sum of cations, TEA, pH 8.2 (5C3).

Reaction (pH) —1:1 water dilution (8C1).

Organic carbon—dichromate, ferric sulfate titration (6A1a).

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories *(13, 15)*. 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. Table 19 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Twelve 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; type of saturation; 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 has an aquic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup 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 taxonomic class. 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. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle size, mineral content, and soil temperature regime. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is coarse-loamy, siliceous, active, acid, thermic Typic Fluvaquents.

SERIES. The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. An example is the Bibb series, which consists of coarse-loamy, siliceous, active, acid, thermic Typic Fluvaquents.

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each 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" *(16)*. Many of the technical terms used in the descriptions are defined in "Soil Taxonomy" *(13)* and in "Keys to Soil Taxonomy" *(15)*. Unless otherwise indicated, 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."

Alaga Series

Depth class: Very deep
Drainage class: Somewhat excessively drained
Permeability: Rapid
Parent material: Sandy sediments
Landscape: Coastal Plain
Landform: High stream terraces

Landform position: Planar and convex slopes on high parts of the terrace
Slope range: 0 to 2 percent
Taxonomic class: Thermic, coated Typic Quartzipsamments

Alaga soils are commonly associated on the landscape with Bassfield, Harleston, and Prentiss soils. The well drained Bassfield soils are in positions similar to those of the Alaga soils and have a coarse-loamy control section. The moderately well drained Harleston soils are in the slightly lower positions and have a coarse-loamy control section. The moderately well drained Prentiss soils are in positions similar to those of the Alaga soils at the higher elevations and have a coarse-loamy control section with a fragipan.

Typical Pedon

Alaga loamy sand, 0 to 2 percent slopes; 1.8 miles east of Forrest County line on Old River Road, 100 feet north of Old River Road; SW$^1/_4$NW$^1/_4$SE$^1/_4$ sec. 8, T. 3 N., R. 11 W.; USGS New Augusta quadrangle; lat. 31 degrees 14 minutes 36 seconds N. and long. 89 degrees 07 minutes 11 seconds W.

Ap—0 to 6 inches; dark brown (10YR 3/3) loamy sand; weak fine granular structure; very friable; few fine roots; strongly acid; clear smooth boundary.
C1—6 to 16 inches; yellowish brown (10YR 5/4) loamy sand; single grained; loose; few fine roots; strongly acid; gradual smooth boundary.
C2—16 to 22 inches; yellowish brown (10YR 5/6) sand; single grained; loose; few fine roots; strongly acid; gradual smooth boundary.
C3—22 to 42 inches; brownish yellow (10YR 6/6) sand; single grained; loose; few fine roots; strongly acid; gradual smooth boundary.
C4—42 to 53 inches; yellow (10YR 7/6) sand; single grained; loose; strongly acid; gradual smooth boundary.
C5—53 to 80 inches; very pale brown (10YR 7/4) sand; single grained; loose; strongly acid.

Range in Characteristics

Thickness of underlying soil material: More than 80 inches
Reaction: Very strongly acid or strongly acid throughout, except where the surface layer has been limed

A or Ap horizon:
Color—hue of 10YR, value of 3 to 5, and chroma of 2 or 3
Texture—loamy sand

C horizon:
Color—hue of 10YR or 7.5YR, value of 4 to 7, and chroma of 4 to 6
Texture—sand or loamy sand
Mottles (if they occur)—shades of brown

Annemaine Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Slow
Parent material: Stratified clayey and loamy sediments
Landscape: Coastal Plain
Landform: Low stream terraces
Landform position: Planar and slightly concave slopes
Slope range: 0 to 2 percent
Taxonomic class: Fine, mixed, semiactive, thermic Aquic Hapludults

Annemaine soils are commonly associated on the landscape with Bassfield, Cahaba, and Latonia soils. The well drained Bassfield, Cahaba, and Latonia soils are in the slightly higher positions and have a loamy control section.

Typical Pedon

Annemaine fine sandy loam, in an area of Cahaba-Annemaine complex, 0 to 2 percent slopes, rarely flooded; 3.5 miles east of Beaumont on Mississippi Highway 98, north 0.4 mile on logging road, 50 feet northeast of logging road; SE$^1/_4$NW$^1/_4$SE$^1/_4$ sec. 11, T. 2 N., R. 9 W.; USGS Neely topographic quadrangle; lat. 31 degrees 08 minutes 21 seconds N. and long. 88 degrees 51 minutes 49 seconds W.

Ap—0 to 3 inches; brown (10YR 4/3) fine sandy loam; weak fine granular structure; friable; many very fine and fine roots; strongly acid; clear smooth boundary.
E—3 to 7 inches; light yellowish brown (10YR 6/4) fine sandy loam; weak medium subangular blocky structure; friable; strongly acid; clear wavy boundary.
Bt1—7 to 21 inches; yellowish red (5YR 5/6) clay loam; moderate medium subangular blocky structure; firm; common medium roots; common faint clay films on faces of peds; strongly acid; gradual wavy boundary.
Bt2—21 to 32 inches; yellowish red (5YR 5/8) clay loam; moderate medium subangular blocky structure; firm; few fine roots; common faint clay films on faces of peds; common medium distinct strong brown (7.5YR 5/6) masses of iron

accumulation; common medium prominent light brownish gray (10YR 6/2) iron depletions; strongly acid; gradual wavy boundary.

Bt3—32 to 41 inches; yellowish red (5YR 5/6) clay loam; moderate medium subangular blocky structure; firm; few fine roots; few faint clay films on faces of peds; common medium distinct yellowish red (5YR 5/8) masses of iron accumulation; common medium prominent light brownish gray (10YR 6/2) iron depletions; very strongly acid; gradual wavy boundary.

C1—41 to 53 inches; strong brown (7.5YR 5/6) sandy loam; weak coarse subangular blocky structure; friable; common medium distinct brownish yellow (10YR 6/6) masses of iron accumulation; few fine distinct light brownish gray (10YR 6/2) iron depletions; very strongly acid; clear wavy boundary.

C2—53 to 62 inches; very pale brown (10YR 7/3) sand; single grained; loose; few fine distinct brownish yellow (10YR 6/6) masses of iron accumulation; very strongly acid.

Range in Characteristics

Solum thickness: 40 to 60 inches

Reaction: Very strongly acid to slightly acid in the A and E horizons, except where surface layer has been limed, and very strongly acid or strongly acid in the B and C horizons

A or Ap horizon:
- Color—hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2 to 4
- Texture—fine sandy loam

E horizon (if it occurs):
- Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 2 to 4
- Texture—sandy loam, fine sandy loam, or loam

Bt horizon:
- Color—hue of 5YR or 2.5YR, value of 4 or 5, and chroma of 6 to 8
- Texture—silty clay loam, clay loam, silty clay, or clay
- Redoximorphic features—few to many iron depletions in shades of gray and few to many masses of iron accumulation in shades of red or brown

C horizon:
- Color—hue of 2.5YR to 2.5Y, value of 5 to 8, and chroma of 1 to 8
- Texture—loamy sand, sandy loam, fine sandy loam, or sandy clay loam; some pedons have loamy sand or sand below a depth of about 50 inches
- Redoximorphic features—few to many iron depletions in shades of gray and few to many masses of iron accumulation in shades of red or brown

Atmore Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderately slow
Parent material: Loamy sediments
Landscape: Coastal Plain
Landform: Uplands
Landform position: Slight depressions and gently sloping interstream divides
Slope range: 0 to 2 percent
Taxonomic class: Coarse-loamy, siliceous, semiactive, thermic Plinthic Paleaquults

Atmore soils are commonly associated on the landscape with Irvington soils. The moderately well drained Irvington soils have a Bt horizon that dominantly has chroma of 3 or more.

Typical Pedon

Atmore soils, 0 to 2 percent slopes; about 2.2 miles south of New Augusta on Mississippi Highway 29, east 300 feet on a unpaved road, south 300 feet into woods; NE$^1/_4$NE$^1/_4$ sec. 6, T. 2 N., R. 10 W.; USGS New Augusta topographic quadrangle; lat. 31 degrees 10 minutes 06 seconds N. and long. 89 degrees 01 minute 38 seconds W.

Ap—0 to 5 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak fine granular structure; very friable; common fine and few medium and coarse roots; moderately acid; clear smooth boundary.

Eg—5 to 15 inches; light brownish gray (10YR 6/2) fine sandy loam; weak medium subangular blocky structure; very friable, nonsticky and nonplastic; common fine and few medium and coarse roots; few fine tubular pores; common fine distinct yellowish brown (10YR 5/6) masses of iron accumulation; strongly acid; clear smooth boundary.

Bg/Eg—15 to 35 inches; 70 percent light brownish gray (10YR 6/2) and 30 percent grayish brown (10YR 5/2) fine sandy loam; weak medium subangular blocky structure; very friable, nonsticky and nonplastic; few fine and medium roots; few fine tubular pores; about 20 percent, by volume,

coarser textured E horizon material coating peds; 4 percent rounded irregular plinthite segregations; few fine black (10YR 2/1) iron-manganese accumulations in root channels; many medium distinct yellowish brown (10YR 5/6) masses of iron accumulation; extremely acid; clear smooth boundary.

Btvg1—35 to 50 inches; 55 percent light brownish gray (10YR 6/2) and 45 percent strong brown (7.5YR 5/6) fine sandy loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable, slightly sticky and slightly plastic; few medium roots; few very fine tubular pores; few faint clay films on faces of peds; 15 percent rounded irregular plinthite segregations; common fine distinct black (10YR 2/1) masses of manganese accumulation; areas of strong brown are masses of iron accumulation; extremely acid; clear smooth boundary.

Btvg2—50 to 64 inches; 55 percent light gray (10YR 7/2) and 45 percent strong brown (7.5YR 5/6) loam; weak medium prismatic structure parting to moderate medium subangular blocky; friable, slightly sticky and slightly plastic; few faint clay films on faces of peds; 5 percent rounded irregular plinthite segregations; areas of strong brown are masses of iron accumulation; very strongly acid; clear smooth boundary.

BC—64 to 72 inches; 35 percent light gray (10YR 7/2), 35 percent pink (7.5YR 7/4), and 30 percent yellowish brown (10YR 5/8) clay loam; weak medium subangular blocky structure; firm, moderately sticky and moderately plastic; areas of yellowish brown and pink are masses of iron accumulation; very strongly acid; clear smooth boundary.

C—72 to 83 inches; yellowish brown (10YR 5/8) loam; massive; friable, slightly sticky and slightly plastic; common medium distinct light brownish gray (10YR 6/2) iron depletions; very strongly acid.

Range in Characteristics

Solum thickness: 60 to more than 70 inches
Content of plinthite: More than 5 percent at a depth of 24 to 50 inches
Reaction: Extremely acid to strongly acid throughout, except the surface layer in areas that have been limed

A or Ap horizon:
Color—hue of 10YR, value of 2 to 4, and chroma of 1 or 2
Texture—fine sandy loam

Eg horizon:
Color—hue of 10YR, value of 4 to 7, and chroma of 1 or 2
Texture—fine sandy loam, loam, or silt loam
Redoximorphic features—iron depletions in shades of gray and masses of iron accumulation in shades of red or brown

Bg/Eg horizon:
Color—hue of 10YR, value of 4 to 7, and chroma of 1 or 2
Texture—fine sandy loam, loam, or silt loam
Redoximorphic features—iron depletions in shades of gray and masses of iron-manganese and iron accumulation in shades of red, brown, or black

Btvg horizon:
Color—hue of 10YR to 5Y, value of 4 to 7, and chroma of 1 or 2; or no dominant color and shades of gray, brown, red, and yellow
Texture—sandy loam, fine sandy loam, loam, or silt loam in the upper part; loam, silt loam, silty clay loam, or clay loam in the lower part; and clay or sandy clay, if the horizon occurs below a depth of 50 inches
Redoximorphic features—iron depletions in shades of gray and masses of iron accumulation and manganese concretions in shades of red, brown, or black

BC horizon:
Color—multicolored in shades of brown, yellow, pink, and gray
Texture—clay loam or loam
Redoximorphic features—iron depletions in shades of gray and masses of iron accumulation in shades of red or brown

C horizon:
Color—hue of 10YR, value of 5 or 6, and chroma of 2 to 8
Texture—loam
Redoximorphic features—iron depletions in shades of gray

Bassfield Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately rapid
Parent material: Loamy and sandy fluvial sediments
Landscape: Coastal Plain
Landform: Low stream terraces
Landform position: Planar and slightly convex slopes
Slope range: 0 to 2 percent

Taxonomic class: Coarse-loamy, siliceous, semiactive, thermic Typic Hapludults

Bassfield soils are commonly associated on the landscape with Annemaine, Alaga, Cahaba, Latonia, and Harleston soils. The moderately well drained Annemaine soils are in the lower positions and have a clayey control section. The excessively drained Alaga soils are in the slightly higher positions and are sandy throughout. Cahaba soils are in positions similar to those of the Bassfield soils and have a fine-loamy control section. Latonia soils are in positions similar to those of the Bassfield soils and have a coarse-loamy control section. The moderately well drained Harleston soils are in positions similar to those of the Bassfield soils.

Typical Pedon

Bassfield fine sandy loam, 0 to 2 percent slopes, rarely flooded; 3 miles west of Janice on Brooklyn Road, 200 feet south on woodland trail, 50 feet off trail into planted pines; NW$^1/_4$NW$^1/_4$NW$^1/_4$ sec. 22, T. 1 N., R. 11 W.; USGS Janice topographic quadrangle; lat. 31 degrees 02 minutes 20 seconds N. and long. 89 degrees 05 minutes 16 seconds W.

Ap—0 to 4 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak fine granular structure; very friable; common medium and many fine roots; very strongly acid; clear smooth boundary.

A—4 to 9 inches; brown (10YR 5/3) fine sandy loam; weak fine granular structure; very friable; common medium and many fine roots; very strongly acid; clear smooth boundary.

Bt1—9 to 21 inches; yellowish red (5YR 5/6) loam; moderate fine subangular blocky structure; friable; few medium and many fine roots; sand grains coated and bridged with clay; very strongly acid; gradual wavy boundary.

Bt2—21 to 37 inches; yellowish red (5YR 5/6) sandy loam; weak fine subangular blocky structure; friable; common fine roots; sand grains coated and bridged with clay; very strongly acid; gradual wavy boundary.

C1—37 to 46 inches; brownish yellow (10YR 6/6) loamy sand; massive; loose; few fine roots; very strongly acid; gradual wavy boundary.

C2—46 to 80 inches; brownish yellow (10YR 6/6) loamy sand; massive; friable; common medium distinct strong brown (7.5YR 5/8) mottles; very strongly acid.

Range in Characteristics

Solum thickness: 36 to 60 inches

Reaction: Strongly acid or very strongly acid, except where the surface layer has been limed

A or Ap horizon:
- Color—hue of 10YR, value of 4 or 5, and chroma of 2 or 3
- Texture—fine sandy loam

Bt horizon:
- Color—hue of 5YR or 2.5YR, value of 4 or 5, and chroma of 4 to 8
- Texture—loam or sandy loam

C horizon:
- Color—hue of 10YR, value of 6, and chroma of 3 to 6; or hue of 5YR, value of 5, and chroma of 6 to 8
- Texture—sand or loamy sand

Benndale Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Loamy sediments
Landscape: Coastal Plain
Landform: Uplands
Landform position: Ridges, shoulders, and summits
Slope range: 2 to 12 percent
Taxonomic class: Coarse-loamy, siliceous, subactive, thermic Typic Paleudults

Benndale soils are commonly associated on the landscape with Atmore, Freest, McLaurin, and Smithdale soils. The poorly drained Atmore soils are in the lower positions and are coarse-silty. The moderately well drained Freest soils are in positions similar to those of the Benndale soils and have a fine-loamy control section. McLaurin soils are in positions similar to those of the Benndale soils and have a redder Bt horizon. Smithdale soils are on steep hillslopes and have a fine-loamy control section.

Typical Pedon

Benndale fine sandy loam, 2 to 5 percent slopes; 3.5 miles east of Runnelstown on Mississippi Highway 42, south 300 feet on a woodland road; SW$^1/_4$SW$^1/_4$ sec. 25, T. 5 N., R. 11 W.; USGS Ovett SE topographic quadrangle; lat. 31 degrees 22 minutes 02 seconds N. and long. 89 degrees 04 minutes 02 seconds W.

Ap—0 to 4 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak fine granular structure; friable; many fine and medium roots; very strongly acid; clear smooth boundary.

E—4 to 8 inches; grayish brown (10YR 5/2) fine sandy loam; weak fine granular structure; friable; many

fine and medium roots; very strongly acid; clear smooth boundary.

Bt1—8 to 14 inches; yellowish brown (10YR 5/6) sandy loam; weak medium subangular blocky structure; friable; few fine roots; sand grains coated and bridged with clay; very strongly acid; clear smooth boundary.

Bt2—14 to 25 inches; yellowish brown (10YR 5/6) sandy loam; weak medium subangular blocky structure; friable; few fine roots; sand grains coated and bridged with clay; very strongly acid; gradual smooth boundary.

Bt3—25 to 47 inches; yellowish brown (10YR 5/8) sandy loam; few fine distinct yellowish brown (10YR 5/6) mottles; weak medium subangular blocky structure; friable; sand grains coated and bridged with clay; very strongly acid; gradual smooth boundary.

Bt4—47 to 68 inches; yellowish brown (10YR 5/8) sandy loam; many coarse distinct brownish yellow (10YR 6/6) mottles; weak medium subangular blocky structure; friable, slightly brittle; some areas of light gray (10YR 6/1) uncoated sand grains on faces of peds; very strongly acid.

Range in Characteristics

Solum thickness: More that 60 inches
Content of plinthite (if it occurs): Less than 5 percent in the BC horizon (if it occurs)
Reaction: Very strongly acid or strongly acid, except the surface layer in areas that have been limed

Ap horizon:
Color—hue of 10YR, value of 4 to 6, and chroma of 2 or 3
Texture—fine sandy loam

E horizon:
Color—hue of 10YR, value of 4 to 6, and chroma of 2 to 4
Texture—fine sandy loam, sandy loam, or loamy sand

Bt horizon (upper part):
Color—hue of 7.5YR to 2.5Y, value of 5 or 6, and chroma of 4 to 8
Texture—sandy loam or loam

Bt horizon (lower part):
Color—hue of 7.5YR to 2.5YR, value of 5 or 6, and chroma of 4 to 8
Texture—sandy loam, fine sandy loam, sandy clay loam, or loam
Mottles (if they occur)—few to many in shades of gray, brown, or red

BC horizon (if it occurs):
Color—mottled in shades of red, brown, or gray
Texture—sandy loam or loamy sand

Bibb Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderate
Parent material: Stratified loamy and sandy alluvium
Landscape: Coastal Plain
Landform: Flood plains
Landform position: Planar and slightly convex areas
Slope range: 0 to 1 percent
Taxonomic class: Coarse-loamy, siliceous, active, acid, thermic Typic Fluvaquents

Bibb soils are commonly associated on the landscape with Croatan, Dorovan, Stough, and Trebloc soils. The very poorly drained Croatan and Dorovan soils are organic soils in depressional areas on flood plains. The somewhat poorly drained Stough soils are on the higher stream terraces and have a coarse-loamy control section. Trebloc soils are in depressional areas on low stream terraces and have a fine-silty control section.

Typical Pedon

Bibb silt loam in an area of Bibb and Trebloc soils, 0 to 1 percent slopes, frequently flooded; 2 miles southeast of Brooklyn on Ashe Nursery road, east 2 miles on U.S. Forest Service Road 319, north 1.2 miles on U.S. Forest Service Road 319E, east 50 feet into woods; SW$^1/_4$NW$^1/_4$SE$^1/_4$ sec. 17, T. 1 N., R. 11 W.; USGS Janice topographic quadrangle; lat. 31 degrees 02 minutes 38 seconds N. and long. 89 degrees 07 minutes 08 seconds W.

A—0 to 6 inches; very dark grayish brown (10YR 3/2) silt loam; weak fine granular structure; friable; many fine and medium roots; strongly acid; clear smooth boundary.

Ag—6 to 18 inches; dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; friable; common roots; few fine dark yellowish brown (10YR 4/6) stains around root channels; strongly acid; gradual wavy boundary.

Cg1—18 to 25 inches; gray (10YR 5/1) silt loam; massive; friable; few fine roots; few fine distinct strong brown (7.5YR 5/8) masses of iron accumulation; very strongly acid; gradual wavy boundary.

Cg2—25 to 30 inches; gray (10YR 5/1) sandy loam;

massive; friable; very strongly acid; gradual wavy boundary.

Cg3—30 to 60 inches; light gray (10YR 7/2) sand; loose; single grained; friable; strongly acid.

Range in Characteristics

Thickness of underlying soil material: More than 60 inches

Reaction: Very strongly acid or strongly acid, except the surface layer in areas that have been limed

A horizon:
- Color—hue of 10YR, value of 3 to 5, and chroma of 1 or 2
- Texture—silt loam

Ag horizon:
- Color—hue of 10YR, value of 3 to 5, and chroma of 1 or 2
- Texture—silt loam
- Redoximorphic features—iron depletions in shades of gray and masses of iron accumulation in shades of red or brown

Cg horizon:
- Color—hue of 10YR to 5Y, value of 4 to 7, and chroma of 1 or 2
- Texture—fine sandy loam, sandy loam, sand, silt loam, or loam
- Redoximorphic features—iron depletions in shades of gray and masses of iron accumulation in shades of red or brown

Bigbee Series

Depth class: Very deep
Drainage class: Excessively drained
Permeability: Rapid
Parent material: Sandy alluvial sediments
Landscape: Coastal Plain
Landform: Flood plains
Landform position: Natural levees
Slope range: 0 to 2 percent
Taxonomic class: Thermic, coated Typic Quartzipsamments

Bigbee soils are commonly associated on the landscape with Jena and Ouachita soils. The well drained Jena soils are in positions similar to those of the Bigbee soils and have a coarse-loamy control section. The well drained Ouachita soils are in the higher areas on the flood plains and have a fine-silty control section.

Typical Pedon

Bigbee loamy sand, 0 to 2 percent slopes, occasionally flooded; 3 miles northeast of Leaf River pulp plant on Old Augusta Road in a field, south side of Bogue Homo Creek, 200 feet east on woodland road; SE$^1/_4$SW$^1/_4$ sec. 33, T. 4 N., R. 10 W.; USGS Ovett SE topographic quadrangle; lat. 31 degrees 15 minutes 38 seconds N. and long. 89 degrees 00 minutes 22 seconds W.

Ap—0 to 10 inches; dark yellowish brown (10YR 4/4) loamy sand; weak fine granular structure; very friable; many fine and medium roots; very strongly acid; clear smooth boundary.

C1—10 to 16 inches; light yellowish brown (10YR 6/4) loamy sand; single grained; loose; many fine and medium roots; very strongly acid; gradual smooth boundary.

C2—16 to 32 inches; light yellowish brown (10YR 6/4) fine sand; single grained; loose; many fine and medium roots; very strongly acid; gradual smooth boundary.

C3—32 to 42 inches; very pale brown (10YR 7/4) fine sand; common medium faint very pale brown (10YR 7/3) mottles; single grained; loose; very strongly acid; gradual smooth boundary.

C4—42 to 60 inches; very pale brown (10YR 7/3) fine sand; common medium distinct light yellowish brown (10YR 6/4) mottles; single grained; loose; very strongly acid.

Range in Characteristics

Solum thickness: 0 to 10 inches

Thickness of underlying soil material: More than 80 inches

Reaction: Very strongly acid or strongly acid, except the surface layer in areas that have been limed

A or Ap horizon:
- Color—hue of 10YR, value of 3 to 5, and chroma of 2 to 4
- Texture—loamy sand

C horizon (upper part):
- Color—hue of 10YR to 5YR, value of 4 to 7, and chroma of 4 to 8
- Texture—sand, fine sand, or loamy sand

C horizon (lower part):
- Color—hue of 10YR, value of 6 to 8, and chroma of 1 to 6
- Texture—fine sand or sand having pockets of uncoated sand grains
- Mottles (if they occur)—shades of brown and yellow

Redoximorphic features (if they occur)—iron depletions in shades of gray and masses of iron accumulation in shades of red or brown

Cahaba Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Loamy and sandy alluvium
Landscape: Coastal Plain
Landform: Stream terraces
Landform position: Convex areas
Slope range: 0 to 2 percent
Taxonomic class: Fine-loamy, siliceous, semiactive, thermic Typic Hapludults

Cahaba soils are commonly associated on the landscape with Annemaine, Bassfield, and Latonia soils. The moderately well drained Annemaine soils are in positions similar to those of the Cahaba soils and are clayey in the upper part of the subsoil. Bassfield and Latonia soils are in the slightly higher positions and are coarse-loamy in the upper part of the subsoil.

Typical Pedon

Cahaba fine sandy loam in an area of Cahaba-Annemaine complex, 0 to 2 percent slopes, rarely flooded; 0.6 mile east on U.S. Highway 98 from intersection with Mississippi Highway 15 in Beaumont, 800 feet north on paved road, 200 feet east on paved road, 75 feet north; NW$^1/_4$SE$^1/_4$NE$^1/_4$ sec. 5, T. 2 N., R. 9 W.; USGS Beaumont topographic quadrangle; lat. 31 degrees 10 minutes 04 seconds N. and long. 88 degrees 54 minutes 46 seconds W.

Ap—0 to 6 inches; brown (10YR 4/3) fine sandy loam; weak fine granular structure; friable; few fine roots; strongly acid; gradual wavy boundary.

E—6 to 14 inches; yellowish brown (10YR 5/4) loam; weak medium subangular blocky structure; friable; few fine roots; strongly acid; gradual wavy boundary.

Bt1—14 to 25 inches; yellowish red (5YR 5/8) clay loam; moderate medium subangular blocky structure; firm; common faint clay films on faces of peds; very strongly acid; gradual smooth boundary.

Bt2—25 to 36 inches; yellowish red (5YR 5/6) clay loam; common fine distinct red (2.5YR 4/8) mottles; moderate medium subangular blocky structure; firm; common faint clay films on faces of peds; common medium distinct light yellowish brown (10YR 6/4) iron depletions; very strongly acid; gradual smooth boundary.

Bt3—36 to 44 inches; yellowish red (5YR 5/8) clay loam; common medium distinct strong brown (7.5YR 4/6) and red (2.5YR 4/8) and common medium prominent pale brown (10YR 6/3) mottles; moderate medium subangular blocky structure; firm; common faint clay films; very strongly acid; gradual smooth boundary.

C1—44 to 48 inches; yellowish brown (10YR 5/6) loamy sand; common medium prominent yellowish red (5YR 5/6) mottles; massive; friable; very strongly acid; gradual smooth boundary.

C2—48 to 80 inches; brownish yellow (10YR 6/6) sand; massive; common medium distinct light yellowish brown (10YR 6/4) mottles; single grained; loose; very strongly acid.

Range in Characteristics

Solum thickness: 36 to 60 inches
Reaction: Very strongly acid or strongly acid, except the surface layer in areas that have been limed

A or Ap horizon:
Color—hue of 10YR, value of 3 to 5, and chroma of 2 to 4
Texture—fine sandy loam or sandy loam

E horizon:
Color—hue of 10YR, value of 5 or 6, and chroma of 2 to 4
Texture—fine sandy loam, sandy loam, or loam

Bt horizon:
Color—hue of 5YR or 2.5YR, value of 4 or 5, and chroma of 6 to 8
Texture—sandy clay loam, loam, or clay loam having 18 to 35 percent clay content and 20 to 50 percent silt in the upper 20 inches
Mottles (if they occur)—shades of red or brown

BC horizon (if it occurs):
Color—hue of 5YR or 2.5YR, value of 4 to 8, and chroma of 6 to 8
Texture—sandy loam
Mottles (if they occur)—shades of yellow, red, brown, or gray

C horizon:
Color—hue of 10YR or 5YR, value of 5 or 6, and chroma of 4 to 8
Texture—stratified sand or loamy sand
Mottles (if they occur)—shades of yellow, brown, or gray
Redoximorphic features (if they occur)—iron depletions in shades of gray and masses of iron accumulation in shades of red or brown

Croatan Series

Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Moderate
Parent material: Highly decomposed organic material overlying loamy marine and fluvial sediments
Landscape: Coastal Plain
Landform: Flood plains
Landform position: Depressional areas
Slope range: 0 to 1 percent
Taxonomic class: Loamy, siliceous, dysic, thermic Terric Medisaprists

Croatan soils are commonly associated on the landscape with Bibb, Dorovan, and Ouachita soils. Bibb and Ouachita soils are mineral soils on flood plains. Dorovan soils are in positions similar to those of the Croatan soils and have organic layers that are 51 inches thick or more.

Typical Pedon

Croatan muck in an area of Dorovan and Croatan soils, ponded; 5.0 miles east of Runnelstown on Mississippi Highway 42, north 3.2 miles on unpaved county road, east 1.0 mile on paved county road, north 0.4 mile on oil field road, west 1,800 feet into hardwood forest; NE$^1/_4$SE$^1/_4$ sec. 8, T. 5 N., R. 10 E.; USGS Ovett topographic quadrangle; lat. 31 degrees 24 minutes 35 seconds N. and long. 89 degrees 00 minutes 41 seconds W.

Oa1—0 to 15 inches; black (10YR 2/1) muck; about 25 percent fiber unrubbed and less than 5 percent rubbed; fibers remaining after rubbing are woody; massive; nonsticky; common fine and medium roots; extremely acid; gradual smooth boundary.
Oa2—15 to 29 inches; black (10YR 2/1) muck; massive; nonsticky; common fine roots; extremely acid; clear smooth boundary.
2Cg1—29 to 41 inches; light gray (10YR 7/1) sandy loam; massive; nonsticky; strongly acid; gradual smooth boundary.
2Cg2—41 to 60 inches; light gray (2.5Y 7/2) loam; massive; nonsticky; strongly acid.

Range in Characteristics

Solum thickness: 16 to 51 inches of organic material
Thickness of underlying soil material: 64 to more than 80 inches
Depth to contrasting soil material: 16 to 51 inches
Reaction: Extremely acid to strongly acid

Oa horizon:
Color—hue of 10YR, value of 2, and chroma of 1
Texture—10 to 30 percent fiber unrubbed and less than 10 percent rubbed

2Cg horizon:
Color—hue of 7.5YR to 2.5Y, value of 2 to 7, and chroma of 1 to 3
Texture—variable, from sand to silt loam
Redoximorphic features (if they occur)—iron depletions in shades of gray or masses of iron accumulation in shade of red, brown, or yellow

Dorovan Series

Depth class: Very deep
Drainage class: Very poorly drained
Permeability: Moderate
Parent material: Highly decomposed organic material
Landscape: Coastal Plain
Landform: Flood plain
Landform position: Depressional areas
Slope range: 0 to 1 percent
Taxonomic class: Dysic, thermic Typic Medisaprists

Dorovan soils are commonly associated on the landscape with Bibb, Ouachita, and Croatan soils. Bibb and Ouachita soils are mineral soils on flood plains. Croatan soils are in positions similar to those of the Dorovan soils and have mineral soil material within a depth of 50 inches.

Typical Pedon

Dorovan muck in an area of Dorovan and Croatan soils, ponded; 1 mile south of Oak Grove on Mississippi Highway 29, southeast and east 5.5 miles on U.S. Forest Service Road 309, south 800 feet into woods; NW$^1/_4$SE$^1/_4$NW$^1/_4$SW$^1/_4$ sec. 10, T. 1 S., R. 9 W.; USGS Avent topographic quadrangle; lat. 30 degrees 58 minutes 24 seconds N. and long. 88 degrees 52 minutes 57 seconds W.

Oa1—0 to 30 inches; very dark gray (10YR 3/1) muck; about 25 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—30 to 60 inches; very dark grayish brown (10YR 3/2) muck; about 25 percent fiber unrubbed and less than 4 percent rubbed; fibers remaining after rubbing are woody; massive; nonsticky; few fine roots; few woody fragments; very strongly acid.

Range in Characteristics

Solum thickness: 51 to more than 80 inches of organic material
Reaction: Extremely acid or very strongly acid

Oa horizon:
Texture—10 to 40 percent fiber unrubbed and less than 1/6 of the volume rubbed; remaining fibers are woody
Redoximorphic features (if they occur)—iron depletions in shades of gray and masses of iron accumulation in shades of red, brown, or yellow

Freest Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderately slow
Parent material: Loamy sediments overlying clayey sediments
Landscape: Coastal Plain
Landform: Uplands
Landform position: Ridges, summits, and shoulders
Slope range: 2 to 8 percent
Taxonomic class: Fine-loamy, siliceous, active, thermic Aquic Paleudalfs

Freest soils are commonly associated on the landscape with Benndale, Irvington, Lorman, Savannah, and Susquehanna soils. The well drained Benndale soils commonly are in positions similar to those of the Freest soils and have a coarse-loamy control section. Irvington soils are in positions similar to those of the Freest soils and contain more than 5 percent plinthite. Lorman soils are on hillslopes and have a clayey control section. Savannah soils are in the lower positions and have a fragipan. The somewhat poorly drained Susquehanna soils are in positions similar to those of the Freest soils and have a clayey control section that has vertic properties.

Typical Pedon

Freest fine sandy loam in an area of Lorman-Freest-Susquehanna complex, 5 to 15 percent slopes; 4.5 miles west of Richton on Mississippi Highway 42, north 3 miles on paved road, northwest 400 feet on woodland road, 50 feet west of gas pipeline; SW$^1/_4$SE$^1/_4$NE$^1/_4$ sec. 17, T. 5 N., R. 10 W.; USGS Ovett topographic quadrangle; lat. 31 degrees 23 minutes 54 seconds N. and long. 89 degrees 00 minutes 48 seconds W.

A—0 to 7 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak fine granular structure; friable; many fine and medium roots; very strongly acid; gradual wavy boundary.

E—7 to 13 inches; yellowish brown (10YR 5/4) fine sandy loam; weak fine subangular blocky structure; friable; few fine and medium roots; very strongly acid; gradual wavy boundary.

Bt1—13 to 20 inches; yellowish brown (10YR 5/6) loam; weak medium subangular blocky structure; friable; few fine roots; few faint clay films on faces peds; very strongly acid; gradual smooth boundary.

Bt2—20 to 25 inches; yellowish brown (10YR 5/6) loam; moderate medium subangular blocky structure; friable; few faint clay films on faces of peds; common medium prominent yellowish red (5YR 5/6) and few fine faint yellowish brown (10YR 5/8) masses of iron accumulation; very strongly acid; gradual smooth boundary.

Bt3—25 to 35 inches; brownish yellow (10YR 6/6) loam; moderate medium subangular blocky structure; friable; few faint clay films on faces of peds; many coarse prominent red (2.5YR 4/6) masses of iron accumulation; many coarse distinct light brownish gray (10YR 6/2) iron depletions; very strongly acid; gradual smooth boundary.

Bt4—35 to 43 inches; light brownish gray (10YR 6/2) clay loam; moderate medium subangular blocky structure; friable; few faint clay films on faces of peds; common medium prominent red (10R 4/6) and few fine distinct brownish yellow (10YR 6/6) masses of iron accumulation; very strongly acid; gradual smooth boundary.

Bt5—43 to 51 inches; light brownish gray (2.5Y 6/2) silty clay; moderate medium subangular blocky structure; firm, moderately sticky and moderately plastic; few faint clay films on faces of peds; common fine prominent red (2.5YR 4/6) masses of iron accumulation; very strongly acid; gradual boundary.

Bt6—51 to 60 inches; light brownish gray (2.5Y 6/2) silty clay; strong medium subangular blocky structure; firm, moderately sticky and moderately plastic; few fine clay films on faces of peds; few fine distinct yellowish brown (10YR 5/6) masses of iron accumulation; very strongly acid.

Range in Characteristics

Solum thickness: More than 60 inches
Reaction: Very strongly acid, except the surface layer in areas that have been limed

A horizon (if it occurs):
Color—hue of 10YR, value of 4 or 5, and chroma of 2 or 3
Texture—fine sandy loam

Ap horizon (if it occurs):
Color—hue of 10YR, value of 5, and chroma of 2 or 3; or hue of 10YR, value of 6, and chroma of 3
Texture—fine sandy loam

E horizon (if it occurs):
Color—hue of 10YR, value of 5 or 6, and chroma of 2 to 4
Texture—fine sandy loam

Bt horizon (upper part):
Color—hue of 10YR, value of 5 or 6, and chroma of 4 to 6
Texture—loam or sandy clay loam
Redoximorphic features (if they occur)—iron depletions in shades of gray and masses of iron accumulation in shades of red, brown, or yellow

Bt horizon (lower part):
Color—hue of 10YR to 5Y, value of 6 or 7, and chroma of 1 or 2; or no dominant color and shades of gray, brown, and red
Texture—clay loam, silty clay, or clay
Redoximorphic features—iron depletions in shades of gray and masses of iron accumulation in shades of red, brown, or yellow

Harleston Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderate
Parent material: Loamy and sandy, fluvial marine or stream deposits
Landscape: Coastal Plain
Landform: Terraces and uplands
Landform position: Planar and slightly convex areas
Slope range: 0 to 2 percent
Taxonomic class: Coarse-loamy, siliceous, semiactive, thermic Aquic Paleudults

Harleston soils are commonly associated on the landscape with Alaga, Bassfield, Prentiss, Quitman, and Trebloc soils. The excessively drained Alaga soils are on natural levees of stream terraces and have a sandy control section. The well drained Bassfield soils are in positions similar to those of the Harleston soils and have hue of 5YR or redder. Prentiss soils are in the higher positions and have a fragipan. The somewhat poorly drained Quitman soils are in the lower positions and have a fine-loamy control section. The poorly drained Trebloc soils are in the lower positions and have a fine-silty control section.

Typical Pedon

Harleston fine sandy loam, 0 to 2 percent slopes; 1.5 miles west of Janice on Brooklyn Road, 0.5 mile south of highway on trail, 100 feet off of trail into woods; NW$^1/_4$NE$^1/_4$SW$^1/_4$ sec. 23, T. 1 N., R. 11 W.; USGS Janice topographic quadrangle; lat. 31 degrees 01 minute 54 seconds N. and long. 89 degrees 04 minutes 24 seconds W.

A—0 to 7 inches; very dark grayish brown (10YR 3/2) fine sandy loam; weak fine granular structure; very friable; few fine and medium roots; strongly acid; clear smooth boundary.

E—7 to 13 inches; light yellowish brown (10YR 6/4) fine sandy loam; weak medium subangular blocky structure; very friable; few fine roots; strongly acid; clear smooth boundary.

Bt1—13 to 20 inches; brownish yellow (10YR 6/6) loam; moderate medium subangular blocky structure; friable; few fine roots; few brittle peds having strong brown (7.5YR 5/6) interiors, 1 to 3 centimeters wide; few faint clay films on faces of peds; very strongly acid; clear wavy boundary.

Bt2—20 to 41 inches; light yellowish brown (10YR 6/4) loam; weak medium subangular blocky structure; friable; few fine roots; common brittle peds having strong brown (7.5YR 4/6) interiors, 1 to 3 centimeters wide; few faint clay films on faces of peds; common fine distinct light brownish gray (10YR 6/2) iron depletions; very strongly acid; gradual smooth boundary.

Bt3—41 to 54 inches; light yellowish brown (10YR 6/4) loam; weak medium subangular blocky structure; friable; few faint clay films on faces of peds; common medium distinct light brownish gray (10YR 6/2) iron depletions; strongly acid; gradual smooth boundary.

Bt4—54 to 72 inches; light brownish gray (10YR 6/2) loam; weak medium subangular blocky structure; firm; few faint clay films on faces of peds; common medium distinct strong brown (7.5YR 4/6) masses of iron accumulation; very strongly acid; gradual smooth boundary.

C—72 to 82 inches; light brownish gray (10YR 6/2) loam; massive; firm; common fine prominent red (2.5YR 4/8) masses of iron accumulation; very strongly acid.

Range in Characteristics

Solum thickness: More than 60 inches
Reaction: Very strongly acid or strongly acid, except the surface layer in areas that have been limed
Distinctive features: Few to common brittle peds in the Bt horizon

A or Ap horizon:
Color—hue of 10YR, value of 3 to 5, and chroma of 1 to 3
Texture—loam or fine sandy loam

E horizon (if it occurs):
Color—hue of 10YR, value of 4 to 6, and chroma of 3 or 4
Texture—loam, sandy loam, or fine sandy loam

Bt horizon (upper part)
Color—hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 4 to 8
Texture—sandy loam or loam
Redoximorphic features (if they occur)—iron depletions in shades of gray and masses of iron accumulation in shades of red, brown, or yellow

Bt horizon (lower part):
Color—hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 2 to 8
Texture—sandy loam, sandy clay loam, or loam
Redoximorphic features—iron depletions in shades of gray and masses of iron accumulation in shades of red, brown, or yellow

C horizon (if it occurs):
Color—hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 2 to 8
Texture—sandy loam, sandy clay loam, or loam
Redoximorphic features—iron depletions in shades of gray and masses of iron accumulation in shades of red, brown, or yellow

Heidel Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Loamy marine sediments
Landscape: Coastal Plain
Landform: Terraces and uplands
Landform position: Hillslopes
Slope range: 15 to 25 percent
Taxonomic class: Coarse-loamy, siliceous, subactive, thermic Typic Paleudults

Heidel soils are commonly associated on the landscape with McLaurin and Smithdale soils. McLaurin soils are in the higher positions and have a bisequum. Smithdale soils are in positions similar to those of the Heidel soils and have a fine-loamy control section.

Typical Pedon

Heidel fine sandy loam, 15 to 25 percent slopes; 12.5 miles south of New Augusta on Mississippi Highway 29, right 0.25 mile on U.S. Forest Service Road 360, about 50 feet into woods; SE$^1/_4$NW$^1/_4$SW$^1/_4$ sec. 21, T. 1 N., R. 10 W.; USGS Taylor Hill topographic quadrangle; lat. 31 degrees 01 minute 48 seconds N. and long. 89 degrees 00 minutes 25 seconds W.

A—0 to 3 inches; dark brown (10YR 4/3) fine sandy loam; weak fine granular structure; very friable; many fine and medium roots; very strongly acid; clear smooth boundary.
E—3 to 8 inches; brown (10YR 5/3) sandy loam; weak fine granular structure; very friable; many fine and medium roots; very strongly acid; abrupt smooth boundary.
Bt1—8 to 20 inches; yellowish red (5YR 5/8) sandy loam; weak fine subangular blocky structure; friable; many fine and common medium roots; sand grains coated and bridged with clay; very strongly acid; gradual wavy boundary.
Bt2—20 to 64 inches; yellowish red (5YR 5/8) sandy loam; weak fine subangular blocky structure; friable; few fine and medium roots; sand grains coated and bridged with clay; very strongly acid.

Range in Characteristics

Solum thickness: More than 60 inches
Reaction: Very strongly acid or strongly acid, except where the surface layer has been limed

A horizon:
Color—hue of 10YR, value of 3 or 4, and chroma of 2 or 3
Texture—fine sandy loam

E horizon (if it occurs):
Color—hue of 10YR, value of 5 or 6, and chroma of 3 or 4
Texture—sandy loam, fine sandy loam, or loamy sand

Bt horizon:
Color—hue of 5YR, value of 4 or 5, and chroma of 5 to 8
Texture—sandy loam or loam having few or common pockets of uncoated sand grains in lower part

Irvington Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Slow
Parent material: Loamy marine sediments
Landscape: Coastal Plain
Landform: Uplands

Landform position: Summits and shoulders
Slope range: 0 to 5 percent
Taxonomic class: Fine-loamy, siliceous, semiactive, thermic Plinthic Fragiudults

Irvington soils are commonly associated on the landscape with Freest, Lorman, McLaurin, and Smithdale soils. The associated soils do not have a fragipan. Freest soils are in positions similar to those of the Irvington soils. The well drained McLaurin soils are in positions similar to those of the Irvington soils. The moderately well drained Lorman and well drained Smithdale soils are in the lower positions.

Typical Pedon

Irvington fine sandy loam, 0 to 5 percent slopes; 6 miles southwest of Janice on Mississippi Highway 29, west-northwest 1.1 miles on U.S. Forest Service Road 319, about 25 feet northeast of road at junction with U.S. Forest Road 319K; NW$^1/_4$NE$^1/_4$SE$^1/_4$ sec. 3, T. 1 S., R. 11 W.; USGS Bond Pond topographic quadrangle; lat. 30 degrees 59 minutes 25 seconds N. and long. 89 degrees 04 minutes 30 seconds W.

A—0 to 5 inches; brown (10YR 4/3) fine sandy loam; weak fine granular structure; friable; common fine roots; extremely acid; clear smooth boundary.

E—5 to 12 inches; light yellowish brown (10YR 6/4) fine sandy loam; weak medium subangular blocky structure; friable; few fine roots; very strongly acid; clear smooth boundary.

Bt—12 to 23 inches; yellowish brown (10YR 5/8) fine sandy loam; moderate medium subangular blocky structure; friable; few fine roots; common faint clay films on faces of peds; few rounded iron concretions; very strongly acid; clear wavy boundary.

Btv—23 to 34 inches; yellowish brown (10YR 5/8) sandy clay loam; moderate medium subangular blocky structure; friable; 15 percent very hard plinthite segregations having strong brown (7.5YR 5/6) exteriors and red (10R 4/8) interiors; common distinct clay films on faces of peds; few pale brown (10YR 6/3) iron depletions; strongly acid; gradual wavy boundary.

Btvx—34 to 52 inches; yellowish brown (10YR 5/8) fine sandy loam; weak very coarse prismatic structure parting to moderate medium subangular blocky; firm and brittle in 75 percent of the volume; common prominent strong brown (7.5YR 5/6) clay films on faces of peds; many fine and few medium roots in seams; 16 percent plinthite segregations having strong brown (7.5YR 5/6) exteriors and red (10R 4/8) interiors; light brownish gray (10YR 6/2) iron depletions in seams 1 to 1.5 inches wide between prisms, some seams bordered by red (10R 4/8) masses of iron accumulation; very strongly acid; gradual wavy boundary.

Btx—52 to 82 inches; yellowish brown (10YR 5/8) fine sandy loam; weak very coarse prismatic structure parting to moderate medium subangular blocky; firm and brittle in 85 percent of the volume; light brownish gray (10YR 6/2) fine sandy loam iron depletions in seams 1 to 1.5 inches wide between prisms, some seams bordered by red (10R 4/8) masses of iron accumulation; many fine and few medium roots in seams; common prominent strong brown (7.5YR 5/6) clay films; few coarse distinct red (2.5YR 4/6) masses of iron accumulation and common medium distinct light brownish gray (10YR 6/2) iron depletions; very strongly acid.

Range in Characteristics

Solum thickness: More than 60 inches
Content of plinthite: 5 to 20 percent in the Btv and Btvx horizons
Reaction: Extremely acid to strongly acid, except the surface layer in areas that have been limed
Distinctive features: Fragipan at a depth of 20 to 34 inches

A or Ap horizon:
Color—hue of 10YR, value of 3 to 5, and chroma of 2 or 3
Texture—fine sandy loam

E horizon:
Color—hue of 10YR, value of 5 to 7, and chroma of 3 to 6
Texture—fine sandy loam, sandy loam, or loam

Bt horizon:
Color—hue of 10YR or 7.5YR, value of 4 to 7, and chroma of 4 to 8
Texture—sandy clay loam, fine sandy loam, sandy loam, or loam

Btv horizon:
Color—hue of 10YR or 7.5YR, value of 4 to 6, and chroma of 4 to 8
Texture—sandy clay loam, fine sandy loam, sandy loam, or loam
Redoximorphic features—iron depletions in shades of gray or brown and masses of iron accumulation in shades of brown or red

Btvx and Btx horizons:
Color—hue of 10YR or 7.5YR, value of 4 to 6, and chroma of 4 to 8
Texture—fine sandy loam, sandy loam, sandy clay loam, or loam
Redoximorphic features—few to many iron

depletions in shades of gray and masses of iron accumulation in shades of red or brown

Jena Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Loamy alluvium
Landscape: Coastal Plains
Landform: Flood plains
Landform position: Slightly convex natural levees
Slope range: 0 to 1 percent
Taxonomic class: Coarse-loamy, siliceous, active, thermic Fluventic Dystrochrepts

Jena soils are commonly associated on the landscape with Bigbee and Ouachita soils. The excessively drained Bigbee soils are in positions similar to those of the Jena soils on the flood plains and have a sandy control section. The well drained Ouachita soils are in the lower positions and have a fine-silty control section.

Typical Pedon

Jena silt loam in an area of Ouachita-Jena complex, 0 to 1 percent slopes, frequently flooded; 1.5 miles west of New Augusta on U.S. Highway 98, about 0.4 mile northwest of railroad bridge, 25 feet east of woodland road, 600 feet west of Leaf River; SW$^1/_4$SE$^1/_4$ sec. 14, T. 3 N., R. 11 W.; USGS New Augusta topographic quadrangle; lat. 31 degrees 12 minutes 53 seconds N. and long. 89 degrees 04 minutes 18 seconds W.

A—0 to 3 inches; dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; friable; many fine and medium roots; strongly acid; clear smooth boundary.
Bw1—3 to 13 inches; brown (10YR 4/3) silt loam; weak fine granular structure; friable; few fine roots; strongly acid; clear smooth boundary.
Bw2—13 to 26 inches; dark yellowish brown (10YR 4/4) silt loam; weak fine and medium subangular blocky structure; friable; few fine pores; strongly acid; gradual smooth boundary.
Bw3—26 to 38 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium subangular blocky structure; friable; few uncoated sand grains; strongly acid; gradual smooth boundary.
C1—38 to 48 inches; yellowish brown (10YR 5/4) sandy loam; very friable; massive; strongly acid; gradual smooth boundary.
C2—48 to 62 inches; light yellowish brown (10YR 6/4) sandy loam; very friable; massive; strongly acid.

Range in Characteristics

Solum thickness: 30 to 50 inches
Depth to contrasting soil material: 30 to 50 inches
Reaction: Very strongly acid or strongly acid, except the surface layer in areas that have been limed

A horizon:
Color—hue of 10YR, value of 4 or 5, and chroma of 2 to 4
Texture—silt loam

Bw horizon:
Color—hue of 10YR, value of 4 to 7, and chroma of 3 to 6
Texture—fine sandy loam, sandy loam, silt loam, or loam

C horizon:
Color—hue of 10YR, value of 4 to 6, and chroma of 3 to 6
Texture—sandy loam or loamy fine sand

Latonia Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately rapid
Parent material: Loamy and sandy alluvium
Landscape: Coastal Plains
Landform: Low stream terraces
Landform position: Planar and convex areas
Slope range: 0 to 2 percent
Taxonomic class: Coarse-loamy, siliceous, semiactive, thermic Typic Hapludults

Latonia soils are commonly associated on the landscape with Annemaine, Bassfield, Cahaba, and Prentiss soils. The moderately well drained Annemaine soils are in positions similar to those of the Latonia soils and have a clayey control section. The well drained Bassfield soils are in positions similar to those of the Latonia soils. The well drained Cahaba soils are in positions similar to those of the Latonia soils, have hue that is redder than 7.5YR, and have a fine-loamy control section. The moderately well drained Prentiss soils are in the higher areas and have a fragipan.

Typical Pedon

Latonia loamy sand, 0 to 2 percent slopes, rarely flooded; 3.5 miles west of Janice on Brooklyn-Janice Road, 0.1 mile south on trail, 50 west into woods; SW $^1/_4$SW$^1/_4$SE$^1/_4$ sec. 16, T. 1 N., R. 11 W.; USGS Janice topographic quadrangle; lat. 31 degrees 02 minutes 28 seconds N. and long. 89 degrees 02 minutes 30 seconds W.

A—0 to 6 inches; dark brown (10YR 3/3) loamy sand; weak fine granular structure; very friable; many fine roots; very strongly acid; gradual wavy boundary.
E—6 to 10 inches; yellowish brown (10YR 5/4) fine sandy loam; weak medium subangular blocky structure; very friable; many fine roots; very strongly acid; gradual wavy boundary.
Bt1—10 to 18 inches; yellowish brown (10YR 5/6) sandy loam; weak fine subangular blocky structure; friable; common fine roots; common faint clay films on faces of peds; very strongly acid; gradual wavy boundary.
Bt2—18 to 30 inches; strong brown (7.5YR 5/6) sandy loam; weak fine subangular blocky structure; friable; few fine roots; common faint clay films on faces of peds; very strongly acid; gradual wavy boundary.
Bt3—30 to 37 inches; strong brown (7.5YR 5/6) sandy loam; weak fine subangular blocky structure; friable; common faint clay films on faces of peds; very strongly acid; gradual wavy boundary.
2C1—37 to 58 inches; very pale brown (10YR 7/4) loamy sand; single grained; loose; few sand pockets; very strongly acid; clear wavy boundary.
2C2—58 to 65 inches; brownish yellow (10YR 6/6) sand; single grained; loose; extremely acid.

Range in Characteristics

Solum thickness: 20 to 45 inches
Depth to contrasting soil material: 20 to 45 inches
Reaction: Very strongly acid or strongly acid, except the surface layer in areas that have been limed

A horizon:
Color—hue of 10YR, value of 3 to 5, and chroma of 1 to 3
Texture—loamy sand

E horizon:
Color—hue of 10YR, value of 4 to 6, and chroma of 2 to 6
Texture—sandy loam or fine sandy loam

Bt horizon:
Color—hue of 10YR, value of 4 to 6, and chroma of 4 to 8; or hue of 7.5YR, value of 4 or 5, and chroma of 4 to 6
Texture—fine sandy loam, sandy loam, or loam

2C horizon:
Color—hue of 10YR, value of 5 to 7, and chroma of 3 to 6
Texture—sand or loamy sand

Lorman Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Very slow
Parent material: Clayey and loamy marine sediments
Landscape: Coastal Plain
Landform: Uplands
Landform position: Hillslopes
Slope range: 5 to 40 percent
Taxonomic class: Fine, smectitic, thermic Vertic Hapludalfs

Lorman soils are commonly associated on the landscape with Freest, Irvington, McLaurin, and Susquehanna soils. These associated soils are in the higher positions. The moderately well drained Freest soils have a fine-loamy control section. The moderately well drained Irvington soils have a fine-loamy control section and more than 5 percent plinthite. The well drained McLaurin soils have a coarse-loamy control section. The somewhat poorly drained Susquehanna soils have a thicker solum than that of the Lorman soils.

Typical Pedon

Lorman silt loam in an area of Lorman-Freest-Susquehanna complex, 5 to 15 percent slopes; 2 miles north of Runnelstown on Pump Station road, 0.25 mile south on driveway, 250 feet south of house into cutover; NW$^1/_4$SE$^1/_4$ sec. 17, T. 5 N., R. 11 W.; USGS Ovett topographic quadrangle; lat. 31 degrees 23 minutes 45 seconds N. and long. 89 degrees 07 minutes 01 second W.

A—0 to 3 inches; brown (10YR 4/3) silt loam; weak fine granular structure; friable; strongly acid; clear smooth boundary.
E—3 to 8 inches; yellowish brown (10YR 5/4) fine sandy loam; weak medium subangular blocky structure; friable; strongly acid; clear smooth boundary.
Bt1—8 to 14 inches; yellowish red (5YR 4/6) clay; moderate medium angular blocky structure; firm; common faint clay films on faces of peds; few fine prominent brown (10YR 5/3) iron depletions; very strongly acid; gradual wavy boundary.
Bt2—14 to 25 inches; yellowish red (5YR 4/6) clay; moderate medium angular blocky structure; firm; common faint clay films on faces of peds; common medium prominent brown (10YR 5/3) and common fine prominent light brownish gray (10YR 6/2) iron depletions; very strongly acid; gradual wavy boundary.

Btgss—25 to 44 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium angular blocky structure; firm; very few faint clay films on faces of peds; few slickensides that do not intersect; common medium prominent yellowish red (5YR 4/6) masses of iron accumulation; many medium faint light brownish gray (2.5Y 6/2) iron depletions; very strongly acid; gradual wavy boundary.

C—44 to 65 inches; light brownish gray (2.5Y 6/2) silty clay loam having lenses of fine sandy loam and clay loam 2 to 12 inches in thickness; massive; friable; common fine distinct olive yellow (5Y 6/6) masses of iron accumulation; very strongly acid.

Range in Characteristics

Solum thickness: 40 to 60 inches

Reaction: Strongly acid or very strongly acid, except the surface layer in areas that have been limed; strongly acid or moderately acid in the Bt horizon; and moderately acid to moderately alkaline in the C horizon

A horizon:
- Color—hue of 10YR, value of 3 or 4, and chroma of 2 or 3
- Texture—fine sandy loam or silt loam

E horizon:
- Color—hue of 10YR, value of 5 or 6, and chroma of 3 or 4
- Texture—fine sandy loam or loam

Bt horizon (upper part):
- Color—hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 4 to 6
- Texture—silty clay loam or clay
- Redoximorphic features (if they occur)—iron depletions in shades of gray and masses of iron accumulation in shades of red, brown, or yellow

Bt horizon (lower part):
- Color—hue of 2.5YR to 10YR, value of 4 or 5, and chroma of 3 to 8
- Texture—clay loam, silty clay loam, or silty clay
- Redoximorphic features—iron depletions in shades of gray and masses of iron accumulation in shades of red, brown, or yellow

Btgss horizon:
- Color—hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 2 to 8
- Texture—silty clay loam or silty clay
- Redoximorphic features—iron depletions in shades of gray and masses of iron accumulation in shades of red, brown, or yellow

C horizon:
- Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 1 or 2
- Texture—silty clay loam or silty clay
- Redoximorphic features—iron depletions in shades of gray and masses of iron accumulation in shades of red, brown, or yellow

Lucedale Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Loamy sediments
Landscape: Coastal Plain
Landform: Uplands
Landform position: Summits
Slope range: 0 to 2 percent
Taxonomic class: Fine-loamy, siliceous, subactive, thermic Rhodic Paleudults

Lucedale soils are commonly associated on the landscape with Atmore, McLaurin, and Smithdale soils. The poorly drained Atmore soils are in depressional areas on upland summits and have a coarse-loamy control section. The well drained McLaurin soils have 10 to 18 percent clay in the upper part of the Bt horizon, have a bisequum, and are on summits and ridges. The well drained Smithdale soils are on hillslopes and have higher values than the Lucedale soils in the surface layer and subsoil.

Typical Pedon

Lucedale loam, 0 to 2 percent slopes; 0.6 mile north of George County line on paved road, 1,500 feet east of Mars Hill Baptist Church Road, 500 feet north into pasture; SW$^1/_4$NE$^1/_4$ sec. 32, T. 1 S., R. 9 W.; USGS Barbara topographic quadrangle; lat. 30 degrees 55 minutes 08 seconds N. and long. 88 degrees 54 minutes 33 seconds W.

Ap—0 to 7 inches; dark brown (7.5YR 3/2) loam; moderate fine granular structure; friable; many fine roots; moderately acid; clear smooth boundary.

BA—7 to 11 inches; dark reddish brown (5YR 3/4) loam; weak medium subangular blocky structure; friable and firm; common fine roots; very strongly acid; clear smooth boundary.

Bt1—11 to 25 inches; dark red (2.5YR 3/6) clay loam; moderate medium subangular blocky structure; friable; common fine roots; common faint clay films on faces of peds; very strongly acid; gradual smooth boundary.

Bt2—25 to 65 inches; dark red (2.5YR 3/6) sandy clay loam; weak medium subangular blocky structure; friable; few faint clay films on faces of peds; very strongly acid.

Range in Characteristics

Solum thickness: 60 to more than 80 inches
Reaction: Strongly acid or very strongly acid, except the surface layer in areas that have been limed

Ap horizon:
Color—hue of 5YR or 7.5YR, value of 3, and chroma of 2 to 4
Texture—fine sandy loam or loam

BA horizon:
Color—hue of 5YR or 7.5YR, value of 3, and chroma of 2 to 4
Texture—sandy loam or loam

Bt horizon:
Color—hue of 2.5YR, value of 3, and chroma of 4 to 6
Texture—sandy clay loam, clay loam, or loam

McLaurin Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Loamy sediments
Landscape: Coastal Plain
Landform: Uplands
Landform position: Summits, ridges, and shoulders
Slope range: 0 to 8 percent
Taxonomic class: Coarse-loamy, siliceous, subactive, thermic Typic Paleudults

McLaurin soils are commonly associated on the landscape with Benndale, Heidel, Lorman, Lucedale, Savannah, Smithdale, and Wadley soils. The well drained Benndale soils are in positions similar to those of the McLaurin soils and have hue of 7.5YR or browner. The well drained Heidel and Smithdale soils are on hillslopes and do not have a bisequum. The moderately well drained Lorman soils are on hillslopes and have a clayey control section. The well drained Lucedale soils are on upland summits, have a fine-loamy control section, and are in a Rhodic subgroup. The moderately well drained Savannah soils are in the lower positions, have hue that is browner than 5YR, and have a fine-loamy control section. The somewhat excessively drained Wadley soils are on ridges, shoulders, and side slopes and have a thick, sandy epipedon.

Typical Pedon

McLaurin fine sandy loam, 2 to 5 percent slopes; 2.5 miles southwest of Richton on Old Augusta-Richton Road, 0.2 mile south and 0.3 mile east into McSwain Community on paved road to unpaved road, 75 feet north into open field; SE$^1/_4$SW$^1/_4$ sec. 11, T. 4 N., R. 10 W.; USGS Richton topographic quadrangle; lat. 31 degrees 19 minutes 02 seconds N. and long. 88 degrees 58 minutes 44 seconds W.

A—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; clear smooth boundary.
E—5 to 10 inches; yellowish brown (10YR 5/4) fine sandy loam; weak fine granular structure; friable; many fine roots; very strongly acid; clear smooth boundary.
Bt1—10 to 14 inches; yellowish red (5YR 5/6) sandy loam; weak medium subangular blocky structure; friable; few fine roots; sand grains coated and bridged with clay; very strongly acid; gradual wavy boundary.
Bt2—14 to 28 inches; yellowish red (5YR 5/8) sandy loam; few fine distinct red (2.5YR 4/6) mottles; moderate medium subangular blocky structure; friable; sand grains coated and bridged with clay; very strongly acid; gradual wavy boundary.
Bt3—28 to 40 inches; yellowish red (5YR 5/8) sandy loam; moderate medium subangular blocky structure; friable; sand grains coated and bridged with clay; very strongly acid; gradual wavy boundary.
B/E—40 to 46 inches; 90 percent yellowish red (5YR 5/8) sandy loam (B), 10 percent brownish yellow (10YR 6/6) loamy sand (E); weak medium subangular blocky structure; very friable; very strongly acid; gradual wavy boundary.
B´t—46 to 60 inches; red (2.5YR 4/6) sandy loam; weak medium subangular blocky structure; friable; sand grains coated and bridged with clay; very strongly acid.

Range in Characteristics

Solum thickness: More than 60 inches
Reaction: Very strongly acid or strongly acid, except the surface layer in areas that have been limed

A or Ap horizon:
Color—hue of 10YR, value of 4 or 5, and chroma of 2 to 4

Texture—fine sandy loam

E horizon:
Color—hue of 10YR, value of 4 to 6, and chroma of 2 to 6
Texture—sandy loam or fine sandy loam

Bt horizon:
Color—hue of 5YR to 10R, value of 4 or 5, and chroma of 4 to 8
Texture—sandy loam or loam
Mottles (if they occur)—shades of red

B/E horizon:
Color—hue of 5YR to 10YR, value of 4 or 5, and chroma of 4 to 8 (B) and hue of 7.5YR or 10YR, value of 4 to 8, and chroma of 3 to 6 (E)
Texture—loamy sand or sandy loam

B´t horizon:
Color—hue of 5YR to 10R, value of 4 or 5, and chroma of 4 to 8
Texture—sandy clay loam, sandy loam, or loam

Ouachita Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Loamy sediments
Landscape: Coastal Plain
Landform: Flood plains
Landform position: Planar and slightly convex areas
Slope range: 0 to 1 percent
Taxonomic class: Fine-silty, siliceous, active, thermic Fluventic Dystrochrepts

Ouachita soils are commonly associated on the landscape with Bigbee, Croatan, Dorovan, Jena, and Trebloc soils. The excessively drained Bigbee soils are on natural levees. The very poorly drained Croatan and Dorovan soils are in the lower sloughs on flood plains. The well drained Jena soils are on the slightly higher natural levees and have a coarse-loamy control section. The poorly drained Trebloc soils are in the lower areas on the flood plains.

Typical Pedon

Ouachita silt loam in an area of Ouachita-Jena complex, 0 to 1 percent slopes, frequently flooded; 700 feet north of Black Creek on Fairley Bridge Road, 250 feet east into woods; NE$^1/_4$NE$^1/_4$NE$^1/_4$ sec. 34, T. 1 N., R. 10 W.; USGS Barbara topographic quadrangle; lat. 30 degrees 55 minutes 25 seconds N. and long. 88 degrees 58 minutes 14 seconds W.

A1—0 to 6 inches; brown (10YR 4/3) silt loam; moderate medium granular structure; very friable; few coarse and many medium and fine roots; very strongly acid; clear smooth boundary.
A2—6 to 12 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium subangular blocky structure; friable; common medium and many fine roots; very strongly acid; gradual smooth boundary.
Bw1—12 to 23 inches; yellowish brown (10YR 5/6) silt loam; moderate medium subangular blocky structure; friable; few medium and fine roots; very strongly acid; clear smooth boundary.
Bw2—23 to 41 inches; yellowish brown (10YR 5/6) silt loam; moderate medium subangular blocky structure; friable; few medium and fine roots; strongly acid; gradual smooth boundary.
Bw3—41 to 57 inches; yellowish brown (10YR 5/6) silt loam; moderate medium subangular blocky structure; friable; few medium distinct light brownish gray (10YR 6/2) iron depletions; very strongly acid; clear smooth boundary.
C1—57 to 74 inches; yellowish brown (10YR 5/4) very fine sandy loam; massive; very friable; few areas of clean sand grains; very strongly acid; gradual smooth boundary.
C2—74 to 82 inches; yellowish brown (10YR 5/6) very fine sandy loam; massive; friable; common medium distinct light gray (10YR 7/2) iron depletions; very strongly acid.

Range in Characteristics

Solum thickness: 40 to more than 80 inches
Depth to contrasting soil material: More than 40 inches
Reaction: Very strongly acid or strongly acid, except the surface layer in areas that have been limed

A or Ap horizon:
Color—hue of 10YR, value of 4 or 5, and chroma of 3 or 4
Texture—silt loam

Bw horizon:
Color—hue of 10YR, value of 4 or 5, and chroma of 3 to 8
Texture—silt loam or loam
Redoximorphic features (if they occur)—iron depletions in shades of gray

C horizon:
Color—hue of 10YR, value of 4 or 5, and chroma of 3 to 8
Texture—silt loam, loam, or very fine sandy loam
Redoximorphic features (if they occur)—iron depletions in shades of gray

Prentiss Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderately slow
Parent material: Loamy sediments
Landscape: Coastal Plain
Landform: Uplands
Landform position: Ridgetops and shoulders
Slope range: 0 to 5 percent
Taxonomic class: Coarse-loamy, siliceous, semiactive, thermic Glossic Fragiudults

Prentiss soils are commonly associated on the landscape with Alaga, Harleston, Latonia, Stough, and Trebloc soils. The excessively drained Alaga soils are in the lower areas and have a sandy control section. The moderately well drained Harleston soils are in the lower areas and do not have a well developed fragipan within a depth of 50 inches. The well drained Latonia soils are in the lower areas and do not have a fragipan. The somewhat poorly drained Stough soils are also in the lower areas. The poorly drained Trebloc soils are in the lower depressional areas and have a fine-silty control section.

Typical Pedon

Prentiss fine sandy loam, 2 to 5 percent slopes; 2.3 miles north of Old Augusta on Buck Creek Road, 600 feet east on woodland road into cutover area; SW $^1/_4$SW$^1/_4$ sec. 31, T. 4 N., R. 10 W.; USGS Ovett topographic quadrangle; lat. 31 degrees 15 minutes 34 seconds N. and long. 89 degrees 02 minutes 39 seconds W.

Ap—0 to 6 inches; brown (10YR 5/3) fine sandy loam; weak medium granular structure; friable; many fine roots; very strongly acid; clear smooth boundary.

Bt1—6 to 19 inches; yellowish brown (10YR 5/6) sandy loam; weak medium subangular blocky structure; friable; many fine roots; sand grains coated and bridged with clay; few medium faint strong brown (7.5YR 5/6) masses of iron accumulation; very strongly acid; clear wavy boundary.

Bt2—19 to 27 inches; yellowish brown (10YR 5/6) sandy loam; weak medium subangular blocky structure; friable; sand grains coated and bridged with clay; few coarse faint yellowish brown (10YR 5/4) iron depletions; very strongly acid; clear wavy boundary.

Btx1—27 to 33 inches; yellowish brown (10YR 5/4) sandy loam; moderate very coarse prismatic structure parting to moderate medium subangular blocky; firm; more than 70 percent compact and brittle; common fine voids; common faint clay films of faces of peds; common coarse faint pale brown (10YR 6/3) and light brownish gray (10YR 6/2) iron depletions; very strongly acid; gradual smooth boundary.

Btx2—33 to 68 inches; yellowish brown (10YR 5/6) sandy loam; moderate coarse prismatic structure parting to moderate medium subangular blocky; firm; more than 70 percent compact and brittle; few fine voids; common faint clay films on faces of peds; many fine distinct strong brown (7.5YR 5/6) masses of iron accumulation; common medium distinct light brownish gray (10YR 6/2) iron depletions; very strongly acid.

Range in Characteristics

Solum thickness: More than 60 inches
Reaction: Very strongly acid or strongly acid, except the surface layer in areas that have been limed
Distinctive features: Fragipan at a depth of 20 to 32 inches

Ap horizon (if it occurs):
- Color—hue of 10YR, value of 4 or 5, and chroma of 2 to 6
- Texture—fine sandy loam

A horizon (if it occurs):
- Color—hue of 10YR, value of 4 or 5, and chroma of 1 to 3
- Texture—fine sandy loam

Bt horizon:
- Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 4 to 6
- Texture—loam, silt loam, or sandy loam
- Redoximorphic features (if they occur)—iron depletions in shades of gray and masses of iron accumulation in shades of red, brown, or yellow

Btx horizon:
- Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 4 to 6
- Texture—loam, sandy loam, or fine sandy loam
- Redoximorphic features—iron depletions in shades of gray and masses of iron accumulation in shades of red, brown, or yellow

Quitman Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderately slow
Parent material: Loamy marine or fluvial sediments
Landscape: Coastal Plain

Landform: Flood plains
Landform position: Broad concave areas and narrow drainageways
Slope range: 0 to 2 percent
Taxonomic class: Fine-loamy, siliceous, semiactive, thermic Aquic Paleudults

Quitman soils are commonly associated on the landscape with Harleston, Prentiss, Savannah, Stough, and Trebloc soils. The moderately well drained Harleston soils are on stream terraces. The moderately well drained Prentiss and Savannah soils are commonly in the higher positions and have a fragipan. The somewhat poorly drained Stough soils are in positions similar to those of the Quitman soils and are coarse-loamy. The poorly drained Trebloc soils are in depressional areas on stream terraces and have a fine-silty control section.

Typical Pedon

Quitman fine sandy loam in an area of Trebloc-Quitman complex, 0 to 2 percent slopes, rarely flooded; 0.4 mile west of Bogue Homo Creek on Mississippi Highway 42, north 1.25 miles on paved county road, west 250 feet into woods; NE$^1/_4$SW$^1/_4$ sec. 19, T. 5 N., R. 10 W.; USGS Ovett topographic quadrangle; lat. 31 degrees 22 minutes 46 seconds N. and long. 89 degrees 02 minutes 12 seconds W.

A—0 to 5 inches; very dark gray (10YR 3/1) fine sandy loam; weak fine granular structure; very friable; many fine and common medium roots; very strongly acid; clear smooth boundary.

E—5 to 13 inches; brown (10YR 5/3) fine sandy loam; moderate fine subangular blocky structure; friable; common fine and few medium roots; many wormcasts; very strongly acid; gradual smooth boundary.

Bt1—13 to 19 inches; yellowish brown (10YR 5/4) loam; moderate medium subangular structure; friable; few fine and medium roots; few faint clay films on faces of peds; many medium distinct yellowish brown (10YR 5/6) masses of iron accumulation; very strongly acid; gradual smooth boundary.

Bt2—19 to 27 inches; light yellowish brown (10YR 6/4) loam; moderate medium subangular blocky structure; firm; common faint clay films on faces of peds; common medium distinct yellowish brown (10YR 5/6) and few fine prominent yellowish red (5YR 4/6) masses of iron accumulation; common medium faint light brownish gray (10YR 6/2) iron depletions; strongly acid; gradual wavy boundary.

Btx1—27 to 38 inches; light brownish gray (10YR 6/2) loam; moderate medium subangular blocky structure; firm; about 20 percent, by volume, compact and brittle; common distinct clay films on faces of peds; few fine roots; many medium and coarse distinct yellowish brown (10YR 5/6) and prominent yellowish red (5YR 4/6) masses of iron accumulation; very strongly acid; gradual wavy boundary.

Btx2—38 to 62 inches; light brownish gray (10YR 6/2) clay loam; moderate medium subangular blocky structure; firm, about 20 percent, by volume, compact and brittle; common distinct clay films on faces of peds; many medium and coarse distinct yellowish brown (10YR 5/6) and prominent yellowish red (5YR 4/6) masses of iron accumulation; very strongly acid.

Range in Characteristics

Solum thickness: More than 60 inches
Reaction: Very strongly acid or strongly acid, except the surfaces layer in areas that have been limed

A horizon:
Color—hue of 10YR, value of 3 or 4, and chroma of 1 or 2
Texture—fine sandy loam

E horizon:
Color—hue of 10YR to 5Y, value of 4 to 6, and chroma of 2 to 4
Texture—loam, fine sandy loam, or loamy fine sand

Bt horizon:
Color—hue of 7.5YR to 2.5Y, value of 5 or 6, and chroma of 4 to 8
Texture—loam, fine sandy loam, or sandy clay loam
Redoximorphic features—iron depletions in shades of gray and masses of iron accumulation in shades of red, brown, or yellow

Btx horizon:
Color—hue of 10YR to 5Y, value of 4 to 6, and chroma of 2 to 4
Texture—loam, sandy clay loam, or clay loam; or silty clay in the lower part (if it occurs)
Redoximorphic features—iron depletions in shades of gray and masses of iron accumulation in shades of red, brown, or yellow

Savannah Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderately slow
Parent material: Loamy sediments

Landscape: Coastal Plain
Landform: Uplands
Landform position: Ridges, summits, and shoulders
Slope range: 2 to 5 percent
Taxonomic class: Fine-loamy, siliceous, semiactive, thermic Typic Fragiudults

Savannah soils are commonly associated on the landscape with Freest, McLaurin, and Smithdale soils. Freest soils are on ridges and shoulders and do not have a fragipan. The well drained McLaurin soils are on summits and ridges, do not have a fragipan, and have a coarse-loamy control section. Smithdale soils are on hillslopes, are well drained, and do not have a fragipan.

Typical Pedon

Savannah fine sandy loam, 2 to 5 percent slopes; 0.25 mile north of Runnelstown on Mississippi Highway 29, about 500 feet west into pasture; SW$^1/_4$SW$^1/_4$ sec. 21, T. 5 N., R. 11 W.; USGS Ovett topographic quadrangle; lat. 31 degrees 22 minutes 43 seconds N. and long. 89 degrees 06 minutes 39 seconds W.

Ap—0 to 5 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak fine granular structure; very friable; many fine roots; strongly acid; gradual smooth boundary.
E—5 to 10 inches; brown (10YR 5/3) fine sandy loam; weak fine granular structure; very friable; many fine roots; strongly acid; gradual smooth boundary.
Bt1—10 to 17 inches; yellowish brown (10YR 5/6) clay loam; moderate fine and medium subangular blocky structure; friable; few fine roots; common fine pores; few faint clay films on faces of peds; very strongly acid; gradual smooth boundary.
Bt2—17 to 28 inches; yellowish brown (10YR 5/6) loam; moderate fine and medium subangular blocky structure; friable; few fine roots; common fine pores; few faint clay films on faces of peds; very strongly acid; gradual smooth boundary.
Btx1—28 to 41 inches; yellowish brown (10YR 5/6) loam; weak very coarse prismatic structure parting to moderate fine and medium subangular blocky; firm, compact and brittle in about 6 percent of volume; few fine voids; common faint clay films on faces of peds; common medium distinct brown (7.5YR 5/4) masses of iron accumulation; few fine faint light brownish gray (10YR 6/2) iron depletions; very strongly acid; gradual smooth boundary.
Btx2—41 to 60 inches; yellowish brown (10YR 5/6) clay loam; weak coarse prismatic structure parting to moderate fine and medium subangular blocky; firm, compact and brittle in about 65 percent of volume; common faint clay films in pores and on faces of peds; many fine pores; few fine voids; many coarse distinct strong brown (7.5YR 5/6) and common medium prominent red (2.5YR 4/6) masses of iron accumulation; common medium distinct light brownish gray (10YR 6/2) iron depletions; very strongly acid.

Range in Characteristics

Solum thickness: 50 to more than 80 inches
Reaction: Very strongly acid or strongly acid, except the surface layer in areas that have been limed
Distinctive features: Fragipan at a depth of 20 to 38 inches

Ap horizon:
Color—hue of 10YR, value of 3 or 4, and chroma of 1 to 3
Texture—fine sandy loam

E horizon:
Color—hue of 10YR, value of 5 or 6, and chroma of 2 or 3
Texture—loam or fine sandy loam

Bt horizon:
Color—hue of 7.5YR to 2.5Y, value of 5, and chroma of 4 to 8
Texture—sandy clay loam, clay loam, or loam
Redoximorphic features (if they occur)—iron depletions in shades of gray and masses of iron accumulation in shades of red, brown, or yellow

Btx horizon:
Color—hue of 10YR, value of 5, and chroma of 4 to 8
Texture—sandy clay loam, clay loam, or loam
Redoximorphic features—iron depletions in shades of gray and masses of iron accumulation in shades of red, brown, or yellow

Smithdale Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Loamy sediments
Landscape: Coastal Plain
Landform: Uplands
Landform position: Hillslopes
Slope range: 8 to 15 percent
Taxonomic class: Fine-loamy, siliceous, subactive, thermic Typic Hapludults

Smithdale soils are commonly associated on the landscape with Benndale, Heidel, Lucedale, McLaurin, Savannah, and Wadley soils. Benndale soils are on ridges and shoulders, have hue of 7.5YR or browner,

and have a coarse-loamy control section. Heidel soils are in positions similar to those of the Smithdale soils and have a coarse-loamy control section. Lucedale soils are in the higher areas and are in a Rhodic subgroup. McLaurin soils are on ridges, summits, and shoulders; have a bisequum; and have a coarse-loamy control section. The moderately well drained Savannah soils are in the lower areas, have hue that is browner than 5YR, and have a fragipan. The somewhat excessively drained Wadley soils are on ridges, shoulders, and side slopes and have a thick, sandy epipedon.

Typical Pedon

Smithdale fine sandy loam in an area of Benndale-Smithdale complex, 8 to 15 percent slopes; 3 miles south from Runnelstown on Mississippi Highway 29, east 1.5 miles on paved road, south 1 mile on paved road, east 0.75 mile on unpaved road, south 100 feet; SW$^1/_4$SW$^1/_4$ sec. 1, T. 4 N., R. 11 W.; USGS Ovett SE topographic quadrangle; lat. 31 degrees 20 minutes 10 seconds N. and long. 89 degrees 03 minutes 39 seconds W.

A—0 to 6 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak fine granular structure; very friable; common fine roots; very strongly acid; clear smooth boundary.

E—6 to 13 inches; light yellowish brown (10YR 6/4) sandy loam; weak fine granular structure; very friable; common fine roots; strongly acid; gradual smooth boundary.

Bt1—13 to 33 inches; red (2.5YR 4/6) sandy clay loam; weak medium subangular blocky structure; friable; common fine roots; sand grains coated and bridged with clay; strongly acid; gradual wavy boundary.

Bt2—33 to 39 inches; red (2.5YR 4/8) sandy loam; weak medium subangular blocky structure; friable; few fine roots; sand grains coated and bridged with clay; strongly acid; gradual smooth boundary.

Bt3—39 to 65 inches; red (2.5YR 4/8) sandy loam; weak medium subangular blocky structure; friable; sand grains coated and bridged with clay; few pockets of uncoated sand grains; strongly acid.

Range in Characteristics

Solum thickness: More than 60 inches
Reaction: Very strongly acid or strongly acid, except the surface layer in areas that have been limed

A horizon:
Color—hue of 10YR, value of 4, and chroma of 2 or 3
Texture—fine sandy loam

E horizon:
Color—hue of 10YR, value of 5 or 6, and chroma of 3 or 4
Texture—fine sandy loam, sandy loam, or loamy sand

Bt horizon (upper part):
Color—hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 6 to 8
Texture—clay loam, loam, or sandy clay loam
Mottles (if they occur)—shades of red and brown

Bt horizon (lower part):
Color—hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 6 to 8
Texture—loam or sandy loam that has pockets of pale brown sand grains
Mottles (if they occur)—shades of red and brown

Stough Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderately slow
Parent material: Loamy sediments
Landscape: Coastal Plain
Landform: Terraces
Landform position: Nearly level areas
Slope range: 0 to 2 percent
Taxonomic class: Coarse-loamy, siliceous, semiactive, thermic Fragiaquic Paleudults

Stough soils are commonly associated on the landscape with Bibb, Prentiss, and Trebloc soils. The poorly drained Bibb soils are in the lower areas. The moderately well drained Prentiss soils have a fragipan and are in the higher areas. The poorly drained Trebloc soils have a fine-silty control section and are in the lower depressional areas.

Typical Pedon

Stough fine sandy loam, 0 to 2 percent slopes, rarely flooded; 6 miles south of Richton on Mississippi Highway 15 to Hintonville, 2.8 miles east on paved road, 0.5 mile north on woodland road, 20 feet west of road in forest; NE$^1/_4$SE$^1/_4$ sec. 34, T. 4 N., R. 9 W.; USGS Brewer topographic quadrangle; lat. 31 degrees 15 minutes 33 seconds N. and long. 88 degrees 52 minutes 33 seconds W.

A—0 to 6 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak fine granular structure; friable; common medium roots; strongly acid; clear smooth boundary.

E—6 to 13 inches; pale brown (10YR 6/3) fine sandy loam; weak fine granular structure; friable; common medium roots; strongly acid; gradual wavy boundary.

Bt—13 to 25 inches; light yellowish brown (10YR 6/4) loam; moderate medium subangular blocky structure; friable; common fine roots; few faint clay films on faces of peds; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation; common medium faint light brownish gray (10YR 6/2) iron depletions; strongly acid; gradual wavy boundary.

Btx1—25 to 37 inches; multicolored yellowish brown (10YR 5/6), light brownish gray (10YR 6/2), and dark yellowish brown (10YR 4/6) loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm, slightly compact, brittle in about 50 percent of the volume; few faint clay films on faces of peds; areas of yellowish brown and dark yellowish brown are masses of iron accumulation and areas of light brownish gray are iron depletions; strongly acid; gradual wavy boundary.

Btx2—37 to 65 inches; light yellowish brown (10YR 6/4) loam; weak medium prismatic structure parting to moderate medium subangular blocky; firm, slightly compact, brittle in about 40 percent of the volume; few faint clay films on faces of peds; common faint light brownish gray (10YR 6/2) iron depletions; very strongly acid.

Range in Characteristics

Solum thickness: More than 60 inches
Reaction: Very strongly acid or strongly acid, except the surface layer in areas that have been limed
Distinctive features: Fragipan at a depth of 9 to 26 inches

A horizon:
Color—hue of 10YR, value of 3 or 4, and chroma of 1 or 2
Texture—fine sandy loam

E horizon:
Color—hue of 10YR, value of 6, and chroma of 2 to 4
Texture—fine sandy loam

Bt horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 4 to 6; or no dominant color and shades of gray and brown
Texture—loam or sandy loam
Redoximorphic features—iron depletions in shades of gray and masses of iron accumulation in shades of red, brown, or yellow

Btx horizon (upper part):
Color—hue of 10YR and value and chroma of 4 to 6, or no dominant color and shades of brown, gray, or red
Texture—loam
Redoximorphic features—iron depletions in shades of gray and masses of iron accumulation in shades of red, brown, or yellow

Btx horizon (lower part):
Color—hue of 10YR, value of 5 to 7, and chroma of 4 to 6
Texture—loam
Redoximorphic features—iron depletions in shades of gray and masses of iron accumulation in shades of red, brown, or yellow

Susquehanna Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Very slow
Parent material: Marine and stream deposits of silty clay and clay
Landscape: Coastal Plain
Landform: Uplands
Landform position: Summits and ridges
Slope range: 2 to 15 percent
Taxonomic class: Fine, smectitic, thermic Vertic Paleudalfs

Susquehanna soils are commonly associated on the landscape with Freest, Benndale, and Lorman soils. The moderately well drained Freest soils are on summits and ridges and have a fine-loamy control section. The well drained Benndale soils are on ridges and have a coarse-loamy control section. The moderately well drained Lorman soils are on hillslopes and have a solum that is less than 60 inches thick.

Typical Pedon

Susquehanna fine sandy loam, 2 to 5 percent slopes; 11 miles south of New Augusta on Mississippi Highway 29, east 5.5 miles on U.S. Forest Service Road 385, south 2 miles on U.S. Forest Service Road 315, west 0.5 mile on logging road to section line; SW $^1/_4$SW$^1/_4$ sec. 16, T. 1 N., R. 9 W.; USGS Taylor Hill topographic quadrangle; lat. 31 degrees 02 minutes 34 seconds N. and long. 88 degrees 52 minutes 31 seconds W.

A—0 to 4 inches; brown (10YR 4/3) fine sandy loam; weak fine granular structure; very friable; common fine and few medium and coarse roots; strongly acid; abrupt smooth boundary.

E—4 to 7 inches; brown (10YR 5/3) loam; weak fine subangular blocky structure; very friable; common fine and few medium and coarse roots; strongly acid; abrupt smooth boundary.

Bt1—7 to 16 inches; yellowish red (5YR 5/6) clay; moderate fine subangular blocky structure; very firm; common fine and few medium roots; common distinct clay films on vertical and horizontal faces of peds; strongly acid; gradual wavy boundary.

Bt2—16 to 23 inches; reddish brown (2.5YR 5/4) clay; moderate fine subangular blocky structure; very firm; few fine roots; common distinct clay films on vertical and horizontal faces of peds; common medium prominent yellowish red (5YR 5/6) masses of iron accumulation; common medium prominent light brownish gray (10YR 6/2) iron depletions; very strongly acid; clear wavy boundary.

Btss1—23 to 37 inches; light gray (2.5Y 7/2) clay; moderate fine subangular blocky structure; very firm; few fine roots; common faint clay films on faces of peds; common nonintersecting striated slickensides; few rounded soft masses of iron-manganese; common medium prominent red (2.5YR 4/6) and few medium prominent strong brown (7.5YR 5/8) masses of iron accumulation; very strongly acid; gradual smooth boundary.

Btss2—37 to 64 inches; light gray (2.5Y 7/2) clay; moderate fine subangular blocky structure; very firm; few fine roots; common faint clay films on faces of peds; common nonintersecting grooved and tongued slickensides, 4 to 8 inches across, at 35 to 55 degree inclinations; common medium prominent red (2.5YR 4/6) and few medium prominent strong brown (7.5YR 5/8) masses of iron accumulation; very strongly acid; gradual smooth boundary.

Btss3—64 to 79 inches; light gray (2.5Y 7/2) silty clay; weak medium subangular blocky structure; very firm; common distinct clay films on faces of peds; few distinct nonintersecting slickensides; few medium prominent strong brown (7.5YR 5/8) masses of iron accumulation; very strongly acid; gradual smooth boundary.

Btss4—79 to 86 inches; light gray (2.5Y 7/2) silty clay; weak medium subangular blocky structure; firm; common distinct clay films on faces of peds; few nonintersecting slickensides; few prominent black (10YR 2/1) masses of manganese or iron-manganese accumulation; few coarse prominent strong brown (7.5YR 5/8) masses of iron accumulation; very strongly acid.

Range in Characteristics

Solum thickness: More than 60 inches
Reaction: Very strongly acid throughout, except the surface layer in areas that have been limed
Distinctive features: Few to common fine to coarse, striated, grooved and tongued slickensides in the Btss horizon

A horizon:
Color—hue of 10YR, value of 3 to 5, and chroma of 1 to 3
Texture—fine sandy loam

E horizon:
Color—hue of 10YR or 7.5YR, value of 4 to 6, and chroma of 1 to 4
Texture—fine sandy loam, sandy loam, or loam

Bt horizon:
Color—hue of 2.5YR to 7.5YR, value of 4 or 5, and chroma of 4 to 8
Texture—clay loam, silty clay, or clay
Redoximorphic features—iron depletions in shades of gray and masses of iron accumulation in shades of red, brown, or yellow

Btss horizon:
Color—hue of 5Y or 2.5Y, value of 4 to 7, and chroma of 1 to 8
Texture—clay loam, silty clay, or clay
Redoximorphic features—iron depletions in shades of gray and masses of manganese and iron accumulation in shades of red, brown, or yellow

Trebloc Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderately slow
Parent material: Moderately fine textured fluvial sediments
Landscape: Coastal Plain
Landform: Low stream terraces
Landform position: Broad concave areas and narrow drainageways
Slope range: 0 to 2 percent
Taxonomic class: Fine-silty, siliceous, active, thermic Typic Paleaquults

Trebloc soils are commonly associated on the landscape with Bibb, Harleston, Prentiss, Quitman, and Stough soils. The poorly drained Bibb soils are in positions similar to those of the Trebloc soils and have a coarse-loamy control section. The moderately well drained Harleston soils are in the higher positions and have a coarse-loamy control section. The moderately well drained Prentiss soils are in the higher positions and have a coarse-loamy control section with a

fragipan. The somewhat poorly drained Quitman soils are in positions similar to those of the Trebloc soils and have a fine-loamy control section. The somewhat poorly drained Stough soils are in the slightly higher positions and have a coarse-loamy control section that has fragic properties.

Typical Pedon

Trebloc silt loam, 0 to 1 percent slopes, frequently flooded; 6.5 miles north of Old Augusta on Buck Creek Road, 1.5 miles east-southeast on paved road, 50 feet east of the road; SW$^1/_4$NE$^1/_4$ sec. 17, T. 4 N., R. 10 W.; USGS New Augusta topographic quadrangle; lat. 31 degrees 18 minutes 37 seconds N. and long. 89 degrees 01 minute 08 seconds W.

A—0 to 5 inches; dark grayish brown (10YR 4/2) silt loam; weak medium granular structure; friable; common fine and medium roots; strongly acid; gradual smooth boundary.

E—5 to 8 inches; grayish brown (10YR 5/2) silt loam; weak medium granular structure; friable; common fine roots; strongly acid; clear smooth boundary.

Btg1—8 to 20 inches; light brownish gray (10YR 6/2) silty clay loam; moderate medium subangular blocky structure; friable; few fine roots; few faint clay films on faces of peds; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation; strongly acid; gradual smooth boundary.

Btg2—20 to 33 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate medium subangular blocky structure; firm; few faint clay films on faces of peds; few distinct silt coatings on peds; common fine distinct yellowish brown (10YR 5/4) masses of iron accumulation; strongly acid; gradual smooth boundary.

Btg3—33 to 48 inches; grayish brown (2.5Y 5/2) silty clay; moderate medium subangular blocky structure; firm; few faint clay films on faces of peds; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation; strongly acid; gradual smooth boundary.

Btg4—48 to 60 inches; grayish brown (2.5Y 5/2) silty clay; moderate coarse angular blocky structure; firm; few faint clay films on faces of peds; common fine distinct brownish yellow (10YR 6/6) masses of iron accumulation; strongly acid.

Range in Characteristics

Solum thickness: More than 60 inches

Reaction: Very strongly acid or strongly acid, except the surface layer in areas that have been limed

Distinctive features: None to many black manganese concretions in the Btg horizon

A or Ap horizon:
- Color—hue of 10YR, value of 4 or 5, and chroma of 1 or 2
- Texture—silt loam

E horizon:
- Color—hue of 10YR, value of 5 or 6, and chroma of 1 or 2
- Texture—fine sandy loam, loam, or silt loam

Btg horizon:
- Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 or 2
- Texture—silty clay or silty clay loam
- Redoximorphic features—iron depletions in shades of gray; masses of iron accumulation in shades of red, brown, or yellow; and black manganese concretions

Wadley Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Sandy and loamy marine sediments
Landscape: Coastal Plain
Landform: Uplands
Landform position: Ridges and hillslopes
Slope range: 0 to 15 percent
Taxonomic class: Loamy, siliceous, subactive, thermic Grossarenic Paleudults

Wadley soils are commonly associated on the landscape with McLaurin and Smithdale soils. The well drained McLaurin soils are on ridges, shoulders, and summits; have a bisequum; and do not have a thick, sandy epipedon. The well drained Smithdale soils are on hillslopes and do not have a thick, sandy epipedon.

Typical Pedon

Wadley fine sand, 0 to 5 percent slopes; about 2.5 miles north of the Stone County line on Mississippi Highway 29, east 0.75 mile on paved county road, 500 feet east then 50 feet north of gas pipeline right-of-way; SW$^1/_4$SW$^1/_4$ sec. 19, T. 1 S., R. 10 W.; USGS Bond Pond topographic quadrangle; lat. 30 degrees 57 minutes 02 seconds N. and long. 89 degrees 02 minutes 11 seconds W.

A—0 to 8 inches; brown (10YR 5/3) fine sand; weak fine granular structure; very friable; common fine

and medium and few coarse roots; very strongly acid; gradual smooth boundary.

E1—8 to 19 inches; very pale brown (10YR 7/4) sand; single grained; loose; common medium roots; very strongly acid; gradual smooth boundary.

E2—19 to 31 inches; very pale brown (10YR 8/4) sand; single grained; loose; few fine and medium roots; very strongly acid; clear smooth boundary.

E3—31 to 50 inches; very pale brown (10YR 7/4) sand; lamella about 0.5 to 1 centimeter thick; weak medium subangular blocky structure; very friable; few fine and medium roots; few pockets of very pale brown (10YR 8/3) uncoated sand having charcoal fragments; few dark yellowish brown (10YR 4/4) stains along root channels; strongly acid; abrupt smooth boundary.

Bt1—50 to 65 inches; yellowish red (5YR 5/8) sandy loam; weak medium subangular blocky structure; very friable; common fine and medium roots; few faint clay bridges between sand grains; very strongly acid; gradual wavy boundary.

Bt2—65 to 74 inches; yellowish red (5YR 5/8) sandy loam; weak medium subangular blocky structure; very friable; common fine roots; few faint clay bridges between sand grains; very strongly acid; gradual wavy boundary.

Bt3—74 to 85 inches; reddish yellow (5YR 6/8) sandy loam; weak medium subangular blocky structure; very friable; common fine and few medium roots; pockets of reddish yellow (7.5YR 7/8) loamy sand 0.5 to 8 centimeters in diameter; few faint clay bridges between sand grains; very strongly acid; gradual wavy boundary.

Bt4—85 to 95 inches; yellowish red (5YR 5/6) sandy loam; weak medium subangular blocky structure; very friable; few medium and coarse roots; few faint clay bridges between sand grains; very strongly acid.

Range in Characteristics

Solum thickness: More than 80 inches

Reaction: Very strongly acid to moderately acid, except the surface layer in areas that have been limed

Distinctive features: The combined thickness of the A and E horizons ranges from 40 to 79 inches; lamella or zones of clay enrichment or depletion can occur in the lower part of the E horizon, in the E/Bt horizon (if it occurs), and in the Bt horizon.

A or Ap horizon:

Color—hue of 10YR, value of 3 to 6, and chroma of 2 to 4

Texture—fine sand or sand

E horizon:

Color—hue of 10YR, value of 5 to 8, and chroma of 3 to 5

Texture—sand or loamy sand; none to few lamella in lower part

Bt horizon:

Color—hue of 2.5YR to 10YR, value of 4 to 6, and chroma of 4 to 8

Texture—sandy loam, fine sandy loam, or sandy clay loam

Mottles (if they occur)—shades of red, yellow, and brown

Formation of the Soils

In this section the factors of soil formation are described and related to the soils in Perry County. The processes of horizon development and the geology of the county are also described.

Factors of Soil Formation

Soil is formed through the interaction of five major factors—climate, living organisms, relief, time, and parent material. The kind of soil that develops in a given area is determined by these factors, although the effect of any one factor is difficult to isolate.

Climate

Rainfall and temperature have been important in soil formation in Perry County. Summers are hot, and winters are mild. Annual rainfall averages 63 inches over most of the county.

The warm temperatures have limited the accumulation of organic matter and allowed for the development of microorganisms and the deep penetration of plant roots. High rainfall over time has resulted in chemical weathering of soils in stable, upland landscape positions. Most of these soils have had most of the bases leached out of the solum, resulting in predominantly siliceous mineralogy and strongly or very strongly acid soils that have low natural fertility.

Patterns of rainfall distribution cause soils to be alternately wet and dry. Clay particles in the surface layer detach as water moves through a soil. This creates a layer of excessive leaching that consists almost entirely of quartz sand and silt grains. The clay particles are deposited in lower layers as the water slows. As the clay accumulates the water moves even slower, the deposition of the clay accelerates, and the lower layers become more clayey.

Living Organisms

Plants, animals, earthworms, insects, and microorganisms have an important effect on the formation of soils. Living organisms are largely responsible for the amount of organic matter and nitrogen in the soils, for gains or losses in plant nutrients, and for changes in soil structure and porosity.

Vegetation, mainly hardwoods and pine trees in Perry County, have an effect on soil formation. Trees recycle plant nutrients by sending roots deep into the soils. As leaves and woody parts decay on the surface, the nutrients are slowly released to other plants.

Earthworms, crayfish, insects, and burrowing animals, such as the gopher tortoise, mix soil layers and increase the rate of downward movement of air, water, and plant roots into the soil.

Bacteria, molds, and fungi break down organic matter, improving the structure, fertility, and tilth of the soil.

People have a profound influence on the soils in Perry County. The removal of plant cover during farming or logging increases runoff and the rate of erosion. Also, human manipulation of the land surface may change the frequency and duration of flooding.

Relief

Relief, or topography, affects soil formation through its influence on drainage, erosion, and plant cover. Slope influences how rapidly water runs off or soaks into the soil. The development of the soil profile and the amount of leaching in the profile depend on the amount of water that enters the soil. Soils that are nearly level or gently sloping, such as Lucedale and McLaurin soils, have a very deep profile because most of the rainfall percolates through the soil. Steep soils, such as Smithdale and Lorman soils, have more runoff and less percolation, resulting in a relatively shallow profile. The hazard of erosion is greater in steeper areas because of the increased runoff. In some parts of the county, the landscape is flat to concave. In these areas, water is ponded or runs off very slowly and the soils can have a thick surface layer of humified organic matter.

Time

Soil characteristics and properties are determined by the length of time that soil forming factors have

been active. Thousands of years may be required for the formation of well defined genetic horizons.

Genetically, the soils of Perry County range from young to very old. Differences in age can be noted in the profile development of the soils. The youngest soils are those on flood plains where sediments have been deposited in recent times. Soils on stream terraces are older and more developed than those on flood plains. The oldest soils are those in the stable upland positions. Over time, profound differences in soil characteristics are determined by subtle differences in the upland landscape. Seemingly small differences in topography create increasingly magnified differences within the soil profile as time passes.

Parent Material

Parent material is the unconsolidated organic and mineral matter in which a soil forms. It determines the chemical and mineral composition of the soil. Soils in Perry County formed in Miocene-aged sediments of the Hattiesburg Formation, Pliocene-aged sediments of the Citronelle Formation, and reworked sediments of recent age.

Susquehanna and Lorman soils formed in sediments of the Hattiesburg Formation. These sediments are stratified clays and silts of marine or nonmarine origin.

McLaurin, Heidel, Smithdale, Benndale, Lucedale, and Savannah soils formed in loamy sediments of the Citronelle Formation. Wadley soils formed in dominantly sandy sediments of the Citronelle Formation. Freest soils formed in loamy sediments overlying clayey sediments.

Other soils formed in material deposited during the Quaternary geologic period. The Quaternary period is divided into the Pleistocene and Recent ages. Alluvial sediments deposited during the Pleistocene age are on ancient stream terraces above present-day flood plains. Annemaine, Cahaba, Quitman, and Trebloc soils formed in clayey and loamy alluvial sediments on stream terraces. Bassfield, Harleston, Latonia, Prentiss, and Stough soils formed in loamy and sandy alluvial sediments on stream terraces.

Bibb, Bigbee, Ouachita, and Jena soils formed in sandy and loamy alluvial sediments on flood plains and have little horizon development. Croatan and Dorovan soils formed in thick deposits of organic matter on stream terraces and narrow drainageways.

Processes of Horizon Development

This section briefly describes horizon nomenclature and the processes of horizon development. The interaction of the five soil forming factors are recorded in the soil profile. Generally, a soil profile shows a succession of layers, or horizons, from the surface down to the parent material. The horizons differ from one another in one or more properties, such as thickness, color, texture, structure, consistency, porosity, and reaction.

Most profiles consist of three major horizons, which are designated A, B, and C. The A horizon is the surface layer, the B horizon is the subsoil layer, and the C horizon is the parent material or the substratum layer. Some young soils do not have a B horizon. Several processes are involved in the formation of these horizons. In Perry County, the most significant processes are leaching of bases, accumulation of organic matter, and formation, alteration, and translocation of silicate clay minerals.

Most of the organic matter in a soil accumulates in the A horizon. Soils in Perry County range from low to high in content of organic matter. Alaga soils have a sandy A horizon that is low in organic matter. Dorovan and Croatan soils have a surface layer that is composed mainly of organic matter and that contains very little mineral matter.

Between the A and B horizons, most of the soils in the county have a subsurface layer that has been leached of most silicate clay and sesquioxide minerals. This layer consists primarily of quartz and is designated an E horizon. Wadley soils have a relatively thick E horizon.

The B horizon lies below the A or E horizon. The B horizon is either a layer of accumulation of silicate clay or sesquioxide minerals translocated from overlying horizons or a layer that shows evidence of alteration and structural development but no translocation or accumulation. A B horizon that has an accumulation of silicate clay is designated a Bt horizon. It commonly is firmer and has blocky structure. The McLaurin and Smithdale soils have a distinct Bt horizon. A subsurface layer that shows structural development but does not have an accumulation of clay is designated a Bw horizon.

Some soils have a B horizon that has an accumulation of silicate clay and is very dense and brittle. This layer is designated a Btx horizon or a fragipan. The layer is so dense and compact that plant roots cannot penetrate the greater part of the soil volume in the layer. The formation of this layer is not fully understood. In Perry County, fragipans apparently form at the contact between different types of parent material. The Savannah soil has a distinct Btx horizon.

Another significantly different type of B horizon has nodular concentrations of iron oxides. When exposed to several cycles of wetting and drying, these brittle

nodules irreversibly harden into ironstone fragments. This feature is called plinthite, and a horizon that has plinthite is designated by the symbol Btv. In Perry County, plinthite is intermittent and apparently forms where water percolating throughout the profile is arrested by a less permeable layer. Malbis soils have a distinct Btv horizon.

The C horizon has been influenced relatively little by soil forming processes, but it can consist of material modified by weathering. Bibb and Bigbee soils have a C horizon directly below the A horizon.

Geology

Richard L. Bowen, Ph.D., professor, Department of Geology, University of Southern Mississippi, prepared this section.

Perry County is not covered in a specific manner by a published geological report. About 130 of the 648 square miles in the county were geologically mapped in detail by R.L. Bowen in 1979. This mapping was done in association with studies concerning the potential utility for nuclear waste isolation of the Richton Salt Dome, which is beneath and to the northwest of the town of Richton, and the Cypress Creek Salt Dome, which is in the southern part of the county. This mapping, however, is not readily accessible. Published geologic maps for contiguous counties appear in the reports for Forrest County, George County, and Wayne County *(4, 7, 17)*. Jones County and Greene County have not yet been mapped geologically.

Physiography

All of Perry County lies within the extensive Piney Woods Physiographic Province, which extends from Louisiana to Alabama. This province features low relief (up to 300 feet) and rolling hills underlain by dominantly clayey to sandy, weakly indurated, late Cenozoic sediments. Well developed, broad stream valleys that have extensive bottom lands and flood plains constitute a little less than one-third of the total area of Perry County.

Topography

Elevation in Perry County varies from slightly below 60 feet where the Leaf River crosses the eastern border of the county to 384 feet at the western border of the county in Camp Shelby. Hilltop flatlands are scattered in all divide areas. Locally these flats, which are remnants of a formerly continuous, nearly horizontal surface, are up to 4 square miles in size and are undistorted. In some areas, these upland flats include closed, undrained depressions. The largest of these depressions, which is more than 30 acres in size, is about 5 miles south-southwest of Richton. The origin of these shallow, saucerlike features is much disputed. The depressions occur in more places and in larger sizes in counties south and east of Perry County.

Locally flat, steplike, stream-cut terrace remnants occur along the valley walls of Bogue Homo Creek and Thompson's Creek. Such features are present, but less well preserved, on the valley walls along the Leaf River. Valley floors vary in width from less than one-half mile in the upper reaches of Thompson's Creek to more than one mile along Bogue Homo Creek. They are as much as three miles wide along the Leaf River, which is the major stream into which all others ultimately drain. Low terraces occur on the valley floors along all major streams. They typically mark the limits of prolonged flooding. The terraces on valley floors are characteristically erosional features, commonly with less than 10 inches of "terrace deposits" on top of substrate. For unknown reasons, stream drainage networks in Perry County are about twice as well developed north of the Leaf River as they are south of the river.

Surface Geologic Units

Hattiesburg Formation (Miocene). Across much of Perry County, this geologic unit constitutes the substrate under the hills and beneath large portions of the valley floors. It consists mostly of light bluish gray to medium olive silty to clayey deposits, which are commonly best described as lutites. A few lenses and beds of fine sand and a few sections of plastic or swelling clays are scattered through the unit in Perry County. The total thickness of the unit is more than 200 feet. Lenses of sand that have up to 15 percent gravel are in scattered areas in this formation. They are perhaps best developed in the east valley wall along Bogue Homo Creek. Except where the sandy beds are present, this deposit is essentially impermeable and is subject to sheet wash during storms. The Hattiesburg Formation is a nonmarine deposit. In some places it contains a small amount of charcoal debris and petrified wood, which is rarely preserved in such condition as to permit identification of the type of tree.

Citronelle Formation (?Late Miocene to Mid-Pliocene). This formation consists of poorly indurated sands and gravels that lie upon an irregular, hilly surface developed on the Hattiesburg Formation. Areas in Perry County vary in thickness from less than 1 foot to more than 150 feet. Some locally developed lenses of silty to clayey deposits occur within the Citronelle

Formation. Much more commonly, however, lenses of gravel (up to 3 inches in diameter) constitute an important variant. The lenses are up to 60 feet in thickness. Concretionary units (up to 6 inches thick) of secondarily deposited iron oxides, sometimes called "hardpan or ironstone," occur commonly at the Citronelle-Hattiesburg contact and occasionally at horizons at which either particle size or unit permeability change sharply within the dominantly sandy Citronelle.

The Citronelle Formation lacks diagnostic fossils. However, a petrified tree trunk was found in the formation at a site three miles south-southeast of Ovett. The tree trunk was more than 15 meters in length and more than 1 meter in diameter at the base. The geologic unit accumulated as a complex of sand and gravel and over bank deposits made by a collection of frequently migrating streams. When the accumulation ceased, the formation's upper surface (now preserved as the flat erosional remnants described above) was part of an enormous alluvial plain, which then extended over much of Mississippi and states to the east. These sandy deposits commonly are stained in shades of red, orange, and yellow. The stains were produced by deposition of iron oxides as water migrated down through the highly permeable sediments.

Alluvium (Late Quaternary). The stream systems now present in Perry County became established as a consequence of erosion following Quaternary uplift and warping. Thus, the modern drainage net is completely unrelated to the stream systems of the former alluvial plain complex of the Citronelle Formation. Valley wall terraces formed as a consequence of alternating accelerated and slowed erosion resulting from alternating glacial and interglacial periods during the recent Pleistocene Ice Ages. Only in the parts of the valley of Bogue Homo Creek and Thompson's Creek near their confluence with the Leaf River and along the valley of the Leaf River itself are thick deposits of modern, active alluvium present. This alluvium is largely constituted of sand and gravel. Thin veneers of active alluvium also occur along the lower courses of the larger tributaries of these principal streams.

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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.

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alluvial cone. The material washed down the sides of mountains and hills by ephemeral streams and deposited at the mouth of gorges in the form of a moderately steep, conical mass descending equally in all directions from the point of issue.

Alluvial fan. The fanlike deposit of a stream where it issues from a gorge upon a plain or of a tributary stream near or at its junction with its main stream.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Alpha,alpha-dipyridyl. A dye that when dissolved in 1N ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction indicates a type of redoximorphic feature.

Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Arroyo. The flat-floored channel of an ephemeral stream, commonly with very steep to vertical banks cut in alluvium.

Aspect. The direction in which a slope faces.

Association, soil. A group of soils or miscellaneous areas 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:

Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	more than 12

Backslope. The geomorphic component that forms the steepest inclined surface and principal element of many hillsides. Back slopes in profile are commonly steep, are linear, and may or may not include cliff segments.

Basal area. The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Bedding planes. Fine strata, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediment.

Bedding system. A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bedrock-controlled topography. A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.

Bisequum. Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Bottom land. The normal flood plain of a stream, subject to flooding.

Breaks. The steep and very steep broken land at the border of an upland summit that is dissected by ravines.

Breast height. An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.

Brush management. Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

Butte. An isolated small mountain or hill with steep or precipitous sides and a top variously flat, rounded, or pointed that may be a residual mass isolated by erosion or an exposed volcanic neck.

Cable yarding. A method of moving felled trees to a nearby central area for transport to a processing facility. Most cable yarding systems involve use of a drum, a pole, and wire cables in an arrangement similar to that of a rod and reel used for fishing. To reduce friction and soil disturbance, felled trees generally are reeled in while one end is lifted or the entire log is suspended.

Canopy. The leafy crown of trees or shrubs. (See Crown.)

Canyon. A long, deep, narrow, very steep sided valley with high, precipitous walls in an area of high local relief.

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.

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.

Chemical treatment. Control of unwanted vegetation through the use of chemicals.

Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Cirque. A semicircular, concave, bowllike area that has steep faces primarily resulting from glacial ice and snow abrasion.

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 depletions. Low-chroma zones having a low content of iron, manganese, and clay because of the chemical reduction of iron and manganese and the removal of iron, manganese, and clay. A type of redoximorphic depletion.

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.

Coarse textured soil. Sand or loamy sand.

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.

Conglomerate. A coarse grained, clastic rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."

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.

Coppice dune. A small dune of fine grained soil material stabilized around shrubs or small trees.

Corrosion. Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

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.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cross-slope farming. Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Cuesta. A hill or ridge that has a gentle slope on one side and a steep slope on the other; specifically, an asymmetric, homoclinal ridge capped by resistant rock layers of slight or moderate dip.

Culmination of the mean annual increment (CMAI). The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Delta. A body of alluvium having a surface that is nearly flat and fan shaped; deposited at or near the mouth of a river or stream where it enters a body of relatively quiet water, generally a sea or lake.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Desert pavement. On a desert surface, a layer of gravel or larger fragments that was emplaced by upward movement of the underlying sediments or that remains after finer particles have been removed by running water or the wind.

Dip slope. A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Divided-slope farming. A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the "Soil Survey Manual."

Drainage, surface. Runoff, or surface flow of water, from an area.

Draw. A small stream valley that generally is more open and has broader bottom land than a ravine or gulch.

Duff. A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

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.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Ephemeral stream. A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation. A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

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 human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Synonym: scarp.

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.

Fan terrace. A relict alluvial fan, no longer a site of active deposition, incised by younger and lower alluvial surfaces.

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*.

Fill slope. A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

Fine textured soil. Sandy clay, silty clay, or clay.

Firebreak. Area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

First bottom. The normal flood plain of a stream, subject to frequent or occasional flooding.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Fluvial. Of or pertaining to rivers; produced by river action, as a fluvial plain.

Foothill. A steeply sloping upland that has relief of as much as 1,000 feet (300 meters) and fringes a mountain range or high-plateau escarpment.

Footslope. The inclined surface at the base of a hill.

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type. A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Fragipan. A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Graded stripcropping. Growing crops in strips that grade toward a protected waterway.

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 as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water. Water filling all the unblocked pores of the 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.

Hard bedrock. Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.

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.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill. A natural elevation of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline; hillsides generally have slopes of more than 15 percent. The distinction between a hill and a mountain is arbitrary and is dependent on local usage.

Hillslope. A generic term for the steeper part of the hill between its summit and the drainage line, valley flat, or depression floor at the base of the hill *(5)*.

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 uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions 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.

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.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

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 underlying 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.

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 overlying soil material. 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, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it 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 potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock. Rock formed by solidification from a molten or partially molten state. Major varieties include plutonic and volcanic rock. Examples are andesite, basalt, and granite.

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.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Increasers. Species in the climax vegetation that

increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

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 capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

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.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Intermittent stream. A stream, or reach of a stream, that flows for prolonged periods only when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Iron depletions. Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are:

Basin.—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Border.—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation.—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow.—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation.—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding.—Water, released at high points, is allowed to flow onto an area without controlled distribution.

Knoll. A small, low, rounded hill rising above adjacent landforms.

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-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Low strength. The soil is not strong enough to support loads.

Marl. An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal amounts.

Masses. Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Mesa. A broad, nearly flat topped and commonly isolated upland mass characterized by summit widths that are more than the heights of bounding erosional scarps.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. An area that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

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. 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).

Mountain. A natural elevation of the land surface, rising more than 1,000 feet above surrounding lowlands, commonly of restricted summit area (relative to a plateau) and generally having steep sides. A mountain can occur as a single, isolated mass or in a group forming a chain or range.

Muck. Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Mudstone. Sedimentary rock formed by induration of silt and clay in approximately equal amounts.

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Natric horizon. A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules. Cemented bodies lacking visible internal structure. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up nodules. If formed in place, nodules of iron oxide or manganese oxide are considered types of redoximorphic concentrations.

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. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low	1.0 to 2.0 percent
Moderate	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high	more than 8.0 percent

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan*.

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.

Pedisediment. A thin layer of alluvial material that mantles an erosion surface and has been transported to its present position from higher lying areas of the erosion surface.

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 affects the specified use.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as “saturated hydraulic conductivity,” which is defined in the “Soil Survey Manual.” In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as “permeability.” Terms

describing permeability, measured in inches per hour, are as follows:

Extremely slow	0.0 to 0.01 inch
Very slow	0.01 to 0.06 inch
Slow	0.06 to 0.2 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 series based on features that affect its use and management, such as slope, stoniness, and flooding.

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.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plateau. An extensive upland mass with relatively flat summit area that is considerably elevated (more than 100 meters) above adjacent lowlands and separated from them on one or more sides by escarpments.

Playa. The generally dry and nearly level lake plain that occupies the lowest parts of closed depressional areas, such as those on intermontane basin floors. Temporary flooding occurs primarily in response to precipitation and runoff.

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.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poor filter (in tables). Because of rapid or very rapid permeability, the soil may not adequately filter effluent from a waste disposal system.

Poorly graded. Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Poor outlets (in tables). Refers to areas where surface or subsurface drainage outlets are difficult or expensive to install.

Potential native plant community. See Climax plant community.

Potential rooting depth (effective rooting depth). Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

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.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

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 degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly 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

Red beds. Sedimentary strata that are mainly red and are made up largely of sandstone and shale.

Redoximorphic concentrations. Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

Redoximorphic depletions. Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.

Redoximorphic features. Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

Reduced matrix. A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

Relief. The elevations or inequalities of a land surface, considered collectively.

Rill. A steep-sided channel resulting from accelerated erosion. A rill generally is a few inches deep and not wide enough to be an obstacle to farm machinery.

Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Rooting depth (in tables). Shallow root zone. The soil is shallow over a layer that greatly restricts roots.

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.

Sandstone. Sedimentary rock containing dominantly sand-sized particles.

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.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Scarification. The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

Second bottom. The first terrace above the normal flood plain (or first bottom) of a river.

Seepage (in tables). The movement of water through the soil. Seepage adversely affects the specified use.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shrink-swell (in tables). 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.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

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.

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.

Slope (in tables). Slope is great enough that special practices are required to ensure satisfactory performance of the soil for a specific use.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

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 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

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, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

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).

Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

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 E horizon. Generally refers to a leached horizon lighter in color and lower in content of organic matter than the overlying surface layer.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the 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."

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Talus. Fragments of rock and other soil material accumulated by gravity at the foot of cliffs or steep slopes.

Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

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 generally is 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.

Toeslope. The outermost inclined surface at the base of a hill; part of a footslope.

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.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Unstable fill (in tables). Risk of caving or sloughing on banks of fill material.

Upland. Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Water bars. Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

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.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.

Tables

Table 1.--Temperature and Precipitation

(Recorded in the period 1958-87 at Richton, Mississippi.)

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		In
January-----	57.6	32.3	45.0	77	9	59	5.52	3.24	7.54	8	0.2
February----	62.2	35.4	48.8	81	15	95	5.71	3.00	8.08	7	0.1
March-------	70.1	42.9	56.5	85	22	239	6.27	3.68	8.57	7	0.0
April-------	78.2	50.9	64.6	90	31	438	5.07	1.81	7.77	6	0.1
May---------	84.1	58.1	71.1	93	38	654	4.56	2.20	6.60	6	0.0
June--------	90.1	64.6	77.4	98	49	822	4.10	1.96	5.94	7	0.0
July--------	92.2	68.0	80.1	99	59	933	6.34	3.57	8.80	10	0.0
August------	91.3	67.5	79.4	98	58	911	5.14	3.11	6.96	8	0.0
September---	87.6	62.6	75.1	96	43	753	4.54	2.00	6.70	6	0.0
October-----	79.4	49.8	64.6	92	28	453	3.29	.69	5.35	4	0.0
November----	69.8	41.3	55.6	85	20	209	4.43	1.91	6.57	6	0.0
December----	61.7	35.5	48.6	80	13	109	5.62	3.07	7.87	7	0.0
Yearly:											
Average---	77.0	50.7	63.9	---	---	---	---	---	---	---	---
Extreme---	---	---	---	100	9	---	---	---	---	---	---
Total-----	---	---	---	---	---	5,675	60.59	49.78	71.33	82	0.4

* 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 degrees F).

Table 2.--Freeze Dates in Spring and Fall

(Recorded in the period 1958-87 at Richton, Mississippi.)

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--	Mar. 17	Apr. 3	Apr. 9
2 years in 10 later than--	Mar. 11	Mar. 28	Apr. 5
5 years in 10 later than--	Feb. 26	Mar. 16	Mar. 27
First freezing temperature in fall:			
1 year in 10 earlier than--	Nov. 11	Oct. 24	Oct. 17
2 years in 10 earlier than--	Nov. 18	Oct. 30	Oct. 22
5 years in 10 earlier than--	Dec. 2	Nov. 11	Oct. 31

Table 3.--Growing Season

(Recorded in the period 1958-87 at Richton, Mississippi.)

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	249	214	199
8 years in 10	259	223	205
5 years in 10	278	240	217
2 years in 10	297	257	229
1 year in 10	309	267	236

Table 4.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
Al	Alaga loamy sand, 0 to 2 percent slopes	1,066	0.3
AT	Atmore soils, 0 to 2 percent slopes	2,148	0.5
BaA	Bassfield fine sandy loam, 0 to 2 percent slopes, rarely flooded	5,674	1.4
BdB	Benndale fine sandy loam, 2 to 5 percent slopes	11,451	2.8
BdC	Benndale fine sandy loam, 5 to 8 percent slopes	5,286	1.3
BhD	Benndale-Smithdale complex, 8 to 15 percent slopes	52,489	12.6
Bk	Bibb silt loam, 0 to 1 percent slopes, frequently flooded	5,004	1.2
BM	Bibb and Trebloc soils, 0 to 1 percent slopes, frequently flooded	11,667	2.8
Bn	Bigbee loamy sand, 0 to 2 percent slopes, occasionally flooded	7,783	1.9
Ca	Cahaba-Annemaine complex, 0 to 2 percent slopes, rarely flooded	15,089	3.6
CLB	Cahaba, Latonia, and Bassfield soils, 0 to 2 percent slopes, occasionally flooded	8,041	1.9
DO	Dorovan and Croatan soils, ponded	4,136	1.0
FeC	Freest fine sandy loam, 2 to 5 percent slopes	12,067	2.9
HaA	Harleston fine sandy loam, 0 to 2 percent slopes	4,554	1.1
HeF	Heidel fine sandy loam, 15 to 25 percent slopes	8,217	2.0
Ht	Harleston-Trebloc complex, 0 to 2 percent slopes, flooded	8,965	2.2
LaA	Latonia loamy sand, 0 to 2 percent slopes, rarely flooded	5,382	1.3
LoF	Lorman silt loam, 15 to 40 percent slopes	4,641	1.1
LsD	Lorman-Freest-Susquehanna complex, 5 to 12 percent slopes	40,025	9.6
LuA	Lucedale loam, 0 to 2 percent slopes	930	0.2
MA	Irvington fine sandy loam, 0 to 5 percent slopes	3,747	0.9
MB	McLaurin and Benndale soils, 0 to 5 percent slopes	34,670	8.3
McA	McLaurin fine sandy loam, 0 to 2 percent slopes	3,763	0.9
McB	McLaurin fine sandy loam, 2 to 5 percent slopes	22,669	5.4
McC	McLaurin fine sandy loam, 5 to 8 percent slopes	10,002	2.4
Oa	Ouachita-Jena complex, 0 to 1 percent slopes, frequently flooded	12,388	3.0
Ph	Pits-Udorthents complex	168	*
PrA	Prentiss fine sandy loam, 0 to 2 percent slopes	19,299	4.6
PrB	Prentiss fine sandy loam, 2 to 5 percent slopes	6,749	1.6
SaB	Savannah fine sandy loam, 2 to 5 percent slopes	4,910	1.2
SmE	Smithdale fine sandy loam, 8 to 15 percent slopes	32,658	7.8
SoA	Stough fine sandy loam, 0 to 2 percent slopes, rarely flooded	6,572	1.6
SsB	Susquehanna fine sandy loam, 2 to 5 percent slopes	5,013	1.2
ST	Susquehanna and Freest soils, 2 to 5 percent slopes	7,838	1.9
Tr	Trebloc silt loam, 0 to 1 percent slopes, frequently flooded	14,072	3.4
Ts	Trebloc-Quitman complex, 0 to 2 percent slopes, rarely flooded	8,586	2.1
WdC	Wadley fine sand, 0 to 5 percent slopes	2,456	0.6
WdE	Wadley fine sand, 5 to 15 percent slopes	1,980	0.5
	Water	4,245	1.0
	Total	416,400	100.0

* Less than 0.1 percent.

Table 5.--Land Capability Classes and 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	Land capability	Cotton lint	Corn	Soybeans	Wheat	Common bermuda-grass	Bahiagrass
		Lbs	Bu	Bu	Bu	AUM*	AUM*
Al---------- Alaga	IIIs	450	60	20	30	6.5	7.0
At---------- Atmore	IVw	400	40	20	30	6.5	6.0
BaA---------- Bassfield	IIs	600	75	30	35	9.0	8.5
BdB---------- Benndale	IIe	600	75	30	40	9.5	8.5
BdC---------- Benndale	IIIe	550	70	25	30	8.0	8.0
BhD:							
Benndale-------	VIe	450	58	22	30	7.5	7.7
Smithdale------	VIe	---	---	---	---	7.5	7.7
Bk---------- Bibb	Vw	---	---	---	---	---	8.0
BM---------- Bibb and Trebloc	Vw	---	---	---	---	---	6.5
Bn---------- Bigbee	IIIs	450	50	20	30	7.0	7.5
Ca:							
Cahaba---------	I	800	100	36	40	9.0	9.0
Annemaine------	IIw	750	85	30	40	8.0	9.0
CLB:							
Cahaba---------	IIw	700	76	31	40	9.0	8.5
Latonia--------	IIs	650	60	25	35	8.5	8.5
Bassfield------	IIs	600	75	30	35	9.0	8.5
DO---------- Dorovan and Croatan	VIIw	---	---	---	---	---	---
FeC---------- Freest	IIe	400	40	25	35	6.0	6.0
HaA---------- Harleston	IIw	750	90	35	35	10.0	9.0
HeF---------- Heidel	VIIe	---	---	---	---	5.0	5.0

See footnote at end table.

Table 5.--Land Capability Classes and Yields per Acre of Crops and Pasture--Continued

Soil name and map symbol	Land capability	Cotton lint	Corn	Soybeans	Wheat	Common bermuda-grass	Bahiagrass
		Lbs	Bu	Bu	Bu	AUM*	AUM*
Ht:							
Harleston------	IIw	700	80	32	34	9.0	8.8
Trebloc--------	IIIw	550	60	25	32	8.0	7.2
LaA---------- Latonia	IIs	650	60	25	35	8.5	8.5
LoF---------- Lorman	VIIe	---	---	---	---	5.0	5.5
LsD:							
Lorman---------	VIe	---	---	---	---	6.0	6.5
Freest---------	IIIe	400	35	22	30	6.0	6.0
Susquehanna----	VIe	---	---	---	---	6.0	6.0
LuA---------- Lucedale	I	750	80	40	50	9.0	10.0
MA---------- Irvington	IIe	650	80	35	45	8.0	8.0
MB:							
McLaurin-------	IIe	600	75	27	38	9.0	8.2
Benndale-------	IIe	600	75	30	40	9.5	8.5
McA---------- McLaurin	IIs	650	80	30	35	10.0	9.0
McB---------- McLaurin	IIe	600	75	25	35	9.0	8.0
McC---------- McLaurin	IIIe	550	70	25	35	7.5	7.0
Oa:							
Ouachita-------	IVw	---	---	---	---	5.0	8.0
Jena----------	Vw	---	---	---	---	5.0	7.5
Ph---------- Pits-Udorthents	VIIIs	---	---	---	---	---	---
PrA---------- Prentiss	IIw	750	85	30	40	8.0	9.0
PrB---------- Prentiss	IIe	750	80	30	40	8.0	9.0
SaB---------- Savannah	IIe	650	80	35	40	7.5	9.0
SmE---------- Smithdale	IVe	---	---	---	---	8.0	8.0
SoA---------- Stough	IIw	725	80	25	35	7.0	8.0

See footnote at end of table.

Table 5.--Land Capability Classes and Yields per Acre of Crops and Pasture--Continued

Soil name and map symbol	Land capability	Cotton lint	Corn	Soybeans	Wheat	Common bermuda-grass	Bahiagrass
		Lbs	Bu	Bu	Bu	AUM*	AUM*
SsB---------- Susquehanna	IVe	400	40	20	30	6.5	6.5
ST:							
Susquehanna----	IVe	400	40	22	32	6.0	6.0
Freest---------	IIe	400	40	25	35	6.0	6.0
Tr---------- Trebloc	Vw	---	---	---	---	5.0	7.0
Ts:							
Trebloc--------	IIIw	550	60	25	32	8.0	7.2
Quitman--------	IIw	650	65	30	35	8.5	8.0
WdC---------- Wadley	IIIs	450	55	24	30	6.5	6.0
WdE---------- Wadley	VIs	---	---	---	---	5.5	6.0

* 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.

Table 6.--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: Erosion hazard	Equipment limitation	Seedling mortality	Plant competition	Potential productivity: Common trees	Site index	Volume*	Trees to plant
Al: Alaga	8S	Slight	Moderate	Moderate	Slight	Loblolly pine	80	8	Loblolly pine, slash pine.
						Longleaf pine	70	6	
						Slash pine	80	10	
AT: Atmore	9W	Slight	Severe	Moderate	Severe	Loblolly pine	90	9	Loblolly pine, slash pine, sweetgum.
						Slash pine	90	11	
						Longleaf pine	72	6	
						Sweetgum	---	--	
BaA: Bassfield	9A	Slight	Slight	Slight	Slight	Loblolly pine	90	9	Loblolly pine, cherrybark oak, sweetgum.
						Cherrybark oak	90	8	
						Shortleaf pine	80	9	
						Sweetgum	90	7	
BdB, BdC: Benndale	10A	Slight	Slight	Slight	Moderate	Loblolly pine	94	10	Loblolly pine, slash pine.
						Longleaf pine	79	7	
						Slash pine	94	12	
BhD:									
Benndale	9A	Slight	Slight	Slight	Moderate	Loblolly pine	94	10	Loblolly pine, slash pine.
						Longleaf pine	79	7	
						Slash pine	94	12	
Smithdale	9A	Slight	Slight	Slight	Slight	Loblolly pine	86	9	Loblolly pine, longleaf pine, slash pine.
						Longleaf pine	69	5	
						Slash pine	85	11	
Bk: Bibb	11W	Slight	Severe	Severe	Severe	Loblolly pine	100	11	Loblolly pine, sweetgum, yellow-poplar, eastern cottonwood.
						Sweetgum	90	7	
						Water oak	90	6	
						Blackgum	---	--	
						Yellow-poplar	---	--	
						Atlantic white cedar	---	--	
BM:									
Bibb	11W	Slight	Severe	Severe	Severe	Loblolly pine	100	11	Loblolly pine, sweetgum, yellow-poplar, eastern cottonwood.
						Sweetgum	90	7	
						Water oak	90	6	
						Blackgum	---	--	
						Yellow-poplar	---	--	
						Atlantic white cedar	---	--	
Trebloc	10W	Slight	Moderate	Severe	Severe	Loblolly pine	95	10	Green ash, loblolly pine, Nuttall oak, Shumard oak, sweetgum.
						Sweetgum	90	7	
						Water oak	85	6	
						Willow oak	80	5	
Bn: Bigbee	9S	Slight	Moderate	Moderate	Slight	Loblolly pine	88	9	Loblolly pine.

See footnote at end table.

Table 6.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Plant competition	Potential productivity: Common trees	Site index	Volume*	Trees to plant
Ca:									
Cahaba	9A	Slight	Slight	Slight	Moderate	Loblolly pine	87	9	Loblolly pine, slash pine, sweetgum, water oak.
						Slash pine	91	12	
						Shortleaf pine	70	8	
						Yellow-poplar	---	---	
						Sweetgum	90	7	
						Southern red oak	---	---	
						Water oak	---	---	
Annemaine	9W	Slight	Slight	Slight	Moderate	Loblolly pine	80	8	Yellow-poplar, loblolly pine, slash pine, sweetgum, American sycamore.
						Shortleaf pine	70	8	
						Slash pine	80	10	
						Yellow-poplar	90	6	
						Sweetgum	80	6	
						American sycamore	90	7	
CLB:									
Cahaba	9A	Slight	Slight	Slight	Moderate	Loblolly pine	87	9	Loblolly pine, slash pine, sweetgum, water oak.
						Slash pine	91	12	
						Shortleaf pine	70	8	
						Yellow-poplar	---	---	
						Sweetgum	90	7	
						Southern red oak	---	---	
						Water oak	---	---	
Latonia	9A	Slight	Moderate	Slight	Slight	Loblolly pine	90	9	Loblolly pine, slash pine.
						Longleaf pine	70	6	
						Slash pine	90	11	
Bassfield	9A	Slight	Slight	Slight	Slight	Loblolly pine	90	9	Loblolly pine, cherrybark oak, sweetgum.
						Cherrybark oak	90	8	
						Shortleaf pine	80	9	
						Sweetgum	90	7	
DO:									
Dorovan	7W	Slight	Severe	Severe	--------	Blackgum	70	7	Baldcypress.
						Sweetbay	---	---	
						Baldcypress	---	---	
						Swamp tupelo	---	---	
						Green ash	---	---	
						Red maple	---	---	
						Water tupelo	---	---	
Croatan	6W	Slight	Severe	Severe	Severe	Water tupelo	60	6	Water tupelo, baldcypress.
						Baldcypress	---	---	
						Swamp tupelo	---	---	
						Atlantic white cedar	---	---	
FeC Freest	9W	Slight	Moderate	Slight	Moderate	Loblolly pine	90	9	Loblolly pine, slash pine.
						Shortleaf pine	80	9	
						Slash pine	85	11	
HaA Harleston	9W	Slight	Slight	Slight	Moderate	Loblolly pine	90	9	Loblolly pine, slash pine.
						Shortleaf pine	80	9	
						Sweetgum	75	5	
HeF Heidel	9A	Slight	Slight	Slight	Slight	Loblolly pine	90	9	Loblolly pine, slash pine.
						Shortleaf pine	72	8	
						Slash pine	90	11	

See footnote at end table.

Table 6.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Plant competition	Potential productivity: Common trees	Site index	Volume*	Trees to plant
Ht:									
Harleston	9W	Slight	Slight	Slight	Moderate	Loblolly pine	90	9	Loblolly pine, slash pine.
						Shortleaf pine	80	9	
						Sweetgum	75	5	
Trebloc	10W	Slight	Moderate	Moderate	Severe	Loblolly pine	95	10	Green ash, loblolly pine, Nuttall oak, Shumard oak, sweetgum.
						Sweetgum	90	7	
						Water oak	85	6	
						Willow oak	80	5	
LaA Latonia	9A	Slight	Slight	Slight	Slight	Loblolly pine	90	9	Loblolly pine, slash pine.
						Longleaf pine	70	6	
						Slash pine	90	11	
LoF Lorman	8R	Moderate	Moderate	Slight	Severe	Loblolly pine	80	8	Loblolly pine, shortleaf pine.
						Shortleaf pine	70	8	
LsD:									
Lorman	8C	Slight	Moderate	Slight	Severe	Loblolly pine	80	8	Loblolly pine, shortleaf pine.
						Shortleaf pine	70	8	
Freest	9W	Slight	Moderate	Slight	Moderate	Loblolly pine	90	9	Loblolly pine, slash pine.
						Shortleaf pine	80	9	
						Slash pine	85	11	
Susquehanna	8C	Slight	Moderate	Slight	Slight	Loblolly pine	78	8	Loblolly pine, shortleaf pine.
						Shortleaf pine	68	7	
LuA Lucedale	9A	Slight	Slight	Slight	Slight	Loblolly pine	90	9	Loblolly pine, slash pine.
						Longleaf pine	75	6	
						Slash pine	90	11	
MA Irvington	11W	Slight	Moderate	Slight	Moderate	Slash pine	90	11	Slash pine, loblolly pine, longleaf pine.
						Loblolly pine	90	9	
						Longleaf pine	70	6	
						Sweetgum	90	7	
						Water oak	85	6	
MB:									
McLaurin	9A	Slight	Moderate	Slight	Slight	Loblolly pine	90	9	Loblolly pine, slash pine.
						Longleaf pine	72	6	
						Slash pine	90	11	
Benndale	10A	Slight	Slight	Slight	Moderate	Loblolly pine	94	10	Loblolly pine, slash pine.
						Longleaf pine	79	7	
						Slash pine	94	12	
McA, McB, McC McLaurin	9A	Slight	Moderate	Slight	Slight	Loblolly pine	90	9	Loblolly pine, slash pine.
						Longleaf pine	72	6	
						Slash pine	90	11	

See footnote at end table.

Table 6.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Plant competition	Potential productivity: Common trees	Site index	Volume*	Trees to plant
Oa:									
Ouachita	11W	Slight	Slight	Moderate	Severe	Loblolly pine	100	11	Loblolly pine, eastern cottonwood, cherrybark oak, Nuttall oak, shortleaf pine.
						Sweetgum	100	10	
						Eastern cottonwood	100	9	
						Cherrybark oak	100	10	
Jena	11W	Slight	Severe	Moderate	Moderate	Loblolly pine	100	11	Loblolly pine, slash pine, American sycamore, eastern cottonwood, green ash.
						Sweetgum	90	7	
						Water oak	80	5	
						Slash pine	---	---	
PrA, PrB Prentiss	9W	Slight	Slight	Slight	Moderate	Loblolly pine	88	9	Loblolly pine, slash pine.
						Shortleaf pine	79	9	
						Sweetgum	90	7	
						Cherrybark oak	90	8	
						White oak	80	4	
SaB Savannah	9W	Slight	Moderate	Slight	Moderate	Loblolly pine	88	9	Loblolly pine, slash pine, sweetgum, American sycamore, yellow-poplar.
						Longleaf pine	78	7	
						Slash pine	88	11	
						Sweetgum	85	6	
SmE Smithdale	9A	Slight	Slight	Slight	Slight	Loblolly pine	86	9	Loblolly pine, longleaf pine, slash pine.
						Longleaf pine	69	5	
						Slash pine	85	11	
SoA Stough	9W	Slight	Moderate	Slight	Severe	Loblolly pine	90	9	Loblolly pine, slash pine, sweetgum.
						Cherrybark oak	85	7	
						Slash pine	86	11	
						Sweetgum	85	6	
						Water oak	80	5	
SsB Susquehanna	8C	Slight	Moderate	Slight	Slight	Loblolly pine	78	8	Loblolly pine, shortleaf pine.
						Shortleaf pine	68	7	
ST:									
Susquehanna	8C	Slight	Moderate	Slight	Slight	Loblolly pine	78	8	Loblolly pine, shortleaf pine.
						Shortleaf pine	68	7	
Freest	9W	Slight	Moderate	Slight	Moderate	Loblolly pine	90	9	Loblolly pine, slash pine.
						Shortleaf pine	80	9	
						Slash pine	85	11	
Tr Trebloc	10W	Slight	Moderate	Severe	Severe	Loblolly pine	95	10	Green ash, loblolly pine, Nuttall oak, Shumard oak, sweetgum.
						Sweetgum	90	7	
						Water oak	85	6	
						Willow oak	80	5	

See footnote at end table.

Table 6.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Plant competition	Potential productivity: Common trees	Site index	Volume*	Trees to plant
Ts:									
Trebloc	10W	Slight	Moderate	Moderate	Severe	Loblolly pine	95	10	Green ash, loblolly pine, Nuttall oak, Shumard oak, sweetgum.
						Sweetgum	90	7	
						Water oak	85	6	
						Willow oak	80	5	
Quitman	10W	Slight	Moderate	Slight	Moderate	Loblolly pine	92	10	Loblolly pine, slash pine, sweetgum, American sycamore, yellow-poplar.
						Slash pine	90	11	
						Sweetgum	93	8	
WdC, WdE Wadley	11S	Slight	Moderate	Moderate	Moderate	Slash pine	85	11	Slash pine, longleaf pine, loblolly pine, sand pine.
						Longleaf pine	79	7	
						Loblolly pine	85	8	
						Sand pine	75	4	
						Live oak	---	---	
						Turkey oak	---	---	
						Bluejack oak	---	---	

* Volume is the yield in cubic feet per acre per year calculated at the age of culmination of mean annual increment for fully stocked natural stands.

Table 7.--Woodland Understory Vegetation

(Only the soils suitable for production of commercial trees are listed.)

Soil name and map symbol	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition
		Lb/acre		Pct
Al---------- Alaga	Favorable	---	Pinehill bluestem----------	50
	Normal	800	Threeawn----------	13
	Unfavorable	---	Panicum----------	12
			Running oak----------	6
AT---------- Atmore	Favorable	---		
	Normal	1,000	Slender bluestem----------	30
	Unfavorable	---	Beaked panicum----------	20
			Pinehill bluestem----------	20
BaA---------- Bassfield	Favorable	---	Slender bluestem----------	20
	Normal	1,000	Beaked panicum----------	20
	Unfavorable	---	Pinehill bluestem----------	15
			Little bluestem----------	15
BdB, BdC---------- Benndale	Favorable	---	Pinehill bluestem----------	30
	Normal	1,000	Little bluestem----------	20
	Unfavorable	---	Beaked panicum----------	20
BhD:				
Benndale----------	Favorable	---	Pinehill bluestem----------	30
	Normal	1,000	Little bluestem----------	20
	Unfavorable	---	Beaked panicum----------	20
Smithdale---------	Favorable	---	Longleaf uniola----------	30
	Normal	1,200	Pinehill bluestem----------	17
	Unfavorable	---	Beaked panicum----------	12
			Panicum----------	12
Bk---------- Bibb	Favorable	1,500	Cutover muhly----------	25
	Normal	1,200	Longleaf uniola----------	17
	Unfavorable	900	Grassleaf goldaster----------	17
			Beaked panicum----------	7
BM:				
Bibb----------	Favorable	1,500	Cutover muhly----------	25
	Normal	1,200	Longleaf uniola----------	17
	Unfavorable	900	Grassleaf goldaster----------	17
			Beaked panicum----------	7
Trebloc----------	Favorable	---	Pinehill bluestem----------	25
	Normal	1,200	Cutover muhly----------	17
	Unfavorable	---	Longleaf uniola----------	17
			Beaked panicum----------	9
Bn---------- Bigbee	Favorable	---	Pinehill bluestem----------	38
	Normal	800	Panicum----------	13
	Unfavorable	---	Threeawn----------	13
			Grassleaf goldaster----------	12
			Pineywoods dropseed----------	12
Ca:				
Cahaba----------	Favorable	---	Pinehill bluestem----------	30
	Normal	1,000	Slender bluestem----------	20
	Unfavorable	---	Beaked panicum----------	20

Table 7.--Woodland Understory Vegetation--Continued

Soil name and map symbol	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition
		Lb/acre		Pct
Ca:				
Annemaine	Favorable	---	Pinehill bluestem	20
	Normal	1,000	Slender bluestem	20
	Unfavorable	---	Little bluestem	15
			Beaked panicum	15
CLB:				
Cahaba	Favorable	---	Pinehill bluestem	30
	Normal	1,000	Slender bluestem	20
	Unfavorable	---	Beaked panicum	20
Latonia	Favorable	---	Pinehill bluestem	30
	Normal	1,000	Beaked panicum	20
	Unfavorable	---	Little bluestem	20
Bassfield	Favorable	---	Slender bluestem	20
	Normal	1,000	Beaked panicum	20
	Unfavorable	---	Pinehill bluestem	15
			Little bluestem	15
DO:				
Dorovan	Favorable	---	Sweetbay	20
	Normal	1,000	Lizards tail	20
	Unfavorable	---	Greenbrier	15
			Redbay	15
Croatan	Favorable	---	Sweetbay	20
	Normal	1,000	Lizards tail	20
	Unfavorable	---	Greenbrier	15
			Redbay	15
FeC:				
Freest	Favorable	---	Pinehill bluestem	30
	Normal	1,000	Longleaf uniola	20
	Unfavorable	---	Beaked panicum	20
HaA	Favorable	---	Longleaf uniola	33
Harleston	Normal	1,800	Common carpetgrass	28
	Unfavorable	---	Pinehill bluestem	22
HeF	Favorable	---	Pinehill bluestem	20
Heidel	Normal	1,000	Slender bluestem	20
	Unfavorable	---	Beaked panicum	15
			Little bluestem	15
Ht:				
Harleston	Favorable	---	Longleaf uniola	33
	Normal	1,800	Common carpetgrass	28
	Unfavorable	---	Pinehill bluestem	22
Trebloc	Favorable	---	Pinehill bluestem	25
	Normal	1,200	Cutover muhly	17
	Unfavorable	---	Longleaf uniola	17
			Beaked panicum	9
LaA	Favorable	---	Pinehill bluestem	30
Latonia	Normal	1,000	Beaked panicum	20
	Unfavorable	---	Little bluestem	20

Table 7.--Woodland Understory Vegetation--Continued

Soil name and map symbol	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition
		Lb/acre		Pct
LoF	Favorable	---	Pinehill bluestem	32
Lorman	Normal	1,000	Longleaf uniola	32
	Unfavorable	---	Beaked panicum	15
LsD:				
Lorman	Favorable	---	Pinehill bluestem	32
	Normal	1,000	Longleaf uniola	32
	Unfavorable	---	Beaked panicum	15
Freest	Favorable	---	Pinehill bluestem	30
	Normal	1,000	Longleaf uniola	20
	Unfavorable	---	Beaked panicum	20
Susquehanna	Favorable	---	Pinehill bluestem	30
	Normal	1,000	Longleaf uniola	20
	Unfavorable	---	Beaked panicum	20
LuA	Favorable	---	Pinehill bluestem	30
Lucedale	Normal	1,000	Beaked panicum	20
	Unfavorable	---	Little bluestem	20
MA	Favorable	---	Longleaf uniola	30
Irvington	Normal	---	Pinehill bluestem	30
	Unfavorable	---	Beaked panicum	15
			Panicum	10
MB:				
McLaurin	Favorable	---	Slender bluestem	20
	Normal	1,000	Beaked panicum	20
	Unfavorable	---	Pinehill bluestem	15
			Little bluestem	15
Benndale	Favorable	---	Pinehill bluestem	30
	Normal	1,000	Little bluestem	20
	Unfavorable	---	Beaked panicum	20
McA, McB, McC	Favorable	---	Slender bluestem	20
McLaurin	Normal	1,000	Beaked panicum	20
	Unfavorable	---	Pinehill bluestem	15
			Little bluestem	15
Oa:				
Ouachita	Favorable	3,000	Switchgrass	20
	Normal	2,500	Plumegrass	20
	Unfavorable	1,800	Beaked panicum	15
			Velvet panicum	10
			Eastern gamagrass	5
			Panicum	5
			Sedge	5
Jena	Favorable	---	Switchgrass	20
	Normal	2,000	Beaked Panicum	20
	Unfavorable	---	Panicum	15
			Sedge	15
PrA, PrB	Favorable	---	Longleaf uniola	30
Prentiss	Normal	1,000	Pinehill bluestem	30
	Unfavorable	---	Beaked panicum	15
			Panicum	15

Table 7.--Woodland Understory Vegetation--Continued

Soil name and map symbol	Total production: Kind of year	Total production: Dry weight	Characteristic vegetation	Composition
		Lb/acre		Pct
SaB---------- Savannah	Favorable	---	Longleaf uniola----------	30
	Normal	1,000	Pinehill bluestem----------	30
	Unfavorable	---	Beaked panicum----------	15
			Panicum----------	10
SmE---------- Smithdale	Favorable	---	Longleaf uniola----------	30
	Normal	1,200	Pinehill bluestem----------	17
	Unfavorable	---	Beaked panicum----------	12
			Panicum----------	12
SoA---------- Stough	Favorable	---	Pinehill bluestem----------	30
	Normal	1,000	Longleaf uniola----------	30
	Unfavorable	---	Beaked panicum----------	15
SsB---------- Susquehanna	Favorable	---	Pinehill bluestem----------	30
	Normal	1,000	Longleaf uniola----------	20
	Unfavorable	---	Beaked panicum----------	20
ST:				
Susquehanna-------	Favorable	---	Pinehill bluestem----------	30
	Normal	---	Longleaf uniola----------	20
	Unfavorable	---	Beaked panicum----------	20
Freest----------	Favorable	---	Pinehill bluestem----------	30
	Normal	---	Longleaf uniola----------	20
	Unfavorable	---	Beaked panicum----------	20
Tr---------- Trebloc	Favorable	---	Pinehill bluestem----------	25
	Normal	1,200	Cutover muhly----------	17
	Unfavorable	---	Longleaf uniola----------	17
			Beaked panicum----------	9
Ts:				
Trebloc----------	Favorable	---	Pinehill bluestem----------	25
	Normal	1,200	Cutover muhly----------	17
	Unfavorable	---	Longleaf uniola----------	17
			Beaked panicum----------	9
Quitman----------	Favorable	---	Pinehill bluestem----------	30
	Normal	1,000	Longleaf uniola----------	30
	Unfavorable	---	Beaked panicum----------	15
WdC, WdE---------- Wadley	Favorable	---	Running oak----------	30
	Normal	900	Panicum----------	20
	Unfavorable	---	Sand blackberry----------	20

Table 8.--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
Al Alaga	Moderate: too sandy.	Moderate: too sandy.	Moderate: too sandy.	Moderate: too sandy.	Moderate: droughty.
AT Atmore	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
BaA Bassfield	Severe: flooding.	Slight	Moderate: small stones.	Slight	Slight.
BdB Benndale	Slight	Slight	Moderate: slope.	Slight	Slight.
BdC Benndale	Slight	Slight	Severe: slope.	Slight	Slight.
BhD:					
Benndale	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope.
Smithdale	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope.
Bk Bibb	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness, flooding.	Severe: wetness.	Severe: wetness, flooding.
BM:					
Bibb	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness, flooding.	Severe: wetness.	Severe: wetness, flooding.
Trebloc	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness, flooding.	Severe: wetness.	Severe: wetness, flooding.
Bn Bigbee	Severe: flooding.	Moderate: too sandy.	Moderate: too sandy, flooding.	Moderate: too sandy.	Moderate: droughty, flooding.
Ca:					
Cahaba	Severe: flooding.	Slight	Slight	Slight	Slight.
Annemaine	Severe: flooding.	Moderate: wetness, percs slowly.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.
CLB:					
Cahaba	Severe: flooding.	Slight	Moderate: flooding.	Slight	Moderate: flooding.
Latonia	Severe: flooding.	Slight	Moderate: small stones, flooding.	Slight	Moderate: droughty, flooding.
Bassfield	Severe: flooding.	Slight	Moderate: small stones, flooding.	Slight	Moderate: flooding.

Table 8.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
DO:					
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, ponding, excess humus.	Severe: ponding, excess humus, too acid.	Severe: excess humus, ponding, too acid.	Severe: ponding, excess humus.	Severe: too acid, ponding, excess humus.
FeC Freest	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: slope, wetness, percs slowly.	Moderate: wetness.	Moderate: wetness.
HaA Harleston	Moderate: wetness.	Moderate: wetness.	Moderate: small stones, wetness.	Slight	Slight.
HeF Heidel	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
Ht:					
Harleston	Severe: flooding.	Moderate: wetness.	Moderate: small stones, wetness.	Slight	Slight.
Trebloc	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
LaA Latonia	Severe: flooding.	Slight	Moderate: small stones.	Slight	Moderate: droughty.
LoF Lorman	Severe: slope, percs slowly.	Severe: slope, percs slowly.	Severe: slope, percs slowly.	Severe: slope, erodes easily.	Severe: slope.
LsD:					
Lorman	Severe: percs slowly.	Severe: percs slowly.	Severe: slope, percs slowly.	Slight	Moderate: slope.
Freest	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Severe: slope.	Moderate: wetness.	Moderate: wetness.
Susquehanna	Severe: percs slowly.	Severe: percs slowly.	Severe: slope, percs slowly.	Slight	Slight.
LuA Lucedale	Slight	Slight	Slight	Slight	Slight.
MA Irvington	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: slope, small stones, wetness.	Moderate: wetness.	Moderate: wetness.

Table 8.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
MB:					
McLaurin	Slight	Slight	Moderate: slope.	Slight	Moderate: droughty.
Benndale	Slight	Slight	Moderate: slope.	Slight	Slight.
McA McLaurin	Slight	Slight	Slight	Slight	Slight.
McB McLaurin	Slight	Slight	Moderate: slope.	Slight	Slight.
McC McLaurin	Slight	Slight	Severe: slope.	Slight	Slight.
Oa:					
Ouachita	Severe: flooding.	Moderate: flooding, percs slowly.	Severe: flooding.	Moderate: flooding.	Severe: flooding.
Jena	Severe: flooding.	Moderate: flooding.	Severe: flooding.	Moderate: flooding.	Severe: flooding.
Ph:					
Pits	Variable	Variable	Variable	Variable	Variable.
Udorthents	Variable	Variable	Variable	Variable	Variable.
PrA Prentiss	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Slight	Moderate: droughty.
PrB Prentiss	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: slope, wetness, percs slowly.	Slight	Moderate: droughty.
SaB Savannah	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: slope, wetness, percs slowly.	Moderate: wetness.	Moderate: wetness, droughty.
SmE Smithdale	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope.
SoA Stough	Severe: flooding, wetness.	Moderate: wetness, percs slowly.	Severe: wetness.	Moderate: wetness.	Moderate: wetness, droughty.
SsB Susquehanna	Severe: percs slowly.	Severe: percs slowly.	Severe: percs slowly.	Slight	Slight.
ST:					
Susquehanna	Severe: percs slowly.	Severe: percs slowly.	Severe: percs slowly.	Slight	Slight.
Freest	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: slope, wetness, percs slowly.	Moderate: wetness.	Moderate: wetness.

Table 8.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
Tr: Trebloc	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness, flooding.	Severe: wetness.	Severe: wetness, flooding.
Ts:					
Trebloc	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Quitman	Severe: flooding.	Moderate: wetness, percs slowly.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.
WdC: Wadley	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: droughty.
WdE: Wadley	Severe: too sandy.	Severe: too sandy.	Severe: slope, too sandy.	Severe: too sandy.	Severe: droughty.

Table 9.--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
Al---------- Alaga	Poor	Fair	Fair	Poor	Poor	Fair	Very poor.	Very poor.	Fair	Poor	Very poor.
AT---------- Atmore	Poor	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
BaA---------- Bassfield	Good	Good	Good	Good	Poor	Good	Very poor.	Very poor.	Good	Good	Very poor.
BdB---------- Benndale	Good	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
BdC---------- Benndale	Fair	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
BhD:											
Benndale----------	Fair	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Smithdale---------	Fair	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Bk---------- Bibb	Poor	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
BM:											
Bibb----------	Poor	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
Trebloc----------	Poor	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
Bn---------- Bigbee	Poor	Fair	Fair	Poor	Fair	Fair	Very poor.	Very poor.	Fair	Poor	Very poor.
Ca:											
Cahaba----------	Good	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Annemaine---------	Good	Good	Good	Good	Good	Good	Good	Good	Good	Good	Poor.
CLB:											
Cahaba----------	Good	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Latonia----------	Good	Good	Good	Good	Poor	Good	Very poor.	Very poor.	Good	Good	Very poor.
Bassfield---------	Good	Good	Good	Good	Poor	Good	Very poor.	Very poor.	Good	Good	Very poor.
DO:											
Dorovan----------	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Good	Good	Very poor.	Very poor.	Good.
Croatan----------	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Good	Good	Very poor.	Very poor.	Good.

Table 9.--Wildlife Habitat--Continued

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
FeC---------- Freest	Good	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Poor.
HaA---------- Harleston	Good	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
HeF---------- Heidel	Very poor.	Very poor.	Good	Good	Good	Fair	Poor	Very poor.	Poor	Fair	Very poor.
Ht:											
Harleston---------	Good	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
Trebloc----------	Poor	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
LaA---------- Latonia	Good	Good	Good	Good	Poor	Good	Very poor.	Very poor.	Good	Good	Very poor.
LoF---------- Lorman	Very poor.	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
LsD:											
Lorman----------	Fair	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Freest----------	Fair	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Poor.
Susquehanna-------	Fair	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
LuA---------- Lucedale	Good	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
MA---------- Irvington	Good	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
MB:											
McLaurin----------	Good	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Benndale----------	Good	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
McA, McB---------- McLaurin	Good	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
McC---------- McLaurin	Fair	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Oa:											
Ouachita----------	Poor	Fair	Fair	Good	Poor	Fair	Good	Fair	Fair	Good	Fair.
Jena----------	Poor	Fair	Fair	Good	Good	Fair	Poor	Poor	Fair	Good	Poor.
Ph:											
Pits----------	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.

Table 9.--Wildlife Habitat--Continued

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
Ph:											
Udorthents	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.
PrA, PrB Prentiss	Fair	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
SaB Savannah	Good	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
SmE Smithdale	Fair	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
SoA Stough	Fair	Good	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair.
SsB Susquehanna	Fair	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
ST:											
Susquehanna	Fair	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Freest	Good	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Poor.
Tr Trebloc	Poor	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
Ts:											
Trebloc	Poor	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
Quitman	Good	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
WdC, WdE Wadley	Poor	Fair	Fair	Poor	Poor	Fair	Very poor.	Very poor.	Fair	Poor	Very poor.

Table 10.--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. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation.)

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
Al: Alaga	Severe: cutbanks cave.	Slight	Slight	Slight	Slight	Moderate: droughty.
AT: Atmore	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
BaA: Bassfield	Severe: cutbanks cave.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Moderate: flooding.	Slight.
BdB: Benndale	Slight	Slight	Slight	Slight	Slight	Slight.
BdC: Benndale	Slight	Slight	Slight	Moderate: slope.	Slight	Slight.
BhD:						
Benndale	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope.
Smithdale	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope.
Bk: Bibb	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: wetness, flooding.
BM:						
Bibb	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: wetness, flooding.
Trebloc	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: low strength, wetness, flooding.	Severe: wetness, flooding.
Bn: Bigbee	Severe: cutbanks cave.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Moderate: droughty, flooding.
Ca:						
Cahaba	Severe: cutbanks cave.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Moderate: flooding.	Slight.
Annemaine	Severe: wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Severe: low strength.	Moderate: wetness.
CLB:						
Cahaba	Severe: cutbanks cave.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Moderate: flooding.
Latonia	Severe: cutbanks cave.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Moderate: droughty, flooding.

Table 10.--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
CLB:						
Bassfield	Severe: cutbanks cave.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Moderate: flooding.
DO:						
Dorovan	Severe: excess humus, ponding.	Severe: subsides, flooding, ponding.	Severe: subsides, flooding, ponding.	Severe: subsides, flooding, ponding.	Severe: subsides, ponding, flooding.	Severe: ponding, flooding, excess humus.
Croatan	Severe: excess humus, ponding.	Severe: subsides, flooding, ponding.	Severe: subsides, flooding, ponding.	Severe: subsides, flooding, ponding.	Severe: subsides, ponding.	Severe: too acid, ponding, excess humus.
FeC Freest	Severe: wetness.	Severe: shrink-swell.	Severe: wetness, shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell, low strength.	Moderate: wetness.
HaA Harleston	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Slight.
HeF Heidel	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Ht:						
Harleston	Severe: wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Moderate: wetness, flooding.	Slight.
Trebloc	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: low strength, wetness.	Severe: wetness.
LaA Latonia	Severe: cutbanks cave.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Moderate: flooding.	Moderate: droughty.
LoF Lorman	Severe: slope.	Severe: shrink-swell, slope.	Severe: slope, shrink-swell.	Severe: shrink-swell, slope.	Severe: low strength, slope, shrink-swell.	Severe: slope.
LsD:						
Lorman	Moderate: too clayey, slope.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell, slope.	Severe: low strength, shrink-swell.	Moderate: slope.
Freest	Severe: wetness.	Severe: shrink-swell.	Severe: wetness, shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell, low strength.	Moderate: wetness.
Susquehanna	Moderate: too clayey.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: low strength, shrink-swell.	Slight.
LuA Lucedale	Slight	Slight	Slight	Slight	Slight	Slight.
MA Irvington	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.

Table 10.--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
MB:						
McLaurin	Severe: cutbanks cave.	Slight	Slight	Slight	Slight	Moderate: droughty.
Benndale	Slight	Slight	Slight	Slight	Slight	Slight.
McA, McB McLaurin	Severe: cutbanks cave.	Slight	Slight	Slight	Slight	Slight.
McC McLaurin	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Slight	Slight.
Oa:						
Ouachita	Moderate: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.
Jena	Severe: cutbanks cave.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.
Ph:						
Pits	Variable	Variable	Variable	Variable	Variable	Variable.
Udorthents	Variable	Variable	Variable	Variable	Variable	Variable.
PrA, PrB Prentiss	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: droughty.
SaB Savannah	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: low strength, wetness.	Moderate: wetness, droughty.
SmE Smithdale	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope.
SoA Stough	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Moderate: wetness, flooding.	Moderate: wetness, droughty.
SsB Susquehanna	Moderate: too clayey.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: low strength, shrink-swell.	Slight.
ST:						
Susquehanna	Moderate: too clayey.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: low strength, shrink-swell.	Slight.
Freest	Severe: wetness.	Severe: shrink-swell.	Severe: wetness, shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell, low strength.	Moderate: wetness.
Tr Trebloc	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: low strength, wetness, flooding.	Severe: wetness, flooding.
Ts:						
Trebloc	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: low strength, wetness.	Severe: wetness.

Table 10.--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
Ts:						
Quitman	Severe: wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Moderate: low strength, wetness, flooding.	Moderate: wetness.
WdC Wadley	Severe: cutbanks cave.	Slight	Slight	Slight	Slight	Severe: droughty.
WdE Wadley	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Severe: droughty.

Table 11.--Sanitary Facilities

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "good," and other terms. Absence of an entry indicates that the soil was not rated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation.)

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
Al---------- Alaga	Severe: poor filter.	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: seepage, too sandy.
AT---------- Atmore	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Poor: wetness.
BaA---------- Bassfield	Moderate: flooding.	Severe: seepage.	Severe: seepage.	Severe: seepage.	Fair: thin layer.
BdB, BdC---------- Benndale	Slight----------	Moderate: seepage, slope.	Severe: seepage.	Slight----------	Good.
BhD:					
Benndale----------	Moderate: slope.	Severe: slope.	Severe: seepage.	Moderate: slope.	Fair: slope.
Smithdale----------	Moderate: slope.	Severe: seepage, slope.	Severe: seepage.	Severe: seepage.	Fair: too clayey, slope.
Bk---------- Bibb	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Poor: small stones, wetness.
BM:					
Bibb----------	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Poor: small stones, wetness.
Trebloc----------	Severe: flooding, wetness, percs slowly.	Severe: flooding, wetness.	Severe: flooding, wetness, too clayey.	Severe: flooding, wetness.	Poor: too clayey, wetness.
Bn---------- Bigbee	Severe: flooding, wetness, poor filter.	Severe: seepage, flooding.	Severe: flooding, seepage, wetness.	Severe: flooding, seepage.	Poor: seepage, too sandy.
Ca:					
Cahaba----------	Moderate: flooding.	Severe: seepage.	Severe: seepage.	Moderate: flooding.	Fair: thin layer.
Annemaine----------	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness, too clayey.	Severe: wetness.	Poor: too clayey, hard to pack.
CLB:					
Cahaba----------	Severe: flooding.	Severe: seepage, flooding.	Severe: flooding, seepage.	Severe: flooding.	Fair: thin layer.

Table 11.--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
CLB:					
Latonia	Severe: flooding, poor filter.	Severe: seepage, flooding.	Severe: flooding, seepage, too sandy.	Severe: flooding, seepage.	Poor: seepage, too sandy.
Bassfield	Severe: flooding.	Severe: seepage, flooding.	Severe: flooding, seepage.	Severe: flooding, seepage.	Fair: thin layer.
DO:					
Dorovan	Severe: subsides, flooding, ponding.	Severe: flooding, excess humus, ponding.	Severe: flooding, seepage, ponding.	Severe: flooding, ponding.	Poor: ponding, excess humus.
Croatan	Severe: ponding, percs slowly.	Severe: seepage, excess humus, ponding.	Severe: ponding, too acid.	Severe: seepage, ponding.	Poor: ponding.
FeC Freest	Severe: wetness, percs slowly.	Moderate: slope.	Severe: wetness, too clayey.	Severe: wetness.	Poor: too clayey, hard to pack.
HaA Harleston	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Fair: wetness.
HeF Heidel	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Poor: slope.
Ht:					
Harleston	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Fair: wetness.
Trebloc	Severe: wetness, percs slowly, flooding.	Severe: wetness.	Severe: wetness, too clayey.	Severe: wetness.	Poor: too clayey, wetness.
LaA Latonia	Severe: poor filter.	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: seepage, too sandy.
LoF Lorman	Severe: percs slowly, slope.	Severe: slope.	Severe: slope, too clayey.	Severe: slope.	Poor: too clayey, hard to pack, slope.
LsD:					
Lorman	Severe: percs slowly.	Severe: slope.	Severe: too clayey.	Moderate: slope.	Poor: too clayey, hard to pack.
Freest	Severe: wetness, percs slowly.	Moderate: slope.	Severe: wetness, too clayey.	Severe: wetness.	Poor: too clayey, hard to pack.
Susquehanna	Severe: percs slowly.	Moderate: slope.	Severe: too clayey.	Slight	Poor: too clayey, hard to pack.

Table 11.--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.
MA Irvington	Severe: wetness, percs slowly.	Moderate: slope, seepage.	Severe: wetness.	Moderate: wetness.	Fair: wetness, too clayey.
MB:					
McLaurin	Slight	Severe: seepage.	Slight	Severe: seepage.	Good.
Benndale	Slight	Moderate: seepage, slope.	Severe: seepage.	Slight	Good.
McA, McB, McC McLaurin	Slight	Severe: seepage.	Slight	Severe: seepage.	Good.
Oa:					
Ouachita	Severe: flooding, percs slowly.	Severe: flooding.	Severe: flooding, seepage.	Severe: flooding.	Fair: too clayey.
Jena	Severe: flooding.	Severe: seepage, flooding.	Severe: flooding, seepage.	Severe: flooding.	Good.
Ph:					
Pits	Variable	Variable	Variable	Variable	Variable.
Udorthents	Variable	Variable	Variable	Variable	Variable.
PrA, PrB Prentiss	Severe: wetness, percs slowly.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Fair: wetness.
SaB Savannah	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness.	Moderate: wetness.	Fair: too clayey, wetness.
SmE Smithdale	Moderate: slope.	Severe: seepage, slope.	Severe: seepage.	Severe: seepage.	Fair: too clayey, slope.
SoA Stough	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Poor: wetness.
SsB Susquehanna	Severe: percs slowly.	Moderate: slope.	Severe: too clayey.	Slight	Poor: too clayey, hard to pack.
ST:					
Susquehanna	Severe: percs slowly.	Moderate: slope.	Severe: too clayey.	Slight	Poor: too clayey, hard to pack.
Freest	Severe: wetness, percs slowly.	Moderate: slope.	Severe: wetness, too clayey.	Severe: wetness.	Poor: too clayey, hard to pack.

Table 11.--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
Tr---------- Trebloc	Severe: flooding, wetness, percs slowly.	Severe: flooding, wetness.	Severe: flooding, wetness, too clayey.	Severe: flooding, wetness.	Poor: too clayey, wetness.
Ts:					
Trebloc----------	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness, too clayey.	Severe: wetness.	Poor: too clayey, wetness.
Quitman----------	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness.	Moderate: flooding, wetness.	Fair: too clayey, wetness.
WdC---------- Wadley	Slight----------	Severe: seepage.	Severe: too sandy.	Severe: seepage.	Poor: seepage, too sandy.
WdE---------- Wadley	Moderate: slope.	Severe: seepage, slope.	Severe: too sandy.	Severe: seepage.	Poor: seepage, too sandy.

Table 12.--Construction Materials

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "good," "fair," and other terms. Absence of an entry indicates that the soil was not rated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation.)

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
Al: Alaga	Good	Probable	Improbable: too sandy.	Poor: too sandy.
AT: Atmore	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.
BaA: Bassfield	Good	Probable	Improbable: too sandy.	Fair: small stones.
BdB, BdC: Benndale	Good	Improbable: excess fines.	Improbable: excess fines.	Good.
BhD:				
Benndale	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: slope.
Smithdale	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey, small stones, slope.
Bk: Bibb	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim, wetness.
BM:				
Bibb	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim, wetness.
Trebloc	Poor: low strength, wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.
Bn: Bigbee	Good	Probable	Improbable: too sandy.	Poor: too sandy.
Ca:				
Cahaba	Good	Probable	Improbable: too sandy.	Fair: too clayey.
Annemaine	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: thin layer.
CLB:				
Cahaba	Good	Probable	Improbable: too sandy.	Fair: too clayey.
Latonia	Good	Probable	Improbable: too sandy.	Fair: small stones, thin layer.
Bassfield	Good	Probable	Improbable: too sandy.	Fair: small stones.

Table 12.--Construction Materials--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
DO:				
Dorovan	Poor: wetness.	Probable	Improbable: too sandy.	Poor: excess humus, wetness.
Croatan	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: excess humus, wetness, too acid.
FeC Freest	Poor: shrink-swell, low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
HaA Harleston	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones.
HeF Heidel	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope.
Ht:				
Harleston	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones.
Trebloc	Poor: low strength, wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.
LaA Latonia	Good	Probable	Improbable: too sandy.	Fair: small stones, thin layer.
LoF Lorman	Poor: low strength, slope, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, slope.
LsD:				
Lorman	Poor: low strength, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
Freest	Poor: shrink-swell, low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
Susquehanna	Poor: low strength, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
LuA Lucedale	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey.
MA Irvington	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones, too clayey.
MB:				
McLaurin	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones.

Table 12.--Construction Materials--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
MB:				
Benndale	Good	Improbable: excess fines.	Improbable: excess fines.	Good.
McA, McB, McC McLaurin	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones.
Oa:				
Ouachita	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey.
Jena	Good	Improbable: excess fines.	Improbable: excess fines.	Good.
Ph:				
Pits	Variable	Variable	Variable	Variable.
Udorthents	Variable	Variable	Variable	Variable.
PrA, PrB Prentiss	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Good.
SaB Savannah	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey, small stones.
SmE Smithdale	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey, small stones, slope.
SoA Stough	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey.
SsB Susquehanna	Poor: low strength, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
ST:				
Susquehanna	Poor: low strength, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
Freest	Poor: shrink-swell, low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
Tr Trebloc	Poor: low strength, wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.
Ts:				
Trebloc	Poor: low strength, wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.
Quitman	Fair: low strength, wetness.	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey.
WdC, WdE Wadley	Good	Probable	Improbable: too sandy.	Poor: too sandy.

Table 13.--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. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation.)

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
Al: Alaga	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Deep to water	Droughty, fast intake.	Too sandy, soil blowing.	Droughty, rooting depth.
AT: Atmore	Moderate: seepage.	Severe: piping, wetness.	Severe: no water.	Favorable	Wetness	Erodes easily, wetness.	Wetness, erodes easily.
BaA: Bassfield	Severe: seepage.	Severe: piping.	Severe: no water.	Deep to water	Favorable	Favorable	Favorable.
BdB, BdC: Benndale	Moderate: seepage, slope.	Severe: piping.	Severe: no water.	Deep to water	Slope	Favorable	Favorable.
BhD:							
Benndale	Severe: slope.	Severe: piping.	Severe: no water.	Deep to water	Slope	Slope	Slope.
Smithdale	Severe: seepage, slope.	Severe: piping.	Severe: no water.	Deep to water	Slope	Slope	Slope.
Bk: Bibb	Moderate: seepage.	Severe: piping, wetness.	Moderate: slow refill.	Flooding	Wetness	Erodes easily, wetness.	Wetness, erodes easily.
BM:							
Bibb	Moderate: seepage.	Severe: piping, wetness.	Moderate: slow refill.	Flooding	Wetness	Erodes easily, wetness.	Wetness, erodes easily.
Trebloc	Slight	Severe: wetness.	Severe: slow refill.	Flooding	Wetness, erodes easily, flooding.	Erodes easily, wetness.	Wetness, erodes easily.
Bn: Bigbee	Severe: seepage.	Severe: seepage, piping.	Severe: cutbanks cave.	Deep to water	Droughty, fast intake.	Too sandy	Droughty.
Ca:							
Cahaba	Severe: seepage.	Moderate: thin layer, piping.	Severe: no water.	Deep to water	Favorable	Favorable	Favorable.
Annemaine	Moderate: seepage.	Severe: hard to pack, wetness.	Severe: slow refill.	Percs slowly	Wetness, percs slowly.	Wetness, percs slowly.	Percs slowly.
CLB:							
Cahaba	Severe: seepage.	Moderate: thin layer, piping.	Severe: no water.	Deep to water	Favorable	Favorable	Favorable.
Latonia	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Deep to water	Droughty	Too sandy	Droughty.

Table 13.--Water Management--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
CLB:							
Bassfield	Severe: seepage.	Severe: piping.	Severe: no water.	Deep to water	Favorable	Favorable	Favorable.
DO:							
Dorovan	Moderate: seepage.	Severe: excess humus, ponding.	Severe: cutbanks cave.	Ponding, flooding, subsides.	Ponding, soil blowing, flooding.	Ponding, soil blowing.	Wetness.
Croatan	Severe: seepage.	Severe: piping, ponding.	Severe: slow refill.	Ponding, percs slowly, subsides.	Ponding, soil blowing, percs slowly.	Ponding, soil blowing.	Wetness, percs slowly.
FeC Freest	Moderate: slope.	Severe: wetness.	Severe: slow refill.	Percs slowly, slope.	Slope, wetness, percs slowly.	Wetness, percs slowly.	Percs slowly.
HaA Harleston	Moderate: seepage.	Severe: piping.	Moderate: deep to water, slow refill.	Favorable	Wetness	Wetness	Favorable.
HeF Heidel	Severe: slope.	Severe: piping.	Severe: no water.	Deep to water	Slope	Slope	Slope.
Ht:							
Harleston	Moderate: seepage.	Severe: piping.	Moderate: deep to water, slow refill.	Favorable	Wetness	Wetness	Favorable.
Trebloc	Slight	Severe: wetness.	Severe: slow refill.	Favorable	Wetness, erodes easily.	Erodes easily, wetness.	Wetness, erodes easily.
LaA Latonia	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Deep to water	Droughty, fast intake.	Too sandy	Droughty.
LoF Lorman	Severe: slope.	Severe: hard to pack.	Severe: no water.	Deep to water	Slope, percs slowly, erodes easily.	Slope, erodes easily, percs slowly.	Slope, erodes easily, percs slowly.
LsD:							
Lorman	Severe: slope.	Severe: hard to pack.	Severe: no water.	Deep to water	Slope, percs slowly.	Slope, percs slowly.	Slope, percs slowly.
Freest	Moderate: slope.	Severe: wetness.	Severe: slow refill.	Percs slowly, slope.	Slope, wetness, percs slowly.	Wetness, percs slowly.	Percs slowly.
Susquehanna	Moderate: slope.	Severe: hard to pack.	Severe: no water.	Deep to water	Percs slowly, slope.	Percs slowly	Percs slowly.
LuA Lucedale	Moderate: seepage.	Severe: piping.	Severe: no water.	Deep to water	Favorable	Favorable	Favorable.
MA Irvington	Moderate: seepage.	Severe: piping.	Severe: no water.	Percs slowly	Wetness, percs slowly.	Wetness, rooting depth, percs slowly.	Rooting depth, percs slowly.
MB:							
McLaurin	Severe: seepage.	Severe: piping.	Severe: no water.	Deep to water	Droughty	Favorable	Droughty.

Table 13.--Water Management--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
MB:							
Benndale	Moderate: seepage.	Severe: piping.	Severe: no water.	Deep to water	Favorable	Favorable	Favorable.
McA McLaurin	Severe: seepage.	Severe: piping.	Severe: no water.	Deep to water	Favorable	Favorable	Favorable.
McB, McC McLaurin	Severe: seepage.	Severe: piping.	Severe: no water.	Deep to water	Slope	Favorable	Favorable.
Oa:							
Ouachita	Slight	Severe: piping.	Severe: no water.	Deep to water	Erodes easily, flooding.	Erodes easily	Erodes easily.
Jena	Severe: seepage.	Severe: piping.	Severe: no water.	Deep to water	Flooding	Erodes easily	Erodes easily.
Ph:							
Pits	Variable	Variable	Variable	Variable	Variable	Variable	Variable.
Udorthents	Variable	Variable	Variable	Variable	Variable	Variable	Variable.
PrA Prentiss	Moderate: seepage.	Severe: piping.	Severe: no water.	Favorable	Wetness, droughty.	Wetness, rooting depth.	Droughty, rooting depth.
PrB Prentiss	Moderate: seepage, slope.	Severe: piping.	Severe: no water.	Slope	Slope, wetness, droughty.	Wetness, rooting depth.	Droughty, rooting depth.
SaB Savannah	Moderate: seepage, slope.	Severe: piping.	Severe: no water.	Slope	Slope, wetness, droughty.	Wetness	Rooting depth.
SmE Smithdale	Severe: seepage, slope.	Severe: piping.	Severe: no water.	Deep to water	Slope	Slope	Slope.
SoA Stough	Slight	Moderate: piping, wetness.	Severe: no water.	Favorable	Wetness, droughty.	Erodes easily, wetness.	Wetness, erodes easily, droughty.
SsB Susquehanna	Moderate: slope.	Severe: hard to pack.	Severe: no water.	Deep to water	Percs slowly, slope.	Percs slowly	Percs slowly.
ST:							
Susquehanna	Moderate: slope.	Severe: hard to pack.	Severe: no water.	Deep to water	Percs slowly, slope.	Percs slowly	Percs slowly.
Freest	Moderate: slope.	Severe: wetness.	Severe: slow refill.	Percs slowly, slope.	Slope, wetness, percs slowly.	Wetness, percs slowly.	Percs slowly.
Tr Trebloc	Slight	Severe: wetness.	Severe: slow refill.	Flooding	Wetness, erodes easily, flooding.	Erodes easily, wetness.	Wetness, erodes easily.
Ts:							
Trebloc	Slight	Severe: wetness.	Severe: slow refill.	Favorable	Wetness, erodes easily.	Erodes easily, wetness.	Wetness, erodes easily.

Table 13.--Water Management--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
Ts:							
Quitman	Slight	Moderate: piping, wetness.	Severe: no water.	Favorable	Wetness	Wetness, soil blowing.	Favorable.
WdC Wadley	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Deep to water	Droughty, fast intake.	Too sandy, soil blowing.	Droughty.
WdE Wadley	Severe: seepage, slope.	Severe: seepage, piping.	Severe: no water.	Deep to water	Slope, droughty, fast intake.	Slope, too sandy, soil blowing.	Slope, droughty.

Table 14.--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: Unified	Classification: AASHTO	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In								Pct	
Al---------- Alaga	0-6	Loamy sand-------	SM, SW-SM, SP-SM	A-2, A-1-b	100	100	40-80	10-35	<25	NP-4
	6-80	Loamy sand, loamy fine sand, fine sand.	SM, SW-SM, SP-SM	A-2	100	100	50-85	10-35	<25	NP-4
AT---------- Atmore	0-15	Fine sandy loam	SM, ML, CL-ML, SC-SM	A-4	90-100	90-100	75-90	40-70	<25	NP-7
	15-72	Loam, clay loam, fine sandy loam.	ML, CL-ML, CL	A-4	80-100	80-100	80-96	55-80	<25	NP-7
	72-83	Silt loam, loam, silty clay loam.	ML, CL, SM, SC	A-4, A-6	78-100	75-100	70-96	40-70	20-40	2-18
BaA---------- Bassfield	0-9	Fine sandy loam	SM, ML	A-2, A-4	90-100	85-100	55-96	25-58	<20	NP-3
	9-37	Sandy loam, loam	SM, SC, SC-SM	A-2, A-4	90-100	85-100	60-92	30-50	<20	NP-10
	37-80	Loamy sand, sand	SP-SM, SM	A-2, A-3	90-100	80-100	65-85	5-20	<20	NP-3
BdB, BdC--------- Benndale	0-8	Fine sandy loam	ML, SM, CL-ML, SC-SM	A-4, A-2-4	100	100	60-96	30-55	<25	NP-7
	8-68	Loam, sandy loam, fine sandy loam.	ML, SM, CL-ML, SC-SM	A-4	100	100	70-95	40-75	15-22	3-7
BhD:										
Benndale--------	0-8	Fine sandy loam	ML, SM, CL-ML, SC-SM	A-4, A-2-4	100	100	60-96	30-55	<25	NP-7
	8-68	Loam, sandy loam, fine sandy loam.	ML, SM, CL-ML, SC-SM	A-4	100	100	70-95	40-75	15-22	3-7
Smithdale-------	0-13	Fine sandy loam, sandy loam.	SM, SC-SM	A-4, A-2	100	85-100	60-95	28-49	<20	NP-5
	13-33	Clay loam, sandy clay loam, loam.	SC-SM, SC, CL, CL-ML	A-6, A-4	100	85-100	80-96	45-75	23-38	7-16
	33-60	Loam, sandy loam	SM, ML, CL, SC	A-4	100	85-100	65-95	36-70	<30	NP-10
Bk---------- Bibb	0-18	Silt loam--------	ML, CL-ML	A-4	95-100	90-100	80-90	50-80	<25	NP-7
	18-60	Sandy loam, loam, sand.	SM, SC-SM, ML, CL-ML	A-2, A-4	60-100	50-100	40-100	30-90	<30	NP-7
BM:										
Bibb----------	0-18	Silt loam--------	ML, CL-ML	A-4	95-100	90-100	80-90	50-80	<25	NP-7
	18-60	Sandy loam, loam, sand.	SM, SC-SM, ML, CL-ML	A-2, A-4	60-100	50-100	40-100	30-90	<30	NP-7

Table 14.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In								Pct	
BM:										
Trebloc---------	0-8	Silt loam--------	ML, CL-ML	A-4	100	100	85-100	60-90	<30	NP-7
	8-33	Silt loam, silty clay loam, loam.	CL	A-4, A-6	100	100	85-100	85-100	25-40	8-16
	33-60	Silty clay loam, silty clay, clay loam.	CL	A-4, A-6, A-7	100	100	85-100	85-100	25-48	8-21
Bn----------	0-10	Loamy sand-------	SM	A-2-4	100	95-100	60-90	15-30	<20	NP
Bigbee	10-60	Sand, fine sand	SP-SM, SM	A-2-4, A-3	85-100	85-100	50-75	5-20	<20	NP
Ca:										
Cahaba----------	0-14	Fine sandy loam, loam.	SM, ML	A-4, A-2-4	95-100	95-100	65-90	30-45	<20	NP
	14-44	Sandy clay loam, loam, clay loam.	SC, CL	A-4, A-6	90-100	80-100	75-90	40-75	22-35	8-15
	44-80	Sand, loamy sand, sandy loam.	SM, SP-SM	A-2-4	95-100	90-100	60-85	10-35	<20	NP
Annemaine-------	0-7	Fine sandy loam	SM, SC-SM, ML, CL-ML	A-4	95-100	95-100	70-95	40-75	<20	NP-5
	7-32	Clay, clay loam, silty clay.	CL	A-6, A-7	95-100	95-100	85-100	70-98	30-50	10-25
	32-53	Sandy clay loam, sandy loam, clay loam.	SC, CL, SM	A-4, A-6	95-100	95-100	80-100	36-80	20-35	8-15
	53-62	Sandy clay loam, fine sandy loam, sand.	SM, SC-SM, SC	A-2, A-4	95-100	95-100	60-90	30-50	<20	NP-10
CLB:										
Cahaba----------	0-14	Fine sandy loam, loam.	SM, ML	A-4, A-2-4	95-100	95-100	65-90	30-45	<20	NP
	14-44	Sandy clay loam, loam, clay loam.	SC, CL	A-4, A-6	90-100	80-100	75-90	40-75	22-35	8-15
	44-62	Sand, loamy sand, sandy loam.	SM, SP-SM	A-2-4	95-100	90-100	60-85	10-35	<20	NP
Latonia---------	0-10	Loamy sand-------	SM	A-2-4, A-4	90-100	85-100	60-75	30-50	<20	NP
	10-37	Sandy loam, loam, fine sandy loam.	SM	A-2-4, A-4	90-100	85-100	60-85	30-50	<20	NP
	37-65	Sand, loamy sand	SM, SP-SM	A-2-4	90-100	85-100	50-75	10-30	<20	NP
Bassfield-------	0-9	Fine sandy loam	SM, ML	A-2, A-4	90-100	85-100	55-96	25-58	<20	NP-3
	9-37	Sandy loam, loam	SM, SC, SC-SM	A-2, A-4	90-100	85-100	60-92	30-50	<20	NP-10
	37-80	Loamy sand, sand	SP-SM, SM	A-2, A-3	90-100	80-100	65-85	5-20	<20	NP-3
DO:										
Dorovan---------	0-60	Muck----------	PT	---	---	---	---	---	---	---

Table 14.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plasticity index
	In								Pct	
DO:										
Croatan---------	0-29	Muck----------	PT	---	---	---	---	---	---	---
	29-41	Sandy loam, fine sandy loam, mucky sandy loam.	SM, SC, SC-SM	A-2, A-4	100	100	60-85	30-49	25-35	NP-10
	41-60	Loam, clay loam, sandy clay loam.	CL, CL-ML, SC, SC-SM	A-4, A-6	100	100	75-100	36-95	18-45	4-15
FeC---------- Freest	0-13	Fine sandy loam	SM, CL, ML, CL-ML	A-4	100	95-100	60-90	40-70	<30	NP-8
	13-35	Loam, sandy clay loam.	CL	A-4, A-6	100	95-100	80-95	55-75	25-40	7-20
	35-60	Clay loam, clay, silty clay.	CL, CH	A-7	100	95-100	90-100	80-95	41-55	20-30
HaA---------- Harleston	0-13	Loam, sandy loam, fine sandy loam.	ML, SM, CL-ML, SC-SM	A-2, A-4	90-100	85-100	60-85	30-55	<25	NP-7
	13-82	Sandy loam, loam	SC, CL, CL-ML, SC-SM	A-2, A-4	90-100	85-100	60-95	30-70	20-30	5-10
HeF---------- Heidel	0-8	Fine sandy loam, sandy loam.	SM	A-4	90-100	85-100	70-85	36-45	<30	NP-4
	8-64	Fine sandy loam, sandy loam, loam.	CL-ML, SC-SM, SM	A-4	90-100	85-100	60-85	36-55	15-22	3-7
Ht:										
Harleston-------	0-13	Fine sandy loam	ML, SM, CL-ML, SC-SM	A-2, A-4	90-100	85-100	60-85	30-55	<25	NP-7
	13-82	Sandy loam, loam	SC, CL, CL-ML, SC-SM	A-2, A-4	90-100	85-100	60-95	30-70	20-30	5-10
Trebloc---------	0-8	Silt loam--------	ML, CL-ML	A-4	100	100	85-100	60-90	<30	NP-7
	8-33	Silt loam, silty clay loam, loam.	CL	A-4, A-6	100	100	85-100	85-100	25-40	8-16
	33-60	Silty clay loam, silty clay, clay loam.	CL	A-4, A-6, A-7	100	100	85-100	85-100	25-48	8-21
LaA---------- Latonia	0-10	Loamy sand, fine sandy loam.	SM	A-2-4	90-100	85-100	50-80	15-35	<20	NP
	10-37	Sandy loam, loam, fine sandy loam.	SM	A-2-4, A-4	90-100	85-100	60-85	30-50	<20	NP
	37-65	Sand, loamy sand	SM, SP-SM	A-2-4	90-100	85-100	50-75	10-30	<20	NP
LoF---------- Lorman	0-8	Silt loam, fine sandy loam.	SC-SM, CL-ML	A-4, A-6	100	100	90-100	70-95	20-35	5-15
	8-44	Clay, silty clay, silty clay loam.	CL, CH	A-7	95-100	95-100	95-100	90-95	44-85	20-50
	44-65	Variable---------	---	---	---	---	---	---	---	---

Table 14.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In								Pct	
LsD:										
Lorman----------	0-8	Fine sandy loam, silt loam.	SM, SC-SM, ML, CL-ML	A-4	100	100	65-90	40-55	<20	NP-7
	8-44	Clay, silty clay, silty clay loam.	CL, CH	A-7	95-100	95-100	95-100	90-95	44-85	20-50
	44-65	Variable---------	---	---	---	---	---	---	---	---
Freest----------	0-13	Fine sandy loam	SM, CL, ML, CL-ML	A-4	100	95-100	60-90	40-70	<30	NP-8
	13-35	Loam, sandy clay loam.	CL	A-4, A-6	100	95-100	80-95	55-75	25-40	7-20
	35-60	Clay loam, clay, silty clay.	CL, CH	A-7	100	95-100	90-100	80-95	41-55	20-30
Susquehanna-----	0-7	Fine sandy loam	ML, SM	A-4	100	100	65-90	40-55	<25	NP
	7-86	Clay, silty clay loam, silty clay.	CH	A-7	100	100	88-100	80-98	50-90	28-56
LuA---------- Lucedale	0-11	Fine sandy loam, loam.	SM, ML	A-2, A-4	100	95-100	80-95	25-65	<30	NP-3
	11-65	Sandy clay loam, clay loam, loam.	CL-ML, SC, CL, SC-SM	A-4, A-6, A-2	95-100	95-100	80-100	30-75	25-40	4-15
MA---------- Irvington	0-12	Fine sandy loam	ML, SM, CL-ML, SC-SM	A-2, A-4	90-100	75-100	70-100	30-60	<25	NP-6
	12-34	Loam, sandy clay loam, fine sandy loam.	ML, SC-SM, CL-ML, SC	A-4, A-6	80-100	75-99	65-98	40-70	20-34	3-12
	34-82	Loam, sandy clay loam, fine sandy loam.	CL, CL-ML, SC, SC-SM	A-4, A-6	70-95	70-95	70-92	35-65	25-35	4-12
MB:										
McLaurin--------	0-10	Loamy sand, fine sandy loam.	SM	A-2	90-100	90-100	50-75	15-30	<20	NP-4
	10-34	Sandy loam, fine sandy loam, loam.	SM, SC, SC-SM	A-4	90-100	90-100	85-95	36-45	<30	NP-10
	34-43	Loamy fine sand, loamy sand, sandy loam.	SM	A-2, A-4	90-100	90-100	50-85	15-45	<20	NP-4
	43-60	Sandy loam, sandy clay loam, loam.	SC, ML, CL, SM	A-4, A-6	90-100	90-100	70-80	36-55	30-40	6-15
Benndale--------	0-8	Fine sandy loam	ML, SM, CL-ML, SC-SM	A-4, A-2-4	100	100	60-96	30-55	<25	NP-7
	8-68	Loam, sandy loam, fine sandy loam.	ML, SM, CL-ML, SC-SM	A-4	100	100	70-95	40-75	15-22	3-7

Table 14.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In								Pct	
McA, McB, McC---- McLaurin	0-10	Fine sandy loam	SM	A-4	90-100	90-100	70-85	36-45	<30	NP-4
	10-40	Sandy loam, fine sandy loam, loam.	SM, SC, SC-SM	A-4	90-100	90-100	85-95	36-45	<30	NP-10
	40-46	Loamy fine sand, loamy sand, sandy loam.	SM	A-2, A-4	90-100	90-100	50-85	15-45	<20	NP-4
	46-60	Sandy loam, sandy clay loam, loam.	SC, ML, CL, SM	A-4, A-6	90-100	90-100	70-80	36-55	30-40	6-15
Oa:										
Ouachita--------	0-12	Silt loam--------	ML, CL-ML, CL	A-4	100	100	85-95	55-85	<30	2-10
	12-57	Silt loam, loam, very fine sandy loam.	ML, CL-ML, CL	A-4	100	100	85-95	55-85	<30	2-10
	57-82	Silt loam, loam, very fine sandy loam.	CL, CL-ML, ML, SM SC-SM	A-4, A-6	100	100	85-95	55-90	25-40	5-15
Jena----------	0-3	Silt loam--------	CL-ML, CL	A-4	100	100	85-95	60-75	15-30	5-10
	3-38	Silt loam, very fine sandy loam, loam.	CL, CL-ML, SC-SM	A-4, A-2-4	100	100	55-90	25-70	15-30	5-10
	38-62	Fine sandy loam, sandy loam, loamy fine sand.	SM	A-2-4, A-4	100	100	50-80	20-50	<20	NP
Ph:										
Pits----------	0-60	Variable---------	---	---	---	---	---	---	---	---
Udorthents------	0-60	Variable---------	---	---	---	---	---	---	---	---
PrA, PrB--------- Prentiss	0-6	Fine sandy loam	SC, SC-SM, SM	A-4	100	100	65-85	36-50	<30	NP-10
	6-68	Loam, sandy loam, fine sandy loam.	ML, SC-SM, CL-ML	A-4, A-2	100	100	75-100	50-90	<30	NP-10
SaB---------- Savannah	0-10	Fine sandy loam	SM, ML	A-2-4, A-4	98-100	90-100	60-100	30-65	<25	NP-4
	10-28	Sandy clay loam, clay loam, loam.	CL, SC, CL-ML	A-4, A-6	98-100	90-100	80-100	40-80	23-40	7-19
	28-60	Loam, clay loam, sandy clay loam.	CL, SC, CL-ML	A-4, A-6, A-7, A-2	94-100	90-100	60-100	30-80	23-43	7-19
SmE---------- Smithdale	0-13	Fine sandy loam, sandy loam.	SM, SC-SM	A-4, A-2	100	85-100	60-95	28-49	<20	NP-5
	13-33	Clay loam, sandy clay loam, loam.	SC-SM, SC, CL, CL-ML	A-6, A-4	100	85-100	80-96	45-75	23-38	7-16
	33-60	Loam, sandy loam	SM, ML, CL, SC	A-4	100	85-100	65-95	36-70	<30	NP-10
SoA---------- Stough	0-13	Fine sandy loam	SC-SM, SM, ML, CL-ML	A-4	100	100	65-85	35-65	<25	NP-7
	13-25	Loam, fine sandy loam, sandy loam.	ML, CL, CL-ML	A-4	100	100	75-95	50-75	<25	8-15
	25-65	Sandy loam, sandy clay loam, loam.	SC, SL	A-4, A-6	100	100	65-90	40-65	25-40	NP-7

Table 14.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Percentage passing sieve number--: 4	10	40	200	Liquid limit	Plas-ticity index
	In								Pct	
SsB---------- Susquehanna	0-7	Fine sandy loam, loam.	ML, SM	A-4	100	100	65-90	40-55	<25	NP
	7-86	Clay, silty clay loam, silty clay.	CH	A-7	100	100	88-100	80-98	50-90	28-56
ST:										
Susquehanna-----	0-7	Fine sandy loam, loam.	ML, SM	A-4	100	100	65-90	40-55	<25	NP
	7-86	Clay, silty clay loam, silty clay.	CH	A-7	100	100	88-100	80-98	50-90	28-56
Freest----------	0-13	Fine sandy loam	SM, CL, ML, CL-ML	A-4	100	95-100	60-90	40-70	<30	NP-8
	13-35	Loam, sandy clay loam.	CL	A-4, A-6	100	95-100	80-95	55-75	25-40	7-20
	35-60	Clay loam, clay, silty clay.	CL, CH	A-7	100	95-100	90-100	80-95	41-55	20-30
Tr---------- Trebloc	0-8	Silt loam--------	ML, CL-ML	A-4	100	100	85-100	60-90	<30	NP-7
	8-33	Silt loam, silty clay loam, loam.	CL	A-4, A-6	100	100	85-100	85-100	25-40	8-16
	33-60	Silty clay loam, silty clay, clay loam.	CL	A-4, A-6, A-7	100	100	85-100	85-100	25-48	8-21
Ts:										
Trebloc---------	0-8	Silt loam--------	ML, CL-ML	A-4	100	100	85-100	60-90	<30	NP-7
	8-33	Silt loam, silty clay loam, loam.	CL	A-4, A-6	100	100	85-100	85-100	25-40	8-16
	33-60	Silty clay loam, silty clay, clay loam.	CL	A-4, A-6, A-7	100	100	85-100	85-100	25-48	8-21
Quitman---------	0-13	Fine sandy loam	SM, ML	A-4, A-2	100	100	85-100	30-55	<20	NP-3
	13-27	Fine sandy loam, loam, sandy clay loam.	SC, CL, CL-ML, SC-SM	A-4, A-6	100	100	90-100	40-70	20-35	4-15
	27-62	Sandy clay loam, loam, clay loam.	CL, SC	A-6, A-7	100	100	90-100	40-65	25-45	11-20
WdC, WdE--------- Wadley	0-50	Fine sand, sand	SM, SP-SM	A-3, A-2-4	100	95-100	75-100	8-25	<20	NP
	50-95	Sandy loam, fine sandy loam, sandy clay loam.	SC, SM, SC-SM	A-2, A-4, A-6	100	95-100	70-100	20-50	<40	NP-17

Table 15.--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 K	Erosion factors T	Organic matter
	In	Pct	g/cc	In/hr	In/in	pH				Pct
Al---------- Alaga	0-6	2-12	1.60-1.75	6.0-20	0.05-0.09	4.5-5.5	Low----------	0.10	5	.5-1
	6-80	2-12	1.60-1.75	6.0-20	0.05-0.09	4.5-6.5	Low----------	0.10		
AT---------- Atmore	0-15	2-12	1.35-1.65	0.6-2.0	0.12-0.20	3.5-5.5	Low----------	0.32	5	.5-3
	15-72	6-35	1.35-1.60	0.6-2.0	0.16-0.24	3.5-5.5	Low----------	0.37		
	72-83	15-40	1.45-1.65	0.2-0.6	0.18-0.22	3.5-5.5	Low----------	0.32		
BaA---------- Bassfield	0-9	4-10	1.40-1.50	2.0-6.0	0.10-0.15	4.5-5.5	Low----------	0.20	4	1-3
	9-37	8-18	1.45-1.55	2.0-6.0	0.10-0.15	4.5-5.5	Low----------	0.20		
	37-80	1-7	1.40-1.50	6.0-20	0.05-0.08	4.5-5.5	Low----------	0.17		
BdB, BdC--------- Benndale	0-8	6-14	1.45-1.55	0.6-2.0	0.10-0.15	4.5-5.5	Low----------	0.20	5	1-3
	8-68	10-18	1.55-1.65	0.6-2.0	0.12-0.18	4.5-5.5	Low----------	0.28		
BhD:										
Benndale--------	0-8	6-14	1.45-1.55	0.6-2.0	0.10-0.15	4.5-5.5	Low----------	0.20	5	1-3
	8-68	10-18	1.55-1.65	0.6-2.0	0.12-0.18	4.5-5.5	Low----------	0.28		
Smithdale-------	0-13	2-15	1.40-1.50	2.0-6.0	0.14-0.16	4.5-5.5	Low----------	0.28	5	.5-2
	13-33	18-33	1.40-1.55	0.6-2.0	0.15-0.17	4.5-5.5	Low----------	0.24		
	33-60	12-27	1.40-1.55	2.0-6.0	0.14-0.16	4.5-5.5	Low----------	0.28		
Bk---------- Bibb	0-18	2-18	1.40-1.65	0.6-2.0	0.15-0.20	3.6-5.5	Low----------	0.28	5	1-3
	18-60	2-18	1.45-1.75	0.6-2.0	0.10-0.20	3.6-5.5	Low----------	0.37		
BM:										
Bibb----------	0-18	2-18	1.40-1.65	0.6-2.0	0.15-0.20	4.5-5.5	Low----------	0.28	5	1-3
	18-60	2-18	1.45-1.75	0.6-2.0	0.10-0.20	4.5-5.5	Low----------	0.37		
Trebloc---------	0-8	5-20	1.40-1.50	0.6-2.0	0.16-0.20	4.5-5.5	Low----------	0.43	5	1-3
	8-33	20-32	1.45-1.55	0.2-0.6	0.15-0.20	4.5-5.5	Moderate-----	0.37		
	33-60	20-45	1.45-1.55	0.2-0.6	0.14-0.18	4.5-5.5	Moderate-----	0.37		
Bn---------- Bigbee	0-10	4-10	1.40-1.50	6.0-20	0.05-0.10	4.5-5.5	Low----------	0.10	5	.5-1
	10-60	1-10	1.40-1.50	6.0-20	0.05-0.08	4.5-5.5	Low----------	0.17		
Ca:										
Cahaba----------	0-14	7-17	1.35-1.60	2.0-6.0	0.10-0.14	4.5-5.5	Low----------	0.24	5	1-3
	14-44	18-35	1.35-1.60	0.6-2.0	0.12-0.20	4.5-6.0	Low----------	0.28		
	44-80	4-20	1.40-1.70	2.0-20	0.05-0.10	4.5-6.0	Low----------	0.24		
Annemaine-------	0-7	10-20	1.30-1.55	0.6-2.0	0.12-0.16	4.5-6.5	Low----------	0.28	5	.5-2
	7-32	35-50	1.30-1.45	0.06-0.2	0.14-0.18	4.5-5.5	Moderate-----	0.37		
	32-53	20-35	1.30-1.60	0.2-0.6	0.14-0.18	4.5-5.5	Low----------	0.37		
	53-62	5-25	1.40-1.60	0.2-2.0	0.14-0.18	4.5-5.5	Low----------	0.32		
CLB:										
Cahaba----------	0-14	7-17	1.35-1.60	2.0-6.0	0.10-0.14	4.5-5.5	Low----------	0.24	5	1-3
	14-44	18-35	1.35-1.60	0.6-2.0	0.12-0.20	4.5-5.5	Low----------	0.28		
	44-62	4-20	1.40-1.70	2.0-20	0.05-0.10	4.5-5.5	Low----------	0.24		
Latonia---------	0-10	10-18	1.40-1.50	2.0-6.0	0.10-0.15	4.5-5.5	Low----------	0.20	4	1-3
	10-37	10-16	1.40-1.50	2.0-6.0	0.10-0.15	4.5-5.5	Low----------	0.20		
	37-65	3-10	1.40-1.50	6.0-20	0.05-0.10	4.5-5.5	Low----------	0.17		

Table 15.--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 K	Erosion factors T	Organic matter
	In	Pct	g/cc	In/hr	In/in	pH				Pct
CLB:										
Bassfield-------	0-9	4-10	1.40-1.50	2.0-6.0	0.10-0.15	4.5-5.5	Low----------	0.20	4	1-3
	9-37	8-18	1.45-1.55	2.0-6.0	0.10-0.15	4.5-5.5	Low----------	0.20		
	37-80	1-7	1.40-1.50	6.0-20	0.05-0.08	4.5-5.5	Low----------	0.17		
DO:										
Dorovan---------	0-60	---	0.35-0.55	0.6-2.0	0.20-0.25	3.5-4.4	----------	----	2	20-80
Croatan---------	0-29	---	0.40-0.65	0.06-6.0	0.35-0.45	<4.5	Low----------	----	2	25-60
	29-41	8-20	1.40-1.60	0.2-6.0	0.10-0.15	3.5-5.0	Low----------	0.17		
	41-60	10-35	1.40-1.60	0.2-2.0	0.12-0.20	3.5-5.0	Low----------	0.24		
FeC----------	0-13	3-10	1.40-1.50	0.6-2.0	0.10-0.15	5.1-5.5	Low----------	0.28	5	.5-2
Freest	13-35	10-25	1.40-1.50	0.2-0.6	0.15-0.18	5.1-5.5	Moderate-----	0.32		
	35-60	27-50	1.40-1.55	0.06-0.2	0.15-0.18	5.1-5.5	High---------	0.28		
HaA----------	0-13	2-8	1.25-1.35	0.6-6.0	0.08-0.16	4.5-5.5	Low----------	0.20	5	1-3
Harleston	13-82	8-18	1.55-1.65	0.6-2.0	0.13-0.16	4.5-5.5	Low----------	0.32		
HeF----------	0-8	1-10	1.30-1.70	0.6-2.0	0.10-0.15	4.5-5.5	Low----------	0.20	5	.5-2
Heidel	8-64	10-18	1.30-1.70	0.6-2.0	0.10-0.15	4.5-5.5	Low----------	0.20		
Ht:										
Harleston-------	0-13	2-8	1.25-1.35	0.6-6.0	0.08-0.16	4.5-5.5	Low----------	0.20	5	1-3
	13-82	8-18	1.55-1.65	0.6-2.0	0.13-0.16	4.5-5.5	Low----------	0.32		
Trebloc---------	0-8	5-20	1.40-1.50	0.6-2.0	0.16-0.20	4.5-5.5	Low----------	0.43	5	1-3
	8-33	20-32	1.45-1.55	0.2-0.6	0.15-0.20	4.5-5.5	Moderate-----	0.37		
	33-60	20-45	1.45-1.55	0.2-0.6	0.14-0.18	4.5-5.5	Moderate-----	0.37		
LaA----------	0-10	3-12	1.40-1.50	6.0-20	0.05-0.10	4.5-5.5	Low----------	0.17	4	1-3
Latonia	10-37	10-16	1.40-1.50	2.0-6.0	0.10-0.15	4.5-5.5	Low----------	0.20		
	37-65	3-10	1.40-1.50	6.0-20	0.05-0.10	4.5-5.5	Low----------	0.17		
LoF----------	0-8	10-27	1.30-1.65	0.6-2.0	0.20-0.22	4.5-5.5	Low----------	0.43	4	.5-1
Lorman	8-44	35-55	1.20-1.50	<0.06	0.16-0.20	4.5-5.5	Very high----	0.32		
	44-65	---	---	---	---	---	----------	----		
LsD:										
Lorman----------	0-8	5-20	1.30-1.65	0.6-2.0	0.10-0.15	4.5-5.5	Low----------	0.28	4	.5-1
	8-44	35-55	1.20-1.50	<0.06	0.16-0.20	4.5-5.5	Very high----	0.32		
	44-65	---	---	---	---	---	----------	----		
Freest----------	0-13	3-10	1.40-1.50	0.6-2.0	0.10-0.15	5.1-5.5	Low----------	0.28	5	.5-2
	13-35	10-25	1.40-1.50	0.2-0.6	0.15-0.18	5.1-5.5	Moderate-----	0.32		
	35-60	27-50	1.40-1.55	0.06-0.2	0.15-0.18	5.1-5.5	High---------	0.28		
Susquehanna-----	0-7	2-12	1.50-1.55	0.6-2.0	0.10-0.15	4.5-5.0	Low----------	0.28	5	.5-2
	7-86	35-60	1.25-1.50	<0.06	0.15-0.20	4.5-5.0	High---------	0.32		
LuA----------	0-11	7-20	1.40-1.55	0.6-2.0	0.15-0.20	4.5-5.5	Low----------	0.24	5	.5-2
Lucedale	11-65	20-30	1.55-1.70	0.6-2.0	0.14-0.18	4.5-5.5	Low----------	0.24		
MA----------	0-12	7-20	1.30-1.50	0.6-2.0	0.10-0.15	3.5-6.5	Low----------	0.28	4	.5-2
Irvington	12-34	18-35	1.35-1.60	0.6-2.0	0.12-0.18	3.5-5.5	Low----------	0.28		
	34-82	18-40	1.50-1.75	0.06-0.2	0.12-0.18	3.5-5.5	Low----------	0.28		

Table 15.--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 K	Erosion factors T	Organic matter
	In	Pct	g/cc	In/hr	In/in	pH				Pct
MB:										
McLaurin--------	0-10	1-5	1.30-1.70	6.0-20	0.05-0.10	4.5-5.5	Low----------	0.17	5	.5-2
	10-34	10-18	1.40-1.60	0.6-2.0	0.10-0.15	4.5-5.5	Low----------	0.20		
	34-43	5-15	1.30-1.70	2.0-6.0	0.05-0.10	4.5-5.5	Low----------	0.20		
	43-60	5-27	1.40-1.60	0.6-2.0	0.10-0.15	4.5-5.5	Low----------	0.20		
Benndale--------	0-8	6-14	1.45-1.55	0.6-2.0	0.10-0.15	4.5-5.5	Low----------	0.20	5	1-3
	8-68	10-18	1.55-1.65	0.6-2.0	0.12-0.18	4.5-5.5	Low----------	0.28		
McA, McB, McC---- McLaurin	0-10	5-10	1.40-1.60	0.6-2.0	0.12-0.15	4.5-5.5	Low----------	0.20	5	.5-2
	10-40	10-18	1.40-1.60	0.6-2.0	0.10-0.15	4.5-5.5	Low----------	0.20		
	40-46	5-15	1.30-1.70	2.0-6.0	0.05-0.10	4.5-5.5	Low----------	0.20		
	46-60	5-27	1.40-1.60	0.6-2.0	0.10-0.15	4.5-5.5	Low----------	0.20		
Oa:										
Ouachita--------	0-12	8-25	1.35-1.60	0.6-2.0	0.15-0.22	4.5-5.5	Low----------	0.37	5	1-2
	12-57	8-25	1.35-1.60	0.6-2.0	0.15-0.22	4.5-5.5	Low----------	0.37		
	57-82	7-27	1.35-1.60	0.2-0.6	0.15-0.22	4.5-5.5	Low----------	0.32		
Jena----------	0-3	14-27	1.30-1.70	0.6-2.0	0.12-0.20	4.5-5.5	Low----------	0.37	5	.5-2
	3-38	10-18	1.30-1.70	0.6-2.0	0.10-0.20	4.5-5.5	Low----------	0.28		
	38-62	5-20	1.35-1.65	2.0-6.0	0.08-0.14	4.5-5.5	Low----------	0.24		
Ph*. Pits- Udorthents										
PrA, PrB--------- Prentiss	0-6	5-18	1.50-1.60	0.6-2.0	0.12-0.16	4.5-5.5	Low----------	0.28	4	1-3
	6-68	5-18	0.80-1.50	0.6-2.0	0.12-0.16	4.5-5.5	Low----------	0.37		
SaB---------- Savannah	0-10	3-16	1.50-1.60	0.6-2.0	0.13-0.16	3.6-5.5	Low----------	0.24	4	.5-3
	10-28	18-32	1.45-1.65	0.6-2.0	0.11-0.17	3.6-5.5	Low----------	0.28		
	28-60	18-32	1.60-1.80	0.2-0.6	0.05-0.10	3.6-5.5	Low----------	0.24		
SmE---------- Smithdale	0-13	2-15	1.40-1.50	2.0-6.0	0.14-0.16	4.5-5.5	Low----------	0.28	5	.5-2
	13-33	18-33	1.40-1.55	0.6-2.0	0.15-0.17	4.5-5.5	Low----------	0.24		
	33-60	12-27	1.40-1.55	2.0-6.0	0.14-0.16	4.5-5.5	Low----------	0.28		
SoA---------- Stough	0-13	5-15	1.40-1.55	0.6-2.0	0.12-0.18	4.5-5.5	Low----------	0.28	5	1-3
	13-25	8-18	1.45-1.50	0.2-0.6	0.07-0.11	4.5-5.5	Low----------	0.37		
	25-65	5-27	1.55-1.65	0.2-0.6	0.07-0.11	4.5-5.5	Low----------	0.37		
SsB---------- Susquehanna	0-7	2-12	1.50-1.55	0.6-2.0	0.10-0.15	4.5-5.0	Low----------	0.28	5	.5-2
	7-86	35-60	1.25-1.50	<0.06	0.15-0.20	4.5-5.0	High---------	0.32		
ST:										
Susquehanna-----	0-7	2-12	1.50-1.55	0.6-2.0	0.10-0.15	4.5-5.0	Low----------	0.28	5	.5-2
	7-86	35-60	1.25-1.50	<0.06	0.15-0.20	4.5-5.0	High---------	0.32		
Freest----------	0-13	3-10	1.40-1.50	0.6-2.0	0.10-0.15	5.1-5.5	Low----------	0.28	5	.5-2
	13-35	10-25	1.40-1.50	0.2-0.6	0.15-0.18	5.1-5.5	Moderate-----	0.32		
	35-60	27-50	1.40-1.55	0.06-0.2	0.15-0.18	5.1-5.5	High---------	0.28		
Tr---------- Trebloc	0-8	5-20	1.40-1.50	0.6-2.0	0.16-0.20	4.5-5.5	Low----------	0.43	5	1-3
	8-33	20-32	1.45-1.55	0.2-0.6	0.15-0.20	4.5-5.5	Moderate-----	0.37		
	33-60	20-45	1.45-1.55	0.2-0.6	0.14-0.18	4.5-5.5	Moderate-----	0.37		

Table 15.--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 K	Erosion factors T	Organic matter
	In	Pct	g/cc	In/hr	In/in	pH				Pct
Ts:										
Trebloc---------	0-8	5-20	1.40-1.50	0.6-2.0	0.16-0.20	4.5-5.5	Low----------	0.43	5	1-3
	8-33	20-32	1.45-1.55	0.2-0.6	0.15-0.20	4.5-5.5	Moderate-----	0.37		
	33-60	20-45	1.45-1.55	0.2-0.6	0.14-0.18	4.5-5.5	Moderate-----	0.37		
Quitman---------	0-13	5-15	1.35-1.65	0.6-2.0	0.15-0.24	4.5-5.5	Low----------	0.28	5	1-3
	13-27	18-35	1.45-1.70	0.6-2.0	0.12-0.17	4.5-5.5	Low----------	0.28		
	27-62	18-35	1.45-1.70	0.2-0.6	0.11-0.17	4.5-5.5	Low----------	0.28		
WdC, WdE---------	0-50	1-5	1.35-1.65	6.0-20	0.02-0.06	4.5-6.0	Low----------	0.10	5	<1
Wadley	50-95	13-35	1.55-1.65	0.6-2.0	0.10-0.13	4.5-6.0	Low----------	0.20		

Table 16.--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: Frequency	Flooding: Duration	Flooding: Months	High water table: Depth	High water table: Kind	High water table: Months	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
					Ft				
Al---------- Alaga	A	None--------	---	---	>6.0	---	---	Low------	Moderate.
AT---------- Atmore	D	None--------	---	---	0-1.0	Perched	Oct-Mar	High-----	High.
BaA---------- Bassfield	B	Rare--------	---	---	>6.0	---	---	Low------	Moderate.
BdB, BdC---------- Benndale	B	None--------	---	---	>6.0	---	---	Low------	Moderate.
BhD:									
Benndale---------	B	None--------	---	---	>6.0	---	---	Low------	Moderate.
Smithdale--------	B	None--------	---	---	>6.0	---	---	Low------	Moderate.
Bk---------- Bibb	D	Frequent----	Brief-----	Dec-May	0.5-1.0	Apparent	Dec-Apr	High-----	Moderate.
BM:									
Bibb----------	D	Frequent----	Brief-----	Dec-May	0.5-1.0	Apparent	Dec-Apr	High-----	Moderate.
Trebloc----------	D	Frequent----	Brief-----	Jan-Apr	0.5-1.0	Apparent	Jan-Apr	High-----	High.
Bn---------- Bigbee	A	Occasional	Brief-----	Jan-Mar	3.5-6.0	Apparent	Jan-Mar	Low------	Moderate.
Ca:									
Cahaba----------	B	Rare--------	---	---	>6.0	---	---	Moderate	Moderate.
Annemaine--------	C	Rare--------	---	---	1.5-2.5	Apparent	Jan-Mar	High-----	High.
CLB:									
Cahaba----------	B	Occasional	Very brief	Nov-Feb	>6.0	---	---	Moderate	Moderate.
Latonia----------	B	Occasional	Very brief	Nov-Apr	>6.0	---	---	Low------	Moderate.
Bassfield--------	B	Occasional	Very brief	Nov-Apr	>6.0	---	---	Low------	Moderate.
DO:									
Dorovan----------	D	Frequent----	Very long	Jan-Dec	+1-0.5	Apparent	Jan-Dec	High-----	High.
Croatan----------	D	Frequent----	Very long	Jan-Dec	+1-1.0	Apparent	Nov-Jul	High-----	High.
FeC---------- Freest	C	None--------	---	---	1.5-2.5	Apparent	Jan-Apr	High-----	High.
HaA---------- Harleston	C	None--------	---	---	2.0-3.0	Apparent	Nov-Mar	Moderate	High.
HeF---------- Heidel	B	None--------	---	---	>6.0	---	---	Low------	High.

Table 16.--Soil and Water Features--Continued

Soil name and map symbol	Hydrologic group	Flooding: Frequency	Flooding: Duration	Flooding: Months	High water table: Depth	High water table: Kind	High water table: Months	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
					Ft				
Ht:									
Harleston	C	Rare	---	---	2.0-3.0	Apparent	Nov-Mar	Moderate	High.
Trebloc	D	Rare	---	---	0.5-1.0	Apparent	Jan-Apr	High	High.
LaA Latonia	B	Rare	---	---	>6.0	---	---	Low	Moderate.
LoF Lorman	D	None	---	---	>6.0	---	---	High	Moderate.
LsD:									
Lorman	D	None	---	---	>6.0	---	---	High	Moderate.
Freest	C	None	---	---	1.5-2.5	Apparent	Jan-Apr	High	High.
Susquehanna	D	None	---	---	>6.0	---	---	High	High.
LuA Lucedale	B	None	---	---	>6.0	---	---	Moderate	Moderate.
MA Irvington	C	None	---	---	1.5-3.0	Perched	Dec-Apr	Moderate	High.
MB:									
McLaurin	B	None	---	---	>6.0	---	---	Low	Moderate.
Benndale	B	None	---	---	>6.0	---	---	Low	Moderate.
McA, McB, McC McLaurin	B	None	---	---	>6.0	---	---	Low	Moderate.
Oa:									
Ouachita	C	Frequent	Brief	Dec-May	>6.0	---	---	Moderate	Moderate.
Jena	B	Frequent	Brief	Dec-Apr	>6.0	---	---	Low	High.
Ph*. Pits-Udorthents									
PrA, PrB Prentiss	C	None	---	---	2.0-2.5	Perched	Jan-Mar	Moderate	High.
SaB Savannah	C	None	---	---	1.5-3.0	Perched	Jan-Mar	Moderate	High.
SmE Smithdale	B	None	---	---	>6.0	---	---	Low	Moderate.
SoA Stough	C	Rare	---	---	1.0-1.5	Perched	Jan-Apr	Moderate	High.
SsB Susquehanna	D	None	---	---	>6.0	---	---	High	High.
ST:									
Susquehanna	D	None	---	---	>6.0	---	---	High	High.

Table 16.--Soil and Water Features--Continued

Soil name and map symbol	Hydro-logic group	Flooding: Frequency	Flooding: Duration	Flooding: Months	High water table: Depth	High water table: Kind	High water table: Months	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
					Ft				
ST:									
Freest	C	None	---	---	1.5-2.5	Apparent	Jan-Apr	High	High.
Tr Trebloc	D	Frequent	Very brief	Jan-Apr	0.5-1.0	Apparent	Jan-Apr	High	High.
Ts:									
Trebloc	D	Rare	---	---	0.5-1.0	Apparent	Jan-Apr	High	High.
Quitman	C	Rare	---	---	1.5-2.0	Perched	Jan-Mar	High	Moderate.
WdC, WdE Wadley	A	None	---	---	>6.0	---	---	Low	High.

Table 17.--Physical Analyses of Selected Soils

(Analyses by the Soil Genesis and Morphology Laboratory of the Mississippi Agricultural and Forestry Experiment Station, Mississippi State University.)

Soil name and sample number	Depth	Horizon	Particle-size distribution: Sand: Very coarse (2-1 mm)	Coarse (1-0.5 mm)	Medium (0.5-0.25 mm)	Fine (0.25-0.1 mm)	Very fine (0.1-0.05 mm)	Total (2-0.05 mm)	Silt (0.05-0.002 mm)	Clay (<0.002 mm)
	In		Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct
Bassfield:										
MS-8905-1-6	0-4	A1	0.2	0.5	14.8	41.3	14.9	71.8	23.6	4.5
	4-7	A2	0.1	0.4	14.8	42.8	14.5	72.5	22.6	4.8
	7-14	A3	0.1	0.4	15.1	42.2	12.8	70.5	22.4	7.0
	14-27	Bt1	0.1	0.2	9.6	35.2	12.3	57.3	27.7	14.9
	27-46	Bt2	0.0	0.1	10.9	46.6	16.2	73.9	18.3	7.8
	46-60	C	0.0	0.1	8.9	55.5	18.2	82.8	12.7	4.5
Smithdale [1]:										
MS-8905-7-11	0-6	A	0.6	2.8	11.0	42.0	16.9	73.4	22.3	4.3
	6-13	E	0.4	1.9	10.4	40.6	18.5	71.8	23.4	4.8
	13-33	Bt1	0.3	2.2	11.2	31.5	12.8	58.1	17.4	24.5
	33-39	Bt2	0.2	2.3	14.0	33.9	12.8	63.3	16.7	19.9
	39-65	Bt3	0.4	2.9	22.4	37.5	8.4	71.7	10.9	17.4
Lucedale:										
MS-8807-25-30	0-7	A	---	---	---	---	---	45.9	44.4	9.6
	7-14	BA	---	---	---	---	---	43.6	38.6	17.8
	14-27	Bt1	---	---	---	---	---	38.8	30.8	30.4
	27-46	Bt2	---	---	---	---	---	49.0	23.4	27.5
	46-53	Bt3	---	---	---	---	---	52.3	20.2	27.7
	53-60	Bt4	---	----	---	---	---	52.9	19.9	27.2
Susquehanna [1] [2]:										
MS-9103-1-9	0-4	A	0.5	1.1	2.4	26.7	18.7	49.5	45.4	5.1
	4-7	E	0.4	0.6	1.0	14.8	27.1	43.9	47.2	8.9
	7-16	Bt1	0.0	0.1	0.2	1.7	5.5	7.4	28.0	64.6
	16-23	Bt2	0.0	0.0	0.1	0.9	3.6	4.7	31.3	64.0
	23-37	Btss1	0.0	0.0	0.0	1.1	3.6	4.8	34.8	60.4
	37-64	Btss2	0.0	0.0	0.0	0.8	3.6	4.5	33.7	61.8
	64-79	Btss3	0.0	0.0	0.0	1.3	6.8	8.1	42.7	49.2
	79-86	Btss4	0.0	0.0	0.0	3.3	10.2	13.6	45.3	41.0
Wadley [1]:										
MS-9111-1-8	0-8	A	0.0	3.1	68.8	15.1	3.0	90.1	8.6	1.3
	8-19	E1	0.1	1.3	36.0	43.7	9.9	91.0	7.2	1.8
	19-31	E2	0.0	1.4	42.8	37.3	9.6	91.2	7.5	1.3
	31-50	E3	0.1	2.7	39.9	37.8	10.7	91.2	7.5	1.3
	50-65	Bt1	0.0	1.6	26.3	38.0	10.8	76.7	12.4	10.8
	65-74	Bt2	0.0	1.6	26.7	39.7	10.4	78.5	10.6	10.8
	74-85	Bt3	0.1	1.5	22.1	41.9	12.9	78.5	12.7	8.8
	85-95	Bt4	0.0	1.3	17.1	36.2	15.9	70.6	18.6	10.8

[1] Typical pedon for the survey area.

[2] Pedon has a higher content of clay in the control section than allowed for the Susquehanna series. This difference is within the error of observation; the pedon is not a taxadjunct.

Table 18.--Chemical Analyses of Selected Soils

(Analyses by the Soil Genesis and Morphology Laboratory of the Mississippi Agricultural and Forestry Experiment Station, Mississippi State University.)

Soil name and sample number	Depth	Horizon	Extractable bases: Ca	K	Mg	Na	Extractable acidity	Cation-exchange capacity	Base saturation	Reaction
	In		Meq/100g				Meq/100g	Meq/100g	Pct	pH
Bassfield:										
(MS-8905-1-6)	0-4	A1	0.5	0.1	0.2	0.0	4.3	5.1	15.7	5.3
	4-7	A2	0.4	0.1	0.2	0.0	3.2	3.9	17.9	5.3
	7-14	A3	0.4	0.1	0.2	0.0	2.8	3.5	20.0	5.3
	14-27	Bt1	0.5	0.1	0.6	0.1	4.9	6.2	20.9	5.1
	27-46	Bt2	0.1	0.1	0.3	0.0	3.0	3.5	14.3	4.9
	46-60	C	0.1	0.1	0.2	0.0	1.9	2.3	17.4	5.0
Smithdale [1]:										
(MS-8905-7-11)	0-6	A	0.4	0.1	0.1	0.1	7.3	8.0	8.7	4.9
	6-13	E	0.1	0.0	0.1	0.0	3.4	3.6	5.5	5.4
	13-33	Bt1	0.2	0.1	0.6	0.1	5.4	6.4	15.6	5.2
	33-39	Bt2	0.1	0.1	0.3	0.1	4.6	5.2	11.5	5.2
	39-65	Bt3	0.1	0.1	0.2	0.1	4.3	4.8	10.4	5.1
Lucedale:										
(MS-8807-25-30)	0-7	A	2.3	0.5	0.4	0.1	8.4	11.7	28.2	5.1
	7-14	BA	1.8	0.3	0.4	0.1	6.0	8.6	30.2	4.9
	14-27	Bt1	3.0	0.2	1.1	0.1	5.5	9.9	44.4	4.9
	27-46	Bt2	2.0	0.1	1.1	0.1	4.9	8.2	40.2	4.9
	46-53	Bt3	1.5	0.1	1.1	0.1	5.1	7.9	35.4	4.7
	53-60	Bt4	0.8	0.1	0.8	0.1	5.0	6.7	26.4	4.7
Susquehanna [1 2]:										
(MS-9103-1-9)	0-4	A	1.3	0.3	0.4	0.0	1.5	3.5	57.1	4.5
	4-7	E	1.3	0.1	0.6	0.0	1.5	3.5	57.1	4.8
	7-16	Bt1	5.0	0.9	6.1	0.1	17.3	29.4	41.2	4.6
	16-23	Bt2	3.3	0.6	6.9	0.1	21.9	32.8	33.2	4.6
	23-37	Btss1	2.7	1.1	8.1	0.2	24.4	36.5	33.1	4.6
	37-64	Btss2	3.2	1.0	10.1	0.2	22.5	36.9	39.0	4.7
	64-79	Btss3	3.5	0.5	9.3	0.1	12.6	26.0	51.5	4.8
	79-86	Btss4	3.5	0.6	10.4	0.2	16.0	30.7	47.9	4.7
Wadley [1]:										
(MS-9111-1-8)	0-8	A	0.5	0.1	0.1	0.0	5.0	5.7	12.3	4.4
	8-19	E1	0.1	0.0	0.0	0.0	1.0	1.1	9.1	4.8
	19-31	E2	0.1	0.0	0.0	0.0	0.5	0.6	16.7	4.9
	31-50	E3	0.1	0.0	0.0	0.0	0.5	0.6	16.7	5.0
	50-65	Bt1	0.2	0.1	0.1	0.0	2.2	2.6	15.4	4.7
	65-74	Bt2	0.1	0.1	0.1	0.0	2.3	2.6	11.5	4.7
	74-85	Bt3	0.1	0.1	0.1	0.0	1.8	2.1	14.3	4.6
	85-95	Bt4	0.1	0.1	0.1	0.0	2.3	2.6	11.3	4.7

[1] Typical pedon for the survey area.

[2] Pedon has a slightly higher content of clay in the control section than allowed for the Susquehanna series. This difference is within the error of observation; the pedon is not a taxadjunct.

Table 19.--Classification of the Soils

Soil name	Family or higher taxonomic class
Alaga	Thermic, coated Typic Quartzipsamments
Annemaine	Fine, mixed, semiactive, thermic Aquic Hapludults
Atmore	Coarse-loamy, siliceous, semiactive, thermic Plinthic Paleaquults
Bassfield	Coarse-loamy, siliceous, semiactive, thermic Typic Hapludults
Benndale	Coarse-loamy, siliceous, subactive, thermic Typic Paleudults
Bibb	Coarse-loamy, siliceous, active, acid, thermic Typic Fluvaquents
Bigbee	Thermic, coated Typic Quartzipsamments
Cahaba	Fine-loamy, siliceous, semiactive, thermic Typic Hapludults
Croatan	Loamy, siliceous, dysic, thermic Terric Medisaprists
Dorovan	Dysic, thermic Typic Medisaprists
Freest	Fine-loamy, siliceous, active, thermic Aquic Paleudalfs
Harleston	Coarse-loamy, siliceous, semiactive, thermic Aquic Paleudults
Heidel	Coarse-loamy, siliceous, subactive, thermic Typic Paleudults
Irvington	Fine-loamy, siliceous, semiactive, thermic Plinthic Fragiudults
Jena	Coarse-loamy, siliceous, active, thermic Fluventic Dystrochrepts
Latonia	Coarse-loamy, siliceous, semiactive, thermic Typic Hapludults
Lorman	Fine, smectitic, thermic Vertic Hapludalfs
Lucedale	Fine-loamy, siliceous, subactive, thermic Rhodic Paleudults
McLaurin	Coarse-loamy, siliceous, subactive, thermic Typic Paleudults
Ouachita	Fine-silty, siliceous, active, thermic Fluventic Dystrochrepts
Prentiss	Coarse-loamy, siliceous, semiactive, thermic Glossic Fragiudults
Quitman	Fine-loamy, siliceous, semiactive, thermic Aquic Paleudults
Savannah	Fine-loamy, siliceous, semiactive, thermic Typic Fragiudults
Smithdale	Fine-loamy, siliceous, subactive, thermic Typic Hapludults
Stough	Coarse-loamy, siliceous, semiactive, thermic Fragiaquic Paleudults
Susquehanna	Fine, smectitic, thermic Vertic Paleudalfs
Trebloc	Fine-silty, siliceous, active, thermic Typic Paleaquults
Udorthents	Typic Udorthents
Wadley	Loamy, siliceous, subactive, thermic Grossarenic Paleudults