United States
Department of
Agriculture

Natural
Resources
Conservation
Service

In cooperation with
the University of Georgia,
College of Agricultural and
Environmental Sciences,
Agricultural Experiment
Stations

Soil Survey of Bleckley, Dodge, and Telfair Counties, Georgia

How To Use This Soil Survey

General Soil Map

The general soil map, which is a color map, 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.

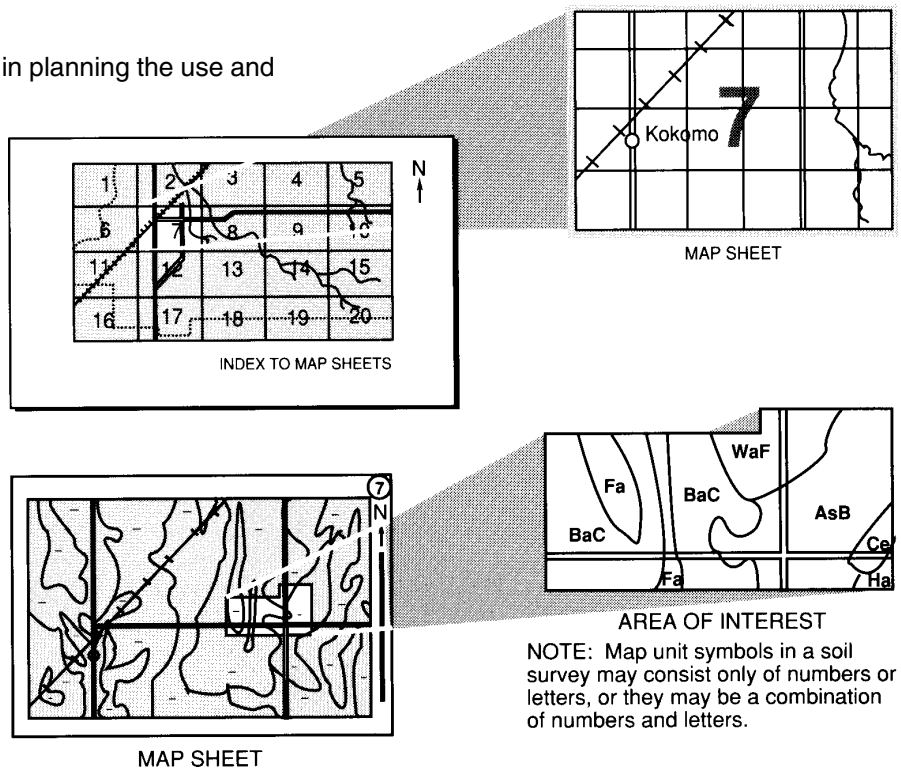
Detailed Soil Maps

The detailed soil maps 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**. Note the number of the map sheet and turn to that sheet.

Locate your area of interest on the map sheet. Note the map unit 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.

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.



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.

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 1990. Soil names and descriptions were approved in 1991. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1990. This survey was made cooperatively by the Natural Resources Conservation Service and the University of Georgia, College of Agricultural and Environmental Sciences, Agricultural Experiment Stations. The survey is part of the technical assistance furnished to the Altamaha and Central Georgia Soil and Water Conservation Districts.

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: A well managed pecan grove in an area of Tifton loamy sand, 2 to 5 percent slopes. This soil is prime farmland and is well suited to agricultural and nonagricultural uses.

Additional information about the Nation's natural resources is available online from the Natural Resources Conservation Service at http://www.nrcs.usda.gov.

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Foreword

This soil survey contains information that affects land use planning in Bleckley, Dodge, and Telfair Counties. 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, 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.

Leonard Jordan
State Conservationist
Natural Resources Conservation Service

Soil Survey of
Bleckley, Dodge, and Telfair Counties, Georgia

By Ernest H. Smith and Thomas A. Rigdon, Natural Resources Conservation Service

Fieldwork by Ernest H. Smith, Thomas A. Rigdon, Mack Thomas, Jr., James R. Lathem, Timothy D. Kring, James O. Murphy, Edward E. Looper, Alfred Green, Dan B. Bacon, Marion M. Blevins, and Robert Wilkes, Natural Resources Conservation Service

United States Department of Agriculture, Natural Resources Conservation Service,
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Agricultural Experiment Stations

Bleckley, Dodge, and Telfair Counties are in the central part of the state (fig. 1). They have a combined land area of 1,168.6 square miles, or 747,900 acres. Bleckley County has 140,200 acres, Dodge County has 323,500 acres, and Telfair County has 284,200 acres. Cochran is the county seat of Bleckley County, Eastman is the county seat of Dodge County, and McRae is the county seat of Telfair County.

Bleckley, Dodge, and Telfair Counties are in the Southern Coastal Plain Major Land Resource Area. The survey area consists mainly of nearly level to moderately steep soils on uplands and nearly level soils on flood plains along the Ocmulgee River and the larger creeks. Most of the soils on uplands are well drained. They have a sandy or loamy surface layer and a loamy or clayey subsoil. The soils on broad, smooth, even upland areas, on flood plains, and near drainageways are poorly drained to well drained. They have a loamy or sandy surface layer and a predominantly loamy subsoil, substratum, or underlying layer.

Most of the soils on the upland ridgetops are essentially uneroded. The soils on hillsides, however, commonly are eroded. Most of the better drained, nearly level to gently sloping soils that have a loamy or clayey subsoil are well suited to field crops, hay, pasture, and many nonfarm uses.

The first soil survey of Dodge County was published in 1904 (USDA, 1904). This survey updates the first survey and provides additional information. No previous soil survey has been published for Bleckley County or Telfair County.

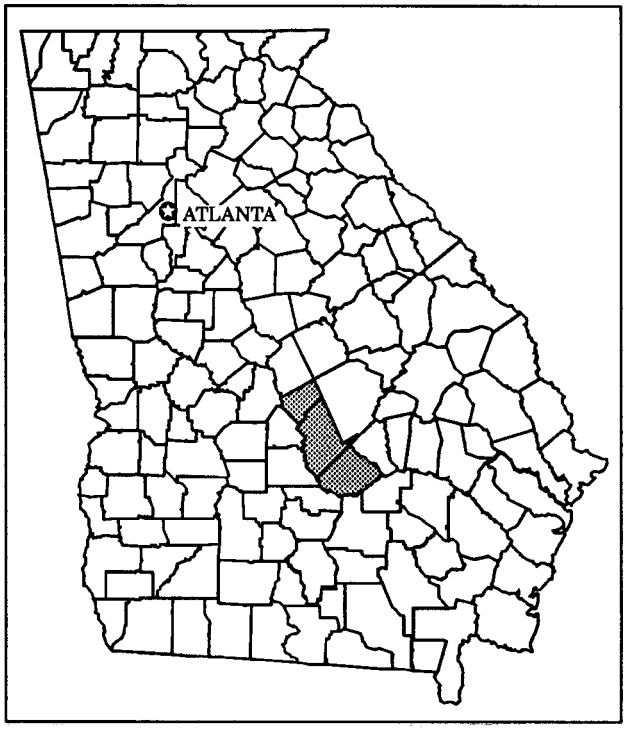

Figure 1.—Location of Bleckley, Dodge, and Telfair Counties in Georgia.

General Nature of the Survey Area

Jesse W. Bearden, district conservationist, David A. Ferrell, district conservationist, and George B. Belflower, Jr., soil conservationist, assisted in preparing this section.

This section gives general information concerning the survey area. It describes settlement; climate; water resources; farming; physiography, relief, and drainage; geology; and industries, utilities, and transportation.

Settlement

Bleckley County was created by an act of the Georgia Legislature on July 30, 1912 (DAR, 1957). The act was ratified at a popular election held on October 2, 1912, and the establishment of the county was proclaimed by the Governor the Honorable Joseph M. Brown on October 12, 1912. The new county was formed from parts of Pulaski and Laurens Counties, created by a legislative act on December 13, 1908.

Bleckley County was named in honor of Chief Justice Logan E. Bleckley of the Georgia Supreme Court. Born in Rabun County in 1827, he served as a confederate soldier, resumed law practice after the civil war, was an associate justice of the Supreme Court from 1875 to 1880, and was chief justice from 1887 to 1894.

Cochran, the county seat, was named in honor of Judge Arthur E. Cochran, a noted jurist and a practical man of affairs. As president of the Old Macon and Brunswick Railroad (now the Southern Railroad), he was largely instrumental in developing this section of Georgia. He was the first judge of the Brunswick Circuit.

Dodge County was created by an act of the Georgia Legislature on October 26, 1870. The new county included the land in districts 13, 14, 15, 16, 19, and 20 of the original Wilkinson County, except those parts of districts 13, 16, and 19 that were in Laurens County. Dodge County was formed from parts of Pulaski, Telfair, and Montgomery Counties (Cobb, [1932] 1994).

The Dodge County area was originally opened for settlement by a treaty signed with the Creek Indians in 1805. The land was surveyed into districts and lots and was distributed to settlers by the Land Lottery of 1807. At that time, the area was all a part of Wilkinson County. It was soon divided into smaller counties. Laurens County was formed in 1807, Telfair County was formed in 1807, and Pulaski County was formed in 1808.

Disputes over land ownership started long before Dodge County was formed. Some people who won land in the lottery never applied for a grant from the State. Others received a grant and sold it to land speculators or to other individuals without recording a deed. Others simply found vacant land and settled on it. These actions led to serious problems later.

Several factors affected the formation of Dodge County. The Macon and Brunswick Railroad was built through the area in 1869. The railroad brought a rapid increase in population, business, and industry. The number of legal matters that needed to be taken to a courthouse also increased. Roads were poor, and the courthouses were a long distance away. The belief that a new county was needed grew. A plan for a new county was promoted by two northern capitalists who had bought a tremendous amount of land in the area. These men were William Pitt Eastman, who offered to lay out a town for the county seat, and William E. Dodge, who promised to build a courthouse and give it to the county.

There was enough support by the people in the area that would become the new county, and a petition was presented to the legislature. A law was passed, and the county came into existence. The legislation included plans for election of county officers, established a court system in the county, and provided for the transfer of legal work from the original counties to the new one.

Telfair County was created in 1807. It was named in honor of Edward Telfair, a Revolutionary War patriot who later became Governor of Georgia (Mann, 1978). The early settlements sprang up along the Ocmulgee River, which is the southern boundary of the county. The first county seat was located at Jacksonville, which was a busy training site on the Ocmulgee River. The county seat was moved to McRae-Helena in 1872 when the railroad was established.

Climate

Prepared by the Natural Resources Conservation Service National Water and Climate Center, Portland, Oregon.

Table 1 gives data on temperature and precipitation for the survey area as recorded at Eastman, Georgia, in the period 1961 to 1990. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 provides data on the length of the growing season. Thunderstorm days, relative humidity, percent sunshine, and wind information are estimated from first order station at Macon, Georgia.

In winter, the average temperature is 48.2 degrees F and the average daily minimum temperature is 36.8 degrees. The lowest temperature on record, which occurred at Eastman on January 21, 1985, is

-2 degrees. In summer, the average temperature is 79.7 degrees and the average daily maximum temperature is 90.9 degrees. The highest recorded temperature, which occurred at Eastman on June 28, 1954, is 110 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 average annual precipitation is about 46.40 inches. Of this, about 30.8 inches, or 66 percent, usually falls in March through October. The growing season for most crops falls within this period. The heaviest 1-day rainfall during the period of record was 5.25 inches at Eastman on June 6, 1995. Thunderstorms occur on about 55 days each year, and most occur between May and August.

The average seasonal snowfall is only 0.1 inch. The greatest snow depth at any one time during the period of record was 2 inches, recorded on December 23, 1993 at Eastman. The snow record at Eastman, however, is incomplete during a major snow in February, 1973. During this storm, 14 inches of snow was recorded at Hawkinsville in nearby Pulaski County and an estimated 10 to 14 inches of snow fell in Dodge County. Had this event been recorded, it almost assuredly would have been the greatest snow on record for Dodge County. On average, less than one day each year has at least 1 inch of snow on the ground.

The average relative humidity in midafternoon is about 52 percent. Humidity is higher at night, and the average at dawn is about 75 percent in the winter and nearly 90 percent in the summer. The sun shines 70 percent of the time possible in summer and 60 percent in winter. The prevailing wind is from the west-northwest, except during August, September, and October, when it is from the northeast. Average wind speed is highest, around 9 miles per hour, in February and March.

Water Resources

The Ocmulgee River, Alligator Creek, Buckhorn Creek, Gum Swamp Creek, Horse Creek, Limestone Creek, Shellstone Creek, Sugar Creek, Turnpike Creek, and their tributaries provide water to Bleckley, Dodge, and Telfair Counties. Also, many ponds throughout the survey area are used for livestock watering, irrigation, and recreation (fig. 2).

Most of the domestic wells in the survey area are 3 to 6 inches in diameter and 100 to 300 feet in depth. These deep wells produce an adequate supply of water, even during dry periods. Recently, wells that are 8 to 16 inches in diameter and 250 to 750 feet in depth have been used to supply water for irrigation.

Farming

The early settlers of Bleckley, Dodge, and Telfair Counties were mostly farmers. Throughout the history of the survey area, farming has been the main economic enterprise. Most of the farm income is derived from cultivated crops, mainly soybeans, corn, peanuts, cotton, and small grain. A small acreage is used for tobacco. In recent years, the amount of land used for cotton has increased and a sizeable acreage of cropland has been planted to pine trees and grass through the Conservation Reserve Program. Beef cattle and hogs are also important sources of farm income. Bleckley and Telfair Counties have fewer acres of cultivated crops than Dodge County, but the kinds of crops grown in each county are about the same. About 70 percent of the survey area is wooded. Forest products contribute significantly to the income of the counties.

Since about 1950, the number of farms in the survey area has decreased. The average size of the farms, however, has increased.

Erosion and low soil fertility have been the most important management concerns on farmland in the survey area over the years. In the early 1900’s, farming became more intensive and tenant-type farming became widespread. These factors led to misuse of the land, and erosion increased dramatically. Changes in land ownership were common, and soil fertility was not maintained in most places. The economic depression in the early 1920’s marked the height of practices that were damaging to the land.

Physiography, Relief, and Drainage

Bleckley, Dodge, and Telfair Counties are in the Southern Coastal Plain Major Land Resource Area. Elevation ranges from 100 feet near Lumber City in Telfair County to 440 feet in the northwestern part of Bleckley County near the Twiggs County line.

The soils on uplands are mainly well drained. The survey area consists mostly of broad, nearly level soils on ridgetops and very gently sloping and gently sloping soils on ridgetops and hillsides. The landscape is dissected by numerous small drainageways. The slopes on the ridgetops commonly are smooth and

Figure 2.—A pond in an area of Kinston-Bibb association, frequently flooded. There are many ponds throughout the survey area. A dry hydrant has been installed at this pond to help conserve energy and water resources. Such hydrants are primarily used to improve fire protection in rural areas.

convex, and the slopes on the hillsides are commonly irregular and convex.

The nearly level soils on flood plains are predominantly poorly drained. They are near the Ocmulgee River, Alligator Creek, Buckhorn Creek, Gum Swamp Creek, Horse Creek, Limestone Creek, Shellstone Creek, Sugar Creek, Turnpike Creek, and their tributaries. In most parts of the survey area, the flood plains are somewhat narrow. They are, however, wide near the Ocmulgee River, Gum Swamp Creek, and Sugar Creek. The soils near the major streams and their tributaries are subject to frequent overflow during winter and spring. These soils drain off slowly and remain wet for long periods.

The major drainage system for the survey area consists of the Ocmulgee River, Little Ocmulgee River, Gum Swamp Creek, Sugar Creek, Horse Creek, Turnpike Creek, and their tributaries. The Ocmulgee

River forms the western boundary of Bleckley, Dodge, and Telfair Counties. Also, it meanders and forms the southern boundary of Telfair County. Gum Swamp Creek becomes the Little Ocmulgee River at Little Ocmulgee State Park and forms the northern and northeastern boundary of Telfair County. Important tributaries are Shellstone Creek, Alligator Creek, Limestone Creek, Little Gum Swamp Creek, Little Horse Creek, Boggy Branch, and Mill Creek. Each of the tributaries of the major streams has its own small tributaries that branch into the uplands and form a well defined trellis pattern.

Geology

Bleckley, Dodge, and Telfair counties are within the Vidalia Upland physiographic district and the Georgia Sand Hills land resource area. Typically, these uplands were formed on Coastal Plain marine sediments. They are moderately dissected and have well developed streams between narrow, rounded ridges that are about 50 to 200 feet above the valley floor. Elevations range from about 400 feet above mean sea level in Bleckley County to 250 feet above mean sea level in Telfair County. The northwest corner of Bleckley County is in the Fall Line Hills physiographic district. The Fall Line Hills represent the Coastal Plain sediments that overlay and are in contact with the crystalline rocks of the Piedmont. This district is highly dissected and has few level areas, except the marshy flood plains and their better drained, narrow stream terraces. Average elevation on the uplands is 350 feet above mean sea level.

The parent materials of the soils in the survey area were derived from Eocene- to Miocene-aged marine sediments consisting of alternating layers of sand, clay, and limestone. These strata dip and progressively thicken to the southeast. The Eocene sediments overly the crystalline basement rocks at an average depth of 500 feet in Bleckley County and 2,000 feet in Telfair County. Successively younger sediments overly the Eocene-aged sediments. Miocene- to Pliocene-aged materials form the ridges and interstream caps of Telfair County and much of Dodge County. These sediments belong to the Neogene undifferentiated clastics and consist of predominantly tan, brown, or red sand, clay, and gravel (Clark, 1977; Georgia DNR, 1976; Huddleston, 1988; Lawton and Marsalis, 1976). They characteristically weather to a light tan at the surface. Rounded quartz pebbles are common near the base of the Neogene material, which overlies the Flint River Formation at an average depth of 100 to 150 feet. Typically, the sandy surface of the Neogene material gives rise to the Tifton soils, which are yellow to gray and contain many hard, ferruginous concretions. Other soils that are related to the Neogene material and that are common to the ridges and lower slopes are the Dothan, Fuquay, and Carnegie soils.

Western Dodge County and small parts of western Bleckley County include relatively shallow Miocene sediments, somewhat intermixed with the underlying Flint River Formation. This sedimentary residuum is predominantly tan, brown, or red sand, clay, and gravel. It is characteristically bleached to light tan at the surface. Rounded quartz pebbles are common near the base of the formation. The Flint River Formation, which commonly occurs at or very near the surface in this area, consists of large chert boulders; large iron concretions of limonite, hematite, and goethite; iron cemented sandstone; and varicolored clay and sand. This formation also contained significant limestone bedding, but historic groundwater dissolved the limestone. The original solution process led to some overburden collapse, leaving the minor depressions and sinks that now exist on the land surface. These depressions are evident on topographic maps but are difficult to discern in the field. The outcrop area of the Flint River Formation holds up the steepest portions of the gently sloping valley sides. Soils in this area include the Greenville, Faceville, and Orangeburg soils. These are moderately permeable, clayey to loamy soils that formed on slight to moderate slopes in the uplands.

Industries, Utilities, and Transportation

The soils in Bleckley, Dodge, and Telfair Counties are used mainly for farming and as woodland. Most of the farm products can be marketed locally.

Several hundred people in the survey area are employed making apparel, lighting fixtures, tires, woodland products, and candy.

Electric power and telephone service are available throughout the three counties. Natural gas is supplied to the major towns and cities. Railroads, truck lines, and buses provide shipping and transportation facilities. Air service is available. State highways and county roads extend throughout the survey area, and Interstate 16 extends east and west through the extreme northern part of Bleckley County.

How This Survey Was Made

This survey was made to provide information about the soils in the survey area. The information includes a description of the soils and their location and a

discussion of the suitability, limitations, and management of the soils for specified uses. Soil scientists observed the sharp relief, length, and shape of slopes; the general pattern of drainage; the kinds of crops and native plants growing on the soils; and the kinds of bedrock. 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 has few or no roots or other living organisms and has been changed very little by other biologic activity.

The soils in the survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil is associated with a particular kind of landscape or with a segment of the landscape. By observing the soils in the survey area and relating their position to specific segments of the landscape, a soil scientist develops a concept, or model, of how the soils were formed. Thus, during mapping, this model enables the soil scientist to predict with considerable accuracy the kind of soil 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-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, acidity, 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. 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 interpreted the data from these analyses and tests as well as the field-observed characteristics and the soil properties in terms of expected behavior of the soils under different uses. Interpretations for all 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 new interpretations sometimes 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 state with a fairly high degree of probability that a given soil will have a high water table within certain depths in most years, but they cannot assure 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.

Map Unit Composition

A map unit delineation on a soil map represents an area dominated by one major kind of soil or an area dominated by several kinds of soil. A map unit is identified and named according to the taxonomic classification of the dominant soil or soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural objects. In common with other natural objects, they have a characteristic variability in their properties. 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 soils of other taxonomic classes. Consequently, every map unit is made up of the soil or

soils for which it is named and some soils that belong to other taxonomic classes. These latter soils are called minor components.

Most minor components have properties and behavioral patterns 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 (similar) components. They may or may not be mentioned in the map unit descriptions. Other minor components, however, have properties and behavior divergent enough to affect use or require different management. These are contrasting (dissimilar) components. They generally occupy small areas and cannot be shown separately on the soil maps because of the scale used in mapping. The inclusion of contrasting soils are mentioned in the map unit descriptions. A few minor components may not have been observed and consequently are not mentioned in the descriptions, especially where the soil pattern was so complex that it was impractical to make enough observations to identify all of the kinds of soil on the landscape.

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

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.

Soils in Bleckley County

1. Tawcaw-Chastain

Somewhat poorly drained and poorly drained soils that have a loamy surface layer and a loamy or clayey subsoil or underlying layers

Setting

Landscape characterization: Nearly level soils on the flood plains along the winding Ocmulgee River
Slope: 0 to 2 percent
Flooding: Common
Hydrologic features: Mainly winding, intermittent and perennial streams
Land use: Mostly woodland
Cultural features: Roads and utility lines

Extent and Composition

Percent of county: 1 percent
Tawcaw soils: 50 percent
Chastain soils: 40 percent
Minor soils: 10 percent

Typical Profile

Tawcaw
Surface layer:
0 to 4 inches—dark brown silty clay loam

Subsoil:
4 to 20 inches—yellowish brown silty clay that has very pale brown and light brownish gray mottles
20 to 40 inches—yellowish brown silty clay that has strong brown and light brownish gray mottles
40 to 52 inches—mottled light brownish gray, yellowish brown, and strong brown silty clay
52 to 60 inches—light gray sandy clay loam that has strong brown and yellowish brown mottles

Substratum:
60 to 70 inches—light gray loamy sand that has yellowish brown mottles

Chastain
Surface layer:
0 to 9 inches—dark brown silty clay loam

Subsoil:
9 to 34 inches—light brownish gray silty clay that has yellowish red mottles
34 to 46 inches—light brownish gray clay that has yellowish red and strong brown mottles

Substratum:
46 to 52 inches—gray coarse sandy loam
52 to 65 inches—gray coarse sand

Minor Soils

- Poorly drained Kinston and Bibb soils on the outer parts of the flood plains

Use and Management

Major management concerns: Wetness and flooding
Suitability: Well suited to the commonly growing trees; unsuited to field crops, hay, and pasture; unsuited to nonfarm uses

2. Kinston-Bibb

Poorly drained soils that are loamy throughout or that have a loamy surface layer and predominantly sandy underlying layers

Setting

Landscape characterization: Nearly level flood plains along major tributaries to the Ocmulgee River
Slope: 0 to 2 percent
Flooding: Frequent
Hydrologic features: Mainly winding, intermittent and perennial streams
Land use: Mostly woodland
Cultural features: Roads and utility lines

Extent and Composition

Percent of county: 7 percent
Kinston soils: 50 percent
Bibb soils: 40 percent
Minor soils: 10 percent

Typical Profile

Kinston
Surface layer:
0 to 4 inches—very dark grayish brown loam

Underlying material:
4 to 25 inches—light gray sandy loam
25 to 50 inches—light brownish gray sandy clay loam that has strong brown and yellowish red mottles
50 to 65 inches—light brownish gray sand that has yellowish brown and yellowish red mottles and thin strata of sandy loam

Bibb
Surface layer:
0 to 4 inches—very dark grayish brown loam

Underlying material:
4 to 25 inches—light gray sandy loam that has yellowish brown and strong brown mottles
25 to 48 inches—light gray sandy loam that has yellowish brown, strong brown, and yellowish red mottles
48 to 52 inches—light gray loamy sand that has yellowish brown and strong brown mottles
52 to 65 inches—light gray sand that has yellowish brown and strong brown mottles and thin strata of sandy loam

Minor Soils

- Pelham and Rains soils in low lying areas and slight depressions at the upper end of the flood plain

Use and Management

Major management concerns: Wetness and flooding
Suitability: Well suited to the commonly growing trees; unsuited to field crops, hay, and pasture; unsuited to nonfarm uses

3. Greenville-Faceville-Orangeburg

Well drained soils that have a sandy or loamy surface layer and a loamy or clayey subsoil; on smooth and convex ridgetops and irregular hillsides

Setting

Landscape characterization: Nearly level to moderately steep, well drained soils on ridgetops and hillsides
Slope: 0 to 17 percent
Flooding: None
Hydrologic features: Excess surface water drains into a system of intermittent and perennial streams; common areas of open water.
Land use: Mostly cultivated crops; some pasture and woodland
Cultural features: Roads, utility lines, fences, farmsteads, and associated structures

Extent and Composition

Percent of county: 15 percent
Greenville soils: 42 percent
Faceville soils: 26 percent
Orangeburg soils: 7 percent
Minor soils: 25 percent

Typical Profile

Greenville
Surface layer:
0 to 6 inches—dark reddish brown sandy loam

Subsoil:
6 to 10 inches—dark reddish brown sandy clay loam
10 to 65 inches—dark red sandy clay

Faceville
Surface layer:
0 to 7 inches—brown sandy loam

Subsoil:
7 to 10 inches—red sandy clay loam
10 to 29 inches—red sandy clay
29 to 65 inches—red sandy clay that has strong brown mottles

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

Subsoil:
6 to 12 inches—strong brown sandy loam
12 to 65 inches—red sandy clay loam

Minor Soils

- Well drained Lucy and Red Bay soils in the same landscape positions as the major soils
- Poorly drained Kinston and Bibb soils on flood plains
- Poorly drained Grady soils in slight depressions

Use and Management

Major management concerns: Erosion in areas of the very gently sloping to moderately steep soils that have a thin surface layer

Suitability: The soils on ridgetops and the gently sloping soils on hillsides are well suited to most uses; the more sloping soils on hillsides are somewhat limited because of slope.

4. Dothan-Tifton-Fuquay

Well drained soils that have a sandy or loamy surface layer and a loamy subsoil or that have a sandy surface layer, a thick, sandy subsurface layer, and a loamy subsoil; on ridgetops and hillsides

Setting

Landscape characterization: Nearly level to gently sloping, well drained soils on ridgetops and hillsides

Slope: 0 to 8 percent

Flooding: None

Hydrologic features: Excess surface water drains into a system of intermittent and perennial streams; common areas of open water.

Land use: Mostly cultivated crops; some pasture and woodland

Cultural features: Roads, utility lines, fences, farmsteads, and associated structures

Extent and Composition

Percent of county: 67 percent
Dothan soils: 34 percent
Tifton soils: 19 percent
Fuquay soils: 6 percent
Minor soils: 41 percent

Typical Profile

Dothan

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

Subsoil:
6 to 12 inches—yellowish brown sandy loam
12 to 31 inches—yellowish brown sandy clay loam
31 to 42 inches—yellowish brown sandy clay loam that has strong brown mottles
42 to 65 inches—mottled yellowish brown, red, strong brown, and light brownish gray sandy clay loam

Distinctive features: A few nodules of ironstone in the surface layer and in the upper part of the subsoil

Tifton

Surface layer:
0 to 8 inches—dark grayish brown loamy sand

Subsoil:
8 to 18 inches—yellowish brown sandy loam
18 to 38 inches—yellowish brown sandy clay loam
38 to 50 inches—yellowish brown sandy clay loam that has yellowish red and very pale brown mottles
50 to 65 inches—mottled yellowish brown, yellowish red, and light gray sandy clay loam

Distinctive features: Nodules of ironstone in the surface layer and throughout the subsoil

Fuquay

Surface layer:
0 to 7 inches—dark grayish brown loamy sand

Subsurface layer:
7 to 26 inches—light yellowish brown loamy sand

Subsoil:
26 to 33 inches—brownish yellow sandy loam
33 to 48 inches—brownish yellow sandy clay loam that has strong brown mottles
48 to 58 inches—brownish yellow sandy clay loam that has yellowish red and pale brown mottles
58 to 65 inches—mottled brownish yellow, yellowish red, and light gray sandy clay loam

Distinctive features: A few nodules of ironstone in the surface layer and in the upper part of the subsurface layer

Minor Soils

- Well drained Bonifay, Cowarts, Marlboro, and Nankin soils in the same landscape positions as the major soils
- Poorly drained Kinston and Bibb soils on flood plains
- Poorly drained Rains soils in slight depressions

Use and Management

Major management concerns: Erosion in areas of the very gently sloping and gently sloping soils that have a thin surface layer; low available water capacity in areas of the soils that have a sandy surface layer and a thick, sandy subsurface layer

Suitability: Well suited to most uses

5. Nankin-Cowarts-Dothan

Well drained soils that have a sandy or loamy surface layer and a loamy or clayey subsoil; on irregular and convex ridgetops and hillsides

Setting

Landscape characterization: Nearly level to steep, well drained soils on irregular and convex ridgetops and hillsides
Slope: 0 to 25 percent
Flooding: None
Hydrologic features: Excess surface water drains into a system of intermittent and perennial streams; common areas of open water.
Land use: Mostly cultivated crops; some pasture and woodland
Cultural features: Roads, utility lines, fences, homesteads, and associated structures

Extent and Composition

Percent of county: 10 percent
Nankin soils: 40 percent
Cowarts soils: 35 percent
Dothan soils: 10 percent
Minor soils: 15 percent

Typical Profile

Nankin
Surface layer:
0 to 6 inches—grayish brown loamy sand

Subsoil:
6 to 13 inches—yellowish brown sandy clay loam
13 to 29 inches—strong brown sandy clay loam that has yellowish red mottles
29 to 37 inches—mottled yellowish brown, red, and light yellowish brown sandy clay loam
37 to 53 inches—mottled yellowish brown, red, and light gray sandy clay loam
53 to 65 inches—mottled strong brown, red, light gray, and pale brown sandy clay loam

Distinctive features: A few ironstone nodules and quartz pebbles in the surface layer and throughout the upper part of the subsoil

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

Subsoil:
6 to 15 inches—yellowish brown sandy loam
15 to 21 inches—yellowish brown sandy clay loam
21 to 29 inches—yellowish brown sandy clay loam that has yellowish red mottles

Substratum:
29 to 65 inches—mottled yellowish brown, red, and light gray sandy clay loam

Distinctive features: A few ironstone nodules and quartz pebbles in the surface layer and throughout the upper part of the subsoil

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

Subsoil:
6 to 12 inches—yellowish brown sandy loam
12 to 31 inches—yellowish brown sandy clay loam
31 to 42 inches—yellowish brown sandy clay loam that has strong brown mottles
42 to 65 inches—mottled yellowish brown, red, strong brown, and light gray sandy clay loam

Distinctive features: A few nodules of ironstone in the surface layer and in the upper part of the subsoil

Minor Soils

- Well drained Ailey and Bonifay soils in the same landscape positions as the major soils
- Somewhat poorly drained Susquehanna soils on very gently sloping ridgetops and on short, gently sloping and strongly sloping hillsides
- Poorly drained Kinston and Bibb soils on flood plains

Use and Management

Major management concerns: Erosion in areas of the very gently sloping to moderately steep soils that have a thin surface layer; slope in some areas on hillsides
Suitability: The soils on ridgetops and the gently sloping soils on hillsides are well suited to most farm and nonfarm uses, except where permeability is moderately slow or slow.

Soils in Dodge County

1. Tawcaw-Chastain

Somewhat poorly drained and poorly drained soils that have a loamy surface layer and a loamy or clayey subsoil or underlying layers

Setting

Landscape characterization: Nearly level soils on the flood plains along the winding Ocmulgee River
Slope: 0 to 2 percent

Flooding: Common
Hydrologic features: Mainly winding, intermittent and perennial streams
Land use: Mostly woodland
Cultural features: Roads and utility lines

Extent and Composition

Percent of county: 3 percent
Tawcaw soils: 50 percent
Chastain soils: 40 percent
Minor soils: 10 percent

Typical Profile

Tawcaw
Surface layer:
0 to 4 inches—dark brown silty clay loam

Subsoil:
4 to 20 inches—yellowish brown silty clay that has very pale brown and light brownish gray mottles
20 to 40 inches—yellowish brown silty clay that has strong brown and light brownish gray mottles
40 to 52 inches—mottled light brownish gray, yellowish brown, and strong brown silty clay
52 to 60 inches—light gray sandy clay loam that has strong brown and yellowish brown mottles

Substratum:
60 to 70 inches—light gray loamy sand that has yellowish brown mottles

Chastain
Surface layer:
0 to 9 inches—dark brown silty clay loam

Subsoil:
9 to 34 inches—light brownish gray silty clay that has yellowish red mottles
34 to 46 inches—mottled light brownish gray, yellowish red, and strong brown clay

Substratum:
46 to 52 inches—gray coarse sandy loam
52 to 65 inches—light gray coarse sand

Minor Soils

- Poorly drained Kinston and Bibb soils in small drainageways on the outer part of the flood plain

Use and Management

Major management concerns: Wetness and flooding
Suitability: Well suited to the commonly growing trees; unsuited to field crops, hay, and pasture; unsuited to nonfarm uses

2. Kinston-Bibb

Poorly drained soils that are loamy throughout or that have a loamy surface layer and predominantly sandy underlying layers

Setting

Landscape characterization: Nearly level flood plains along major tributaries of the Ocmulgee River
Slope: 0 to 2 percent
Flooding: Frequent
Hydrologic features: Mainly winding, intermittent and perennial streams
Land use: Mostly woodland
Cultural features: Roads and utility lines

Extent and Composition

Percent of county: 3 percent
Kinston soils: 50 percent
Bibb soils: 40 percent
Minor soils: 10 percent

Typical Profile

Kinston
Surface layer:
0 to 4 inches—very dark grayish brown loam

Underlying material:
4 to 25 inches—light gray sandy loam
25 to 50 inches—light brownish gray sandy clay loam that has strong brown and yellowish red mottles
50 to 65 inches—light brownish gray sand that has yellowish brown and yellowish red mottles and thin strata of sandy loam

Bibb
Surface layer:
0 to 4 inches—very dark grayish brown loam

Underlying material:
4 to 25 inches—light gray sandy loam that has yellowish brown and strong brown mottles
25 to 48 inches—light gray sandy loam that has yellowish brown, strong brown, and yellowish red mottles
48 to 52 inches—light gray loamy sand that has yellowish brown and strong brown mottles
52 to 65 inches—light gray sand that has yellowish brown and strong brown mottles and thin strata of sandy loam

Minor Soils

- Pelham and Rains soils in low lying areas and slight depressions at the upper end of the flood plain

Use and Management

Major management concerns: Wetness and flooding
Suitability: Well suited to the commonly growing trees; unsuited to field crops, hay, and pasture; unsuited to nonfarm uses

3. Tifton-Fuquay-Dothan

Well drained soils that have a sandy or loamy surface layer and a loamy subsoil or that have a sandy surface layer, a thick, sandy subsurface layer, and a loamy subsoil; on ridgetops and hillsides

Setting

Landscape characterization: Nearly level to gently sloping, well drained soils on ridgetops and hillsides
Slope: 0 to 8 percent
Flooding: None
Hydrologic features: Excess surface water drains into a system of intermittent and perennial streams; common areas of open water.
Land use: Mostly cultivated crops; some pasture and woodland
Cultural features: Roads, utility lines, fences, farmsteads, and associated structures

Extent and Composition

Percent of county: 66 percent
Tifton soils: 23 percent
Fuquay soils: 19 percent
Dothan soils: 8 percent
Minor soils: 50 percent

Typical Profile

Tifton
Surface layer:
0 to 8 inches—dark grayish brown loamy sand

Subsoil:
8 to 18 inches—yellowish brown sandy loam
18 to 38 inches—yellowish brown sandy clay loam
38 to 50 inches—yellowish brown sandy clay loam that has common yellowish red and very pale brown mottles
50 to 65 inches—mottled yellowish brown, yellowish red, and light gray sandy clay loam

Distinctive features: A horizon with 7 or 8 percent plinthite below a depth of 38 inches; nodules of ironstone in the surface layer and to a depth of 42 inches

Fuquay
Surface layer:
0 to 7 inches—dark grayish brown loamy sand

Subsurface layer:
7 to 26 inches—light yellowish brown loamy sand

Subsoil:
26 to 33 inches—brownish yellow sandy loam
33 to 48 inches—brownish yellow sandy clay loam that has strong brown mottles
48 to 58 inches—brownish yellow sandy clay loam that has yellowish red and pale brown mottles
58 to 65 inches—mottled brownish yellow, yellowish red, and light gray sandy clay loam

Distinctive features: A few nodules of ironstone in the surface layer and in the upper part of the subsurface layer; 5 percent or more plinthite below a depth of 48 inches

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

Subsoil:
6 to 12 inches—yellowish brown sandy loam
12 to 31 inches—yellowish brown sandy clay loam
31 to 42 inches—yellowish brown sandy clay loam that has strong brown mottles
42 to 65 inches—mottled yellowish brown, red, strong brown, and light brownish gray sandy clay loam

Distinctive features: A few nodules of ironstone in the surface layer and in the upper part of subsoil; 5 percent or more plinthite below a depth of 42 inches

Minor Soils

- Well drained Ailey, Carnegie, and Cowarts soils in the same landscape positions as the major soils
- Somewhat poorly drained Susquehanna soils on toeslopes
- Poorly drained Kinston and Bibb soils on flood plains
- Poorly drained Grady and Rains soils in slight depressions

Use and Management

Major management concerns: Erosion in areas of the very gently sloping and gently sloping soils that have a thin surface layer; low available water capacity in areas of the soils that have a sandy surface layer and a thick subsurface layer
Suitability: Well suited to most uses

4. Nankin-Cowarts-Dothan

Well drained soils that have a sandy or loamy surface layer and a loamy or clayey subsoil; on irregular and convex ridgetops and hillsides

Setting

Landscape characterization: Nearly level to steep, well drained soils on irregular and convex ridgetops and hillsides
Slope: 0 to 25 percent
Flooding: None
Hydrologic features: Excess surface water drains into a system of intermittent and perennial streams; common areas of open water.
Land use: Mostly cultivated crops; some pasture and woodland
Cultural features: Roads, utility lines, fences, homesteads, and associated structures

Extent and Composition

Percent of county: 23 percent
Nankin soils: 49 percent
Cowarts soils: 29 percent
Dothan soils: 8 percent
Minor soils: 14 percent

Typical Profile

Nankin
Surface layer:
0 to 6 inches—grayish brown loamy sand

Subsoil:
6 to 13 inches—yellowish brown sandy clay loam
13 to 29 inches—strong brown sandy clay that has yellowish red mottles
29 to 37 inches—mottled yellowish brown, red, and light yellowish brown sandy clay loam
37 to 53 inches—mottled yellowish brown, red, and light gray sandy clay loam

Substratum:
53 to 65 inches—mottled strong brown, red, light gray, and pale brown sandy clay loam

Distinctive features: A few ironstone nodules and quartz pebbles in the surface layer and throughout the upper part of the subsoil

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

Subsoil:
6 to 15 inches—yellowish brown sandy loam
15 to 21 inches—yellowish brown sandy clay loam
21 to 29 inches—yellowish brown sandy clay loam that has yellowish red mottles

Substratum:
29 to 65 inches—mottled yellowish brown, red, light yellowish brown, and light gray sandy clay loam

Distinctive features: A few ironstone nodules and quartz pebbles in the surface layer and throughout the upper part of the subsoil

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

Subsoil:
6 to 12 inches—yellowish brown sandy loam
12 to 31 inches—yellowish brown sandy clay loam
31 to 42 inches—yellowish brown sandy clay loam that has strong brown mottles
42 to 65 inches—mottled yellowish brown, red, strong brown and light brownish gray sandy clay loam

Distinctive features: A few nodules of ironstone in the surface layer and in the upper part of the subsoil

Minor Soils

- Well drained Ailey, Bonifay, and Fuquay soils in the same landscape positions as the major soils
- Somewhat poorly drained Susquehanna soils on toeslopes
- Poorly drained Kinston and Bibb soils on flood plains

Use and Management

Major management concerns: Erosion in areas of the very gently sloping to moderately steep soils that have a thin surface layer; slope in some areas on hillsides; moderately slow or slow permeability
Suitability: The soils on ridgetops and gently sloping soils on hillsides are well suited to most uses.

5. Bonifay-Lakeland

Well drained soils that have a sandy surface layer, a thick subsurface layer, and a loamy subsoil or excessively drained soils that are sandy throughout

Setting

Landscape characterization: Nearly level to gently sloping, well drained and excessively drained soils on ridgetops and hillsides
Slope: 0 to 8 percent
Flooding: None

Hydrologic features: Excess surface water drains into a system of intermittent and perennial streams
Land use: Mostly woodland; some pasture and cropland
Cultural features: Roads, utility lines, fences, farmsteads, and associated structures

Extent and Composition

Percent of county: 5 percent
Bonifay soils: 63 percent
Lakeland soils: 20 percent
Minor soils: 17 percent

Typical Profile

Bonifay
Surface layer:
0 to 4 inches—dark grayish brown sand

Subsurface layer:
4 to 8 inches—brown sand
8 to 40 inches—light yellowish brown sand
40 to 54 inches—yellowish brown loamy sand

Subsoil:
54 to 61 inches—yellowish brown sandy clay loam that has red mottles
61 to 73 inches—mottled brownish yellow, red, and light gray sandy clay loam

Distinctive features: 5 percent or more plinthite below a depth of 54 inches

Lakeland
Surface layer:
0 to 4 inches—dark grayish brown sand

Underlying material:
4 to 24 inches—yellowish brown sand
24 to 50 inches—brownish yellow sand
50 to 64 inches—yellow sand
64 to 85 inches—pale brown sand that has yellow mottles

Minor Soils

- Well drained Ailey and Fuquay soils in the same landscape positions as the major soils
- Poorly drained Kinston and Bibb soils on flood plains

Use and Management

Major management concerns: Low available water capacity; seepage is a limitation affecting most sanitary facilities.
Suitability: Well suited to most nonfarm uses

Soils in Telfair County

1. Tawcaw-Chastain

Somewhat poorly drained and poorly drained soils that have a loamy surface layer and a loamy or clayey subsoil or underlying layers

Setting

Landscape characterization: Nearly level soils on the flood plains along the winding Ocmulgee River
Slope: 0 to 2 percent
Flooding: Common
Hydrologic features: Mainly winding, intermittent and perennial streams
Land use: Mostly woodland
Cultural features: Roads and utility lines

Extent and Composition

Percent of county: 6 percent
Tawcaw soils: 50 percent
Chastain soils: 40 percent
Minor soils: 10 percent

Typical Profile

Tawcaw
Surface layer:
0 to 4 inches—dark brown silty clay loam

Subsoil:
4 to 20 inches—yellowish brown silty clay that has very pale brown and light brownish gray mottles
20 to 40 inches—yellowish brown silty clay that has strong brown and light brownish gray mottles
40 to 52 inches—mottled light brownish gray, yellowish brown, and strong brown silty clay
52 to 60 inches—light gray sandy clay loam that has strong brown and yellowish brown mottles

Substratum:
60 to 70 inches—light gray loamy sand that has yellowish brown mottles

Chastain
Surface layer:
0 to 9 inches—dark brown silty clay loam

Subsoil:
9 to 34 inches—light brownish gray silty clay that has yellowish red mottles
34 to 46 inches—mottled light brownish gray, yellowish red, and strong brown clay

Substratum:
46 to 52 inches—gray coarse sandy loam
52 to 65 inches—light gray coarse sand

Minor Soils

• Poorly drained Kinston and Bibb soils in small drainageways on the outer part of the flood plain

Use and Management

Major management concerns: Wetness and flooding
Suitability: Well suited to the commonly growing trees; unsuited to field crops, hay, and pasture; unsuited to nonfarm uses

2. Kinston-Bibb

Poorly drained soils that are loamy throughout or that have a loamy surface layer and predominantly sandy underlying layers

Setting

Landscape characterization: Nearly level flood plains along major tributaries to the Ocmulgee River
Slope: 0 to 2 percent
Flooding: Frequent
Hydrologic features: Mainly winding, intermittent and perennial streams
Land use: Mostly woodland
Cultural features: Roads and utility lines

Extent and Composition

Percent of county: 12 percent
Kinston soils: 50 percent
Bibb soils: 40 percent
Minor soils: 10 percent

Typical Profile

Kinston
Surface layer:
0 to 4 inches—very dark grayish brown loam

Underlying material:
4 to 25 inches—light gray sandy loam
25 to 50 inches—light brownish gray sandy clay loam that has strong brown and yellowish red mottles
50 to 65 inches—light brownish gray sand that has yellowish brown and yellowish red mottles and thin strata of sandy loam

Bibb
Surface layer:
0 to 4 inches—very dark grayish brown loam

Underlying material:
4 to 25 inches—light gray sandy loam that has yellowish brown and strong brown mottles
25 to 48 inches—light gray sandy loam that has yellowish brown, strong brown, and yellowish red mottles
48 to 52 inches—light gray loamy sand that has yellowish brown and strong brown mottles
52 to 65 inches—light gray sand that has yellowish brown and strong brown mottles and thin strata of sandy loam

Minor Soils

• Pelham and Rains soils in low lying areas and slight depressions at the upper end of the flood plain

Use and Management

Major management concerns: Wetness and flooding
Suitability: Well suited to the commonly growing trees; unsuited to field crops, hay, and pasture; unsuited to nonfarm uses

3. Tifton-Fuquay

Well drained soils that have a sandy or loamy surface layer and a loamy subsoil or that have a sandy surface layer, a thick, sandy subsurface layer, and a loamy subsoil; on ridgetops and hillsides

Setting

Landscape characterization: Nearly level to gently sloping, well drained soils on ridgetops and hillsides
Slope: 0 to 5 percent
Flooding: None
Hydrologic features: Excess surface water drains into a system of intermittent and perennial streams; common areas of open water.
Land use: Mostly cultivated crops; some pasture and woodland
Cultural features: Roads, utility lines, fences, farmsteads, and associated structures

Extent and Composition

Percent of county: 37 percent
Tifton soils: 30 percent
Fuquay soils: 29 percent
Minor soils: 41 percent

Typical Profile

Tifton
Surface layer:
0 to 8 inches—dark grayish brown loamy sand

Subsoil:
8 to 18 inches—yellowish brown sandy loam
18 to 38 inches—yellowish brown sandy clay loam
38 to 50 inches—yellowish brown sandy clay loam that has common yellowish red and very pale brown mottles
50 to 65 inches—mottled yellowish brown, yellowish red, and light gray sandy clay loam

Distinctive features: A horizon with 7 or 8 percent plinthite below a depth of 38 inches; nodules of ironstone in the surface layer and to a depth of 42 inches

Fuquay
Surface layer:
0 to 7 inches—dark grayish brown loamy sand

Subsurface layer:
7 to 26 inches—light yellowish brown loamy sand

Subsoil:
26 to 33 inches—brownish yellow sandy loam
33 to 48 inches—brownish yellow sandy clay loam that has strong brown mottles
48 to 58 inches—brownish yellow sandy clay loam that has yellowish red and pale brown mottles
58 to 65 inches—mottled brownish yellow, yellowish red, and light gray sandy clay loam

Distinctive features: A few nodules of ironstone in the surface layer and in the upper part of the subsurface layer; 5 percent or more plinthite below a depth of 48 inches

Minor Soils

- Well drained Ailey, Carnegie, and Cowarts soils in the same landscape positions as the major soils
- Somewhat poorly drained Susquehanna soils on toeslopes
- Poorly drained Kinston and Bibb soils on flood plains
- Poorly drained Grady and Rains soils in slight depressions

Use and Management

Major management concerns: Erosion in areas of the very gently sloping and gently sloping soils that have a thin surface layer; low available water capacity in areas of the soils that have a sandy surface layer and a thick subsurface layer
Suitability: Well suited to most uses

4. Cowarts-Carnegie

Well drained soils that have a sandy or loamy surface layer and a loamy or clayey subsoil; on irregular and convex ridgetops and hillsides

Setting

Landscape characterization: Nearly level to steep, well drained soils on irregular and convex ridgetops and hillsides
Slope: 0 to 25 percent
Flooding: None
Hydrologic features: Excess surface water drains into a system of intermittent and perennial streams; common areas of open water.
Land use: Mostly cultivated crops; some pasture and woodland
Cultural features: Roads, utility lines, fences, homesteads, and associated structures

Extent and Composition

Percent of county: 21 percent
Cowarts soils: 40 percent
Carnegie soils: 30 percent
Minor soils: 30 percent

Typical Profile

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

Subsoil:
6 to 15 inches—yellowish brown sandy loam
15 to 21 inches—yellowish brown sandy clay loam
21 to 29 inches—yellowish brown sandy clay loam that has yellowish red mottles

Substratum:
29 to 65 inches—mottled yellowish brown, red, light yellowish brown, and light gray sandy clay loam

Distinctive features: A few ironstone nodules and quartz pebbles in the surface layer and throughout the upper part of the subsoil

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

Subsoil:
6 to 10 inches—strong brown sandy clay loam
10 to 40 inches—strong brown sandy clay
40 to 50 inches—strong brown clay that has mottles in shades of red and white
50 to 60 inches—mottled strong brown, red, yellow, and white clay

Distinctive features: 5 to 10 percent nodules of ironstone in the surface layer and subsoil; 5 to 7 percent plinthite at a depth of 20 to 50 inches

Minor Soils

- Well drained Ailey, Bonifay, and Fuquay soils in the same landscape positions as the major soils
- Somewhat poorly drained Susquehanna soils on toeslopes
- Poorly drained Kinston and Bibb soils on flood plains

Use and Management

Major management concerns: Erosion in areas of the very gently sloping to moderately steep soils that have a thin surface layer; slope in some areas on hillsides; moderately slow or slow permeability
Suitability: The soils on ridgetops and the gently sloping soils on hillsides are well suited to most uses.

5. Lakeland-Bonifay

Excessively drained soils that are sandy throughout or well drained soils that have a sandy surface layer, a thick subsurface layer, and a loamy subsoil

Setting

Landscape characterization: Nearly level to gently sloping, well drained and excessively drained soils on ridgetops and hillsides
Slope: 0 to 8 percent
Flooding: None
Hydrologic features: Excess surface water drains into a system of intermittent and perennial streams.
Land use: Mostly woodland; some pasture and cropland
Cultural features: Roads, utility lines, fences, farmsteads, and associated structures

Extent and Composition

Percent of county: 5 percent
Lakeland soils: 30 percent
Bonifay soils: 30 percent
Minor soils: 40 percent

Typical Profile

Lakeland
Surface layer:
0 to 4 inches—dark grayish brown sand

Underlying material:
4 to 24 inches—yellowish brown sand
24 to 50 inches—brownish yellow sand
50 to 64 inches—yellow sand
64 to 85 inches—pale brown sand that has yellow mottles

Bonifay
Surface layer:
0 to 4 inches—dark grayish brown sand

Subsurface layer:
4 to 8 inches—brown sand
8 to 40 inches—light yellowish brown sand
40 to 54 inches—yellowish brown loamy sand

Subsoil:
54 to 61 inches—yellowish brown sandy clay loam that has red mottles
61 to 73 inches—mottled brownish yellow, red, and light gray sandy clay loam

Distinctive features: 5 percent or more plinthite below a depth of 54 inches

Minor Soils

- Well drained Ailey and Fuquay soils in the same landscape positions as the major soils
- Poorly drained Kinston and Bibb soils on flood plains

Use and Management

Major management concerns: Low available water capacity; seepage is a limitation affecting most sanitary facilities.
Suitability: Well suited to most nonfarm uses

6. Fuquay-Bonifay

Well drained soils that have a sandy surface layer, a thick, sandy subsurface layer, and a loamy subsoil; on ridgetops and hillsides

Setting

Landscape characterization: Nearly level to gently sloping, well drained soils on ridgetops and hillsides
Slope: 0 to 8 percent
Flooding: None
Hydrologic features: Excess surface water drains into a system of intermittent and perennial streams.
Land use: Mostly woodland; some pasture and cropland
Cultural features: Roads, utility lines, fences, farmsteads, and associated structures

Extent and Composition

Percent of county: 5 percent
Fuquay soils: 50 percent
Bonifay soils: 30 percent
Minor soils: 20 percent

Typical Profile

Fuquay
Surface layer:
0 to 7 inches—dark grayish brown loamy sand

Subsurface layer:
7 to 26 inches—light yellowish brown loamy sand

Subsoil:
26 to 33 inches—brownish yellow sandy loam
33 to 48 inches—brownish yellow sandy clay loam that has strong brown mottles
48 to 58 inches—brownish yellow sandy clay loam that has yellowish red and pale brown mottles
58 to 65 inches—mottled brownish yellow, yellowish red, and light gray sandy clay loam

Distinctive features: A few nodules of ironstone in the surface layer and in the upper part of the subsurface layer; 5 percent or more plinthite below a depth of 48 inches

Bonifay
Surface layer:
0 to 4 inches—dark grayish brown sand

Subsurface layer:
4 to 8 inches—brown sand
8 to 40 inches—light yellowish brown sand
40 to 54 inches—yellowish brown loamy sand

Subsoil:
54 to 61 inches—yellowish brown sandy clay loam that has red mottles
61 to 73 inches—mottled brownish yellow, red, and light gray sandy clay loam

Distinctive features: 5 percent or more plinthite below a depth of 54 inches

Minor Soils

- Well drained Nankin and Cowarts soils in the same landscape positions as the major soils
- Somewhat poorly drained Susquehanna soils on toeslopes
- Poorly drained Kinston and Bibb soils on flood plains

Use and Management

Major management concerns: Low available water capacity
Suitability: Well suited to most nonfarm uses; moderately suited to poorly suited to most farm uses

7. Wahee-Bethera

Somewhat poorly drained and poorly drained soils that have a loamy surface layer and a clayey subsoil

Setting

Landscape characterization: Nearly level soils on broad stream terraces along the Ocmulgee River
Slope: 0 to 2 percent
Flooding: None to occasional
Hydrologic features: Mainly winding, intermittent and perennial streams
Land use: Mostly woodland
Cultural features: Roads and utility lines

Extent and Composition

Percent of county: 4 percent
Wahee soils: 60 percent
Bethera soils: 30 percent
Minor soils: 10 percent

Typical Profile

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

Subsoil:
5 to 10 inches—brown sandy clay loam that has brownish yellow and light brownish gray mottles
10 to 27 inches—mottled red, light brownish gray, and yellowish brown clay
27 to 54 inches—gray clay that has yellowish brown and red mottles
54 to 62 inches—light brownish gray clay that has brownish yellowish and yellowish brown mottles

Bethera
Surface layer:
0 to 6 inches—dark grayish brown clay loam

Subsoil:
6 to 12 inches—grayish brown clay loam that has yellowish brown mottles
12 to 50 inches—grayish brown clay that has yellowish brown mottles
50 to 60 inches—grayish brown clay that has strong brown mottles

Minor Soils

- Moderately drained Eunola soils on the higher parts of the landscape
- Poorly drained Rains soils on the lower parts of the landscape

Use and Management

Major management concerns: Wetness
Suitability: Well suited to the commonly growing trees; poorly suited to field crops, hay, and pasture; unsuited to nonfarm uses

8. Pelham-Leefield

Poorly drained and somewhat poorly drained soils that have a sandy surface layer, a thick, sandy subsurface layer, and a loamy subsoil

Setting

Landscape characterization: Nearly level and very gently sloping soils on broad marine terraces
Slope: 0 to 3 percent
Flooding: None
Hydrologic features: Slow movement of surface water and groundwater
Land use: Mostly woodland; some cropland and pasture
Cultural features: Roads, utility lines, fences, and farmsteads

Extent and Composition

Percent of county: 10 percent
Pelham soils: 50 percent
Leefield soils: 40 percent
Minor soils: 10 percent

Typical Profile

Pelham
Surface layer:
0 to 8 inches—very dark gray loamy sand

Subsurface layer:
8 to 16 inches—gray loamy sand
16 to 36 inches—light brownish gray loamy sand that has yellow mottles

Subsoil:
36 to 46 inches—light brownish gray sandy loam that has yellowish brown mottles
46 to 65 inches—light brownish gray sand clay loam that has yellowish brown and red mottles

Leefield
Surface layer:
0 to 9 inches—dark grayish brown loamy sand

Subsurface layer:
9 to 24 inches—light yellowish brown loamy sand
24 to 28 inches—light yellowish brown loamy sand that has yellow and light gray mottles

Subsoil:
28 to 36 inches—very pale brown sandy loam that has light gray mottles
36 to 40 inches—very pale brown sandy clay loam that has light gray mottles
40 to 65 inches—mottled yellowish brown, light gray, and yellowish red sandy clay loam

Distinctive features: 15 percent plinthite below a depth of 40 inches

Minor Soils

- Moderately well drained Clarendon and Stilson soils on the higher parts of the landscape
- Poorly drained Rigdon and Sapelo soils on the lower parts of the landscape

Use and Management

Major management concerns: Wetness
Suitability: The soils on the lower parts of the landscape are well suited to the commonly growing trees; the soils are poorly suited to field crops, hay, and pasture and to nonfarm uses; the soils on the higher parts of the landscape are moderately suited to field crops, hay, and pasture and to nonfarm uses.

Detailed Soil Map Units

The map units on the detailed soil maps represent the soils in the survey area. The map unit descriptions in this section, along with soil maps and interpretive tables, can be used to determine the suitability and potential of a soil for specific uses. They also can be used to plan the management needed for those uses. A soil is well suited if it has properties that are favorable. A soil is moderately suited if it has properties that require special planning and management to obtain satisfactory performance. A soil is poorly suited if it has properties that are unfavorable. A soil is unsuited for cultivated crops if it has properties that are very unfavorable. More information on each map unit, or soil, is given under "Use and Management of the Soils."

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

A symbol identifying the soil precedes the map unit name in the soil descriptions. Each description includes general facts about the composition, setting, and minor components. A brief profile description is given for each major or named component.

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

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

Some map units are made up of two or more major soils. These map units are called undifferentiated groups.

A *soil complex* is made up of two or more soils in such an intricate pattern or in such small areas that they cannot be shown separately on the soil maps. The pattern and proportion of the soils are somewhat similar in all areas. Cowarts-Nankin-Ailey complex, 8 to 25 percent slopes, is an example.

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

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

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

Detailed map unit composition was decided by *subjective judgement* methods. These methods imply that 3 to 30 or more arbitrarily selected observations and less than 10 randomly selected observations were used to subjectively formulate map unit composition. The project staff relied mainly on impressions from field experience.

AeB—Ailey loamy sand, 2 to 5 percent slopes

Setting

Landscape position: Ridgetops on uplands
Slope: Very gently sloping
Slope topography: Smooth and convex
Size of mapped areas: 10 to 250 acres

Typical Profile

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

Subsurface layer:
6 to 23 inches—yellowish brown loamy sand

Subsoil:
23 to 27 inches—yellowish brown sandy loam
27 to 38 inches—yellowish brown sandy clay loam
38 to 51 inches—yellowish brown sandy clay loam that has strong brown and red mottles

Substratum:
51 to 65 inches—mottled yellowish brown, red, pale brown, and light gray, compact sandy clay loam

Distinctive features: A few ironstone nodules and quartz pebbles are in the surface layer and throughout the upper part of the subsoil; dense and brittle properties begin at a depth of 38 to 51 inches; and compact and dense properties begin below a depth of 51 inches.

Soil Properties and Qualities

Drainage class: Well drained
Natural fertility: Low
Content of organic matter: Low
Permeability: Rapid in the sandy surface and subsurface layers and slow in the cemented and brittle layers of the subsoil and substratum
Available water capacity: Low
Runoff: Slow
Tilth: Good
Root zone: Deep or very deep to a dense and brittle layer

Inclusions

- A few small areas of Dothan and Susquehanna soils on ridgetops

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Moderately suited
Suitability for hay: Moderately suited
Suitability for pasture: Moderately suited
Management concerns: Low available water capacity
Management practices and considerations:
- Returning crop residue to the soil helps the soil to retain moisture.
- Conservation tillage systems help to increase the content of organic matter in the soil and improve tilth.

Woodland
Potential productivity: Moderate for slash pine and longleaf pine
Preferred trees to plant: Slash pine and longleaf pine
Management concerns: Equipment limitations and seedling mortality
Management practices and considerations:
- Bedding the soil; planting adapted, drought-hardy species; and minimizing plant competition increase the seedling survival rate.

Urban uses
Suitability: Well suited to most uses
Management concerns: Slow permeability in the cemented and brittle layer affects septic tank absorption fields; seepage affects sewage lagoons.
Management practices and considerations:
- Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development
Suitability: Moderately suited to most uses
Management concerns: Slow permeability in the cemented and firm layers of the subsoil and substratum
Management practices and considerations:
- Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: IIIs
Woodland ordination symbol: 8S

AeC—Ailey loamy sand, 5 to 8 percent slopes

Setting

Landscape position: Ridgetops and hillsides on uplands
Slope: Gently sloping
Slope topography: Smooth and complex
Size of mapped areas: 10 to 90 acres

Typical Profile

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

Subsurface layer:
6 to 23 inches—yellowish brown loamy sand

Subsoil:
23 to 27 inches—yellowish brown sandy loam
27 to 38 inches—yellowish brown sandy clay loam
38 to 51 inches—yellowish brown sandy clay loam that has strong brown and red mottles

Substratum:
51 to 65 inches—mottled yellowish brown, red, pale brown, and light gray, compact sandy clay loam

Distinctive features: A few ironstone nodules and quartz pebbles are in the surface layer and throughout the upper part of the subsoil; dense and brittle properties begin at a depth of 38 to 51 inches; and compact and dense properties begin below a depth of 51 inches.

Soil Properties and Qualities

Drainage class: Well drained
Natural fertility: Low
Content of organic matter: Low
Permeability: Rapid in the sandy surface and subsurface layers and slow in the cemented and brittle layers of the subsoil and substratum
Available water capacity: Low
Runoff: Slow
Tilth: Good
Root zone: Deep or very deep to a dense and brittle layer

Inclusions

- A few small areas of Dothan soils on hillsides
- A few small areas of Susquehanna soils on toeslopes

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Poorly suited
Suitability for hay: Moderately suited
Suitability for pasture: Moderately suited

Woodland
Potential productivity: Moderate for slash pine and longleaf pine
Preferred trees to plant: Slash pine and longleaf pine
Management concerns: Equipment limitations and seedling mortality
Management practices and considerations:
- Bedding the soil; planting adapted, drought-hardy species; and minimizing plant competition increase the seedling survival rate.

Urban uses
Suitability: Well suited to most uses
Management concerns: Slow permeability in the cemented and brittle layer affects septic tank absorption fields; seepage affects sewage lagoons.
Management practices and considerations:
- Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development
Suitability: Moderately suited to most uses
Management concerns: Slow permeability in the cemented and firm layers of the subsoil and substratum
Management practices and considerations:
- Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: IVs
Woodland ordination symbol: 8S

BaB—Blanton sand, 0 to 4 percent slopes

Setting

Landscape position: Uplands
Slope: Nearly level and very gently sloping
Size of mapped areas: 5 to 75 acres

Typical Profile

Surface layer:
0 to 7 inches—dark grayish brown sand

Subsurface layer:
7 to 65 inches—light yellowish brown and yellow sand that has white mottles in the lower part

Subsoil:
65 to 80 inches—light yellowish brown sandy loam that has light gray mottles

Soil Properties and Qualities

Drainage class: Moderately well drained
Seasonal high water table: Perched, at a depth of 2$^1/_2$ to 4 feet
Natural fertility: Low
Content of organic matter: Moderately low
Permeability: Rapid in the surface and subsurface layers and moderate in the subsoil
Available water capacity: Very low
Runoff: Slow
Tilth: Good
Root zone: Very deep

Inclusions

- A few small areas of Rigdon and Sapelo soils in the slightly lower landscape positions

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Poorly suited
Suitability for hay: Moderately suited

Suitability for pasture: Moderately suited
Management concerns: Very low available water capacity and erosion
Management practices and considerations:
• Conservation tillage systems help to maintain soil moisture and improve tilth.
• Water management systems that include terraces and grassed waterways help to control erosion.

Woodland
Potential productivity: Moderately high for loblolly pine and slash pine; moderate for longleaf pine
Preferred trees to plant: Loblolly pine, slash pine, and longleaf pine
Management concerns: Equipment limitations and seedling mortality
Management practices and considerations:
• Conducting woodland operations when the soil is at the proper moisture content helps to overcome the soil limitations.
• Proper site preparation helps to minimize plant competition.
• Increasing the planting rate helps to offset the seedling mortality rate.

Urban uses
Suitability: Poorly suited to septic tank absorption fields; moderately suited to houses with basements
Management concerns: Wetness
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development
Suitability: Poorly suited
Management concerns: Wetness
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: IIIs
Woodland ordination symbol: 11S

BnB—Bonifay sand, 0 to 8 percent slopes

Setting

Landscape position: Ridgetops and hillsides on uplands
Slope: Nearly level to gently sloping
Slope topography: Smooth and convex
Size of mapped areas: 10 to 150 acres

Typical Profile

Surface layer:
0 to 4 inches—dark grayish brown sand

Subsurface layer:
4 to 8 inches—brown sand
8 to 40 inches—light yellowish brown sand
40 to 54 inches—yellowish brown loamy sand

Subsoil:
54 to 61 inches—yellowish brown sandy clay loam that has red mottles
61 to 73 inches—mottled brownish yellow, red, and light gray sandy clay loam

Distinctive features: The content of plinthite is 5 percent or more below a depth of 54 inches.

Soil Properties and Qualities

Drainage class: Well drained
Seasonal high water table: Perched, at a depth of 4 to 5 feet
Natural fertility: Low
Content of organic matter: Low
Permeability: Rapid in the surface and subsurface layers, moderate in the upper part of the subsoil, and moderately slow in the lower part of the subsoil
Available water capacity: Low
Runoff: Slow
Tilth: Good
Root zone: Very deep

Inclusions

• A few small areas of Cowarts and Nankin soils on ridgetops and hillsides
• A few small areas of Susquehanna soils on toeslopes

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Poorly suited
Suitability for hay: Moderately suited
Suitability for pasture: Moderately suited
Management concerns: Low available water capacity
Management practices and considerations:
• Conservation tillage systems that include cover crops improve tilth and help the soil to retain moisture.
• Returning crop residue to the soil helps the soil to retain moisture.

Woodland
Potential productivity: Moderately high for loblolly pine and slash pine; moderate for longleaf pine
Preferred trees to plant: Loblolly pine, slash pine, and longleaf pine

Management concerns: Equipment limitations and seedling mortality
Management practices and considerations:
• Bedding the soil; planting adapted, drought-hardy species; and minimizing plant competition increase the seedling survival rate.
• Using special implements or planting and harvesting during the wetter periods help to overcome the equipment limitations.

Urban uses
Suitability: Moderately suited to most uses
Management concerns: Wetness affects septic tank absorption fields and houses with basements.
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development
Suitability: Poorly suited
Management concerns: Too sandy
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: IIIs
Woodland ordination symbol: 10S

CaB2—Carnegie sandy loam, 2 to 5 percent slopes, eroded

Setting

Landscape position: Upland side slopes
Surface features: Common coarse, rounded ironstone concretions
Slope: Very gently sloping
Slope topography: Short and irregular
Size of mapped areas: 10 to 50 acres

Typical Profile

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

Subsoil:
6 to 10 inches—strong brown sandy clay loam
10 to 40 inches—strong brown sandy clay
40 to 50 inches—strong brown clay that has red and white mottles
50 to 60 inches—mottled strong brown, red, yellow, and white clay

Distinctive features: The content of nodules of ironstone ranges from 5 to 10 percent, by volume, in the surface layer and subsoil; the content of plinthite ranges from 5 to 7 percent at a depth of 20 to 50 inches.

Soil Properties and Qualities

Drainage class: Well drained
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderately slow
Available water capacity: High
Runoff: Medium
Tilth: Good
Root zone: Very deep

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Moderately suited
Suitability for hay: Well suited
Suitability for pasture: Well suited
Management concerns: Further erosion in areas that are cultivated and not protected
Management practices and considerations:
• Conservation tillage systems that include cover crops improve tilth, reduce the hazard of further erosion, and help the soil to retain moisture.
• Water management systems that include terraces and grassed waterways help to control further erosion.

Woodland
Potential productivity: High for loblolly pine and slash pine; moderate for longleaf pine
Preferred trees to plant: Loblolly pine and slash pine
Management concerns: Further erosion if the soil is bedded and planted up and down the slope
Management practices and considerations:
• Conducting woodland operations on the contour helps to minimize further erosion.

Urban uses
Suitability: Moderately suited to most uses
Management concerns: Moderately slow permeability in the subsoil affects septic tank absorption fields; wetness affects houses with basements.
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development
Suitability: Moderately suited
Management concerns: Moderately slow permeability in the subsoil
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: IIIe
Woodland ordination symbol: 9A

CaC2—Carnegie sandy loam, 5 to 8 percent slopes, eroded

Setting

Landscape position: Upland hillsides
Surface features: Common coarse, rounded ironstone concretions
Slope: Gently sloping
Slope topography: Short and irregular
Size of mapped areas: 10 to 60 acres

Typical Profile

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

Subsoil:
6 to 10 inches—strong brown sandy clay loam
10 to 40 inches—strong brown sandy clay
40 to 50 inches—strong brown clay that has red and white mottles
50 to 60 inches—mottled strong brown, red, yellow, and white clay

Distinctive features: The content of nodules of ironstone ranges from 5 to 10 percent, by volume, in the surface layer and subsoil; the content of plinthite ranges from 5 to 7 percent at a depth of 20 to 50 inches.

Soil Properties and Qualities

Drainage class: Well drained
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderately slow
Available water capacity: High
Runoff: Medium or rapid
Tilth: Good
Root zone: Very deep

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Poorly suited
Suitability for hay: Moderately suited
Suitability for pasture: Moderately suited
Management concerns: Further erosion in areas that are cultivated and not protected
Management practices and considerations:
- Conservation tillage systems improve tilth, reduce the hazard of further erosion, and help the soil to retain moisture.
- Water management systems that include terraces and grassed waterways help to control further erosion.

Woodland
Potential productivity: High for loblolly pine and slash pine; moderate for longleaf pine
Preferred trees to plant: Loblolly pine and slash pine
Management concerns: Further erosion if the soil is bedded and planted up and down the slope
Management practices and considerations:
- Pine seedlings should be planted on the contour.

Urban uses
Suitability: Moderately suited
Management concerns: Moderately slow permeability in the subsoil affects septic tank absorption fields; wetness affects houses with basements.
Management practices and considerations:
- Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development
Suitability: Moderately suited
Management concerns: Moderately slow permeability in the subsoil
Management practices and considerations:
- Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: IVe
Woodland ordination symbol: 9A

CnB—Clarendon loamy sand, 0 to 3 percent slopes

Setting

Landscape position: Uplands
Slope: Nearly level and very gently sloping
Slope topography: Convex
Size of mapped areas: 5 to 40 acres

Typical Profile

Surface layer:
0 to 9 inches—dark grayish brown loamy sand

Subsurface layer:
9 to 16 inches—light yellowish brown loamy sand

Subsoil:
16 to 28 inches—light yellowish brown sandy clay loam
28 to 40 inches—light yellowish brown sandy clay loam that has light gray mottles

40 to 60 inches—mottled light gray, strong brown, and yellowish red sandy clay loam

Soil Properties and Qualities

Drainage class: Moderately well drained
Seasonal high water table: Apparent, at a depth of 2 to 3 feet
Natural fertility: Low
Content of organic matter: Moderately low
Permeability: Moderately slow
Available water capacity: Moderate
Runoff: Slow
Tilth: Good
Root zone: Very deep

Inclusions

- A few small areas of Dothan and Tifton soils in the higher landscape positions
- A few small areas of Leefield soils in the lower landscape positions

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Well suited
Suitability for hay: Well suited
Suitability for pasture: Well suited
Management concerns: Wetness
Management practices and considerations:
- Cultivating and harvesting when the soil is at the proper moisture content helps to overcome the soil limitations.

Woodland
Potential productivity: High for loblolly pine
Preferred trees to plant: Loblolly pine
Management concerns: No significant concerns

Urban uses
Suitability: Moderately suited
Management concerns: Wetness affects septic tank absorption fields and houses with basements.
Management practices and considerations:
- Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development
Suitability: Moderately suited
Management concerns: Wetness
Management practices and considerations:
- Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: IIw
Woodland ordination symbol: 9W

CoB—Cowarts loamy sand, 2 to 5 percent slopes

Setting

Landscape position: Ridgetops and hillsides on uplands
Slope: Very gently sloping
Slope topography: Irregular, undulating, and convex
Size of mapped areas: 5 to 125 acres

Typical Profile

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

Subsoil:
6 to 15 inches—yellowish brown sandy loam
15 to 21 inches—yellowish brown sandy clay loam
21 to 29 inches—yellowish brown sandy clay loam that has yellowish red mottles

Substratum:
29 to 65 inches—mottled yellowish brown, red, light reddish brown, and light gray, compact sandy clay loam; pockets and strata of finer- and coarser-textured material

Distinctive features: A few ironstone nodules and quartz pebbles are in the surface layer and throughout the upper part of the subsoil. The gray mottles in the substratum are not indicative of wetness.

Soil Properties and Qualities

Drainage class: Well drained
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderate in the surface layer and subsoil and moderately slow or slow in the substratum
Available water capacity: Low
Runoff: Medium or rapid
Tilth: Good
Root zone: Moderately deep to a dense layer

Inclusions

- A few small areas of Dothan and Fuquay soils on ridgetops and hillsides
- A few small areas of Susquehanna soils on toeslopes

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Well suited
Suitability for hay: Well suited
Suitability for pasture: Well suited

Management concerns: Moderate hazard of erosion if cultivated crops are grown
Management practices and considerations:
• Conservation tillage systems improve tilth, reduce the hazard of erosion, and help the soil to retain moisture.
• Water management systems that include terraces and grassed waterways help to control erosion.

Woodland
Potential productivity: High for loblolly pine and slash pine; moderate for longleaf pine
Preferred trees to plant: Loblolly pine, slash pine, and longleaf pine
Management concerns: No significant concerns
Management practices and considerations:
• Conducting woodland operations on the contour helps to minimize erosion.

Urban uses
Suitability: Well suited to most uses
Management concerns: Moderately slow or slow permeability in the substratum and wetness affect septic tank absorption fields.
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development
Suitability: Moderately suited to most uses
Management concerns: Moderately slow or slow permeability in the substratum
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: IIe
Woodland ordination symbol: 9A

CtC2—Cowarts sandy loam, 5 to 8 percent slopes, eroded

Setting

Landscape position: Hillsides on uplands
Landscape features: A few eroded spots and a few gullies
Slope: Gently sloping
Slope topography: Short and irregular
Size of mapped areas: 5 to 60 acres

Typical Profile

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

Subsoil:
5 to 19 inches—yellowish brown sandy clay loam
19 to 28 inches—yellowish brown sandy clay loam that has strong brown and yellowish red mottles
28 to 32 inches—yellowish brown sandy clay loam that has yellowish red and light gray mottles

Substratum:
32 to 65 inches—mottled yellowish brown, yellowish red, light yellowish brown, and light gray, compact sandy clay loam

Distinctive features: A few ironstone nodules and quartz pebbles are in the surface layer and throughout the upper part of the subsoil. The gray mottles in the lower horizons are not indicative of wetness.

Soil Properties and Qualities

Drainage class: Well drained
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderate in the surface layer and subsoil and moderately slow or slow in the substratum
Available water capacity: Moderate
Runoff: Medium or rapid
Eroded surface layer: Mixture of the original surface layer and the upper part of the subsoil
Tilth: Good
Root zone: Moderately deep to a dense layer

Inclusions

• A few small areas of Dothan and Fuquay soils on hillsides
• A few small areas of Susquehanna soils on toeslopes

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Moderately suited
Suitability for hay: Well suited
Suitability for pasture: Well suited
Management concerns: Severe hazard of further erosion if cultivated crops are grown
Management practices and considerations:
• Conservation tillage systems improve tilth, reduce the hazard of further erosion, and help the soil to retain moisture.
• Water management systems that include terraces and grassed waterways help to control further erosion.

Woodland
Potential productivity: High for loblolly pine and slash pine; moderate for longleaf pine

Preferred trees to plant: Loblolly pine, slash pine, and longleaf pine
Management concerns: No significant concerns

Urban uses
Suitability: Well suited to most uses
Management concerns: Moderately slow or slow permeability in the substratum affects septic tank absorption fields.
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development
Suitability: Moderately suited to most uses
Management concerns: Moderately slow or slow permeability in the substratum
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: IIIe
Woodland ordination symbol: 9A

CwE—Cowarts-Nankin-Ailey complex, 8 to 25 percent slopes

Setting

Landscape position: Hillsides on uplands
Landscape features: A few eroded spots and a few gullies
Slope: Strongly sloping and moderately steep
Slope topography: Short and irregular
Size of mapped areas: 5 to 60 acres

Composition

Cowarts soils—35 percent
Nankin soils—30 percent
Ailey soils—20 percent
Pattern of occurrence: The soils occur in an intermingled pattern that could not be separated at the scale of mapping.

Typical Profile

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

Subsoil:
6 to 15 inches—yellowish brown sandy loam
15 to 21 inches—yellowish brown sandy clay loam
21 to 29 inches—yellowish brown sandy clay loam that has yellowish red mottles

Substratum:
29 to 65 inches—mottled yellowish brown, red, light reddish brown, and light gray, compact sandy clay loam; pockets and strata of finer- and coarser-textured material

Distinctive features: A few ironstone nodules and quartz pebbles are in the surface layer and throughout the upper part of the subsoil. The gray mottles in the substratum are not indicative of wetness.

Nankin
Surface layer:
0 to 6 inches—grayish brown loamy sand

Subsoil:
6 to 13 inches—yellowish brown sandy clay loam
13 to 29 inches—strong brown sandy clay that has yellowish red mottles
29 to 37 inches—mottled yellowish brown, red, and light yellowish brown sandy clay loam
37 to 53 inches—mottled yellowish brown, red, and light gray sandy clay loam

Substratum:
53 to 65 inches—mottled strong brown, red, light gray, and pale brown sandy clay loam

Distinctive features: A few ironstone nodules and quartz pebbles are in the surface layer and throughout the upper part of the subsoil. The gray mottles in the lower horizons are not indicative of wetness.

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

Subsurface layer:
6 to 23 inches—yellowish brown loamy sand

Subsoil:
23 to 27 inches—yellowish brown sandy loam
27 to 38 inches—yellowish brown sandy clay loam
38 to 51 inches—yellowish brown sandy clay loam that has strong brown and red mottles

Substratum:
51 to 65 inches—mottled yellowish brown, red, pale brown, and light gray sandy clay loam

Distinctive features: A few ironstone nodules and quartz pebbles are in the surface layer and throughout the upper part of the subsoil; dense and brittle properties begin at a depth of 38 to 51 inches; and compact and dense properties begin below a depth of 51 inches.

Soil Properties and Qualities

Cowarts
Drainage class: Well drained
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderate in the surface layer and subsoil and moderately slow or slow in the substratum
Available water capacity: Low
Runoff: Medium or rapid
Tilth: Good
Root zone: Moderately deep to a dense layer

Nankin
Drainage class: Well drained
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderately slow
Available water capacity: Moderate
Runoff: Medium or rapid
Tilth: Good
Root zone: Very deep

Ailey
Drainage class: Well drained
Natural fertility: Low
Content of organic matter: Low
Permeability: Rapid in the sandy surface and subsurface layers and slow in the cemented and brittle layers of the subsoil and substratum
Available water capacity: Low
Runoff: Slow
Tilth: Good
Root zone: Deep or very deep to a dense and brittle layer

Inclusions

- A few small areas of Bonifay soils on hillsides
- A few small areas of Susquehanna and Arundel soils on toeslopes
- A few small areas of soils that have a surface layer of sandy clay loam

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Unsuited
Suitability for hay: Poorly suited
Suitability for pasture: Poorly suited
Management concerns: Severe hazard of erosion

Woodland
Potential productivity: Cowarts—high for loblolly pine and slash pine and moderate for longleaf pine; Nankin—moderate for loblolly pine, slash pine, and longleaf pine; Ailey—moderate for slash pine and longleaf pine
Preferred trees to plant: Loblolly pine, slash pine, and loblolly pine
Management concerns: Equipment limitations; seedling mortality in areas of the Ailey and Nankin soils
Management practices and considerations:
- Conducting woodland operations on the contour helps to minimize erosion.
- Bedding the soils; planting adapted, drought-hardy species; and minimizing plant competition increase the seedling survival rate in areas of the Ailey and Nankin soils.

Urban uses
Suitability: Moderately suited to most uses
Management concerns: Moderately slow or slow permeability in the subsoil and substratum and slope affect septic tank absorption fields.
Management practices and considerations:
- Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development
Suitability: Moderately suited to most uses
Management concerns: Slope; moderately slow or slow permeability in the subsoil and substratum
Management practices and considerations:
- Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: Cowarts—VIe; Nankin—VIe; Ailey—VIIe
Woodland ordination symbol: Cowarts—9R; Nankin—8R; Ailey—8S

DoA—Dothan loamy sand, 0 to 2 percent slopes

Setting

Landscape position: Ridgetops on uplands
Slope: Nearly level
Slope topography: Smooth and convex
Size of mapped areas: 10 to 50 acres

Typical Profile

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

Subsoil:
6 to 12 inches—yellowish brown sandy loam

12 to 31 inches—yellowish brown sandy clay loam
31 to 42 inches—yellowish brown sandy clay loam that has strong brown mottles
42 to 65 inches—mottled yellowish brown, red, strong brown, and light brownish gray sandy clay loam

Distinctive features: A few ironstone nodules are in the surface layer and in the upper part of the subsoil. The content of plinthite is 5 percent or more below a depth of 42 inches.

Soil Properties and Qualities

Drainage class: Well drained
Seasonal high water table: Perched, at a depth of 3 to 5 feet
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderate in the upper part of the subsoil and moderately slow in the lower part of the subsoil
Available water capacity: Moderate
Runoff: Medium
Tilth: Good
Root zone: Very deep

Inclusions

- A few small areas of Bonifay and Lakeland soils on ridgetops
- A few small areas of Grady soils in depressions

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Well suited (fig. 3)
Suitability for hay: Well suited
Suitability for pasture: Well suited
Management concerns: No significant concerns
Management practices and considerations:
- Conservation tillage systems improve tilth and help the soil to retain moisture.

Woodland
Potential productivity: High for loblolly pine and slash pine; moderately high for longleaf
Preferred trees to plant: Loblolly pine, slash pine, and longleaf pine
Management concerns: No significant concerns

Urban uses
Suitability: Well suited to most uses
Management concerns: Moderately slow permeability in the lower part of the subsoil and wetness affect septic tank absorption fields; wetness also affects houses with basements.
Management practices and considerations:
- Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development
Suitability: Well suited

Interpretive Groups

Land capability classification: I
Woodland ordination symbol: 9A

DoB—Dothan loamy sand, 2 to 5 percent slopes

Setting

Landscape position: Ridgetops and hillsides on uplands
Slope: Very gently sloping
Slope topography: Smooth and convex
Size of mapped areas: 10 to 90 acres

Typical Profile

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

Subsoil:
6 to 12 inches—yellowish brown sandy loam
12 to 31 inches—yellowish brown sandy clay loam
31 to 42 inches—yellowish brown sandy clay loam that has strong brown mottles
42 to 65 inches—mottled yellowish brown, red, strong brown, and light brownish gray sandy clay loam

Distinctive features: A few ironstone nodules are in the surface layer and in the upper part of subsoil. The content of plinthite is 5 percent or more below a depth of 42 inches.

Soil Properties and Qualities

Drainage class: Well drained
Seasonal high water table: Perched, at a depth of 3 to 5 feet
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderate in the upper part of the subsoil and moderately slow in the lower part of the subsoil
Available water capacity: Moderate
Runoff: Medium
Tilth: Good
Root zone: Very deep

Inclusions

- A few small areas of Bonifay and Susquehanna soils on ridgetops
- A few small areas of Grady soils in depressions

Figure 3.—Cotton that is ready for harvest in an area of Dothan loamy sand, 0 to 2 percent slopes. If well managed, this soil is highly productive for the crops commonly grown in the survey area.

Use and Management

Field crops, hay, and pasture

Suitability for field crops: Well suited
Suitability for hay: Well suited
Suitability for pasture: Well suited
Management concerns: Moderate hazard of erosion if cultivated crops are grown
Management practices and considerations:

- Conservation tillage systems improve tilth, reduce the hazard of erosion, and help the soil to retain moisture.
- Water management systems that include terraces and grassed waterways help to control erosion.

Woodland

Potential productivity: High for loblolly pine and slash pine; moderately high for longleaf
Preferred trees to plant: Loblolly pine, slash pine, and longleaf pine

Management concerns: No significant concerns
Management practices and considerations:
• Conducting woodland operations on the contour helps to minimize erosion.

Urban uses
Suitability: Well suited to most uses
Management concerns: Moderately slow permeability in the lower part of the subsoil and wetness affect septic tank absorption fields; wetness also affects houses with basements.
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development
Suitability: Well suited to most uses
Management concerns: Slope affects a few uses.
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: IIe
Woodland ordination symbol: 9A

DtC2—Dothan sandy loam, 5 to 8 percent slopes, eroded

Setting

Landscape position: Hillsides on uplands
Landscape features: A few eroded spots and a few gullies
Slope: Gently sloping
Slope topography: Short and irregular
Size of mapped areas: 5 to 20 acres

Typical Profile

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

Subsoil:
6 to 9 inches—yellowish brown sandy loam
9 to 31 inches—strong brown sandy clay loam
31 to 45 inches—strong brown sandy clay loam that has yellowish red mottles
45 to 65 inches—mottled strong brown, red, and light gray sandy clay loam

Distinctive features: A few ironstone nodules are in the surface layer and in the upper part of the subsoil. The content of plinthite is 5 percent or more below a depth of 45 inches.

Soil Properties and Qualities

Drainage class: Well drained
Seasonal high water table: Perched, at a depth of 3 to 5 feet
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderate in the upper part of the subsoil and moderately slow in the lower part
Available water capacity: Moderate
Runoff: Medium
Eroded surface layer: Mixture of the original surface layer and the upper part of the subsoil
Tilth: Good
Root zone: Very deep

Inclusions

• A few small areas of Nankin soils on ridgetops and hillsides
• A few small areas of Susquehanna soils on toeslopes

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Moderately suited
Suitability for hay: Well suited
Suitability for pasture: Well suited
Management concerns: Severe hazard of further erosion if cultivated crops are grown
Management practices and considerations:
• Conservation tillage systems improve tilth, reduce the hazard of further erosion, and help the soil to retain moisture.
• Water management systems that include terraces and grassed waterways help to control further erosion.

Woodland
Potential productivity: High for loblolly pine and slash pine; moderately high for longleaf pine
Preferred trees to plant: Loblolly pine, slash pine, and longleaf pine
Management concerns: No significant concerns
Management practices and considerations:
• Conducting woodland operations on the contour helps to minimize further erosion.

Urban uses
Suitability: Well suited to most uses
Management concerns: Moderately slow permeability in the lower part of the subsoil affects septic tank absorption fields; wetness affects houses with basements.
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development
Suitability: Well suited to most uses
Management concerns: Slope; moderately slow permeability in the lower part of the subsoil
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: IIIe
Woodland ordination symbol: 9A

EnA—Eunola loamy sand, 0 to 2 percent slopes, occasionally flooded

Setting

Landscape position: Stream terraces
Flooding: Occasional; very brief
Slope: Nearly level
Slope topography: Smooth and flat
Size of mapped areas: 10 to 50 acres

Typical Profile

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

Subsurface layer:
6 to 16 inches—yellowish brown loamy sand

Subsoil:
16 to 19 inches—brownish yellow sandy loam
19 to 29 inches—yellowish brown sandy clay loam
29 to 48 inches—mottled yellowish brown, light gray, and yellowish red sandy clay loam
48 to 56 inches—mottled light gray, yellowish brown, and yellowish red coarse sandy loam

Substratum:
56 to 60 inches—mottled light gray, yellowish brown, and yellowish red loamy coarse sand

Soil Properties and Qualities

Drainage class: Moderately well drained
Seasonal high water table: Apparent, at a depth of $1^1/_2$ to $2^1/_2$ feet
Natural fertility: Low
Content of organic matter: Moderately low
Permeability: Moderate in the subsoil and rapid in the substratum
Available water capacity: Moderate
Runoff: Slow
Tilth: Good
Root zone: Very deep

Inclusions

• A few small areas of Bethera and Wahee soils in the lower landscape positions
• A few small areas of better drained soils in the higher landscape positions

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Well suited
Suitability for hay: Well suited
Suitability for pasture: Well suited
Management concerns: Flooding, wetness, erosion
Management practices and considerations:
• Conservation tillage systems that include cover crops improve tilth, reduce the hazard of erosion, and help the soil to retain moisture.

Woodland
Potential productivity: High for loblolly pine and slash pine
Preferred trees to plant: Loblolly pine and slash pine
Management concerns: Equipment limitations
Management practices and considerations:
• Conducting woodland operations when the soil is at the proper moisture content helps to overcome the soil limitations.
• Proper site preparation helps to minimize plant competition.
• Increasing the planting rate helps to offset the seedling mortality rate.

Urban uses
Suitability: Unsuited
Management concerns: Flooding

Recreational development
Suitability: Moderately suited
Management concerns: Flooding, wetness, too sandy
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: IIw
Woodland ordination symbol: 10W

FaB—Faceville sandy loam, 2 to 5 percent slopes

Setting

Landscape position: Ridgetops on uplands
Slope: Very gently sloping
Slope topography: Smooth and convex
Size of mapped areas: 10 to 275 acres

Typical Profile

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

Subsoil:
7 to 10 inches—red sandy clay loam
10 to 29 inches—red sandy clay
29 to 65 inches—red sandy clay that has strong brown mottles

Soil Properties and Qualities

Drainage class: Well drained
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderate
Available water capacity: Moderate
Runoff: Medium
Tilth: Good
Root zone: Very deep

Inclusions

- A few small areas of Bonifay and Susquehanna soils on ridgetops

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Well suited
Suitability for hay: Well suited
Suitability for pasture: Well suited
Management concerns: Moderate hazard of erosion if cultivated crops are grown
Management practices and considerations:
- Conservation tillage systems that include cover crops improve tilth, reduce the hazard of erosion, and help the soil to retain moisture.
- Water management systems that include terraces and grassed waterways help to control erosion.

Woodland
Potential productivity: Moderately high for loblolly pine and slash pine; moderate for longleaf pine
Preferred trees to plant: Loblolly pine and slash pine
Management concerns: No significant concerns
Management practices and considerations:
- Conducting woodland operations on the contour helps to minimize erosion.

Urban uses
Suitability: Well suited to most uses
Management concerns: The subsoil is too clayey for a few uses.
Management practices and considerations:
- Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development
Suitability: Well suited to most uses
Management concerns: Slope affects a few uses.
Management practices and considerations:
- Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: IIe
Woodland ordination symbol: 8A

FaC2—Faceville sandy loam, 5 to 8 percent slopes, eroded

Setting

Landscape position: Hillsides on uplands
Landscape features: A few eroded spots and a few gullies
Slope: Gently sloping
Slope topography: Convex
Size of mapped areas: 10 to 60 acres

Typical Profile

Surface layer:
0 to 4 inches—yellowish red sandy loam

Subsoil:
4 to 7 inches—yellowish red sandy clay loam
7 to 38 inches—red sandy clay
38 to 65 inches—red sandy clay that has strong brown mottles

Soil Properties and Qualities

Drainage class: Well drained
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderate
Available water capacity: Moderate
Runoff: Medium
Eroded surface layer: Mixture of the original surface layer and the upper part of the subsoil
Tilth: Fair
Root zone: Very deep

Inclusions

- A few small areas of Nankin soils on ridgetops and hillsides
- A few small areas of Susquehanna soils on toeslopes

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Moderately suited

Suitability for hay: Well suited
Suitability for pasture: Well suited
Management concerns: Severe hazard of further erosion if cultivated crops are grown
Management practices and considerations:
• Conservation tillage systems that include cover crops improve tilth, reduce the hazard of further erosion, and help the soil to retain moisture.
• Water management systems that include terraces and grassed waterways help to control further erosion.

Woodland
Potential productivity: Moderately high for loblolly pine and slash pine; moderate for longleaf pine
Management concerns: No significant concerns
Management practices and considerations:
• Conducting woodland operations on the contour helps to minimize further erosion.

Urban uses
Suitability: Well suited to most uses
Management concerns: Slope; the subsoil is too clayey for a few uses.
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development
Suitability: Well suited to most uses
Management concerns: Slope affects a few uses.
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: IIIe
Woodland ordination symbol: 8A

FuB—Fuquay loamy sand, 1 to 5 percent slopes

Setting

Landscape position: Ridgetops on uplands
Slope: Nearly level and very gently sloping
Slope topography: Smooth and convex
Size of mapped areas: 10 to 60 acres

Typical Profile

Surface layer:
0 to 7 inches—dark grayish brown loamy sand

Subsurface layer:
7 to 26 inches—light yellowish brown loamy sand

Subsoil:
26 to 33 inches—brownish yellow sandy loam
33 to 48 inches—brownish yellow sandy clay loam that has strong brown mottles
48 to 58 inches—brownish yellow sandy clay loam that has yellowish red and pale brown mottles
58 to 65 inches—mottled brownish yellow, yellowish red, and light gray sandy clay loam

Distinctive features: A few ironstone nodules are in the surface layer and in the upper part of the subsurface layer. The content of plinthite is 5 percent or more below a depth of 48 inches.

Soil Properties and Qualities

Drainage class: Well drained
Seasonal high water table: Perched, at a depth of 4 to 6 feet
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderate in the upper part of the subsoil and slow in the lower part
Available water capacity: Low
Runoff: Slow or medium
Tilth: Good
Root zone: Very deep

Inclusions

• A few small areas of Cowarts and Nankin soils on ridgetops
• A few small areas of Grady soils in depressions

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Well suited
Suitability for hay: Well suited
Suitability for pasture: Well suited
Management concerns: Low available water capacity
Management practices and considerations:
• Conservation tillage systems that include cover crops improve tilth and help the soil to retain moisture.

Woodland
Potential productivity: High for slash pine and longleaf pine; moderately high for loblolly pine (fig. 4)
Preferred trees to plant: Loblolly pine, longleaf pine, and slash pine
Management concerns: Equipment limitations and seedling mortality
Management practices and considerations:
• Bedding the soil; planting adapted, drought-hardy species; and minimizing plant competition increase the seedling survival rate.
• Using special implements or conducting woodland

Figure 4.—Twenty-three-year-old loblolly pine in an area of Fuquay loamy sand, 1 to 5 percent slopes. This soil is well suited to the pine trees that are commonly grown in the survey area.

operations during the wetter periods helps to overcome the equipment limitations.

Urban uses

Suitability: Well suited to most uses

Management concerns: Slow permeability in the lower part of the subsoil affects septic tank absorption fields; wetness affects houses with basements.

Management practices and considerations:

- Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development

Suitability: Moderately suited to most uses

Management concerns: Too sandy

Management practices and considerations:

- Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: IIs
Woodland ordination symbol: 8S

FuC—Fuquay loamy sand, 5 to 8 percent slopes

Setting

Landscape position: Hillside on uplands
Slope: Gently sloping
Slope topography: Smooth and convex
Size of mapped areas: 5 to 40 acres

Typical Profile

Surface layer:
0 to 7 inches—dark grayish brown loamy sand

Subsurface layer:
7 to 26 inches—light yellowish brown loamy sand

Subsoil:
26 to 33 inches—brownish yellow sandy loam
33 to 48 inches—brownish yellow sandy clay loam that has strong brown mottles
48 to 58 inches—brownish yellow sandy clay loam that has yellowish red and pale brown mottles
58 to 65 inches—mottled brownish yellow, yellowish red, and light gray sandy clay loam

Distinctive features: A few ironstone nodules are in the surface layer and in the upper part of the subsurface layer. The content of plinthite is 5 percent or more below a depth of 48 inches.

Soil Properties and Qualities

Drainage class: Well drained
Seasonal high water table: Perched, at a depth of 4 to 6 feet
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderate in the upper part of the subsoil and slow in the lower part
Available water capacity: Low
Runoff: Medium
Tilth: Good
Root zone: Very deep

Inclusions

- A few small areas of Nankin and Cowarts soils on hillsides
- A few small areas of Susquehanna soils on toeslopes

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Moderately suited
Suitability for hay: Well suited
Suitability for pasture: Well suited
Management concerns: Low available water capacity and moderate hazard of erosion
Management practices and considerations:
- Conservation tillage systems that include cover crops improve tilth, reduce the hazard of erosion, and help the soil to retain moisture.
- Water management systems that include terraces and grassed waterways help to control erosion.

Woodland
Potential productivity: High for slash pine and longleaf pine; moderately high for loblolly pine
Management concerns: Equipment limitations and seedling mortality
Management practices and considerations:
- Bedding the soil; planting adapted, drought-hardy species; and minimizing plant competition increase the seedling survival rate.
- Using special implements or conducting woodland operations during the wetter periods helps to overcome the equipment limitations.

Urban uses
Suitability: Well suited to most uses
Management concerns: Slow permeability in the lower part of the subsoil affects septic tank absorption fields; wetness affects houses with basements.
Management practices and considerations:
- Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development
Suitability: Moderately suited to most uses
Management concerns: Too sandy
Management practices and considerations:
- Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: IIIs
Woodland ordination symbol: 8S

Gr—Grady loam

Setting

Landscape position: Upland depressions (fig. 5)
Slope: Nearly level
Slope topography: Concave
Size of mapped areas: 5 to 30 acres

Figure 5.—Cypress trees growing in an area of Grady loam. Such trees are the typical vegetation. Grady loam is limited for many uses by ponding and wetness. It is, however, a valuable wetland soil.

Typical Profile

Surface layer:
0 to 7 inches—very dark gray loam

Subsoil:
7 to 17 inches—gray sandy clay loam that has strong brown mottles
17 to 30 inches—gray clay that has yellowish brown mottles
30 to 50 inches—gray clay that has strong brown and yellowish red mottles
50 to 65 inches—gray sandy clay that has strong brown mottles

Soil Properties and Qualities

Drainage class: Poorly drained
Seasonal high water table: Apparent, 2 feet above the surface to a depth of 1 foot
Natural fertility: Low
Content of organic matter: Moderate
Permeability: Slow
Available water capacity: Moderate
Runoff: Slow to ponded
Tilth: Good
Root zone: Very deep, except from winter to early summer when the soil is ponded or the water table is near the surface

Inclusions

- A few small areas of Bonifay, Lakeland, and Tifton soils in the higher landscape positions on uplands

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Unsuited
Suitability for hay: Unsuited
Suitability for pasture: Poorly suited

Woodland
Potential productivity: Moderately high for water tupelo
Preferred trees to plant: American sycamore, water tupelo, and slash pine
Management concerns: Equipment limitations and seedling mortality
Management practices and considerations:
- Drainage helps to overcome the equipment limitations if suitable outlets are available.
- Conducting woodland operations when the soil is at the proper moisture content helps to overcome the soil limitations.
- Bedding the soil and planting adapted species generally increases the seedling survival rate.

Urban uses
Suitability: Unsuited
Management concerns: Wetness

Recreational development
Suitability: Unsuited
Management concerns: Wetness

Interpretive Groups

Land capability classification: Vw
Woodland ordination symbol: 6W

GsA—Greenville sandy loam, 0 to 2 percent slopes

Setting

Landscape position: Ridgetops on uplands
Slope: Nearly level
Slope topography: Convex
Size of mapped areas: 10 to 150 acres

Typical Profile

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

Subsoil:
6 to 10 inches—dark reddish brown sandy clay loam
10 to 65 inches—dark red sandy clay

Soil Properties and Qualities

Drainage class: Well drained
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderate
Available water capacity: Moderate
Runoff: Medium
Tilth: Good
Root zone: Very deep

Inclusions

- A few small areas of Bonifay, Dothan, Lakeland, and Tifton soils on ridgetops

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Well suited
Suitability for hay: Well suited
Suitability for pasture: Well suited
Management concerns: No significant concerns
Management practices and considerations:
- Conservation tillage systems that include cover crops improve tilth and help the soil to retain moisture.

Woodland
Potential productivity: Moderately high loblolly pine, slash pine, and longleaf pine
Preferred trees to plant: Loblolly pine, slash pine, and longleaf pine
Management concerns: No significant concerns

Urban uses
Suitability: Well suited to most uses
Management concerns: The subsoil is too clayey for a few uses; moderate permeability in the subsoil affects septic tank absorption fields.
Management practices and considerations:
- Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development
Suitability: Well suited

Interpretive Groups

Land capability classification: I
Woodland ordination symbol: 8A

GsB—Greenville sandy loam, 2 to 5 percent slopes

Setting

Landscape position: Ridgetops on uplands
Slope: Very gently sloping
Slope topography: Smooth and convex
Size of mapped areas: 10 to 140 acres

Typical Profile

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

Subsoil:
6 to 10 inches—dark reddish brown sandy clay loam
10 to 65 inches—dark red sandy clay

Soil Properties and Qualities

Drainage class: Well drained
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderate
Available water capacity: Moderate
Runoff: Medium
Tilth: Good
Root zone: Very deep

Inclusions

- A few small areas of Bonifay, Dothan, Lakeland, and Tifton soils on ridgetops

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Well suited
Suitability for hay: Well suited
Suitability for pasture: Well suited

Management concerns: Moderate hazard of erosion if cultivated crops are grown
Management practices and considerations:
• Conservation tillage systems that include cover crops improve tilth, reduce the hazard of erosion, and help the soil to retain moisture.
• Water management systems that include terraces and grassed waterways help to control erosion.

Woodland
Potential productivity: Moderately high for loblolly pine, slash pine, and longleaf pine
Preferred trees to plant: Loblolly pine, slash pine, and longleaf pine
Management concerns: No significant concerns
Management practices and considerations:
• Conducting woodland operations on the contour helps to minimize erosion.

Urban uses
Suitability: Well suited to most uses
Management concerns: The subsoil is too clayey for a few uses; moderate permeability in the subsoil affects septic tank absorption fields.
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development
Suitability: Well suited to most uses
Management concerns: Slope affects a few uses.
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: IIe
Woodland ordination symbol: 8A

GsC2—Greenville sandy loam, 5 to 8 percent slopes, eroded

Setting

Landscape position: Hillsides on uplands
Landscape features: A few eroded spots and gullies in most places
Slope: Gently sloping
Slope topography: Convex
Size of mapped areas: 10 to 50 acres

Typical Profile

Surface layer:
0 to 4 inches—dark reddish brown sandy loam
Subsoil:
4 to 8 inches—dark reddish brown sandy clay loam
8 to 38 inches—dark reddish brown sandy clay
38 to 65 inches—dark red sandy clay that has strong brown mottles

Soil Properties and Qualities

Drainage class: Well drained
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderate
Available water capacity: Moderate
Runoff: Medium
Eroded surface layer: Mixture of the original surface layer and the upper part of the subsoil
Tilth: Good
Root zone: Very deep

Inclusions

• A few small areas of Bonifay and Lakeland soils on ridgetops and hillsides
• A few small areas of somewhat poorly drained soils on toeslopes

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Moderately suited
Suitability for hay: Well suited
Suitability for pasture: Well suited
Management concerns: Severe hazard of further erosion if cultivated crops are grown
Management practices and considerations:
• Conservation tillage systems that include cover crops improve tilth, reduce the hazard of further erosion, and help the soil to retain moisture.
• Water management systems that include terraces and grassed waterways help to control further erosion.

Woodland
Potential productivity: Moderately high for loblolly pine, slash pine, and longleaf pine.
Preferred trees to plant: Loblolly pine, slash pine, and longleaf pine
Management concerns: No significant concerns
Management practices and considerations:
• Conducting woodland operations on the contour helps to minimize further erosion.

Urban uses
Suitability: Moderately suited to most uses
Management concerns: The subsoil is too clayey for a few uses; moderate permeability in the subsoil affects septic tank absorption fields; slope affects most uses.

Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development
Suitability: Moderately suited to most uses
Management concerns: Slope affects a few uses.
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: IIIe
Woodland ordination symbol: 8A

GsD2—Greenville sandy loam, 8 to 12 percent slopes, eroded

Setting

Landscape position: Hillsides on uplands
Landscape features: A few eroded spots, rills, and shallow gullies and a few deep gullies
Slope: Strongly sloping
Slope topography: Choppy and irregular
Size of mapped areas: 10 to 80 acres

Typical Profile

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

Subsoil:
4 to 8 inches—dark reddish brown sandy clay loam
8 to 38 inches—dark reddish brown sandy clay
38 to 65 inches—dark red sandy clay that has strong brown mottles

Soil Properties and Qualities

Drainage class: Well drained
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderate
Available water capacity: Moderate
Runoff: Medium
Eroded surface layer: Mixture of the original surface layer and the upper part of the subsoil
Tilth: Good
Root zone: Very deep

Inclusions

• A few small areas of Nankin soils on ridgetops and hillsides
• A few small areas of Susquehanna soils on toeslopes

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Poorly suited
Suitability for hay: Moderately suited
Suitability for pasture: Moderately suited
Management concerns: Severe hazard of further erosion if cultivated crops are grown

Woodland
Potential productivity: Moderately high for loblolly pine, slash pine, and longleaf pine
Preferred trees to plant: Loblolly pine, slash pine, and longleaf pine
Management concerns: No significant concerns
Management practices and considerations:
• Conducting woodland operations on the contour helps to minimize further erosion.

Urban uses
Suitability: Moderately suited to most uses
Management concerns: Slope affects homesites and septic tank absorption fields; the subsoil is too clayey for a few uses; moderate permeability in the subsoil affects septic tank absorption fields.
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development
Suitability: Moderately suited to most uses
Management concerns: Slope affects a few uses.
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: IVe
Woodland ordination symbol: 8A

GsE—Greenville sandy loam, 12 to 18 percent slopes

Setting

Landscape position: Hillsides on uplands
Slope: Moderately steep
Slope topography: Short and irregular
Size of mapped areas: 10 to 60 acres

Typical Profile

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

Subsoil:
6 to 10 inches—dark reddish brown sandy clay loam

10 to 65 inches—dark red sandy clay

Soil Properties and Qualities

Drainage class: Well drained
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderate
Available water capacity: Moderate
Runoff: Medium
Tilth: Good
Root zone: Very deep

Inclusions

- A few small areas of Nankin soils on ridgetops and hillsides
- A few small areas of Susquehanna soils on toeslopes

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Poorly suited
Suitability for hay: Moderately suited
Suitability for pasture: Moderately suited
Management concerns: Erosion

Woodland
Potential productivity: Moderately high for loblolly pine, slash pine, and longleaf pine
Preferred trees to plant: Loblolly pine, slash pine, and longleaf pine
Management concerns: No significant concerns
Management practices and considerations:
- Conducting woodland operations on the contour helps to minimize erosion.

Urban uses
Suitability: Moderately suited or poorly suited to most uses
Management concerns: Slope affects homesites and septic tank absorption fields; the subsoil is too clayey for a few uses; moderate permeability in the subsoil affects septic tank absorption fields.
Management practices and considerations:
- Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development
Suitability: Poorly suited to most uses
Management concerns: Slope
Management practices and considerations:
- Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: VIe
Woodland ordination symbol: 8R

KB—Kinston-Bibb association, frequently flooded

Setting

Landscape position: Flood plains
Flooding: Frequent; brief to long
Slope: 0 to 2 percent
Size of mapped areas: 50 to 1,200 acres

Composition

Kinston soils—50 percent
Bibb soils—40 percent
Pattern of occurrence: Both soils are normally present in a regular and repeating pattern in areas large enough to separate at the scale mapped, but they are mapped as one unit because of present and predicted uses.
General location: Kinston—low ridges; Bibb—swales

Typical Profile

Kinston
Surface layer:
0 to 4 inches—very dark grayish brown loam

Underlying material:
4 to 25 inches—light gray sandy loam that has strong brown and red mottles
25 to 50 inches—light brownish gray sandy clay loam that has strong brown and yellowish red mottles
50 to 65 inches—light brownish gray sand that has yellowish brown and yellowish red mottles and thin strata of sandy loam

Bibb
Surface layer:
0 to 4 inches—very dark grayish brown loam

Underlying material:
4 to 25 inches—light gray sandy loam that has yellowish brown and strong brown mottles
25 to 48 inches—light gray sandy loam that has yellowish brown, strong brown, and yellowish red mottles
48 to 52 inches—light gray loamy sand that has yellowish brown and strong brown mottles
52 to 65 inches—light gray sand that has yellowish brown and strong brown mottles and thin strata of sandy loam

Soil Properties and Qualities

Kinston
Drainage class: Poorly drained
Seasonal high water table: Apparent, at the surface to a depth of 1 foot
Natural fertility: Low

Content of organic matter: Moderate
Permeability: Moderate
Available water capacity: High
Runoff: Very slow
Tilth: Good
Root zone: Very deep

Bibb
Drainage class: Poorly drained
Seasonal high water table: Apparent, at a depth of 1/2 to 1 foot
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderate
Available water capacity: Moderate
Drainage class: Poorly drained
Runoff: Very slow
Tilth: Good
Root zone: Very deep

Inclusions

- A few small areas of poorly drained, clayey soils adjacent to the uplands
- A few small areas of poorly drained, sandy soils in the slightly higher areas near streams

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Unsuited
Suitability for hay: Poorly suited
Suitability for pasture: Poorly suited
Management concerns: Flooding and wetness

Woodland
Potential productivity: Very high for loblolly pine
Preferred trees to plant: Loblolly pine
Management concerns: Equipment limitations and seedling mortality
Management practices and considerations:
- Conducting woodland operations when the soil is at the proper moisture content helps to overcome the equipment limitations.
- Bedding the soil and increasing the planting rate help to offset the seedling mortality rate.

Urban uses
Suitability: Unsuited
Management concerns: Flooding and wetness

Recreational development
Suitability: Poorly suited
Management concerns: Flooding and wetness
Management practices and considerations:
- Using special design and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: Kinston—VIw; Bibb—Vw
Woodland ordination symbol: Kinston—8W; Bibb—11W

LaB—Lakeland sand, 0 to 8 percent slopes

Setting

Landscape position: Ridgetops and short hillsides on uplands (fig. 6)
Slope: Nearly level to gently sloping
Slope topography: Smooth and convex
Size of mapped areas: 10 to 200 acres

Typical Profile

Surface layer:
0 to 4 inches—dark grayish brown sand

Underlying material:
4 to 24 inches—yellowish brown sand
24 to 50 inches—brownish yellow sand
50 to 64 inches—yellow sand
64 to 85 inches—very pale brown sand that has yellow mottles

Soil Properties and Qualities

Drainage class: Excessively drained
Natural fertility: Low
Content of organic matter: Low
Permeability: Rapid
Available water capacity: Low
Runoff: Slow
Tilth: Good
Root zone: Very deep

Inclusions

- A few small areas of Dothan and Tifton soils on ridgetops and hillsides
- A few small areas of Grady soils in upland depressions

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Poorly suited
Suitability for hay: Poorly suited
Suitability for pasture: Poorly suited
Management concerns: Low available water capacity if cultivated crops are grown

Woodland
Potential productivity: Moderate for loblolly pine, slash pine, and longleaf pine

Figure 6.—Scrub oaks growing in an area of Lakeland sand, 0 to 8 percent slopes. This soil is deep, is excessively drained, and has very low available water capacity. It formed in thick beds of eolian or marine sands. It supports excellent habitat for gopher tortoise and eastern indigo snake.

Preferred trees to plant: Loblolly pine, slash pine, and longleaf pine
Management concerns: Equipment limitations and seedling mortality
Management practices and considerations:
• Bedding the soil; planting adapted, drought-hardy species; and minimizing plant competition increase the seedling survival rate.
• Using special implements or conducting woodland operations during the wetter periods helps to overcome the equipment limitations.

Urban uses
Suitability: Well suited to most uses
Management concerns: Seepage affects most sanitary facilities.
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development
Suitability: Poorly suited
Management concerns: Too sandy
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: IVs
Woodland ordination symbol: 9S

LeB—Leefield loamy sand, 0 to 3 percent slopes

Setting

Landscape position: Uplands
Slope: Nearly level and very gently sloping
Slope topography: Smooth
Size of mapped areas: 10 to 100 acres

Typical Profile

Surface layer:
0 to 9 inches—dark grayish brown loamy sand

Subsurface layer:
9 to 24 inches—light yellowish brown loamy sand
24 to 28 inches—light yellowish brown loamy sand that has yellow and light gray mottles

Subsoil:
28 to 36 inches—very pale brown sandy loam that has light gray mottles
36 to 40 inches—very pale brown sandy clay loam that has light gray mottles
40 to 65 inches—mottled yellowish brown, light gray, and yellowish red sandy clay loam

Distinctive features: The content of plinthite is 15 percent below a depth of 40 inches.

Soil Properties and Qualities

Drainage class: Somewhat poorly drained
Seasonal high water table: Apparent, at a depth of $1^1/_2$ to $2^1/_2$ feet
Natural fertility: Low
Content of organic matter: Moderately low
Permeability: Moderately slow
Available water capacity: Moderate
Runoff: Slow
Tilth: Good
Root zone: Very deep

Inclusions

• A few small areas of Clarendon soils in the slightly higher landscape positions
• A few small areas of Pelham soils in the lower landscape positions
• A few small areas of Rigdon and Sapelo soils in landscape positions similar to those of the Leefield soil

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Moderately suited
Suitability for hay: Moderately suited
Suitability for pasture: Moderately suited
Management concerns: Seasonal wetness, which interferes with planting and harvesting
Management practices and considerations:
• Conservation tillage systems that include cover crops improve tilth and help the soil to retain moisture.

Woodland
Potential productivity: Moderately high for loblolly pine, slash pine, and longleaf pine
Preferred trees to plant: Loblolly pine and slash pine
Management concerns: Equipment limitations and seedling mortality
Management practices and considerations:
• Conducting woodland operations when the soil is at the proper moisture content helps to overcome the equipment limitations.
• Bedding the soil and increasing the planting rate help to offset the seedling mortality rate.
• Proper site preparation helps to minimize plant competition.

Urban uses
Suitability: Poorly suited

Management concerns: Wetness affects most uses.
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development
Suitability: Moderately suited
Management concerns: Wetness
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: IIIw
Woodland ordination symbol: 8W

LuB—Lucy loamy sand, 1 to 5 percent slopes

Setting

Landscape position: Ridgetops on uplands
Slope: Nearly level and very gently sloping
Slope topography: Smooth and convex
Size of mapped areas: 5 to 30 acres

Typical Profile

Surface layer:
0 to 8 inches—dark brown loamy sand

Subsurface layer:
8 to 22 inches—yellowish brown loamy sand

Subsoil:
22 to 28 inches—yellowish red sandy loam
28 to 65 inches—red sandy clay loam

Soil Properties and Qualities

Drainage class: Well drained
Natural fertility: Low
Content of organic matter: Low
Permeability: Rapid in the sandy upper layers and moderate in the subsoil
Available water capacity: Low
Runoff: Slow or medium
Tilth: Good
Root zone: Very deep

Inclusions

• A few small areas of Bonifay and Lakeland soils on ridgetops
• A few small areas of Grady soils in upland depressions

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Moderately suited
Suitability for hay: Well suited
Suitability for pasture: Well suited
Management concerns: Low available water capacity
Management practices and considerations:
• Conservation tillage systems that include cover crops improve tilth and help the soil to retain moisture.

Woodland
Potential productivity: Moderately high for loblolly pine, slash pine, and longleaf pine
Preferred trees to plant: Loblolly pine, slash pine, and longleaf pine
Management concerns: Equipment limitations and seedling mortality
Management practices and considerations:
• Bedding the soil; planting adapted, drought-hardy species; and minimizing plant competition increase the seedling survival rate.
• Using special implements or conducting woodland operations during the wetter periods helps to overcome the equipment limitations.

Urban uses
Suitability: Well suited to most uses
Management concerns: Seepage affects sanitary facilities.
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development
Suitability: Moderately suited to most uses
Management concerns: Too sandy
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: IIs
Woodland ordination symbol: 8S

MaB—Marlboro sandy loam, 2 to 5 percent slopes

Setting

Landscape position: Ridgetops on uplands
Slope: Very gently sloping
Slope topography: Smooth and convex
Size of mapped areas: 10 to 50 acres

Typical Profile

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

Subsoil:
5 to 9 inches—yellowish brown sandy clay loam
9 to 24 inches—yellowish brown sandy clay
24 to 42 inches—yellowish brown sandy clay that has strong brown mottles
42 to 65 inches—yellowish brown sandy clay that has strong brown and yellowish red mottles

Soil Properties and Qualities

Drainage class: Well drained
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderate
Available water capacity: Moderate
Runoff: Medium
Tilth: Good
Root zone: Very deep

Inclusions

- A few small areas of Bonifay and Lakeland soils on ridgetops
- A few small areas of Grady soils in upland depressions

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Well suited
Suitability for hay: Well suited
Suitability for pasture: Well suited
Management concerns: Moderate hazard of erosion if cultivated crops are grown
Management practices and considerations:
- Conservation tillage systems that include cover crops improve tilth, reduce the hazard of erosion, and help the soil to retain moisture.
- Water management systems that include terraces and grassed waterways help to control erosion.

Woodland
Potential productivity: Moderately high for loblolly pine and slash pine
Preferred trees to plant: Loblolly pine and slash pine
Management concerns: No significant concerns
Management practices and considerations:
- Conducting woodland operations on the contour helps to minimize erosion.

Urban uses
Suitability: Well suited to most uses
Management concerns: The subsoil is too clayey for a few uses; moderate permeability in the subsoil affects septic tank absorption fields.
Management practices and considerations:
- Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development
Suitability: Well suited to most uses
Management practices and considerations:
- Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: IIe
Woodland ordination symbol: 8A

NaB—Nankin loamy sand, 2 to 5 percent slopes

Setting

Landscape position: Ridgetops on uplands
Slope: Very gently sloping
Slope topography: Irregular
Size of mapped areas: 10 to 80 acres

Typical Profile

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

Subsoil:
6 to 13 inches—yellowish brown sandy clay loam
13 to 29 inches—strong brown sandy clay that has yellowish red mottles
29 to 37 inches—mottled yellowish brown, red, and light yellowish brown sandy clay loam
37 to 53 inches—mottled yellowish brown, red, and light gray sandy clay loam

Substratum:
53 to 65 inches—mottled strong brown, red, light gray, and pale brown sandy clay loam

Soil Properties and Qualities

Drainage class: Well drained
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderately slow
Available water capacity: Moderate
Runoff: Medium
Tilth: Good
Root zone: Very deep

Inclusions

- A few small areas of Dothan and Fuquay soils on ridgetops
- A few small areas of Susquehanna soils on toeslopes

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Well suited
Suitability for hay: Well suited
Suitability for pasture: Well suited
Management concerns: Moderate hazard of erosion if cultivated crops is grown
Management practices and considerations:
• Conservation tillage systems that include cover crops improve tilth, reduce the hazard of erosion, and help the soil to retain moisture.
• Water management systems that include terraces and grassed waterways help to control erosion.
• Good tilth can be maintained in most places by returning crop residue to the soil.

Woodland
Potential productivity: Moderately high for loblolly pine and slash pine; moderate for longleaf pine
Preferred trees to plant: Loblolly pine and slash pine
Management concerns: No significant concerns
Management practices and considerations:
• Conducting woodland operations on the contour helps to minimize erosion.

Urban uses
Suitability: Well suited to most uses
Management concerns: Moderately slow permeability in the subsoil affects septic tank absorption fields.
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development
Suitability: Moderately suited
Management concerns: Moderately slow permeability
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: IIe
Woodland ordination symbol: 8A

NkC2—Nankin sandy loam, 5 to 8 percent slopes, eroded

Setting

Landscape position: Hillsides on uplands
Slope: Gently sloping
Slope topography: Choppy and irregular
Size of mapped areas: 10 to 75 acres

Typical Profile

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

Subsoil:
4 to 10 inches—yellowish brown sandy clay loam
10 to 22 inches—strong brown sandy clay
22 to 40 inches—mottled yellowish brown, strong brown, and yellowish red sandy clay
40 to 55 inches—mottled yellowish brown, yellowish red, strong brown, and light gray sandy clay loam

Substratum:
55 to 65 inches—mottled yellowish brown, yellowish red, strong brown, and light gray sandy clay loam that has thin strata of sandy loam

Distinctive features: A few ironstone nodules and quartz pebbles are in the surface layer and throughout the upper part of the subsoil.

Soil Properties and Qualities

Drainage class: Well drained
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderately slow
Available water capacity: Moderate
Runoff: Medium or rapid
Eroded surface layer: Mixture of the original surface layer and the upper part of the subsoil
Tilth: Good
Root zone: Very deep

Inclusions

• A few small areas of Susquehanna soils on toeslopes

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Poorly suited
Suitability for hay: Moderately suited
Suitability for pasture: Moderately suited
Management concerns: Severe hazard of further erosion if cultivated crops are grown
Management practices and considerations:
• Water management systems that include terraces help to control further erosion.

Woodland
Potential productivity: Moderately high for loblolly pine and slash pine; moderate for longleaf pine
Preferred trees to plant: Loblolly pine and slash pine
Management concerns: No significant concerns
Management practices and considerations:
• Conducting woodland operations on the contour helps to minimize further erosion.

Urban uses
Suitability: Well suited to most uses
Management concerns: Moderately slow permeability in the subsoil affects septic tank absorption fields.
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development
Suitability: Moderately suited
Management concerns: Moderately slow permeability
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: IIIe
Woodland ordination symbol: 8A

OrB—Orangeburg loamy sand, 2 to 5 percent slopes

Setting

Landscape position: Ridgetops and hillsides on uplands
Slope: Very gently sloping
Slope topography: Smooth and convex
Size of mapped areas: 10 to 50 acres

Typical Profile

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

Subsoil:
6 to 12 inches—strong brown sandy loam
12 to 70 inches—red sandy clay loam

Soil Properties and Qualities

Drainage class: Well drained
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderate
Available water capacity: Moderate
Runoff: Medium
Tilth: Good
Root zone: Very deep

Inclusions

• A few small areas of Bonifay, Lakeland, and Susquehanna soils on ridgetops
• A few small areas of Grady soils in upland depressions
• A few small areas of Orangeburg soils that have slopes of less than 2 percent

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Well suited
Suitability for hay: Well suited
Suitability for pasture: Well suited
Management concerns: Moderate hazard of erosion if cultivated crops are grown
Management practices and considerations:
• Conservation tillage systems that include cover crops improve tilth, reduce the hazard of erosion, and help the soil to retain moisture (fig. 7).
• Water management systems that include terraces and grassed waterways help to control erosion.

Woodland
Potential productivity: High for slash pine and longleaf pine; moderately high for loblolly pine
Preferred trees to plant: Slash pine and loblolly pine
Management concerns: No significant concerns
Management practices and considerations:
• Conducting woodland operations on the contour helps to minimize erosion.

Urban uses
Suitability: Well suited to most uses

Recreational development
Suitability: Well suited to most uses
Management concerns: Slope affects a few uses.
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: IIe
Woodland ordination symbol: 8A

PeA—Pelham loamy sand, 0 to 1 percent slopes

Setting

Landscape position: Broad, lowland flats and drainageways
Slope: Nearly level
Slope topography: Smooth and concave
Size of mapped areas: 10 to 100 acres

Typical Profile

Surface layer:
0 to 8 inches—very dark gray loamy sand

Subsurface layer:
8 to 16 inches—gray loamy sand
16 to 36 inches—light brownish gray loamy sand that has yellow mottles

Figure 7.—An area of Orangeburg loamy sand, 2 to 5 percent slopes, where cornstalks provide a cover to help control erosion in winter.

Subsoil:
36 to 46 inches—light brownish gray sandy loam that has yellowish brown mottles
46 to 65 inches—light brownish gray sandy clay loam that has yellowish brown and red mottles

Soil Properties and Qualities

Drainage class: Poorly drained
Seasonal high water table: Apparent, at the surface to a depth of 1 foot
Natural fertility: Low
Content of organic matter: Moderate
Permeability: Moderate
Available water capacity: Low
Runoff: Very slow
Tilth: Good
Root zone: Very deep

Inclusions

- A few small areas of Leefield, Rigdon, and Sapelo soils in the higher landscape positions

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Unsuited
Suitability for hay: Poorly suited
Suitability for pasture: Poorly suited
Management concerns: Wetness

Woodland
Potential productivity: High for loblolly pine and slash pine
Preferred trees to plant: Loblolly pine and slash pine
Management concerns: Equipment limitations and seedling mortality

Management practices and considerations:
- Conducting woodland operations when the soil is at the proper moisture content helps to overcome the equipment limitations.
- Bedding the soil and increasing the planting rate help to offset the seedling mortality rate.

Urban uses
Suitability: Unsuited
Management concerns: Wetness

Recreational development
Suitability: Unsuited
Management concerns: Wetness

Interpretive Groups

Land capability classification: Vw
Woodland ordination symbol: 11W

PeB—Pelham loamy sand, 1 to 3 percent slopes

Setting

Landscape position: Long, narrow seepage areas near streams
Slope: Nearly level and very gently sloping
Slope topography: Short and irregular
Size of mapped areas: 10 to 50 acres

Typical Profile

Surface layer:
0 to 8 inches—very dark gray loamy sand

Subsurface layer:
8 to 16 inches—gray loamy sand
16 to 36 inches—light brownish gray loamy sand that has yellow mottles

Subsoil:
36 to 46 inches—light brownish gray sandy loam that has yellowish brown mottles
46 to 65 inches—light brownish gray sandy clay loam that has yellowish brown and red mottles

Soil Properties and Qualities

Drainage class: Poorly drained
Seasonal high water table: Apparent, at a depth of 1 to $1^1/_2$ feet
Natural fertility: Low
Content of organic matter: Moderate
Permeability: Moderate
Available water capacity: Low
Runoff: Slow
Tilth: Good
Root zone: Very deep

Inclusions

- A few small areas of soils that are clayey in the upper subsoil and are better drained than the Pelham soil
- A few small areas of somewhat poorly drained soils in the higher landscape positions

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Poorly suited
Suitability for hay: Poorly suited
Suitability for pasture: Poorly suited
Management concerns: Wetness

Woodland
Potential productivity: High for loblolly pine and slash pine
Preferred trees to plant: Loblolly pine and slash pine
Management concerns: Equipment limitations and seedling mortality
Management practices and considerations:
- Conducting woodland operations when the soil is at the proper moisture content helps to overcome the equipment limitations.
- Bedding the soil and increasing the planting rate help to offset the seedling mortality rate.

Urban uses
Suitability: Unsuited
Management concerns: Wetness

Recreational development
Suitability: Unsuited
Management concerns: Wetness

Interpretive Groups

Land capability classification: IVw
Woodland ordination symbol: 11W

PpA—Pelham loamy sand, 0 to 1 percent slopes, ponded

Setting

Landscape position: Shallow depressions
Slope: Nearly level
Slope topography: Concave
Size of mapped areas: 10 to 50 acres

Typical Profile

Surface layer:
0 to 8 inches—very dark gray loamy sand

Subsurface layer:
8 to 16 inches—gray loamy sand

16 to 36 inches—light brownish gray loamy sand that has yellow mottles

Subsoil:
36 to 46 inches—light brownish gray sandy loam that has yellowish brown mottles
46 to 65 inches—light brownish gray sandy clay loam that has yellowish brown and red mottles

Soil Properties and Qualities

Drainage class: Poorly drained
Seasonal high water table: Apparent, 1 foot above the surface to a depth of 1 foot
Natural fertility: Low
Content of organic matter: Moderate
Permeability: Moderate
Available water capacity: Low
Runoff: Ponded
Tilth: Good
Root zone: Very deep

Inclusions

- A few small areas of Grady soils in depressions

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Unsuited
Suitability for hay: Unsuited
Suitability for pasture: Unsuited
Management concerns: Ponding

Woodland
Potential productivity: High for loblolly pine and slash pine
Preferred trees to plant: Loblolly pine and slash pine
Management concerns: Equipment limitations and seedling mortality
Management practices and considerations:
- Conducting woodland operations when the soil is at the proper moisture content helps to overcome the equipment limitations.
- Bedding the soil and increasing the planting rate help to offset the seedling mortality rate.

Urban uses
Suitability: Unsuited
Management concerns: Wetness

Recreational development
Suitability: Unsuited
Management concerns: Wetness

Interpretive Groups

Land capability classification: Vw
Woodland ordination symbol: 11W

Ra—Rains sandy loam

Setting

Landscape position: Nearly level flats and slight depressions on uplands
Slope: Nearly level
Slope topography: Concave
Size of mapped areas: 10 to 80 acres

Typical Profile

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

Subsoil:
5 to 18 inches—gray sandy loam that has yellowish brown mottles
18 to 45 inches—gray sandy clay loam that has yellowish brown mottles
45 to 65 inches—gray sandy clay that has yellowish brown mottles

Soil Properties and Qualities

Drainage class: Poorly drained
Seasonal high water table: Apparent, at the surface to a depth of 1 foot
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderate
Available water capacity: Moderate
Runoff: Slow
Tilth: Good
Root zone: Very deep

Inclusions

- A few small areas of soils that are subject to flooding

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Poorly suited
Suitability for hay: Moderately suited
Suitability for pasture: Moderately suited
Management concerns: Wetness

Woodland
Potential productivity: High for loblolly pine
Preferred trees to plant: Loblolly pine
Management concerns: Equipment limitations and seedling mortality
Management practices and considerations:
- Drainage helps to overcome the equipment limitations if suitable outlets are available.
- Conducting woodland operations when the soil is at the proper moisture content helps to overcome the soil limitations.

• Bedding the soil; planting adapted species; and minimizing plant competition increase the seedling survival rate.

Urban uses
Suitability: Unsuited
Management concerns: Wetness

Recreational development
Suitability: Unsuited
Management concerns: Wetness

Interpretive Groups

Land capability classification: IVw
Woodland ordination symbol: 10W

ReB—Red Bay loamy sand, 2 to 5 percent slopes

Setting

Landscape position: Ridgetops on uplands
Slope: Very gently sloping
Slope topography: Smooth and convex
Size of mapped areas: 10 to 25 acres

Typical Profile

Surface layer:
0 to 5 inches—dark reddish brown loamy sand

Subsoil:
5 to 9 inches—dark reddish brown sandy loam
9 to 70 inches—dark red sandy clay loam

Soil Properties and Qualities

Drainage class: Well drained
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderate
Available water capacity: Moderate
Runoff: Slow
Tilth: Good
Root zone: Very deep

Inclusions

• A few small areas of Bonifay and Lakeland soils on ridgetops
• A few small areas of Grady soils in upland depressions

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Well suited
Suitability for hay: Well suited
Suitability for pasture: Well suited
Management concerns: Moderate hazard of erosion if cultivated crops are grown
Management practices and considerations:
• Conservation tillage systems that include cover crops improve tilth, reduce the hazard of erosion, and help the soil to retain moisture.
• Water management systems that include terraces and grassed waterways help to control erosion.

Woodland
Potential productivity: High for loblolly pine, slash pine, and longleaf pine
Preferred trees to plant: Loblolly pine, slash pine, and longleaf pine
Management concerns: No significant concerns
Management practices and considerations:
• Conducting woodland operations on the contour helps to minimize erosion.

Urban uses
Suitability: Well suited to most uses

Recreational development
Suitability: Well suited to most uses
Management concerns: Slope affects a few uses.
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: IIe
Woodland ordination symbol: 9A

Rg—Rigdon loamy sand

Setting

Landscape position: Nearly level uplands
Slope: Nearly level
Slope topography: Smooth and flat
Size of mapped areas: 10 to 50 acres

Typical Profile

Surface layer:
0 to 7 inches—very dark gray loamy sand

Upper subsoil:
7 to 13 inches—dark brown loamy sand
13 to 17 inches—dark brown and yellowish brown loamy sand

Subsurface layer:
17 to 27 inches—light yellowish brown loamy sand that has brownish yellow mottles

Lower subsoil:
27 to 33 inches—very pale brown sandy loam that has light gray mottles

33 to 42 inches—light gray sandy loam that has yellowish brown and red mottles
42 to 65 inches—light gray sandy clay loam that has yellowish brown and red mottles

Soil Properties and Qualities

Drainage class: Somewhat poorly drained
Seasonal high water table: Apparent, at a depth of 1 1/2 to 2 1/2 feet
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderate
Available water capacity: Low
Runoff: Slow
Tilth: Good
Root zone: Very deep

Inclusions

Contrasting inclusions:
- A few small areas of Leefield soils in landscape positions similar to those of the Rigdon soil
- A few small areas of Pelham soils in the lower landscape positions

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Moderately suited
Suitability for hay: Moderately suited
Suitability for pasture: Moderately suited
Management concerns: Wetness and low available water capacity
Management practices and considerations:
- Conservation tillage systems that include cover crops improve tilth and help the soil to retain moisture.
- Returning crop residue to the soil helps the soil to retain moisture.

Woodland
Potential productivity: High for loblolly pine and slash pine; moderate for longleaf pine
Preferred trees to plant: Loblolly pine and slash pine
Management concerns: Equipment limitations and seedling mortality
Management practices and considerations:
- Conducting woodland operations when the soil is at the proper moisture content helps to overcome the soil limitations.
- Bedding the soil and increasing the planting rate help to offset the seedling mortality rate.

Urban uses
Suitability: Poorly suited
Management concerns: Wetness
Management practices and considerations:
- Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development
Suitability: Moderately suited
Management concerns: Too sandy, wetness
Management practices and considerations:
- Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: IIIw
Woodland ordination symbol: 9W

Sp—Sapelo sand

Setting

Landscape position: Uplands
Slope: Nearly level
Size of mapped areas: 5 to 75 acres

Typical Profile

Surface layer:
0 to 6 inches—dark gray sand

Subsurface layer:
6 to 15 inches—light gray sand

Upper subsoil:
15 to 20 inches—dark brown sand
20 to 24 inches—dark yellowish brown sand

Subsurface layer:
24 to 40 inches—very pale brown sand that has yellow mottles
40 to 50 inches—light gray sand that has yellow mottles

Lower subsoil:
50 to 70 inches—light gray sandy loam that has yellow mottles

Soil Properties and Qualities

Drainage class: Somewhat poorly drained
Seasonal high water table: Apparent, at a depth of 1/2 to 1 1/2 feet
Natural fertility: Very low
Content of organic matter: Low
Permeability: Moderate
Available water capacity: Very low
Runoff: Slow
Tilth: Good
Root zone: Very deep

Inclusions

- A few small areas of Leefield soils in landscape positions similar to those of the Sapelo soil
- A few small areas of Pelham soils in the lower landscape positions

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Poorly suited
Suitability for hay: Poorly suited
Suitability for pasture: Poorly suited
Management concerns: Wetness and very low available water capacity

Woodland
Potential productivity: Moderately high for loblolly pine and slash pine; moderate for longleaf pine
Preferred trees to plant: Loblolly pine and slash pine
Management concerns: Equipment limitations and seedling mortality
Management practices and considerations:
- Conducting woodland operations when the soil is at the proper moisture content helps to overcome the soil limitations.
- Bedding the soil and increasing the planting rate help to offset the seedling mortality rate.

Urban uses
Suitability: Poorly suited
Management concerns: Wetness
Management practices and considerations:
- Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development
Suitability: Poorly suited
Management concerns: Wetness
Management practices and considerations:
- Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: IVw
Woodland ordination symbol: 7W

StA—Stilson loamy sand, 0 to 2 percent slopes

Setting

Landscape position: Nearly level uplands
Slope: Nearly level
Size of mapped areas: 5 to 50 acres

Typical Profile

Surface layer:
0 to 8 inches—dark grayish brown loamy sand

Subsurface layer:
8 to 26 inches—yellowish brown loamy sand

Subsoil:
26 to 36 inches—brownish yellow sandy loam
36 to 40 inches—brownish yellow sandy loam that has light gray and strong brown mottles
40 to 65 inches—mottled light gray, strong brown, and red sandy clay loam

Soil Properties and Qualities

Drainage class: Moderately well drained
Seasonal high water table: Apparent, at a depth of $2^1/_2$ to 3 feet
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderate
Available water capacity: Moderate
Runoff: Medium
Tilth: Good
Root zone: Very deep

Inclusions

- A few small areas of Leefield soils in the slightly lower landscape positions

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Moderately suited
Suitability for hay: Moderately suited
Suitability for pasture: Moderately suited
Management concerns: Wetness
Management practices and considerations:
- Conservation tillage systems that include cover crops improve tilth and help the soil to retain moisture.
- Water management systems that include terraces and grassed waterways help to control erosion.

Woodland
Potential productivity: High for loblolly pine, slash pine, and longleaf pine
Preferred trees to plant: Loblolly pine, slash pine, and longleaf pine
Management concerns: Equipment limitations
Management practices and considerations:
- Conducting woodland operations when the soil is at the proper moisture content helps to overcome the soil limitations.
- Proper site preparation helps to minimize plant competition.

• Increasing the planting rate helps to offset the seedling mortality rate.

Urban uses
Suitability: Moderately suited to most uses
Management concerns: Wetness affects septic tank absorption fields and houses with basements.
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development
Suitability: Moderately suited
Management concerns: Wetness
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: IIw
Woodland ordination symbol: 9W

SuB—Susquehanna sandy loam, 2 to 5 percent slopes

Setting

Landscape position: Ridgetops and hillsides on uplands
Slope: Very gently sloping
Slope topography: Undulating and convex
Size of mapped areas: 5 to 30 acres

Typical Profile

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

Subsoil:
3 to 10 inches—yellowish red clay that has strong brown mottles
10 to 21 inches—light brownish gray clay that has red and strong brown mottles
21 to 45 inches—gray clay that has dark red and strong brown mottles
45 to 65 inches—light gray clay that has strong brown and yellowish brown mottles

Soil Properties and Qualities

Drainage class: Somewhat poorly drained
Natural fertility: Low
Content of organic matter: Low
Permeability: Very slow
Available water capacity: Moderate
Runoff: Medium to very rapid
Tilth: Fair
Root zone: Very deep

Inclusions

• A few small areas of Bonifay, Dothan, Lakeland, and Tifton soils on the higher ridgetops

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Poorly suited
Suitability for hay: Moderately suited
Suitability for pasture: Moderately suited
Management concerns: Wetness and limited rooting depth

Woodland
Potential productivity: Moderately high for loblolly pine
Preferred trees to plant: Loblolly pine and shortleaf pine
Management concerns: Equipment limitations
Management practices and considerations:
• Using special equipment can minimize soil compaction.
• Planting and harvesting during the drier seasons helps to overcome the equipment limitations.

Urban uses
Suitability: Poorly suited to most uses
Management concerns: Very slow permeability and high shrink-swell potential
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development
Suitability: Poorly suited
Management concerns: Very slow permeability
Management practices and considerations:
• Using special design, modification, and seasonal use can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: IVe
Woodland ordination symbol: 8C

SuC—Susquehanna sandy loam, 5 to 12 percent slopes

Setting

Landscape position: Short hillsides on uplands
Slope: Gently sloping and strongly sloping
Slope topography: Irregular and short
Size of mapped areas: 5 to 40 acres

Typical Profile

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

Subsoil:
3 to 10 inches—yellowish red clay that has strong brown mottles
10 to 21 inches—light brownish gray clay that has red and strong brown mottles
21 to 45 inches—gray clay that has dark red and strong brown mottles
45 to 65 inches—light gray clay that has strong brown and yellowish brown mottles

Soil Properties and Qualities

Drainage class: Somewhat poorly drained
Natural fertility: Low
Content of organic matter: Low
Permeability: Very slow
Available water capacity: Moderate
Runoff: Medium to very rapid
Tilth: Fair
Root zone: Very deep, but restricted by the clayey subsoil

Inclusions

- A few small areas of Bonifay, Dothan, Lakeland, and Tifton soils on the higher ridgetops

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Unsuited
Suitability for hay: Poorly suited
Suitability for pasture: Poorly suited
Management concerns: Erosion and the moderately deep effective root zone

Woodland
Potential productivity: Moderately high for loblolly pine
Preferred trees to plant: Loblolly pine and shortleaf pine
Management concerns: Equipment limitations
Management practices and considerations:
- Using special equipment can minimize soil compaction.
- Planting and harvesting during the drier seasons helps to overcome the equipment limitations.

Urban uses
Suitability: Poorly suited to most uses
Management concerns: Very slow permeability and high shrink-swell potential
Management practices and considerations:
- Using special design, modification, and application procedures can help to overcome the soil limitations.
- Cutting and filling with offsite material helps to overcome the slope.

Recreational development
Suitability: Poorly suited
Management concerns: Very slow permeability and slope
Management practices and considerations:
- Using special design, modification, and seasonal use can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: VIe
Woodland ordination symbol: 8C

TC—Tawcaw-Chastain association, frequently flooded

Setting

Landscape position: Flood plains
Flooding: Frequently flooded from late fall to mid-spring
Slope: 0 to 2 percent
Size of mapped areas: 50 to 500 acres

Composition

Tawcaw soils—50 percent
Chastain soils—40 percent
Pattern of occurrence: Both soils are normally present in a regular and repeating pattern, but they are mapped as one unit because of present and predicted uses.
General location: Tawcaw—low ridges; Chastain—swales

Typical Profile

Tawcaw
Surface layer:
0 to 4 inches—dark brown silty clay loam

Subsoil:
4 to 20 inches—yellowish brown silty clay that has very pale brown and light brownish gray mottles
20 to 40 inches—yellowish brown silty clay that has strong brown and light brownish gray mottles
40 to 52 inches—mottled light brownish gray, yellowish brown, and strong brown silty clay
52 to 60 inches—light gray sandy clay loam that has strong brown and yellowish brown mottles

Substratum:
60 to 70 inches—light gray loamy sand that has yellowish brown mottles

Chastain
Surface layer:
0 to 9 inches—dark brown silty clay loam

Subsoil:
9 to 34 inches—light brownish gray silty clay that has yellowish red mottles
34 to 46 inches—light brownish gray clay that has yellowish red and strong brown mottles

Substratum:
46 to 52 inches—gray coarse sandy loam
52 to 65 inches—gray coarse sand

Soil Properties and Qualities

Tawcaw
Drainage class: Somewhat poorly drained
Seasonal high water table: Apparent, at a depth of 1 1/2 to 2 1/2 feet
Natural fertility: Medium
Content of organic matter: Moderate
Permeability: Slow
Available water capacity: High
Runoff: Slow
Tilth: Poor
Root zone: Very deep

Chastain
Drainage class: Poorly drained
Seasonal high water table: Apparent, at the surface to a depth of 1 foot
Natural fertility: Medium
Content of organic matter: Moderate
Permeability: Slow
Available water capacity: High
Runoff: Very Slow
Tilth: Poor
Root zone: Very deep

Inclusions

- A few small areas of moderately well drained, sandy and loamy soils in the higher landscape positions

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Unsuited
Suitability for hay: Unsuited
Suitability for pasture: Unsuited
Management concerns: Wetness

Woodland
Potential productivity: High for loblolly pine
Preferred trees to plant: Loblolly pine
Management concerns: Equipment limitations and seedling mortality
Management practices and considerations:
- Using modified or special equipment or planting and harvesting during the drier seasons helps to overcome the equipment limitations.
- Bedding the soil; planting adapted species; and minimizing plant competition increase the seedling survival rate.

Urban uses
Suitability: Unsuitable
Management concerns: Wetness and flooding

Recreational development
Suitability: Poorly suited
Management concerns: Wetness and flooding

Interpretive Groups

Land capability classification: Tawcaw—VIw; Chastain—VIIw
Woodland ordination symbol: 8W

TeC—Telfair loamy sand, 2 to 8 percent slopes

Setting

Landscape position: Ridgetops in dissected uplands
Landscape features: Few sandstone outcrops
Slope: Very gently sloping and gently sloping
Size of mapped areas: 5 to 25 acres

Typical Profile

Surface layer:
0 to 4 inches—dark grayish brown loamy sand

Subsoil:
4 to 8 inches—red sandy clay
8 to 11 inches—red clay that has pinkish gray mottles
11 to 16 inches—gray clay that has red mottles
16 to 24 inches—gray clay that has yellowish brown, red, and yellowish red mottles

Substratum:
24 inches and below—semihard sandstone

Soil Properties and Qualities

Drainage class: Moderately well drained
Seasonal high water table: Perched, at a depth of 1 to 3 feet
Natural fertility: Low
Content of organic matter: Low
Permeability: Very slow
Available water capacity: Moderate
Runoff: Rapid

Tilth: Good
Root zone: Moderately deep

Inclusions

- Ailey, Bonifay, and Wicksburg soils, which have a thick subsurface layer

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Poorly suited
Suitability for hay: Moderately suited
Suitability for pasture: Moderately suited
Management concerns: Limited rooting depth
Management practices and considerations:
- Seeding adapted grass species improves production.

Woodland
Potential productivity: Moderate for loblolly pine
Preferred trees to plant: Loblolly pine
Management concerns: Erosion, equipment limitations, and seeding mortality
Management practices and considerations:
- Conducting woodland operations on the contour helps to minimize erosion.
- Using special implements or planting and harvesting during the wetter periods help to overcome the equipment limitations.
- Bedding the soil and minimizing plant competition increase the seedling survival rate.

Urban uses
Suitability: Unsuited
Management concerns: Depth to rock, the clayey texture, and shrink-swell potential affect most uses.

Recreational development
Suitability: Poorly suited
Management concerns: Depth to rock and too clayey
Management practices and considerations:
- Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: IVe
Woodland ordination symbol: 6C

TeD—Telfair loamy sand, 8 to 15 percent slopes

Setting

Landscape position: Hillsides in dissected uplands
Landscape features: Few sandstone outcrops
Slope: Strongly sloping and moderately steep
Slope topography: Short and irregular
Size of mapped areas: 5 to 25 acres

Typical Profile

Surface layer:
0 to 4 inches—dark grayish brown loamy sand

Subsoil:
4 to 8 inches—red sandy clay
8 to 11 inches—red clay that has pinkish gray mottles
11 to 16 inches—gray clay that has red mottles
16 to 24 inches—gray clay that has yellowish brown, red, and yellowish red mottles

Substratum:
24 inches and below—semihard sandstone

Soil Properties and Qualities

Drainage class: Moderately well drained
Seasonal high water table: Perched, at a depth of 1 to 3 feet
Natural fertility: Low
Content of organic matter: Low
Permeability: Very slow
Available water capacity: Moderate
Runoff: Rapid
Tilth: Good
Root zone: Moderately deep

Inclusions

- Ailey, Bonifay, and Wicksburg soils, which have a thick subsurface layer

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Unsuited
Suitability for hay: Moderately suited
Suitability for pasture: Moderately suited
Management concerns: Limited rooting depth
Management practices and considerations:
- Seeding adapted grass species improves production.

Woodland
Potential productivity: Moderate for loblolly pine
Preferred trees to plant: Loblolly pine
Management concerns: Erosion, equipment limitations, and seeding mortality
Management practices and considerations:
- Conducting woodland operations on the contour helps to minimize erosion.
- Using special implements or planting and harvesting during the wetter periods help to overcome the equipment limitations.
- Bedding the soil and minimizing plant competition increase the seedling survival rate.

Urban uses
Suitability: Unsuited
Management concerns: Depth to rock, the clayey texture, and shrink-swell potential affect most uses.
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development
Suitability: Poorly suited
Management concerns: Depth to rock and too clayey
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: VIe
Woodland ordination symbol: 6C

TfA—Tifton loamy sand, 0 to 2 percent slopes

Setting

Landscape position: Ridgetops and hillsides on uplands
Slope: Nearly level
Slope topography: Smooth and convex
Size of mapped areas: 5 to 50 acres

Typical Profile

Surface layer:
0 to 8 inches—dark grayish brown loamy sand

Subsoil:
8 to 18 inches—yellowish brown sandy loam
18 to 38 inches—yellowish brown sandy clay loam
38 to 50 inches—yellowish brown sandy clay loam that has yellowish red and very pale brown mottles
50 to 65 inches—mottled yellowish brown, yellowish red, and light gray sandy clay loam

Distinctive features: A horizon that has 7 to 8 percent plinthite is below a depth of 38 inches. Nodules of ironstone are in the surface layer and to a depth of 42 inches.

Soil Properties and Qualities

Drainage class: Well drained
Seasonal high water table: Perched, at a depth of 3½ to 6 feet
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderately slow
Available water capacity: Moderate
Runoff: Medium
Tilth: Good
Root zone: Very deep

Inclusions

• A few small areas of Bonifay and Cowarts soils on ridgetops and hillsides
• A few small areas of Grady soils in depressions

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Well suited
Suitability for hay: Well suited
Suitability for pasture: Well suited
Management practices and considerations:
• Conservation tillage systems that include cover crops improve tilth and help the soil to retain moisture.

Woodland
Potential productivity: High for loblolly pine and slash pine; moderate for longleaf pine
Preferred trees to plant: Loblolly pine and slash pine
Management concerns: No significant concerns

Urban uses
Suitability: Well suited to most uses
Management concerns: Moderately slow permeability in the lower part of the subsoil affects septic tank absorption fields.
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development
Suitability: Well suited to most uses
Management concerns: Slope affects a few uses.
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: I
Woodland ordination symbol: 9A

TfB—Tifton loamy sand, 2 to 5 percent slopes

Setting

Landscape position: Ridgetops and hillsides on uplands
Slope: Very gently sloping

Slope topography: Smooth and convex
Size of mapped areas: 10 to 150 acres

Typical Profile

Surface layer:
0 to 8 inches—dark grayish brown loamy sand

Subsoil:
8 to 18 inches—yellowish brown sandy loam
18 to 38 inches—yellowish brown sandy clay loam
38 to 50 inches—yellowish brown sandy clay loam that has yellowish red and very pale brown mottles
50 to 65 inches—mottled yellowish brown, yellowish red, and light gray sandy clay loam

Distinctive features: A horizon that has 7 to 8 percent plinthite is below a depth of 38 inches. Nodules of ironstone are in the surface layer and to a depth of 42 inches.

Soil Properties and Qualities

Drainage class: Well drained
Seasonal high water table: Perched, at a depth of 3½ to 6 feet
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderately slow
Available water capacity: Moderate
Runoff: Medium
Tilth: Good
Root zone: Very deep

Inclusions

- A few small areas of Bonifay and Cowarts soils on ridgetops and hillsides
- A few small areas of Grady soils in depressions

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Well suited
Suitability for hay: Well suited
Suitability for pasture: Well suited
Management concerns: Moderate hazard of erosion if cultivated crops are grown
Management practices and considerations:
- Conservation tillage systems that include cover crops improve tilth, reduce the hazard of erosion, and help the soil to retain moisture.
- Water management systems that include terraces and grassed waterways help to control erosion.

Woodland
Potential productivity: High for loblolly pine and slash pine; moderate for longleaf pine (fig. 8)
Management concerns: No significant concerns
Management practices and considerations:
- Conducting woodland operations on the contour helps to minimize erosion.

Urban uses
Suitability: Well suited to most uses
Management concerns: Moderately slow permeability in the lower part of the subsoil affects septic tank absorption fields.
Management practices and considerations:
- Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development
Suitability: Well suited to most uses
Management concerns: Slope affects a few uses.
Management practices and considerations:
- Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: IIe
Woodland ordination symbol: 9A

TnC2—Tifton sandy loam, 5 to 8 percent slopes, eroded

Setting

Landscape position: Hillsides on uplands
Landscape features: A few eroded spots and a few gullies
Slope: Gently sloping
Slope topography: Irregular and convex
Size of mapped areas: 5 to 50 acres

Typical Profile

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

Subsoil:
5 to 19 inches—yellowish brown sandy clay loam
19 to 39 inches—yellowish brown sandy clay loam that has yellowish red mottles
39 to 48 inches—yellowish brown sandy clay loam that has light yellowish brown and yellowish red mottles
48 to 65 inches—mottled yellowish brown, yellowish red, and light gray sandy clay loam

Distinctive features: The content of plinthite is 5 percent or more below a depth of 39 inches. Ironstone nodules are in the surface layer and throughout the upper part of the subsoil.

Figure 8.—Improved slash pine in an area of Tifton loamy sand, 2 to 5 percent slopes. These pines were planted to control erosion through the Conservation Reserve Program.

Soil Properties and Qualities

Drainage class: Well drained
Seasonal high water table: Perched, at a depth of 3½ to 6 feet
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderately slow
Available water capacity: Moderate
Runoff: Medium
Eroded surface layer: Mixture of the original surface layer and the upper part of the subsoil
Tilth: Good
Root zone: Very deep

Inclusions

- A few small areas of Cowarts and Fuquay soils on hillsides

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Moderately suited
Suitability for hay: Well suited
Suitability for pasture: Well suited
Management concerns: Severe hazard of further erosion if cultivated crops are grown
Management practices and considerations:
• Conservation tillage systems that include cover crops improve tilth, reduce the hazard of further erosion, and help the soil to retain moisture.
• Water management systems that include terraces and grassed waterways help to control further erosion.

Woodland
Potential productivity: High for loblolly pine and slash pine; moderate for longleaf pine
Management concerns: No significant concerns
Management practices and considerations:
• Conducting woodland operations on the contour helps to minimize further erosion.

Urban uses
Suitability: Well suited to most uses
Management concerns: Moderate permeability in the subsoil affects septic tank absorption field.
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development
Suitability: Well suited to most uses
Management concerns: Slope affects a few uses.
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: IIIe
Woodland ordination symbol: 9A

Ud—Udorthents, loamy

Setting

Landscape position: Uplands
Landscape features: Modification by cutting, filling, and reshaping or by removal of original soil material
Slope: Very gently sloping to strongly sloping
Size of mapped areas: 3 to 20 acres

Composition

Sandy and loamy material or remnants of underlying material

Use and Management

Land use: Borrow areas, idle land, and areas that are revegetated or planted to trees

Urban uses
Suitability: Poorly suited
Management concerns: Erosion
Management practices and considerations:
• Mulching and establishing permanent cover help to minimize the hazard of erosion.

Interpretive Groups

Land capability classification: None assigned
Woodland ordination symbol: None assigned

WB—Wahee-Bethera association, 0 to 2 percent slopes, occasionally flooded

Setting

Landscape position: Broad stream terraces along the Ocmulgee River
Landscape features: Narrow, low ridges and narrow swales
Flooding: Occasional
Slope: Nearly level
Slope topography: Smooth
Size of mapped areas: 25 to 500 acres

Composition

Wahee soils—60 percent
Bethera soils—35 percent
Pattern of occurrence: The soils occur in an intermingled pattern that could not be separated at the scale of mapping.
General location: Wahee—low ridges; Bethera—swales

Typical Profile

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

Subsoil:
5 to 10 inches—brown sandy clay loam that has brownish yellow and light brownish gray mottles
10 to 27 inches—mottled red, light brownish gray, and yellowish brown clay
27 to 54 inches—gray clay that has yellowish brown and red mottles
54 to 62 inches—light brownish gray clay that has brownish yellow and yellowish brown mottles

Bethera
Surface layer:
0 to 6 inches—dark grayish brown clay loam

Subsoil:
6 to 12 inches—grayish brown clay loam that has yellowish brown mottles
12 to 50 inches—grayish brown clay that has yellowish brown mottles
50 to 60 inches—grayish brown clay that has strong brown mottles

Soil Properties and Qualities

Wahee
Drainage class: Somewhat poorly drained
Seasonal high water table: Apparent, at a depth of 1/2 to 1 1/2 feet
Natural fertility: Low
Content of organic matter: Low
Permeability: Slow
Available water capacity: High
Runoff: Slow
Tilth: Good
Root zone: Very deep

Bethera
Drainage class: Poorly drained
Seasonal high water table: Apparent, at the surface to a depth of 1 1/2 feet
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderately slow or slow
Available water capacity: High
Runoff: Very slow
Tilth: Poor
Root zone: Very deep

Inclusions

- A few areas of loamy, moderately well drained soils

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Poorly suited
Suitability for hay: Poorly suited
Suitability for pasture: Moderately suited
Management concerns: Flooding and wetness

Woodland
Potential productivity: High for loblolly pine and slash pine
Preferred trees to plant: Loblolly pine and slash pine
Management concerns: Equipment limitations and seeding mortality
Management practices and considerations:
- Conducting woodland operations when the soil is at the proper moisture content helps to overcome the equipment limitations.
- Bedding the soil and increasing the planting rate help to offset the seedling mortality rate.

Urban uses
Suitability: Unsuited
Management concerns: Flooding and wetness

Recreational development
Suitability: Poorly suited
Management concerns: Flooding and wetness

Interpretive Groups

Land capability classification: IVw
Woodland ordination symbol: Wahee—9W; Bethera—10W

WcB—Wicksburg loamy sand, 2 to 5 percent slopes

Setting

Landscape position: Upland ridges
Landscape features: Some rock outcrop
Slope: Very gently sloping
Slope topography: Smooth and convex
Size of mapped areas: 10 to 25 acres

Typical Profile

Surface layer:
0 to 8 inches—dark grayish brown loamy sand

Subsurface layer:
8 to 29 inches—light yellowish brown loamy sand

Subsoil:
29 to 34 inches—yellowish brown sandy loam
34 to 38 inches—yellowish brown sandy clay that has red and pale brown mottles
38 to 55 inches—mottled yellowish brown, red, and light brownish gray clay
55 to 65 inches—mottled light brownish gray, yellowish brown, and reddish brown clay

Distinctive features: A few small quartz pebbles are in the surface and subsurface layers.

Soil Properties and Qualities

Drainage class: Well drained
Natural fertility: Low
Content of organic matter: Low
Permeability: Rapid in the surface and subsurface layers and slow in the subsoil
Available water capacity: Low

Runoff: Medium
Tilth: Good
Root zone: Very deep

Inclusions

- A few small areas of Nankin and Susquehanna soils on toeslopes

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Moderately suited
Suitability for hay: Moderately suited
Suitability for pasture: Moderately suited
Management concerns: Low available water capacity
Management practices and considerations:
- Conservation tillage systems that include cover crops improve tilth and help the soil to retain moisture.

Woodland
Potential productivity: Moderate for loblolly pine, slash pine, and longleaf pine
Preferred trees to plant: Loblolly pine, slash pine, and longleaf pine
Management concerns: Seedling mortality
Management practices and considerations:
- Planting adapted, drought-hardy species increases the seedling survival rate.
- Plant competition can be minimized by proper site preparation and herbicide application.
- Increasing the planting rate helps to offset the seedling mortality rate.

Urban uses
Suitability: Moderately suited
Management concerns: Slow permeability in the subsoil affects septic tank absorption fields; shrink-well potential affects houses with basements.
Management practices and considerations:
- Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development
Suitability: Moderately suited
Management concerns: Slow permeability in subsoil
Management practices and considerations:
- Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: IIs
Woodland ordination symbol: 8S

WcC—Wicksburg loamy sand, 5 to 8 percent slopes

Setting

Landscape position: Upland hillsides
Landscape features: Some rock outcrop
Slope: Gently sloping
Slope topography: Short and irregular
Size of mapped areas: 10 to 25 acres

Typical Profile

Surface layer:
0 to 8 inches—dark grayish brown loamy sand

Subsurface layer:
8 to 29 inches—light yellowish brown loamy sand

Subsoil:
29 to 34 inches—yellowish brown sandy loam
34 to 38 inches—yellowish brown sandy clay that has red and pale brown mottles
38 to 55 inches—mottled yellowish brown, red, and light brownish gray clay
55 to 65 inches—mottled light brownish gray, yellowish brown, and reddish brown clay

Distinctive features: A few small quartz pebbles are in the surface and subsurface layers.

Soil Properties and Qualities

Drainage class: Well drained
Natural fertility: Low
Content of organic matter: Low
Permeability: Rapid in the surface and subsurface layers and slow in the subsoil
Available water capacity: Low
Runoff: Rapid
Tilth: Good
Root zone: Very deep

Inclusions

- A few small areas of Nankin and Susquehanna soils on toeslopes

Use and Management

Field crops, hay, and pasture
Suitability for field crops: Poorly suited
Suitability for hay: Well suited
Suitability for pasture: Well suited
Management concerns: Low available water capacity and moderate hazard of erosion
Management practices and considerations:
- Conservation tillage systems that include cover

crops improve tilth, reduce the hazard of erosion, and help the soil to retain moisture.

- Water management systems that include terraces and grassed waterways help to control erosion.

Woodland

Potential productivity: Moderate for loblolly pine, slash pine, and longleaf pine

Preferred trees to plant: Loblolly pine, slash pine, and longleaf pine

Potential productivity: Medium

Preferred trees to plant: Loblolly pine and slash pine

Management concerns: Seedling mortality and plant competition

Management practices and considerations:

- Planting adapted, drought-hardy species increases the seedling survival rate.
- Plant competition can be minimized by proper site preparation and herbicide application.
- Increasing the planting rate helps to offset the seedling mortality rate.

Urban uses

Suitability: Moderately suited

Management concerns: Slow permeability in the subsoil affects septic tank absorption fields; shrink-well potential affects houses with basements.

Management practices and considerations:

- Using special design, modification, and application procedures can help to overcome the soil limitations.

Recreational development

Suitability: Moderately suited

Management concerns: Slow permeability in the subsoil

Management practices and considerations:

- Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: IIIs

Woodland ordination symbol: 8S

Important Farmland

This section describes the extent and location of the land that is important for producing food, feed, fiber, forage, and oilseed crops in Beckley, Dodge, and Telfair Counties.

The map units that are considered prime farmland are listed in table 5. The acreage of the map units that make up prime farmland and additional farmland of statewide importance are listed in table 6. These tables do not constitute a recommendation for a particular land use. The location of each map unit is shown on the detailed soil maps at the back of this publication. The soil qualities that affect use and management are described in the section “Detailed Soil Map Units.”

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. About 288,966 acres, or 39 percent of the survey area, meets the requirements for prime farmland.

Additonal Farmland of Statewide Importance

About 231,842 acres in the soil survey area is considered additional farmland of statewide importance. This farmland consists of soils that are important to the agricultural resource base in the counties but that do not meet the requirements for prime farmland. These soils are more erodible, droughty, seasonally wet, and difficult to cultivate than prime farmland soils. They are also usually less productive than prime farmland soils.

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 suitability 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 various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils for crops and pasture; as 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 suitability 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

James E. Dean, state conservation agronomist, Holli Kuykendall, grassland water quality specialist, Clemon L. Bannister, district conservationist, and Charles V. McCranie, district conservationist, Natural Resources Conservation Service, helped prepare this section.

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, and the system of land capability classification used by the Natural Resources Conservation Service is explained.

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.

The major management concerns for crops and pasture are described in this section. The crops or pasture plants best suited to the soil, including some not commonly grown in the survey area, are identified; the system of land capability classification used by the Natural Resources Conservation Service is explained; and the predicted yields of the main crops and hay and pasture plants are presented for each soil.

This section provides information about the overall agricultural potential of the survey area and about suitable management practices. The information is useful to land users, equipment dealers, land improvement contractors, fertilizer companies, processing companies, planners, conservationists, and others. For each kind of soil, information about management is presented in the section “Detailed Soil Map Units.”

Where the slope is more than 3 percent in the survey area, erosion is a hazard affecting cropland and pasture. The loss of the surface layer through erosion is damaging for several reasons. Productivity is reduced as the surface layer is lost and part of the

subsoil is incorporated into the plow layer. Loss of the surface layer is especially damaging on soils that have a shallow surface layer, a clayey subsoil, or both. For example, in some areas the Carnegie, Cowarts, and Nankin soils have a shallow surface layer and the Faceville and Greenville soils have a clayey subsoil. In these areas, tilling or preparing a good seedbed is difficult in clayey spots because the original, friable surface soil has been lost through erosion.

Erosion on farmland also results in the sedimentation of streams and wetlands. Controlling erosion minimizes the pollution of streams by sediment and improves water quality for a variety of uses, including recreational use and use by livestock, fish, and wildlife.

Erosion-control measures provide a protective surface cover, reduce the volume and velocity of runoff, and increase the rate of water infiltration. A cropping system that maintains a plant cover on the soil for extended periods can keep soil losses to amounts that do not reduce the productive capacity of the soils. On livestock farms, including forage crops of grasses and legumes in the cropping system and on permanent pasture and hayland helps to control erosion in sloping areas, provides nitrogen to the soil, and improves tilth for the following crop.

Terraces and diversions shorten the length of slopes and help to control runoff and erosion. They are most practical on deep, well drained soils that have regular slopes. Carnegie, Dothan, Greenville, Orangeburg, Red Bay, and Tifton soils are suitable for terraces. Grassed waterways and underground outlets provide suitable outlets for the terraces and diversions.

Some slopes are so short and irregular that terraces are not practical. In these areas, a cropping system that provides a substantial cover of plant residue is needed to minimize erosion.

Residue management, conservation tillage, cover crops, stripcropping, and a rotation that includes grasses and legumes provide ground cover, increase the rate of water infiltration, and reduce the volume and velocity of runoff and the hazard of erosion. These conservation practices can be adapted to most of the soils in the survey area. No-till farming, which is a form of conservation tillage, is becoming increasingly common.

Most of the soils that are used as cropland in the survey area are subject to erosion if they are plowed in the fall and left bare until spring. Winter cover crops should be planted if the cropland is plowed in the fall.

Soil loss caused by wind erosion is a concern on soils that have a sandy surface layer. Examples are Ailey, Dothan, Fuquay, Lakeland, Lucy, and Tifton soils. In areas of these soils, young seedlings can be damaged if the winds are strong and the soils are dry and are not protected by other vegetation or surface mulch. Maintaining crop residue as surface mulch, planting cover crops, applying conservation tillage, and keeping the surface of the soil rough by proper tillage minimize soil blowing.

Bottom-land soils in the survey area include soils in the Kinston-Bibb association and the Tawcaw-Chastain association. The production of crops and pasture plants in areas of these soils is not generally possible without drainage measures. Existing drainage systems need continuing maintenance in areas of these soils. Bottom-land soils are also subject to flooding.

Information about erosion control and drainage practices for each kind of soil is available at the local office of the Natural Resources Conservation Service. Drainage is a major consideration in the management of crops and pasture. The management of drainage in conformance with regulations regarding wetlands may require special permits and extra planning.

Fertility is naturally low in most of the upland soils in the survey area. Most of the soils in the survey area are naturally acid. The soils on flood plains range from slightly acid to strongly acid. Examples are soils in the Kinston-Bibb association and the Tawcaw-Chastain association

Many of the soils on uplands are strongly acid or very strongly acid in their natural state. Because the content of available phosphorus and the content of potash are naturally low in most of these soils, applications of ground limestone are needed to raise the pH level for good growth of legumes and other crops. On all soils, applications of lime, fertilizer, and organic wastes should be based on the results of soil testing, realistic crop yields, waste analysis, and a nutrient management plan. The Cooperative Extension Service and the Natural Resources Conservation Service can provide information concerning nutrient management plans.

The content of organic matter in soil is an important factor affecting the germination of seeds, root growth, the infiltration of water into the soil, and erosion. Soils that have good tilth are granular and porous.

Most of the soils used for crops in the survey area have a surface layer of loamy sand that has a low content of organic matter. Generally, the structure of these soils is poor and intense rainfall causes the formation of a crust on the surface. This crust is hard when dry. It reduces the infiltration rate, limits plant growth, and increases the runoff rate. Managing crop residue, applying conservation tillage, stripcropping, including grasses and legumes in the rotation, and

regularly adding manure and other organic material improve soil structure and reduce crust formation.

The commonly grown crops in the survey area are corn, cotton, peanuts, soybeans, tobacco, wheat, grain sorghum, and vegetables. Some field crops that are suited to the soils and climate of the survey area are not commonly grown. For example, sunflower and canola are suitable species and could be grown in the survey area.

Specialty crops grown in the survey area include sweet corn, field peas, watermelons, cantaloupes, other small fruits, and nursery plants. Watermelons make up the largest acreage of specialty crops in the survey area.

Deep soils that have good natural drainage and that warm up early in the spring are especially well suited to many vegetables and small fruits. Cowarts, Dothan, Faceville, Fuquay, Red Bay, Orangeburg, and Tifton soils that have slopes of less than 6 percent are well suited to such crops.

Most of the well drained soils in the survey area are suitable for orchards and nursery plants. However, soils in low positions where frost is frequent and air drainage is poor generally are poorly suited to early vegetables, small fruits, orchards, and nursery plants.

If adequately managed and protected from flooding, many of the soils on flood plains are suited to a wide range of vegetable crops.

Technical assistance and information regarding specialty crops is available from agricultural agencies.

Areas of pasture and hayland are typically seeded with improved varieties of bahiagrass or bermudagrass. However, native warm-season perennial grasses, such as eastern gamagrass, switchgrass, and Indiangrass, should be considered where deferred grazing management is used. A locally adapted, endophyte-infected tall fescue variety is also available. It can be considered for cool-season forage demands.

Irrigation is becoming more widely applied in the production of row crops, orchard crops, and specialty crops. The major source of water for irrigation is subsurface water from deep wells or surface water from streams and ponds.

Farming is competing with other land uses for large areas of Bleckley, Dodge, and Telfair Counties. Much of the urban land in these counties was once well suited to crops. Each year, more land is developed for urban uses. In general, the soils in the survey area that are well suited to crops are also well suited to urban development. Prime farmland makes up about 288,966 acres, or 39 percent, of the survey area. This is the best land available for producing food, feed, forage, fiber, and oilseed crops. The map units that are considered prime farmland are listed in table 5. The acreage of each such unit is listed in table 6.

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 7. 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. Fertilizer needs for specific crops on specific soils can be determined by soil testing.

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.

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 woodland and for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit. Only class and subclass are used in this survey.

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. There are no class VIII soils in the survey area.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *e, w,* or *s,* 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); and *s* shows that the soil is limited mainly because it is shallow or droughty.

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* or *s* because the soils in class V are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, woodland, wildlife habitat, or recreation.

The capability classification of each map unit is given in the section “Detailed Soil Map Units” and in the yields table. The acreage of the soils in each of the capability classifications in the survey area is listed in table 8.

Woodland Management and Productivity

Gary L. Tyre, state forester, Natural Resources Conservation Service, helped prepare this section.

The most significant forest types in Bleckley, Dodge, and Telfair Counties are longleaf-slash pine, oak-hickory, loblolly-shortleaf pine, oak-pine, and oak-gum-cypress. These forest types were also predominant in the virgin forests that occupied a large portion of the survey area.

Woodland makes up about 73,000 acres, or 52 percent, of Bleckley County; 206,000 acres, or 64 percent, of Dodge County; and 198,000 acres, or 70 percent, of Telfair County (USDA, 1988).

In Bleckley County, about one-third of the woodland is the loblolly-shortleaf pine type. The oak-hickory and oak-pine types make up about 20 percent each, and the oak-gum-cypress type makes up about 25 percent.

In Dodge County, slightly over one-third of the woodland is the longleaf-slash pine type. The loblolly-shortleaf pine type makes up almost 25 percent of the woodland, and the oak-pine, oak-hickory, and oak-gum-cypress types make up almost 40 percent.

In Telfair County, more than one-third of the woodland is the longleaf-slash pine type. The loblolly-shortleaf pine type makes up about 17 percent, and the oak-pine and oak-hickory types make up less than 10 percent each. The oak-gum-cypress type makes up about one-third of the woodland.

A majority of the woodland in all three counties is privately owned. In Bleckley and Dodge Counties, more than two-thirds of the commercial woodland is owned by farmers and other individuals. In Telfair county, about 60 percent of the woodland is owned by farmers and other individuals. The forest industry owns about 24 percent of the woodland in Bleckley County, 17 percent in Dodge County, and 33 percent in Telfair County.

Bleckley and Telfair Counties have significantly higher proportions of productive land than Dodge County (Applequist, 1959). In Bleckley County, more than one-third of the commercial woodland can produce more than 1 cord per acre per year. In Telfair County, 40 percent of the commercial woodland can

produce at this rate. In Dodge County, only 20 percent can produce at this rate. In each of the counties, 95 percent of the commercial woodland is capable of growing more than one-half a cord per acre per year.

Woodland occupies a wide variety of soils in the survey area. Soils used as woodland on flood plains include Tawcaw, Chastain, Kinston, and Bibb soils. All of these soils are highly productive and have a site index of 90 or greater. They are wet and are characterized by such species as blackgum, sweetgum, water oak, yellow-poplar, loblolly pine, and in some cases, water tupelo and bald cypress. Most of the limitations associated with these soils are manageable. The Bibb and Chastain soils are exceptions. They have severe limitations affecting equipment use, seedling survival, windthrow, and plant competition.

The major upland soils that are extensive in the survey area are Greenville, Faceville, Orangeburg, Dothan, Tifton, Fuquay, Nankin, and Cowarts soils. These soils generally are well drained. The forest cover commonly includes such species as slash pine, longleaf pine, and loblolly pine. These soils have few limitations affecting woodland management.

Soils vary in their ability to produce trees. Available water capacity and depth of the root zone have major effects on tree growth. Fertility and texture also influence tree growth.

This soil survey can be used by woodland managers in planning the use of soils for wood crops. Some soils respond better to applications of fertilizer than others. Some soils require special reforestation efforts. In the section “Detailed Soil Map Units,” the description of each map unit in the survey area suitable for wood crops includes information about productivity, limitations in harvesting timber, and management concerns in producing timber.

Table 9 summarizes the forestry information and rates the soils for a number of factors to be considered in management. 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, which 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.

The *potential productivity* of merchantable or *common trees* on a soil is expressed as a *site index* and as a *productivity class.* 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 *productivity class* represents the expected volume produced by the most important trees, expressed as cubic meters per hectare per year, at the point where mean annual increment culminates. Cubic meters per hectare can be converted into cubic feet per acre by multiplying by 14.3 or to board-feet by multiplying by 71. For example, a productivity class of 8 means the soil can be expected to produce 114 cubic feet per acre per year, or about 586 board-feet per acre per year.

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.

Recreation

The soils of the survey area are rated in table 10 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 13 and interpretations for dwellings without basements and for local roads and streets in table 12.

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

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

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

Paths and trails for hiking 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 and few or no stones or boulders on the surface.

Golf fairways are subject to heavy foot traffic and some light vehicular traffic. Cutting or filling may be required. The best soils for use as golf fairways are firm when wet, are not dusty when dry, and are not subject to prolonged flooding during the period of use.

They have moderate slopes and no stones or boulders on the surface. The suitability of the soil for tees or greens is not considered in rating the soils.

Wildlife Habitat

Louis Justice, state biologist, Natural Resources Conservation Service, helped prepare this section.

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 11, 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, rye, and peanuts.

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 lovegrass, bahiagrass, clover, lespedeza, and alfalfa.

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 bluestem, goldenrod, beggarweed, lespedeza, partridge pea, threeawn, and composites.

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, birch, cherry, maple, apple, hawthorn, dogwood, hickory, blackberry, and blueberry. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are plum, 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 loblolly pine and redcedar.

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, wildrice, rushes, sedges, and reeds.

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

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

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

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

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, shore birds, and beaver.

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

feasibility studies may be required where the soil limitations are severe.

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

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. The ratings are based on soil properties, site features, and observed performance of the soils. Soil reaction, a high water table, depth to bedrock, 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 13 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 72 inches is evaluated. The ratings are based on soil properties, site features, and observed performance of the soils. Permeability, a high water table, depth to bedrock, and flooding affect absorption of the effluent. Bedrock interferes with installation.

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

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, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor.

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

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

The ratings in the table are based on soil properties, site features, and observed performance of the soils. Permeability, depth to bedrock, a high water table, slope, and flooding affect both types of landfill. Texture 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 large stones or excess gravel are the best cover for a landfill. Clayey soils are sticky or cloddy and are difficult to spread; sandy soils are subject to wind erosion.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock or 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 14 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, few cobbles and stones, and slopes of 15 percent or less. Depth to the water table is more than 3 feet. Soils rated *fair* are more than 35 percent silt- and clay-sized

particles and have a plasticity index of less than 10. They have a moderate shrink-swell potential, slopes of 15 to 25 percent, or many stones. Depth to the water table is 1 to 3 feet. Soils rated *poor* have a plasticity index of more than 10 and a high shrink-swell potential. 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) and the thickness of suitable material. 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 bedrock.

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

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

Soils rated *poor* are very sandy or clayey, have less than 20 inches of suitable material, have a large amount of gravel or soluble salts, 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 15 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 and for embankments, dikes, and levees. 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 fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

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

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

Soil material in embankments must be resistant to

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

Drainage is the removal of excess surface and subsurface water from the soil. How easily and effectively the soil is drained depends on the depth to bedrock, 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 depth to bedrock, slope, and the hazard of cutbanks caving. 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 depth to bedrock. The performance of a system is affected by the depth of the root zone 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, wetness, and depth to bedrock affect the construction of terraces and diversions. Restricted permeability adversely affects maintenance.

Grassed waterways are natural or constructed channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity. Wetness, slope, and depth to bedrock affect the construction of grassed waterways. 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, plasticity, and compaction characteristics.

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 16 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. Information on other properties of each layer is 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 (ASTM, 1985) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 1982).

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. The estimates of grain-size distribution are generally rounded to the nearest 5 percent.

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.

Physical and Chemical Properties

Table 17 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 some 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 18 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.

If a soil is assigned to two hydrologic groups in the table, the first letter is for drained areas and the second is for undrained areas. Onsite investigation is needed to determine the hydrologic group of the soil in a particular area.

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). 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 or apparent; and the months of the year that the water table commonly is high. A water table that is seasonally high for less than 1 month is not indicated in 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.

Depth to bedrock is given if bedrock is within a depth of 5 feet. The depth is based on many soil borings and on observations during soil mapping. The rock is either soft or hard. If the rock is soft or fractured, excavations can be made with trenching machines, backhoes, or small rippers. If the rock is hard or massive, blasting or special equipment generally is needed for excavation.

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.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (USDA, 1975). 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, soil temperature regime, soil depth, and reaction. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine, mixed, 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.

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” (Soil Survey Division Staff, 1993). Many of the technical terms used in the descriptions are defined in “Soil Taxonomy” (USDA, 1975). 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.”

Ailey Series

Depth class: Deep or very deep to a dense, brittle layer (Cd)
Drainage class: Well drained
Permeability: Rapid in the sandy surface and subsurface layers and slow in the cemented and brittle layers of the subsoil and substratum
Parent material: Sandy and loamy marine sediments
Landscape position: Uplands

Slope: 2 to 25 percent
Classification: Loamy, siliceous, thermic Arenic Kanhapludults

Geographically Associated Soils

- Bonifay soils, which have more than 5 percent plinthite in the subsoil
- Cowarts soils, which have an argillic horizon within a depth of 20 inches
- Fuquay soils, which have more than 5 percent plinthite in the subsoil
- Nankin soils, which do not have a thick, sandy surface layer

Typical Pedon

Ailey loamy sand, 2 to 5 percent slopes; south 0.6 mile on Georgia Highway 117 from the Eastman city limits, southwest 2.3 miles on Georgia Highway 67, northwest 3.0 miles on a county road, and 600 feet north of the road; in Dodge County

Ap—0 to 6 inches; dark grayish brown (10YR 4/2) loamy sand; weak fine granular structure; very friable; many fine roots; very strongly acid; clear smooth boundary.

E—6 to 23 inches; yellowish brown (10YR 5/4) loamy sand; weak fine granular structure; very friable; few fine and medium roots; very strongly acid; clear wavy boundary.

BE—23 to 27 inches; yellowish brown (10YR 5/6) sandy loam; weak medium subangular blocky structure; friable; very strongly acid; gradual wavy boundary.

Bt—27 to 38 inches; yellowish brown (10YR 5/8) sandy clay loam; weak medium subangular blocky structure; friable; few distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.

Btx—38 to 51 inches; yellowish brown (10YR 5/8) sandy clay loam; common medium distinct strong brown (7.5YR 5/8) and common medium prominent red (2.5YR 4/8) mottles; moderate medium subangular blocky structure; firm in place; slightly hard, cemented, and brittle in 35 percent, by volume; few distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.

Cd—51 to 65 inches; mottled yellowish brown (10YR 5/6), red (2.5YR 4/8), pale brown (10YR 6/3), and light gray (10YR 7/2) sandy clay loam; massive; firm in place; very strongly acid.

Range in Characteristics

Thickness of the solum: 51 to 65 inches
Thickness of the sandy epipedon: 23 to 33 inches
Content of coarse fragments: 0 to 5 percent quartz pebbles in the A and E horizons
Reaction: Very strongly acid or strongly acid throughout, except in limed areas
Distinctive features: The gray mottles in the lower horizons are not indicative of wetness.

A or Ap horizon:
Thickness—3 to 6 inches
Color—hue of 10YR, value of 4 or 5, and chroma of 2

E horizon:
Color—hue of 10YR, value of 4 or 5, and chroma of 4

BE horizon:
Color—hue of 10YR, value of 4 to 6, and chroma of 4 to 8

Bt horizon:
Color—hue of 10YR, value of 5, and chroma of 6 to 8

Btx horizon:
Color—hue of 10YR, value of 5, and chroma of 6 to 8; mottles in shades of brown, red, and gray

Cd horizon:
Color—mottled in shades of brown, red, and gray

Bethera Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderately slow or slow
Parent material: Clayey fluvial sediments
Seasonal high water table: At the surface to a depth of $1^1/_2$ feet
Landscape position: Stream terraces
Slope: 0 to 2 percent
Classification: Clayey, mixed, thermic Typic Paleaquults

Geographically Associated Soils

- Chastain soils, which are on flood plains and do not have an argillic horizon
- Eunola soils, which are moderately well drained and moderately permeable
- Tawcaw soils, which are on flood plains, are somewhat poorly drained, and do not have an argillic horizon
- Wahee soils, which are in the slightly higher landscape positions and are somewhat poorly drained

Typical Pedon

Bethera clay loam, in an area of Wahee-Bethera association, 0 to 2 percent slopes, occasionally flooded; 3.25 miles east on Georgia Highway 117 from

the junction of Georgia Highway 117 and U.S. Highway 441 at Jacksonville, 2.5 miles south on a private dirt road, and 75 feet east of the road; in Telfair County

A—0 to 6 inches; dark grayish brown (10YR 4/2) clay loam; moderate medium granular structure; very friable; many fine roots; extremely acid; clear wavy boundary.

Btg1—6 to 12 inches; grayish brown (10YR 5/2) clay loam; common medium prominent yellowish brown (10YR 5/8) mottles; weak medium subangular blocky structure; friable; common fine roots; few faint clay films on faces of peds; few fine flakes of mica; extremely acid; clear wavy boundary.

Btg2—12 to 50 inches; grayish brown (10YR 5/2) clay; common medium prominent yellowish brown (10YR 5/8) mottles; moderate medium subangular blocky structure; firm; few fine roots; few distinct clay films on faces of peds; few fine flakes of mica; extremely acid; gradual wavy boundary.

Btg3—50 to 60 inches; grayish brown (10YR 5/2) clay; many medium prominent strong brown (7.5YR 5/6) mottles; moderate medium subangular blocky structure; firm; few distinct clay films on faces of peds; extremely acid.

Range in Characteristics

Thickness of the solum: More than 60 inches
Reaction: Extremely acid or very strongly acid

A horizon:
Thickness—3 to 6 inches
Color—hue of 10YR, value of 3 or 4, and chroma of 1 or 2

Btg horizon:
Color—hue of 10YR, value of 4 to 6, and chroma of 1 or 2; mottles in shades of brown

Bibb Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderate
Parent material: Loamy and sandy fluvial sediments
Depth to the seasonal high water table: 1/2 to 1 foot
Landscape position: Flood plains
Slope: 0 to 2 percent
Classification: Coarse-loamy, siliceous, acid, thermic Typic Fluvaquents

Geographically Associated Soils

- Kinston soils, which have a fine-loamy particle-size control section

Typical Pedon

Bibb loam, in an area of Kinston-Bibb association, frequently flooded; south 1 mile on U.S. Highway 441 from the junction of U.S. Highways 441 and 341, north 400 feet from the bridge over Sugar Creek, and east 200 feet from U.S. Highway 441; in Telfair County

A—0 to 4 inches; very dark grayish brown (10YR 3/2) loam; weak fine granular structure; very friable; many fine roots; strongly acid; abrupt wavy boundary.

Cg1—4 to 25 inches; light gray (10YR 7/2) sandy loam; common medium distinct yellowish brown (10YR 5/6) and common medium prominent strong brown (7.5YR 5/6) mottles; massive; very friable; common fine roots; strongly acid; clear wavy boundary.

Cg2—25 to 48 inches; light gray (10YR 7/2) sandy loam; common medium distinct yellowish brown (10YR 5/6) and common medium prominent strong brown (7.5YR 5/6) and yellowish red (5YR 4/6) mottles; massive; very friable; few fine roots; common thin strata of sandy clay loam and loamy sand; strongly acid; clear wavy boundary.

Cg3—48 to 52 inches; light gray (10YR 7/2) loamy sand; common medium distinct yellowish brown (10YR 5/6) and common medium prominent strong brown (7.5YR 5/6) mottles; massive; very friable; common thin strata of sandy loam; strongly acid; clear wavy boundary.

Cg4—52 to 65 inches; light gray (10YR 7/1) sand; common medium prominent yellowish brown (10YR 5/6) and strong brown (7.5YR 5/6) mottles; single grained; loose; common strata of sandy loam; strongly acid.

Range in Characteristics

Reaction: Very strongly acid or strongly acid

A horizon:
Thickness—4 to 6 inches
Color—hue of 10YR, value of 3 or 4, and chroma of 2

Cg horizon:
Color—hue of 10YR, value of 4 to 7, and chroma of 1 or 2; common mottles in shades of brown and red
Texture—sandy loam or loam in the upper part; loam, sandy loam, loamy sand, or sand in the lower part

Blanton Series

Depth class: Very deep
Drainage class: Moderately well drained

Permeability: Rapid in the surface and subsurface layers and moderate in the subsoil
Parent material: Sandy and loamy marine sediments
Depth to the seasonal high water table: 2 1/2 to 4 feet
Landscape position: Uplands
Slope: 0 to 4 percent
Classification: Loamy, siliceous, thermic Grossarenic Paleudults

Geographically Associated Soils

- Bonifay soils, which are in the slightly higher landscape positions, are well drained, and have 5 percent or more plinthite in the subsoil
- Lakeland soils, which are in the higher landscape positions, are excessively drained, and do not have an argillic horizon within a depth of 80 inches
- Leefield soils, which are somewhat poorly drained, have 5 percent or more plinthite in the lower part of the subsoil, and have an argillic horizon within a depth of 20 to 40 inches
- Pelham soils, which are in the lower landscape positions, are poorly drained, and have an argillic horizon within a depth of 20 to 40 inches
- Rigdon soils, which are somewhat poorly drained and have a spodic horizon
- Sapelo soils, which are somewhat poorly drained and have a spodic horizon

Typical Pedon

Blanton sand, 0 to 4 percent slopes; 6.75 miles east on Georgia Highway 117 from the junction of Georgia Highway 117 and U.S. Highway 341 in Lumber City, 400 feet south of Georgia Highway 117 on a private road, and 50 feet east of the road; in Telfair County

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) sand; weak fine granular structure; very friable; many fine roots; very strongly acid; abrupt smooth boundary.
E1—7 to 20 inches; light yellowish brown (2.5Y 6/4) sand; single grained; loose; common fine roots; very strongly acid; gradual wavy boundary.
E2—20 to 30 inches; yellow (2.5Y 7/6) sand; single grained; loose; few fine roots; very strongly acid; gradual wavy boundary.
E3—30 to 65 inches; light yellowish brown (2.5Y 6/4) sand; common medium prominent white (10YR 8/1) mottles; single grained; loose; common pockets and vertical streaks of clean sand grains; very strongly acid; gradual wavy boundary.
Bt—65 to 80 inches; light yellowish brown (2.5Y 6/4) sandy loam; common medium distinct light gray (2.5Y 7/2) mottles; weak fine subangular blocky structure; friable; sand grains coated and bridged with clay; very strongly acid.

Range in Characteristics

Thickness of the solum: 80 inches or more
Thickness of the sandy epipedon: 44 to 65 inches
Depth to mottles of chroma 2 or less: 30 to 70 inches
Plinthite: 0 to 4 percent in the Bt horizon
Reaction: Very strongly acid or strongly acid throughout, except in limed areas

Ap horizon:
Thickness—6 to 8 inches
Color—hue of 10YR, value of 3 to 5, and chroma of 1 or 2

E horizon, upper part:
Color—hue of 10YR or 2.5Y, value of 6 or 7, and chroma of 3 to 6

E horizon, lower part:
Color—hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 1 to 6; few to many mottles in shades of gray, white, or brown

Bt horizon:
Color—hue of 10YR or 2.5Y, value of 6 or 7, chroma of 3 or 4, and common mottles in shades of gray or brown; or mottled in shades of brown, yellow, and gray
Texture—sandy loam or sandy clay loam

Bonifay Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Rapid in the surface and subsurface layers, moderate in the upper part of the subsoil, and moderately slow in the lower part of the subsoil
Parent material: Sandy and loamy marine sediments
Depth to the seasonal high water table: 4 to 5 feet
Landscape position: Uplands
Slope: 0 to 8 percent
Classification: Loamy, siliceous, thermic Grossarenic Plinthic Paleudults

Geographically Associated Soils

- Ailey soils, which have a thinner, sandy surface layer than that of the Bonifay soils and do not have plinthite in the subsoil
- Blanton soils, which do not have plinthite in the subsoil
- Dothan soils, which have an argillic horizon within a depth of 20 inches
- Fuquay soils, which have an argillic horizon within a depth of 20 to 40 inches
- Lakeland soils, which do not have an argillic horizon within a depth of 80 inches

• Wicksburg soils, which have more clay in the subsoil than the Bonifay soils

Typical Pedon

Bonifay sand, 0 to 8 percent slopes; 1.8 miles south on U.S. Highway 341 from Eastman, 1.0 mile east on a county road, 0.4 mile north on a county road, 0.3 mile northwest on a paved county road, and 150 feet southwest of the road; in Dodge County

A—0 to 4 inches; dark grayish brown (10YR 4/2) sand; weak fine granular structure; very friable; many fine roots; very strongly acid; clear smooth boundary.

E1—4 to 8 inches; brown (10YR 5/3) sand; single grained; loose; few fine and medium roots; very strongly acid; gradual wavy boundary.

E2—8 to 40 inches; light yellowish brown (10YR 6/4) sand; single grained; loose; few medium roots; very strongly acid; gradual wavy boundary.

E3—40 to 54 inches; yellowish brown (10YR 5/6) loamy sand; weak fine granular structure; very friable; many uncoated sand grains; very strongly acid; gradual wavy boundary.

Btv1—54 to 61 inches; yellowish brown (10YR 5/8) sandy clay loam; common medium prominent red (2.5YR 4/8) mottles; weak medium subangular blocky structure; friable; 12 percent plinthite; few distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.

Btv2—61 to 73 inches; mottled brownish yellow (10YR 6/8), red (2.5YR 4/8), and light gray (10YR 7/1) sandy clay loam; weak medium subangular blocky structure; friable; 7 percent plinthite; few distinct clay films on faces of peds; very strongly acid.

Range in Characteristics

Thickness of the solum: 60 to more than 80 inches
Thickness of the sandy epipedon: 49 to 60 inches
Plinthite: 5 to 12 percent in the Btv horizon at a depth of 49 to 60 inches
Reaction: Very strongly acid or strongly acid throughout, except in limed areas

A horizon:
Thickness—3 to 4 inches
Color—hue of 10YR, value of 4, and chroma of 1 or 2

E horizon:
Color—hue of 10YR, value of 5 or 6, and chroma of 3 to 8
Texture—loamy sand or sand

Btv horizon, upper part:
Color—hue of 10YR or 7.5YR, value of 5 or 6, and chroma of 6 to 8; common or many red mottles

Btv horizon, lower part:
Color—mottled in shades of yellow, red, and gray

Carnegie Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Parent material: Clayey marine sediments
Landscape position: Uplands
Slope: 2 to 8 percent
Classification: Clayey, kaolinitic, thermic Plinthic Kandiudults

Geographically Associated Soils

• Cowarts soils, which do not have as much as 5 percent plinthite in the subsoil
• Dothan soils, which have a fine-loamy particle-size control section
• Nankin soils, which do not have as much as 5 percent plinthite in the subsoil
• Tifton soils, which have a fine-loamy particle-size control section

Typical Pedon

Carnegie sandy loam, 2 to 5 percent slopes, eroded; northeast 2.25 miles on Georgia Highway 149 from the junction of Georgia Highways 149 and 117, southwest 0.5 mile on a dirt county road, and north 300 feet from the road; in Telfair County

Apc—0 to 6 inches; dark brown (10YR 4/3) sandy loam; weak fine granular structure; very friable; many fine roots; 10 percent coarse rounded nodules of ironstone; very strongly acid; abrupt wavy boundary.

Btc—6 to 10 inches; strong brown (7.5YR 5/6) sandy clay loam; moderate medium subangular blocky structure; friable; common fine roots; few faint clay films on faces of peds; friable; 10 percent nodules of ironstone; very strongly acid; gradual wavy boundary.

Bt—10 to 20 inches; strong brown (7.5YR 5/6) sandy clay; moderate medium subangular blocky structure; firm; few fine roots; few distinct clay films on faces of peds; few coarse nodules of ironstone; very strongly acid; gradual wavy boundary.

Btv1—20 to 40 inches; strong brown (7.5YR 5/8) sandy clay; moderate medium subangular blocky structure; firm; 5 percent plinthite; few distinct clay

films on faces of peds; very strongly acid; gradual wavy boundary.

Btv2—40 to 50 inches; strong brown (7.5YR 5/8) clay; common medium distinct yellowish red (5YR 4/6) and few medium prominent white (2.5Y 8/2) mottles; strong medium subangular blocky structure; firm; 7 percent plinthite; few distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.

B´t—50 to 60 inches; mottled strong brown (7.5YR 5/8), red (2.5YR 4/8), yellow (10YR 7/6), and white (10YR 8/1) clay; strong medium subangular blocky structure; firm; few faint clay films on faces of peds; very strongly acid.

Range in Characteristics

Thickness of the solum: More than 60 inches
Plinthite: 5 to 10 percent below a depth of 16 to 26 inches
Ironstone nodules: 5 to 10 percent in the A horizon and 0 to 10 percent in the Bt horizon
Reaction: Very strongly acid or strongly acid throughout, except in limed areas
Distinctive features: The gray mottles in the lower part of the solum are not indicative of wetness.

Apc horizon:
Thickness—4 to 8 inches
Color—hue of 10YR, value of 4 or 5, and chroma of 2 to 4

Btc and Bt horizons:
Color—hue of 10YR to 5YR, value of 4 or 5, and chroma of 6 to 8
Texture—sandy clay loam or sandy clay in the upper part; sandy clay in the lower part

Btv horizon:
Color—10YR to 5YR, value of 4 or 5, chroma of 6 to 8, and none to many mottles in shades of red, brown, and gray; or mottled in shades of red, brown, and gray
Texture—sandy clay or clay

B´t horizon:
Color—mottled in shades of red, brown, yellow, and gray
Texture—sandy clay or clay

Chastain Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Slow
Parent material: Clayey fluvial sediments
Seasonal high water table: At the surface to a depth of 1 foot
Landscape position: Flood plains
Slope: 0 to 2 percent
Classification: Fine, mixed, acid, thermic Typic Fluvaquents

Geographically Associated Soils

- Bethera soils, which have an argillic horizon and are on the slightly higher landscapes
- Tawcaw soils, which are in the slightly higher landscape positions and are better drained than the Chastain soils

Typical Pedon

Chastain silty clay loam, in an area of Tawcaw-Chastain association, frequently flooded; east 2 miles on Georgia Highway 117 from the junction of Georgia Highways 117 and 132, southwest 3.25 miles from Georgia Highway 117, and northeast 900 feet from the Ocmulgee River; in Telfair County

A—0 to 9 inches; dark brown (7.5YR 4/2) silty clay loam; weak fine subangular blocky structure; friable; many fine roots; very strongly acid; clear smooth boundary.

Bg1—9 to 34 inches; light brownish gray (10YR 6/2) silty clay; common medium prominent yellowish red (5YR 5/6) mottles; moderate medium subangular blocky structure; firm; common fine roots; few small black stains of iron and manganese accumulations; very strongly acid; gradual wavy boundary.

Bg2—34 to 46 inches; light brownish gray (10YR 6/2) clay; many medium prominent yellowish red (5YR 5/6) and strong brown (7.5YR 5/6) mottles; strong fine subangular blocky structure; firm; few small black stains of iron and manganese accumulations; few fine flakes of mica; strongly acid; gradual wavy boundary.

2Cg1—46 to 52 inches; gray (10YR 5/1) coarse sandy loam; massive; very friable; many small black manganese concretions; few fine flakes of mica; slightly acid; gradual wavy boundary.

2Cg2—52 to 65 inches; gray (10YR 6/1) coarse sand; single grained; loose; slightly acid.

Range in Characteristics

Thickness of the solum: 40 to more than 72 inches
Reaction: Very strongly acid or strongly acid in A and Bg horizons and moderately acid to neutral in the 2Cg horizon

A horizon:
Thickness—3 to 9 inches

Color—hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 1 to 4

Bg horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 1 or 2; mottles in shades of brown and red
Texture—silty clay, silty clay loam, clay loam, or clay

2Cg horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 1 or 2; mottles in shades of brown and red
Texture—coarse sandy loam, sandy loam, sandy clay loam, sand, or coarse sand

Clarendon Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderately slow
Parent material: Loamy marine sediments
Depth to the seasonal high water table: 2 to 3 feet
Landscape position: Uplands
Slope: 0 to 3 percent
Classification: Fine-loamy, siliceous, thermic Plinthaquic Paleudults

Geographically Associated Soils

- Dothan soils, which are in the slightly higher landscape positions and are well drained
- Cowarts soils, which have less than 5 percent plinthite
- Leefield soils, which have an arenic surface layer
- Stilson soils, which have an arenic surface layer
- Tifton soils, which are in the slightly higher landscape positions and are well drained

Typical Pedon

Clarendon loamy sand, 0 to 3 percent slopes; 6.75 miles west on Georgia Highway 117 from the junction of Georgia Highway 117 and U.S. Highway 341 in Lumber City, 0.75 mile north of Georgia Highway 117 on a private road, 350 feet east on a private road, and 25 feet south of the road; in Telfair County

Ap—0 to 9 inches; dark grayish brown (10YR 4/2) loamy sand; weak fine granular structure; very friable; many medium roots; about 5 percent, by volume, nodules of ironstone; strongly acid; abrupt smooth boundary.

E—9 to 16 inches; light yellowish brown (10YR 6/4) loamy sand; weak fine granular structure; very friable; common medium roots; strongly acid; clear wavy boundary.

Bt—16 to 28 inches; light yellowish brown (10YR 6/4) sandy clay loam; weak fine subangular blocky structure; friable; few fine roots; few faint clay films on faces of peds; strongly acid; gradual wavy boundary.

Btv1—28 to 36 inches; light yellowish brown (10YR 6/4) sandy clay loam; common medium distinct light gray (10YR 7/2) mottles; weak fine subangular blocky structure; friable; 10 percent nodular plinthite; few faint clay films on faces of peds; strongly acid; gradual wavy boundary.

Btv2—36 to 40 inches; light yellowish brown (10YR 6/4) sandy clay loam; many medium distinct light gray (10YR 7/2) mottles; weak fine subangular blocky structure; friable; 10 percent nodular and platy plinthite; few faint clay films on faces of peds; strongly acid; gradual wavy boundary.

Btv3—40 to 60 inches; mottled light gray (10YR 7/2), strong brown (7.5YR 5/6), and yellowish red (5YR 5/6) sandy clay loam; weak medium subangular blocky structure; friable; 16 percent nodular and platy plinthite; few faint clay films on faces of peds; strongly acid.

Range in Characteristics

Thickness of the solum: 60 to more than 70 inches
Depth to mottles of chroma 2 or less: Less than 30 inches
Plinthite: 5 to 20 percent below a depth of 28 to 58 inches
Ironstone nodules: 2 to 10 percent in the A horizon and 0 to 5 percent in the E and Bt horizons
Reaction: Very strongly acid or strongly acid throughout, except in limed areas

Ap horizon:
Thickness—6 to 9 inches
Color—hue of 10YR, value of 3 or 4, and chroma of 1 or 2

E horizon:
Color—hue of 10YR, value of 5 or 6, and chroma of 4
Texture—loamy sand or sand

Bt horizon:
Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 4 to 6; in some pedons, mottles in shades of brown and red and, in the lower part, gray
Texture—sandy loam or sandy clay loam

Btv horizon, upper part:
Color—hue of 10YR, value of 5 or 6, chroma of 3 to 6, and mottles in shades of gray and brown; or mottled in shades of gray, brown, and red

Btv horizon, lower part:
Color—mottled in shades of gray, brown, and red

Cowarts Series

Depth class: Moderately deep to a dense layer
Drainage class: Well drained
Permeability: Moderate in the solum and moderately slow or slow in the substratum
Parent material: Loamy marine sediments
Landscape position: Uplands
Slope: 2 to 25 percent
Classification: Fine-loamy, siliceous, thermic Typic Kanhapludults

Geographically Associated Soils

- Carnegie soils, which have a solum that is more than 40 inches thick and have a clayey particle-size control section
- Dothan soils, which have 5 percent or more plinthite in the lower part of the subsoil
- Fuquay soils, which have an argillic horizon within a depth of 20 to 40 inches
- Nankin soils, which have a clayey particle-size control section
- Susquehanna soils, which are somewhat poorly drained and have a clayey subsoil
- Telfair soils, which have a clayey particle-size control section
- Tifton soils, which have 5 percent or more plinthite in the lower part of the subsoil

Typical Pedon

Cowarts loamy sand, 2 to 5 percent slopes; 2.1 miles southeast on Georgia Highway 230 from the Pulaski County line, 2.1 miles northeast on a county road, and 50 feet east of the road; in Dodge County

Ap—0 to 6 inches; dark grayish brown (10YR 4/2) loamy sand; weak fine granular structure; very friable; many fine roots; about 5 percent, by volume, rounded nodules of ironstone; few small quartz pebbles; strongly acid; abrupt smooth boundary.

BE—6 to 15 inches; yellowish brown (10YR 5/4) sandy loam; weak medium granular structure; friable; few fine and medium roots; about 3 percent, by volume, rounded nodules of ironstone; common small quartz pebbles; strongly acid; gradual wavy boundary.

Bt1—15 to 21 inches; yellowish brown (10YR 5/8) sandy clay loam; weak medium subangular blocky structure; friable; few fine and medium roots; few distinct clay films on faces of peds; about 2 percent, by volume, rounded nodules of ironstone; very strongly acid; gradual wavy boundary.

Bt2—21 to 29 inches; yellowish brown (10YR 5/8) sandy clay loam; common medium prominent yellowish red (5YR 5/8) mottles; moderate medium subangular blocky structure; friable; few distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.

Cd—29 to 65 inches; mottled yellowish brown (10YR 5/8), red (2.5YR 4/6), light reddish brown (2.5YR 6/4), and light gray (10YR 7/2) sandy clay loam; pockets and strata of finer and coarser textured material; massive; very firm and compact; very strongly acid.

Range in Characteristics

Thickness of the solum: 24 to 32 inches
Content of coarse fragments: 0 to 15 percent in the A and B horizons
Ironstone nodules: 0 to 5 percent throughout
Reaction: Very strongly acid or strongly acid throughout, except in limed areas
Distinctive features: A substratum that has dense and compact properties is below a depth of 22 to 35 inches; the gray mottles in the lower horizon are not indicative of wetness.

A or Ap horizon:
Thickness—4 to 9 inches
Color—hue of 10YR, value of 3 or 4 (thickness is less than 6 inches where value is 3), and chroma of 2 or 3
Texture—loamy sand or sandy loam

BE horizon:
Color—hue of 10YR, value of 5 or 6, and chroma of 4 to 8

Bt horizon:
Color—hue of 10YR or 7.5YR, value of 5 or 6, and chroma of 4 to 8

Cd horizon:
Color—mottled in shades of brown, red, yellow, and gray

Dothan Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate in the upper part of the subsoil and moderately slow in the lower part

Depth to the seasonal high water table: 3 to 5 feet
Landscape position: Uplands
Parent material: Loamy marine sediments
Slope: 0 to 8 percent
Classification: Fine-loamy, siliceous, thermic Plinthic Kandiudults

Geographically Associated Soils

- Carnegie soils, which have a clayey subsoil control section
- Chastain soils, which are poorly drained
- Cowarts soils, which have a solum that ranges from 20 to 40 inches in thickness
- Fuquay soils, which have an argillic horizon within a depth of 20 to 40 inches
- Marlboro soils, which have a clayey particle-size control section
- Nankin soils, which have a clayey particle-size control section
- Stilson soils, which are moderately well drained
- Tifton soils, which have more than 5 percent ironstone nodules in the upper part of the solum

Typical Pedon

Dothan loamy sand, 2 to 5 percent slopes; northeast 0.6 mile from Cary on Georgia Highway 112, southeast 2.6 miles on a county road, 0.8 mile on the county road, southeast 0.3 mile on a woods road, and northeast 30 feet from the road; in Bleckley County

Ap—0 to 6 inches; dark grayish brown (10YR 4/2) loamy sand; weak fine granular structure; very friable; many fine roots; few coarse nodules of ironstone; strongly acid; clear smooth boundary.

Bt1—6 to 12 inches; yellowish brown (10YR 5/4) sandy loam; weak fine subangular blocky structure; very friable; common fine roots; strongly acid; gradual smooth boundary.

Bt2—12 to 31 inches; yellowish brown (10YR 5/8) sandy clay loam; weak medium subangular blocky structure; friable; few fine roots; few distinct clay films on faces of peds; strongly acid; gradual wavy boundary.

Bt3—31 to 42 inches; yellowish brown (10YR 5/8) sandy clay loam; common medium distinct strong brown (7.5YR 5/8) mottles; moderate medium subangular blocky structure; friable; common prominent clay films on faces of peds; strongly acid; gradual wavy boundary.

Btv—42 to 65 inches; mottled yellowish brown (10YR 5/8), red (2.5YR 4/8), strong brown (7.5YR 5/8), and light brownish gray (10YR 6/2) sandy clay loam; moderate medium subangular blocky structure; friable; 9 percent plinthite; common prominent clay films on faces of peds; strongly acid.

Range in Characteristics

Thickness of the solum: 60 to more than 80 inches
Plinthite: 5 to 10 percent below a depth of 27 to 46 inches
Ironstone nodules: 0 to 5 percent in the A or Ap horizon and the upper part of the Bt horizon
Reaction: Very strongly acid or strongly acid throughout, except in limed areas

A or Ap horizon:
Thickness—6 to 10 inches
Color—hue of 10YR, value of 4 or 5, and chroma of 2 to 4
Texture—loamy sand or sandy loam

Bt horizon, upper part:
Color—hue of 10YR or 7.5YR, value of 5 or 6, and chroma of 4 to 8

Bt horizon, lower part:
Color—hue of 10YR or 7.5YR, value of 5 or 6, and chroma of 6 to 8; common or many mottles in shades of brown or red

Btv horizon:
Color—hue of 10YR or 7.5YR, value of 5 or 6, chroma of 6 to 8, and common or many mottles in shades of brown, red, and gray; or mottled in shades of brown, red, and gray

Eunola Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderate in the subsoil and rapid in the substratum
Parent material: Loamy fluvial sediments
Depth to the seasonal high water table: $1^1/_2$ to $2^1/_2$ feet
Landscape position: Stream terraces
Slope: 0 to 2 percent
Classification: Fine-loamy, siliceous, thermic Aquic Hapludults

Geographically Associated Soils

- Bethera soils, which are in the lower landscape positions, are poorly drained, and have a clayey particle-size control section
- Grady soils, which are in the lower landscape positions, are poorly drained, and have a clayey particle-size control section
- Rains soils, which are in the lower landscape positions and are poorly drained

Typical Pedon

Eunola loamy sand, 0 to 2 percent slopes, occasionally flooded; 0.4 mile west on Georgia Highway 117 from the junction of Georgia Highway 117 and U.S. Highway 441 in Jacksonville, 1.25 miles southwest on a private dirt road, and 50 feet west of the road; in Telfair County

A—0 to 6 inches; dark grayish brown (10YR 4/2) loamy sand; weak fine granular structure; very friable; many fine roots; few fine flakes of mica; very strongly acid; clear smooth boundary.

E—6 to 16 inches; yellowish brown (10YR 5/4) loamy sand; weak fine granular structure; very friable; common fine roots; few fine flakes of mica; very strongly acid; clear wavy boundary.

BE—16 to 19 inches; brownish yellow (10YR 6/6) sandy loam; weak fine subangular blocky structure; friable; few fine roots; few fine flakes of mica; very strongly acid; gradual wavy boundary.

Bt1—19 to 29 inches; yellowish brown (10YR 5/6) sandy clay loam; weak medium subangular blocky structure; friable; few fine roots; few faint clay films on faces of peds; few fine flakes of mica; very strongly acid; gradual wavy boundary.

Bt2—29 to 48 inches; mottled yellowish brown (10YR 5/6), light gray (10YR 7/2), and yellowish red (5YR 4/6) sandy clay loam; weak medium subangular blocky structure; friable; few fine roots; few faint clay films on faces of peds; few fine flakes of mica; very strongly acid; gradual wavy boundary.

BC—48 to 56 inches; mottled light gray (10YR 7/2), yellowish brown (10YR 5/6), and yellowish red (5YR 4/6) coarse sandy loam; weak fine subangular blocky structure; very friable; very few faint clay films on faces of peds; few fine flakes of mica; very strongly acid; gradual wavy boundary.

2C—56 to 60 inches; mottled light gray (10YR 7/2), yellowish brown (10YR 5/6), and yellowish red (5YR 4/6) loamy coarse sand; single grained; loose; few fine flakes of mica; very strongly acid.

Range in Characteristics

Thickness of the solum: 46 to 57 inches
Depth to mottles of chroma 2 or less: 5 to 15 inches below the top of the argillic horizon
Reaction: Very strongly acid or strongly acid throughout, except in limed areas

A horizon:
Thickness—6 to 7 inches
Color—hue of 10YR, value of 3 to 5, and chroma of 1 or 2

E horizon:
Color—hue of 10YR, value of 5 or 6, and chroma of 3 or 4

BE horizon:
Color—hue of 10YR, value of 5 or 6, and chroma of 4 to 6

Bt horizon, upper part:
Color—hue of 10YR, value of 5 or 6, and chroma of 6 to 8
Texture—sandy clay loam or sandy loam

Bt horizon, lower part:
Color—hue of 10YR, value of 5 or 6, chroma of 3 to 8, and common or many mottles in shades of gray, brown, and red; or mottled in those same colors

BC and 2C horizons:
Color—mottled in shades of gray, brown, and red
Texture—loamy coarse sand or coarse sandy loam

Faceville Series

Depth class: Very deep
Drainage class: Well Drained
Permeability: Moderate
Landscape position: Uplands
Parent material: Clayey marine sediments
Slope: 2 to 8 percent
Classification: Clayey, kaolinitic, thermic Typic Kandiudults

Geographically Associated Soils

- Grady soils, which are in depressions and are poorly drained
- Greenville soils, which have a dark red subsoil
- Lucy soils, which have an argillic horizon within a depth of 20 to 40 inches
- Marlboro soils, which do not have a red subsoil
- Red Bay soils, which have a dark red subsoil and have a fine-loamy particle-size control section
- Tifton soils, which have a fine-loamy particle-size control section

Typical Pedon

Faceville sandy loam, 2 to 5 percent slopes; 0.5 mile south on U.S. Highway 23 from the Twiggs County line, 0.9 mile east on a county road, and 100 feet south of the road; in Bleckley County

Ap—0 to 7 inches; dark brown (10YR 4/3) sandy loam; weak fine granular structure; very friable; many fine roots; very strongly acid; abrupt smooth boundary.

Bt1—7 to 10 inches; red (2.5YR 4/6) sandy clay loam; weak medium subangular blocky structure; friable; few fine roots; few distinct clay films on faces of peds; strongly acid; gradual wavy boundary.

Bt2—10 to 29 inches; red (2.5YR 4/6) sandy clay; moderate medium subangular blocky structure; friable; common distinct clay films on faces of peds; strongly acid; gradual wavy boundary.

Bt3—29 to 65 inches; red (2.5YR 4/8) sandy clay; few fine prominent strong brown (7.5YR 5/6) mottles; moderate medium subangular blocky structure; friable; common distinct clay films on faces of peds; strongly acid.

Range in Characteristics

Thickness of the solum: 65 inches or more
Reaction: Very strongly acid or strongly acid throughout, except in limed areas

A or Ap horizon:
Thickness—4 to 8 inches
Color—hue of 5YR to 10YR, value of 4, and chroma of 3 to 6

Bt horizon:
Color—hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 6 to 8; few or common mottles in shades of brown in the lower part
Texture—sandy clay loam or sandy clay in the upper part and sandy clay or clay in the lower part

Fuquay Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate in the upper part of the subsoil and slow in the lower part
Depth to the seasonal high water table: 4 to 6 feet
Landscape position: Uplands
Parent material: Sandy and loamy marine sediments
Slope: 1 to 8 percent
Classification: Loamy, siliceous, thermic Arenic Plinthic Kandiudults

Geographically Associated Soils

- Ailey soils, which have less than 5 percent plinthite in the subsoil
- Bonifay soils, which have an argillic horizon within a depth of 40 to 60 inches
- Cowarts soils, which have less than 5 percent plinthite in the subsoil
- Dothan soils, which are well drained and have an argillic horizon within a depth of 20 inches
- Lakeland soils, which are excessively drained and are sand throughout the profile
- Lucy soils, which have less than 5 percent plinthite in the subsoil
- Nankin soils, which have more clay than the Fuquay soil and have less than 5 percent plinthite in the subsoil
- Stilson soils, which are moderately well drained
- Tifton soils, which are well drained and have an argillic horizon within a depth of 20 inches

Typical Pedon

Fuquay loamy sand, 1 to 5 percent slopes; 1.8 miles east on Georgia Highway 46 from crossing of Gum Swamp Creek, 0.5 mile southeast on a county road, and 70 feet west of the road; in Dodge County

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) loamy sand; weak fine granular structure; very friable; many fine roots; strongly acid; clear smooth boundary.

E—7 to 26 inches; light yellowish brown (10YR 6/4) loamy sand; weak fine granular structure; very friable; very strongly acid; gradual wavy boundary.

Bt1—26 to 33 inches; brownish yellow (10YR 6/6) sandy loam; weak medium subangular blocky structure; friable; strongly acid; gradual wavy boundary.

Bt2—33 to 48 inches; brownish yellow (10YR 6/6) sandy clay loam; common medium distinct strong brown (7.5YR 5/6) mottles; weak medium subangular blocky structure; friable; few distinct clay films on faces of peds; strongly acid; gradual wavy boundary.

Btv1—48 to 58 inches; brownish yellow (10YR 6/6) sandy clay loam; common medium distinct pale brown (10YR 6/3) and common medium prominent yellowish red (5YR 5/6) mottles; moderate medium subangular blocky structure; firm; 6 percent nodular plinthite; few distinct clay films on faces of peds; strongly acid; gradual wavy boundary.

Btv2—58 to 65 inches; mottled brownish yellow (10YR 6/6), yellowish red (5YR 5/6), and light gray (10YR 7/2) sandy clay loam; moderate medium subangular blocky structure; firm; 7 percent nodular plinthite; strongly acid.

Range in Characteristics

Thickness of the solum: 60 inches or more
Thickness of the sandy epipedon: 21 to 36 inches
Plinthite: 5 to 10 percent below a depth of 40 inches
Ironstone nodules: 0 to 5 percent in the A horizon, the E horizon, and the Bt1 and Bt2 horizons

Reaction: Very strongly acid or strongly acid throughout, except in limed areas

A or Ap horizon:
Thickness—5 to 8 inches
Color—hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 2

E horizon:
Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 4 to 6

Bt horizon:
Color—hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 6 to 8; common or many mottles in shades of brown or red in the lower part
Texture—sandy loam or sandy clay loam

Btv horizon:
Color—hue of 2.5YR to 10YR, value of 5 or 6, chroma of 4 to 8, and common or many mottles in shades of red, brown, or gray; or mottled in shades of red, brown, and gray

Grady Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Slow
Seasonal high water table: 2 feet above the surface to a depth of 1 foot
Landscape position: Upland depressions
Parent material: Clayey marine sediments
Slope: 0 to 2 percent
Classification: Clayey, kaolinitic, thermic Typic Paleaquults

Geographically Associated Soils

- Eunola soils, which are moderately well drained and have a fine-loamy particle-size control section
- Faceville soils, which are well drained
- Pelham soils, which have an argillic horizon within a depth of 20 to 40 inches
- Rains soils, which have a fine-loamy particle-size control section
- Tifton soils, which are in the higher landscape positions, are well drained, and have more than 5 percent plinthite in the subsoil

Typical Pedon

Grady loam; 3.5 miles southwest on U.S. Highway 23 from the Twiggs County line, 1.0 mile west on a paved county road, 1.3 miles south on a field road, and 1,000 feet southeast of the road; in Bleckley County

A—0 to 7 inches; very dark gray (10YR 3/1) loam; weak fine granular structure; friable; many fine roots; very strongly acid; clear smooth boundary.

BE—7 to 17 inches; gray (10YR 6/1) sandy clay loam; few fine prominent strong brown (7.5YR 5/6) mottles; weak medium subangular blocky structure; friable; few medium roots; very strongly acid; clear smooth boundary.

Btg1—17 to 30 inches; gray (10YR 6/1) clay; common medium prominent yellowish brown (10YR 5/6) mottles; moderate medium subangular blocky structure; firm; few distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.

Btg2—30 to 50 inches; gray (10YR 6/1) clay; common medium prominent strong brown (7.5YR 5/6) and yellowish red (5YR 5/6) mottles; moderate medium subangular blocky structure; firm; common prominent clay films on faces of peds; very strongly acid; gradual wavy boundary.

Btg3—50 to 65 inches; gray (10YR 6/1) sandy clay; common medium prominent strong brown (7.5YR 5/6) mottles; moderate medium subangular blocky structure; firm; common prominent clay films on faces of peds; very strongly acid.

Range in Characteristics

Thickness of the solum: 60 inches or more
Reaction: Very strongly acid or strongly acid throughout, except in limed areas

A horizon:
Thickness—4 to 7 inches
Color—hue of 10YR, value of 2 or 3, and chroma of 1

BE horizon:
Color—hue of 10YR, value of 5 or 6, and chroma of 1 or 2

Btg horizon:
Color—hue of 10YR to 5Y, value of 5 to 7, and chroma of 1; few to many mottles in shades of brown, yellow, and red
Texture—sandy clay or clay

Greenville Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Landscape position: Uplands
Parent material: Clayey marine sediments
Slope: 0 to 18 percent
Classification: Clayey, kaolinitic, thermic, Rhodic Kandiudults

Geographically Associated Soils

- Faceville soils, which have a lighter colored surface layer than the Greenville soils
- Orangeburg soils, which have a fine-loamy particle-size control section
- Red Bay soils, which have a fine-loamy particle-size control section

Typical Pedon

Greenville sandy loam, 2 to 5 percent slopes; north 1 mile on U.S. Highway 23 from the intersection of U.S. Highway 23 and Georgia Highway 112, west 3.6 miles on a county road, and south 0.1 mile on a county road, in the road cut east of the road; in Bleckley County

Ap—0 to 6 inches; dark reddish brown (5YR 3/3) sandy loam; weak medium granular structure; very friable; many fine roots; few medium rounded iron and manganese concretions; strongly acid; abrupt smooth boundary.

BA—6 to 10 inches; dark reddish brown (2.5YR 3/4) sandy clay loam; weak medium subangular blocky structure; friable; many fine roots; few faint clay films on faces of peds; few medium rounded iron and manganese concretions; strongly acid; gradual wavy boundary.

Bt1—10 to 46 inches; dark red (2.5YR 3/6) sandy clay; moderate medium subangular blocky structure; friable; common prominent clay films on faces of peds; few medium rounded iron and manganese concretions; strongly acid; gradual wavy boundary.

Bt2—46 to 65 inches; dark red (10R 3/6) sandy clay; moderate medium subangular blocky structure; friable; common distinct clay films on faces of peds; strongly acid.

Range in Characteristics

Thickness of the solum: 60 inches or more
Concretions: 0 to 5 percent in the A horizon and the upper part of the Bt horizon
Reaction: Very strongly acid or strongly acid throughout, except in limed areas

A or Ap horizon:
Thickness—4 to 8 inches
Color—hue of 2.5YR or 5YR, value of 3 or 4, and chroma of 2 to 4

BA horizon:
Color—hue of 2.5YR or 5YR, value of 2 or 3, and chroma of 4 to 6

Bt horizon:
Color—hue of 10R or 2.5YR, value of 3, and chroma of 4 to 6

Kinston Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderate
Parent material: Loamy and sandy fluvial sediments
Seasonal high water table: At the surface to a depth of 1 foot
Landscape position: Flood plains
Slope: 0 to 2 percent
Classification: Fine-loamy, siliceous, acid, thermic Typic Fluvaquents

Geographically Associated Soils

- Bibb soils, which contain less than 18 percent clay in the control section

Typical Pedon

Kinston loam, in an area of Kinston-Bibb association, frequently flooded; south 1 mile on U.S. Highway 441 from the junction of U.S. Highways 441 and 341, north 500 feet from the bridge over Sugar Creek, and east 200 feet from Highway 441; in Telfair County

A—0 to 4 inches very dark grayish brown (10YR 3/2) loam; weak fine granular structure; very friable; many fine roots; strongly acid; abrupt wavy boundary.

Cg1—4 to 25 inches; light gray (10YR 7/2) sandy loam; few fine prominent strong brown (7.5YR 5/6) and red (2.5YR 5/6) mottles; massive; friable; many fine roots; strongly acid; clear wavy boundary.

Cg2—25 to 50 inches; light brownish gray (10YR 6/2) sandy clay loam; common medium prominent strong brown (7.5YR 5/6) and yellowish red (5YR 5/6) mottles; massive; friable; strongly acid; clear wavy boundary.

Cg3—50 to 65 inches; light brownish gray (10YR 6/2) sand; common medium distinct yellowish brown (10YR 5/6) and yellowish red (5YR 5/6) mottles; single grained; loose; common thin strata of sandy loam; strongly acid.

Range in Characteristics

Reaction: Very strongly acid or strongly acid throughout

A horizon:
Thickness—4 to 5 inches
Color—hue of 10YR, value of 3, and chroma of 1 or 2

Cg horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 7, and

chroma of 1 or 2; common mottles in shades of brown and red

Texture—sandy loam, sandy clay loam, or sand (texture may be sand at a depth of more than 40 inches)

Lakeland Series

Depth class: Very deep
Drainage class: Excessively drained
Permeability: Rapid
Landscape position: Uplands
Parent material: Sandy marine sediments
Slope: 0 to 8 percent
Classification: Thermic, coated Typic Quartzipsamments

Geographically Associated Soils

- Blanton soils, which have an argillic horizon within a depth of 44 to 65 inches
- Bonifay soils, which have an argillic horizon within a depth of 40 to 60 inches
- Fuquay soils, which have an argillic horizon within a depth of 20 to 40 inches

Typical Pedon

Lakeland sand, 0 to 8 percent slopes; 1.1 miles north on Georgia Highway 126 from Chauncey, in a borrow pit on the west side of the road; in Dodge County

A—0 to 4 inches; dark grayish brown (10YR 4/2) sand; single grained; loose; many fine roots; very strongly acid; clear smooth boundary.

C1—4 to 24 inches; yellowish brown (10YR 5/4) sand; single grained; loose; few fine roots; very strongly acid; gradual wavy boundary.

C2—24 to 50 inches; brownish yellow (10YR 6/6) sand; single grained; loose; few uncoated sand grains; very strongly acid; gradual wavy boundary.

C3—50 to 64 inches; yellow (10YR 7/6) sand; single grained; loose; many uncoated sand grains; very strongly acid; gradual wavy boundary.

C4—64 to 85 inches; very pale brown (10YR 7/4) sand; few fine distinct yellow (10YR 7/6) mottles; single grained; loose; many uncoated sand grains; very strongly acid.

Range in Characteristics

Thickness of the sand: 80 inches or more
Reaction: Very strongly acid or strongly acid throughout, except in limed areas

A horizon:
Thickness—4 to 8 inches
Color—hue of 10YR, value of 3 or 4, and chroma of 2 or 3

C horizon:
Color—hue of 10YR, value of 5 to 7, and chroma of 3 to 8 or hue of 7.5YR, value of 5 or 6, and chroma of 6 to 8; few mottles in shades of brown or yellow below a depth of 50 inches

Leefield Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderately slow
Parent material: Sandy and loamy marine sediments
Depth to the seasonal high water table: $1^1/_2$ to $2^1/_2$ feet
Landscape position: Uplands
Slope: 0 to 3 percent
Classification: Loamy, siliceous, thermic Arenic Plinthaquic Paleudults

Geographically Associated Soils

- Blanton soils, which are moderately well drained
- Clarendon soils, which have an argillic horizon within a depth of 20 inches
- Pelham soils, which have less than 5 percent plinthite in the subsoil and are poorly drained
- Rigdon soils, which have a spodic horizon
- Sapelo soils, which do not have plinthite in the subsoil
- Stilson soils, which are moderately well drained

Typical Pedon

Leefield loamy sand, 0 to 3 percent slopes; 5.0 miles west on Georgia Highway 117 from the junction of Georgia Highway 117 and U.S. Highway 341 at Lumber City, 1.75 miles northwest on a paved road, and 100 feet east of the road; in Telfair County

Ap—0 to 9 inches; dark grayish brown (10YR 4/2) loamy sand; weak fine granular structure; very friable; many fine roots; few medium and coarse rounded ironstone nodules; very strongly acid; abrupt smooth boundary.

E1—9 to 24 inches; light yellowish brown (10YR 6/4) loamy sand; single grained; loose; few fine roots; very strongly acid; gradual wavy boundary.

E2—24 to 28 inches; light yellowish brown (10YR 6/4) loamy sand; common medium distinct yellow (10YR 7/6) and few fine distinct light gray (10YR 7/2) mottles; single grained; loose; few fine roots; very strongly acid; gradual wavy boundary.

Bt1—28 to 36 inches; very pale brown (10YR 7/4) sandy loam; many fine distinct light gray (10YR 7/2) mottles; weak fine subangular blocky structure; friable; common distinct clay coatings on sand grains; very strongly acid; gradual wavy boundary.

Bt2—36 to 40 inches; very pale brown (10YR 7/4) sandy clay loam; many medium distinct light gray (10YR 7/2) mottles; weak fine subangular blocky structure; friable; 4 percent plinthite; few faint clay films on faces of peds; very strongly acid; gradual wavy boundary.

Btv—40 to 65 inches; mottled yellowish brown (10YR 5/6), light gray (10YR 7/2), and yellowish red (5YR 4/6) sandy clay loam; weak fine subangular blocky structure; friable; 15 percent plinthite; few distinct clay films on faces of peds; very strongly acid.

Range in Characteristics

Thickness of the solum: 65 to more than 75 inches
Thickness of the sandy epipedon: 23 to 29 inches
Depth to mottles of chroma 2 or less: Less than 30 inches
Plinthite: 5 to 15 percent below a depth of 38 to 52 inches
Ironstone nodules: 0 to 4 percent in the A and E horizons and 0 to 3 percent in the Bt and Btv horizons
Reaction: Very strongly acid throughout, except in limed areas

Ap horizon:
Thickness—6 to 10 inches
Color—hue of 10YR, value of 3 to 5, and chroma of 1 or 2

E horizon:
Color—hue of 10YR or 2.5Y, value of 5 to 8, and chroma of 2 to 6; none to common mottles in shades of yellow and gray in the lower part
Texture—loamy sand or sand

Bt horizon:
Color—hue of 10YR, value of 6 or 7, and chroma of 3 to 8; common or many light gray mottles
Texture—sandy clay loam or sandy loam

Btv horizon:
Color—hue of 2.5Y or 10YR or neutral, value of 4 to 6, chroma of 0 to 6, and common or many mottles in shades of gray, brown, yellow, and red; or mottled in shades of gray, brown, yellow, and red

Lucy Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Rapid in the sandy upper layers and moderate in the subsoil
Landscape position: Uplands
Parent material: Sandy and loamy marine sediments
Slope: 1 to 5 percent
Classification: Loamy, siliceous, thermic Arenic Kandiudults

Geographically Associated Soils

- Faceville soils, which have an argillic horizon within a depth of 20 inches
- Fuquay soils, which have more than 5 percent plinthite in the subsoil
- Orangeburg soils, which have an argillic horizon within a depth of 20 inches

Typical Pedon

Lucy loamy sand, 1 to 5 percent slopes; southwest 0.7 mile from Interstate 16 on Georgia Highway 112 and south 60 feet from the road; in Bleckley County

Ap—0 to 8 inches; dark brown (10YR 4/3) loamy sand; weak fine granular structure; very friable; many fine and medium roots; strongly acid; abrupt smooth boundary.

E—8 to 22 inches; yellowish brown (10YR 5/4) loamy sand; weak fine granular structure; very friable; few fine and medium roots; strongly acid; gradual wavy boundary.

Bt1—22 to 28 inches; yellowish red (5YR 5/8) sandy loam; weak fine subangular blocky structure; friable; sand grains coated and bridged with clay; very strongly acid; gradual wavy boundary.

Bt2—28 to 65 inches; red (2.5YR 4/8) sandy clay loam; weak and moderate fine subangular blocky structure; friable; few faint clay films on faces of peds; very strongly acid.

Range in Characteristics

Thickness of the solum: 60 inches or more
Thickness of the sandy epipedon: 21 to 35 inches
Reaction: Very strongly acid or strongly acid throughout, except in limed areas

A or Ap horizon:
Thickness—6 to 8 inches
Color—hue of 10YR, value of 4, and chroma of 2 or 3

E horizon:
Color—hue of 10YR, value of 5, and chroma of 4 to 6

Bt horizon:
Color—hue of 5YR or 2.5YR, value of 4 or 5, and chroma of 6 to 8
Texture—sandy loam or sandy clay loam in the upper part and sandy clay loam in the lower part

Marlboro Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Landscape position: Uplands
Parent material: Clayey marine sediments
Slope: 2 to 5 percent
Classification: Clayey, kaolinitic, thermic Typic Paleudults

Geographically Associated Soils

- Dothan soils, which have a fine-loamy particle-size control section and have more than 5 percent plinthite in the subsoil
- Faceville soils, which have redder colors in the subsoil than the Marlboro soils
- Tifton soils, which have a fine-loamy particle-size control section and have more than 5 percent plinthite in the subsoil

Typical Pedon

Marlboro sandy loam, 2 to 5 percent slopes; 1.5 miles southwest from Coley on a county road, 0.2 mile northeast on a county road, and 30 feet west of the road; in Bleckley County

Ap—0 to 5 inches; dark grayish brown (10YR 4/2) sandy loam; weak fine granular structure; very friable; many fine roots; moderately acid; abrupt smooth boundary.
Bt1—5 to 9 inches; yellowish brown (10YR 5/6) sandy clay loam; weak fine subangular blocky structure; friable; few fine roots; strongly acid; clear smooth boundary.
Bt2—9 to 24 inches; yellowish brown (10YR 5/8) sandy clay; moderate medium subangular blocky structure; friable; few distinct clay films on faces of peds; strongly acid; gradual wavy boundary.
Bt3—24 to 42 inches; yellowish brown (10YR 5/8) sandy clay; few fine prominent strong brown (7.5YR 5/6) mottles; moderate medium subangular blocky structure; friable; common prominent clay films on faces of peds; strongly acid; gradual wavy boundary.
Bt4—42 to 65 inches; yellowish brown (10YR 5/8) sandy clay; common medium prominent strong brown (7.5YR 5/6) and yellowish red (5YR 5/6) mottles; moderate medium subangular blocky structure; friable; common prominent clay films on faces of peds; strongly acid.

Range in Characteristics

Thickness of the solum: More than 60 inches
Reaction: Very strongly acid to moderately acid throughout, except in limed areas

A or Ap horizon:
Thickness—5 or 6 inches
Color—hue of 10YR, value of 4, and chroma of 2 or 3

Bt horizon:
Color—hue of 7.5YR or 10YR, value of 5, and chroma of 6 to 8; few to many mottles in shades of red and brown in the middle and lower parts; in some pedons, the lower part is mottled in shades of red, brown, yellow, and gray.
Texture—sandy clay loam in the upper part and sandy clay in the lower part

Nankin Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Parent material: Loamy and clayey marine sediments
Landscape position: Uplands
Slope: 2 to 25 percent
Classification: Clayey, kaolinitic, thermic Typic Kanhapludults

Geographically Associated Soils

- Ailey soils, which have a sandy surface layer that is at least 20 inches thick
- Cowarts soils, which have a fine-loamy particle-size control section
- Dothan soils, which have a fine-loamy particle-size control section and have more than 5 percent plinthite in the subsoil
- Fuquay soils, which have an argillic horizon within a depth of 20 to 40 inches and have more than 5 percent plinthite in the subsoil
- Susquehanna soils, which are somewhat poorly drained
- Telfair soils, which are moderately well drained
- Wicksburg soils, which have a sandy surface layer that is at least 20 inches thick

Typical Pedon

Nankin loamy sand, 2 to 5 percent slopes; 2.8 miles southwest on U.S. Highway 23 from Empire, 0.8 mile

northwest on a county road, and 250 feet west of the road; in Dodge County

A—0 to 6 inches; grayish brown (10YR 5/2) loamy sand; weak fine granular structure; very friable; many fine roots; strongly acid; clear smooth boundary.

Bt1—6 to 13 inches; yellowish brown (10YR 5/6) sandy clay loam; weak medium subangular blocky structure; friable; strongly acid; gradual wavy boundary.

Bt2—13 to 29 inches; strong brown (7.5YR 5/6) sandy clay; few fine distinct yellowish red (5YR 4/6) mottles; moderate medium subangular blocky structure; friable; few distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.

Bt3—29 to 37 inches; mottled yellowish brown (10YR 5/6), red (2.5YR 4/6), and light yellowish brown (10YR 6/4) sandy clay loam; moderate medium subangular blocky structure; friable; few distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.

BC—37 to 53 inches; mottled yellowish brown (10YR 5/6), red (2.5YR 4/6), and light gray (10YR 7/2) sandy clay loam; weak medium subangular blocky structure; firm; few distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.

C—53 to 65 inches; mottled strong brown (7.5YR 5/8), red (2.5YR 4/6), light gray (10YR 7/2), and pale brown (10YR 6/3) sandy clay loam; massive; firm; very strongly acid.

Range in Characteristics

Thickness of the solum: 40 to 60 inches
Reaction: Very strongly acid or strongly acid throughout, except in limed areas
Distinctive features: The gray mottles in the lower horizons are not indicative of wetness.

A horizon:
Thickness—4 to 9 inches
Color—hue of 10YR, value of 3 to 5, and chroma of 2 or 3
Texture—loamy sand or sandy loam

BE horizon, where present:
Color—hue of 10YR, value of 5 or 6, and chroma of 4 to 6
Texture—sandy loam or sandy clay loam

Bt horizon, upper part:
Color—hue of 10YR, value of 5 or 6, and chroma of 4 to 6
Texture—sandy clay; sandy clay loam in some pedons that do not have a BE horizon

Bt horizon, lower part:
Color—hue of 7.5YR or 10YR, value of 5 or 6, chroma of 6, and common or many mottles in shades of yellow, brown, and red; or mottled in shades of yellow, brown, and red
Texture—sandy clay loam, sandy clay, or clay

BC and C horizons:
Color—mottled in shades of brown, red, and gray

Orangeburg Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Landscape position: Uplands
Parent material: Loamy marine sediments
Slope: 2 to 5 percent
Classification: Fine-loamy, siliceous, thermic Typic Kandiudults

Geographically Associated Soils

- Faceville soils, which have a clayey particle-size control section
- Greenville soils, which have a clayey particle-size control section and a dark red subsoil
- Lucy soils, which have an argillic horizon within a depth of 20 to 40 inches
- Red Bay soils, which a clayey particle-size control section

Typical Pedon

Orangeburg loamy sand, 2 to 5 percent slopes; south 1.1 miles on a county road from the intersection of U.S. Highway 23 and Georgia Highway 112 and east 50 feet from the road; in Bleckley County

Ap—0 to 6 inches; dark grayish brown (10YR 4/2) loamy sand; weak fine granular structure; very friable; many fine roots; strongly acid; clear smooth boundary.

BA—6 to 12 inches; strong brown (7.5YR 5/6) sandy loam; weak fine subangular blocky structure; very friable; many fine roots; strongly acid; clear smooth boundary.

Bt1—12 to 48 inches; red (2.5YR 4/6) sandy clay loam; moderate medium subangular blocky structure; friable; few distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.

Bt2—48 to 70 inches; red (2.5YR 4/8) sandy clay loam; moderate medium subangular blocky structure; friable; common distinct clay films on faces of peds; very strongly acid.

Range in Characteristics

Thickness of the solum: 70 inches or more
Reaction: Very strongly acid or strongly acid throughout, except in limed areas

A or Ap horizon:
Thickness—6 to 8 inches
Color—hue of 10YR, value of 4 or 5, and chroma of 2 to 4

BA horizon:
Color—hue of 7.5YR or 10YR, value of 5, and chroma of 4 to 8
Texture—sandy loam or sandy clay loam

Bt horizon:
Color—hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 6 to 8; none to common mottles in shades of brown in the lower part

Pelham Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderate
Parent material: Sandy and loamy marine sediments
Seasonal high water table: 1 foot above the surface to a depth of 1½ feet
Landscape position: Shallow depressions on uplands, broad flats, drainageways, and seepage areas near streams
Slope: 0 to 3 percent
Classification: Loamy, siliceous, thermic Arenic Paleaquults

Geographically Associated Soils

- Blanton soils, which are in the higher landscape positions and are moderately well drained
- Leefield soils, which are in the slightly higher landscape positions and are somewhat poorly drained
- Grady soils, which have a clayey particle-size control section
- Rigdon soils, which are somewhat poorly drained, are in the slightly higher landscape positions, and have spodic horizons
- Sapelo soils, which are somewhat poorly drained, are in the slightly higher landscape positions, and have spodic horizons

Typical Pedon

Pelham loamy sand, 0 to 1 percent slopes; 8.3 miles west on Georgia Highway 117 from the junction of Georgia Highway 117 and U.S. Highway 341 in Lumber City, 1.1 miles northeast on a county road, and 50 feet west of the road; in Telfair County

A—0 to 8 inches; very dark gray (10YR 3/1) loamy sand; weak fine granular structure; very friable; many fine roots; very strongly acid; abrupt smooth boundary.
E1—8 to 16 inches; gray (10YR 5/1) loamy sand; weak fine granular structure; very friable; many fine roots; very strongly acid; gradual wavy boundary.
E2—16 to 36 inches; light brownish gray (10YR 6/2) loamy sand; common medium distinct yellow (10YR 7/6) mottles; single grained; loose; common fine roots; very strongly acid; gradual wavy boundary.
Btg1—36 to 46 inches; light brownish gray (10YR 6/2) sandy loam; common medium prominent yellowish brown (10YR 5/8) mottles; weak fine subangular blocky structure; friable; few faint clay films on faces of some peds; very strongly acid; gradual wavy boundary.
Btg2—46 to 65 inches; light brownish gray (10YR 6/2) sandy clay loam; common medium prominent yellowish brown (10YR 5/8) and few medium prominent red (2.5YR 4/6) mottles; weak fine subangular blocky structure; friable; few faint clay films on faces of some peds; very strongly acid.

Range in Characteristics

Thickness of the solum: 65 inches or more
Thickness of the sandy epipedon: 21 to 40 inches
Reaction: Very strongly acid or strongly acid

A horizon:
Thickness—4 to 8 inches
Color—hue of 10YR, value of 2 to 4, and chroma of 1 or 2

E horizon:
Color—hue of 10YR, value of 4 to 6, and chroma of 1 or 2; mottles in shades of yellow in the lower part

Btg horizon:
Color—hue of 10YR, value of 5 to 7, and chroma of 1 or 2; mottles in shades of brown and red
Texture—sandy loam or sandy clay loam

Rains Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderate
Parent material: Loamy marine sediments

Seasonal high water table: At the surface to a depth of 1 foot
Landscape position: Upland flats and depressions
Slope: 0 to 2 percent
Classification: Fine-loamy, siliceous, thermic Typic Paleaquults

Geographically Associated Soils

- Eunola soils, which are moderately well drained
- Grady soils, which have a clayey particle-size control section
- Pelham soils, which have an argillic horizon within a depth of 20 to 40 inches

Typical Pedon

Rains sandy loam; 1.2 miles west on Georgia Highway 280 from Rhine, 0.2 mile north on a woods road, and 200 feet east of the road; in Dodge County

A—0 to 5 inches; very dark gray (10YR 3/1) sandy loam; weak fine granular structure; very friable; many fine roots; very strongly acid; clear smooth boundary.
Btg1—5 to 18 inches; gray (10YR 5/1) sandy loam; few fine distinct yellowish brown (10YR 5/4) mottles; weak fine granular structure; friable; many fine roots; very strongly acid; gradual wavy boundary.
Btg2—18 to 45 inches; gray (10YR 6/1) sandy clay loam; common medium prominent yellowish brown (10YR 5/6) mottles; weak medium subangular blocky structure; friable; few medium roots; few distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.
Btg3—45 to 65 inches; gray (10YR 6/1) sandy clay; common medium prominent yellowish brown (10YR 5/6) mottles; moderate medium subangular blocky structure; friable; common distinct clay films on faces of peds; very strongly acid.

Range in Characteristics

Thickness of the solum: 65 inches or more
Reaction: Very strongly acid or strongly acid throughout, except in limed areas

A horizon:
Thickness—4 to 6 inches

Btg horizon:
Color—hue of 10YR, value of 5 to 7, and chroma of 1 or 2; few to many mottles in shades of brown, red, and yellow
Texture—sandy loam or sandy clay loam in the upper part, sandy clay loam in the next part, and sandy clay loam or sandy clay in the lower part

Red Bay Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Landscape position: Uplands
Parent material: Loamy marine sediments
Slope: 2 to 5 percent
Classification: Fine-loamy, siliceous, thermic Rhodic Kandiudults

Geographically Associated Soils

- Faceville soils, which have a lighter colored surface layer than the Red Bay soils and have a clayey particle-size control section
- Greenville soils, which have a clayey particle-size control section
- Orangeburg soils, which have a yellowish red or red subsoil

Typical Pedon

Red Bay loamy sand, 2 to 5 percent slopes; 1.2 miles south on a county road from the intersection of U.S. Highway 23 and Georgia Highway 112, in the road cut west of the road; in Bleckley County

Ap—0 to 5 inches; dark reddish brown (5YR 3/3) loamy sand; weak fine granular structure; very friable; many fine roots; very strongly acid; clear smooth boundary.
Bt1—5 to 9 inches; dark reddish brown (2.5YR 3/4) sandy loam; weak fine granular structure; friable; very strongly acid; gradual smooth boundary.
Bt2—9 to 52 inches; dark red (10R 3/6) sandy clay loam; weak medium subangular blocky structure; friable; few distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.
Bt3—52 to 70 inches; dark red (2.5YR 3/6) sandy clay loam; weak medium subangular blocky structure; friable; few distinct clay films on faces of peds; very strongly acid.

Range in Characteristics

Thickness of the solum: 70 inches or more
Reaction: Very strongly acid or strongly acid throughout, except in limed areas

A or Ap horizon:
Thickness—4 to 6 inches
Color—hue of 5YR, value of 3, and chroma of 3 or 4

Bt horizon:
Color—hue of 10R or 2.5YR, value of 3, and chroma of 4 to 6
Texture—sandy loam or sandy clay loam

Rigdon Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderate
Parent material: Sandy and loamy marine sediments
Depth to the seasonal high water table: 1½ to 2½ feet
Landscape position: Uplands in areas of flatwoods
Slope: 0 to 2 percent
Classification: Sandy, siliceous, thermic Ultic Haplohumods

Geographically Associated Soils

- Blanton soils, which are somewhat excessively drained and do not have spodic horizons
- Leefield soils, which do not have spodic horizons
- Pelham soils, which are poorly drained and do not have spodic horizons
- Sapelo soils, which have an argillic horizon at a depth of more than 40 inches

Typical Pedon

Rigdon loamy sand; 8.3 miles west on Georgia Highway 117 from the junction of Georgia Highway 117 and U.S. Highway 341 in Lumber City, 1.1 miles northwest on a county road, and 0.75 mile west of the road; in Telfair County

A—0 to 7 inches; very dark gray (10YR 3/1) loamy sand; weak fine granular structure; very friable; many fine roots; many uncoated sand grains giving a salt-and-pepper appearance; very strongly acid; abrupt smooth boundary.

Bh1—7 to 11 inches; dark brown (7.5YR 3/2) loamy sand; massive parting to weak fine granular structure; weakly cemented; many fine roots; many sand grains coated with organic matter; very strongly acid; clear wavy boundary.

Bh2—11 to 13 inches; dark brown (7.5YR 4/2) loamy sand; massive parting to weak fine granular structure; weakly cemented; common fine roots; many sand grains coated with organic matter; very strongly acid; clear wavy boundary.

Bh/E—13 to 17 inches; dark brown (7.5YR 4/2) (Bh) and yellowish brown (10YR 5/4) (E) loamy sand; Bh material has weak fine granular structure and is friable; E material is single grained and loose; common fine roots; many sand grains coated with organic matter; very strongly acid; gradual wavy boundary.

E—17 to 27 inches; light yellowish brown (10YR 6/4) loamy sand; common medium distinct brownish yellow (10YR 6/8) mottles; single grained; loose; few fine roots; very strongly acid; gradual wavy boundary.

Bt—27 to 33 inches; very pale brown (10YR 7/4) sandy loam; common medium distinct light gray (10YR 7/2) mottles; weak fine subangular blocky structure; friable; few faint clay films on faces of peds; very strongly acid; gradual wavy boundary.

Btg1—33 to 42 inches; light gray (10YR 7/2) sandy loam; common medium prominent yellowish brown (10YR 5/8) and red (2.5YR 4/6) mottles; weak fine subangular blocky structure; friable; few faint clay films on faces of peds; very strongly acid; gradual wavy boundary.

Btg2—42 to 65 inches; light gray (10YR 7/2) sandy clay loam; common medium prominent yellowish brown (10YR 5/8) and red (2.5YR 4/6) mottles; weak fine subangular blocky structure; friable; few faint clay films on faces of peds; very strongly acid.

Range in Characteristics

Thickness of the solum: 65 inches or more
Reaction: Very strongly acid or strongly acid
Distinctive features: Depth to the upper boundary of the Bt horizon is 24 to 40 inches

A horizon:
Thickness—6 to 7 inches
Color—hue of 10YR, value of 3 or 4, and chroma of 1

Bh horizon:
Color—hue of 7.5YR, value of 3 or 4, and chroma of 2 or 3 or hue of 10YR, value of 2 or 3, and chroma of 2 or 3

E horizon:
Color—hue of 10YR, value of 5 to 7, and chroma of 3 or 4; mottles in shades of brown and yellow

Bt horizon:
Color—hue of 10YR, value of 6 or 7, and chroma of 2 to 4; mottles in shades of gray, brown, and red
Texture—sandy loam or sandy clay loam

Sapelo Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Moderate
Parent material: Sandy and loamy marine sediments
Depth to the seasonal high water table: 1 to 2 feet
Landscape position: Uplands
Slope: 0 to 2 percent
Classification: Sandy, siliceous, thermic Ultic Haplaquods

Geographically Associated Soils

- Blanton soils, which are excessively drained
- Leefield soils, which do not have spodic horizons and have at least 5 percent plinthite in the lower part of the subsoil
- Pelham soils, which are poorly drained and do not have spodic horizons
- Rigdon soils, which have an argillic horizon within a depth of 24 to 40 inches

Typical Pedon

Sapelo sand; 8.3 miles west on Georgia Highway 117 from the junction of Georgia Highway 117 and U.S. Highway 341 in Lumber City, 1.2 miles northwest on a county road, and 50 feet east of the road; in Telfair County

A—0 to 6 inches; dark gray (10YR 4/1) sand; weak fine granular structure; very friable; many fine roots; many uncoated sand grains giving a salt-and-pepper appearance; very strongly acid; clear wavy boundary.

E—6 to 15 inches; light gray (10YR 7/2) sand; single grained; loose; common fine roots; very strongly acid; abrupt wavy boundary.

Bh1—15 to 17 inches; dark brown (7.5YR 3/2) sand; massive parting to weak fine granular structure; weakly cemented; common fine roots; many sand grains coated with organic matter; very strongly acid; clear wavy boundary.

Bh2—17 to 20 inches; dark brown (7.5YR 4/2) sand; massive parting to weak fine granular structure; weakly cemented; few fine roots; many sand grains coated with organic matter; very strongly acid; clear wavy boundary.

Bh3—20 to 24 inches; dark yellowish brown (10YR 4/4) sand; weak fine granular structure; few weakly cemented bodies; few fine roots; many sand grains coated with organic matter; very strongly acid; clear wavy boundary.

E´1—24 to 40 inches; very pale brown (10YR 7/4) sand; common medium distinct yellow (10YR 7/6) mottles; single grained; loose; common uncoated sand grains; very strongly acid; gradual wavy boundary.

E´2—40 to 50 inches; light gray (10YR 7/2) sand; common medium distinct yellow (10YR 7/6) mottles; single grained; loose; common uncoated sand grains; very strongly acid; gradual wavy boundary.

Btg—50 to 70 inches; light gray (10YR 7/2) sandy loam; common medium distinct yellow (10YR 7/6) mottles; weak fine subangular blocky structure; friable; few faint clay films on faces of peds; very strongly acid.

Range in Characteristics

Thickness of the solum: 70 inches or more
Reaction: Very strongly acid or strongly acid
Distinctive features: Depth to the Bh horizon is 10 to 30 inches, and depth to the Btg horizon is 40 to 70 inches.

A horizon:
Thickness—4 to 6 inches
Color—hue of 10YR, value of 3 or 4, and chroma of 1

E horizon:
Color—hue of 10YR, value of 6 or 7, and chroma of 1 or 2

Bh horizon:
Color—hue of 10YR or 7.5YR, value of 2 to 4, and chroma of 2 to 4

E´ horizon:
Color—hue of 10YR, value of 5 to 7, and chroma of 2 to 4; mottles in shades of yellow

Btg horizon:
Color—hue of 10YR, value of 6 or 7, and chroma of 1 or 2; mottles in shades of yellow
Texture—sandy loam or sandy clay loam

Stilson Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderate
Parent material: Sandy and loamy marine sediments
Depth to the seasonal high water table: $2^1/_2$ to 3 feet
Landscape position: Uplands
Slope: 0 to 2 percent
Classification: Loamy, siliceous, thermic Arenic Plinthic Paleudults

Geographically Associated Soils

- Clarendon soils, which have an argillic horizon within a depth of 20 inches
- Dothan soils, which are in the higher landscape positions, have an argillic horizon within a depth of 20 inches, and are well drained
- Fuquay soils, which are well drained
- Leefield soils, which in the lower landscape positions and are somewhat poorly drained
- Tifton soils, which are in the higher landscape positions, have an argillic horizon within a depth of 20 inches, and are well drained

Typical Pedon

Stilson loamy sand, 0 to 2 percent slopes; 4 miles south on County Road 157 from the junction of Georgia Highway 134 and Georgia Highway 149 near Turnpike Creek and 300 feet southwest of County Road 175; in Telfair County

Ap—0 to 8 inches; dark grayish brown (10YR 4/2) loamy sand; weak fine granular structure; very friable; many fine roots; few coarse nodules of ironstone; moderately acid; abrupt smooth boundary.

E—8 to 26 inches; yellowish brown (10YR 5/4) loamy sand; weak fine granular structure; very friable; common fine roots; few coarse nodules of ironstone; strongly acid; gradual wavy boundary.

Bt—26 to 36 inches; brownish yellow (10YR 6/6) sandy loam; weak fine subangular blocky structure; friable; few small roots; about 3 percent nodular plinthite; few faint clay films on faces of some peds; common coarse nodules of ironstone; very strongly acid; gradual wavy boundary.

Btv1—36 to 40 inches; brownish yellow (10YR 6/6) sandy loam; common medium distinct light gray (10YR 7/2) and common medium prominent strong brown (7.5YR 5/8) mottles; weak medium subangular blocky structure; friable; 6 percent nodular plinthite; few faint clay films on faces of peds; very strongly acid; gradual wavy boundary.

Btv2—40 to 65 inches; mottled light gray (10YR 7/2), strong brown (7.5YR 5/8), and red (2.5YR 4/8) sandy clay loam; weak medium subangular blocky structure; friable; 10 percent nodular plinthite; few faint clay films on faces of peds; very strongly acid.

Range in Characteristics

Thickness of the solum: 65 inches or more
Thickness of the sandy epipedon: 20 to 36 inches
Plinthite: 5 to 15 percent in the Btv horizon
Ironstone nodules: 0 to 5 percent in the Ap, E, and Bt horizons
Reaction: Very strongly acid or strongly acid throughout, except in limed areas

Ap horizon:
Thickness—7 to 8 inches
Color—hue of 10YR, value of 2 to 4, and chroma of 2

E horizon:
Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 4

Bt horizon:
Color—hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 6 to 8; none to common mottles in shades of gray or brown at a depth of more than 5 inches below the top of the horizon
Texture—sandy clay loam or sandy loam

Btv horizon:
Color—hue of 10YR or 2.5Y, value of 5 to 7, chroma of 4 to 8, and common or many mottles in shades of gray, brown and red; or mottled in the same colors

Susquehanna Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Very slow
Landscape position: Uplands
Parent material: Clayey marine sediments
Slope: 2 to 12 percent
Classification: Fine, montmorillonitic, thermic Vertic Paleudalfs

Geographically Associated Soils

- Cowarts soils, which have a fine-loamy particle-size control section, are well drained, and have a thinner solum than that of the Susquehanna soils
- Nankin soils, which are well drained and have a thinner solum than that of the Susquehanna soils
- Telfair soils, which are moderately well drained and have a solum that ranges from 20 to 40 inches in thickness
- Wicksburg soils, which are well drained and have an argillic horizon within a depth of 20 to 40 inches

Typical Pedon

Susquehanna sandy loam, 2 to 5 percent slopes; northeast 0.6 mile from Cary on Georgia Highway 112, southeast 2.6 miles on a county road, north 0.8 mile on a county road, and east 0.2 mile on a woods road, on the south side of the road; in Bleckley County

A—0 to 3 inches; dark grayish brown (10YR 4/2) sandy loam; weak fine granular structure; very friable; many fine roots; strongly acid; abrupt wavy boundary.

Bt—3 to 10 inches; yellowish red (5YR 5/8) clay; few fine distinct strong brown (7.5YR 5/8) mottles; strong medium angular blocky structure; firm; many fine and medium roots; common distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.

Btg1—10 to 21 inches; light brownish gray (10YR 6/2) clay; common medium prominent red (10R 4/6) and strong brown (7.5YR 5/8) mottles; strong

medium angular blocky structure; firm, very sticky; many prominent clay films on faces of peds; very strongly acid; gradual wavy boundary.

Btg2—21 to 45 inches; gray (10YR 6/1) clay; common medium prominent dark red (10R 3/6) and strong brown (7.5YR 5/8) mottles; strong medium angular blocky structure; firm, very sticky; few slickensides with shiny faces that do not intersect; many prominent clay films on faces of peds; very strongly acid; gradual wavy boundary.

Btg3—45 to 65 inches; light gray (2.5Y 7/2) clay; common medium prominent strong brown (7.5YR 5/8) and yellowish brown (10YR 5/6) mottles; strong medium angular blocky structure; firm, very sticky; many prominent clay films on faces of peds; very strongly acid.

Range in Characteristics

Thickness of the solum: 60 inches or more
Reaction: Very strongly acid or strongly acid throughout, except in limed areas

A horizon:
Thickness—3 or 4 inches
Color—hue of 10YR, value of 3 or 4, and chroma of 1 or 2

Bt horizon:
Color—hue of 5YR, value of 4 or 5, and chroma of 6 to 8; few to many mottles in shades of red or brown

Btg horizon:
Color—hue of 10YR or 2.5Y, value of 6 or 7, and chroma of 1 or 2; common or many mottles in shades of brown, red, and yellow

Tawcaw Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Slow
Parent material: Clayey fluvial sediments
Depth to the seasonal high water table: $1^1/_2$ to $2^1/_2$ feet
Landscape position: Flood plains
Slope: 0 to 2 percent
Classification: Fine, kaolinitic, thermic Fluvaquentic Dystrochrepts

Geographically Associated Soils

- Bethera soils, which are poorly drained and are in depressions in the flood plain
- Chastain soils, which are in the lower landscape positions and are poorly drained

Typical Pedon

Tawcaw silty clay loam, in an area of Tawcaw-Chastain association, frequently flooded; east 2 miles on Georgia Highway 117 from the junction of Georgia Highways 117 and 132, southwest 3 miles from Georgia Highway 117, and east 1,800 feet from the Ocmulgee River; in Telfair County

A—0 to 4 inches; dark brown (7.5YR 4/4) silty clay loam; weak medium granular structure; friable; many fine roots; very strongly acid; clear smooth boundary.

Bw1—4 to 20 inches; yellowish brown (10YR 5/6) silty clay; common medium distinct very pale brown (10YR 7/4) and few fine distinct light brownish gray (10YR 6/2) mottles; moderate medium subangular blocky structure; firm; common fine roots; common fine tubular pores; common brown concretions; few fine flakes of mica; very strongly acid; gradual wavy boundary.

Bw2—20 to 40 inches; yellowish brown (10YR 5/6) silty clay; common medium distinct strong brown (7.5YR 5/6) and common medium distinct light brownish gray (10YR 6/2) mottles; moderate medium subangular blocky structure; firm; few fine roots; common brown concretions; few fine flakes of mica; strongly acid; gradual wavy boundary.

Bw3—40 to 52 inches; mottled light brownish gray (10YR 6/2), yellowish brown (10YR 5/4), and strong brown (7.5YR 5/6) silty clay; moderate medium subangular blocky structure; firm; common brown concretions; few fine flakes of mica; slightly acid; gradual wavy boundary.

BCg—52 to 60 inches; light gray (10YR 7/1) sandy clay loam; common medium prominent strong brown (7.5YR 5/6) and common medium distinct yellowish brown (10YR 5/4) mottles; weak medium subangular blocky structure; friable; few fine flakes of mica; slightly acid; gradual wavy boundary.

Cg—60 to 70 inches; light gray (10YR 7/1) loamy sand; common medium distinct yellowish brown (10YR 5/4) mottles; single grained; loose; slightly acid.

Range in Characteristics

Thickness of the solum: 42 to 65 inches
Depth to mottles of chroma 2 or less: Less than 24 inches
Reaction: Very strongly acid to slightly acid

A horizon:
Thickness—3 to 5 inches
Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 2 to 4

Bw horizon, upper part:
Color—hue of 10YR to 5YR, value of 4 or 5, and chroma of 4 to 8; mottles in shades of brown and gray
Texture—silty clay or clay

Bw horizon, lower part:
Color—mottled in shades of gray and brown
Texture—silty clay or clay

BCg horizon:
Color—hue of 10YR, value of 5 to 7, and chroma of 1 or 2; mottles in shades of brown
Texture—sandy loam or sandy clay loam

Cg horizon:
Color—hue of 10YR, value of 6 or 7, and chroma of 1 or 2; mottles in shades of brown
Texture—loamy sand, sand, or coarse sand

Telfair Series

Depth class: Moderately deep
Drainage class: Moderately well drained
Permeability: Very slow
Parent material: Marine deposits of acid clays underlain by horizontally bedded sandstone
Depth to the seasonal high water table: 1 to 3 feet
Landscape position: Uplands
Slope: 2 to 15 percent
Classification: Clayey, mixed, thermic Aquic Hapludults

Geographically Associated Soils

- Ailey soils, which have an argillic horizon at a depth of 20 to 40 inches
- Cowarts soils, which have a fine-loamy particle-size control section
- Nankin and Susquehanna soils, which have a thicker argillic horizon than that of the Telfair soils
- Wicksburg soils, which are well drained, have an argillic horizon within a depth of 20 to 40 inches, and have a thicker solum than that of the Telfair soils

Typical Pedon

Telfair loamy sand, 2 to 8 percent slopes; west 0.3 mile on Georgia Highway 132 from the junction of Georgia Highway 132 and U.S. Highway 441 near McRae, 0.5 mile on a dirt road from Georgia Highway 132, and south 50 feet off the road; in Telfair County

A—0 to 4 inches; dark grayish brown (10YR 4/2) loamy sand; weak fine granular structure; friable; many fine roots; very strongly acid; clear smooth boundary.

Bt1—4 to 8 inches; red (2.5YR 4/6) sandy clay; moderate fine angular blocky structure; firm; common fine roots; few distinct clay films on faces of peds; very strongly acid; clear smooth boundary.

Bt2—8 to 11 inches; red (2.5YR 4/6) clay; few medium prominent pinkish gray (5YR 6/2) mottles; strong fine angular blocky structure; very firm; few fine roots; common prominent clay films on faces of peds; very strongly acid; clear smooth boundary.

Btg1—11 to 16 inches; gray (10YR 6/1) clay; common medium prominent red (10R 4/6) mottles; strong fine angular blocky structure; very firm; few fine roots; many prominent clay films on faces of peds; very strongly acid; clear smooth boundary.

Btg2—16 to 24 inches; gray (10YR 6/1) clay; many medium prominent yellowish brown (10YR 5/6), few fine prominent red (10R 4/6), and common medium prominent yellowish red (5YR 5/8) mottles; strong fine angular blocky structure; very firm; few fine roots; many prominent clay films on faces of peds; very strongly acid; clear smooth boundary.

Cr—24 inches; semihard sandstone that can be dug with a spade in fresh cuts.

Range in Characteristics

Thickness of the solum: 20 to 40 inches
Depth to soft bedrock: 20 to 40 inches
Reaction: Very strongly acid or strongly acid

A horizon:
Thickness—3 to 7 inches
Color—hue of 10YR or 7.5YR, value of 4 to 6, and chroma of 1 to 3

Bt horizon:
Color—hue of 2.5YR to 7.5YR, value of 4 to 6, and chroma of 6 to 8; mottles in shades of red, brown, or gray
Texture—sandy clay or clay

Btg horizon:
Color—hue of 10YR, value of 6 or 7, and chroma of 1 or 2; mottles in shades of red and brown
Texture—sandy clay or clay

Tifton Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Parent material: Loamy marine sediments
Depth to the seasonal high water table: 3 1/2 to 6 feet
Landscape position: Uplands

Slope: 0 to 8 percent
Classification: Fine-loamy, siliceous, thermic Plinthic Kandiudults

Geographically Associated Soils

- Carnegie soils, which have a clayey particle-size control section
- Clarendon soils, which are moderately well drained
- Cowarts soils, which have less than 5 percent plinthite in any horizon
- Dothan soils, which have less than 5 percent ironstone nodules in any horizon
- Fuquay soils, which have an argillic horizon within a depth of 20 to 40 inches
- Marlboro soils, which have a clayey particle-size control section
- Stilson soils, which are moderately well drained and have a sandy surface layer that is at least 20 inches thick

Typical Pedon

Tifton loamy sand, 2 to 5 percent slopes; 2.1 miles west of Eastman on U.S. Highway 23 to Zebulon Church and 1,650 feet southeast of the church; in Dodge County

Apc—0 to 8 inches; dark grayish brown (10YR 4/2) loamy sand; weak fine granular structure; very friable; many fine roots; 10 percent medium and coarse nodules of ironstone; strongly acid; abrupt smooth boundary.

Btc1—8 to 18 inches; yellowish brown (10YR 5/6) sandy loam; weak fine subangular blocky structure; very friable; few fine roots; 12 percent coarse nodules of ironstone; strongly acid; clear smooth boundary.

Btc2—18 to 38 inches; yellowish brown (10YR 5/6) sandy clay loam; moderate medium subangular blocky structure; friable; sand grains coated and bridged with clay; few distinct clay films on faces of peds; 10 percent coarse nodules of ironstone; very strongly acid; gradual wavy boundary.

Btv1—38 to 50 inches; yellowish brown (10YR 5/8) sandy clay loam; common medium prominent yellowish red (5YR 5/6) and very pale brown (10YR 7/4) mottles; moderate medium subangular blocky structure; firm; 7 percent nodular plinthite that is brittle in the red part; few distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.

Btv2—50 to 65 inches; mottled yellowish brown (10YR 5/8), yellowish red (5YR 5/8), and light gray (10YR 7/2) sandy clay loam; moderate medium subangular blocky structure; firm; 8 percent nodular plinthite that is brittle in the red part; few distinct clay films on faces of peds; very strongly acid.

Range in Characteristics

Thickness of the solum: 65 inches or more
Plinthite: 6 to 15 percent below a depth of 30 to 50 inches
Ironstone nodules: 5 to 15 percent in the Apc and Btc horizons and 0 to 5 percent in the Btv horizon
Reaction: Very strongly acid or strongly acid throughout, except in limed areas

A or Apc horizon:
Thickness—5 to 9 inches
Color—hue of 10YR, value of 3 or 4, and chroma of 2 or 3
Texture—loamy sand or sandy loam

Btc horizon:
Color—hue of 7.5YR or 10YR, value of 5, and chroma of 4 to 8
Texture—sandy loam or sandy clay loam

Btv horizon, upper part:
Color—hue of 7.5YR or 10YR, value of 5, and chroma of 4 to 8; common or many mottles in shades of red and brown

Btv horizon, lower part:
Color—mottled in shades of brown, red, and gray

Wahee Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Slow
Parent material: Clayey fluvial and marine sediments
Depth to the seasonal high water table: 1/2 to 1 1/2 feet
Landscape position: Stream terraces
Slope: 0 to 2 percent
Classification: Clayey, mixed, thermic Aeric Ochraquults

Geographically Associated Soils

- Bethera soils, which are in the lower landscape positions and are poorly drained

Typical Pedon

Wahee fine sandy loam, in an area of Wahee-Bethera association, 0 to 2 percent slopes, occasionally flooded; 3.25 miles east on Georgia Highway 117 from the junction of Georgia Highway 117 and U.S. Highway 441 at Jacksonville, 2.75 miles on a private dirt road, 0.5 mile east on a private dirt road, and 300 feet south of the road; in Telfair County

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.

Bt1—5 to 10 inches; brown (10YR 5/3) sandy clay loam, light brownish gray (10YR 6/2) on faces of peds; few fine distinct brownish yellow (10YR 6/6) and few fine faint light brownish gray (10YR 6/2) mottles; weak medium subangular blocky structure; friable; common fine roots; few distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.

Bt2—10 to 27 inches; mottled red (2.5YR 5/6), light brownish gray (10YR 6/2), and yellowish brown (10YR 5/4) clay; light brownish gray (10YR 6/2) on faces of peds; strong medium subangular blocky structure; firm; common fine roots; few distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.

Btg1—27 to 54 inches; gray (10YR 6/1) clay; common medium distinct yellowish brown (10YR 5/4) and few fine prominent red (2.5YR 4/6) mottles; strong medium subangular blocky structure; firm; few fine roots; few distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.

Btg2—54 to 62 inches; light brownish gray (2.5Y 6/2) clay; common medium prominent brownish yellow (10YR 6/8) and yellowish brown (10YR 5/6) mottles; strong medium subangular blocky structure; firm; few distinct clay films on faces of peds; strongly acid.

Range in Characteristics

Thickness of the solum: 65 inches or more
Reaction: Very strongly acid to moderately acid

A horizon:
Thickness—3 to 7 inches
Color—hue of 10YR, value of 4 or 5, and chroma of 1 or 2

Bt horizon, upper part:
Color—hue of 10YR, value of 5 or 6, and chroma of 3 or 4; mottles in shades of gray and yellow
Texture—sandy clay loam or sandy clay

Bt horizon, lower part:
Color—mottled in shades of gray, brown, and red
Texture—clay or sandy clay

Btg horizon:
Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 1 or 2; mottles in shades of brown, yellow, and red
Texture—clay or sandy clay

The Wahee soils in this survey area are a taxadjunct to the series because they do not have a decrease in clay content of more than 20 percent from the maximum within a depth of 60 inches as is definitive for the series. This difference does not significantly affect use and management of the soils.

Wicksburg Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Rapid in the surface and subsurface layers and slow in the subsoil
Parent material: Sandy and clayey sediments
Landscape position: Uplands
Slope: 2 to 8 percent
Classification: Clayey, kaolinitic, thermic Arenic Paleudults

Geographically Associated Soils

- Bonifay soils, which have a fine-loamy particle-size control section and have more than 5 percent plinthite in the subsoil
- Nankin soils, which have an argillic horizon within a depth of 20 inches
- Susquehanna soils, which are somewhat poorly drained and have an argillic horizon within a depth of 20 inches
- Telfair soils, which are moderately well drained, have an argillic horizon within a depth of 20 inches, and are moderately deep to semiconsolidated sandstone

Typical Pedon

Wicksburg loamy sand, 2 to 5 percent slopes; 7.0 miles southwest on County Road S190 from the junction of U.S. Highway 441 and County Road S190, 0.9 mile northwest on a county dirt road, 0.75 mile north on a private dirt road, and 100 feet east of the road; in Telfair County

A—0 to 8 inches; dark grayish brown (10YR 4/2) loamy sand; weak fine granular structure; very friable; many fine roots; few small and medium quartz pebbles; very strongly acid; clear wavy boundary.

E—8 to 29 inches; light yellowish brown (10YR 6/4) loamy sand; single grained; loose; common fine roots; few small quartz pebbles; very strongly acid; gradual wavy boundary.

BE—29 to 34 inches; yellowish brown (10YR 5/6) sandy loam; weak fine subangular blocky structure; friable; few faint clay films on faces of

peds; very strongly acid; gradual wavy boundary.

Bt1—34 to 38 inches; yellowish brown (10YR 5/6) sandy clay; common medium prominent red (2.5YR 4/6) and common medium distinct pale brown (10YR 6/3) mottles; moderate medium subangular blocky structure; firm; few distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.

Bt2—38 to 55 inches; mottled yellowish brown (10YR 5/6), red (2.5YR 5/6), and light brownish gray (10YR 6/2) clay; moderate medium subangular blocky structure; firm; few distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.

Bt3—55 to 65 inches; mottled light brownish gray (10YR 6/2), yellowish brown (10YR 5/6), and reddish brown (2.5YR 5/4) clay; moderate medium subangular blocky structure; firm; few distinct clay films on faces of peds; very strongly acid.

Range in Characteristics

Thickness of the solum: More than 65 inches

Thickness of the sandy epipedon: 22 to 35 inches

Ironstone nodules: 0 to 5 percent in the A and E horizons

Content of coarse fragments: 0 to 5 percent quartz pebbles in the A and E horizons

Reaction: Very strongly acid or strongly acid

Distinctive features: The gray colors in the lower horizons are not indicative of wetness.

A horizon:

Thickness—8 to 12 inches

Color—hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 1 to 3

E horizon:

Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 4 to 6

Texture—loamy sand or sand

Bt horizon, upper part:

Color—hue of 10YR or 7.5YR, value of 5 or 6, and chroma of 6 to 8; none to common mottles in shades of red and brown in the lower part

Texture—sandy clay loam or sandy clay

Bt horizon, lower part:

Color—mottled in shades of brown, red, and gray

Texture—sandy clay or clay

Formation of the Soils

Soil characteristics are determined by the physical and mineral composition of the parent material; the climate under which the parent material accumulated and has existed since accumulation; the plant and animal life on and in the soil; the relief, or lay of the land; and the length of time that the forces of soil formation have acted on the soil material. All of these factors influence every soil, but the significance of each factor varies from place to place. In one area, one factor may dominate soil formation; in another area, a different factor may be the most important.

The interrelationships among these five factors are complex, and the effects of any one factor cannot be isolated and completely evaluated. It is convenient, however, to discuss each factor separately and to indicate the probable effects of each.

Parent Material

Parent material is the unconsolidated mass in which soil forms. The chemical and mineralogical composition of the soil is largely derived from the parent material. Bleckley, Dodge, and Telfair Counties are underlain by Coastal Plain sedimentary rock. Sandy to clayey marine sediment overlie the rock.

The Suwannee Limestone unit makes up the parent material for the upland soils in the western part of Bleckley County and along Little Branch and Big Branch in Dodge County. The main soils that formed in this material are the well drained Faceville, Greenville, and Orangeburg soils. These soils are predominantly very gently sloping to strongly sloping, smooth, and convex. They have a brownish or reddish, sandy or loamy surface layer and have a reddish, loamy or clayey subsoil. Of lesser extent are the well drained Dothan and Tifton soils. These predominantly yellowish brown soils are on the same landscape as the main soils. The Dothan and Tifton soils have a loamy subsoil.

The Twiggs Clay unit makes up the parent material for the upland soils in the extreme northwestern part of Bleckley County. The main soils that formed in this material are the well drained Dothan, Faceville, Orangeburg, and Tifton soils. These soils are predominantly very gently sloping to strongly sloping, smooth, and convex. The Dothan and Tifton soils have a brownish, sandy or loamy surface layer and have a brownish, loamy subsoil that is mottled in the middle and lower parts. Nodules of ironstone are on the surface and in the upper part of the soil. The Faceville and Orangeburg soils have a brownish or reddish, sandy or loamy surface layer and have a reddish, loamy or clayey subsoil. Of lesser extent are the well drained Fuquay soils, which are on the same landscape as the main soils. The Fuquay soils have a brownish surface layer; a thick, sandy subsurface layer; and a brownish, loamy subsoil that is mottled in the middle and lower parts.

The Neogene Undifferentiated unit makes up the parent material for the rest of the upland soils in the survey area. The main soils that formed in this material are the well drained Cowarts, Dothan, Fuquay, Nankin, and Tifton soils. These soils are predominantly very gently sloping and gently sloping. The Cowarts soils have a brownish, sandy or loamy surface layer; a brownish, loamy subsoil that is mottled in the lower part; and an underlying layer of mottled loamy material that is hard and firm. The Dothan, Fuquay, and Tifton soils are smooth and convex. The Dothan and Tifton soils have a brownish, sandy or loamy surface layer and have a brownish, loamy subsoil that is mottled in the middle and lower parts. Nodules of ironstone are on the surface and in the upper part of the soil. The Fuquay soils have a brownish surface layer; a thick, sandy subsurface layer; and a brownish, loamy subsoil that is mottled in the middle and lower parts. The Nankin soils have a brownish, sandy or loamy surface layer; a brownish, clayey subsoil that is mottled in the lower part; and an underlying layer of mottled loamy material. Of lesser extent are the well drained Ailey and Bonifay soils, which are in landscape positions similar to those of the Dothan, Fuquay, and Tifton soils. The Ailey soils have a brownish surface layer; a thick, sandy subsurface layer; a brownish, loamy subsoil that is mottled in the lower part; and an underlying layer of mottled loamy material that is compact and hard. The Bonifay sols predominantly have very thick, yellowish sandy material overlying a reddish, loamy subsoil.

Stream alluvium is adjacent to all the streams in the survey area and is most extensive on the flood plain along the Ocmulgee River. The stream alluvium is more recent sediment than the material on the uplands. The nearly level, poorly drained Kinston and Bibb soils are the main soils on the flood plains along Gum Swamp Creek, Horse Creek, Sugar Creek, and Turnpike Creek, which are major streams. The Kinston and Bibb soils are predominantly grayish throughout. The Kinston soils are mainly loamy, and the Bibb soils are mainly sandy. The nearly level Tawcaw and Chastain soils are the main soils on the flood plains along the Ocmulgee River in Bleckley, Dodge, and Telfair Counties. The poorly drained Chastain soils are predominantly grayish and clayey. The somewhat poorly drained Tawcaw soils are clayey throughout. They are brownish in the upper part and predominantly grayish in the lower part.

The eolian sand deposits unit makes up the parent material for a small area along Big Creek in Telfair County.

Plants and Animals

The role of plants, animals, and other organisms is significant in soil formation. Plants and animals increase the amounts of organic matter and nitrogen, increase or decrease the content of plant nutrients, and change soil structure and porosity.

Plants recycle nutrients, accumulate organic matter, and provide food and cover for animals. Plants stabilize the surface layer so that soil-forming processes can continue. Vegetation also provides a more stable environment for soil-forming processes by protecting the soils from extremes in temperature.

The soils in the survey area formed under a succession of briars, brambles, and woody plants that yielded to pines and hardwood trees. Later, the hardwoods suppressed most other plants and became the climax vegetation.

Animals rearrange soil material by roughening the surface, forming and filling channels, and shaping the peds and voids. The soils are mixed by ants, wasps, worms, and spiders that make channels; by crustacea, such as crabs and crayfish; and by turtles and foxes, which dig burrows. Humans affect the soil-forming process by tilling crops, removing natural vegetation, establishing different plants, and increasing or decreasing fertility.

Bacteria, fungi, and other microorganisms increase the rate of decomposition of organic matter and increase the release of minerals for plant growth.

The net gains and losses caused by plants and animals in the soil-forming process are important in the survey area. However, the relationship between plants and animals, climate, and parent materials is very close; therefore, the soils do not differ significantly because of the role of plants and animals.

Climate

The present climate of the survey area is probably similar to the climate that existed as the soils formed. The relatively high rainfall and warm temperature contribute to rapid soil formation. They are the most important climatic features related to soil properties.

Water from precipitation is essential to the formation of soil. Water dissolves soluble materials and is used by plants and animals. It transports material from one part of the soil to another part or from one area to another area.

Soils in the survey area formed under a thermic temperature regime; that is, the mean soil temperature at a depth of 20 inches is 59 to 72 degrees Fahrenheit. Based on the mean annual air temperature, the estimated soil temperature in the survey area is about 68 degrees Fahrenheit. The rates of chemical reactions and other processes in the soil depend to some extent on temperature. In addition, temperature affects the type and quantity of vegetation, the amount and kind of organic matter, and the rate of decomposition of organic matter.

Relief

Relief is the elevations, or inequalities, of land surface considered collectively. Color of the soil, wetness, thickness of the A horizon, content of organic matter, and plant cover are commonly related to relief. In the survey area, the most obvious effects of relief are the color of the soil and the degree of soil wetness.

Dothan and Tifton soils primarily have a yellowish brown subsoil, and Pelham and Rains soils are primarily gray throughout the subsoil. This color difference results from a difference in relief and a corresponding difference in internal drainage. Dothan and Tifton soils are in higher areas and are better drained than the other soils; therefore, the soil material is better oxidized and the subsoil is browner.

The movement of water across the surface and through the soil is controlled to a large extent by relief. Water flowing over the soil commonly carries solid particles and results in either erosion or deposition depending on the kind of relief. More water runs off sloping areas and less water enters the soil, so the soils are drier in the steeper areas. Lower areas

receive the water that flows off and through the higher soils. The lower areas are commonly wetter than the other areas.

Time

The length of time that soil-forming factors act on the parent material determines to a large degree the characteristics of the soil. Although the length of time that the soils have been forming in the survey area has not been exactly determined, most of the soils are considered mature. A mature soil is in equilibrium with the environment. It has readily recognized pedogenic horizons and a regular decrease in content of carbon with increasing depth. Some areas of Dothan and Tifton soils are on broad, stable landscapes where the soil-forming processes have been active for thousands of years. These mature soils have a thick solum and a well expressed zone of illuviation.

Kinston and Bibb soils receive sediment annually from flood water. These young soils are stratified and are not old enough to have a zone of illuviation. Young soils do not have pedogenic horizons. The content of carbon in these soils decreases irregularly with increasing depth.

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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.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

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.

Area reclaim (in tables). An area difficult to reclaim after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

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

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.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Board-foot. A unit of measure of the wood in lumber, logs, or trees. The amount of wood in a board one foot wide, one foot long, and one inch thick before finishing.

Bottom land. The normal flood plain of a stream, subject to flooding.

Canopy. The leafy crown of trees or shrubs. (See Crown.)

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.

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.

Clayey soil. Silty clay, sandy clay, or clay.

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.

Clearcut. A method of forest harvesting that removes the entire stand of trees in one cutting. Reproduction is achieved artificially or by natural seeding from adjacent stands.

Climax plant community. The stabilized plant community on a particular site. The plant cover

reproduces itself and does not change so long as the environment remains the same.

Closed depression. A low area completely surrounded by higher ground and having no natural outlet.

Coarse fragments. Mineral or rock particles larger than 2 millimeters in diameter.

Coarse textured soil. Sand or loamy sand.

Codominant trees. Trees whose crowns form the general level of the forest canopy and that receive full light from above but comparatively little from the sides.

Commercial forest. Woodland capable of producing 20 cubic feet or more per acre per year at the culmination of mean annual increment.

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.

Compressible (in tables). Excessive decrease in volume of soft soil under load.

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.

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.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Decreasers. The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.

Deep soil. A soil that is 40 to 60 inches deep over bedrock or to other material that restricts the penetration of plant roots.

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.

Depth to rock (in tables). Bedrock is too near the surface for the specified use.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Dominant trees. Trees whose crowns form the general level of the forest canopy and that receive full light from above and from the sides.

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.

Drainageway. An area of ground at a lower elevation than the surrounding ground and in which water collects and is drained to a closed depression or lake or to a drainageway at a lower elevation. A drainageway may or may not have distinctly incised channels at its upper reaches or throughout its course.

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.

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.

Fast intake (in tables). The rapid movement of water into the soil.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

Fine textured soil. Sandy clay, silty clay, 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.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Footslope. The inclined surface at the base of a hill.

Forb. Any herbaceous plant not a grass or a sedge.

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.

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.

Gravelly soil material. Material that is 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

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.

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.

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.

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

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

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.

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.

Loamy soil. Coarse sandy loam, sandy loam, fine sandy loam, very fine sandy loam, loam, silt loam, silt, clay loam, sandy clay loam, or silty clay loam.

Low strength. The soil is not strong enough to support loads.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Miscellaneous area. An area that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately deep soil. A soil that is 20 to 40 inches deep over bedrock or to other material that restricts the penetration of plant roots.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

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).

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.

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

Overstory. The trees in a forest that form the upper crown cover.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedon. The smallest volume that can be called “a soil.” A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The downward movement of water through the soil.

Percs slowly (in tables). The slow movement of water through the soil adversely 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.

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.

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.

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.

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

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.

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.

Sandy soil. Sand or loamy sand.

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.

Seepage (in tables). The movement of water through the soil. Seepage adversely affects the specified use.

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

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. In this survey, classes for simple slopes are as follows:

Nearly level	0 to 2 percent
Very gently sloping	2 to 5 percent
Gently sloping	5 to 8 percent
Strongly sloping	8 to 12 percent
Moderately steep	12 to 25 percent
Steep	25 to 35 percent

Slope (in tables). Slope is great enough that special practices are required to ensure satisfactory performance of the soil for a specific use.

Small stones (in tables). Rock fragments less than 3 inches (7.6 centimeters) in diameter. Small stones adversely affect the specified use of 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.

Species. A single, distinct kind of plant or animal having certain distinguishing characteristics.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Substratum. The part of the soil below the solum.

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.

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.

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."

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

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.

Trafficability. The degree to which a soil is capable of supporting vehicular traffic across a wide range in soil moisture conditions.

Understory. Any plants in a forest community that grow to a height of less than 5 feet.

Upland. Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Very deep soil. A soil that is more than 60 inches deep over bedrock or to other material that restricts the penetration of plant roots.

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 1961-90 at Eastman, Georgia)

Month	Temperature: Average daily maximum	Average daily minimum	Average	2 years in 10 will have-- Maximum temperature higher than--	Minimum temperature lower than--	Average number of growing degree days*	Precipitation: Average	2 years in 10 will have-- Less than--	More than--	Average number of days with or more	Average snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January-----	57.0	35.1	46.0	77	10	70	4.65	2.57	6.50	7	0.1
February----	61.2	37.6	49.4	80	18	103	4.48	2.49	6.23	6	0.0
March-------	69.7	45.0	57.4	85	25	264	4.70	2.76	6.43	6	0.0
April-------	77.7	51.9	64.8	91	34	446	3.65	1.36	5.56	4	0.0
May---------	84.5	59.7	72.1	95	44	685	3.37	1.39	5.05	5	0.0
June--------	90.1	66.6	78.3	101	53	842	4.28	2.58	5.82	7	0.0
July--------	91.5	69.8	80.7	101	60	949	5.25	3.29	7.02	8	0.0
August------	91.2	69.0	80.1	99	59	933	4.37	2.56	5.99	7	0.0
September---	87.1	64.2	75.7	97	47	770	2.90	1.05	4.44	5	0.0
October-----	78.8	53.0	65.9	92	34	493	2.28	0.53	4.26	3	0.0
November----	69.4	44.4	56.9	84	24	239	2.77	1.41	3.96	4	0.0
December----	60.9	37.8	49.3	80	15	114	3.69	2.26	4.97	6	0.0
Yearly:											
Average---	76.6	52.8	64.7	---	---	---	---	---	---	---	---
Extreme---	107	-2	---	103	8	---	---	---	---	---	---
Total-----	---	---	---	---	---	5,908	46.40	40.26	51.11	68	0.1

* 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 1961-90 at Eastman, Georgia)

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--	March 1	March 18	April 3
2 years in 10 later than--	Feb. 23	March 10	March 27
5 years in 10 later than--	Feb. 10	Feb. 24	March 13
First freezing temperature in fall:			
1 year in 10 earlier than--	Nov. 25	Nov. 8	Nov. 1
2 years in 10 earlier than--	Dec. 4	Nov. 15	Nov. 6
5 years in 10 earlier than--	Dec. 22	Nov. 28	Nov. 16

Table 3.--Growing Season

(Recorded in the period 1961-90 at Eastman, Georgia)

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	275	239	216
8 years in 10	288	252	226
5 years in 10	311	277	245
2 years in 10	335	301	264
1 year in 10	347	314	274

Table 4.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Bleckley County	Dodge County	Telfair County	Total-- Area	Total-- Extent
		Acres	Acres	Acres	Acres	Pct
AeB	Ailey loamy sand, 2 to 5 percent slopes	650	8,150	2,696	11,496	1.5
AeC	Ailey loamy sand, 5 to 8 percent slopes	750	9,635	1,333	11,718	1.6
BaB	Blanton sand, 0 to 4 percent slopes	0	0	2,554	2,554	0.3
BnB	Bonifay sand, 0 to 8 percent slopes	1,305	20,475	10,493	32,273	4.3
CaB2	Carnegie sandy loam, 2 to 5 percent slopes, eroded	1,395	3,755	9,989	15,139	2.0
CaC2	Carnegie sandy loam, 5 to 8 percent slopes, eroded	755	2,645	9,289	12,689	1.7
CnB	Clarendon loamy sand, 0 to 3 percent slopes	3,325	4,580	1,756	9,661	1.3
CoB	Cowarts loamy sand, 2 to 5 percent slopes	4,430	17,245	13,961	35,636	4.8
CtC2	Cowarts sandy loam, 5 to 8 percent slopes, eroded	2,060	4,250	9,519	15,829	2.1
CwE	Cowarts-Nankin-Ailey complex, 8 to 25 percent slopes	810	3,100	2,716	6,626	0.9
DoA	Dothan loamy sand, 0 to 2 percent slopes	2,270	1,320	1,967	5,557	0.7
DoB	Dothan loamy sand, 2 to 5 percent slopes	31,466	22,065	4,755	58,286	7.8
DtC2	Dothan sandy loam, 5 to 8 percent slopes, eroded	315	325	0	640	0.1
EnA	Eunola loamy sand, 0 to 2 percent slopes, occasionally flooded	0	0	1,151	1,151	0.2
FaB	Faceville sandy loam, 2 to 5 percent slopes	5,225	0	0	5,225	0.7
FaC2	Faceville sandy loam, 5 to 8 percent slopes, eroded	1,440	0	0	1,440	0.2
FuB	Fuquay loamy sand, 1 to 5 percent slopes	5,690	42,170	44,454	92,314	12.4
FuC	Fuquay loamy sand, 5 to 8 percent slopes	110	935	0	1,045	0.1
Gr	Grady loam	950	360	1,676	2,986	0.4
GsA	Greenville sandy loam, 0 to 2 percent slopes	1,245	0	0	1,245	0.2
GsB	Greenville sandy loam, 2 to 5 percent slopes	4,200	0	0	4,200	0.6
GsC2	Greenville sandy loam, 5 to 8 percent slopes, eroded	1,595	0	0	1,595	0.2
GsD2	Greenville sandy loam, 8 to 12 percent slopes, eroded	1,710	0	0	1,710	0.2
GsE	Greenville sandy loam, 12 to 18 percent slopes	1,710	0	0	1,710	0.2
KB	Kinston-Bibb association, frequently flooded	19,224	61,648	32,190	113,062	15.1
LaB	Lakeland sand, 0 to 8 percent slopes	0	3,585	4,548	8,133	1.1
LeB	Leefield loamy sand, 0 to 3 percent slopes	505	2,060	13,095	15,660	2.1
LuB	Lucy loamy sand, 1 to 5 percent slopes	540	305	584	1,429	0.2
MaB	Marlboro sandy loam, 2 to 5 percent slopes	6,295	0	0	6,295	0.8
NaB	Nankin loamy sand, 2 to 5 percent slopes	8,115	22,965	3,027	34,107	4.6
NkC2	Nankin sandy loam, 5 to 8 percent slopes, eroded	4,185	16,780	1,414	22,379	3.0
OrB	Orangeburg loamy sand, 2 to 5 percent slopes	1,530	230	0	1,760	0.2
PeA	Pelham loamy sand, 0 to 1 percent slopes	15	1,625	16,213	17,853	2.4
PeB	Pelham loamy sand, 1 to 3 percent slopes	0	0	10,802	10,802	1.4
PpA	Pelham loamy sand, 0 to 1 percent slopes, ponded	0	0	1,012	1,012	0.1
Ra	Rains sandy loam	2,090	5,990	2,919	10,999	1.5
ReB	Red Bay loamy sand, 2 to 5 percent slopes	115	440	0	555	0.1
Rg	Rigdon loamy sand	0	0	488	488	0.1
Sp	Sapelo sand	0	0	1,004	1,004	0.1
StA	Stilson loamy sand, 0 to 2 percent slopes	0	0	2,976	2,976	0.4
SuB	Susquehanna sandy loam, 2 to 5 percent slopes	415	1,115	1,000	2,530	0.3
SuC	Susquehanna sandy loam, 5 to 12 percent slopes	980	945	1,000	2,925	0.4
TC	Tawcaw-Chastain association, frequently flooded	1,780	9,690	17,458	28,928	3.9
TeC	Telfair loamy sand, 2 to 8 percent slopes	0	0	304	304	*
TeD	Telfair sandy loam, 8 to 15 percent slopes	0	0	135	135	*
TfA	Tifton loamy sand, 0 to 2 percent slopes	1,255	2,795	2,323	6,373	0.9
TfB	Tifton loamy sand, 2 to 5 percent slopes	16,830	45,427	34,000	96,257	12.9
TnC2	Tifton sandy loam, 5 to 8 percent slopes, eroded	750	2,450	0	3,200	0.4
Ud	Udorthents, loamy	100	255	0	355	*
WB	Wahee-Bethera association, 0 to 2 percent slopes, occasionally flooded	0	35	10,993	11,028	1.5
WcB	Wicksburg loamy sand, 2 to 5 percent slopes	0	0	2,553	2,553	0.3
WcC	Wicksburg loamy sand, 5 to 8 percent slopes	0	0	2,203	2,203	0.3
W	Water	2,070	4,150	3,650	9,870	1.3
	Total	140,200	323,500	284,200	747,900	100.0

* Less than 0.1 percent.

Table 5.--Prime Farmland

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils are not considered prime farmland.)

Map symbol	Soil name
CaB2	Carnegie sandy loam, 2 to 5 percent slopes, eroded
CnB	Clarendon loamy sand, 0 to 3 percent slopes
CoB	Cowarts loamy sand, 2 to 5 percent slopes
DoA	Dothan loamy sand, 0 to 2 percent slopes
DoB	Dothan loamy sand, 2 to 5 percent slopes
DtC2	Dothan sandy loam, 5 to 8 percent slopes, eroded
EnA	Eunola loamy sand, 0 to 2 percent slopes, occasionally flooded
FaB	Faceville sandy loam, 2 to 5 percent slopes
FaC2	Faceville sandy loam, 5 to 8 percent slopes, eroded
GsA	Greenville sandy loam, 0 to 2 percent slopes
GsB	Greenville sandy loam, 2 to 5 percent slopes
GsC2	Greenville sandy loam, 5 to 8 percent slopes, eroded
MaB	Marlboro sandy loam, 2 to 5 percent slopes
NaB	Nankin loamy sand, 2 to 5 percent slopes
OrB	Orangeburg loamy sand, 2 to 5 percent slopes
ReB	Red Bay loamy sand, 2 to 5 percent slopes
TfA	Tifton loamy sand, 0 to 2 percent slopes
TfB	Tifton loamy sand, 2 to 5 percent slopes
TnC2	Tifton sandy loam, 5 to 8 percent slopes, eroded

Table 6.--Important Farmland

(Only the soils considered prime farmland or additional farmland of statewide importance are listed. The entries are for the date fieldwork was completed.)

Map symbol and soil name	Prime farmland	Additional farmland of statewide importance
	Acres	Acres
AeB Ailey	---	11,496
AeC Ailey	---	11,718
BaB Blanton	---	2,554
BnB Bonifay	---	32,273
CaB2 Carnegie	15,139	---
CaC2 Carnegie	---	12,689
CnB Clarendon	9,661	---
CoB Cowarts	36,326	---
CtC2 Cowarts	---	15,825
DoA Dothan	5,557	---
DoB Dothan	58,240	---
DtC2 Dothan	640	---
EnA Eunola	1,151	---
FaB Faceville	5,225	---
FaC2 Faceville	1,440	---
FuB Fuquay	---	92,314
FuC Fuquay	---	1,045
GsA Greenville	1,245	---
GsB Greenville	4,200	---

Table 6.--Important Farmland--Continued

Map symbol and soil name	Prime farmland	Additional farmland of statewide importance
	Acres	Acres
GsC2 Greenville	1,595	---
GsD2 Greenville	---	1,710
LeB Leefield	---	15,660
LuB Lucy	---	1,429
MaB Marlboro	6,295	---
NaB Nankin	34,107	---
NkC2 Nankin	---	22,379
OrB Orangeburg	1,760	---
ReB Red Bay	555	---
Rg Rigdon	---	488
StA Stilson	---	2,976
SuB Susquehanna	---	2,530
TfA Tifton	6,373	---
TfB Tifton	96,257	---
TnC2 Tifton	3,200	---
WcB Wicksburg	---	2,553
WcC Wicksburg	---	2,203
Total	288,966	231,842

Table 7.--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	Corn	Soybeans	Wheat	Cotton	Tobacco	Peanuts	Improved bermudagrass
		Bu	Bu	Bu	Lbs	Lbs	Lbs	AUM*
AeB---------- Ailey	IIIs	50	20	25	400	---	2,300	6.0
AeC---------- Ailey	IVs	45	18	23	350	---	2,000	5.0
BaB---------- Blanton	IIIs	60	25	30	---	2,000	2,200	7.0
BnB---------- Bonifay	IIIs	50	24	30	---	2,000	1,600	7.5
CaB2---------- Carnegie	IIIe	65	30	---	500	---	3,200	6.5
CaC2---------- Carnegie	IVe	55	25	---	400	---	---	6.0
CnB---------- Clarendon	IIw	125	45	45	700	3,000	---	10.5
CoB---------- Cowarts	IIe	80	35	40	650	---	2,400	8.0
CtC2---------- Cowarts	IIIe	60	20	---	500	---	1,600	7.0
CwE:								
Cowarts--------	VIe	---	---	---	---	---	---	6.5
Nankin---------	VIe	---	---	---	---	---	---	---
Ailey----------	VIIe	---	---	---	---	---	---	---
DoA---------- Dothan	I	120	40	50	900	2,800	3,800	10.5
DoB---------- Dothan	IIe	120	35	44	900	2,600	3,600	10.5
DtC2---------- Dothan	IIIe	90	25	30	700	2,200	3,000	9.5
EnA---------- Eunola	IIw	90	30	30	---	---	3,000	8.0
FaB---------- Faceville	IIe	115	45	56	875	---	4,000	10.0
FaC2---------- Faceville	IIIe	85	25	30	550	---	2,800	8.5
FuB---------- Fuquay	IIs	85	30	38	650	2,400	2,900	7.5
FuC---------- Fuquay	IIIs	75	25	31	600	2,200	2,600	7.5

See footnote at end of table.

Table 7.--Land Capability Classes and Yields per Acre of Crops and Pasture--Continued

Soil name and map symbol	Land capability	Corn	Soybeans	Wheat	Cotton	Tobacco	Peanuts	Improved bermudagrass
		Bu	Bu	Bu	Lbs	Lbs	Lbs	AUM*
Gr---------- Grady	Vw	---	---	---	---	---	---	---
GsA---------- Greenville	I	100	45	56	825	---	3,200	11
GsB---------- Greenville	IIe	95	35	50	800	---	3,000	11
GsC2---------- Greenville	IIIe	85	25	30	700	---	2,600	10
GsD2---------- Greenville	IVe	---	---	---	---	---	---	8.5
GsE---------- Greenville	VIe	---	---	---	---	---	---	6.5
KB:								
Kinston--------	VIw	---	---	---	---	---	---	---
Bibb----------	Vw	---	---	---	---	---	---	---
LaB---------- Lakeland	IVs	55	20	25	---	1,700	2,000	7.0
LeB---------- Leefield	IIIw	85	---	---	500	2,300	2,200	8.7
LuB---------- Lucy	IIs	80	33	40	650	---	3,000	8.0
MaB---------- Marlboro	IIe	100	40	50	1,000	2,400	---	10
NaB---------- Nankin	IIe	75	30	25	600	2,200	2,200	9.0
NkC2---------- Nankin	IIIe	50	20	---	500	1,600	1,400	6.0
OrB---------- Orangeburg	IIe	120	45	50	900	2,400	4,000	10.5
PeA, PpA-------- Pelham	Vw	---	---	---	---	---	---	---
PeB---------- Pelham	IVw	---	---	---	---	---	---	---
Ra---------- Rains	IVw	110	40	50	450	2,300	---	11.0
ReB---------- Red Bay	IIe	90	---	56	750	---	3,200	9.5
Rg---------- Rigdon	IIIw	85	30	---	---	2,300	2,200	7.5
Sp---------- Sapelo	IVw	50	20	---	---	---	---	---

See footnote at end of table.

Table 7.--Land Capability Classes and Yields per Acre of Crops and Pasture--Continued

Soil name and map symbol	Land capability	Corn	Soybeans	Wheat	Cotton	Tobacco	Peanuts	Improved bermudagrass
		Bu	Bu	Bu	Lbs	Lbs	Lbs	AUM*
StA---------- Stilson	IIw	80	35	35	600	2,600	3,100	10.0
SuB---------- Susquehanna	IVe	---	20	30	---	---	---	---
SuC---------- Susquehanna	VIe	---	---	20	---	---	---	---
TC:								
Tawcaw---------	VIw	---	---	---	---	---	---	---
Chastain-------	VIIw	---	---	---	---	---	---	---
TeC---------- Telfair	IVe	---	---	---	---	---	---	6.0
TeD---------- Telfair	VIe	---	---	---	---	---	---	5.5
TfA---------- Tifton	I	115	46	58	950	2,800	3,800	10.5
TfB---------- Tifton	IIe	115	46	58	950	2,800	3,800	10.5
TnC2---------- Tifton	IIIe	80	34	43	650	2,400	3,000	9.0
Ud. Udorthents								
WB:								
Wahee----------	IVw	110	45	45	---	2,600	---	9.0
Bethera--------	IVw	---	---	---	---	---	---	---
WcB---------- Wicksburg	IIs	60	25	25	600	---	4,000	7.0
WcC---------- Wicksburg	IIIs	50	25	25	550	---	3,500	6.5

* 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 8.--Capability Classes and Subclasses

(Miscellaneous areas are excluded. Dashes indicate no acreage.)

Class	Total acreage	Major management concerns (Subclass)		
		Erosion (e)	Wetness (w)	Soil problem (s)
		Acres	Acres	Acres
I:				
Bleckley County	4,770	---	---	---
Dodge County	4,115	---	---	---
Telfair County	4,290	---	---	---
II:				
Bleckley County	88,266	78,206	3,830	6,230
Dodge County	157,509	108,372	6,662	42,475
Telfair County	129,457	55,743	26,123	47,591
III:				
Bleckley County	9,335	5,180	2,090	2,065
Dodge County	41,755	6,205	5,990	29,560
Telfair County	32,346	9,989	4,411	17,946
IV:				
Bleckley County	10,190	9,440	---	750
Dodge County	38,347	25,115	12	13,220
Telfair County	31,254	21,526	3,847	5,881
V:				
Bleckley County	10,547	---	10,547	---
Dodge County	31,594	---	31,594	---
Telfair County	45,831	---	45,831	---
VI:				
Bleckley County	15,987	3,297	12,690	---
Dodge County	44,787	3,270	41,517	---
Telfair County	32,484	3,171	29,313	---
VII:				
Bleckley County	1,003	202	801	---
Dodge County	5,135	775	4,360	---
Telfair County	8,535	679	7,856	---
VIII:				
Bleckley County	---	---	---	---
Dodge County	---	---	---	---
Telfair County	---	---	---	---

Table 9.--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	Potential productivity: Common trees	Site index	Productivity class*	Trees to plant
AeB, AeC	8S	Slight	Moderate	Moderate	Slash pine	70	8	Slash pine, longleaf pine.
Ailey					Longleaf pine	60	4	
BaB	11S	Slight	Moderate	Moderate	Slash pine	85	11	Slash pine, loblolly pine, longleaf pine.
Blanton					Loblolly pine	85	8	
					Longleaf pine	75	6	
					Live oak	---	---	
					Bluejack oak	---	---	
					Turkey oak	---	---	
BnB	10S	Slight	Moderate	Moderate	Slash pine	85	11	Loblolly pine, slash pine, longleaf pine.
Bonifay					Longleaf pine	69	7	
					Loblolly pine	85	8	
					Post oak	---	---	
					Blackjack oak	---	---	
					Turkey oak	---	---	
CaB2, CaC2	9A	Slight	Slight	Slight	Loblolly pine	86	9	Loblolly pine, slash pine.
Carnegie					Slash pine	86	11	
					Longleaf pine	72	6	
CnB	9W	Slight	Slight	Moderate	Loblolly pine	90	9	Loblolly pine, American sycamore, yellow-poplar, sweetgum.
Clarendon					Sweetgum	85	6	
CoB, CtC2	9A	Slight	Slight	Slight	Loblolly pine	86	9	Loblolly pine, longleaf pine, slash pine.
Cowarts					Slash pine	86	11	
					Longleaf pine	67	5	
CwE:								
Cowarts	9R	Slight	Moderate	Slight	Loblolly pine	86	9	Loblolly pine, longleaf pine, slash pine.
					Slash pine	86	11	
					Longleaf pine	67	5	
Nankin	8R	Moderate	Moderate	Moderate	Loblolly pine	80	8	Loblolly pine, slash pine.
					Slash pine	80	10	
					Longleaf pine	70	6	
Ailey	8S	Slight	Moderate	Moderate	Slash pine	70	8	Slash pine, longleaf pine.
					Longleaf pine	60	4	
DoA, DoB, DtC2	9A	Slight	Slight	Slight	Loblolly pine	88	9	Loblolly pine, slash pine, longleaf pine.
Dothan					Slash pine	92	12	
					Longleaf pine	84	8	
					Hickory	---	---	
					Water oak	---	---	
EnA	10W	Slight	Moderate	Slight	Loblolly pine	95	10	Loblolly pine, slash pine, sweetgum, yellow-poplar.
Eunola					Slash pine	95	12	
					Sweetgum	95	8	
					Yellow-poplar	95	7	
FaB, FaC2	8A	Slight	Slight	Slight	Loblolly pine	82	8	Loblolly pine, slash pine.
Faceville					Slash pine	80	10	
					Longleaf pine	65	5	

See footnote at end of table.

Table 9.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Potential productivity: Common trees	Site index	Productivity class*	Trees to plant
FuB, FuC---------- Fuquay	8S	Slight	Moderate	Moderate	Loblolly pine--------	85	8	Loblolly pine,
					Longleaf pine--------	77	7	longleaf pine,
					Slash pine----------	93	12	slash pine.
Gr---------- Grady	6W	Slight	Severe	Severe	Water tupelo---------	68	6	American sycamore,
					Baldcypress----------	65	3	water tupelo.
					Water oak----------	65	4	
GsA, GsB, GsC2, GsD2---------- Greenville	8A	Slight	Slight	Slight	Loblolly pine--------	82	8	Loblolly pine,
					Longleaf pine--------	70	6	longleaf pine, slash
					Slash pine----------	82	10	pine.
GsE---------- Greenville	8R	Moderate	Moderate	Moderate	Loblolly pine--------	82	8	Loblolly pine,
					Longleaf pine--------	70	6	slash pine, longleaf
					Slash pine----------	82	10	pine.
KB:								
Kinston----------	8W	Slight	Severe	Severe	Loblolly pine--------	100	8	Loblolly pine,
					Sweetgum----------	95	9	American sycamore,
					White oak----------	90	4	yellow-poplar,
					Eastern cottonwood---	100	9	eastern cottonwood,
					Cherrybark oak-------	95	4	cherrybark oak, green
								ash, sweetgum.
Bibb----------	11W	Slight	Severe	Severe	Loblolly pine--------	100	11	Loblolly pine,
					Sweetgum----------	90	7	sweetgum, yellow-
					Water oak----------	90	6	poplar, eastern
					Blackgum----------	---	---	cottonwood.
					Yellow-poplar--------	---	---	
					Atlantic white cedar-	---	---	
LaB---------- Lakeland	9S	Slight	Moderate	Moderate	Slash pine----------	75	9	Loblolly pine, slash
					Loblolly pine--------	75	7	pine, longleaf pine.
					Longleaf pine--------	60	4	
					Turkey oak----------	---	---	
					Blackjack oak--------	---	---	
					Post oak----------	---	---	
LeB---------- Leefield	8W	Slight	Moderate	Moderate	Loblolly pine--------	84	8	Loblolly pine, slash
					Slash pine----------	84	11	pine.
					Longleaf pine--------	70	6	
LuB---------- Lucy	8S	Slight	Moderate	Moderate	Loblolly pine--------	80	8	Loblolly pine, slash
					Longleaf pine--------	70	6	pine, longleaf pine.
					Slash pine----------	84	11	
MaB---------- Marlboro	8A	Slight	Slight	Slight	Loblolly pine--------	82	8	Loblolly pine, slash
					Slash pine----------	80	10	pine.
					Longleaf pine--------	62	4	
NaB, NkC2---------- Nankin	8A	Slight	Slight	Slight	Loblolly pine--------	80	8	Loblolly pine, slash
					Slash pine----------	80	10	pine, longleaf pine.
					Longleaf pine--------	70	6	
OrB---------- Orangeburg	8A	Slight	Slight	Slight	Loblolly pine--------	80	8	Slash pine, loblolly
					Slash pine----------	86	11	pine.
					Longleaf pine--------	77	7	

See footnote at end of table.

Table 9.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Potential productivity: Common trees	Site index	Productivity class*	Trees to plant
PeA, PeB Pelham	11W	Slight	Severe	Severe	Slash pine	90	11	Slash pine, loblolly pine.
					Loblolly pine	90	9	
					Longleaf pine	80	7	
					Sweetgum	80	6	
					Blackgum	80	8	
					Water oak	80	5	
PpA Pelham	11W	Slight	Severe	Severe	Slash pine	86	11	Loblolly pine, slash pine.
					Loblolly pine	86	9	
					Sweetgum	86	7	
					Blackgum	86	9	
					Water oak	86	6	
					Pond pine	---	---	
					Baldcypress	---	---	
					Swamp tupelo	---	---	
Ra Rains	10W	Slight	Moderate	Moderate	Loblolly pine	94	10	Loblolly pine, sweetgum, American sycamore.
					Sweetgum	90	7	
ReB Red Bay	9A	Slight	Slight	Slight	Loblolly pine	90	9	Loblolly pine, slash pine, longleaf pine.
					Slash pine	90	11	
					Longleaf pine	77	7	
Rg Rigdon	9W	Slight	Moderate	Moderate	Loblolly pine	90	9	Loblolly pine, slash pine.
					Slash pine	84	11	
					Longleaf pine	70	6	
Sp Sapelo	7W	Slight	Moderate	Moderate	Loblolly pine	77	7	Loblolly pine, slash pine.
					Slash pine	77	10	
					Longleaf pine	65	5	
StA Stilson	9W	Slight	Moderate	Slight	Loblolly pine	95	9	Loblolly pine, slash pine, longleaf pine.
					Slash pine	95	12	
					Longleaf pine	80	7	
					Sweetgum	---	---	
SuB, SuC Susquehanna	8C	Slight	Moderate	Slight	Loblolly pine	78	8	Loblolly pine, shortleaf pine.
					Shortleaf pine	68	7	
TC:								
Tawcaw	8W	Slight	Moderate	Moderate	Loblolly pine	100	9	Loblolly pine, sweetgum, water tupelo.
					Sweetgum	95	8	
					Water oak	---	---	
					Water tupelo	---	---	
Chastain	8W	Slight	Severe	Severe	Sweetgum	95	8	Loblolly pine, sweetgum, baldcypress.
					Loblolly pine	90	---	
					Baldcypress	---	---	
					Water tupelo	---	---	
					Water oak	---	---	
TeC, TeD Telfair	6C	Moderate	Moderate	Moderate	Loblolly pine	70	6	Loblolly pine.
TfA, TfB, TnC2 Tifton	9A	Slight	Slight	Slight	Loblolly pine	86	9	Loblolly pine, slash pine.
					Slash pine	86	11	
					Longleaf pine	72	6	

See footnote at end of table.

Table 9.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Equipment limitation	Seedling mortality	Potential productivity: Common trees	Site index	Productivity class*	Trees to plant
WB:								
Wahee	9W	Slight	Moderate	Moderate	Loblolly pine	86	9	Loblolly pine, slash pine, sweetgum, American sycamore, water oak.
					Slash pine	86	11	
					Sweetgum	90	7	
					Blackgum	---	---	
					Water oak	---	---	
					Swamp chestnut oak	---	---	
					Willow oak	---	---	
					Southern red oak	---	---	
Bethera	10W	Slight	Severe	Severe	Loblolly pine	92	10	Loblolly pine, slash pine.
					Slash pine	90	11	
WcB, WcC Wicksburg	8S	Slight	Moderate	Moderate	Loblolly pine	80	8	Loblolly pine, longleaf pine, slash pine.
					Slash pine	80	10	
					Longleaf pine	70	6	

* Productivity class is the yield in cubic meters per hectare per year calculated at the age of culmination of mean annual increment for fully stocked natural stands.

Table 10.--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
AeB Ailey	Moderate: too sandy.	Moderate: too sandy.	Moderate: slope, too sandy.	Moderate: too sandy.	Moderate: droughty.
AeC Ailey	Moderate: too sandy.	Moderate: too sandy.	Severe: slope.	Moderate: too sandy.	Moderate: droughty.
BaB Blanton	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: droughty.
BnB Bonifay	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: droughty.
CaB2 Carnegie	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: slope, small stones, percs slowly.	Slight	Slight.
CaC2 Carnegie	Moderate: percs slowly.	Moderate: percs slowly.	Severe: slope.	Slight	Slight.
CnB Clarendon	Moderate: wetness.	Moderate: wetness.	Moderate: small stones.	Slight	Moderate: droughty.
CoB Cowarts	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: slope, small stones.	Slight	Moderate: droughty.
CtC2 Cowarts	Moderate: percs slowly.	Moderate: percs slowly.	Severe: slope.	Slight	Moderate: droughty.
CwE:					
Cowarts	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
Nankin	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
Ailey	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
DoA Dothan	Slight	Slight	Slight	Slight	Moderate: droughty.
DoB Dothan	Slight	Slight	Moderate: slope.	Slight	Moderate: droughty.
DtC2 Dothan	Slight	Slight	Severe: slope.	Slight	Slight.
EnA Eunola	Severe: flooding.	Moderate: wetness.	Moderate: wetness, flooding.	Moderate: wetness.	Moderate: wetness, flooding.
FaB Faceville	Slight	Slight	Moderate: slope.	Slight	Slight.

Table 10.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
FaC2 Faceville	Slight	Slight	Severe: slope.	Slight	Slight.
FuB Fuquay	Moderate: too sandy.	Moderate: too sandy.	Moderate: slope, too sandy.	Moderate: too sandy.	Moderate: droughty.
FuC Fuquay	Moderate: too sandy.	Moderate: too sandy.	Severe: slope.	Moderate: too sandy.	Moderate: droughty.
Gr Grady	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.
GsA Greenville	Slight	Slight	Slight	Slight	Slight.
GsB Greenville	Slight	Slight	Moderate: slope.	Slight	Slight.
GsC2 Greenville	Slight	Slight	Severe: slope.	Slight	Slight.
GsD2, GsE Greenville	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope.
KB:					
Kinston	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness, flooding.	Severe: wetness.	Severe: wetness, flooding.
Bibb	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness, flooding.	Severe: wetness.	Severe: wetness, flooding.
LaB Lakeland	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Moderate: droughty, too sandy.
LeB Leefield	Moderate: wetness, too sandy.	Moderate: wetness, too sandy.	Moderate: too sandy, wetness.	Moderate: wetness, too sandy.	Moderate: wetness, droughty.
LuB Lucy	Slight	Slight	Moderate: slope.	Slight	Moderate: droughty.
MaB Marlboro	Slight	Slight	Moderate: slope.	Slight	Slight.
NaB Nankin	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: slope, percs slowly.	Slight	Slight.
NkC2 Nankin	Moderate: percs slowly.	Moderate: percs slowly.	Severe: slope.	Slight	Slight.
OrB Orangeburg	Slight	Slight	Moderate: slope.	Slight	Slight.
PeA, PeB Pelham	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.

Table 10.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
PpA Pelham	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.
Ra Rains	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
ReB Red Bay	Slight	Slight	Moderate: slope.	Slight	Slight.
Rg Rigdon	Moderate: wetness, too sandy.	Moderate: wetness, too sandy.	Moderate: too sandy, wetness.	Moderate: wetness, too sandy.	Moderate: wetness, droughty.
Sp Sapelo	Severe: wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness, droughty.
StA Stilson	Moderate: too sandy.	Moderate: too sandy.	Moderate: too sandy.	Moderate: too sandy.	Moderate: droughty.
SuB Susquehanna	Severe: percs slowly.	Severe: percs slowly.	Severe: percs slowly.	Slight	Slight.
SuC Susquehanna	Severe: percs slowly.	Severe: percs slowly.	Severe: slope, percs slowly.	Slight	Moderate: slope.
TC:					
Tawcaw	Severe: flooding.	Moderate: flooding, wetness.	Severe: flooding.	Moderate: wetness, flooding.	Severe: flooding.
Chastain	Severe: flooding, wetness.	Severe: wetness, too acid.	Severe: wetness, flooding.	Severe: wetness.	Severe: too acid, wetness, flooding.
TeC Telfair	Severe: percs slowly.	Severe: percs slowly.	Severe: percs slowly.	Slight	Moderate: wetness, depth to rock.
TeD Telfair	Severe: percs slowly.	Severe: percs slowly.	Severe: slope, percs slowly.	Slight	Moderate: wetness, slope, depth to rock.
TfA Tifton	Slight	Slight	Moderate: small stones.	Slight	Slight.
TfB Tifton	Slight	Slight	Moderate: slope.	Slight	Slight.
TnC2 Tifton	Slight	Slight	Severe: slope.	Slight	Slight.
Ud. Udorthents					

Table 10.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
WB:					
Wahee	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Bethera	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
WcB Wicksburg	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: slope, percs slowly.	Slight	Moderate: droughty.
WcC Wicksburg	Moderate: percs slowly.	Moderate: percs slowly.	Severe: slope.	Slight	Moderate: droughty.

Table 11.--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	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
AeB---------- Ailey	Poor	Fair	Fair	Poor	Poor	Poor	Very poor.	Fair	Poor	Very poor.
AeC---------- Ailey	Poor	Poor	Fair	Poor	Poor	Poor	Very poor.	Fair	Poor	Very poor.
BaB---------- Blanton	Poor	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
BnB---------- Bonifay	Poor	Fair	Fair	Poor	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
CaB2---------- Carnegie	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
CaC2---------- Carnegie	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
CnB---------- Clarendon	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
CoB---------- Cowarts	Poor	Fair	Good	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
CtC2---------- Cowarts	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
CwE:										
Cowarts----------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
Nankin----------	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	---
Ailey----------	Poor	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
DoA, DoB, DtC2----- Dothan	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
EnA---------- Eunola	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
FaB---------- Faceville	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
FaC2---------- Faceville	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
FuB---------- Fuquay	Fair	Fair	Good	Fair	Fair	Poor	Very poor.	Good	Fair	Very poor.
FuC---------- Fuquay	Poor	Fair	Good	Fair	Fair	Poor	Very poor.	Good	Fair	Very poor.

Table 11.--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	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
Gr: Grady	Very poor.	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.
GsA, GsB: Greenville	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
GsC2, GsD2, GsE: Greenville	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
KB:										
Kinston	Very poor.	Poor	Poor	Poor	Poor	Good	Fair	Poor	Poor	Fair.
Bibb	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
LaB: Lakeland	Poor	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
LeB: Leefield	Fair	Fair	Good	Fair	Fair	Fair	Fair	Fair	Fair	Fair.
LuB: Lucy	Poor	Fair	Good	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
MaB: Marlboro	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
NaB: Nankin	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
NkC2: Nankin	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
OrB: Orangeburg	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
PeA, PeB: Pelham	Poor	Poor	Fair	Fair	Fair	Fair	Fair	Poor	Fair	Fair.
PpA: Pelham	Poor	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair.
Ra: Rains	Fair	Fair	Fair	Good	Good	Good	Good	Fair	Good	Good.
ReB: Red Bay	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Rg: Rigdon	Poor	Fair	Good	Good	Good	Fair	Fair	Fair	Good	Poor.
Sp: Sapelo	Poor	Fair	Fair	Poor	Fair	Fair	Fair	Fair	Fair	Fair.
StA: Stilson	Fair	Fair	Good	Fair	Fair	Poor	Poor	Fair	Fair	Poor.
SuB, SuC: Susquehanna	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.

Table 11.--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	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
TC:										
Tawcaw	Very poor.	Poor	Poor	Good	Fair	Fair	Fair	Poor	Fair	Fair.
Chastain	Very poor.	Poor	Poor	Fair	Poor	Good	Good	Poor	Fair	Good.
TeC, TeD Telfair	Poor	Fair	Fair	Fair	---	Fair	Poor	Fair	Fair	Poor.
TfA Tifton	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
TfB Tifton	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
TnC2 Tifton	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Ud. Udorthents										
WB:										
Wahee	Fair	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair.
Bethera	Fair	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
WcB, WcC Wicksburg	Poor	Fair	Good	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.

Table 12.--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
AeB Ailey	Severe: cutbanks cave.	Slight	Slight	Slight	Slight	Moderate: droughty.
AeC Ailey	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Slight	Moderate: droughty.
BaB Blanton	Severe: cutbanks cave.	Slight	Moderate: wetness.	Slight	Slight	Severe: droughty.
BnB Bonifay	Severe: cutbanks cave.	Slight	Moderate: wetness.	Moderate: slope.	Slight	Severe: droughty.
CaB2 Carnegie	Moderate: too clayey.	Slight	Slight	Slight	Moderate: low strength.	Slight.
CaC2 Carnegie	Moderate: too clayey.	Slight	Slight	Moderate: slope.	Moderate: low strength.	Slight.
CnB Clarendon	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: droughty.
CoB Cowarts	Slight	Slight	Slight	Slight	Slight	Moderate: droughty.
CtC2 Cowarts	Slight	Slight	Slight	Moderate: slope.	Slight	Moderate: droughty.
CwE:						
Cowarts	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Nankin	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Ailey	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
DoA, DoB Dothan	Moderate: wetness.	Slight	Moderate: wetness.	Slight	Slight	Slight.
DtC2 Dothan	Moderate: wetness.	Slight	Moderate: wetness.	Moderate: slope.	Slight	Slight.
EnA Eunola	Severe: cutbanks cave, wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Severe: flooding.	Moderate: wetness, flooding.
FaB Faceville	Moderate: too clayey.	Slight	Slight	Slight	Slight	Slight.
FaC2 Faceville	Moderate: too clayey.	Slight	Slight	Moderate: slope.	Slight	Slight.
FuB Fuquay	Slight	Slight	Moderate: wetness.	Slight	Slight	Moderate: droughty.

Table 12.--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
FuC---------- Fuquay	Slight---------	Slight---------	Moderate: wetness.	Moderate: slope.	Slight---------	Moderate: droughty.
Gr---------- Grady	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.
GsA, GsB---------- Greenville	Moderate: too clayey.	Slight---------	Slight---------	Slight---------	Slight---------	Slight.
GsC2---------- Greenville	Moderate: too clayey.	Slight---------	Slight---------	Moderate: slope.	Slight---------	Slight.
GsD2, GsE--------- Greenville	Moderate: too clayey, slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope.
KB:						
Kinston----------	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: low strength, wetness, flooding.	Severe: wetness, flooding.
Bibb----------	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: wetness, flooding.
LaB---------- Lakeland	Severe: cutbanks cave.	Slight---------	Slight---------	Moderate: slope.	Slight---------	Moderate: droughty, too sandy.
LeB---------- Leefield	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness, droughty.
LuB---------- Lucy	Moderate: cutbanks cave.	Slight---------	Slight---------	Slight---------	Slight---------	Moderate: droughty.
MaB---------- Marlboro	Moderate: too clayey.	Slight---------	Slight---------	Slight---------	Moderate: low strength.	Slight.
NaB---------- Nankin	Moderate: too clayey.	Slight---------	Slight---------	Slight---------	Slight---------	Slight.
NkC2---------- Nankin	Moderate: too clayey.	Slight---------	Slight---------	Moderate: slope.	Slight---------	Slight.
OrB---------- Orangeburg	Slight---------	Slight---------	Slight---------	Slight---------	Slight---------	Slight.
PeA, PeB---------- Pelham	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
PpA---------- Pelham	Severe: cutbanks cave, ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.
Ra---------- Rains	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
ReB---------- Red Bay	Slight---------	Slight---------	Slight---------	Slight---------	Slight---------	Slight.

Table 12.--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
Rg---------- Rigdon	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness, droughty.
Sp---------- Sapelo	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, droughty.
StA---------- Stilson	Severe: cutbanks cave.	Slight---------	Moderate: wetness.	Slight---------	Slight---------	Moderate: droughty.
SuB---------- Susquehanna	Moderate: too clayey.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: low strength, shrink-swell.	Slight.
SuC---------- Susquehanna	Moderate: too clayey, slope.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell, slope.	Severe: low strength, shrink-swell.	Moderate: slope.
TC:						
Tawcaw----------	Severe: wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Severe: flooding.	Severe: flooding.
Chastain---------	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: low strength, wetness, flooding.	Severe: too acid, wetness, flooding.
TeC---------- Telfair	Severe: wetness.	Moderate: wetness, shrink-swell.	Severe: wetness.	Moderate: wetness, slope, shrink-swell.	Severe: low strength.	Moderate: wetness, depth to rock.
TeD---------- Telfair	Severe: wetness.	Moderate: slope, wetness, shrink-swell.	Severe: wetness.	Severe: slope.	Severe: low strength.	Moderate: wetness, slope, depth to rock.
TfA, TfB---------- Tifton	Moderate: wetness.	Slight---------	Moderate: wetness.	Slight---------	Slight---------	Slight.
TnC2---------- Tifton	Moderate: wetness.	Slight---------	Moderate: wetness.	Moderate: slope.	Slight---------	Slight.
Ud. Udorthents						
WB:						
Wahee----------	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: low strength, wetness, flooding.	Severe: wetness.
WB:						
Bethera----------	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: low strength, wetness, flooding.	Severe: wetness.
WcB---------- Wicksburg	Moderate: cutbanks cave.	Slight---------	Moderate: shrink-swell.	Slight---------	Slight---------	Moderate: droughty.

Table 12.--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
WcC---------- Wicksburg	Moderate: cutbanks cave.	Slight---------	Moderate: shrink-swell.	Moderate: slope.	Slight---------	Moderate: droughty.

Table 13.--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
AeB, AeC:					
Ailey	Severe: percs slowly.	Severe: seepage.	Slight	Slight	Good.
BaB:					
Blanton	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: too sandy.	Severe: seepage.	Poor: too sandy.
BnB:					
Bonifay	Moderate: wetness, percs slowly.	Severe: seepage.	Severe: too sandy.	Severe: seepage.	Poor: too sandy.
CaB2, CaC2:					
Carnegie	Severe: percs slowly.	Moderate: slope.	Moderate: too clayey.	Slight	Fair: too clayey.
CnB:					
Clarendon	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Fair: wetness.
CoB, CtC2:					
Cowarts	Severe: percs slowly.	Moderate: slope.	Moderate: too clayey.	Slight	Fair: too clayey.
CwE:					
Cowarts	Severe: percs slowly, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Poor: slope.
Nankin	Severe: percs slowly, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Poor: slope.
Ailey	Severe: percs slowly, slope.	Severe: seepage, slope.	Severe: slope.	Severe: slope.	Poor: slope.
DoA:					
Dothan	Moderate: wetness, percs slowly.	Moderate: seepage.	Slight	Slight	Good.
DoB, DtC2:					
Dothan	Moderate: wetness, percs slowly.	Moderate: seepage, slope.	Slight	Slight	Good.
EnA:					
Eunola	Severe: flooding, wetness.	Severe: seepage, flooding, wetness.	Severe: flooding, seepage, wetness.	Severe: flooding, wetness.	Fair: too clayey, wetness, thin layer.
FaB, FaC2:					
Faceville	Slight	Moderate: seepage, slope.	Moderate: too clayey.	Slight	Fair: too clayey.
FuB, FuC:					
Fuquay	Moderate: percs slowly, poor filter.	Severe: seepage.	Moderate: too sandy.	Severe: seepage.	Poor: seepage.

Table 13.--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
Gr: Grady	Severe: ponding, percs slowly.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Poor: ponding.
GsA: Greenville	Moderate: percs slowly.	Moderate: seepage.	Moderate: too clayey.	Slight	Fair: too clayey.
GsB, GsC2: Greenville	Moderate: percs slowly.	Moderate: seepage, slope.	Moderate: too clayey.	Slight	Fair: too clayey.
GsD2, GsE: Greenville	Moderate: percs slowly, slope.	Severe: slope.	Moderate: slope, too clayey.	Moderate: slope.	Fair: too clayey, slope.
KB:					
Kinston	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Poor: wetness.
Bibb	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Poor: small stones, wetness.
LaB: Lakeland	Slight	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: seepage, too sandy.
LeB: Leefield	Severe: wetness, percs slowly.	Severe: seepage, wetness.	Severe: wetness.	Severe: seepage, wetness.	Fair: wetness.
LuB: Lucy	Slight	Severe: seepage.	Slight	Severe: seepage.	Fair: too clayey.
MaB: Marlboro	Moderate: percs slowly.	Moderate: seepage, slope.	Moderate: too clayey.	Slight	Fair: too clayey.
NaB, NkC2: Nankin	Severe: percs slowly.	Moderate: seepage, slope.	Moderate: too clayey.	Slight	Fair: too clayey.
OrB: Orangeburg	Slight	Moderate: seepage, slope.	Slight	Slight	Good.
PeA, PeB: Pelham	Severe: wetness.	Severe: seepage, wetness.	Severe: wetness.	Severe: seepage, wetness.	Poor: wetness.
PpA: Pelham	Severe: ponding.	Severe: seepage, ponding.	Severe: ponding.	Severe: seepage, ponding.	Poor: ponding.
Ra: Rains	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Poor: wetness.
ReB: Red Bay	Slight	Moderate: slope.	Slight	Slight	Good.

Table 13.--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
Rg: Rigdon	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Fair: wetness.
Sp: Sapelo	Severe: wetness.	Severe: seepage, wetness.	Severe: wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.
StA: Stilson	Severe: wetness.	Severe: seepage, wetness.	Moderate: wetness.	Severe: seepage.	Fair: wetness.
SuB: Susquehanna	Severe: percs slowly.	Moderate: slope.	Severe: too clayey.	Slight	Poor: too clayey, hard to pack.
SuC: Susquehanna	Severe: percs slowly.	Severe: slope.	Severe: too clayey.	Moderate: slope.	Poor: too clayey, hard to pack.
TC:					
Tawcaw	Severe: flooding, wetness, percs slowly.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding, wetness.	Fair: too clayey, hard to pack, wetness.
Chastain	Severe: flooding, wetness, percs slowly.	Severe: seepage, flooding.	Severe: flooding, seepage, wetness.	Severe: flooding, wetness.	Poor: too clayey, hard to pack, wetness.
TeC: Telfair	Severe: depth to rock, percs slowly, wetness.	Severe: depth to rock.	Severe: depth to rock, too clayey, wetness.	Severe: depth to rock.	Poor: depth to rock, too clayey, hard to pack.
TeD: Telfair	Severe: depth to rock, percs slowly, wetness.	Severe: depth to rock, slope.	Severe: depth to rock, too clayey, wetness.	Severe: depth to rock.	Poor: depth to rock, too clayey, hard to pack.
TfA: Tifton	Moderate: percs slowly, wetness.	Moderate: seepage.	Slight	Slight	Good.
TfB, TnC2: Tifton	Moderate: percs slowly, wetness.	Moderate: slope, seepage.	Slight	Slight	Good.
Ud. Udorthents					
WB:					
Wahee	Severe: flooding, wetness, percs slowly.	Severe: flooding.	Severe: flooding, wetness, too clayey.	Severe: flooding, wetness.	Poor: too clayey, hard to pack, wetness.

Table 13.--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
WB:					
Bethera	Severe: flooding, wetness, percs slowly.	Severe: flooding, wetness.	Severe: flooding, wetness, too clayey.	Severe: flooding, wetness.	Poor: too clayey, hard to pack, wetness.
WcB, WcC Wicksburg	Severe: percs slowly, poor filter.	Severe: seepage.	Moderate: too clayey.	Severe: seepage.	Fair: too clayey, hard to pack.

Table 14.--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
AeB, AeC Ailey	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: too sandy.
BaB Blanton	Fair: wetness.	Probable	Improbable: too sandy.	Poor: too sandy.
BnB Bonifay	Good	Probable	Improbable: too sandy.	Poor: too sandy.
CaB2, CaC2 Carnegie	Fair: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
CnB Clarendon	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey, small stones.
CoB, CtC2 Cowarts	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: thin layer.
CwE:				
Cowarts	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: thin layer, slope.
Nankin	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, slope.
Ailey	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: slope.
DoA, DoB, DtC2 Dothan	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: thin layer.
EnA Eunola	Fair: wetness.	Probable	Improbable: too sandy.	Fair: too clayey, small stones, thin layer.
FaB, FaC2 Faceville	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
FuB, FuC Fuquay	Good	Improbable: thin layer.	Improbable: too sandy.	Fair: too sandy, small stones.
Gr Grady	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, wetness.
GsA, GsB, GsC2, GsD2, GsE Greenville	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.

Table 14.--Construction Materials--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
KB:				
Kinston	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.
Bibb	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim, wetness.
LaB Lakeland	Good	Probable	Improbable: too sandy.	Poor: too sandy.
LeB Leefield	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Fair: too sandy.
LuB Lucy	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: too sandy.
MaB Marlboro	Fair: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
NaB, NkC2 Nankin	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
OrB Orangeburg	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey.
PeA, PeB, PpA Pelham	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.
Ra Rains	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.
ReB Red Bay	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: too sandy, small stones.
Rg Rigdon	Fair: wetness.	Improbable: excess fines.	Improbable: too sandy.	Poor: too sandy.
Sp Sapelo	Poor: wetness.	Improbable: excess fines.	Improbable: too sandy.	Poor: too sandy, wetness.
StA Stilson	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Fair: too sandy.
SuB, SuC Susquehanna	Poor: low strength, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
TC:				
Tawcaw	Fair: low strength, shrink-swell, wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
Chastain	Poor: wetness.	Probable	Improbable: excess fines.	Poor: too clayey, wetness, too acid.

Table 14.--Construction Materials--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
TeC, TeD Telfair	Poor: depth to rock, low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
TfA, TfB, TnC2 Tifton	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones.
Ud. Udorthents				
WB:				
Wahee	Poor: low strength, wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, wetness.
Bethera	Poor: low strength, wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, wetness.
WcB, WcC Wicksburg	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Fair: too sandy.

Table 15.--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	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
AeB, AeC---------- Ailey	Moderate: seepage, slope.	Slight---------	Deep to water	Droughty, percs slowly, slope.	Too sandy, percs slowly.	Droughty, rooting depth.
BaB---------- Blanton	Severe: seepage.	Severe: seepage, piping.	Cutbanks cave	Wetness, droughty.	Wetness, too sandy.	Droughty.
BnB---------- Bonifay	Severe: seepage.	Severe: seepage.	Deep to water	Slope, droughty, fast intake.	Too sandy, soil blowing.	Droughty.
CaB2, CaC2-------- Carnegie	Moderate: slope.	Slight---------	Deep to water	Slope----------	Soil blowing---	Favorable.
CnB---------- Clarendon	Moderate: seepage.	Severe: piping.	Favorable------	Wetness, droughty.	Wetness, soil blowing.	Droughty.
CoB---------- Cowarts	Moderate: seepage, slope.	Severe: piping.	Deep to water	Slope, droughty, fast intake.	Soil blowing, percs slowly.	Droughty, rooting depth.
CtC2---------- Cowarts	Moderate: seepage, slope.	Severe: piping.	Deep to water	Slope, droughty.	Soil blowing, percs slowly.	Droughty, rooting depth.
CwE:						
Cowarts----------	Severe: slope.	Severe: piping.	Deep to water	Slope, droughty, fast intake.	Slope, soil blowing, percs slowly.	Slope, droughty, rooting depth.
Nankin----------	Severe: slope.	Moderate: piping.	Deep to water	Fast intake, slope.	Slope, soil blowing.	Slope.
Ailey----------	Severe: slope.	Slight---------	Deep to water	Droughty, percs slowly, slope.	Slope, too sandy, percs slowly.	Slope, droughty, rooting depth.
DoA---------- Dothan	Moderate: seepage.	Moderate: piping.	Deep to water	Fast intake, droughty.	Favorable------	Favorable.
DoB---------- Dothan	Moderate: seepage, slope.	Moderate: piping.	Deep to water	Fast intake, slope, droughty.	Favorable------	Favorable.
DtC2---------- Dothan	Moderate: seepage, slope.	Moderate: piping.	Deep to water	Slope----------	Favorable------	Favorable.
EnA---------- Eunola	Severe: seepage.	Severe: piping, wetness.	Flooding-------	Wetness, fast intake.	Wetness, soil blowing.	Favorable.

Table 15.--Water Management--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
FaB, FaC2 Faceville	Moderate: seepage, slope.	Slight	Deep to water	Slope	Erodes easily	Erodes easily.
FuB Fuquay	Severe: seepage.	Severe: seepage, piping.	Deep to water	Droughty, fast intake, soil blowing.	Too sandy, soil blowing.	Droughty.
FuC Fuquay	Severe: seepage.	Severe: seepage, piping.	Deep to water	Slope, droughty, fast intake.	Too sandy, soil blowing.	Droughty.
Gr Grady	Slight	Severe: ponding.	Ponding, percs slowly.	Ponding, percs slowly.	Ponding, percs slowly.	Wetness, percs slowly.
GsA Greenville	Moderate: seepage.	Severe: piping.	Deep to water	Favorable	Soil blowing	Favorable.
GsB, GsC2 Greenville	Moderate: seepage, slope.	Severe: piping.	Deep to water	Slope	Soil blowing	Favorable.
GsD2, GsE Greenville	Severe: slope.	Severe: piping.	Deep to water	Slope	Slope, soil blowing.	Slope.
KB:						
Kinston	Moderate: seepage.	Severe: wetness.	Flooding	Wetness, flooding.	Wetness	Wetness.
Bibb	Moderate: seepage.	Severe: piping, wetness.	Flooding	Wetness	Erodes easily, wetness.	Wetness, erodes easily.
LaB Lakeland	Severe: seepage.	Severe: seepage.	Deep to water	Slope, droughty, fast intake.	Too sandy, soil blowing.	Droughty.
LeB Leefield	Moderate: seepage.	Severe: piping, wetness.	Favorable	Wetness, droughty, fast intake.	Wetness, soil blowing.	Droughty.
LuB Lucy	Severe: seepage.	Severe: piping.	Deep to water	Droughty, fast intake, slope.	Too sandy, soil blowing.	Droughty.
MaB Marlboro	Moderate: seepage, slope.	Severe: piping.	Deep to water	Slope, soil blowing.	Favorable	Favorable.
NaB Nankin	Moderate: seepage, slope.	Moderate: piping.	Deep to water	Fast intake, slope.	Soil blowing	Favorable.
NkC2 Nankin	Moderate: seepage, slope.	Moderate: piping.	Deep to water	Slope	Soil blowing	Favorable.
OrB Orangeburg	Moderate: seepage, slope.	Moderate: piping.	Deep to water	Fast intake, slope.	Soil blowing	Favorable.

Table 15.--Water Management--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
PeA, PeB Pelham	Severe: seepage.	Severe: piping, wetness.	Favorable	Fast intake, wetness.	Wetness, soil blowing.	Wetness.
PpA Pelham	Severe: seepage.	Severe: piping, ponding.	Ponding	Ponding, fast intake.	Ponding	Wetness.
Ra Rains	Moderate: seepage.	Severe: piping, wetness.	Favorable	Wetness	Wetness, soil blowing.	Wetness.
ReB Red Bay	Moderate: seepage, slope.	Slight	Deep to water	Fast intake, slope.	Favorable	Favorable.
Rg Rigdon	Moderate: seepage.	Severe: seepage, wetness.	Cutbanks cave	Wetness, droughty, fast intake.	Wetness, too sandy, soil blowing.	Droughty.
Sp Sapelo	Severe: seepage.	Severe: seepage, piping, wetness.	Cutbanks cave	Wetness, droughty, fast intake.	Wetness, too sandy, soil blowing.	Wetness, droughty.
StA Stilson	Moderate: seepage.	Severe: piping.	Favorable	Wetness, droughty.	Wetness, soil blowing.	Droughty.
SuB Susquehanna	Moderate: slope.	Severe: hard to pack.	Deep to water	Percs slowly, slope.	Percs slowly	Percs slowly.
SuC Susquehanna	Severe: slope.	Severe: hard to pack.	Deep to water	Percs slowly, slope.	Slope, percs slowly.	Slope, percs slowly.
TC:						
Tawcaw	Slight	Severe: wetness.	Percs slowly, flooding.	Wetness, percs slowly.	Erodes easily, wetness, percs slowly.	Erodes easily, percs slowly.
Chastain	Severe: seepage.	Severe: hard to pack, wetness.	Percs slowly, flooding, too acid.	Wetness, percs slowly.	Erodes easily, wetness, percs slowly.	Wetness, erodes easily, percs slowly.
TeC Telfair	Moderate: depth to rock, slope.	Severe: hard to pack.	Depth to rock, percs slowly, slope.	Percs slowly, slope.	Depth to rock, percs slowly.	Depth to rock, percs slowly.
TeD Telfair	Severe: slope.	Severe: hard to pack.	Depth to rock, percs slowly, slope.	Percs slowly, slope.	Depth to rock, slope, percs slowly.	Depth to rock, slope, percs slowly.
TfA Tifton	Severe: seepage.	Slight	Deep to water	Fast intake	Favorable	Favorable.
TfB Tifton	Severe: seepage.	Slight	Deep to water	Fast intake, slope.	Favorable	Favorable.
TnC2 Tifton	Severe: seepage.	Slight	Deep to water	Slope	Favorable	Favorable.

Table 15.--Water Management--Continued

Soil name and map symbol	Limitations for-- Pond reservoir areas	Embankments, dikes, and levees	Features affecting-- Drainage	Irrigation	Terraces and diversions	Grassed waterways
Ud. Udorthents						
WB:						
Wahee	Slight	Severe: hard to pack, wetness.	Percs slowly, flooding.	Wetness, soil blowing.	Wetness, soil blowing, percs slowly.	Wetness, percs slowly.
Bethera	Slight	Severe: hard to pack, wetness.	Percs slowly, flooding.	Wetness, percs slowly, flooding.	Wetness, percs slowly.	Wetness, percs slowly.
WcB, WcC Wicksburg	Severe: seepage.	Moderate: piping, hard to pack.	Deep to water	Droughty, fast intake, percs slowly.	Percs slowly	Droughty, percs slowly.

Table 16.--Engineering Index Properties

(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	
AeB, AeC--------- Ailey	0-23	Loamy sand-------	SM, SP-SM	A-2, A-3	85-100	75-100	50-80	5-20	---	NP
	23-38	Sandy loam, sandy clay loam.	SM, SC, SC-SM	A-2, A-4, A-6	90-100	75-100	60-90	30-40	20-40	3-16
	38-51	Sandy loam, sandy clay loam.	SM, SC, SC-SM	A-2, A-4, A-6	90-100	75-100	55-90	20-50	20-40	3-16
	51-65	Coarse sandy loam, sandy loam, sandy clay loam.	SM, SC, SC-SM	A-2, A-4, A-6	85-100	75-100	50-85	15-40	<40	NP-14
BaB---------- Blanton	0-65	Sand----------	SP-SM, SM	A-3, A-2	96-100	90-100	65-100	5-20	---	NP
	65-80	Sandy clay loam, sandy loam, fine sandy loam.	SC, SC-SM, SM	A-4, A-2, A-6, A-7	96-100	95-100	65-100	25-50	14-45	3-22
BnB---------- Bonifay	0-54	Sand----------	SP-SM	A-3, A-2-4	98-100	98-100	60-95	5-12	---	NP
	54-61	Sandy loam, sandy clay loam, fine sandy loam.	SC-SM, SC, SM	A-2-4, A-4, A-2-6, A-6	95-100	90-100	63-95	23-50	<30	NP-12
	61-73	Sandy clay loam, sandy clay.	SC-SM, SC	A-2, A-4, A-6, A-7	95-100	90-100	60-95	30-50	25-45	5-22
CaB2, CaC2------- Carnegie	0-6	Sandy loam-------	SM, SC-SM	A-2	85-100	75-95	51-75	13-30	<25	NP-5
	6-20	Sandy clay, sandy clay loam.	CL	A-6, A-7	95-100	90-99	90-95	65-70	36-49	13-25
	20-40	Sandy clay, clay	CL	A-6, A-7	92-100	90-98	89-98	63-76	36-49	13-25
	40-60	Sandy clay, clay	CL	A-7, A-6	99-100	98-100	90-98	68-79	36-49	13-25
CnB---------- Clarendon	0-16	Loamy sand-------	SM, SP-SM	A-2	98-100	85-100	65-90	10-30	<20	NP-3
	16-28	Sandy clay loam	SC, CL, SC-SM, CL-ML	A-4, A-6	98-100	85-100	75-95	36-55	20-40	5-15
	28-60	Sandy clay loam, sandy loam, sandy clay.	SC, CL, SC-SM, CL-ML	A-2, A-4, A-6	99-100	96-100	80-95	25-55	<40	NP-15
CoB---------- Cowarts	0-6	Loamy sand-------	SM	A-2	90-100	85-100	50-80	13-30	---	NP
	6-15	Fine sandy loam, sandy loam, sandy clay loam.	SC-SM, SC, SM	A-2, A-4, A-6	95-100	90-100	60-95	23-45	20-40	NP-15
	15-29	Sandy clay loam, sandy clay, clay loam.	SM, SC	A-6, A-7, A-2-6	95-100	90-100	60-95	25-50	20-54	5-25
	29-65	Sandy loam, sandy clay loam, clay loam.	SC-SM, SC, CL-ML, CL	A-2, A-4, A-6, A-7	85-100	80-100	60-95	25-58	25-53	5-20
CtC2---------- Cowarts	0-5	Sandy loam-------	SM, SC-SM	A-2, A-4	95-100	90-100	75-90	20-40	<20	NP-5
	5-32	Sandy clay loam, sandy clay, clay loam.	SM, SC	A-6, A-7, A-2-6	95-100	90-100	60-95	25-50	20-54	5-25
	32-65	Sandy loam, sandy clay loam, clay loam.	SC-SM, SC, CL-ML, CL	A-2, A-4, A-6, A-7	85-100	80-100	60-95	25-58	25-53	5-20

Table 16.--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	
CwE:										
Cowarts---------	0-6	Loamy sand-------	SM	A-2	90-100	85-100	50-80	13-30	---	NP
	6-15	Fine sandy loam, sandy loam, sandy clay loam.	SC-SM, SC, SM	A-2, A-4, A-6	95-100	90-100	60-95	23-45	20-40	NP-15
	15-29	Sandy clay loam, sandy clay, clay loam.	SM, SC	A-6, A-7, A-2-6	95-100	90-100	60-95	25-50	20-54	5-25
	29-65	Sandy loam, sandy clay loam, clay loam.	SC-SM, SC, CL-ML, CL	A-2, A-4, A-6, A-7	85-100	80-100	60-95	25-58	25-53	5-20
Nankin----------	0-6	Loamy sand-------	SM, SP-SM	A-2	85-100	85-100	50-85	10-35	---	NP
	6-13	Sandy clay loam, sandy loam.	SC, SM, SC-SM	A-2, A-4, A-6	97-100	95-100	75-90	25-45	20-35	4-15
	13-37	Sandy clay, clay, sandy clay loam.	SC, CL, ML, CL-ML	A-4, A-6, A-7	98-100	95-100	75-95	40-70	25-45	7-20
	37-65	Sandy clay loam, sandy loam.	SC, SC-SM, CL, CL-ML	A-2, A-4, A-6	98-100	95-100	70-85	25-55	20-40	4-16
Ailey----------	0-23	Loamy sand-------	SM, SP-SM	A-2, A-3	85-100	75-100	50-80	5-20	---	NP
	23-38	Sandy loam, sandy clay loam.	SM, SC, SC-SM	A-2, A-4, A-6	90-100	75-100	60-90	30-40	20-40	3-16
	38-51	Sandy loam, sandy clay loam.	SM, SC, SC-SM	A-2, A-4, A-6	90-100	75-100	55-90	20-50	20-40	3-16
	51-65	Coarse sandy loam, sandy loam, sandy clay loam.	SM, SC, SC-SM	A-2, A-4, A-6	85-100	75-100	50-85	15-40	<40	NP-14
DoA, DoB--------- Dothan	0-6	Loamy sand-------	SM	A-2	95-100	92-100	60-80	13-30	---	NP
	6-42	Sandy clay loam, sandy loam, fine sandy loam.	SC-SM, SC, SM	A-2, A-4, A-6	95-100	92-100	60-90	23-49	<40	NP-16
	42-65	Sandy clay loam, sandy clay.	SC-SM, SC, CL-ML, CL	A-2, A-4, A-6, A-7	95-100	92-100	70-95	30-53	25-45	4-23
DtC2---------- Dothan	0-6	Sandy loam-------	SM, SP-SM	A-2, A-4	95-100	92-100	75-90	20-40	<25	NP-5
	6-45	Sandy clay loam, sandy loam, fine sandy loam.	SC-SM, SC, SM	A-2, A-4, A-6	95-100	92-100	60-90	23-49	<40	NP-16
	45-65	Sandy clay loam, sandy clay.	SC-SM, SC, CL-ML, CL	A-2, A-4, A-6, A-7	95-100	92-100	70-95	30-53	25-45	4-23
EnA---------- Eunola	0-19	Loamy sand-------	SM, SP-SM	A-2, A-4, A-2-4	100	98-100	50-80	10-38	---	NP
	19-29	Sandy clay loam, clay loam, sandy loam.	SM, SC, SC-SM, CL	A-4, A-2, A-6	100	90-100	75-95	30-60	<36	NP-15
	29-48	Sandy clay loam, sandy clay, clay loam.	SM, SC, ML, CL	A-4, A-6, A-7	100	98-100	80-95	36-60	22-50	3-26
	48-56	Sandy loam, sandy clay loam, coarse sandy loam.	SM, SC, SC-SM	A-2, A-4	100	98-100	60-70	30-40	<30	NP-10
	56-60	Sand, loamy sand, loamy coarse sand.	SM, SP-SM	A-2, A-3	100	100	50-75	5-30	---	NP

Table 16.--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	
FaB---------- Faceville	0-7	Sandy loam-------	SM, SC-SM	A-2, A-4	90-100	85-100	72-97	17-38	<25	NP-7
	7-10	Sandy clay loam, sandy clay.	SC, ML, CL, SM	A-4, A-6	98-100	90-100	85-98	46-66	<35	NP-13
	10-65	Sandy clay, clay, clay loam.	CL, SC, CH, ML	A-6, A-7	98-100	95-100	75-99	45-72	25-52	11-25
FaC2---------- Faceville	0-4	Sandy loam-------	SM, SC-SM	A-2, A-4	90-100	85-100	72-97	17-38	<25	NP-7
	4-7	Sandy clay loam, sandy clay.	SC, ML, CL, SM	A-4, A-6	98-100	90-100	85-98	46-66	<35	NP-13
	7-65	Sandy clay, clay, clay loam.	CL, SC, CH, ML	A-6, A-7	98-100	95-100	75-99	45-72	25-52	11-25
FuB, FuC--------- Fuquay	0-26	Loamy sand-------	SP-SM, SM	A-2, A-3	95-100	90-100	50-83	5-35	---	NP
	26-33	Sandy loam, fine sandy loam, sandy clay loam.	SM, SC, SC-SM	A-2, A-4, A-6	85-100	85-100	70-90	23-45	<45	NP-13
	33-65	Sandy clay loam	SC, SC-SM, SM	A-2, A-4, A-6, A-7-6	95-100	90-100	58-90	28-49	25-45	4-13
Gr---------- Grady	0-7	Loam----------	ML, CL-ML, CL	A-4, A-6	100	99-100	85-100	50-75	<30	NP-15
	7-17	Clay loam, sandy clay loam, loam.	CL	A-6	100	100	90-100	51-80	25-40	11-20
	17-65	Clay, sandy clay	CL, CH, MH	A-6, A-7	100	100	90-100	55-90	30-51	12-24
GsA, GsB--------- Greenville	0-6	Sandy loam-------	SM, SC, SC-SM, CL-ML	A-2, A-4	95-100	90-100	65-85	25-55	10-25	NP-10
	6-65	Clay loam, sandy clay, clay.	CL, SC, ML	A-6, A-7, A-4	98-100	95-100	80-99	40-80	28-50	7-25
GsC2, GsD2------- Greenville	0-4	Sandy loam-------	SM, SC, SC-SM, CL-ML	A-2, A-4	95-100	90-100	65-85	25-55	10-25	NP-10
	4-65	Clay loam, sandy clay, clay.	CL, SC, ML	A-6, A-7, A-4	98-100	95-100	80-99	40-80	28-50	7-25
GsE---------- Greenville	0-6	Sandy loam-------	SM, SC, SC-SM, CL-ML	A-2, A-4	95-100	90-100	65-85	25-55	10-25	NP-10
	6-65	Clay loam, sandy clay, clay.	CL, SC, ML	A-6, A-7, A-4	98-100	95-100	80-99	40-80	28-50	7-25
KB:										
Kinston---------	0-4	Loam----------	ML, CL, CL-ML	A-4, A-6	100	98-100	85-100	50-97	17-40	4-15
	4-50	Loam, sandy loam, sandy clay loam.	CL	A-4, A-6, A-7	100	95-100	75-100	60-95	20-45	8-22
	50-65	Variable---------	---	---	---	---	---	---	---	---
Bibb----------	0-4	Loam----------	ML, CL-ML	A-4	95-100	90-100	80-90	50-80	<25	NP-7
	4-65	Sandy loam, loam, loamy sand, sand.	SM, SC-SM, ML, CL-ML	A-2, A-4	60-100	50-100	40-100	30-90	<30	NP-7
LaB---------- Lakeland	0-50	Sand----------	SP-SM	A-3, A-2-4	90-100	90-100	60-100	5-12	---	NP
	50-85	Sand, fine sand	SP, SP-SM	A-3, A-2-4	90-100	90-100	50-100	1-12	---	NP

Table 16.--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	
LeB---------- Leefield	0-28	Loamy sand-------	SM, SW-SM, SP-SM	A-2	98-100	95-100	65-95	10-20	---	NP
	28-40	Sandy loam, sandy clay loam.	SC, SM, SC-SM	A-2, A-4, A-6	95-100	93-100	65-95	20-40	<40	NP-16
	40-65	Sandy loam, sandy clay loam.	SC, SM, SC-SM	A-2, A-4, A-6	95-100	95-100	65-90	20-40	<40	NP-20
LuB---------- Lucy	0-22	Loamy sand-------	SM, SP-SM	A-2, A-4	98-100	95-100	50-90	10-40	---	NP
	22-28	Sandy loam, fine sandy loam, sandy clay loam.	SM, SC, SC-SM	A-2, A-4, A-6	97-100	95-100	55-95	15-50	10-30	NP-15
	28-65	Sandy clay loam, clay loam, sandy clay.	SC, SC-SM, SM	A-2, A-6, A-4	100	95-100	60-95	20-50	20-40	3-20
MaB---------- Marlboro	0-5	Sandy loam-------	SM, SC-SM, ML, CL-ML	A-2, A-4	98-100	95-100	75-100	30-60	<35	NP-7
	5-65	Sandy clay, sandy clay loam, clay.	CL, ML, CL-ML	A-4, A-6, A-7	98-100	95-100	78-100	51-70	25-48	6-20
NaB---------- Nankin	0-6	Loamy sand-------	SM, SP-SM	A-2	85-100	85-100	50-85	10-35	---	NP
	6-13	Sandy clay loam, sandy loam.	SC, SM, SC-SM	A-2, A-4, A-6	97-100	95-100	75-90	25-45	20-35	4-15
	13-37	Sandy clay, clay, sandy clay loam.	SC, CL, ML, CL-ML	A-4, A-6, A-7	98-100	95-100	75-95	40-70	25-45	7-20
	37-65	Sandy clay loam, sandy loam.	SC, SC-SM, CL, CL-ML	A-2, A-4, A-6	98-100	95-100	70-85	25-55	20-40	4-16
NkC2---------- Nankin	0-4	Sandy loam-------	SM, SC-SM	A-2, A-4	85-100	85-100	70-90	25-45	<25	NP-4
	4-10	Sandy clay loam, sandy loam.	SC, SM, SC-SM	A-2, A-4, A-6	97-100	95-100	75-90	25-45	20-35	4-15
	10-40	Sandy clay, clay, sandy clay loam.	SC, CL, ML, CL-ML	A-4, A-6, A-7	98-100	95-100	75-95	40-70	25-45	7-20
	40-65	Sandy clay loam, sandy loam.	SC, SC-SM, CL, CL-ML	A-2, A-4, A-6	98-100	95-100	70-85	25-55	20-40	4-16
OrB---------- Orangeburg	0-6	Loamy sand-------	SM	A-2	98-100	95-100	60-87	14-28	---	NP
	6-12	Sandy loam-------	SM	A-2	98-100	95-100	70-96	25-35	<30	NP-4
	12-70	Sandy clay loam, sandy loam.	SC, CL, SM, SC-SM	A-6, A-4	98-100	95-100	71-96	38-58	22-40	3-19
PeA, PeB--------- Pelham	0-36	Loamy sand-------	SM	A-2	100	95-100	75-100	15-30	---	NP
	36-65	Sandy clay loam, sandy loam, fine sandy loam.	SM, SC, SC-SM	A-2, A-4, A-6	100	95-100	65-100	27-50	15-30	2-12
PpA---------- Pelham	0-36	Loamy sand-------	SM	A-2	100	95-100	75-90	15-30	---	NP
	36-65	Sandy clay loam, sandy loam.	SM, SC, SC-SM	A-2, A-4, A-6	100	95-100	65-90	27-50	15-30	2-12
Ra---------- Rains	0-5	Sandy loam-------	SM, ML	A-2, A-4	100	95-100	50-85	25-56	<35	NP-10
	5-45	Fine sandy loam, sandy clay loam, sandy loam.	SC, SC-SM, CL, CL-ML	A-2, A-4, A-6	100	95-100	55-98	30-70	18-40	4-20
	45-65	Sandy clay loam, clay loam, sandy clay.	SC, SC-SM, CL, CL-ML	A-4, A-6, A-7	100	98-100	60-98	36-72	18-45	4-28

Table 16.--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	
ReB---------- Red Bay	0-5	Loamy sand-------	SM	A-2	100	90-100	51-75	15-30	---	NP
	5-9	Sandy loam, sandy clay loam.	SM, SC, SC-SM	A-2, A-4	100	95-100	60-85	15-50	<35	NP-10
	9-70	Sandy clay loam	SC-SM, SC	A-2, A-4, A-6	100	95-100	70-90	24-50	18-40	4-16
Rg---------- Rigdon	0-7	Loamy sand-------	SP-SM, SM	A-3, A-2-4	100	100	75-100	5-15	---	NP
	7-17	Sand, fine sand, loamy sand.	SP-SM, SM	A-3, A-2-4	100	100	75-100	5-15	---	NP
	17-27	Sand, fine sand, loamy sand.	SP-SM, SM	A-3, A-2-4	100	100	75-100	5-15	---	NP
	27-65	Sandy loam, sandy clay loam.	SC, SC-SM	A-2, A-4, A-6	100	100	85-100	30-45	20-38	4-15
Sp---------- Sapelo	0-15	Sand----------	SM, SP, SP-SM	A-2, A-3	100	100	85-100	4-20	---	NP
	15-24	Fine sand, sand, loamy fine sand.	SM, SP-SM	A-2, A-3	100	100	80-100	8-20	---	NP
	24-50	Fine sand, sand	SM, SP, SP-SM	A-2, A-3	100	100	75-100	4-20	---	NP
	50-70	Sandy loam, sandy clay loam, fine sandy loam.	SM, SC, SC-SM	A-2, A-4, A-6	100	100	80-100	20-50	<40	NP-20
StA---------- Stilson	0-26	Loamy sand-------	SM	A-2	94-100	94-100	74-92	15-24	---	NP
	26-36	Sandy loam, sandy clay loam.	SM, SC, SC-SM	A-2, A-6, A-4	89-100	86-100	77-94	25-41	<29	NP-13
	36-65	Sandy loam, sandy clay loam.	SM, SC, SC-SM	A-2, A-6, A-4	96-100	95-100	70-99	25-50	<40	NP-20
SuB, SuC--------- Susquehanna	0-3	Sandy loam-------	ML, SM	A-4	100	100	65-90	40-55	---	NP
	3-65	Clay, silty clay loam, silty clay.	CH	A-7	100	100	88-100	80-98	50-90	28-56
TC:										
Tawcaw----------	0-4	Silty clay loam	CL, CH	A-6, A-7, A-4	100	100	85-100	75-95	28-55	8-26
	4-60	Sandy clay loam, silty clay, clay.	CL, CH	A-6, A-7	100	100	90-100	51-98	30-65	11-33
	60-70	Variable---------	---	---	---	---	---	---	---	---
Chastain--------	0-9	Silty clay loam	ML, CL, CL-ML	A-4, A-6, A-7	100	100	90-100	70-95	23-45	3-18
	9-46	Silty clay, clay loam, clay.	CL, CH, ML, MH	A-6, A-7	100	100	95-100	85-98	35-75	12-40
	46-65	Coarse sandy loam, coarse sand, sand.	SP, SM, SP-SM	A-2, A-3	90-100	85-100	51-90	4-25	---	NP
TeC, TeD--------- Telfair	0-4	Loamy sand-------	SM	A-2	85-100	80-95	60-90	15-30	---	NP
	4-24	Sandy clay, clay	CL, CH	A-7	99-100	98-100	90-98	65-80	44-70	22-41

Table 16.--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	
TfA, TfB--------- Tifton	0-8	Loamy sand-------	SM, SP-SM	A-2	70-97	62-94	53-85	11-27	---	NP
	8-18	Sandy loam, fine sandy loam.	SM, SC-SM	A-2	70-95	56-89	55-89	20-35	<25	NP-7
	18-38	Sandy clay loam	SC, CL	A-2, A-6, A-4	70-98	65-94	60-89	22-53	22-40	8-22
	38-65	Sandy clay loam, sandy clay.	SC, CL	A-2, A-6, A-7, A-4	87-100	80-99	50-94	34-55	24-45	8-23
TnC2---------- Tifton	0-5	Sandy loam-------	SM, SC-SM	A-2	70-95	60-89	55-89	15-30	<20	NP-6
	5-39	Sandy clay loam	SC, CL	A-2, A-6, A-4	70-98	65-94	60-89	22-53	22-40	8-22
	39-65	Sandy clay loam, sandy clay.	SC, CL	A-2, A-6, A-7, A-4	87-100	80-99	50-94	34-55	24-45	8-23
Ud. Udorthents										
WB:										
Wahee----------	0-5	Fine sandy loam	SM, SC-SM	A-2, A-4	100	95-100	50-98	30-50	<28	NP-7
	5-62	Clay, clay loam, sandy clay.	CL, CH	A-6, A-7	100	100	85-100	51-92	38-81	16-54
Bethera---------	0-6	Clay loam--------	CL, CH	A-6, A-7	100	95-100	90-100	70-80	30-55	12-26
	6-60	Clay, clay loam, sandy clay.	CL, CH, ML, MH	A-6, A-7	100	98-100	93-100	55-95	37-55	12-30
WcB, WcC--------- Wicksburg	0-29	Loamy sand-------	SM	A-2	100	90-100	50-80	15-35	---	NP
	29-34	Sandy loam, sandy clay loam.	SC, SC-SM, CL, CL-ML	A-4, A-6	100	98-100	80-100	36-80	<35	NP-15
	34-65	Clay loam, sandy clay, clay.	CL	A-6, A-7	100	98-100	85-100	50-95	35-45	12-20

Table 17.--Physical and Chemical Properties of the Soils

(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
AeB, AeC---------	0-23	5-10	1.35-1.45	6.0-20	0.03-0.05	4.5-6.5	Low----------	0.15	4	<1
Ailey	23-38	15-35	1.55-1.70	0.6-2.0	0.09-0.12	4.5-5.5	Low----------	0.24		
	38-51	18-35	1.70-1.80	0.06-0.2	0.06-0.10	4.5-5.5	Low----------	0.24		
	51-65	15-30	1.80-1.95	0.06-0.2	0.04-0.08	4.5-5.5	Low----------	0.15		
BaB----------	0-65	1-7	1.40-1.65	6.0-20	0.03-0.07	4.5-5.5	Low----------	0.10	5	.5-2
Blanton	65-80	12-30	1.60-1.70	0.6-2.0	0.10-0.15	4.5-5.5	Low----------	0.20		
BnB----------	0-54	3-9	1.35-1.60	6.0-20	0.03-0.08	4.5-5.5	Low----------	0.10	5	.5-2
Bonifay	54-61	15-35	1.60-1.70	0.6-2.0	0.10-0.15	4.5-5.5	Low----------	0.24		
	61-73	20-45	1.60-1.70	0.2-0.6	0.10-0.15	4.5-5.5	Low----------	0.24		
CaB2, CaC2-------	0-6	3-8	1.45-1.65	2.0-6.0	0.05-0.10	4.5-6.0	Low----------	0.28	3	1-2
Carnegie	6-20	36-43	1.40-1.65	0.2-0.6	0.10-0.16	4.5-5.5	Low----------	0.32		
	20-40	36-51	1.40-1.65	0.2-0.6	0.10-0.14	4.5-5.5	Low----------	0.28		
	40-60	36-55	1.40-1.65	0.2-0.6	0.10-0.14	4.5-5.5	Low----------	0.28		
CnB----------	0-16	2-10	1.40-1.60	2.0-6.0	0.08-0.12	4.5-6.5	Low----------	0.15	5	.5-3
Clarendon	16-28	18-35	1.40-1.60	0.6-2.0	0.10-0.15	4.5-5.5	Low----------	0.20		
	28-60	15-40	1.40-1.70	0.2-0.6	0.08-0.12	4.5-5.5	Low----------	0.15		
CoB----------	0-6	3-10	1.30-1.70	2.0-6.0	0.06-0.10	4.5-5.5	Low----------	0.15	4	.5-2
Cowarts	6-15	10-30	1.30-1.50	0.6-2.0	0.10-0.16	4.5-5.5	Low----------	0.28		
	15-29	25-40	1.30-1.50	0.2-2.0	0.10-0.16	4.5-5.5	Low----------	0.28		
	29-65	18-35	1.65-1.80	0.06-0.6	0.10-0.14	4.5-5.5	Low----------	0.24		
CtC2----------	0-5	5-20	1.30-1.65	2.0-6.0	0.08-0.13	4.5-5.5	Low----------	0.24	4	1-3
Cowarts	5-32	25-40	1.30-1.50	0.2-2.0	0.10-0.16	4.5-5.5	Low----------	0.28		
	32-65	18-35	1.65-1.80	0.06-0.6	0.10-0.14	4.5-5.5	Low----------	0.24		
CwE:										
Cowarts---------	0-6	3-10	1.30-1.70	2.0-6.0	0.06-0.10	4.5-5.5	Low----------	0.15	4	.5-2
	6-15	10-30	1.30-1.50	0.6-2.0	0.10-0.16	4.5-5.5	Low----------	0.28		
	15-29	25-40	1.30-1.50	0.2-2.0	0.10-0.16	4.5-5.5	Low----------	0.28		
	29-65	18-35	1.65-1.80	0.06-0.6	0.10-0.14	4.5-5.5	Low----------	0.24		
Nankin----------	0-6	5-12	1.45-1.65	2.0-6.0	0.05-0.10	4.5-5.5	Low----------	0.17	3	.5-1
	6-13	15-35	1.55-1.65	0.6-2.0	0.10-0.15	4.5-5.5	Low----------	0.24		
	13-37	35-50	1.30-1.70	0.2-0.6	0.11-0.16	4.5-5.5	Low----------	0.24		
	37-65	15-35	1.60-1.70	0.6-2.0	0.10-0.15	4.5-5.5	Low----------	0.24		
Ailey----------	0-23	5-10	1.35-1.45	6.0-20	0.03-0.05	4.5-6.5	Low----------	0.15	4	<1
	23-38	15-35	1.55-1.70	0.6-2.0	0.09-0.12	4.5-5.5	Low----------	0.24		
	38-51	18-35	1.70-1.80	0.06-0.2	0.06-0.10	4.5-5.5	Low----------	0.24		
	51-65	15-30	1.80-1.95	0.06-0.2	0.04-0.08	4.5-5.5	Low----------	0.15		
DoA, DoB---------	0-6	5-15	1.30-1.60	2.0-6.0	0.06-0.10	4.5-6.0	Low----------	0.15	5	<.5
Dothan	6-42	18-35	1.40-1.60	0.6-2.0	0.12-0.16	4.5-5.5	Low----------	0.28		
	42-65	18-40	1.45-1.70	0.2-0.6	0.08-0.12	4.5-5.5	Low----------	0.28		
DtC2----------	0-6	10-18	1.30-1.70	2.0-6.0	0.08-0.13	4.5-6.0	Low----------	0.24	5	.5-1
Dothan	6-45	18-35	1.40-1.60	0.6-2.0	0.12-0.16	4.5-5.5	Low----------	0.28		
	45-65	18-40	1.45-1.70	0.2-0.6	0.08-0.12	4.5-5.5	Low----------	0.28		

Table 17.--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
EnA---------- Eunola	0-19	3-11	1.45-1.70	2.0-6.0	0.06-0.11	4.5-5.5	Low----------	0.15	5	.5-2
	19-29	18-35	1.35-1.65	0.6-2.0	0.12-0.17	4.5-5.5	Low----------	0.28		
	29-48	18-45	1.30-1.60	0.6-2.0	0.12-0.16	4.5-5.5	Low----------	0.32		
	48-56	8-25	1.35-1.65	2.0-6.0	0.10-0.16	4.5-5.5	Low----------	0.24		
	56-60	2-11	1.45-1.75	6.0-20	0.02-0.06	4.5-5.5	Low----------	0.20		
FaB---------- Faceville	0-7	5-20	1.40-1.65	6.0-20	0.06-0.09	4.5-5.5	Low----------	0.28	5	.5-2
	7-10	20-36	1.35-1.60	0.6-2.0	0.12-0.15	4.5-5.5	Low----------	0.37		
	10-65	35-55	1.25-1.60	0.6-2.0	0.12-0.18	4.5-5.5	Low----------	0.37		
FaC2---------- Faceville	0-4	5-20	1.40-1.65	6.0-20	0.06-0.09	4.5-5.5	Low----------	0.28	5	.5-2
	4-7	20-36	1.35-1.60	0.6-2.0	0.12-0.15	4.5-5.5	Low----------	0.37		
	7-65	35-55	1.25-1.60	0.6-2.0	0.12-0.18	4.5-5.5	Low----------	0.37		
FuB, FuC--------- Fuquay	0-26	2-10	1.60-1.70	>6.0	0.04-0.09	4.5-6.0	Low----------	0.15	5	.5-2
	26-33	10-35	1.40-1.60	0.6-2.0	0.12-0.15	4.5-5.5	Low----------	0.20		
	33-65	20-35	1.40-1.60	0.06-0.2	0.10-0.13	4.5-5.5	Low----------	0.20		
Gr---------- Grady	0-7	20-30	1.20-1.45	0.6-2.0	0.10-0.18	4.5-5.5	Low----------	0.24	5	1-4
	7-17	20-35	1.40-1.55	0.2-0.6	0.10-0.15	4.5-5.5	Low----------	0.10		
	17-65	45-65	1.50-1.60	0.06-0.2	0.12-0.16	4.5-5.5	Moderate-----	0.10		
GsA, GsB--------- Greenville	0-6	5-20	1.30-1.65	0.6-6.0	0.07-0.14	4.5-6.0	Low----------	0.24	5	.5-2
	6-65	35-55	1.35-1.55	0.6-2.0	0.14-0.18	4.5-5.5	Low----------	0.17		
GsC2, GsD2------- Greenville	0-4	5-20	1.30-1.65	0.6-6.0	0.07-0.14	4.5-6.0	Low----------	0.24	5	.5-2
	4-65	35-55	1.35-1.55	0.6-2.0	0.14-0.18	4.5-5.5	Low----------	0.17		
GsE---------- Greenville	0-6	5-20	1.30-1.65	0.6-6.0	0.07-0.14	4.5-6.0	Low----------	0.24	5	.5-2
	6-65	35-55	1.35-1.55	0.6-2.0	0.14-0.18	4.5-5.5	Low----------	0.17		
KB:										
Kinston---------	0-4	5-27	1.30-1.50	0.6-2.0	0.14-0.20	4.5-5.5	Low----------	0.37	5	2-5
	4-50	18-35	1.30-1.50	0.6-2.0	0.14-0.18	4.5-5.5	Low----------	0.32		
	50-65	---	---	---	---	---	----------	----		
Bibb----------	0-4	2-18	1.40-1.65	0.6-2.0	0.15-0.20	4.5-5.5	Low----------	0.28	5	1-3
	4-65	2-18	1.45-1.75	0.6-2.0	0.10-0.20	4.5-5.5	Low----------	0.37		
LaB---------- Lakeland	0-50	2-8	1.35-1.65	6.0-20	0.05-0.09	4.5-6.0	Low----------	0.10	5	.5-1
	50-85	1-6	1.50-1.60	6.0-20	0.02-0.08	4.5-5.5	Low----------	0.10		
LeB---------- Leefield	0-28	3-10	1.45-1.60	6.0-20	0.04-0.07	4.5-6.0	Low----------	0.10	5	1-2
	28-40	15-25	1.50-1.65	0.6-2.0	0.10-0.13	4.5-5.0	Low----------	0.15		
	40-65	15-30	1.50-1.70	0.2-0.6	0.08-0.12	4.5-5.0	Low----------	0.10		
LuB---------- Lucy	0-22	1-12	1.30-1.70	6.0-20	0.08-0.12	4.5-6.0	Low----------	0.10	5	.5-1
	22-28	10-30	1.40-1.60	2.0-6.0	0.10-0.12	4.5-5.5	Low----------	0.24		
	28-65	20-45	1.40-1.60	0.6-2.0	0.12-0.14	4.5-5.5	Low----------	0.28		
MaB---------- Marlboro	0-5	5-20	1.30-1.60	2.0-6.0	0.09-0.14	5.1-6.5	Low----------	0.20	5	.5-2
	5-65	35-65	1.20-1.50	0.6-2.0	0.14-0.18	4.5-6.0	Low----------	0.20		
NaB---------- Nankin	0-6	5-12	1.45-1.65	2.0-6.0	0.05-0.10	4.5-5.5	Low----------	0.17	3	.5-1
	6-13	15-35	1.55-1.65	0.6-2.0	0.10-0.15	4.5-5.5	Low----------	0.24		
	13-37	35-50	1.30-1.70	0.2-0.6	0.11-0.16	4.5-5.5	Low----------	0.24		
	37-65	15-35	1.60-1.70	0.6-2.0	0.10-0.15	4.5-5.5	Low----------	0.24		

Table 17.--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
NkC2---------- Nankin	0-4	7-20	1.45-1.55	2.0-6.0	0.08-0.12	4.5-5.5	Low----------	0.28	3	.5-1
	4-10	15-35	1.55-1.65	0.6-2.0	0.10-0.15	4.5-5.5	Low----------	0.24		
	10-40	35-50	1.30-1.70	0.2-0.6	0.11-0.16	4.5-5.5	Low----------	0.24		
	40-65	15-35	1.60-1.70	0.6-2.0	0.10-0.15	4.5-5.5	Low----------	0.24		
OrB---------- Orangeburg	0-6	4-10	1.35-1.55	2.0-6.0	0.06-0.09	4.5-6.0	Low----------	0.10	5	.5-1
	6-12	7-18	1.50-1.65	2.0-6.0	0.09-0.12	4.5-5.5	Low----------	0.20		
	12-70	18-35	1.60-1.75	0.6-2.0	0.11-0.14	4.5-5.5	Low----------	0.24		
PeA, PeB, PpA---- Pelham	0-36	5-10	1.50-1.70	6.0-20	0.05-0.08	4.5-5.5	Low----------	0.10	5	1-2
	36-65	15-30	1.30-1.60	0.6-2.0	0.10-0.13	4.5-5.5	Low----------	0.24		
Ra---------- Rains	0-5	5-20	1.30-1.60	2.0-6.0	0.10-0.14	4.5-6.5	Low----------	0.20	5	1-6
	5-45	18-35	1.30-1.60	0.6-2.0	0.11-0.15	4.5-5.5	Low----------	0.24		
	45-65	18-40	1.30-1.50	0.6-2.0	0.10-0.15	4.5-5.5	Low----------	0.28		
ReB---------- Red Bay	0-5	4-12	1.45-1.60	6.0-20	0.06-0.11	4.5-6.0	Low----------	0.15	5	<2
	5-9	10-25	1.30-1.60	0.6-6.0	0.10-0.14	4.5-5.5	Low----------	0.15		
	9-70	18-35	1.30-1.50	0.6-2.0	0.12-0.17	4.5-5.5	Low----------	0.17		
Rg---------- Rigdon	0-7	1-8	1.10-1.40	6.0-20	0.05-0.10	4.5-5.5	Low----------	0.10	5	2-4
	7-17	2-8	1.35-1.65	0.6-2.0	0.10-0.15	4.5-5.5	Low----------	0.15		
	17-27	2-8	1.35-1.50	6.0-20	0.03-0.08	4.5-5.5	Low----------	0.10		
	27-65	15-35	1.45-1.65	0.6-2.0	0.10-0.15	4.5-5.5	Low----------	0.20		
Sp---------- Sapelo	0-15	2-5	1.40-1.65	6.0-20	0.03-0.07	4.5-5.5	Low----------	0.10	5	1-3
	15-24	3-7	1.35-1.60	0.6-2.0	0.10-0.15	4.5-5.5	Low----------	0.15		
	24-50	3-6	1.50-1.70	6.0-20	0.03-0.07	4.5-5.5	Low----------	0.17		
	50-70	10-30	1.55-1.75	0.2-2.0	0.12-0.17	4.5-5.5	Low----------	0.24		
StA---------- Stilson	0-26	3-8	1.35-1.60	6.0-20	0.06-0.09	4.5-5.5	Low----------	0.10	5	.5-1
	26-36	15-30	1.40-1.60	0.6-2.0	0.09-0.12	4.5-5.5	Low----------	0.24		
	36-65	15-35	1.40-1.60	0.6-2.0	0.08-0.10	4.5-5.5	Low----------	0.17		
SuB, SuC--------- Susquehanna	0-3	2-12	1.50-1.55	0.6-2.0	0.10-0.15	4.5-5.5	Low----------	0.28	5	.5-2
	3-65	35-60	1.25-1.50	<0.06	0.15-0.20	4.5-5.5	High---------	0.32		
TC:										
Tawcaw----------	0-4	30-40	1.20-1.40	0.06-0.6	0.12-0.18	4.5-6.5	Moderate-----	0.28	5	1-5
	4-60	35-70	1.30-1.60	0.06-0.2	0.12-0.16	4.5-6.5	Moderate-----	0.37		
	60-70	---	---	---	---	---	----------	----		
Chastain--------	0-9	15-35	1.20-1.40	0.2-0.6	0.12-0.18	4.5-5.5	Moderate-----	0.32	4	1-6
	9-46	35-60	1.30-1.50	0.06-0.2	0.12-0.16	4.5-5.5	Moderate-----	0.37		
	46-65	2-10	1.50-1.70	6.0-20	0.03-0.06	5.6-6.0	Low----------	0.10		
TeC, TeD--------- Telfair	0-4	3-12	1.40-1.70	2.0-6.0	0.06-0.10	4.5-5.5	Low----------	0.15	3	.5-1
	4-24	35-60	1.55-1.70	<0.06	0.12-0.18	4.5-5.5	Moderate-----	0.32		
TfA, TfB--------- Tifton	0-8	3-8	1.30-1.55	6.0-20	0.03-0.08	4.5-6.0	Low----------	0.10	4	<1
	8-18	13-22	1.45-1.65	6.0-20	0.08-0.12	4.5-5.5	Low----------	0.24		
	18-38	20-35	1.50-1.70	0.6-2.0	0.12-0.16	4.5-5.5	Low----------	0.24		
	38-65	25-40	1.55-1.80	0.2-0.6	0.10-0.13	4.5-5.5	Low----------	0.17		
TnC2---------- Tifton	0-5	10-20	1.30-1.50	6.0-20	0.06-0.10	4.5-6.0	Low----------	0.17	4	1-2
	5-39	20-35	1.50-1.70	0.6-2.0	0.12-0.16	4.5-5.5	Low----------	0.24		
	39-65	25-40	1.55-1.80	0.2-0.6	0.10-0.13	4.5-5.5	Low----------	0.17		
Ud. Udorthents										

Table 17.--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
WB:										
Wahee----------	0-5	5-20	1.30-1.60	0.6-2.0	0.10-0.15	4.5-6.0	Low----------	0.24	5	.5-5
	5-62	35-70	1.40-1.60	0.06-0.2	0.12-0.20	4.5-6.0	Moderate-----	0.28		
Bethera---------	0-6	27-35	1.20-1.50	0.6-2.0	0.11-0.16	3.6-5.5	Moderate-----	0.28	5	1-6
	6-60	35-50	1.10-1.50	0.06-0.6	0.14-0.18	3.6-5.5	Moderate-----	0.32		
WcB, WcC---------	0-29	4-12	1.30-1.70	6.0-20	0.05-0.11	4.5-5.5	Low----------	0.10	5	<1
Wicksburg	29-34	25-40	1.40-1.60	0.06-2.0	0.12-0.18	4.5-5.5	Low----------	0.20		
	34-65	35-45	1.30-1.50	0.06-0.2	0.14-0.18	4.5-5.5	Moderate-----	0.24		

Table 18.--Soil and Water Features

("Flooding" and "water table" and terms such as "occasional," "brief," "apparent," and "perched" are explained in the text. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

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	Bedrock: Depth	Bedrock: Hard-ness	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
					Ft			In			
AeB, AeC---------- Ailey	B	None--------	---	---	>6.0	---	---	>60	---	Moderate	Moderate.
BaB---------- Blanton	B	None--------	---	---	2.5-4.0	Perched	Mar-Aug	>60	---	High-----	High.
BnB---------- Bonifay	A	None--------	---	---	4.0-5.0	Perched	Jan-Feb	>60	---	Low------	High.
CaB2, CaC2-------- Carnegie	C	None--------	---	---	>6.0	---	---	>60	---	Low------	Moderate.
CnB---------- Clarendon	C	None--------	---	---	2.0-3.0	Apparent	Dec-Mar	>60	---	Moderate	High.
CoB, CtC2--------- Cowarts	C	None--------	---	---	>6.0	---	---	>60	---	Moderate	Moderate.
CwE:											
Cowarts----------	C	None--------	---	---	>6.0	---	---	>60	---	Moderate	Moderate.
Nankin----------	C	None--------	---	---	>6.0	---	---	>60	---	High-----	High.
Ailey----------	B	None--------	---	---	>6.0	---	---	>60	---	Moderate	Moderate.
DoA, DoB, DtC2---- Dothan	B	None--------	---	---	3.0-5.0	Perched	Jan-Apr	>60	---	Moderate	Moderate.
EnA---------- Eunola	C	Occasional	Very brief	Dec-Apr	1.5-2.5	Apparent	Nov-Mar	>60	---	Low------	High.
FaB, FaC2--------- Faceville	B	None--------	---	---	>6.0	---	---	>60	---	Low------	Moderate.
FuB, FuC---------- Fuquay	B	None--------	---	---	4.0-6.0	Perched	Jan-Mar	>60	---	Low------	High.
Gr---------- Grady	D	None--------	---	---	+2-1.0	Apparent	Dec-Jun	>60	---	High-----	High.
GsA, GsB, GsC2, GsD2, GsE-------- Greenville	B	None--------	---	---	>6.0	---	---	>60	---	Moderate	High.
KB:											
Kinston----------	B/D	Frequent----	Brief to long.	Nov-Jun	0-1.0	Apparent	Nov-Jun	>60	---	High-----	High.
Bibb----------	D	Frequent----	Brief to long.	Nov-Jun	0.5-1.0	Apparent	Dec-Apr	>60	---	High-----	Moderate.
LaB---------- Lakeland	A	None--------	---	---	>6.0	---	---	>60	---	Low------	Moderate.
LeB---------- Leefield	C	None--------	---	---	1.5-2.5	Apparent	Dec-Mar	>60	---	Moderate	High.

Table 18.--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	Bedrock: Depth	Bedrock: Hard-ness	Risk of corrosion: Uncoated steel	Risk of corrosion: Concrete
					Ft			In			
LuB---------- Lucy	A	None--------	---	---	>6.0	---	---	>60	---	Low------	High.
MaB---------- Marlboro	B	None--------	---	---	>6.0	---	---	>60	---	High-----	High.
NaB, NkC2--------- Nankin	C	None--------	---	---	>6.0	---	---	>60	---	High-----	High.
OrB---------- Orangeburg	B	None--------	---	---	>6.0	---	---	>60	---	Moderate	Moderate.
PeA---------- Pelham	B/D	None--------	---	---	0-1.0	Apparent	Jan-Apr	>60	---	High-----	High.
PeB---------- Pelham	B/D	None--------	---	---	1.0-1.5	Apparent	Jan-Apr	>60	---	High-----	High.
PpA---------- Pelham	B/D	None--------	---	---	+1-1.0	Apparent	Jan-Apr	>60	---	High-----	High.
Ra---------- Rains	B/D	None--------	---	---	0-1.0	Apparent	Nov-Apr	>60	---	High-----	High.
ReB---------- Red Bay	B	None--------	---	---	>6.0	---	---	>60	---	Moderate	Moderate.
Rg---------- Rigdon	C	None--------	---	---	1.5-2.5	Apparent	Feb-Jul	>60	---	High-----	High.
Sp---------- Sapelo	D	None--------	---	---	0.5-1.5	Apparent	Nov-Apr	>60	---	High-----	High.
StA---------- Stilson	B	None--------	---	---	2.5-3.0	Apparent	Dec-Apr	>60	---	Moderate	High.
SuB, SuC---------- Susquehanna	D	None--------	---	---	>6.0	---	---	>60	---	High-----	High.
TC:											
Tawcaw----------	C	Frequent----	Long------	Nov-Jun	1.5-2.5	Apparent	Nov-Apr	>60	---	High-----	High.
Chastain---------	D	Frequent----	Very long	Nov-Jun	0-1.0	Apparent	Nov-May	>60	---	High-----	High.
TeC, TeD---------- Telfair	C	None--------	---	---	1.0-3.0	Perched	Dec-Mar	20-40	Soft	High-----	High.
TfA, TfB, TnC2---- Tifton	B	None--------	---	---	3.5-6.0	Perched	Jan-Feb	>60	---	Low------	Moderate.
Ud. Udorthents											
WB:											
Wahee----------	D	Occasional	Very brief to brief.	Dec-Apr	0.5-1.5	Apparent	Dec-Mar	>60	---	High-----	High.
Bethera----------	D	Occasional	Brief to long.	Dec-Apr	0-1.5	Apparent	Dec-Apr	>60	---	High-----	High.
WcB, WcC---------- Wicksburg	B	None--------	---	---	>6.0	---	---	>60	---	High-----	High.

Table 19.--Classification of the Soils

Soil name	Family or higher taxonomic class
Ailey	Loamy, siliceous, thermic Arenic Kanhapludults
Bethera	Clayey, mixed, thermic Typic Paleaquults
Bibb	Coarse-loamy, siliceous, acid, thermic Typic Fluvaquents
Blanton	Loamy, siliceous, thermic Grossarenic Paleudults
Bonifay	Loamy, siliceous, thermic Grossarenic Plinthic Paleudults
Carnegie	Clayey, kaolinitic, thermic Plinthic Kandiudults
Chastain	Fine, mixed, acid, thermic Typic Fluvaquents
Clarendon	Fine-loamy, siliceous, thermic Plinthaquic Paleudults
Cowarts	Fine-loamy, siliceous, thermic Typic Kanhapludults
Dothan	Fine-loamy, siliceous, thermic Plinthic Kandiudults
Eunola	Fine-loamy, siliceous, thermic Aquic Hapludults
Faceville	Clayey, kaolinitic, thermic Typic Kandiudults
Fuquay	Loamy, siliceous, thermic Arenic Plinthic Kandiudults
Grady	Clayey, kaolinitic, thermic Typic Paleaquults
Greenville	Clayey, kaolinitic, thermic Rhodic Kandiudults
Kinston	Fine-loamy, siliceous, acid, thermic Typic Fluvaquents
Lakeland	Thermic, coated Typic Quartzipsamments
Leefield	Loamy, siliceous, thermic Arenic Plinthaquic Paleudults
Lucy	Loamy, siliceous, thermic Arenic Kandiudults
Marlboro	Clayey, kaolinitic, thermic Typic Paleudults
Nankin	Clayey, kaolinitic, thermic Typic Kanhapludults
Orangeburg	Fine-loamy, siliceous, thermic Typic Kandiudults
Pelham	Loamy, siliceous, thermic Arenic Paleaquults
Rains	Fine-loamy, siliceous, thermic Typic Paleaquults
Red Bay	Fine-loamy, siliceous, thermic Rhodic Kandiudults
Rigdon	Sandy, siliceous, thermic Ultic Haplohumods
Sapelo	Sandy, siliceous, thermic Ultic Alaquods
Stilson	Loamy, siliceous, thermic Arenic Plinthic Paleudults
Susquehanna	Fine, montmorillonitic, thermic Vertic Paleudalfs
Tawcaw	Fine, kaolinitic, thermic Fluvaquentic Dystrochrepts
Telfair	Clayey, mixed, thermic Aquic Hapludults
Tifton	Fine-loamy, siliceous, thermic Plinthic Kandiudults
Wahee	Clayey, mixed, thermic Aeric Endoaquults
Wicksburg	Clayey, kaolinitic, thermic Arenic Paleudults