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 Pulaski and Wilcox Counties, Georgia

How to Use This Soil Survey

General Soil Map

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

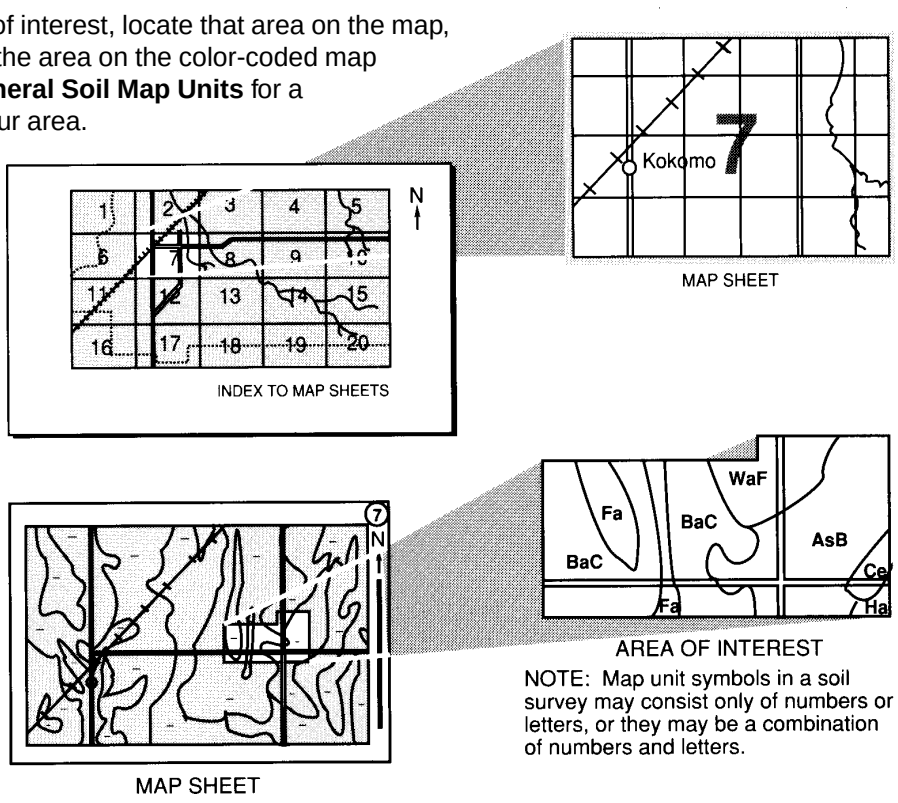
To find information about your area of interest, locate that area on the map, identify the name of the map unit in the area on the color-coded map legend, then refer to the section **General Soil Map Units** for a general description of the soils in your area.

Detailed Soil Maps

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

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

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



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

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey.

Major fieldwork for this soil survey was completed in 1993. Soil names and descriptions were approved in 1994. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1993. 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 Ocmulgee River Soil and Water Conservation District.

Cover: Cotton growing in an area of Dothan loamy sand, 2 to 5 percent slopes. This soil is well suited to cultivated crops.

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

Contents

Foreword

This soil survey contains information that affects land use planning in this survey area. It contains predictions of soil behavior for selected land uses. The survey also highlights soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

This soil survey is designed for many different users. Farmers, foresters, and agronomists can use it to evaluate the suitability 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.

Earl Cosby
State Conservationist
Natural Resources Conservation Service

Soil Survey of
Pulaski and Wilcox Counties, Georgia

By Jerry A. Pilkinton, Natural Resources Conservation Service

Fieldwork by Jerry A. Pilkinton, T. Scott Moore, and Ernest H. Smith, Natural Resources Conservation Service

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

PULASKI AND WILCOX COUNTIES are in the south-central part of Georgia (fig. 1). They have a combined land area of 633 square miles, or 405,300 acres. Pulaski County is 159,900 acres, or 250 square miles; Hawkinsville is the county seat. Wilcox County is 245,400 acres, or 383 square miles; Abbeville is the county seat. In 1990, Pulaski County had a population of 8,108 and Wilcox County had a population of 7,008. About half of the population of Pulaski County and about 65 percent of the population of Wilcox County live in rural areas (University of Georgia, 1989). Both counties are mainly agricultural. Farming and associated agriculture-related enterprises are the chief industries.

Elevation ranges from 450 feet above sea level in the southwest corner of Wilcox County to 360 feet in the northeastern part of Pulaski County and to 150 feet along the Ocmulgee River in the southeast corner of Wilcox County.

Pulaski and Wilcox Counties are in the Southern Coastal Plain Major Land Resource Area. Most of the survey area is drained by the Ocmulgee River and its major tributaries, which are Bluff, Brushy, Cedar, Folsom, House, Mosquito, Ten Mile, and Tucsawhatchee Creeks. The southwestern part of Wilcox County is drained by the upper reaches of the Alapaha River and its small creeks and drains. Numerous small, intermittent drainageways and branches dissect the landscape of the survey area. Many of the major tributaries are intermittent.

The soils in the survey area are mainly on uplands that consist of narrow to broad, round topped to smooth ridges and smooth to gently rolling, convex hillsides. Slopes on ridges are mostly very gently

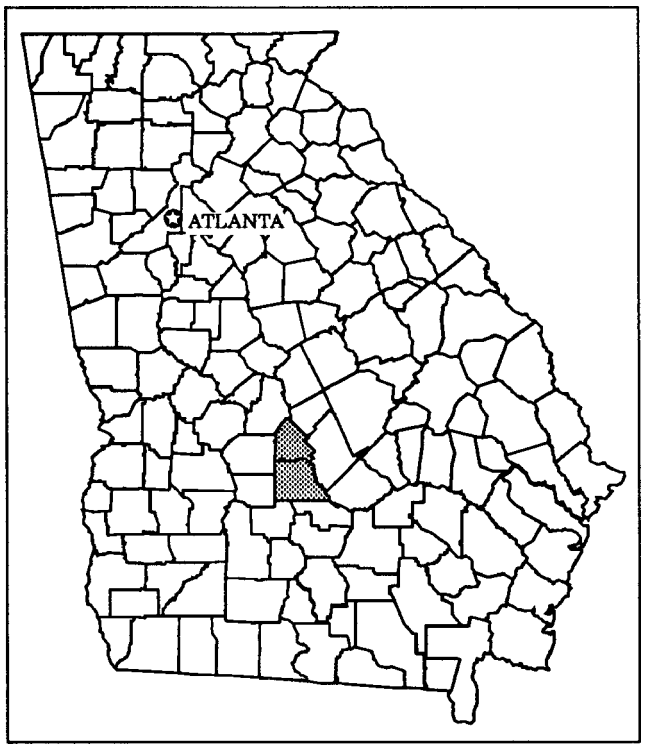

Figure 1.—Location of Pulaski and Wilcox Counties in Georgia.

sloping to strongly sloping. Most of the soils on uplands are well drained, have a sandy surface layer or sandy surface and subsurface layers, and have a loamy subsoil. Well drained soils that have a loamy surface layer and a clayey subsoil are common in the northern third of Pulaski County. Some of the soils on uplands are deep, excessively drained or somewhat excessively drained sand.

Smooth upland flats, low-lying areas, drainageways, and depressions dissect the uplands. Soils in these areas are nearly level. The soils at the slightly lower elevations are mainly poorly drained; some, however, are moderately well drained. The soils at the slightly lower elevations have a sandy or loamy surface layer or sandy surface and subsurface layers and have a loamy or clayey subsoil.

The soils along streams are nearly level and are mainly poorly drained or, less commonly, moderately well drained. In most places, the surface layer is sandy or loamy and the subsoil is loamy or clayey.

Most of the well drained, level or very gently sloping, less sandy and more friable soils on uplands are mainly used for field crops; less commonly these soils are used for woodland or pasture. The other soils in the survey area are mainly used for woodland or pasture.

The first soil survey of Pulaski County was published by the U.S. Department of Agriculture in 1918 (USDA, 1918). This survey updates the 1918 survey, provides more detailed soil maps on aerial photography, and contains more interpretive information. No previous soil survey has been published for Wilcox County.

General Nature of the Survey Area

This section provides general information about the history, transportation, climate, geology, water resources, and farming in Pulaski and Wilcox Counties.

History

Pulaski County was created from Laurens County in 1808 and was 36th of Georgia's 159 counties in order of organization. It was named in honor of Count Casimir Pulaski of Poland, who was killed fighting for colonial freedom during the American Revolution. Hartford, the first settlement, was the county seat from 1808 to 1838. In 1838, the county seat was moved across the Ocmulgee River to Hawkinsville (DAR, 1957).

Wilcox County was created from parts of Dooly, Irwin, and Pulaski Counties in 1857 and was 124th in order of organization. It was named in honor of Captain John Wilcox, an early settler. The county seat has always been Abbeville (McDonald, 1920).

Transportation

A network of major State and Federal highways serves the area. Interstate Highway 75 is about 20 miles west of each of the county seats. One railroad crosses Wilcox County through Rochelle and Abbeville, and another serves the Hawkinsville area in Pulaski County.

Climate

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

Table 1 gives data on temperature and precipitation for the survey area as recorded at Hawkinsville, 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 length of the growing season. The climate tables were created from data recorded at Hawkinsville. Information in this section regarding frequency of thunderstorms, relative humidity, percent sunshine, and wind velocity is estimated from data recorded at Macon, Georgia.

In winter, the average temperature is 47.7 degrees F and the average daily minimum temperature is 34.5 degrees. The lowest temperature on record, which occurred on January 21, 1985, is -2 degrees. In summer, the average temperature is 79.9 degrees and the average daily maximum temperature is 92.1 degrees. The highest recorded temperature, which occurred at Hawkinsville on June 29, 1931, is 107 degrees.

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

The total annual precipitation is about 45.7 inches. Of this, 24.8 inches, or about 54 percent, usually falls in April through October. The growing season for most crops falls within this period. The heaviest 1-day rainfall during the period of record was 7.85 inches at Hawkinsville on January 19, 1943. Thunderstorms occur on about 55 days each year, and most occur in July.

The average seasonal snowfall is about 0.6 inch. The greatest snow depth at any one time during the

period of record was 14 inches recorded on February 10, 1973. On the average, less than 1 day of the year has at least 1 inch of snow on the ground. The number of such days varies from year to year. The heaviest 1-day snowfall on record was 14 inches on February 10, 1973.

The average relative humidity in midafternoon is about 54 percent. Humidity is higher at night, and the average at dawn is about 87 percent. The sun shines 70 percent of the time possible in summer and 59 percent in winter. The prevailing wind is from the west-northwest. Average windspeed is highest, 9.1 miles per hour, in March.

Geology

Willaim R. Fulmer, geologist, Natural Resources Conservation Service, prepared this section.

The eastern parts of Pulaski and Wilcox Counties lie principally in the Vidalia Upland physiographic district. The western part of Pulaski County is in the Fall Line Hills district, and the western part of Wilcox County is in the Tifton Upland. The typical terrain in the Vidalia and Tifton Uplands is moderately dissected with well developed dendritic stream systems. Flood plains are narrow, except along the major rivers. Interstream narrow, rounded ridges rise 50 to 200 feet above the valley floor. The Fall Line Hills district is highly dissected and has few level areas, except for the marshy flood plains and the better drained, narrow stream terraces along the flood plains. Stream valleys lie 50 to 250 feet below the adjacent ridgetops.

Pulaski and Wilcox Counties are in the Southern Coastal Plain Major Land Resource Area. Parent materials of the soils in this 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 parent materials of the surface soils are predominantly Miocene aged in much of Wilcox County and on the ridges and interstream caps (primarily east and west of Hawkinsville) in Pulaski County. These sediments belong to the Hawthorne Group, formerly named “Neogene undifferentiated,” which underlies about three-quarters of the Coastal Plain and is one of the most widespread geologic units in the state. Common to the formation is tan, brown, and red sand, clay, and gravel, characteristically bleached to light tan at the surface. Well rounded pebbles of vein quartz are common at the base of the formation just above the contact with the underlying Flint River Formation (Suwannee Limestone). The sandy surface of the Hawthorne Group gives rise to the Tifton soil series, which consists of yellow to gray soils containing many hard, ferruginous concretions. Dothan and Fuquay soil are related soils that are common to the ridges and lower slopes.

The Flint River Formation, which is Oligocene aged, is at or near the surface in an area including Hawkinsville and extending south toward the northern part of Wilcox County. This formation consists of limonite, hematite, and geothite; iron-cemented sandstone; and varicolored clay and sand. It also contained significant limestone bedding, but historic ground water 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. The 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 Greenville, Faceville, and Orangeburg soils, which are moderately permeable, clayey to loamy soils that formed on uplands and have slight to moderate slopes (Huddleston, 1988; Lawon and Marsalis, 1976; Pickering, 1970; and Georgia Department of Natural Resources, 1976).

Water Resources

The Ocmulgee River and its major tributary creeks provide water for irrigation in Pulaski and Wilcox Counties. Some of the tributaries, however, are intermittent and are not dependable during prolonged droughts. The Alapaha River and its tributaries are also intermittent. Small constructed ponds are common. They supply water for irrigation and livestock and are used for recreation.

Small-diameter wells, commonly 150 to 250 feet deep, supply adequate water for domestic use. Wells drilled for public, industrial, and irrigation use are commonly 8 to 12 inches in diameter, 400 to 700 feet deep, and yield 300 to 1,000 gallons of water per minute.

Farming

Subsistence crops grown by the early settlers in Pulaski and Wilcox Counties were mainly corn, oats, rye, and wheat. Cattle and hogs grazed in open woods. After the War Between the States, the farmers urgently needed a cash crop to rebuild their farming operations. Cotton was selected and became the main crop until about 1916. At that time, the boll weevil caused serious problems for cotton production and corn and peanuts became the main crops. After World

War II, improved pesticides became available for control of the boll weevil and other insects and cotton again became an important cash crop. The Boll Weevil Eradication Program, which started in the 1980's, and market demands have caused cotton to rank high among the current crops in Pulaski and Wilcox Counties.

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.

Conservationists noted a definite need to protect the land against depletion. The enactment of legislation regarding soil conservation districts in 1937 by the State of Georgia was supported by the leading farmers in Pulaski and Wilcox Counties. The Ocmulgee River Soil and Water Conservation District was organized on February 10, 1938. Pulaski and Wilcox Counties were two of the eight counties originally in the district. Farmers in Pulaski and Wilcox Counties recognized the need for soil conservation to prevent soil erosion and to improve or maintain soil fertility. They began using terraces, grassed waterways, improved pastures, and ponds to control erosion and increase productivity. They used the soil according to its capability and treated it in accordance with the needs of the crop. The soil survey maps made by the Soil Conservation Service, and later the Natural Resources Conservation Service, became the basis for determining the capability of each soil. Grass or trees were planted in many areas of sloping soils in severely eroded fields that had been previously cultivated.

In the 1960's and early 1970's, public concern about the productive capacity of American agriculture prompted a national inventory of important farmlands. The best available soils in Pulaski and Wilcox Counties for producing food, feed, forage, fiber, and oilseed crops are identified in the section "Important Farmland."

In 1964, the number of farms in Pulaski County was 299 and the number in Wilcox County was 466. By 1987, the number of farms in Pulaski County had dropped to 163. The farms had an average size of 530 acres and made up 54 percent of the county. The county had 38,844 acres of harvested cropland. The number of farms in Wilcox County in 1987 was 274. The farms had an average size of 419 acres and made up 47 percent of the county. The county had 45,971 acres of harvested cropland.

Many of the soils in both counties are well suited to sprinkler irrigation. In 1989, Pulaski County had 26,076 irrigated acres and Wilcox County had 29,512. Peanuts, corn, soybeans, and cotton were the main irrigated crops.

How This Survey Was Made

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

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

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

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots,

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

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

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

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

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.

The soils in the survey area differ in suitability for major land uses. In this section, each map unit description includes a rating of the visual elements of landform, water, vegetation or land use, and structures. The units are classified as having a low or moderate degree of visual diversity, which is a value rating of landscape elements and their pattern within a frame of reference developed for a local geographic area. Visual diversity can be used in conservation planning and in establishing a desirable continuity of landscape elements. The extent of the units and their components are identified and described. The main management concerns and soil properties that limit land use are specified. Suitability or degree of limitation are given for common uses.

Soils in Pulaski County

1. Tifton-Dothan-Nankin

Well drained soils that have a sandy surface layer and a loamy or clayey subsoil

Setting

Landscape characterization: Nearly level to moderately steep, well drained soils on broad ridges and narrow hillslopes
Slope: 0 to 15 percent
Hydrologic features: Common intermittent streams; few perennial streams; many small drainageways; and common small, constructed ponds
Land use: Mainly cropland; woodland or pasture in the steeper areas
Cultural features: Common farmsteads, houses, roads, and utility lines
Visual diversity: Moderate

Extent and Composition

Percent of county: 34 percent
Tifton soils: 28 percent
Dothan soils: 24 percent
Nankin soils: 8 percent
Minor soils: 40 percent

Typical Profile

Tifton

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

Subsoil:
7 to 11 inches—yellowish brown sandy loam
11 to 19 inches—yellowish brown sandy clay loam
19 to 30 inches—yellowish brown sandy clay loam that has reddish brown mottles
30 to 40 inches—yellowish brown sandy clay loam that has red and very pale brown mottles
40 to 60 inches—mottled yellowish brown, red, strong brown, and light gray sandy clay loam
60 to 68 inches—mottled yellowish brown, red, and light gray sandy clay loam that has pockets and strata of sandy loam

Distinctive features: 5 to 10 percent small ironstone nodules in the surface layer and the upper part of the subsoil; 5 to 10 percent plinthite at a depth of 30 to 60 inches

Dothan

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

Subsoil:
7 to 11 inches—yellowish brown sandy loam
11 to 21 inches—yellowish brown sandy clay loam
21 to 37 inches—yellowish brown sandy clay loam that has yellowish red mottles
37 to 65 inches—mottled yellowish brown, strong brown, light gray, and red sandy clay loam

Distinctive features: 7 to 15 percent plinthite at a depth of 37 to 65 inches

Nankin

Surface layer:
0 to 7 inches—brown loamy sand

Subsoil:
7 to 14 inches—yellowish brown sandy clay loam
14 to 28 inches—strong brown sandy clay that has yellowish red mottles
28 to 42 inches—strong brown sandy clay that has yellowish red and light gray mottles
42 to 50 inches—mottled red, brown, and light gray clay

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

Distinctive features: The substratum is very firm and compact in place.

Minor Soils

- Ailey, Blanton, Cowarts, and Fuquay soils on ridges and hillslopes
- Poorly drained Bibb and Osier soils on flood plains along streams
- Poorly drained Grady and Rains soils in depressions
- Poorly drained Pelham soils on low flats, along drainageways, and in depressions

Use and Management

Major management concerns: Erosion control and general maintenance of the soils

Suitability: Tifton and Dothan—well suited to most uses; Nankin—moderately suited to most uses

2. Tifton-Dothan-Fuquay

Well drained soils that have a sandy surface layer and a loamy subsoil or that have sandy surface and subsurface layers and a loamy subsoil

Setting

Landscape characterization: Nearly level to gently sloping, well drained soils on broad ridges and hillslopes
Slope: 0 to 8 percent
Hydrologic features: Common intermittent streams; few perennial streams; many small drainageways; few depressions; and common small, constructed ponds
Land use: Mainly cropland
Cultural features: Common farmsteads, houses, roads, and utility lines
Visual diversity: Moderate

Extent and Composition

Percent of county: 19 percent
Tifton soils: 22 percent
Dothan soils: 20 percent
Fuquay soils: 20 percent
Minor soils: 38 percent

Typical Profile

Tifton

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

Subsoil:
7 to 11 inches—yellowish brown sandy loam
11 to 19 inches—yellowish brown sandy clay loam
19 to 30 inches—yellowish brown sandy clay loam that has reddish brown mottles
30 to 40 inches—yellowish brown sandy clay loam that has red and very pale brown mottles
40 to 60 inches—mottled yellowish brown, red, strong brown, and light gray sandy clay loam
60 to 68 inches—mottled yellowish brown, red, and light gray sandy clay loam that has pockets and strata of sandy loam

Distinctive features: 5 to 10 percent small ironstone nodules in the surface layer and the upper part of the subsoil; 5 to 10 percent plinthite at a depth of 30 to 60 inches

Dothan

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

Subsoil:
7 to 11 inches—yellowish brown sandy loam
11 to 21 inches—yellowish brown sandy clay loam
21 to 37 inches—yellowish brown sandy clay loam that has yellowish red mottles
37 to 65 inches—mottled yellowish brown, strong brown, light gray, and red sandy clay loam

Distinctive features: 7 to 15 percent plinthite at a depth of 37 to 65 inches

Fuquay

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

Subsurface layer:
10 to 22 inches—yellowish brown loamy sand
22 to 28 inches—light yellowish brown loamy sand

Subsoil:
28 to 36 inches—light yellowish brown sandy loam
36 to 43 inches—light yellowish brown sandy clay loam that has strong brown mottles
43 to 65 inches—mottled yellowish brown, strong brown, pale brown, and gray sandy clay loam

Distinctive features: 12 percent plinthite at a depth of 43 to 65 inches

Minor Soils

- Ailey, Cowarts, and Nankin soils on ridges and hillslopes
- Poorly drained Bibb and Osier soils on flood plains along streams
- Poorly drained Pelham soils on low flats, along drainageways, and in depressions

Use and Management

Major management concerns: Erosion control and general maintenance in areas of the Tifton and Dothan soils; low available water capacity in areas of the Fuquay soils

Suitability: Well suited to most uses

3. Orangeburg-Dothan-Faceville

Well drained soils that have a sandy surface layer and a loamy subsoil or that have a loamy surface layer and a clayey subsoil

Setting

Landscape characterization: Nearly level to strongly sloping, well drained soils on broad ridges and narrow hillslopes
Slope: 0 to 12 percent
Hydrologic features: Common intermittent streams; few perennial streams; many small drainageways; and few depressional areas and small, constructed ponds
Land use: Mainly cropland
Cultural features: Common farmsteads, houses, roads, and utility lines
Visual diversity: Moderate

Extent and Composition

Percent of county: 13 percent
Orangeburg soils: 45 percent
Dothan soils: 15 percent
Faceville soils: 10 percent
Minor soils: 30 percent

Typical Profile

Orangeburg

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

Subsurface layer:
7 to 11 inches—brown loamy sand

Subsoil:
11 to 18 inches—red sandy loam
18 to 65 inches—red sandy clay loam

Dothan

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

Subsoil:
7 to 11 inches—yellowish brown sandy loam
11 to 21 inches—yellowish brown sandy clay loam
21 to 37 inches—yellowish brown sandy clay loam that has yellowish red mottles
37 to 65 inches—mottled yellowish brown, strong brown, light gray, and red sandy clay loam

Distinctive features: 7 to 15 percent plinthite at a depth of 37 to 65 inches

Faceville

Surface layer:
0 to 8 inches—brown sandy loam

Subsoil:
8 to 12 inches—yellowish red sandy clay
12 to 43 inches—red sandy clay
43 to 62 inches—yellowish red sandy clay that has brownish yellow and red mottles

Minor Soils

- Ailey, Cowarts, and Nankin soils on ridges and hillslopes
- Poorly drained Bibb and Osier soils on flood plains along streams

Use and Management

Major management concerns: Erosion control and general maintenance of the soils

Suitability: Well suited to most uses

4. Faceville-Orangeburg-Nankin

Well drained soils that have a loamy surface layer and a clayey subsoil or that have a sandy surface layer and a loamy or clayey subsoil

Setting

Landscape characterization: Nearly level to moderately steep, well drained soils on broad ridges and hillslopes
Slope: 0 to 15 percent
Hydrologic features: Common intermittent streams; few perennial streams; many small drainageways; and few depressional areas and small, constructed ponds
Land use: Mainly cropland in the less sloping areas and woodland in the steeper areas
Cultural features: Common houses, roads, and utility lines; few farmsteads
Visual diversity: Moderate

Extent and Composition

Percent of county: 6 percent
Faceville soils: 42 percent
Orangeburg soils: 10 percent
Nankin soils: 8 percent
Minor soils: 40 percent

Typical Profile

Faceville

Surface layer:
0 to 8 inches—brown sandy loam

Subsoil:
8 to 12 inches—yellowish red sandy clay
12 to 43 inches—red sandy clay
43 to 62 inches—yellowish red sandy clay that has brownish yellow and red mottles

Orangeburg

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

Subsurface layer:
7 to 11 inches—brown loamy sand

Subsoil:
11 to 18 inches—red sandy loam
18 to 65 inches—red sandy clay loam

Nankin

Surface layer:
0 to 7 inches—brown loamy sand

Subsoil:
7 to 14 inches—yellowish brown sandy clay loam
14 to 28 inches—strong brown sandy clay that has yellowish red mottles
28 to 42 inches—strong brown sandy clay that has yellowish red and light gray mottles
42 to 50 inches—mottled red, brown, and light gray clay

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

Distinctive features: The substratum is very firm.

Minor Soils

- Ailey, Cowarts, Fuquay, and Lucy soils on ridges and hillslopes
- Poorly drained Bibb and Osier soils on flood plains along streams
- Somewhat excessively drained to moderately well drained Blanton soils on ridges and hillslopes
- Somewhat poorly drained Susquehanna soils on ridges, hillslopes, and toeslopes

Use and Management

Major management concerns: Erosion control

Suitability: Faceville and Orangeburg—well suited to most uses; Nankin—moderately suited to most uses

5. Orangeburg-Lucy-Blanton

Well drained soils that have a sandy surface layer and a loamy subsoil or that have sandy surface and subsurface layers and a loamy subsoil and somewhat excessively drained or moderately well drained soils that have sandy surface and subsurface layers and a loamy subsoil

Setting

Landscape characterization: Nearly level to moderately steep, well drained, somewhat excessively drained, and moderately well drained soils on broad ridges and hillslopes
Slope: 0 to 17 percent
Hydrologic features: Few intermittent and perennial streams, common small drainageways, and few depressions and constructed ponds
Land use: Mainly cropland in areas of the less droughty and less sloping soils; mainly woodland in areas of the other soils
Cultural features: Few houses, farmsteads, utility lines, and roads

Visual diversity: Low

Extent and Composition

Percent of county: 7 percent
Orangeburg soils: 45 percent
Lucy soils: 15 percent
Blanton soils: 10 percent
Minor soils: 30 percent

Typical Profile

Orangeburg

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

Subsurface layer:
7 to 11 inches—brown loamy sand

Subsoil:
11 to 18 inches—red sandy loam
18 to 63 inches—red sandy clay loam

Lucy

Surface layer:
0 to 9 inches—brown loamy sand

Subsurface layer:
9 to 27 inches—yellowish red loamy sand

Subsoil:
27 to 36 inches—yellowish red sandy loam
36 to 63 inches—red sandy clay loam

Blanton

Surface layer:
0 to 6 inches—dark gray sand

Subsurface layer:
6 to 62 inches—light yellowish brown sand
62 to 68 inches—brownish yellow sand that has small pockets of strong brown loamy sand

Subsoil:
68 to 71 inches—yellowish brown sandy loam that has red mottles
71 to 85 inches—yellowish brown sandy clay loam that has red and light gray mottles

Minor Soils

- Poorly drained Bibb and Osier soils on flood plains along streams
- Well drained Fuquay soils on ridges and hillslopes

Use and Management

Major management concerns: Erosion control and general maintenance in areas of the Orangeburg soils; low available water capacity in areas of the Lucy and Blanton soils

Suitability: Orangeburg—well suited to most uses; Lucy and Blanton—moderately suited to most uses

6. Tawcaw-Meggett

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

Setting

Landscape characterization: Nearly level, somewhat poorly drained and poorly drained soils on broad to narrow flood plains along the Ocmulgee River
General location: Tawcaw—adjacent to stream channels; Meggett—adjacent to uplands and across the flood plains
Slope: 0 to 2 percent
Flooding: Frequently flooded for long periods during wet seasons
Hydrologic features: Mainly on perennial streams
Land use: Hardwood woodlands
Cultural features: Only slight development, except for a few roads and utility lines for recreational cabins
Visual diversity: Low

Extent and Composition

Percent of county: 6 percent
Tawcaw soils: 50 percent
Meggett soils: 35 percent
Minor soils: 15 percent

Typical Profile

Tawcaw

Surface layer:
0 to 4 inches—brown silty clay

Subsoil:
4 to 10 inches—brown silty clay
10 to 29 inches—brown silty clay that has light brownish gray mottles
29 to 48 inches—gray silty clay that has brown and yellowish brown mottles
48 to 55 inches—light gray clay loam that has yellowish brown mottles

Substratum:
55 to 62 inches—light gray loamy sand that has pockets of sandy loam and has yellowish brown mottles

Meggett

Surface layer:
0 to 4 inches—brown silty clay

Subsurface layer:
4 to 9 inches—dark brown silty clay that has gray mottles

Subsoil:
9 to 62 inches—gray clay that has strong brown and yellowish brown mottles

Minor Soils

• Poorly drained sandy and loamy soils in sloughs and along tributaries flowing into the main flood plain
• Poorly drained clayey soils that have sandy and loamy strata; in sloughs

Use and Management

Major management concerns: Wetness and flooding

Suitability: Well suited to the commonly grown pine trees and natural hardwoods; poorly suited to field crops, hay, and pasture; poorly suited or unsuited to most nonfarm uses

7. Bibb-Osier

Poorly drained, loamy or sandy soils

Setting

Landscape characterization: Nearly level, poorly drained soils on 300 to 1,500 feet wide flood plains along branches and creeks
General location: Bibb—throughout the flood plain; Osier—mainly adjacent to stream channels
Slope: 0 to 2 percent
Flooding: Frequently flooded for long periods during wet seasons
Hydrologic features: Most of the streams are intermittent, some are perennial because of spring flows.
Land use: Hardwood woodlands
Cultural features: Only slight development
Visual diversity: Low

Extent and Composition

Percent of county: 7 percent
Bibb soils: 50 percent
Osier soils: 30 percent
Minor soils: 20 percent

Typical Profile

Bibb

Surface layer:
0 to 6 inches—dark grayish brown sandy loam that has thin strata of loam and loamy sand and has strong brown mottles
6 to 18 inches—light brownish gray sandy loam that has thin strata of loamy sand and sand and has strong brown mottles

Underlying material:
18 to 32 inches—gray sandy loam that has thin strata of loamy sand and sand and has yellowish brown and strong brown mottles
32 to 48 inches—gray sandy loam that has thin strata and small pockets of loamy sand and sandy clay loam and has yellowish brown, strong brown, and brownish yellow mottles
48 to 60 inches—gray, coarsely stratified sandy loam, sandy clay loam, and loamy sand having brownish yellow and strong brown mottles

Osier

Surface layer:
0 to 3 inches—dark gray sandy loam that has thin strata of sand
3 to 12 inches—gray loamy sand that has thin strata of sand and has strong brown mottles

Underlying material:
12 to 35 inches—grayish brown loamy sand that has thin strata of sand
35 to 42 inches—white sand that has thin strata of loamy material
42 to 52 inches—brown sand that has thin strata of loamy material and coarse sand
52 to 62 inches—brown coarse sand that has thin strata of fine and medium sand

Minor Soils

• Poorly drained, clayey soils in sloughs and along the edge of the flood plains

Use and Management

Major management concerns: Wetness and flooding

Suitability: Well suited to the commonly grown pine trees; poorly suited to field crops, hay, and pasture; poorly suited or unsuited to most nonfarm uses

8. Greenville-Faceville-Orangeburg

Well drained soils that have a loamy surface layer and a clayey subsoil or that have a sandy surface layer and a loamy subsoil

Setting

Landscape characterization: Nearly level to strongly sloping, well drained soils on broad ridges and narrow hillslopes
Slope: 0 to 12 percent

Hydrologic features: Common small drainageways draining into a few small intermittent streams
Land use: Mainly woodland; some cropland in the eastern part of the unit
Cultural features: Only slight development in woodland areas; common farmsteads, houses, roads, and utility lines in cropland areas
Visual diversity: Low in woodland areas; moderate in cropland areas

Extent and Composition

Percent of county: 5 percent
Greenville soils: 40 percent
Faceville soils: 20 percent
Orangeburg soils: 10 percent
Minor soils: 30 percent

Typical Profile

Greenville

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

Subsoil:
5 to 12 inches—dark red sandy clay loam
12 to 62 inches—dark red sandy clay

Faceville

Surface layer:
0 to 8 inches—brown sandy loam

Subsoil:
8 to 12 inches—yellowish red sandy clay
12 to 43 inches—red sandy clay
43 to 62 inches—yellowish red sandy clay that has brownish yellow and red mottles

Orangeburg

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

Subsurface layer:
7 to 11 inches—brown loamy sand

Subsoil:
11 to 18 inches—red sandy loam
18 to 63 inches—red sandy clay loam

Minor Soils

- Well drained Cowarts, Lucy, Nankin, and Red Bay soils on ridges and hillslopes
- Somewhat excessively drained to moderately well drained Blanton soils on ridges and hillslopes

Use and Management

Major management concerns: Erosion control and general maintenance of the soils
Suitability: Well suited to most uses

9. Lakeland-Blanton-Lucy

Excessively drained soils that are sandy throughout, somewhat excessively drained to moderately well drained soils that have sandy surface and subsurface layers and a loamy subsoil, and well drained soils that have sandy surface and subsurface layers and a loamy subsoil

Setting

Landscape characterization: Nearly level to moderately steep, excessively drained to moderately well drained soils on broad ridges and hillslopes
Slope: 0 to 17 percent
Hydrologic features: Few streams and drainageways, very few constructed ponds
Land use: Native scrub oak and planted pines
Cultural features: Only slight development
Visual diversity: Low

Extent and Composition

Percent of county: 3 percent
Lakeland soils: 55 percent
Blanton soils: 15 percent
Lucy soils: 10 percent
Minor soils: 20 percent

Typical Profile

Lakeland

Surface layer:
0 to 4 inches—brown sand

Underlying material:
4 to 25 inches—yellowish brown sand
25 to 62 inches—brownish yellow sand
62 to 88 inches—very pale brown sand

Blanton

Surface layer:
0 to 6 inches—dark gray sand

Subsurface layer:
6 to 62 inches—light yellowish brown sand
62 to 68 inches—brownish yellow sand that has small pockets of strong brown loamy sand

Subsoil:
68 to 71 inches—yellowish brown sandy loam that has red mottles
71 to 85 inches—yellowish brown sandy clay loam that has red and light gray mottles

Lucy

Surface layer:
0 to 9 inches—brown loamy sand

Subsurface layer:
9 to 27 inches—yellowish red loamy sand

Subsoil:
27 to 36 inches—yellowish red sandy loam
36 to 63 inches—red sandy clay loam

Minor Soils

- Well drained Fuquay, Orangeburg, and Red Bay soils on ridges and hillslopes

Use and Management

Major management concerns: Low available water capacity; low nutrient holding capacity; seepage

Suitability: Poorly suited to field crops; well suited to pine woodlands; moderately suited to most nonfarm uses

Soils in Wilcox County

1. Tifton-Dothan-Pelham

Well drained soils that have a sandy surface layer and a loamy subsoil and poorly drained soils that have sandy surface and subsurface layers and a loamy subsoil

Setting

Landscape characterization: Nearly level to gently sloping, well drained soils on ridges and hillslopes and nearly level, poorly drained soils on upland flats, along drainageways, and in depressions
General location: Tifton and Dothan—on ridges and hillslopes; Pelham—on low lying flats, along drainageways, and in depressions
Slope: 0 to 8 percent
Flooding: The poorly drained soils are flooded and ponded during wet seasons.
Hydrologic features: Excess surface water drains mainly into a system of intermittent streams; few perennial streams; and common small, constructed ponds.
Land use: Mainly cropland in areas of the well drained soils; mainly woodland in areas of the poorly drained soils
Cultural features: Common roads, utility lines, fences, and farm houses
Visual diversity: Moderate

Extent and Composition

Percent of county: 36 percent
Tifton soils: 35 percent
Dothan soils: 17 percent
Pelham soils: 17 percent
Minor soils: 31 percent

Typical Profile

Tifton

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

Subsoil:
7 to 11 inches—yellowish brown sandy loam
11 to 19 inches—yellowish brown sandy clay loam
19 to 30 inches—yellowish brown sandy clay loam that has reddish brown mottles
30 to 40 inches—yellowish brown sandy clay loam that has red and very pale brown mottles
40 to 60 inches—mottled yellowish brown, red, strong brown, and light gray sandy clay loam
60 to 68 inches—mottled yellowish brown, red, and light gray sandy clay loam that has pockets and strata of sandy loam

Distinctive features: 5 to 10 percent small ironstone nodules in the surface layer and in the upper part of the subsoil; 5 to 10 percent plinthite at a depth of 30 to 60 inches

Dothan

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

Subsoil:
7 to 11 inches—yellowish brown sandy loam
11 to 21 inches—yellowish brown sandy clay loam
21 to 37 inches—yellowish brown sandy clay loam that has yellowish red mottles
37 to 65 inches—mottled yellowish brown, strong brown, light gray, and red sandy clay loam

Distinctive features: 7 to 15 percent plinthite at a depth of 37 to 65 inches

Pelham

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

Subsurface layer:
6 to 16 inches—dark gray loamy sand
16 to 26 inches—gray loamy sand

Subsoil:
26 to 34 inches—light gray sandy loam that has light brownish gray mottles

34 to 68 inches—light gray sandy clay loam that has brownish yellow, light brown, and light yellowish brown mottles

Substratum:
68 to 80 inches—light gray sandy loam that has brownish yellow mottles

Minor Soils

- Poorly drained Bibb and Osier soils on flood plains along streams
- Somewhat excessively drained to moderately well drained Blanton soils on ridges and hillslopes
- Moderately well drained Clarendon and Stilson soils in slight depressions and on upland flats
- Well drained Cowarts, Fuquay, and Nankin soils on ridges and hillslopes

Use and Management

Major management concerns: Erosion control on the upland soils; wetness and flooding in areas of the poorly drained soils

Suitability: Upland soils—well suited to most uses; poorly drained soils—well suited to the commonly grown pine trees and poorly suited to urban uses

2. Tifton-Fuquay-Dothan

Well drained soils that have a sandy surface layer and a loamy subsoil or that have sandy surface and subsurface layers and a loamy subsoil

Setting

Landscape characterization: Nearly level to gently sloping, well drained soils on broad ridges and hillslopes
Slope: 0 to 8 percent
Hydrologic features: Common intermittent streams; few perennial streams; many small drainageways; few depressions; and common small, constructed ponds
Land use: Mainly cropland
Cultural features: Common farmsteads, houses, roads, and utility lines
Visual diversity: Moderate

Extent and Composition

Percent of county: 15 percent
Tifton soils: 28 percent
Fuquay soils: 26 percent
Dothan soils: 16 percent
Minor soils: 30 percent

Typical Profile

Tifton

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

Subsoil:
7 to 11 inches—yellowish brown sandy loam
11 to 19 inches—yellowish brown sandy clay loam
19 to 30 inches—yellowish brown sandy clay loam that has reddish brown mottles
30 to 40 inches—yellowish brown sandy clay loam that has red and very pale brown mottles
40 to 60 inches—mottled yellowish brown, red, strong brown, and light gray sandy clay loam
60 to 68 inches—mottled yellowish brown, red, and light gray sandy clay loam that has pockets and strata of sandy loam

Distinctive features: 5 to 10 percent small ironstone nodules in the surface layer and in the upper part of the subsoil; 5 to 10 percent plinthite at a depth of 30 to 60 inches

Fuquay

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

Subsurface layer:
10 to 22 inches—yellowish brown loamy sand
22 to 28 inches—light yellowish brown loamy sand

Subsoil:
28 to 36 inches—light yellowish brown sandy loam
36 to 43 inches—light yellowish brown sandy clay loam that has strong brown mottles
43 to 65 inches—mottled yellowish brown, strong brown, pale brown, and gray sandy clay loam

Distinctive features: 12 percent plinthite at a depth of 43 to 65 inches

Dothan

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

Subsoil:
7 to 11 inches—yellowish brown sandy loam
11 to 21 inches—yellowish brown sandy clay loam
21 to 37 inches—yellowish brown sandy clay loam that has yellowish red mottles
37 to 65 inches—mottled yellowish brown, strong brown, light gray, and red sandy clay loam

Distinctive features: 7 to 15 percent plinthite at a depth of 37 to 65 inches

Minor Soils

- Well drained Ailey, Cowarts, and Nankin soils on ridges and hillslopes
- Somewhat poorly drained Susquehanna soils on ridges, hillslopes, and toeslopes
- Somewhat excessively drained to moderately well drained Blanton soils on ridges and hillslopes
- Poorly drained Bibb and Osier soils on flood plains along streams
- Poorly drained Pelham soils on low flats, along drainageways, and in depressions

Use and Management

Major management concerns: Erosion control and general maintenance in areas of the Tifton and Dothan soils; low available water capacity in areas of the Fuquay soils

Suitability: Well suited to most uses

3. Cowarts-Nankin

Well drained soils that have a sandy surface layer and a loamy subsoil or that have a sandy surface layer and a clayey subsoil

Setting

Landscape characterization: Nearly level to moderately steep, well drained soils on broad ridges and hillslopes
Slope: 0 to 15 percent
Hydrologic features: Common intermittent streams; few perennial streams; many small drainageways; and common small, constructed ponds
Land use: Mainly pine woodland
Cultural features: Few farmsteads; common houses, roads, and utility lines
Visual diversity: Moderate

Extent and Composition

Percent of county: 20 percent
Cowarts soils: 30 percent
Nankin soils: 30 percent
Minor soils: 40 percent

Typical Profile

Cowarts

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

Subsurface layer:
7 to 11 inches—yellowish brown loamy sand

Subsoil:
11 to 14 inches—yellowish brown sandy loam
14 to 20 inches—yellowish brown sandy clay loam
20 to 32 inches—yellowish brown sandy clay loam that has red mottles

Substratum:
32 to 62 inches—mottled yellowish brown, light gray, and red sandy loam that has finer and coarser strata

Distinctive features: The substratum is very firm and compact in place.

Nankin

Surface layer:
0 to 7 inches—brown loamy sand

Subsoil:
7 to 14 inches—yellowish brown sandy clay loam
14 to 28 inches—strong brown sandy clay that has yellowish red mottles
28 to 42 inches—strong brown sandy clay that has yellowish red and light gray mottles
42 to 50 inches—mottled red, brown, and light gray clay

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

Distinctive features: The substratum is very firm.

Minor Soils

- Poorly drained Pelham soils on flats, along drainageways, and in depressions
- Poorly drained Bibb and Osier soils on flood plains along streams
- Somewhat excessively drained to moderately well drained Blanton soils on ridges and hillslopes
- Well drained Ailey and Fuquay soils on ridges and hillslopes
- Somewhat poorly drained Susquehanna soils on ridges and toeslopes

Use and Management

Major management concerns: Erosion control

Suitability: Moderately suited or well suited to most uses

Figure 2.—Typical landscape and vegetation in an area of the Blanton-Lakeland general soil map unit.

4. Blanton-Lakeland

Somewhat excessively drained to moderately well drained soils that have sandy surface and subsurface layers and a loamy subsoil and excessively drained soils that are sandy throughout

Setting

Landscape characterization: Nearly level to moderately steep, moderately well drained to excessively drained soils on broad ridges and hillslopes (fig. 2)
Slope: 0 to 17 percent
Hydrologic features: Few streams and drainageways, very few constructed ponds
Land use: Native scrub oak and planted pines
Cultural features: Only slight development
Visual diversity: Low

Extent and Composition

Percent of county: 4 percent
Blanton soils: 50 percent
Lakeland soils: 30 percent
Minor soils: 20 percent

Typical Profile

Blanton

Surface layer:
0 to 6 inches—dark gray sand

Subsurface layer:
6 to 62 inches—light yellowish brown sand

62 to 68 inches—brownish yellow sand that has small pockets of strong brown loamy sand

Subsoil:
68 to 71 inches—yellowish brown sandy loam that has red mottles
71 to 85 inches—yellowish brown sandy clay loam that has red and light gray mottles

Lakeland

Surface layer:
0 to 4 inches—brown sand

Underlying material:
4 to 25 inches—yellowish brown sand
25 to 62 inches—brownish yellow sand
62 to 88 inches—very pale brown sand

Minor Soils

- Well drained Fuquay soils on ridges and hillslopes
- Poorly drained Pelham soils on flats, along drainageways, and in depressions

Use and Management

Major management concerns: Low available water capacity; low nutrient holding capacity; seepage

Suitability: Poorly suited to field crops; well suited to pine woodlands; moderately suited to most nonfarm uses

5. Pelham-Stilson-Fuquay

Poorly drained, moderately well drained, and well drained soils that have sandy surface and subsurface layers and a loamy subsoil

Setting

Landscape characterization: Nearly level, poorly drained soils on low flats, in depressions, and along poorly defined drainageways; nearly level, moderately well drained soils on upland flats; and nearly level and very gently sloping, well drained soils on slight ridges
General location: Pelham—on low flats, in depressions, and along drainageways; Stilson—in slight depressions and on flats; Fuquay—on low ridges and hillslopes
Slope: 0 to 5 percent
Flooding: Pelham soils are flooded and ponded occasionally for brief to long periods during wet weather.
Hydrologic features: Much of the precipitation soaks into the ground; excess water drains into drainageways and small perennial streams.
Land use: Mainly pine woodland, some hardwoods
Cultural features: Only slight development
Visual diversity: Low

Extent and Composition

Percent of county: 8 percent
Pelham soils: 45 percent
Stilson soils: 23 percent
Fuquay soils: 10 percent
Minor soils: 22 percent

Typical Profile

Pelham

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

Subsurface layer:
6 to 16 inches—dark gray loamy sand
16 to 26 inches—gray loamy sand

Subsoil:
26 to 34 inches—light gray sandy loam that has light brownish gray mottles
34 to 68 inches—light gray sandy clay loam that has brownish yellow, light brown, and light yellowish brown mottles

Substratum:
68 to 80 inches—light gray sandy loam that has brownish yellow mottles

Stilson

Surface layer:
0 to 6 inches—very dark gray loamy sand

Subsurface layer:
6 to 11 inches—brown loamy sand
11 to 23 inches—brownish yellow loamy sand

Subsoil:
23 to 29 inches—brownish yellow sandy loam
29 to 35 inches—brownish yellow sandy clay loam that has light gray and yellowish brown mottles
35 to 55 inches—mottled brownish yellow, light gray, strong brown, and red sandy clay loam
55 to 65 inches—mottled light gray, strong brown, and light yellowish brown sandy clay loam

Distinctive features: 10 percent plinthite at a depth of 35 to 55 inches

Fuquay

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

Subsurface layer:
10 to 22 inches—yellowish brown loamy sand
22 to 28 inches—light yellowish brown loamy sand

Subsoil:
28 to 36 inches—light yellowish brown sandy loam
36 to 43 inches—light yellowish brown sandy clay loam that has strong brown mottles
43 to 65 inches—mottled yellowish brown, strong brown, pale brown, and gray sandy clay loam

Distinctive features: 12 percent plinthite at a depth of 43 to 65 inches

Minor Soils

- Poorly drained Bibb and Osier soils on flood plains along streams
- Somewhat excessively drained to moderately well drained Blanton soils on ridges and hillslopes
- Well drained Dothan soils on ridges and hillslopes
- Moderately well drained Clarendon soils in slight depressions on flats

Use and Management

Major management concerns: Pelham—wetness, flooding, and ponding; Fuquay and Stilson—low available water capacity and low nutrient holding capacity

Suitability: Pelham—well suited to the commonly grown pine trees, poorly suited to field crops and most nonfarm uses; Fuquay—moderately suited or well suited to most uses

6. Bibb-Osier

Poorly drained soils that are loamy or sandy throughout

Setting

Landscape characterization: Nearly level, poorly drained soils on 300 to 1,500 feet wide flood plains along branches and creeks
General location: Bibb—throughout the flood plains; Osier—mainly adjacent to stream channels
Slope: 0 to 2 percent
Flooding: Frequently flooded for long periods during wet seasons
Hydrologic features: Most of the streams are intermittent, some are perennial because of spring flows.
Land use: Hardwood woodlands
Cultural features: Only slight development
Visual diversity: Low

Extent and Composition

Percent of county: 8 percent
Bibb soils: 50 percent
Osier soils: 30 percent
Minor soils: 20 percent

Typical Profile

Bibb

Surface layer:
0 to 6 inches—dark grayish brown sandy loam that has thin strata of loam and loamy sand and has strong brown mottles
6 to 18 inches—light brownish gray sandy loam that has thin strata of loamy sand and sand and has strong brown mottles

Underlying material:
18 to 32 inches—gray sandy loam that has thin strata of loamy sand and sand and has yellowish brown and strong brown mottles
32 to 48 inches—gray sandy loam that has thin strata and small pockets of loamy sand and sandy clay loam and has yellowish brown, strong brown, and brownish yellow mottles
48 to 60 inches—gray, coarsely stratified sandy loam, sandy clay loam, and loamy sand having brownish yellow and strong brown mottles

Osier

Surface layer:
0 to 3 inches—dark gray sandy loam that has thin strata of sand
3 to 12 inches—gray loamy sand that has thin strata of sand and has strong brown mottles

Underlying material:
12 to 35 inches—grayish brown loamy sand that has thin strata of sand
35 to 42 inches—white sand that has thin strata of loamy material
42 to 52 inches—brown sand that has thin strata of loamy material and coarse sand
52 to 62 inches—brown coarse sand that has thin strata of fine and medium sand

Minor Soils

- Poorly drained, clayey soils in sloughs and along the edge of some flood plains
- Poorly drained, fine loamy soils scattered throughout some flood plains

Use and Management

Major management concerns: Wetness and flooding

Suitability: Well suited to the commonly grown pine trees; poorly suited to field crops, hay, and pasture; poorly suited or unsuited to most nonfarm uses

7. Tawcaw-Meggett

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

Setting

Landscape characterization: Nearly level, somewhat poorly drained and poorly drained soils on flood plains along the Ocmulgee River
General location: Tawcaw—adjacent to stream channels; Meggett—adjacent to uplands and across the flood plains
Slope: 0 to 2 percent
Flooding: Frequently flooded for long periods during wet seasons
Hydrologic features: Mainly on perennial streams
Land use: Hardwood woodlands
Cultural features: Only slight development, except for a few roads and a few utility lines for recreational cabins
Visual diversity: Low

Extent and Composition

Percent of county: 4 percent
Tawcaw soils: 50 percent
Meggett soils: 35 percent
Minor soils: 15 percent

Typical Profile

Tawcaw

Surface layer:
0 to 4 inches—brown silty clay

Subsoil:
4 to 10 inches—brown silty clay
10 to 29 inches—brown silty clay that has light brownish gray mottles
29 to 48 inches—gray silty clay that has brown and yellowish brown mottles
48 to 55 inches—light gray clay loam that has yellowish brown mottles

Substratum:
55 to 62 inches—light gray loamy sand that has pockets of sandy loam and has yellowish brown mottles

Meggett

Surface layer:
0 to 4 inches—brown silty clay

Subsurface layer:
4 to 9 inches—dark brown silty clay that has gray mottles

Subsoil:
9 to 62 inches—gray clay that has strong brown and yellowish brown mottles

Minor Soils

- Poorly drained, sandy, coarse-loamy, and fine-loamy soils in sloughs and along tributaries flowing into the main flood plain
- Poorly drained, clayey soils that have sandy and loamy strata; in sloughs

Use and Management

Major management concerns: Wetness and flooding

Suitability: Well suited to the commonly grown pine trees and natural hardwoods; poorly suited to field crops, hay, and pasture; poorly suited or unsuited to most nonfarm uses

8. Tifton-Dothan-Nankin

Well drained soils that have a sandy surface layer and a loamy or clayey subsoil

Setting

Landscape characterization: Nearly level to moderately steep, well drained soils on broad ridges and narrow hillslopes
Slope: 0 to 15 percent
Hydrologic features: Common intermittent streams; few perennial streams; many small drainageways; and common small, constructed ponds
Land use: Mainly cropland; woodland or pasture in the steeper areas
Cultural features: Common farmsteads, houses, roads, and utility lines
Visual diversity: Moderate

Extent and Composition

Percent of county: 5 percent
Tifton soils: 35 percent
Dothan soils: 20 percent
Nankin soils: 10 percent
Minor soils: 35 percent

Typical Profile

Tifton

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

Subsoil:
7 to 11 inches—yellowish brown sandy loam
11 to 19 inches—yellowish brown sandy clay loam

19 to 30 inches—yellowish brown sandy clay loam that has reddish brown mottles
30 to 40 inches—yellowish brown sandy clay loam that has red and very pale brown mottles
40 to 60 inches—mottled yellowish brown, red, strong brown, and light gray sandy clay loam
60 to 68 inches—mottled yellowish brown, red, and light gray sandy clay loam that has pockets and strata of sandy loam

Distinctive features: 5 to 10 percent small ironstone nodules in the surface layer and in the upper part of the subsoil; 5 to 10 percent plinthite at a depth of 30 to 60 inches

Dothan

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

Subsoil:
7 to 11 inches—yellowish brown sandy loam
11 to 21 inches—yellowish brown sandy clay loam
21 to 37 inches—yellowish brown sandy clay loam that has yellowish red mottles
37 to 65 inches—mottled yellowish brown, strong brown, light gray, and red sandy clay loam

Distinctive features: 7 to 15 percent plinthite at a depth of 37 to 65 inches

Nankin

Surface layer:
0 to 7 inches—brown loamy sand

Subsoil:
7 to 14 inches—yellowish brown sandy clay loam
14 to 28 inches—strong brown sandy clay that has yellowish red mottles
28 to 42 inches—strong brown sandy clay that has yellowish red and light gray mottles
42 to 50 inches—mottled red, brown, and light gray clay

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

Distinctive features: The substratum is very firm.

Minor Soils

- Poorly drained Pelham soils on low flats and in drainageways and depressions
- Poorly drained Grady and Rains soils in depressions
- Poorly drained Bibb and Osier soils on flood plains along streams
- Well drained Cowarts and Fuquay soils on ridges and hillslopes
- Moderately well drained Clarendon soils in slight depressions and on upland flats

Use and Management

Major management concerns: Erosion control and general maintenance of the soils

Suitability: Tifton and Dothan—well suited to most uses; Nankin—moderately suited to most uses

Broad Land Use Considerations

The soils in Pulaski and Wilcox Counties vary widely in their suitability for major land uses. Current uses include cropland, pastureland, woodland, recreational areas, wildlife areas, and urban or built-up land. In general, the soils in the survey area are well suited to cultivated crops and to urban development. Their suitability for farming should not be overlooked in planning. Information about specific soils in this survey area can be helpful in planning future land use patterns. The general soil map is useful in broad planning of soil resource areas, but it is not detailed enough to locate a site for a specific structure.

Many of the soils on uplands in the survey area are used for cultivated crops, pasture, or hay. They are well suited to these uses. Most of the soils are nearly level to gently sloping and are well drained. Some are gently sloping and somewhat excessively drained or excessively drained. In some areas the soils are only moderately suited, poorly suited, or unsuited to farming because of a low available water capacity, a severe hazard of erosion, slope, or a seasonal high water table. Most of the soils on flood plains are poorly drained, wooded, and poorly suited to farming.

About 66 percent of the survey area is wooded. Potential productivity of the soils for woodland generally is moderate or high.

On about two-thirds of the acreage, the soils are on ridgetops and hillsides. Most of these soils are well drained and are well suited to most nonfarm uses. The soils are less well suited to nonfarm uses on about 3 percent of this acreage because of a cemented and brittle underlying layer or because of the slope. The rest of the soils in the survey area are on flood plains, in upland depressions, or on smooth, nearly level uplands that are seasonally wet. They are moderately suited or poorly suited to nonfarm uses.

Detailed Soil Map Units

The map units delineated on the detailed maps at the back of this survey represent the soils in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability of a unit for specific uses. A soil is considered well suited to a particular use if it has properties that are favorable, moderately suited if it has properties that require special planning and management to obtain satisfactory performance, and poorly suited if it has properties that are unfavorable. A soil is not suited to a particular use if it has properties that are so unfavorable they are impractical to overcome. They also can be used to plan the management needed for those uses. More information about each map unit is given under the heading "Use and Management of the Soils."

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

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

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

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

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

Soils of one series can differ in texture of the surface layer, slope, stoniness, 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, Orangeburg loamy sand, 0 to 2 percent slopes, is a phase of the Orangeburg series.

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

A *complex* consists of two or more soils in such an

intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils are somewhat similar in all areas. Nankin-Cowarts-Susquehanna complex, 8 to 15 percent slopes, is an example.

An *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. Cowarts-Nankin-Ailey loamy sands, 2 to 5 percent slopes, is an example.

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

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

AeB—Ailey loamy sand, 0 to 5 percent slopes

Setting

Landscape position: Ridges and high flats
Slope: Nearly level and very gently sloping
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

Subsurface layer:
8 to 30 inches—light yellowish brown loamy sand

Subsoil:
30 to 35 inches—brownish yellow sandy loam
35 to 42 inches—yellowish brown sandy clay loam that has strong brown mottles
42 to 50 inches—mottled brownish yellow, yellowish brown, red, and light gray sandy clay loam

Substratum:
50 to 57 inches—mottled brownish yellow, yellowish brown, red, and light gray sandy clay loam that has strata of sandy loam
57 to 65 inches—mottled light gray, red, and yellowish brown sandy clay loam that has pockets and strata of sandy clay

Distinctive features: The lower part of the subsoil is firm and has common very firm, brittle pockets; the substratum is very firm.

Soil Properties and Qualities

Drainage class: Well drained
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 slow in the lower part of the subsoil and in the substratum
Available water capacity: Low
Tilth: Good
Root zone: Deep or very deep to a dense and compact substratum

Inclusions

- A few small areas of Blanton soils

Use and Management

Land use: Mostly woodland

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 plant residue to the soil helps the soil retain moisture.
- Crops in areas of this soil respond well to irrigation.
- Conservation tillage systems help to maintain good tilth, the content of organic matter, and soil moisture.

Woodland

Potential productivity: Moderate for slash pine and longleaf pine
Preferred trees to plant: Slash pine and longleaf pine
Management concerns: Moderate equipment limitations and seedling mortality
Management practices and considerations:
- Bedding; planting adapted, drought-hardy plants; and minimizing plant competition increase the seedling survival rate.
- Conducting woodland operations when the soil is at the proper moisture content helps to overcome the soil limitations.

Urban uses

Suitability: Well suited to most uses
Management concerns: Slow permeability in the lower part of the soil affects the performance of septic tank absorption fields; seepage affects some 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: Too sandy in the upper 20 to 40 inches
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: Hillslopes
Slope: Gently sloping
Slope topography: Smooth and convex
Size of mapped areas: 5 to 40 acres

Typical Profile

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

Subsurface layer:
8 to 30 inches—light yellowish brown loamy sand

Subsoil:
30 to 35 inches—brownish yellow sandy loam
35 to 42 inches—yellowish brown sandy clay loam that has strong brown mottles
42 to 50 inches—mottled brownish yellow, yellowish brown, red, and light gray sandy clay loam

Substratum:
50 to 57 inches—mottled brownish yellow, yellowish brown, red, and light gray sandy clay loam that has strata of sandy loam
57 to 65 inches—mottled light gray, red, and yellowish brown sandy clay loam that has pockets and strata of sandy clay

Distinctive features: The lower part of the subsoil is firm and has common very firm, brittle pockets; the substratum is very firm.

Soil Properties and Qualities

Drainage class: Well drained
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 slow in the lower part of the subsoil and in the substratum
Available water capacity: Low
Tilth: Good
Root zone: Deep or very deep to a dense and compact substratum

Inclusions

• A few small areas of Blanton soils
• A few small areas of Nankin and Cowarts soils on slope breaks

Use and Management

Land use: Mostly woodland

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:
• Returning plant residue to the soil helps the soil retain moisture.
• Crops in areas of this soil respond well to irrigation.
• Conservation tillage systems help to maintain good tilth, the content of organic matter, and soil moisture.

Woodland

Potential productivity: Moderate for slash pine and longleaf pine
Preferred trees to plant: Slash pine and longleaf pine
Management concerns: Moderate equipment limitations and seedling mortality
Management practices and considerations:
• Bedding; planting adapted, drought-hardy plants; and minimizing plant competition increase the seedling survival rate.
• Conducting woodland operations when the soil is at the proper moisture content helps to overcome the soil limitations.

Urban uses

Suitability: Well suited to most uses
Management concerns: Slow permeability in the lower part of the subsoil affects the performance of

septic tank absorption fields; seepage affects some 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: Too sandy in the upper 20 to 40 inches; slope affects some uses.
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

BO—Bibb and Osier soils, frequently flooded

Composition

Bibb soils: 50 percent
Osier soils: 30 percent
Minor soils: 20 percent

Setting

Landscape position: Flood plains along streams
Flooding: Frequently flooded during wet seasons (fig. 3)
Slope: Nearly level
Slope topography: Smooth and flat
Size of mapped areas: 50 to more than 500 acres
Pattern of occurrence: Irregular; both soils are in every mapped area; because of present and predicted use, the soils were not separated in mapping.
General location: Bibb—edge and inner parts of the flood plains; Osier—adjacent to and near the stream channels

Typical Profile

Bibb

Surface layer:
0 to 6 inches—dark grayish brown sandy loam that has thin strata of loam and loamy sand and has strong brown mottles
6 to 18 inches—light brownish gray sandy loam that has thin strata of loamy sand and sand and has strong brown mottles

Underlying material:
18 to 32 inches—gray sandy loam that has thin strata of loamy sand and sand and has yellowish brown and strong brown mottles
32 to 48 inches—gray sandy loam that has thin strata and small pockets of loamy sand and sandy clay loam and has yellowish brown, strong brown, and brownish yellow mottles
48 to 60 inches—gray coarsely stratified sandy loam, sandy clay loam, and loamy sand having brownish yellow and strong brown mottles

Osier

Surface layer:
0 to 3 inches—dark gray sandy loam that has thin strata of sand
3 to 12 inches—gray loamy sand that has thin strata of sand and has strong brown mottles

Underlying material:
12 to 35 inches—grayish brown loamy sand that has thin strata of sand
35 to 42 inches—white sand that has thin strata of loamy material
42 to 52 inches—brown sand that has thin strata of loamy material and coarse sand
52 to 62 inches—brown coarse sand that has thin strata of fine and medium sand

Soil Properties and Qualities

Bibb

Drainage class: Poorly drained
Depth to seasonal high water table: 1/2 to 1 foot
Natural fertility: Low
Content of organic matter: Moderately low or moderate
Permeability: Moderate
Available water capacity: Moderate
Root zone: Very deep

Osier

Drainage class: Poorly drained
Seasonal high water table: At the surface to a depth of 1/2 foot
Natural fertility: Low
Content of organic matter: Moderately low or moderate
Permeability: Rapid
Available water capacity: Low
Root zone: Very deep

Inclusions

• Small areas of clayey, poorly drained soils in sloughs and along the edge of flood plains

Use and Management

Land use: Hardwood woodlands

Figure 3.—Flooding in an area of Bibb and Osier soils, frequently flooded.

Field crops, hay, and pasture

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

Woodland

Potential productivity: Moderately high or high for loblolly pine and slash pine
Preferred trees to plant: Slash pine, loblolly pine, and yellow-poplar
Management concerns: Severe equipment limitations and seedling mortality
Management practices and considerations:
- Performing management and harvesting operations during dry seasons helps to overcome the equipment limitations.
- Bedding improves the seedling survival rate.

Urban uses

Suitability: Unsuited
Management concerns: Wetness and flooding

Recreational development

Suitability: Unsuited
Management concerns: Wetness and flooding

Interpretive Groups

Land capability classification: Vw
Woodland ordination symbol: 11W

BtB—Blanton sand, 0 to 5 percent slopes

Setting

Landscape position: Ridges, hillslopes, and flats
Slope: Nearly level and very gently sloping
Slope topography: Smooth and convex
Size of mapped areas: 5 to 90 acres

Typical Profile

Surface layer:
0 to 6 inches—dark gray sand

Subsurface layer:
6 to 62 inches—light yellowish brown sand
62 to 68 inches—brownish yellow sand that has small pockets of strong brown loamy sand

Subsoil:
68 to 71 inches—yellowish brown sandy loam that has red mottles
71 to 85 inches—yellowish brown sandy clay loam that has red and light gray mottles

Soil Properties and Qualities

Drainage class: Somewhat excessively drained to moderately well drained
Seasonal high water table: At a depth of 4 to 6 feet, perched
Natural fertility: Low
Content of organic matter: Low
Permeability: Rapid in the surface and subsurface layers and moderate or moderately slow in the subsoil
Available water capacity: Low
Tilth: Good
Root zone: Very deep

Inclusions

- A few small areas of Lakeland soils
- A few small areas that have a firm and compact subsoil

Use and Management

Land use: Mostly woodland and pasture

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 low nutrient holding capacity in the thick, sandy layers
Management practices and considerations:
- Returning plant residue to the soil helps the soil retain moisture and plant nutrients.
- Yields for the commonly grown crops can be increased by irrigation.
- Using split applications improves the effectiveness of fertilizer.

Woodland

Potential productivity: Moderately high for slash pine and loblolly pine
Preferred trees to plant: Slash pine, loblolly pine, and longleaf pine
Management concerns: Moderate seedling mortality and equipment limitations
Management practices and considerations:
- Bedding; planting adapted, drought-hardy plants; and minimizing plant competition increase the seedling survival rate.
- Conducting woodland operations when the soil is at the proper moisture content helps to overcome the soil limitations.

Urban uses

Suitability: Suited to most uses
Management concerns: Wetness; seepage in the thick layers of sand affects the performance of 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 to most uses
Management concerns: The thick layers of sand interfere with trafficability.
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

BtC—Blanton sand, 5 to 8 percent slopes

Setting

Landscape position: Hillslopes
Slope: Gently sloping
Slope topography: Smooth and convex
Size of mapped areas: 5 to 50 acres

Typical Profile

Surface layer:
0 to 6 inches—dark gray sand

Subsurface layer:
6 to 62 inches—light yellowish brown sand
62 to 68 inches—brownish yellow sand that has small pockets of strong brown loamy sand

Subsoil:
68 to 71 inches—yellowish brown sandy loam that has red mottles
71 to 85 inches—yellowish brown sandy clay loam that has red and light gray mottles

Soil Properties and Qualities

Drainage class: Somewhat excessively drained to moderately well drained
Seasonal high water table: At a depth of 4 to 6 feet, perched
Natural fertility: Low
Content of organic matter: Low
Permeability: Rapid in the surface and subsurface layers and moderate or moderately slow in the subsoil
Available water capacity: Low
Tilth: Good
Root zone: Very deep

Inclusions

- Small areas of Lakeland soils
- A few small areas that have a firm and compact subsoil

Use and Management

Land use: Mostly woodland

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 and low nutrient holding capacity
Management practices and considerations:
- Returning plant residue to the soil helps the soil retain moisture and helps to control the formation of rills.
- Irrigation increases the yield for the commonly grown crops.
- Using split applications improves the effectiveness of fertilizer.

Woodland

Potential productivity: Moderately high for slash pine and loblolly pine
Preferred trees to plant: Slash pine, loblolly pine, and longleaf pine
Management concerns: Moderate seedling mortality and equipment limitations
Management practices and considerations:
- Bedding; planting adapted, drought-hardy plants; and minimizing plant competition increase the seedling survival rate.
- Conducting woodland operations when the soil is at the proper moisture content helps to overcome the soil limitations.

Urban uses

Suitability: Moderately well suited to most uses
Management concerns: Wetness, slope, and seepage in the thick layers of sand affect the performance of 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 to most uses
Management concerns: Thick layers of sand interfere with trafficability; slope.
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: 11S

BtD—Blanton sand, 8 to 17 percent slopes

Setting

Landscape position: Hillslopes
Slope: Strongly sloping and moderately steep
Slope topography: Smooth and convex
Size of mapped areas: 5 to 40 acres

Typical Profile

Surface layer:
0 to 6 inches—dark gray sand

Subsurface layer:
6 to 62 inches—light yellowish brown sand
62 to 68 inches—brownish yellow sand that has small pockets of strong brown loamy sand

Subsoil:
68 to 71 inches—yellowish brown sandy loam that has red mottles

71 to 85 inches—yellowish brown sandy clay loam that has red and light gray mottles

Soil Properties and Qualities

Drainage class: Somewhat excessively drained to moderately well drained
Seasonal high water table: At a depth of 4 to 6 feet, perched
Natural fertility: Low
Content of organic matter: Low
Permeability: Rapid in the surface and subsurface layers and moderate or moderately slow in the subsoil
Available water capacity: Low
Tilth: Good
Root zone: Very deep

Inclusions

- A few small areas of Cowarts and Nankin soils
- A few small areas that have a firm and compact subsoil

Use and Management

Land use: Mostly woodland

Field crops, hay, and pasture

Suitability for field crops: Unsuited
Suitability for hay: Moderately suited
Suitability for pasture: Moderately suited
Management concerns: Low available water capacity and low nutrient holding capacity
Management practices and considerations:
- Land preparation should be conducted on the contour.
- Using split applications improves the effectiveness of fertilizer.
- Irrigation can increase yields of commonly grown pasture and hay plants.

Woodland

Potential productivity: Moderately high for slash pine and loblolly pine
Preferred trees to plant: Slash pine, loblolly pine, and longleaf pine
Management concerns: Moderate hazard of gully formation, moderate equipment limitations, and moderate seedling mortality
Management practices and considerations:
- Bedding; planting adapted, drought-hardy plants; and minimizing plant competition increase the seedling survival rate.
- Conducting woodland operations when the soil is at the proper moisture content helps to overcome the soil limitations.
- Conducting woodland operations on the contour helps to overcome the soil limitations.

Urban uses

Suitability: Moderately suited to most uses
Management concerns: Wetness, seepage in the thick layers of sand, and slope affect the performance of 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: Thick sandy layers interfere with trafficability; slope complicates development.
Management practices and considerations:
- Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: VIs
Woodland ordination symbol: 11S

CnA—Clarendon loamy sand, 0 to 2 percent slopes

Setting

Landscape position: Slight depressions and low flats on uplands
Slope: Nearly level
Slope topography: Smooth or slightly concave
Size of mapped areas: 5 to 35 acres

Typical Profile

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

Subsoil:
8 to 14 inches—yellowish brown sandy loam
14 to 20 inches—brownish yellow sandy clay loam that has strong brown mottles
20 to 27 inches—brownish yellow sandy clay loam that has red and light yellowish brown mottles
27 to 35 inches—yellowish brown sandy clay loam that has very pale brown and light gray mottles
35 to 50 inches—yellowish brown sandy clay loam that has yellowish red and light gray mottles
50 to 62 inches—mottled yellowish brown, light gray, and red sandy clay loam

Distinctive features: 6 to 15 percent plinthite at a depth of 27 to 62 inches

Soil Properties and Qualities

Drainage class: Moderately well drained
Depth to the seasonal high water table: 2 to 3 feet
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderately slow
Available water capacity: Moderate
Tilth: Good
Root zone: Very deep

Inclusions

- A few small areas of Pelham and Rains soils in depressions
- A few well drained soils consisting of stratified sandy and loamy alluvium in drainageways that are occasionally flooded for brief periods

Use and Management

Land use: Mostly cropland; some woodland and pasture

Field crops, hay, and pasture

Suitability for field crops: Well suited
Suitability for hay: Well suited
Suitability for pasture: Well suited
Management concerns: Seasonal wetness can affect cultivated crops.
Management practices and considerations:
- Field crops in areas of this soil respond to drainage.

Woodland

Potential productivity: High for slash pine and loblolly pine
Preferred trees to plant: Loblolly pine, American sycamore, and yellow-poplar
Management concerns: No significant concerns

Urban uses

Suitability: Moderately suited, suited, or poorly suited to most uses
Management concerns: Wetness and the moderately slow permeability in the lower part of the subsoil affect the performance of septic tank absorption fields.
Management practices and considerations:
- In most places, the limitations can be overcome by special design, drainage, and modification.

Recreational development

Suitability: Moderately suited to most uses
Management concerns: Wetness and the moderately slow permeability in the lower part of the subsoil
Management practices and considerations:
- In most places, limitations can be overcome by special design, drainage, and modification; or uses that are least affected by the limitations can be selected and scheduled.

Interpretive Groups

Land capability classification: IIw
Woodland ordination symbol: 9W

CwB—Cowarts-Nankin-Ailey loamy sands, 2 to 5 percent slopes

Composition

Cowarts soils: 42 percent
Nankin soils: 25 percent
Ailey soils: 10 percent
Minor soils: 23 percent

Setting

Landscape position: Ridges
Slope: Very gently sloping
Slope topography: Undulating
Size of mapped areas: 10 to 90 acres
Pattern of occurrence: An intermingled pattern that could not be separated at the scale of mapping

Typical Profile

Cowarts

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

Subsurface layer:
7 to 11 inches—yellowish brown loamy sand

Subsoil:
11 to 14 inches—yellowish brown sandy loam
14 to 20 inches—yellowish brown sandy clay loam
20 to 32 inches—yellowish brown sandy clay loam that has red mottles

Substratum:
32 to 62 inches—mottled yellowish brown, light gray, and red sandy loam that has strata of finer and coarser textures

Distinctive features: The substratum is very firm.

Nankin

Surface layer:
0 to 7 inches—brown loamy sand

Subsoil:
7 to 14 inches—yellowish brown sandy clay loam
14 to 28 inches—strong brown sandy clay that has yellowish red mottles

28 to 42 inches—strong brown sandy clay that has yellowish red and light gray mottles
42 to 50 inches—mottled red, brown, and light gray clay

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

Distinctive features: The substratum is very firm.

Ailey

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

Subsurface layer:
8 to 30 inches—light yellowish brown loamy sand

Subsoil:
30 to 35 inches—brownish yellow sandy loam
35 to 42 inches—yellowish brown sandy clay loam that has strong brown mottles
42 to 50 inches—mottled brownish yellow, yellowish brown, red, and light gray sandy clay loam

Substratum:
50 to 57 inches—mottled brownish yellow, yellowish brown, red, and light gray sandy clay loam that has strata of sandy loam
57 to 65 inches—mottled light gray, red, and yellowish brown sandy clay loam that has pockets and strata of sandy clay

Distinctive features: The lower part of the subsoil is firm and has common very firm, brittle pockets; the substratum is very firm.

Soil Properties and Qualities

Cowarts

Drainage class: Well drained
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderate in the subsoil and moderately slow or slow in the substratum
Available water capacity: Moderate
Tilth: Good
Root zone: Moderately deep to a very firm and compact substratum

Nankin

Drainage class: Well drained
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderately slow
Available water capacity: Moderate
Tilth: Good
Root zone: Deep to a very firm and compact substratum

Ailey

Drainage class: Well drained
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 slow in the lower part of the subsoil and in the substratum
Available water capacity: Low
Tilth: Good
Root zone: Deep or very deep to a very firm and compact substratum

Inclusions

- A few small areas of Blanton soils
- A few small areas that have sandstone and limestone boulders and fragments on the surface and in the soil
- A few small areas of eroded soils that have a surface layer of sandy clay loam or sandy loam

Use and Management

Land use: Mostly woodland; some cropland and pasture

Field crops, hay, and pasture

Suitability for field crops: Moderately suited
Suitability for hay: Well suited
Suitability for pasture: Well suited
Management concerns: Moderate hazard of erosion
Management practices and considerations:
- Conservation tillage systems help to control erosion and to maintain good tilth.
- Water management systems that include terraces and vegetated waterways help to control erosion.
- Conservation cropping systems help to control erosion and complement the general management of crops and soils.

Woodland

Potential productivity: High for loblolly pine and slash pine
Preferred trees to plant: Loblolly pine, slash pine, and longleaf pine
Management concerns: Moderate equipment limitations and seedling mortality in areas of the Ailey soils
Management practices and considerations:
- Bedding; planting adapted, drought-resistant plants; and minimizing plant competition increase the seedling survival rate.

• Conducting woodland operations when the soil is at the proper moisture content helps to overcome the soil limitations.

Urban uses

Suitability: Well suited, suited, or moderately suited to most urban uses
Management concerns: Slow permeability in the subsoil affects the performance of 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 recreational uses
Management concerns: Slow permeability in the subsoil; too sandy in the upper 20 to 40 inches of the Ailey soils
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: Cowarts—IIe; Nankin—IIe; Ailey—IIIs
Woodland ordination symbol: Cowarts—9A; Nankin—8A; Ailey—8S

DoA—Dothan loamy sand, 0 to 2 percent slopes

Setting

Landscape position: Ridges and high flats
Slope: Nearly level
Slope topography: Smooth and convex
Size of mapped areas: 5 to 190 acres

Typical Profile

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

Subsoil:
7 to 11 inches—yellowish brown sandy loam
11 to 21 inches—yellowish brown sandy clay loam
21 to 37 inches—yellowish brown sandy clay loam that has yellowish red mottles
37 to 65 inches—mottled yellowish brown, strong brown, light gray, and red sandy clay loam

Distinctive features: 7 to 15 percent plinthite at a depth of 37 to 65 inches

Soil Properties and Qualities

Drainage class: Well drained
Seasonal high water table: At a depth of 3 to 5 feet, perched
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
Tilth: Good
Root zone: Very deep

Inclusions

• A few small areas of Nankin and Cowarts soils on slope breaks and sharp ridges
• A few small areas of Clarendon soils in slight depressions
• A few small areas of Fuquay soils

Use and Management

Land use: Mostly cropland

Field crops, hay, and pasture

Suitability for field crops: Well suited
Suitability for hay: Well suited
Suitability for pasture: Well suited
Management concerns: General maintenance of the soil
Management practices and considerations:
• Conservation tillage systems help to maintain good tilth, the content of organic matter, and soil moisture.
• Conservation cropping systems complement the general management of crops and soils.

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

Urban uses

Suitability: Well suited to most uses
Management concerns: Moderately slow permeability in the lower part of the subsoil affects the performance of 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: No significant concerns

Interpretive Groups

Land capability classification: I
Woodland ordination symbol: 9A

DoB—Dothan loamy sand, 2 to 5 percent slopes

Setting

Landscape position: Ridges and hillslopes
Slope: Very gently sloping
Slope topography: Smooth and convex
Size of mapped areas: 5 to 400 acres

Typical Profile

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

Subsoil:
7 to 11 inches—yellowish brown sandy loam
11 to 21 inches—yellowish brown sandy clay loam
21 to 37 inches—yellowish brown sandy clay loam that has yellowish red mottles
37 to 65 inches—mottled yellowish brown, strong brown, light gray, and red sandy clay loam

Distinctive features: 7 to 15 percent plinthite at a depth of 37 to 65 inches

Soil Properties and Qualities

Drainage class: Well drained
Seasonal high water table: At a depth of 3 to 5 feet, perched
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
Tilth: Good
Root zone: Very deep

Inclusions

- A few small areas of Cowarts and Nankin soils on sharp ridges and slope breaks
- A few small areas of Clarendon soils in slight depressions
- A few small areas of Fuquay soils

Use and Management

Land use: Mostly cropland

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
Management practices and considerations:
- Conservation tillage systems help to control erosion and to maintain good tilth, the content of organic matter, and soil moisture.
- Water management systems that include terraces and vegetated waterways help to control erosion.
- Conservation cropping systems help to control erosion and complement the general management of crops and soils.

Woodland

Potential productivity: High for loblolly pine, slash pine, and longleaf pine (fig. 4)
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 affects the performance of 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 is a moderate limitation affecting some 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

FaB—Faceville sandy loam, 2 to 5 percent slopes

Setting

Landscape position: Ridges and hillslopes
Slope: Very gently sloping
Slope topography: Smooth and convex
Size of mapped areas: 5 to 150 acres

Typical Profile

Surface layer:
0 to 8 inches—brown sandy loam

Figure 4.—Thirty-year old pines in an area of Dothan loamy sand, 2 to 5 percent slopes. This area has been managed with thinning and controlled burning.

Subsoil:
8 to 12 inches—yellowish red sandy clay
12 to 43 inches—red sandy clay
43 to 62 inches—yellowish red sandy clay that has brownish yellow and red mottles

Soil Properties and Qualities

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

Inclusions

- A few small areas of Nankin soils on slope breaks
- A few small areas that have a surface layer of loamy sand
- A few small, eroded areas that have a surface layer of sandy clay loam

Use and Management

Land use: About evenly cropland, pasture, and woodland

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 in tilled areas
Management practices and considerations:
• Conservation tillage systems help to control erosion and to maintain good tilth, the content of organic matter, and soil moisture.
• Water management systems that include terraces and vegetated waterways help to control erosion.
• Conservation cropping systems help to control erosion and complement the general management of crops and soils.

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

Urban uses

Suitability: Well suited to most uses
Management concerns: The clayey subsoil affects some 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 some 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

FaC—Faceville sandy loam, 5 to 8 percent slopes

Setting

Landscape position: Hillslopes
Slope: Gently sloping
Slope topography: Smooth and convex
Size of mapped areas: 10 to 50 acres

Typical Profile

Surface layer:
0 to 8 inches—brown sandy loam

Subsoil:
8 to 12 inches—yellowish red sandy clay
12 to 43 inches—red sandy clay
43 to 62 inches—yellowish red sandy clay that has brownish yellow and red mottles

Soil Properties and Qualities

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

Inclusions

• Small areas of rills, eroded areas, and a few shallow gullies; the surface layer is sandy clay loam in the more eroded places.
• Small areas of Nankin soils on slope breaks
• A few small areas of Orangeburg soils on the lower part of the slope

Use and Management

Land use: Mostly woodland; some cropland and pasture

Field crops, hay, and pasture

Suitability for field crops: Moderately suited
Suitability for hay: Well suited
Suitability for pasture: Well suited
Management concerns: Moderate hazard of erosion in tilled areas
Management practices and considerations:
• Conservation tillage systems help to control erosion and to maintain good tilth, the content of organic matter, and soil moisture.
• Water management systems that include terraces and vegetated waterways help to control erosion.
• Conservation cropping systems help to control erosion and complement the general management of crops and soils.

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

Urban uses

Suitability: Well suited to most uses
Management concerns: The clayey subsoil and the slope affect some 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 some 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, 0 to 5 percent slopes

Setting

Landscape position: Ridges and high flats
Slope: Nearly level and very gently sloping
Slope topography: Smooth and convex
Size of mapped areas: 5 to 150 acres

Typical Profile

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

Subsurface layer:
10 to 22 inches—yellowish brown loamy sand
22 to 28 inches—light yellowish brown loamy sand

Subsoil:
28 to 36 inches—light yellowish brown sandy loam
36 to 43 inches—light yellowish brown sandy clay loam that has strong brown mottles
43 to 65 inches—mottled yellowish brown, strong brown, pale brown, and gray sandy clay loam

Distinctive features: 12 percent plinthite at a depth of 43 to 65 inches

Soil Properties and Qualities

Drainage class: Well drained
Seasonal high water table: At a depth of 4 to 6 feet, perched
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 slow in the lower part of the subsoil
Available water capacity: Low
Tilth: Good
Root zone: Very deep

Inclusions

• A few small areas of Blanton soils
• A few small areas of Stilson soils in slight depressions

Use and Management

Land use: Mostly cropland; some pasture and woodland

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:
• Returning plant residue to the soil helps the soil retain moisture.
• Crops in areas of this soil respond well to irrigation.
• Conservation tillage systems help to maintain good tilth, the content of organic matter, and soil moisture.

Woodland

Potential productivity: High for slash pine and moderately high for loblolly pine
Preferred trees to plant: Loblolly pine, slash pine, and longleaf pine
Management concerns: Moderate equipment limitations and seedling mortality
Management practices and considerations:
• Bedding; planting adapted, drought-resistant plants; and minimizing plant competition increase the seedling survival rate.
• Conducting woodland operations when the soil is at the proper moisture content helps to overcome the soil limitations.

Urban uses

Suitability: Well suited to most uses
Management concerns: Slow permeability in the lower part of the subsoil affects the performance of septic tank absorption fields; seepage affects some 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: Too sandy in the upper 20 to 40 inches of the soil
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: Hillslopes
Slope: Gently sloping
Slope topography: Smooth and convex
Size of mapped areas: 5 to 30 acres

Typical Profile

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

Subsurface layer:
10 to 22 inches—yellowish brown loamy sand
22 to 28 inches—light yellowish brown loamy sand

Subsoil:
28 to 36 inches—light yellowish brown sandy loam
36 to 43 inches—light yellowish brown sandy clay loam that has strong brown mottles
43 to 65 inches—mottled yellowish brown, strong brown, pale brown, and gray sandy clay loam

Distinctive features: 12 percent plinthite at a depth of 43 to 65 inches

Soil Properties and Qualities

Drainage class: Well drained
Seasonal high water table: At a depth of 4 to 6 feet, perched
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 slow in the lower part of the subsoil
Available water capacity: Low
Tilth: Good
Root zone: Very deep

Inclusions

- A few small areas of Ailey and Blanton soils

Use and Management

Land use: Mostly woodland; some cropland and pasture

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 capacity; moderate hazard of rill formation on bare soil
Management practices and considerations:
- Returning plant residue to the soil helps the soil retain moisture.
- Crops in areas of this soil respond well to irrigation.
- Conservation tillage systems help to maintain good tilth, the content of organic matter, and soil moisture.

Woodland

Potential productivity: High for slash pine and moderately high for loblolly pine
Preferred trees to plant: Loblolly pine, slash pine, and longleaf pine
Management concerns: Moderate equipment limitations and seedling mortality
Management practices and considerations:
- Bedding; planting adapted, drought-hardy plants; and minimizing plant competition increase seedling survival.
- Conducting woodland operations when the soil is at the proper moisture content helps to overcome the soil limitations.

Urban uses

Suitability: Well suited, suited, or moderately suited to most uses
Management concerns: Slow permeability in the lower part of the subsoil affects the performance of septic tank absorption fields; slope and seepage affect some 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: Too sandy in the upper 20 to 40 inches of the soil; slope affects some uses.
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
Slope: Nearly level

Slope topography: Concave
Size of mapped areas: 5 to 75 acres

Typical Profile

Surface layer:
0 to 5 inches—dark gray loam

Subsoil:
5 to 8 inches—dark gray clay loam
8 to 15 inches—gray clay
15 to 32 inches—gray clay that has yellowish brown and red mottles
32 to 65 inches—light gray sandy clay that has gray, brownish yellow, and very pale brown mottles

Soil Properties and Qualities

Drainage class: Poorly drained
Seasonal high water table: 2 feet above the surface to a depth of 1 foot
Natural fertility: Low
Content of organic matter: Moderately low or moderate
Permeability: Slow
Available water capacity: Moderate
Root zone: Very deep

Use and Management

Land use: Mostly woodland; some pasture

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: Low, even for water-tolerant trees
Preferred trees to plant: American sycamore and water tupelo; naturally regenerated trees are water oak, baldcypress, and blackgum.
Management concerns: Seasonal wetness and ponding limit the use of equipment and affect seedling survival for trees that are not water tolerant.
Management practices and considerations:
• Conducting woodland operations when the soil is at the proper moisture content helps to overcome the soil limitations.

Urban uses

Suitability: Unsuited
Management concerns: Wetness and ponding

Recreational development

Suitability: Unsuited
Management concerns: Wetness and ponding

Interpretive Groups

Land capability classification: Vw
Woodland ordination symbol: 6W

GsA—Greenville sandy loam, 0 to 2 percent slopes

Setting

Landscape position: Ridges
Slope: Nearly level
Slope topography: Smooth and convex
Size of mapped areas: 10 to 40 acres

Typical Profile

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

Subsoil:
5 to 12 inches—dark red sandy clay loam
12 to 62 inches—dark red sandy clay

Soil Properties and Qualities

Drainage class: Well drained
Natural fertility: Low
Content of organic matter: Low or moderately low
Permeability: Moderate
Available water capacity: High
Tilth: Good, but compaction and clodding are hazards if the soil is tilled when wet or extremely dry.
Root zone: Very deep

Inclusions

• A few small areas of Faceville soils

Use and Management

Land use: Mostly woodland; some cropland and pasture

Field crops, hay, and pasture

Suitability for field crops: Well suited
Suitability for hay: Well suited
Suitability for pasture: Well suited
Management concerns: Compaction if the soil is tilled when wet or extremely dry
Management practices and considerations:
• Restricting tillage and other equipment traffic to periods when the soil is not wet minimizes compaction.
• Conservation tillage systems help to maintain good tilth, the content of organic matter, and soil moisture.
• Conservation cropping systems complement the general management of crops and soils.

Woodland

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

Urban uses

Suitability: Well suited to most uses
Management concerns: The clayey subsoil is a moderate limitation affecting some 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

Interpretive Groups

Land capability classification: I
Woodland ordination symbol: 8A

GsB—Greenville sandy loam, 2 to 5 percent slopes

Setting

Landscape position: Ridges and hillslopes
Slope: Very gently sloping
Slope topography: Smooth and convex
Size of mapped areas: 5 to 150 acres

Typical Profile

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

Subsoil:
5 to 12 inches—dark red sandy clay loam
12 to 62 inches—dark red sandy clay

Soil Properties and Qualities

Drainage class: Well drained
Natural fertility: Low
Content of organic matter: Low or moderately low
Permeability: Moderate
Available water capacity: High
Tilth: Good, but compaction and clodding are hazards if the soil is tilled when wet or extremely dry.
Root zone: Very deep

Inclusions

• A few small, eroded areas that have a surface layer of sandy clay loam
• A few small areas of Faceville soils

Use and Management

Land use: Mostly woodland; some cropland and pasture

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 in tilled areas; soil compaction if the soil is tilled when too wet
Management practices and considerations:
• Conservation tillage systems help to control erosion and to maintain good tilth, the content of organic matter, and soil moisture.
• Water management systems that include terraces and vegetated waterways help to control erosion.
• Conservation cropping systems help to control erosion and complement the general management of crops and soils.
• Restricting tillage and other equipment traffic to periods when the soil is not wet minimizes compaction.

Woodland

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

Urban uses

Suitability: Well suited to most uses
Management concerns: The clayey subsoil and the slope affect some 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 some 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

GsC—Greenville sandy loam, 5 to 8 percent slopes

Setting

Landscape position: Hillslopes
Slope: Gently sloping
Slope topography: Smooth and convex
Size of mapped areas: 10 to 40 acres

Typical Profile

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

Subsoil:
5 to 12 inches—dark red sandy clay loam
12 to 62 inches—dark red sandy clay

Soil Properties and Qualities

Drainage class: Well drained
Natural fertility: Low
Content of organic matter: Low or moderately low
Permeability: Moderate
Available water capacity: High
Tilth: Good, but compaction and clodding are hazards if the soil is tilled when wet or extremely dry.
Root zone: Very deep

Inclusions

- A few small, eroded areas that have a surface layer of sandy clay loam
- Small areas of Nankin and Cowarts soils on slope breaks

Use and Management

Land use: Mostly woodland

Field crops, hay, and pasture

Suitability for field crops: Moderately suited
Suitability for hay: Well suited
Suitability for pasture: Well suited
Management concerns: Moderate hazard of erosion in tilled areas; soil compaction if the soil is tilled when wet or extremely dry
Management practices and considerations:
- Conservation tillage systems help to control erosion and to maintain good tilth, the content of organic matter, and soil moisture.
- Water management systems that include terraces and vegetated waterways help to control erosion.
- Conservation cropping systems help to control erosion and complement the general management of crops and soils.
- Restricting tillage and other equipment traffic to periods when the soil is not wet minimizes compaction.

Woodland

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

Urban uses

Suitability: Well suited, suited, or moderately suited
Management concerns: The clayey subsoil and the slope affect some 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 is a limitation affecting playgrounds.
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

GsD—Greenville sandy loam, 8 to 12 percent slopes

Setting

Landscape position: Hillslopes
Slope: Strongly sloping
Slope topography: Smooth and convex
Size of mapped areas: 10 to 50 acres

Typical Profile

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

Subsoil:
5 to 12 inches—dark red sandy clay loam
12 to 62 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: High
Tilth: Good, but compaction and clodding are hazards if the soil is tilled when wet or extremely dry.
Root zone: Very deep

Inclusions

• A few small, eroded areas that have a surface layer of sandy clay loam
• Small areas of Nankin and Cowarts soils on slope breaks

Use and Management

Land use: Mostly woodland

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 erosion if the soil is tilled; soil compaction if the soil is tilled when wet or extremely dry
Management practices and considerations:
• Conservation tillage systems help to control erosion and to maintain good tilth, the content of organic matter, and soil moisture.
• Water management systems that include terraces and vegetated waterways help to control erosion.
• Conservation cropping systems help to control erosion and complement the general management of crops and soils.
• Restricting tillage and other equipment traffic to periods when the soil is not wet minimizes compaction.

Woodland

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

Urban uses

Suitability: Moderately suited to most uses
Management concerns: The clayey subsoil and the slope affect some 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: Slope
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

LaB—Lakeland sand, 0 to 8 percent slopes

Setting

Landscape position: Ridges and hillslopes
Slope: Nearly level to gently sloping
Slope topography: Smooth and convex
Size of mapped areas: 10 to 400 acres

Typical Profile

Surface layer:
0 to 4 inches—brown sand

Underlying material:
4 to 25 inches—yellowish brown sand
25 to 62 inches—brownish yellow sand
62 to 88 inches—very pale brown sand

Soil Properties and Qualities

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

Inclusions

• A few small areas of Blanton soils

Use and Management

Land use: Mostly woodland

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 and low nutrient holding capacity
Management practices and considerations:
• Returning plant residue to the soil helps the soil retain moisture.
• Using split applications improves the effectiveness of fertilizer.
• Yields for the commonly grown crops can be increased by irrigation.

Woodland

Potential productivity: Moderate for slash pine and loblolly pine

Preferred trees to plant: Slash pine, loblolly pine, and longleaf pine
Management concerns: Seedling mortality and equipment limitations
Management practices and considerations:
• Bedding; planting adapted, drought-resistant plants; and minimizing plant competition increase the seedling survival rate.
• Conducting woodland operations when the soil is at the proper moisture content helps to overcome the soil limitations.

Urban uses

Suitability: Well suited to most uses
Management concerns: Seepage affects the performance of 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; poor trafficability
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

LuB—Lucy loamy sand, 0 to 5 percent slopes

Setting

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

Typical Profile

Surface layer:
0 to 9 inches—brown loamy sand

Subsurface layer:
9 to 27 inches—yellowish red loamy sand

Subsoil:
27 to 36 inches—yellowish red sandy loam
36 to 63 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 surface and subsurface layers and moderate in the subsoil
Available water capacity: Low
Tilth: Good
Root zone: Very deep

Inclusions

• A few small areas of Blanton soils

Use and Management

Land use: About equally cropland, woodland, and pasture

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:
• Returning plant residue to the soil helps the soil retain moisture.
• Crops in areas of this soil respond well to irrigation.
• Conservation tillage systems help to maintain good tilth, the content of organic matter, and soil moisture.

Woodland

Potential productivity: Moderately high for slash pine, loblolly pine, and longleaf pine
Preferred trees to plant: Slash pine, loblolly pine, and longleaf pine
Management concerns: Moderate equipment limitations and seedling mortality
Management practices and considerations:
• Bedding; planting adapted, drought-resistant plants; and minimizing plant competition increase the seedling survival rate.
• Conducting woodland operations when the soil is at the proper moisture content helps to overcome the soil limitations.

Urban uses

Suitability: Well suited to most uses
Management concerns: Seepage affects some 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: Too sandy to a depth of 20 to 40 inches

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

LuC—Lucy loamy sand, 5 to 12 percent slopes

Setting

Landscape position: Hillslopes
Slope: Gently sloping and strongly sloping
Slope topography: Smooth and convex
Size of mapped areas: 5 to 75 acres

Typical Profile

Surface layer:
0 to 9 inches—brown loamy sand

Subsurface layer:
9 to 27 inches—yellowish red loamy sand

Subsoil:
27 to 36 inches—yellowish red sandy loam
36 to 63 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 surface and subsurface layers and moderate in the subsoil
Available water capacity: Low
Tilth: Good
Root zone: Very deep

Inclusions

• A few small areas of Blanton soils
• A few shallow gullies in the strongly sloping areas

Use and Management

Land use: Mostly woodland

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; moderate hazard of gully formation on bare soil in the strongly sloping areas
Management practices and considerations:
• Returning plant residue to the soil helps the soil retain moisture.
• Crops in areas of this soil respond well to irrigation.
• Conservation tillage systems help to maintain good tilth, the content of organic matter, and soil moisture.

Woodland

Potential productivity: Moderately high for loblolly pine, slash pine, and longleaf pine
Preferred trees to plant: Slash pine, loblolly pine, and longleaf pine
Management concerns: Moderate equipment limitations and seedling mortality
Management practices and considerations:
• Bedding; planting adapted, drought-resistant plants; and minimizing plant competition increase the seedling survival rate.
• Conducting woodland operations when the soil is at the proper moisture content helps to overcome the soil limitations.

Urban uses

Suitability: Well suited to most uses
Management concerns: Seepage and slope affect some 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: Too sandy to a depth of 20 to 40 inches; slope affects some uses.
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

NaC—Nankin-Cowarts-Ailey loamy sands, 5 to 8 percent slopes

Composition

Nankin soils: 43 percent
Cowarts soils: 33 percent
Ailey soils: 10 percent
Minor soils: 14 percent

Setting

Landscape position: Narrow hillslopes

Slope: Gently sloping
Slope topography: Rolling
Size of mapped areas: 10 to 50 acres
Pattern of occurrence: An intermingled pattern that could not be separated at the scale of mapping

Typical Profile

Nankin

Surface layer:
0 to 7 inches—brown loamy sand

Subsoil:
7 to 14 inches—yellowish brown sandy clay loam
14 to 28 inches—strong brown sandy clay that has yellowish red mottles
28 to 42 inches—strong brown sandy clay that has yellowish red and light gray mottles
42 to 50 inches—mottled red, brown, and light gray clay

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

Distinctive features: The substratum is very firm.

Cowarts

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

Subsurface layer:
7 to 11 inches—yellowish brown loamy sand

Subsoil:
11 to 14 inches—yellowish brown sandy loam
14 to 20 inches—yellowish brown sandy clay loam
20 to 32 inches—yellowish brown sandy clay loam that has red mottles

Substratum:
32 to 62 inches—mottled yellowish brown, light gray, and red sandy loam that has finer and coarser strata

Distinctive features: The substratum is very firm.

Ailey

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

Subsurface layer:
8 to 30 inches—light yellowish brown loamy sand

Subsoil:
30 to 35 inches—brownish yellow sandy loam
35 to 42 inches—yellowish brown sandy clay loam that has strong brown mottles
42 to 50 inches—mottled brownish yellow, yellowish brown, red, and light gray sandy clay loam

Substratum:
50 to 57 inches—mottled brownish yellow, yellowish brown, red, and light gray sandy clay loam that has strata of sandy loam
57 to 65 inches—mottled light gray, red, and yellowish brown sandy clay loam that has pockets and strata of sandy clay

Distinctive features: The lower part of the subsoil is firm and has common very firm, brittle pockets; the substratum is very firm.

Soil Properties and Qualities

Nankin

Drainage class: Well drained
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderately slow
Available water capacity: Moderate
Tilth: Good
Root zone: Deep to a very firm and compact substratum

Cowarts

Drainage class: Well drained
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderate in the subsoil and moderately slow or slow in the substratum
Available water capacity: Moderate
Tilth: Good
Root zone: Moderately deep to a very firm and compact substratum

Ailey

Drainage class: Well drained
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 slow in the lower part of the subsoil and in the substratum
Available water capacity: Low
Tilth: Good
Root zone: Deep or very deep to a very firm and compact substratum

Inclusions

- A few small areas of Blanton soils
- A few small areas that have sandstone and limestone boulders and fragments on the surface and in the soil

• A few small areas of eroded soils that have a surface layer of sandy clay loam or sandy loam
• A few small areas of Susquehanna soils on the lower parts of slopes

Use and Management

Land use: Mostly woodland; some pasture

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 erosion if the soil is cultivated; short, choppy slopes that complicate soil management
Management practices and considerations:
• Conservation tillage systems help to control erosion and to maintain good tilth.
• Water management systems that include terraces and vegetated waterways help to control erosion.
• Conservation cropping systems help to control erosion and complement the general management of crops and soils.

Woodland

Potential productivity: Moderately high for loblolly pine and slash pine
Preferred trees to plant: Loblolly pine and slash pine
Management concerns: Moderate equipment limitations and seedling mortality in areas of the Ailey soil
Management practices and considerations:
• Bedding; planting adapted, drought-resistant plants; and minimizing plant competition increase the seedling survival rate.
• Conducting woodland operations when the soil is at the proper moisture content helps to overcome the soil limitations.

Urban uses

Suitability: Well suited, suited, or moderately suited to most urban uses
Management concerns: Slow permeability in the subsoil affects the performance of septic tank absorption fields; slope affects some 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 recreational uses
Management concerns: Slow permeability and slope; too sandy in the upper 20 to 40 inches of the Ailey soils
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: Nankin—IIIe; Cowarts—IIIe; Ailey—IVs
Woodland ordination symbol: Nankin—8A; Cowarts—9A; Ailey—8S

NsD—Nankin-Cowarts-Susquehanna complex, 8 to 15 percent slopes

Composition

Nankin soils: 50 percent
Cowarts soils: 25 percent
Susquehanna soils: 13 percent
Minor soils: 12 percent

Setting

Landscape position: Narrow hillslopes
Slope: Strongly sloping and moderately steep
Slope topography: Convex on the upper and middle slopes and slightly concave on the lower slopes
Size of mapped areas: 5 to 50 acres
Pattern of occurrence: An intermingled pattern that could not be separated at the scale of mapping

Typical Profile

Nankin

Surface layer:
0 to 7 inches—brown loamy sand

Subsoil:
7 to 14 inches—yellowish brown sandy clay loam
14 to 28 inches—strong brown sandy clay that has yellowish red mottles
28 to 42 inches—strong brown sandy clay that has yellowish red and light gray mottles
42 to 50 inches—mottled red, brown, and light gray clay

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

Distinctive features: The substratum is very firm.

Cowarts

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

Subsurface layer:
7 to 11 inches—yellowish brown loamy sand

Subsoil:
11 to 14 inches—yellowish brown sandy loam
14 to 20 inches—yellowish brown sandy clay loam
20 to 32 inches—yellowish brown sandy clay loam that has red mottles

Substratum:
32 to 62 inches—mottled yellowish brown, light gray, and red sandy loam that has finer and coarser strata

Distinctive features: The substratum is very firm.

Susquehanna

Surface layer:
0 to 5 inches—brown sandy loam

Subsoil:
5 to 12 inches—reddish brown clay that has red mottles
12 to 19 inches—reddish brown clay that has red and light gray mottles
19 to 27 inches—mottled reddish brown, light gray, and red clay
27 to 67 inches—light gray clay that has red and very pale brown mottles

Distinctive features: Very firm, plastic subsoil of clay; slickensides throughout the lower part of the subsoil

Soil Properties and Qualities

Nankin

Drainage class: Well drained
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderately slow
Available water capacity: Moderate
Tilth: Good
Root zone: Deep to a very firm and compact substratum

Cowarts

Drainage class: Well drained
Natural fertility: Low
Content of organic matter: Low
Permeability: Moderate in the subsoil and moderately slow or slow in the substratum
Available water capacity: Moderate
Tilth: Good
Root zone: Moderately deep to a very firm and compact substratum

Susquehanna

Drainage class: Somewhat poorly drained
Natural fertility: Low
Content of organic matter: Low or moderately low
Permeability: Very slow
Available water capacity: High
Tilth: Good
Root zone: Very deep, but somewhat restricted by the very firm subsoil

Inclusions

- A few small areas that have sandstone and limestone boulders and fragments on the surface and in the soil
- A few small, narrow areas that have slopes up to 17 percent; along drainageways
- A few small areas of eroded soils that have a surface layer of sandy clay loam or sandy loam

Use and Management

Land use: Mostly woodland

Field crops, hay, and pasture

Suitability for field crops: Unsuited
Suitability for hay: Poorly suited
Suitability for pasture: Poorly suited
Management concerns: Short, choppy, strongly sloping areas that complicate soil management
Management practices and considerations:
- Pasture and hayland management help to control erosion.
- Performing land preparation operations on the contour helps 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: Moderate equipment limitations; soil compaction caused by harvesting
Management practices and considerations:
- Performing woodland operations during dry seasons helps to prevent soil compaction and complements the performance of standard equipment.
- Subsoiling and chiseling after harvesting improve the site for replanting.
- Performing woodland operations on the contour helps to control erosion.

Urban uses

Suitability: Poorly suited to most urban uses
Management concerns: Slope; slow permeability in the subsoil affects the performance of 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 recreational uses
Management concerns: Slow permeability and slope
Management practices and considerations:
• Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: Nankin—IVe; Cowarts—IVe; Susquehanna—VIe
Woodland ordination symbol: Nankin—8A; Cowarts—9A; Susquehanna—8C

OrA—Orangeburg loamy sand, 0 to 2 percent slopes

Setting

Landscape position: Ridges and high flats
Slope: Nearly level
Slope topography: Smooth and convex
Size of mapped areas: 10 to 100 acres

Typical Profile

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

Subsurface layer:
7 to 11 inches—brown loamy sand

Subsoil:
11 to 18 inches—red sandy loam
18 to 63 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
Tilth: Good
Root zone: Very deep

Inclusions

• A few small areas of Lucy soils

Use and Management

Land use: Mostly cropland

Field crops, hay, and pasture

Suitability for field crops: Well suited
Suitability for hay: Well suited
Suitability for pasture: Well suited
Management concerns: General maintenance of the soil
Management practices and considerations:
• Conservation tillage systems help to maintain good tilth, the content of organic matter, and soil moisture.
• Conservation cropping systems complement the general management of crops and soils.

Woodland

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

Urban uses

Suitability: Well suited

Recreational development

Suitability: Well suited

Interpretive Groups

Land capability classification: I
Woodland ordination symbol: 8A

OrB—Orangeburg loamy sand, 2 to 5 percent slopes

Setting

Landscape position: Ridges
Slope: Very gently sloping
Slope topography: Smooth and convex
Size of mapped areas: 5 to 150 acres

Typical Profile

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

Subsurface layer:
7 to 11 inches—brown loamy sand

Subsoil:
11 to 18 inches—red sandy loam
18 to 63 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
Tilth: Good
Root zone: Very deep

Inclusions

• A few small, eroded areas that have a surface layer of sandy loam

Use and Management

Land use: Mostly cropland; some woodland

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 in cultivated areas
Management practices and considerations:
• Conservation tillage systems help to control erosion and to maintain good tilth, the content of organic matter, and soil moisture.
• Water management systems that include terraces and vegetated waterways help to control erosion.
• Conservation cropping systems help to control erosion and complement the general management of crops and soils.

Woodland

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

Urban uses

Suitability: Well suited

Recreational development

Suitability: Well suited to most uses
Management concerns: Slope is a limitation affecting playgrounds.
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

OrC—Orangeburg loamy sand, 5 to 8 percent slopes

Setting

Landscape position: Hillslopes
Slope: Gently sloping
Slope topography: Smooth and convex
Size of mapped areas: 5 to 70 acres

Typical Profile

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

Subsurface layer:
7 to 11 inches—brown loamy sand

Subsoil:
11 to 18 inches—red sandy loam
18 to 63 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
Tilth: Good
Root zone: Very deep

Inclusions

• A few small areas of Faceville soils
• A few small areas of Nankin and Cowarts soils on slope breaks
• A few small areas of eroded soils that have a surface layer of sandy loam

Use and Management

Land use: Mostly woodland and pasture

Field crops, hay, and pasture

Suitability for field crops: Moderately suited
Suitability for hay: Well suited
Suitability for pasture: Well suited
Management concerns: Moderate hazard of erosion in tilled areas
Management practices and considerations:
• Conservation tillage systems help to control erosion and to maintain good tilth, the content of organic matter, and soil moisture.
• Water management systems that include terraces and vegetated waterways help to control erosion.
• Conservation cropping systems help to control erosion and complement the general management of crops and soils.

Woodland

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

Urban uses

Suitability: Well suited to most uses

Management concerns: Slope is a moderate limitation affecting some 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 is a limitation affecting playgrounds.
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

OrD—Orangeburg loamy sand, 8 to 12 percent slopes

Setting

Landscape position: Hillslopes
Slope: Strongly sloping
Slope topography: Smooth and convex
Size of mapped areas: 10 to 50 acres

Typical Profile

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

Subsurface layer:
7 to 11 inches—brown loamy sand

Subsoil:
11 to 18 inches—red sandy loam
18 to 63 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
Tilth: Good
Root zone: Very deep

Inclusions

• A few small areas of Nankin and Cowarts soils on slope breaks and along the lower part of slopes
• A few shallow gullies
• A few small, eroded areas that have a surface layer of sandy loam
• A few small areas of Lucy soils

Use and Management

Land use: Mostly woodland

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 erosion if the soil is tilled
Management practices and considerations:
• Conservation tillage systems help to control erosion and to maintain good tilth, the content of organic matter, and soil moisture.
• Water management systems that include terraces and vegetated waterways help to control erosion.
• Conservation cropping systems help to control erosion and complement the general management of crops and soils.

Woodland

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

Urban uses

Suitability: Moderately 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.

Recreational development

Suitability: Moderately suited
Management concerns: Slope is a limitation affecting some 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

PeA—Pelham loamy sand

Setting

Landscape position: Upland depressions and low flats
Slope: Nearly level
Slope topography: Smooth and concave

Size of mapped areas: 5 to 125 acres

Typical Profile

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

Subsurface layer:
6 to 16 inches—dark gray loamy sand
16 to 26 inches—gray loamy sand

Subsoil:
26 to 34 inches—light gray sandy loam that has light brownish gray mottles
34 to 68 inches—light gray sandy clay loam that has brownish yellow, light brown, and light yellowish brown mottles

Substratum:
68 to 80 inches—light gray sandy loam that has brownish yellow mottles

Soil Properties and Qualities

Drainage class: Poorly drained
Seasonal high water table: At the surface to a depth of 1 foot
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: Low
Tilth: Good, except during wet seasons
Root zone: Very deep

Inclusions

- A few small areas that are commonly flooded for brief periods during wet seasons
- A few small areas of a moderately wet soil that has a seasonal high water table at a depth of 1 to 1 1/2 feet; in seep areas

Use and Management

Land use: Mostly woodland

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 slash pine and loblolly pine
Preferred trees to plant: Slash pine and loblolly pine
Management concerns: Seasonal wetness limits the use of conventional equipment and increases the seedling mortality rate.
Management practices and considerations:
- Conducting woodland operations when the soil is at the proper moisture content helps to overcome the soil limitations.
- Bedding of rows, minimizing plant competition, and planting adapted species increase the seedling survival rate.

Urban uses

Suitability: Poorly suited
Management concerns: Wetness

Recreational development

Suitability: Poorly suited
Management concerns: Wetness

Interpretive Groups

Land capability classification: Vw
Woodland ordination symbol: 11W

PfA—Pelham loamy sand, occasionally flooded

Setting

Landscape position: Drainageways
Flooding: Occasionally flooded during wet seasons
Slope: Nearly level
Slope topography: Slightly concave or flat
Size of mapped areas: 5 to 50 acres

Typical Profile

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

Subsurface layer:
6 to 16 inches—dark gray loamy sand
16 to 26 inches—gray loamy sand

Subsoil:
26 to 34 inches—light gray sandy loam that has light brownish gray mottles
34 to 68 inches—light gray sandy clay loam that has brownish yellow, light brown, and light yellowish brown mottles

Substratum:
68 to 80 inches—light gray sandy loam that has brownish yellow mottles

Soil Properties and Qualities

Drainage class: Poorly drained
Seasonal high water table: At the surface to a depth of 1 foot
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: Low
Tilth: Good, except during wet seasons
Root zone: Very deep

Inclusions

- A few small areas that are ponded
- A few small areas of Grady soils
- A few small areas of Bibb and Osier soils

Use and Management

Land use: Mostly woodland

Field crops, hay, and pasture

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

Woodland

Potential productivity: High for slash pine and loblolly pine
Preferred trees to plant: Slash pine and loblolly pine
Management concerns: Seasonal wetness and flooding limit the use of conventional equipment and increase the seedling mortality rate.
Management practices and considerations:
- Bedding of rows, minimizing plant competition, planting adapted species, and installing a drainage system (where permitted) increase the seedling survival rate.
- Conducting woodland operations when the soil is at the proper moisture content helps to overcome the soil limitations.

Urban uses

Suitability: Unsuited or poorly suited
Management concerns: Wetness and flooding

Recreational development

Suitability: Poorly suited
Management concerns: Wetness and flooding

Interpretive Groups

Land capability classification: Vw
Woodland ordination symbol: 11W

PpA—Pelham loamy sand, ponded

Setting

Landscape position: Upland depressions
Landscape features: Frequently ponded for long periods
Slope: Nearly level
Slope topography: Slightly concave
Size of mapped areas: 5 to 40 acres

Typical Profile

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

Subsurface layer:
6 to 16 inches—dark gray loamy sand
16 to 26 inches—gray loamy sand

Subsoil:
26 to 34 inches—light gray sandy loam that has light brownish gray mottles
34 to 68 inches—light gray sandy clay loam that has brownish yellow, light brown, and light yellowish brown mottles

Substratum:
68 to 80 inches—light gray sandy loam that has brownish yellow mottles

Soil Properties and Qualities

Drainage class: Poorly drained
Seasonal high water table: 1 foot above the surface to a depth of 1 foot
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: Low
Tilth: Good, except during wet seasons
Root zone: Very deep

Inclusions

- A few small areas that are inundated by flowing water during rainy seasons
- A few small areas of Grady soils in the center of depressions

Use and Management

Land use: Woodland

Field crops, hay, and pasture

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

Woodland

Potential productivity: High for slash pine and loblolly pine
Preferred trees to plant: Loblolly pine and slash pine
Management concerns: Wetness and ponding cause

severe equipment limitations and increase the seedling mortality rate.
Management practices and considerations:
• Bedding, minimizing plant competition, and planting adapted species increase the seedling survival rate.
• Perform equipment operations during dryer seasons or use modified equipment

Urban uses

Suitability: Unsuited or poorly suited
Management concerns: Wetness and ponding

Recreational development

Suitability: Poorly suited
Management concerns: Wetness and ponding

Interpretive Groups

Land capability classification: Vw
Woodland ordination symbol: 11W

Ra—Rains loamy sand

Setting

Landscape position: Smooth, low flats and slight depressions
Slope: Nearly level
Slope topography: Smooth or slightly concave
Size of mapped areas: 5 to 45 acres

Typical Profile

Surface layer:
0 to 5 inches—very dark gray loamy sand

Subsurface layer:
5 to 12 inches—dark gray loamy sand

Subsoil:
12 to 18 inches—gray sandy loam that has yellow and yellowish brown mottles
18 to 26 inches—gray sandy clay loam that has yellowish brown mottles
26 to 42 inches—light gray sandy clay loam that has red, yellowish brown, and brownish yellow mottles
42 to 65 inches—light gray sandy clay loam that has brownish yellow mottles

Soil Properties and Qualities

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

Inclusions

• A few small areas of Grady soils in the center of depressions
• A few small areas of Pelham soils around the edge of depressions

Use and Management

Land use: Mostly woodland; some pasture

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 and sweetgum
Preferred trees to plant: Loblolly pine
Management concerns: Seasonal wetness limits the use of conventional equipment and increases the seedling mortality rate.
Management practices and considerations:
• Conducting woodland operations when the soil is at the proper moisture content helps to overcome the soil limitations.

Urban uses

Suitability: Poorly suited
Management concerns: Wetness

Recreational development

Suitability: Poorly suited
Management concerns: Wetness

Interpretive Groups

Land capability classification: IIIw
Woodland ordination symbol: 10W

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

Setting

Landscape position: Ridges
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 reddish brown loamy sand

Subsoil:
5 to 18 inches—dark red sandy loam
18 to 65 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
Tilth: Good
Root zone: Very deep

Inclusions

- A few small, eroded areas that have a surface layer of sandy loam
- A few small areas of Lucy soils

Use and Management

Land use: Mostly woodland; some cropland and pasture

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 in tilled areas
Management practices and considerations:
- Conservation tillage systems help to control erosion and to maintain good tilth, the content of organic matter, and soil moisture.
- Water management systems that include terraces and vegetated waterways help to control erosion.
- Conservation cropping systems help to control erosion and complement the general management of crops and soils.

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

Urban uses

Suitability: Well suited to most uses

Recreational development

Suitability: Well suited to most uses
Management concerns: Slope is a limitation affecting playgrounds.
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

ReC—Red Bay loamy sand, 5 to 8 percent slopes

Setting

Landscape position: Hillslopes
Slope: Gently sloping
Slope topography: Smooth and convex
Size of mapped areas: 10 to 30 acres

Typical Profile

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

Subsoil:
5 to 18 inches—dark red sandy loam
18 to 65 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
Tilth: Good
Root zone: Very deep

Inclusions

- A few small, eroded areas that have a surface layer of sandy loam
- A few small areas of Lucy soils

Use and Management

Land use: Mostly woodland

Field crops, hay, and pasture

Suitability for field crops: Moderately suited
Suitability for hay: Well suited
Suitability for pasture: Well suited
Management concerns: Moderate hazard of erosion in tilled areas
Management practices and considerations:
- Conservation tillage systems help to control erosion and to maintain good tilth, the content of organic matter, and soil moisture.

• Water management systems that include terraces and vegetated waterways help to control erosion.
• Conservation cropping systems help to control erosion and complement the general management of crops and soils.

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

Urban uses

Suitability: Well suited to most uses
Management concerns: Slope is a moderate limitation affecting some uses.

Recreational development

Suitability: Well suited to most uses
Management concerns: Slope is a limitation affecting playgrounds.
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

StA—Stilson loamy sand, 0 to 2 percent slopes

Setting

Landscape position: Slight depressions and flats
Slope: Nearly level
Slope topography: Smooth
Size of mapped areas: 5 to 30 acres

Typical Profile

Surface layer:
0 to 6 inches—very dark gray loamy sand

Subsurface layer:
6 to 11 inches—brown loamy sand
11 to 23 inches—brownish yellow loamy sand

Subsoil:
23 to 29 inches—brownish yellow sandy loam
29 to 35 inches—brownish yellow sandy clay loam that has light gray and yellowish brown mottles
35 to 55 inches—mottled brownish yellow, light gray, strong brown, and red sandy clay loam
55 to 65 inches—mottled light gray, strong brown, and light yellowish brown sandy clay loam

Distinctive features: 10 percent plinthite at a depth of 35 to 55 inches

Soil Properties and Qualities

Drainage class: Moderately well drained
Depth to the seasonal high water table: 2½ to 3 feet
Natural fertility: Low
Content of organic matter: Low
Permeability: Rapid in the surface and subsurface layers and moderate in the subsoil
Available water capacity: Low
Tilth: Good
Root zone: Very deep

Inclusions

• A few small areas of Pelham soils in depressions and on the lower flats
• A few small areas of somewhat poorly drained soils

Use and Management

Land use: Mostly woodland; some cropland and pasture

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
Management practices and considerations:
• Field crops respond well to drainage.
• During dry seasons, this soil responds favorably to irrigation.

Woodland

Potential productivity: High for slash pine, loblolly pine, and longleaf pine
Preferred trees to plant: Slash pine, loblolly pine, and longleaf pine
Management concerns: Seasonal wetness affects equipment use.
Management practices and considerations:
• Conducting woodland operations when the soil is at the proper moisture content helps to overcome the equipment limitations.

Urban uses

Suitability: Moderately suited or well suited to most uses
Management concerns: Wetness; the seasonal high water table affects the performance of 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: Too sandy in the upper 20 to 40 inches
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: Ridges and toeslopes
Slope: Very gently sloping
Slope topography: Smooth and convex
Size of mapped areas: Commonly 5 to 50 acres; ranges up to 100 acres

Typical Profile

Surface layer:
0 to 5 inches—brown sandy loam

Subsoil:
5 to 12 inches—reddish brown clay that has red mottles
12 to 19 inches—reddish brown clay that has red and light gray mottles
19 to 27 inches—mottled reddish brown, light gray, and red clay
27 to 67 inches—light gray clay that has red and very pale brown mottles

Distinctive features: Very firm, plastic subsoil of clay; slickensides throughout the lower part of the subsoil

Soil Properties and Qualities

Drainage class: Somewhat poorly drained
Natural fertility: Low
Content of organic matter: Low
Permeability: Very slow
Available water capacity: High
Tilth: Good in the surface layer
Root zone: Very deep, but somewhat restricted by the very firm subsoil

Inclusions

• A few small areas that have sandstone boulders and fragments on the surface and in the soil

Use and Management

Land use: Mostly woodland

Field crops, hay, and pasture

Suitability for field crops: Poorly suited
Suitability for hay: Moderately suited
Suitability for pasture: Moderately suited
Management concerns: The very firm, clayey subsoil, which impedes root penetration; poor workability; moderate hazard of moderate; compaction
Management practices and considerations:
• Restricting the use of equipment to periods when the soil is not wet minimizes compaction.
• Conservation tillage systems help to control erosion and to maintain good tilth, the content of organic matter, and soil moisture.
• Vegetated waterways help to control concentrated water flow, thereby minimizing erosion.

Woodland

Potential productivity: Moderately high for loblolly pine
Preferred trees to plant: Loblolly pine
Management concerns: Moderate equipment limitations during wet seasons; compaction
Management practices and considerations:
• Conducting woodland operations when the soil is at the proper moisture content helps to overcome the soil limitations.
• Restricting the use of equipment to periods when the soil is not wet minimizes compaction.
• Subsoiling and chiseling after harvesting accelerate revegetation and improve the site for replanting.

Urban uses

Suitability: Poorly suited to most uses
Management concerns: Very slow permeability; high shrink-swell in the lower part of the subsoil; wetness
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: Very slow permeability and wetness

Management practices and considerations:
• Special design, modification, and seasonal use can overcome the limitations for some uses.

Interpretive Groups

Land capability classification: IVe
Woodland ordination symbol: 8C

SuC—Susquehanna sandy loam, 5 to 12 percent slopes

Setting

Landscape position: Hillslopes
Slope: Gently sloping and strongly sloping
Slope topography: Rolling to strongly rolling
Size of mapped areas: 5 to 75 acres

Typical Profile

Surface layer:
0 to 5 inches—brown sandy loam

Subsoil:
5 to 12 inches—reddish brown clay that has red mottles
12 to 19 inches—reddish brown clay that has red and light gray mottles
19 to 27 inches—mottled reddish brown, light gray, and red clay
27 to 67 inches—light gray clay that has red and very pale brown mottles

Distinctive features: Very firm, plastic subsoil of clay; slickensides throughout the lower part of the subsoil

Soil Properties and Qualities

Drainage class: Somewhat poorly drained
Natural fertility: Low
Content of organic matter: Low
Permeability: Very slow
Available water capacity: High
Tilth: Good in the surface layer
Root zone: Very deep, but somewhat restricted by the very firm subsoil

Inclusions

• A few small areas that have sandstone boulders and fragments on the surface and in the soil
• A few small gullies and eroded areas
• A few small areas that have slopes up to 17 percent; along drainageways
• A few small areas that have a surface layer of loamy sand

Use and Management

Land use: Nearly all woodland

Field crops, hay, and pasture

Suitability for field crops: Unsuited
Suitability for hay: Poorly suited
Suitability for pasture: Poorly suited
Management concerns: Compaction and poor workability; severe hazard of erosion in bare areas
Management practices and considerations:
• Restricting equipment traffic when the soil is wet helps to prevent compaction.
• Maintaining a good ground cover of vegetation helps to control erosion.
• Conducting tillage and other vehicle traffic on the contour helps to control erosion.

Woodland

Potential productivity: Moderately high for loblolly pine
Preferred trees to plant: Loblolly pine
Management concerns: Moderate equipment limitations during wet seasons; compaction
Management practices and considerations:
• Conducting woodland operations when the soil is at the proper moisture content helps to overcome the soil limitations.
• Restricting equipment traffic to periods when the soil is not wet helps to prevent compaction.
• Subsoiling and chiseling after harvesting accelerate revegetation and improve the site for replanting.

Urban uses

Suitability: Poorly suited to most urban uses
Management concerns: Very slow permeability; high shrink-swell potential in the lower part of the subsoil; wetness
Management practices and considerations:
• For a few uses, the limitations can be overcome by special design, modification, and application procedures.

Recreational development

Suitability: Poorly suited to most uses
Management concerns: Very slow permeability and slope
Management practices and considerations:
• For some uses, the limitations can be overcome by special design, modification, and seasonal use.

Interpretive Groups

Land capability classification: VIe
Woodland ordination symbol: 8C

TE—Tawcaw and Meggett silty clays, frequently flooded

Composition

Tawcaw soils: 45 percent
Meggett soils: 35 percent
Minor soils: 20 percent

Setting

Landscape position: Flood plains along the Ocmulgee River
Flooding: Frequently flooded in winter and early spring
Slope: Nearly level
Slope topography: Smooth and flat
Size of mapped areas: 500 to more than 1,000 acres
Pattern of occurrence: Irregular; both soils are in every mapped area; because of present and predicted use, the soils were not separated in the mapping.
General location: Tawcaw—inner part and stream edge of the flood plain; Meggett—hillside edge and inner part of the flood plain

Typical Profile

Tawcaw

Surface layer:
0 to 4 inches—brown silty clay

Subsoil:
4 to 10 inches—brown silty clay
10 to 29 inches—brown silty clay that has light brownish gray mottles
29 to 48 inches—gray silty clay that has brown and yellowish brown mottles
48 to 55 inches—light gray clay loam that has yellowish brown mottles

Substratum:
55 to 62 inches—light gray loamy sand that has pockets of sandy loam and has yellowish brown mottles

Meggett

Surface layer:
0 to 4 inches—brown silty clay

Subsurface layer:
4 to 9 inches—dark brown silty clay that has gray mottles

Subsoil:
9 to 62 inches—gray clay that has strong brown and yellowish brown mottles

Soil Properties and Qualities

Tawcaw

Drainage class: Somewhat poorly drained
Depth to the seasonal high water table: 1 1/2 to 2 1/2 feet
Natural fertility: Low
Content of organic matter: Moderate
Permeability: Slow
Available water capacity: High
Tilth: Poor
Root zone: Very deep

Meggett

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

Inclusions

- A few small, narrow areas of poorly drained, clayey soils in sloughs that are flooded more frequently than the main flood plain
- A few narrow areas of poorly drained, coarse-loamy and fine-loamy soils in sloughs and along tributaries flowing into the main flood plain
- A few small areas of moderately well drained and somewhat poorly drained, fine-loamy soils at the slightly higher elevations

Use and Management

Land use: Hardwood woodlands

Field crops, hay, and pasture

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

Woodland

Potential productivity: Very high or high
Preferred trees to plant: Water tupelo, loblolly pine, and slash pine
Management concerns: Tawcaw—moderate equipment limitations and seedling mortality; Meggett—severe 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 improves the seedling survival rate.

Urban uses

Suitability: Unsuited
Management concerns: Wetness and flooding

Recreational development

Suitability: Poorly suited
Management concerns: Wetness and flooding

Interpretive Groups

Land capability classification: VIw
Woodland ordination symbol: Tawcaw—8W; Meggett—13W

TfA—Tifton loamy sand, 0 to 2 percent slopes

Setting

Landscape position: Ridges
Slope: Nearly level
Slope topography: Smooth and convex
Size of mapped areas: 10 to 190 acres

Typical Profile

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

Subsoil:
7 to 11 inches—yellowish brown sandy loam
11 to 19 inches—yellowish brown sandy clay loam
19 to 30 inches—yellowish brown sandy clay loam that has reddish brown mottles
30 to 40 inches—yellowish brown sandy clay loam that has red and very pale brown mottles
40 to 60 inches—mottled yellowish brown, red, strong brown, and light gray sandy clay loam
60 to 68 inches—mottled yellowish brown, red, and light gray sandy clay loam that has pockets and strata of sandy loam

Distinctive features: 5 to 10 percent small ironstone nodules in the surface layer and the upper part of the subsoil; 5 to 10 percent plinthite at a depth of 30 to 60 inches

Soil Properties and Qualities

Drainage class: Well drained
Seasonal high water table: At a depth of 3$^{1}/_{2}$ to 6 feet, perched
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
Tilth: Good
Root zone: Very deep

Inclusions

- A few small areas of Cowarts soils on sharp ridges and along slope breaks
- A few small areas of Fuquay soils
- A few small areas of Clarendon soils in slight depressions and along drainageways

Use and Management

Land use: Mostly cropland

Field crops, hay, and pasture

Suitability for field crops: Well suited
Suitability for hay: Well suited
Suitability for pasture: Well suited
Management concerns: General maintenance of the soil
Management practices and considerations:
- Conservation tillage systems help to control erosion and to maintain good tilth, the content of organic matter, and soil moisture.
- Conservation cropping systems complement the general management of crops and soils.

Woodland

Potential productivity: High for loblolly pine and slash pine; moderately high 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: The moderately slow permeability in the lower part of the subsoil affects the performance of 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: The small ironstone nodules can interfere with trafficability on playgrounds where the soil is bare.
Management practices and considerations:
- Maintaining a good vegetative ground cover helps to prevent traffic contact with the ironstone nodules.

Interpretive Groups

Land capability classification: I
Woodland ordination symbol: 9A

TfB—Tifton loamy sand, 2 to 5 percent slopes

Setting

Landscape position: Ridges
Slope: Very gently sloping
Slope topography: Smooth and convex
Size of mapped areas: 5 to 400 acres

Typical Profile

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

Subsoil:
7 to 11 inches—yellowish brown sandy loam
11 to 19 inches—yellowish brown sandy clay loam
19 to 30 inches—yellowish brown sandy clay loam that has reddish brown mottles
30 to 40 inches—yellowish brown sandy clay loam that has red and very pale brown mottles
40 to 60 inches—mottled yellowish brown, red, strong brown, and light gray sandy clay loam
60 to 68 inches—mottled yellowish brown, red, and light gray sandy clay loam that has pockets and strata of sandy loam

Distinctive features: 5 to 10 percent small ironstone nodules in the surface layer and the upper part of the subsoil; 5 to 10 percent plinthite at a depth of 30 to 60 inches

Soil Properties and Qualities

Drainage class: Well drained
Seasonal high water table: At a depth of 3$^{1}/_{2}$ to 6 feet, perched
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
Tilth: Good
Root zone: Very deep

Inclusions

- A few small areas of Nankin and Cowarts soils on sharp ridges and slope breaks
- A few small areas of Fuquay soils
- A few small areas of Clarendon soils in slight depressions and along drainageways
- A few small, eroded areas that have a surface layer of sandy loam

Use and Management

Land use: Mostly cropland

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
Management practices and considerations:
- Conservation tillage systems help to control erosion and to maintain good tilth, the content of organic matter, and soil moisture.
- Water management systems that include terraces and vegetated waterways help to control erosion.
- Conservation cropping systems help to control erosion and complement the general management of crops and soils.

Woodland

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

Urban uses

Suitability: Well suited to most urban uses
Management concerns: The moderately slow permeability in the lower part of the subsoil affects the performance of 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: The small ironstone nodules can interfere with trafficability on playgrounds where the soil is bare; slope.
Management practices and considerations:
- Maintaining a good vegetative ground cover helps to prevent traffic contact with the ironstone nodules.

Interpretive Groups

Land capability classification: IIe
Woodland ordination symbol: 9A

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

Setting

Landscape position: Hillslopes
Slope: Gently sloping
Slope topography: Smooth and convex
Size of mapped areas: 5 to 70 acres

Typical Profile

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

Subsoil:
6 to 11 inches—yellowish brown sandy loam
11 to 30 inches—yellowish brown sandy clay loam
30 to 40 inches—yellowish brown sandy clay loam that has mottles in shades of red and brown
40 to 60 inches—mottled yellowish brown, red, strong brown, and light gray sandy clay loam
60 to 68 inches—mottled yellowish brown, red, and light gray sandy clay loam that has pockets and strata of sandy loam

Distinctive features: 5 to 10 percent small ironstone nodules in the surface layer and the upper part of the subsoil; 5 to 15 percent plinthite at a depth of 25 to 60 inches

Soil Properties and Qualities

Drainage class: Well drained
Seasonal high water table: At a depth of 3 1/2 to 6 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
Eroded surface layer: Mixture of material from the original surface layer and the upper part of the subsoil
Tilth: Good
Root zone: Very deep

Inclusions

- A few small areas of Nankin and Cowarts soils on slope breaks
- A few small areas that have a surface layer of loamy sand
- A few small, shallow gullies

Use and Management

Land use: Mostly cropland and pasture

Field crops, hay, and pasture

Suitability for field crops: Moderately suited
Suitability for hay: Well suited
Suitability for pasture: Well suited
Management concerns: Erosion
Management practices and considerations:
- Conservation tillage systems help to control erosion and to maintain good tilth, the content of organic matter, and soil moisture.
- Water management systems that include terraces and vegetated waterways help to control erosion.
- Conservation cropping systems help to control erosion and complement the general management of crops and soils.

Woodland

Potential productivity: High for loblolly pine and slash pine; moderately high for longleaf pine
Preferred trees to plant: Loblolly pine and slash pine
Management concerns: No significant concerns
Management practices and considerations:
- Performing woodland operations on the contour helps to control erosion.

Urban uses

Suitability: Well suited to most urban uses
Management concerns: The moderately slow permeability in the lower part of the subsoil affects the performance of 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 is a limitation affecting playgrounds; the small ironstone nodules can interfere with trafficability on bare soil.
Management practices and considerations:
- Maintaining a good vegetative ground cover helps to prevent traffic contact with the ironstone nodules.
- Using special design, modification, and application procedures can help to overcome the soil limitations.

Interpretive Groups

Land capability classification: IIIe
Woodland ordination symbol: 9A

Important Farmland

Prime farmland is one of several kinds of important farmland defined by the U.S. Department of Agriculture. It is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forest land, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. The slope ranges mainly from 0 to 8 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

The map units that are prime farmland and additional farmland of statewide importance, and the acreage of each, are listed in table 5. This list does 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 extent of each map unit is shown in table 4. The soil qualities that affect use and management are described in the section "Detailed Soil Map Units."

About 219,000 acres in Pulaski and Wilcox Counties is considered additional farmland of statewide importance. This farmland is an important part of the agricultural resource base in the area, but it does not meet the requirements for prime farmland. It is seasonally wet, cannot be easily cultivated, is more erodible than prime farmland, or is usually less productive than prime farmland.

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, and Graylen Hall, district conservationist, Natural Resources Conservation Service, helped prepare this section.

The major management concerns for cropland 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 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. Dothan, Faceville, Greenville, Orangeburg, Red Bay, and Tifton soils are suitable for terraces. Grassed waterways and underground outlets provide suitable outlets for terraces and diversions.

Some slope 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 include 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 soil surface rough by proper tillage minimize soil blowing.

Bottom-land soils in the survey area include Bibb, Osier, and Meggett soils. The production of crops and pasture plants on these soils is not generally possible without drainage measures. Existing drainage systems need continuing maintenance on 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 managing crops and pasture. Managing drainage in conformance with regulations regarding wetlands may require special permits and extra planning.

Soil 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 Bibb, Osier, and Meggett soils.

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 that is loamy sand and 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, rye, 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, squash, watermelons, cantaloupes, other small fruits, and nursery plants (fig. 5). 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, Greenville, 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,

Figure 5.—Melons growing in an area of Dothan loamy sand, 0 to 2 percent slopes.

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 to 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 Pulaski and Wilcox 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 199,000 acres in the survey area. This is the best land available for producing food, feed, forage, fiber, and oilseed crops. Prime farmland soils are listed in Table 5.

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 6. 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.

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 Pulaski and Wilcox Counties.

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, droughty, or stony.

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 7 are subject to little or no erosion. They have other limitations that restrict their use to pasture, woodland, wildlife habitat, or recreation.

Capability units are soil groups within a subclass. The soils in a capability unit are enough alike to be suited to the same crops and pasture plants, to require similar management, and to have similar productivity. Capability units are generally designated by adding an Arabic numeral to the subclass symbol, for example, IIe-4 and IIIe-6.

The acreage of soils in each capability class and subclass is shown in table 7. The capability classification of each map unit is given in the section “Detailed Soil Map Units” and in the yields table.

Woodland Management and Productivity

Gary L. Tyre, forester, Natural Resources Conservation Service, helped prepare this section.

Among the most significant forest types in Pulaski and Wilcox Counties are longleaf-shortleaf pine, oak-pine, oak-hickory, and oak-gum-cypress. These forest types were also predominant in the virgin forests that occupied a large majority of the county.

Woodland makes up 146,141 acres, or about 58 percent, of Wilcox County and 75,771 acres, or about 48 percent, of Pulaski County (USDA, 1988; USDA, 1989). Most of the woodland in these counties is privately owned. Over 80 percent of both counties is privately owned. About 78 percent of the privately owned woodland in Wilcox County and 79 percent in Pulaski County is held by farmers and other individuals. The forest industry also has significant ownership, including 16 percent of the woodland in Pulaski County and 18 percent in Wilcox County.

Wilcox County has a greater proportion of productive land than Pulaski County. In Pulaski County, only 21 percent of the woodland produces a cord or more per acre per year. In Wilcox County, 43 percent of the woodland produces this amount.

Considering the differences in productive capacities, stocking in the counties is surprisingly uniform. In Wilcox County, 33,927 acres, or 23 percent, is stocked at 100 percent or better. In Pulaski County, 13,474 acres, or 18 percent, is stocked at this rate.

Woodland occupies a wide variety of soils in the survey area. Soils used as woodland on flood plains and in depressions include Pelham, Bibb, Osier, Tawcaw, and Meggett soils. Generally, these soils are highly productive and have site indices ranging to 90 and above. Wetness and flooding are significant management concerns in areas of these soils. These soils are characterized by blackgum, sweetgum, water oak, yellow-poplar, and loblolly pine.

The major upland soils that are extensive in the survey area are Tifton, Dothan, Fuquay, Cowarts, Nankin, and Ailey soils. Many areas of these soils are well suited to competing uses and are very productive if used as woodland, having site indices of about 80 to 90. Woodland is easily managed on these soils.

The Lakeland soil is an excessively drained soil that is extensive in the survey area. Productivity is low on this soil, and seedling mortality and equipment limitations are management concerns. The Blanton soil is commonly associated with the Lakeland soil but is not as excessively drained and is much more productive. The Blanton soil has a site index of about 85. The Lakeland and Blanton soils are commonly occupied by forest cover, including slash pine, longleaf pine, and loblolly pine. Turkey oak, blackjack oak, and post oak are also common on these soils.

Table 8 can be used by woodland owners or forest managers in planning the use of soils for wood crops. Only those soils suitable for wood crops are listed. The table lists the ordination symbol for each soil. Soils assigned the same ordination symbol require the same general management and have about the same potential productivity.

The first part of the *ordination symbol*, a number, indicates the potential productivity of the soils for an indicator tree species. The number indicates the volume, in cubic meters per hectare per year, 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 *W* indicates 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: 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*, a number, is the yield likely to be produced by the most important trees. This number, expressed as cubic meters per hectare per year, indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

The first species listed under *common trees* for a soil is the indicator species for that soil. It generally is the most common species on the soil and is the one that determines the ordination class.

Trees to plant are those that are suitable for commercial wood production.

Recreation

The soils of the survey area are rated in table 9 according to limitations that affect their suitability for recreation. The ratings are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public 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 12 and interpretations for dwellings without basements and for local roads and streets in table 11.

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

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

Playgrounds require soils that can withstand intensive foot traffic. The best soils are almost level and are not wet or subject to flooding during the season of use. The surface is free of stones and boulders, is firm after rains, and is not dusty when dry.

Figure 6.—A strip prepared for use as a wildlife food plot in an area of Ailey loamy sand, 0 to 5 percent slopes.

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

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 (fig. 6).

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

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

and must be intensive. A rating of *very poor* indicates that restrictions for the element or kind of habitat are very severe and that unsatisfactory results can be expected. Creating, improving, or maintaining habitat is impractical or impossible.

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

Grain and seed crops are domestic grains and seed-producing herbaceous plants. Soil properties and features that affect the growth of grain and seed crops are depth of the root zone, texture of the surface layer, available water capacity, wetness, slope, surface stoniness, and flooding. Soil temperature and soil moisture are also considerations. Examples of grain and seed crops are corn, wheat, oats, barley, millet, sunflower, and grain sorghum.

Grasses and legumes are domestic perennial grasses and herbaceous legumes. Soil properties and features that affect the growth of grasses and legumes are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, flooding, and slope. Soil temperature and soil moisture are also considerations. Examples of grasses and legumes are fescue, lovegrass, bermudagrass, bahiagrass, clover, 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, partridge pea, threeawn grass, aster, and ragweed.

Hardwood trees and woody understory produce nuts or other fruit, buds, 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, poplar, cherry, sweetgum, hackberry, hawthorn, dogwood, hickory, blackberry, maple, 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 pine, spruce, 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, pondweed, rushes, sedges, and Asiatic dayflower.

Shallow water areas have an average depth of less than 5 feet. Some are naturally wet areas. Others are created by dams, levees, or other water-control structures. Soil properties and features affecting shallow water areas are wetness, surface stoniness, slope, and permeability. Examples of shallow water areas are marshes, waterfowl feeding areas, and beaver 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, wild turkey, meadowlark, field sparrow, cottontail rabbit, 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, and deer.

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

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for basements, graves, utility lines, open ditches, and other purposes. The ratings are based on soil properties, site features, and observed performance of the soils. The ease of digging, filling, and compacting is affected by 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, and shrinking and swelling can cause the movement of footings. A high water table, a cemented pan, slope, and flooding affect the ease of excavation and construction. Landscaping and grading that require cuts and fills of more than 5 or 6 feet are not considered.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or stabilized soil material; and a flexible or rigid surface. Cuts and fills are generally limited to less than 6 feet. The ratings are based on soil properties, site features, and observed performance of the soils. Depth a cemented pan, 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, and the available water capacity in the upper 40 inches affect plant growth. Flooding, wetness, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer affect trafficability after vegetation is established.

Sanitary Facilities

Table 12 shows the degree and 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, and flooding affect absorption of the effluent.

Unsatisfactory performance of septic tank absorption fields, including excessively slow absorption of effluent, surfacing of effluent, and hillside seepage, can affect public health. Ground water can be polluted if highly permeable sand and gravel 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, 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 can cause construction problems.

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

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

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

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

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

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

The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the engineering classification of the soil) 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.

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 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 and a water table.

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, or soils that have slopes of 8 to 15 percent. The soils are not so wet that excavation is difficult.

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

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

Water Management

Table 14 gives information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas and 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. 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 a cemented pan, 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 a cemented pan, large stones, 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 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 a cemented pan affect the construction of terraces and diversions. An excessively coarse texture and restricted permeability adversely affect maintenance.

Grassed waterways are natural or constructed channels, generally broad and shallow, that conduct surface water to outlets at a nonerosive velocity. Wetness, slope, and depth to a cemented pan 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 15 gives estimates of the engineering classification and of the range of index properties for the major layers of each soil in the survey area. Most soils have layers of contrasting properties within the upper 5 or 6 feet.

Depth to the upper and lower boundaries of each layer is indicated. Information on other properties of each layer are given for each soil series under the heading "Soil Series and Their Morphology."

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is as much as about 15 percent, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (ASTM, 1993) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 1986).

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.

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.

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.

Physical and Chemical Properties

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

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

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

Moist bulk density is the weight of soil (ovendry) per unit volume. Volume is measured when the soil is at field moisture capacity, that is, the moisture content at $^1/_3$-bar moisture tension. Weight is determined after drying the soil at 105 degrees C. In this table, the estimated moist bulk density of each major soil horizon is expressed in grams per cubic centimeter of soil material that is less than 2 millimeters in diameter. Bulk density data are used to compute shrink-swell potential, available water capacity, total pore space, and other soil properties. The moist bulk density of a soil indicates the pore space available for water and roots. A bulk density of more than 1.6 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

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

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

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

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

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

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

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter (up to 4 percent) and on soil structure and permeability. Values of K range from 0.02 to 0.64. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

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

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In the table, the estimated content of organic matter is

expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of organic matter in a soil can be maintained or increased by returning crop residue to the soil. Organic matter affects the available water capacity, infiltration rate, and tilth. It is a source of nitrogen and other nutrients for crops.

Soil and Water Features

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

Hydrologic soil groups are 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.

Flooding, the temporary inundation of an area, is caused by overflowing streams or by runoff from adjacent slopes. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes or in a closed depression 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.

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; Soil Survey Staff, 1994). 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 18 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 Ultisol.

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 Udult (*Ud*, meaning humid, plus *ult*, from Ultisol).

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 Kandiudults (*Kandi*, meaning low activity clay, plus *udult*, the suborder of the Ultisols that has a udic 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 Kandiudults.

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 clayey, kaolinitic, thermic Typic Kandiudults.

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. The Faceville series is an example of clayey, kaolinitic, thermic Typic Kandiudults.

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) and in "Keys to Soil Taxonomy" (Soil Survey Staff, 1994). 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 firm and compact substratum
Drainage class: Well drained
Permeability: Rapid in the surface and subsurface

layers, moderate in the upper part of the subsoil, and slow in the lower part of the subsoil and in the substratum
Parent material: Sandy and loamy marine sediments
Landscape position: Ridges, high flats, and hillslopes
Slope: 0 to 8 percent
Classification: Loamy, siliceous, thermic Arenic Kanhapludults

Geographically Associated Soils

- Blanton soils, which have a sandy epipedon that is more than 40 inches thick
- Cowarts soils, which do not have a sandy epipedon that is as thick as 20 inches
- Fuquay soils, which have more than 5 percent plinthite in the subsoil
- Nankin soils, which are in a clayey family and do not have a sandy epipedon that is as thick as 20 inches
- Tifton soils, which have more than 5 percent plinthite in the subsoil and do not have a sandy epipedon that is as thick as 20 inches

Typical Pedon

Ailey loamy sand, 0 to 5 percent slopes; 3.6 miles east on Georgia Highway 215 from the Wilcox-Dooly County line, 0.9 mile east on a county dirt road (High Rock Road), and 0.6 mile north across a wooded area; in Wilcox County; USGS Quadrangle Pineview West, Georgia (1971); lat. 32 degrees 01 minute 39 seconds N. and long. 83 degrees 32 minutes 34 seconds W.

Ap—0 to 8 inches; dark grayish brown (10YR 4/2) loamy sand; weak fine granular structure; very friable; many fine and medium roots; very strongly acid; clear wavy boundary.
E—8 to 30 inches; light yellowish brown (10YR 6/4) loamy sand; weak fine granular structure; very friable; common fine and few medium roots; very strongly acid; clear smooth boundary.
Bt1—30 to 35 inches; brownish yellow (10YR 6/6) sandy loam; weak fine subangular blocky structure; friable; few fine and medium roots; few fine pores; sand grains coated and bridged with clay; very strongly acid; clear wavy boundary.
Bt2—35 to 42 inches; yellowish brown (10YR 5/8) sandy clay loam; few medium distinct strong brown (7.5YR 5/8) mottles; weak medium subangular blocky structure; friable; few fine roots; few faint clay films on faces of peds; very strongly acid; clear wavy boundary.
Btx—42 to 50 inches; mottled brownish yellow (10YR 6/8), yellowish brown (10YR 5/6), red (2.5YR 4/8), and light gray (10YR 7/2) sandy clay loam; 75 percent weak medium subangular blocky structure, 25 percent strong medium platy structure; blocky peds are firm, platy peds are very firm; few fine roots between peds; few faint clay films on faces of peds; very strongly acid; clear wavy boundary.
Cd—50 to 57 inches; mottled brownish yellow (10YR 6/8), yellowish brown (10YR 5/6), red (2.5YR 4/8), and light gray (10YR 7/2) sandy clay loam that has strata of sandy loam; massive; very firm; very strongly acid; clear wavy boundary.
2Cd—57 to 65 inches; mottled light gray (10YR 7/2), red (2.5YR 4/8), and yellowish brown (10YR 5/8) sandy clay loam that has pockets and strata of sandy clay; massive; very firm; very strongly acid.

Range in Characteristics

Thickness of the solum: 42 to 62 inches
Thickness of the sandy epipedon: 22 to 40 inches
Content of coarse fragments: 0 to 10 percent (small quartz pebbles 0.25 to 0.75 inch in diameter)
Depth to mottles of chroma 2 or less: More than 40 inches
Content of ironstone nodules: 0 to 10 percent (0.25 to 0.75 inch in diameter)
Reaction: Very strongly acid or strongly acid throughout, except for the surface layer where lime has been applied

A horizon:
Thickness—4 to 8 inches
Color—hue of 10YR, value of 3 to 5, and chroma of 2 or 3

E horizon:
Color—hue of 10YR, 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; few mottles in shades of red and brown in some pedons
Texture—sandy loam or sandy clay loam

Btx horizon:
Color—hue of 10YR, value of 5 or 6, chroma of 6 to 8, and mottles in shades of red, brown, yellow, and gray (not all pedons have gray mottles); or mottled in shades of red, brown, yellow, and gray
Texture—sandy loam or sandy clay loam

Cd horizon:
Color—mottled in shades of red, brown, yellow, and gray

Texture—dominantly sandy loam or sandy clay loam; finer and coarser strata

Bibb Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderate
Parent material: Stratified loamy and sandy alluvial sediments
Depth to the seasonal high water table: 1/2 to 1 foot during wet seasons
Landscape position: Flood plains along streams
Slope: 0 to 2 percent
Classification: Coarse-loamy, siliceous, acid, thermic Typic Fluvaquents

Geographically Associated Soils

- Meggett soils, which are in a fine texture family
- Osier soils, which are in a sandy family
- Pelham soils, which have a sandy epipedon that is 20 to 40 inches thick, have a loamy subsoil, and are at the heads of streams and on low flats
- Tawcaw soils, which are in a fine texture family and are somewhat poorly drained

Typical Pedon

Bibb sandy loam, in an area of Bibb and Osier soils, frequently flooded; 5.3 miles northeast on Georgia Highway 233 from its junction with Georgia Highway 112, northwest 1.6 miles on a paved county road to Brushy Creek bridge crossing, 100 feet upstream, and 50 feet south from the main run of the creek; in Wilcox County; USGS Quadrangle Pineview East, Georgia (1972); lat. 32 degrees 03 minutes 24 seconds N. and long. 83 degrees 26 minutes 03 seconds W.

A—0 to 6 inches; dark grayish brown (10YR 4/2) sandy loam; thin (0.3 inch in thickness) recently deposited layer of silt loam on the surface; thin (0.2 inch in thickness) strata of loam and loamy sand; few fine prominent strong brown (7.5YR 5/6) mottles; weak fine granular structure; very friable; common fine and medium roots; very strongly acid; clear smooth boundary.

Ag—6 to 18 inches; light brownish gray (10YR 6/2) sandy loam; thin (0.2 inch in thickness) strata of loamy sand and sand; few medium prominent strong brown (7.5YR 5/6) mottles; weak fine granular structure; friable; few fine and medium roots; very strongly acid; clear smooth boundary.

Cg1—18 to 32 inches; gray (10YR 6/1) sandy loam; thin (0.2 inch in thickness) strata of loamy sand and sand; common medium prominent yellowish brown (10YR 5/6) and many medium prominent strong brown (7.5YR 5/6) mottles; massive; friable; few fine and medium roots; strongly acid; gradual smooth boundary.

Cg2—32 to 40 inches; gray (10YR 6/1) sandy loam; thin (0.2 inch in thickness) strata of loamy sand and small (1 to 2 inches in diameter) pockets of sandy clay loam; common medium prominent strong brown (7.5YR 5/6) and yellowish brown (10YR 5/6) mottles; massive; friable; few fine roots; strongly acid; gradual smooth boundary.

Cg3—40 to 48 inches; gray (10YR 6/1) sandy loam; thin (0.2 inch in thickness) strata of sandy clay loam and loamy sand; common medium prominent strong brown (7.5YR 5/6) and brownish yellow (10YR 6/6) mottles; massive; friable; strongly acid; gradual smooth boundary.

Cg4—48 to 60 inches; gray (10YR 6/1) coarsely stratified sandy loam, sandy clay loam, and loamy sand; common medium prominent brownish yellow (10YR 6/6) and few fine prominent strong brown (7.5YR 5/6) mottles; massive; friable; strongly acid.

Range in Characteristics

Thickness of the sediments: 60 to more than 80 inches
Reaction: Very strongly acid or strongly acid throughout

A horizon:
Thickness—6 to 18 inches
Color—hue of 10YR or 7.5YR, value of 3 to 6, and chroma of 1 or 2; mottles in the upper part of some pedons
Texture—sandy loam, loamy sand, or loam; commonly stratified

Cg horizon:
Color—hue of 10YR or 2.5Y, value of 5 to 7, chroma of 2 or less, and few to many mottles or strata in shades of red, yellow, and brown
Texture—sandy loam, loam, or silt loam; common thin sandy or loamy strata

Blanton Series

Depth class: Very deep
Drainage class: Somewhat excessively drained to moderately well drained
Permeability: Rapid in the surface and subsurface layers and moderate or moderately slow in the subsoil
Parent material: Sandy and loamy marine sediments
Seasonal high water table: At a depth of 4 to 6 feet during wet seasons, perched

Landscape position: Ridges, hillslopes, and flats
Slope: 0 to 17 percent
Classification: Loamy, siliceous, thermic Grossarenic Paleudults

Geographically Associated Soils

- Fuquay and Lucy soils, which are well drained and have a sandy epipedon that is 20 to 40 inches thick
- Lakeland soils, which do not have a water table within a depth of 6 feet and are sandy to a depth of more than 80 inches
- Pelham soils, which are poorly drained and have a sandy epipedon that is 20 to 40 inches thick

Typical Pedon

Blanton sand, 0 to 5 percent slopes; 1.3 miles south along the Crisp-Wilcox County line from U. S. Highway 280 and 1,300 feet east of highway; in Wilcox County; USGS Quadrangle Pitts, Georgia (1973); lat. 31 degrees 56 minutes 19 seconds N. and long. 83 degrees 36 minutes 27 seconds W.

Ap—0 to 6 inches; dark gray (10YR 4/1) sand; single grained; loose; common fine and medium roots; common clean rain-washed sand grains; very strongly acid; clear wavy boundary.
E1—6 to 45 inches; light yellowish brown (10YR 6/4) sand; single grained; loose; common fine and medium roots; material from Ap horizon in some of the root channels in the upper 6 inches of the horizon; very strongly acid; gradual smooth boundary.
E2—45 to 62 inches; light yellowish brown (10YR 6/4) sand; single grained; loose; few fine roots; few small pockets of clean sand grains; few small ironstone fragments in the lower 10 inches of the horizon; very strongly acid; clear smooth boundary.
E3—62 to 68 inches; brownish yellow (10YR 6/6) sand; few small pockets of strong brown (7.5YR 5/8) loamy sand; single grained; loose; few fine roots; very strongly acid; clear smooth boundary.
Bt1—68 to 71 inches; yellowish brown (10YR 5/6) sandy loam; few medium prominent red (2.5YR 4/6) mottles; weak medium subangular blocky structure; friable; few fine roots; sand grains bridged with clay; very strongly acid; gradual smooth boundary.
Bt2—71 to 85 inches; yellowish brown (10YR 5/6) sandy clay loam; few medium prominent red (2.5YR 4/6) and few medium distinct light gray (10YR 7/2) mottles; weak medium subangular blocky structure; friable; few fine roots; few faint clay films on faces of peds; common coarse sand grains; very strongly acid.

Range in Characteristics

Thickness of the solum: 60 inches or more
Thickness of the sandy epipedon: 40 to 78 inches
Depth to mottles of chroma 2 or less: 50 to 72 inches
Content of ironstone nodules and quartz pebbles: 0 to 5 percent in all horizons
Reaction: Very strongly acid or strongly acid throughout, except for the surface layer where lime has been applied

A horizon:
Thickness—6 to 9 inches
Color—hue of 10YR, value of 4 or 5, and chroma of 1 to 3

E horizon:
Color—hue of 10YR, value of 5 to 7, and chroma of 1 to 6

Bt horizon, upper part:
Color—hue of 7.5YR to 2.5Y, value of 5 to 7, chroma of 3 to 8, and few or common mottles in shades of red and brown
Texture—sandy loam or sandy clay loam

Bt horizon, lower part:
Color—hue of 7.5YR to 2.5Y, value of 5 to 7, chroma of 3 to 8, and few or common mottles in shades of red, brown, and gray; or mottled in shades of red, brown, and gray
Texture—sandy loam or sandy clay loam

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 during wet seasons
Landscape position: Slight depressions and low flats on uplands
Slope: 0 to 2 percent
Classification: Fine-loamy, siliceous, thermic Plinthaquic Paleudults

Geographically Associated Soils

- Dothan and Tifton soils, which are on ridges and hillslopes and are well drained
- Fuquay soils, which have a sandy epipedon that is 20 to 40 inches thick, are well drained, and are on ridges and hillslopes
- Pelham soils, which have a sandy epipedon that is 20 to 40 inches thick, are poorly drained, and do not have 5 percent plinthite within a depth of 60 inches

Typical Pedon

Clarendon loamy sand, 0 to 2 percent slopes; 1.0 mile north from Christian Hope Church on the paved county road that fronts the church (the church is about 2 miles southeast of Pineview, Georgia), 0.8 mile west on a paved county road, and 200 feet north of the road; in Wilcox County; USGS Quadrangle Pineview East, Georgia (1972); lat. 32 degrees 06 minutes 06 seconds N. and long. 83 degrees 28 minutes 46 seconds W.

Apc—0 to 8 inches; dark grayish brown (10YR 4/2) loamy sand; weak fine granular structure; very friable; common fine roots; 8 percent ironstone nodules that are less than 1.0 inch in diameter; very strongly acid; abrupt smooth boundary.

Btc1—8 to 14 inches; yellowish brown (10YR 5/4) sandy loam; weak fine subangular blocky structure; friable; common fine roots; sand grains bridged with clay; 5 percent ironstone nodules that are less than 1.0 inch in diameter; very strongly acid; clear smooth boundary.

Btc2—14 to 20 inches; brownish yellow (10YR 6/6) sandy clay loam; few fine distinct strong brown (7.5YR 5/6) mottles; weak medium subangular blocky structure; friable; few fine roots; 2 percent nodules of plinthite; few distinct clay films on faces of peds; 5 percent ironstone nodules that are less than 1.0 inch in diameter; very strongly acid; clear smooth boundary.

Bt—20 to 27 inches; brownish yellow (10YR 6/6) sandy clay loam; common medium prominent yellowish red (5YR 5/6) and few medium distinct light yellowish brown (10YR 6/4) mottles; moderate medium subangular blocky structure; friable; few fine roots; 3 percent nodules of plinthite; few distinct clay films on faces of peds; 3 percent ironstone nodules that are less than 1.0 inch in diameter; very strongly acid; gradual smooth boundary.

Btv1—27 to 35 inches; yellowish brown (10YR 5/6) sandy clay loam; common medium distinct very pale brown (10YR 7/4) and few fine distinct light gray (10YR 7/2) mottles; moderate medium subangular blocky structure; friable; few fine roots; few fine pores; 6 percent plinthite; common distinct clay films on faces of peds; few small ironstone nodules; very strongly acid; gradual smooth boundary.

Btv2—35 to 50 inches; yellowish brown (10YR 5/6) sandy clay loam; common medium prominent yellowish red (5YR 4/6) and common medium distinct light gray (10YR 7/2) mottles; moderate medium subangular blocky structure; friable; few fine pores; 10 percent plinthite; common distinct clay films on faces of peds; few small ironstone nodules; very strongly acid; gradual smooth boundary.

Btv3—50 to 62 inches; mottled yellowish brown (10YR 5/6), light gray (10YR 7/2), and red (2.5YR 4/6) sandy clay loam; weak medium subangular blocky structure; firm; few fine pores; 15 percent plinthite; common distinct clay films on faces of peds; very strongly acid.

Range in Characteristics

Thickness of the solum: 60 inches or more
Depth to mottles of chroma 2 or less: 18 to 30 inches (fig. 7)
Content of plinthite: 6 to 20 percent below a depth of 21 to 55 inches
Content of ironstone nodules: 0 to 10 percent in the A horizon and the upper part of the B horizon
Reaction: Very strongly acid or strongly acid throughout, except for the surface layer where lime has been applied

A horizon:
Thickness—6 to 9 inches
Color—hue of 10YR, value of 3 or 4, and chroma of 1 or 2

E horizon, where present:
Color—hue of 10YR, value of 5 or 6, and chroma of 4

Btc and Bt horizons:
Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 4 to 8; mottles in shades of red, brown, and yellow in the upper part and gray mottles in the lower part
Texture—sandy clay loam or sandy loam

Btv horizon:
Color—hue of 10YR or 2.5Y, value of 5 or 6, chroma of 4 to 8, and mottles in shades of red, brown, yellow, and gray; or mottled in shades of red, brown, yellow, and gray
Texture—sandy clay loam or sandy clay

Cowarts Series

Depth class: Moderately deep to a firm, compact substratum (fig. 8)
Drainage class: Well drained
Permeability: Moderate in the subsoil and moderately slow or slow in the substratum
Parent material: Loamy marine sediments
Landscape position: Ridges and hillslopes
Slope: 2 to 15 percent

Classification: Fine-loamy, siliceous, thermic Typic Kanhapludults

Geographically Associated Soils

- Ailey soils, which have a sandy epipedon that is 20 to 40 inches thick
- Dothan and Tifton soils, which have more than 5 percent plinthite in the lower part of the subsoil
- Fuquay soils, which have a sandy epipedon that is 20 to 40 inches thick and have more than 5 percent plinthite in the lower part of the subsoil
- Nankin soils, which are in a clayey family
- Susquehanna soils, which are somewhat poorly drained and have a plastic, clayey subsoil

Typical Pedon

Cowarts loamy sand, in an area of Cowarts-Nankin-Ailey loamy sands, 2 to 5 percent slopes; 0.7 mile northeast of Owensboro, Georgia, on a paved road and 0.2 mile northwest on a paved road to the east roadbank in front of Pleasant Grove Church; in Wilcox County; USGS Quadrangle Rochelle, Georgia (1974); lat. 31 degrees 53 minutes 03 seconds N. and long. 83 degrees 25 minutes 07 seconds W.

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) loamy sand; weak fine granular structure; very friable; common fine roots; few ironstone nodules and quartz pebbles 0.25 to 1.0 inch in diameter; very strongly acid; abrupt wavy boundary.

E—7 to 11 inches; yellowish brown (10YR 5/4) loamy sand; weak fine granular structure; very friable; common fine roots; few ironstone nodules and quartz pebbles 0.25 to 1.0 inch in diameter; very strongly acid; clear smooth boundary.

BE—11 to 14 inches; yellowish brown (10YR 5/6) sandy loam; weak medium granular structure; very friable; common fine roots; few ironstone nodules and quartz pebbles 0.25 to 1.0 inch in diameter; very strongly acid; clear smooth boundary.

Bt1—14 to 20 inches; yellowish brown (10YR 5/6) sandy clay loam; weak medium subangular blocky structure; friable; few fine and medium roots; sand grains coated and bridged with clay; few ironstone nodules and quartz pebbles 0.25 to 1.0 inch in diameter; very strongly acid; clear smooth boundary.

Bt2—20 to 26 inches; yellowish brown (10YR 5/6) sandy clay loam; few medium prominent red (2.5YR 4/8) mottles; moderate medium subangular blocky structure; friable; few fine and medium roots; very few faint clay films on faces of peds; very strongly acid; gradual wavy boundary.

Bt3—26 to 32 inches; yellowish brown (10YR 5/6) sandy clay loam; common medium prominent red (2.5YR 4/6) mottles occurring as horizontal streaks; moderate medium subangular blocky structure; firm; few fine roots; 3 percent plinthite; few faint clay films on faces of peds; very strongly acid; gradual wavy boundary.

Cd—32 to 62 inches; mottled yellowish brown (10YR 5/6), light gray (10YR 7/2), and red (2.5YR 4/6) sandy loam that has strata of sandy clay loam and coarse sand grains; massive; very firm and compact; very strongly acid.

Range in Characteristics

Thickness of the solum: 20 to 40 inches

Content of plinthite: Less than 5 percent

Content of ironstone nodules and quartz gravel: 0 to 20 percent in the A and E horizons, 0 to 5 percent in the B horizon, and 0 to 10 percent in the C horizon

Reaction: Very strongly acid or strongly acid throughout, except for the surface layer where lime has been applied

Ap horizon:
- Thickness—4 to 9 inches
- Color—hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 2 to 4

E horizon, where present:
- Color—hue of 10YR, value of 4 to 6, and chroma of 4 to 8

BE horizon, where present:
- Color—hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 4 to 8

Bt horizon:
- Color—hue of 7.5YR or 10YR, value of 5 or 6, chroma of 4 to 8, and mottles in shades of red and brown
- Texture—sandy loam or sandy clay loam

BC horizon, where present:
- Color—hue of 5YR to 10YR, value of 4 to 8, chroma of 2 to 8, and mottles in shades of red, brown, yellow, and gray; or mottled in shades of red, brown, yellow, and gray
- Texture—sandy loam or sandy clay loam

Cd horizon:
- Color—mottled in shades of red, brown, yellow, and gray
- Texture—sandy loam or sandy clay loam; pockets and strata of finer and coarser material; and, in some pedons, dominantly clayey below a depth of 50 inches

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 of the subsoil
Parent material: Loamy marine sediments
Seasonal high water table: At a depth of 3 to 5 feet during wet seasons, perched
Landscape position: Ridges, high flats, and hillslopes
Slope: 0 to 5 percent
Classification: Fine-loamy, siliceous, thermic Plinthic Kandiudults

Geographically Associated Soils

- Clarendon soils, which are moderately well drained
- Cowarts soils, which do not have horizons that have more than 5 percent plinthite within a depth of 60 inches
- Fuquay soils, which have a sandy epipedon that is 20 to 40 inches thick
- Nankin soils, which are in a clayey family
- Tifton soils, which have more than 5 percent ironstone nodules in the surface layer and in the upper part of the subsoil

Typical Pedon

Dothan loamy sand, 2 to 5 percent slopes; 3.2 miles east of Finleyson, Georgia, along the paved county road that fronts Mattie Richland Church and 100 feet north of the road; in Pulaski County; USGS Quadrangle Finleyson East, Georgia (1972); lat. 32 degrees 07 minutes 43 seconds N. and long. 83 degrees 26 minutes 42 seconds W.

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) loamy sand; weak fine granular structure; very friable; common fine roots; 3 percent ironstone nodules and quartz pebbles less than 0.75 inch in diameter; moderately acid; abrupt smooth boundary.

Bt1—7 to 11 inches; yellowish brown (10YR 5/6) sandy loam; weak medium subangular blocky structure; very friable; common fine roots; sand grains bridged with clay; 2 percent ironstone nodules less than 0.5 inch in diameter; strongly acid; clear smooth boundary.

Bt2—11 to 21 inches; yellowish brown (10YR 5/8) sandy clay loam; moderate medium subangular blocky structure; friable; few fine roots; common very fine pores; few distinct clay films on faces of peds; 1 percent ironstone nodules less than 0.5 inch in diameter; strongly acid; clear smooth boundary.

Bt3—21 to 37 inches; yellowish brown (10YR 5/6) sandy clay loam; common medium prominent yellowish red (5YR 4/6) mottles; moderate medium subangular blocky structure; friable; few fine roots; common very fine pores; 2 percent plinthite in the lower part of the horizon; few distinct clay films on faces of peds; strongly acid; gradual wavy boundary.

Btv1—37 to 56 inches; mottled yellowish brown (10YR 5/6), strong brown (7.5YR 5/6), light gray (10YR 7/1), and red (2.5YR 4/8) sandy clay loam; moderate medium subangular blocky structure; friable; few fine roots; few very fine pores; 15 percent plinthite; few distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.

Btv2—56 to 65 inches; mottled yellowish brown (10YR 5/6), strong brown (7.5YR 5/6), light gray (10YR 7/1), and red (2.5YR 4/8) sandy clay loam; weak coarse subangular blocky structure; firm and compact in place; 7 percent plinthite; few distinct clay films on faces of peds; very strongly acid.

Range in Characteristics

Thickness of the solum: 60 inches or more
Depth to mottles of chroma 2 or less: More than 30 inches
Content of plinthite: 6 to 15 percent at a depth of 30 to 60 inches
Content of ironstone nodules: 0 to 5 percent in the A horizon and in the upper part of the B horizon
Reaction: Very strongly acid or strongly acid throughout, except for the surface layer where lime has been applied

Ap horizon:
Thickness—5 to 11 inches
Color—hue of 10YR, value of 4 or 5, and chroma of 2 to 4

E horizon, where present:
Color—hue of 10YR, value of 5 or 6, and chroma of 3 or 4

Bt horizon, upper part:
Color—hue of 10YR or 7.5YR, value of 5 or 6, and chroma of 4 to 8
Texture—sandy loam or sandy clay loam

Bt horizon, lower part:
Color—hue of 10YR or 7.5YR, value of 5 or 6, chroma of 4 to 8, and few or common mottles in shades of red and brown

Btv horizon, upper part:
Color—hue of 10YR or 7.5YR, value of 5 or 6, chroma of 4 to 8, common or many mottles in shades of red, brown, and yellow, and none to

common mottles in shades of gray; or mottled in shades of red, brown, yellow, and gray
Texture—sandy clay loam or sandy clay

Btv horizon, lower part:
Color—hue of 10YR or 7.5YR, value of 5 or 6, chroma of 4 to 8, and common or many mottles in shades of red, brown, yellow, and gray; or mottled in shades of red, brown, yellow, and gray
Texture—sandy clay loam or sandy clay

Faceville Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Clayey marine sediments
Landscape position: Ridges and hillslopes
Slope: 0 to 8 percent
Classification: Clayey, kaolinitic, thermic Typic Kandiudults

Geographically Associated Soils

- Dothan soils, which are in a fine-loamy family, have a predominantly yellowish brown subsoil, and have more than 5 percent plinthite within a depth of 60 inches
- Greenville soils, which are rhodic
- Lucy soils, which are in a loamy family and have a sandy epipedon that is 20 to 40 inches thick
- Orangeburg soils, which are in a fine-loamy family

Typical Pedon

Faceville sandy loam, 2 to 5 percent slopes; 0.9 mile south on Georgia Highway 126 from the Pulaski-Bleckley County line to Lizzie Bloomer Church and 150 yards east; in Pulaski County; USGS Quadrangle Hawkinsville, Georgia (1973); lat. 32 degrees 21 minutes 32 seconds N. and long. 83 degrees 27 minutes 47 seconds W.

Ap—0 to 8 inches; brown (7.5YR 4/4) sandy loam; weak medium granular structure; very friable; common fine roots; few small ironstone nodules; strongly acid; abrupt wavy boundary.
Bt1—8 to 12 inches; yellowish red (5YR 4/6) sandy clay; moderate medium subangular blocky structure; friable; few fine roots; very few faint clay films on faces of peds; few small ironstone nodules; very strongly acid; clear wavy boundary.
Bt2—12 to 24 inches; red (2.5YR 4/6) sandy clay; moderate medium subangular blocky structure; friable; few fine roots; common faint and few distinct clay films on faces of peds; few small ironstone nodules; very strongly acid; gradual wavy boundary.
Bt3—24 to 43 inches; red (2.5YR 4/6) sandy clay; moderate medium subangular blocky structure; friable; few fine roots; common distinct clay films on faces of peds; few small ironstone nodules; very strongly acid; gradual wavy boundary.
Bt4—43 to 52 inches; yellowish red (5YR 5/8) sandy clay; few medium prominent brownish yellow (10YR 6/8) mottles; moderate medium subangular blocky structure; friable; few fine roots; few distinct and common faint clay films on faces of peds; few small ironstone nodules; very strongly acid; clear wavy boundary.
Bt5—52 to 62 inches; yellowish red (5YR 5/8) sandy clay; common medium prominent brownish yellow (10YR 6/8) and few fine prominent red (2.5YR 4/6) mottles; weak medium subangular blocky structure; friable; few fine roots; few faint clay films on faces of peds; few small ironstone nodules; very strongly acid.

Range in Characteristics

Thickness of the solum: 65 inches or more
Content of ironstone nodules: 0 to 5 percent (less than 0.75 inch in diameter)
Reaction: Very strongly acid or strongly acid throughout, except for the surface layer where lime has been applied

A horizon:
Thickness—5 to 10 inches
Color—hue of 5YR to 10YR, value of 4 or 5, and chroma of 2 to 6

Bt horizon:
Color—hue of 5YR or 2.5YR, value of 4 or 5, and chroma of 6 to 8; mottles in shades of yellow and brown at a depth of more than 30 inches in some pedons
Texture—sandy clay or clay

Fuquay 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 slow in the lower part of the subsoil
Parent material: Sandy and loamy marine sediments
Seasonal high water table: At a depth of 4 to 6 feet during wet seasons, perched
Landscape position: Ridges, high flats, and hillslopes
Slope: 0 to 8 percent

Classification: Loamy, siliceous, thermic Arenic Plinthic Kandiudults

Geographically Associated Soils

- Cowarts soils, which do not have a sandy epipedon that is as thick as 20 inches and do not have as much as 5 percent plinthite within a depth of 60 inches
- Dothan and Tifton soils, which do not have a sandy epipedon that is as thick as 20 inches
- Stilson soils, which are moderately well drained
- Lakeland soils, which are sandy to a depth of 80 inches or more
- Nankin soils, which are in a clayey family

Typical Pedon

Fuquay loamy sand, 0 to 5 percent slope; 3.5 miles north on Georgia Highway 112 from the Wilcox-Turner County line, 1.2 miles northwest on the paved road that flanks Christian Home Church, 0.5 mile east on a dirt road, and 100 feet north of the dirt road; in Wilcox County; USGS Quadrangle Rochelle, Georgia (1974); lat. 31 degrees 54 minutes 51 seconds N. and long. 83 degrees 29 minutes 04 seconds W.

Ap—0 to 10 inches; dark grayish brown (2.5Y 4/2) loamy sand; weak fine granular structure; very friable; common fine roots; few small ironstone nodules; strongly acid; abrupt smooth boundary.

E1—10 to 22 inches; yellowish brown (10YR 5/4) loamy sand; weak fine granular structure; very friable; few fine roots; few fine ironstone nodules; very strongly acid; gradual smooth boundary.

E2—22 to 28 inches; light yellowish brown (10YR 6/4) loamy sand; weak fine granular structure; very friable; few fine roots; few small ironstone nodules; very strongly acid; gradual smooth boundary.

Bt1—28 to 36 inches; light yellowish brown (10YR 6/4) sandy loam; weak fine subangular blocky structure; very friable; few fine roots; sand grains coated and bridged with clay; few small ironstone nodules; very strongly acid; clear smooth boundary.

Bt2—36 to 43 inches; light yellowish brown (10YR 6/4) sandy clay loam; common fine prominent strong brown (7.5YR 5/6) mottles; weak medium subangular blocky structure; friable; few fine roots; 3 percent plinthite; few distinct clay films on face of peds; few small ironstone nodules; very strongly acid; gradual wavy boundary.

Btv—43 to 65 inches; mottled yellowish brown (10YR 5/6), strong brown (7.5YR 5/6), pale brown (10YR 6/3), and gray (10YR 6/1) sandy clay loam; moderate medium subangular blocky structure; friable; 12 percent plinthite; very firm and brittle red and brown zones around the plinthite; few distinct clay films on face of peds; few small ironstone nodules; very strongly acid.

Range in Characteristics

Thickness of the solum: More than 60 inches
Thickness of the sandy epipedon: 20 to 40 inches (fig. 9)
Depth to mottles of chroma 2 or less: 40 inches or more
Content of plinthite: 6 to 15 percent at a depth of 34 to 60 inches
Content of ironstone nodules: 0 to 5 percent (less than 0.75 inch in diameter)
Reaction: Very strongly acid or strongly acid throughout, except for the surface layer where lime has been applied

Ap horizon:
Thickness—7 to 10 inches
Color—hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 2 or 3

E horizon:
Color—hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 3 to 6

BE horizon, where present:
Color—hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 4 to 8
Texture—loamy sand or sandy loam

Bt horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 6, and chroma of 4 to 8; none to common mottles in shades of red, brown, and yellow in the lower part of the horizon
Texture—sandy loam or sandy clay loam

Btv horizon:
Color—hue of 7.5YR or 10YR, value of 4 to 6, chroma of 4 to 8, and common or many mottles in shades of red, brown, yellow, and gray; or mottled in shades of red, brown, yellow, and gray (not all pedons have gray mottles in the upper part of the horizon)
Texture—sandy loam or sandy clay loam

Grady Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Slow
Parent material: Clayey marine sediments
Depth to the seasonal high water table: During wet seasons, 2 feet above the surface to a depth of 1 foot

Landscape position: Upland depressions
Slope: 0 to 2 percent
Classification: Clayey, kaolinitic, thermic Typic Paleaquults

Geographically Associated Soils

- Clarendon soils, which are in the slightly higher areas, are moderately well drained, and are in a fine-loamy family
- Pelham soils, which have a sandy epipedon that is 20 to 40 inches thick and are in a fine-loamy family
- Rains soils, which are in a fine-loamy family
- Stilson soils, which are on upland flats, are moderately well drained, and have a sandy epipedon that is 20 to 40 inches thick
- Tifton soils, which are on ridges and hillslopes, are well drained, and are in a fine-loamy family

Typical Pedon

Grady loam; 1.5 miles north along Georgia Highway 112 from Mount Air Church (near Ten Mile Creek), 0.3 mile west on a dirt road, and 0.5 mile north of the road; in Pulaski County; USGS Quadrangle Finleyson West (1972); lat. 32 degrees 10 minutes 56 seconds N. and long. 83 degrees 30 minutes 54 seconds W.

Ap—0 to 5 inches; dark gray (10YR 4/1) loam; weak medium granular structure; very friable; many fine roots; very strongly acid; clear smooth boundary.

BE—5 to 8 inches; dark gray (10YR 4/1) clay loam; weak medium subangular blocky structure; friable; common fine roots; very strongly acid; clear smooth boundary.

Btg1—8 to 15 inches; gray (10YR 6/1) clay; moderate medium subangular blocky structure; firm; few fine roots; few fine pores; common distinct clay films on faces of peds; very strongly acid; gradual smooth boundary.

Btg2—15 to 32 inches; gray (10YR 6/1) clay; common medium prominent yellowish brown (10YR 5/6) and few medium prominent red (2.5YR 4/6) mottles; moderate medium subangular blocky structure; firm; few fine roots; few fine pores; common prominent clay films on faces of peds; very strongly acid; gradual smooth boundary.

Btg3—32 to 65 inches; light gray (10YR 7/1) sandy clay that has coarse streaks of gray (10YR 6/1) clay; common medium prominent brownish yellow (10YR 6/6) and few medium distinct very pale brown (10YR 7/4) mottles; moderate medium subangular blocky structure; firm; few fine pores; common distinct clay films on faces of peds; few coarse sand grains; very strongly acid; clear smooth boundary.

Range in Characteristics

Thickness of the solum: 60 inches or more
Reaction: Very strongly acid or strongly acid throughout

Ap horizon:
Thickness—4 to 8 inches
Color—hue of 10YR or 2.5Y, value of 2 to 4, and chroma of 1 or 2

BE horizon, where present:
Color—hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 1 or 2
Texture—sandy clay loam or clay loam

Btg horizon:
Color—hue of 10YR or 2.5Y, value of 5 to 7, chroma of 1 or 2, and none to many mottles in shades of red, brown, or yellow; or mottled in shades of gray, yellow, red, and brown in the lower part of the horizon (fig. 10)
Texture—clay or sandy clay

Greenville Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Clayey marine sediments
Landscape position: Ridges and hillslopes
Slope: 0 to 12 percent
Classification: Clayey, kaolinitic, thermic Rhodic Kandiudults

Geographically Associated Soils

- Faceville soils, which are not rhodic
- Orangeburg soils, which are in a fine-loamy family and are not rhodic
- Red Bay soils, which are in a fine-loamy family

Typical Pedon

Greenville sandy loam, 2 to 5 percent slopes; 0.9 mile south of Georgia Highway 126 from the Pulaski-Bleckley County line to Lizzie Bloomer Church, 0.5 mile west along a vehicle trail, and 75 yards south; in Pulaski County; USGS Quadrangle Hawkinsville, Georgia (1973); lat. 32 degrees 21 minutes 29 seconds N. and long. 83 degrees 28 minutes 23 seconds W.

A—0 to 5 inches; dark reddish brown (5YR 3/3) sandy loam; weak medium granular structure;

very friable; common fine and medium and few coarse roots; very strongly acid; clear wavy boundary.
BA—5 to 12 inches; dark red (2.5YR 3/6) sandy clay loam; weak fine subangular blocky structure; friable; common fine and few coarse roots; sand grains coated and bridged with clay; very strongly acid; gradual wavy boundary.
Bt1—12 to 24 inches; dark red (2.5YR 3/6) sandy clay; moderate medium subangular blocky structure; friable; few fine and coarse roots; few faint clay films on faces of peds; very strongly acid; gradual wavy boundary.
Bt2—24 to 50 inches; dark red (2.5YR 3/6) sandy clay; moderate medium subangular blocky structure; friable; few fine roots; few distinct and common faint clay films on faces of peds; very strongly acid; gradual wavy boundary.
Bt3—50 to 62 inches; dark red (2.5YR 3/6) sandy clay; moderate medium subangular blocky structure; friable; common 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 throughout, except for the surface layer where lime has been applied

A horizon:
Thickness—4 to 9 inches
Color—hue of 2.5YR or 5YR, value of 3 or 4, and chroma of 2 to 4

BA horizon, where present:
Color—hue of 2.5YR or 5YR, value of 2 or 3, and chroma of 4 to 6
Texture—sandy clay loam or sandy clay

Bt horizon:
Color—hue of 2.5YR, value of 3, and chroma of 4 to 6; mottles in shades of yellow and brown at a depth of more than 40 inches in some pedons
Texture—sandy clay or clay

Lakeland Series

Depth class: Very deep
Drainage class: Excessively drained
Permeability: Rapid
Parent material: Sandy marine sediments
Landscape position: Ridges and hillslopes
Slope: 0 to 8 percent
Classification: Thermic, coated Typic Quartzipsamments

Geographically Associated Soils

- Blanton soils, which have an argillic horizon within a depth of 80 inches and are somewhat excessively drained
- Cowarts soils, which have an argillic horizon within a depth of 20 inches
- Fuquay and Lucy soils, which have an argillic horizon within a depth of 20 to 40 inches

Typical Pedon

Lakeland sand, 0 to 8 percent slopes; 0.9 mile north on Georgia Highway 112 from the Wilcox-Turner County line, 0.8 mile east on a dirt road, and 300 feet north of the road; in Wilcox County; USGS Quadrangle Rebecca, Georgia (1974); lat. 31 degrees 51 minutes 33 seconds N. and long. 83 degrees 28 minutes 37 seconds W.

A—0 to 4 inches; brown (10YR 4/3) sand; single grained; loose; common fine and medium roots; common uncoated sand grains; very strongly acid; clear wavy boundary.
C1—4 to 25 inches; yellowish brown (10YR 5/4) sand; single grained; loose; common fine and medium roots; few uncoated sand grains; very strongly acid; gradual smooth boundary.
C2—25 to 62 inches; brownish yellow (10YR 6/6) sand; single grained; loose; few fine roots; common uncoated sand grains; few coarse sand grains; very strongly acid; gradual smooth boundary.
C3—62 to 68 inches; very pale brown (10YR 7/4) sand; single grained; loose; few fine roots; common uncoated sand grains; few coarse sand grains; very strongly acid; gradual smooth boundary.
C4—68 to 88 inches; very pale brown (10YR 7/3) sand; single grained; loose; many uncoated sand grains; few coarse sand grains; very strongly acid.

Range in Characteristics

Thickness of the sand: 80 inches or more (fig. 11)
Reaction: Very strongly acid or strongly acid throughout, except for the surface layer where lime has been applied

A horizon:
Thickness—4 to 8 inches
Color—hue of 10YR, value of 3 or 4, and chroma of 2 to 4

C horizon:
Color—hue of 7.5YR to 2.5Y, value of 4 to 7, and chroma of 3 to 8

Lucy Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Rapid in the surface and subsurface layers and moderate in the subsoil
Parent material: Sandy and loamy marine sediments
Landscape position: Ridges and hillslopes
Slope: 0 to 12 percent
Classification: Loamy, siliceous, thermic Arenic Kandiudults

Geographically Associated Soils

- Blanton soils, which have a sandy epipedon that is more than 40 inches thick
- Orangeburg and Red Bay soils, which do not have a sandy epipedon that is as thick as 20 inches

Typical Pedon

Lucy loamy sand, 0 to 5 percent slopes; 0.7 mile east of the Ocmulgee River at Hawkinsville, Georgia, on Georgia Highway 27, south 2.4 miles on Georgia Highway 230, and 450 feet east of the highway; in Pulaski County; USGS Quadrangle Hawkinsville, Georgia (1973); lat. 32 degrees 15 minutes 42 seconds N. and long. 83 degrees 25 minutes 11 seconds W.

Ap—0 to 9 inches; brown (7.5YR 4/3) loamy sand; weak fine granular structure; very friable; common very fine roots; strongly acid; abrupt smooth boundary.
E—9 to 27 inches; yellowish red (5YR 4/6) loamy sand; weak fine granular structure; very friable; few fine roots; very strongly acid; abrupt smooth boundary.
Bt1—27 to 36 inches; yellowish red (5YR 4/6) sandy loam; weak medium subangular blocky structure; very friable; few fine roots; sand grains coated and bridged with clay; very strongly acid; gradual smooth boundary
Bt2—36 to 63 inches; red (2.5YR 4/6) sandy clay loam; weak medium subangular blocky structure; friable; few fine roots; few faint clay films on faces of peds; very strongly acid.

Range in Characteristics

Thickness of the solum: More than 60 inches
Thickness of the sandy epipedon: 22 to 38 inches
Reaction: Very strongly acid or strongly acid throughout, except for the surface layer where lime has been applied

Ap horizon:
Thickness—7 to 11 inches
Color—hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2 or 3

E horizon:
Color—hue of 5YR or 7.5YR, value of 4 or 5, 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
Texture—sandy loam or sandy clay loam

Meggett Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Slow
Parent material: Clayey alluvial sediments
Depth to the seasonal high water table: During wet seasons, at the surface to a depth of 1 foot
Landscape position: Flood plains along the Ocmulgee River
Slope: 0 to 2 percent
Classification: Fine, mixed, thermic Typic Albaqualfs

Geographically Associated Soils

- Bibb soils, which are in a coarse-loamy family and are on flood plains along the smaller streams
- Rains soils, which are in a fine-loamy family and are on upland flats
- Tawcaw soils, which are somewhat poorly drained

Typical Pedon

Meggett silty clay, in an area of Tawcaw and Meggett silty clays, frequently flooded; 1,200 yards west from the west bank of the Ocmulgee River along the north edge of the U.S. Highway 280 right-of-way and 200 feet north; in Wilcox County; USGS Quadrangle Abbeville South, Georgia (1974); lat. 31 degrees 59 minutes 42 seconds N. and long. 83 degrees 17 minutes 30 seconds W.

A—0 to 4 inches; brown (7.5YR 4/3) silty clay; weak medium granular structure; friable; common fine and medium roots; strongly acid; clear smooth boundary.
BAg—4 to 9 inches; dark brown (7.5YR 4/2) silty clay; few fine and medium prominent gray (10YR 6/1) mottles; weak medium subangular blocky structure; firm; common fine and few medium roots; strongly acid; clear smooth boundary.
Btg1—9 to 30 inches; gray (10YR 6/1) clay; few fine prominent strong brown (7.5YR 5/6) and common medium prominent yellowish brown (10YR 5/6) mottles; moderate medium subangular blocky

Figure 7.—A profile of a Clarendon soil. Plinthite and gray colors that indicate wetness begin at a depth of about 24 inches (60 centimeters).

Figure 8.—A profile of a Cowarts soil. A very firm and compact Cd horizon at a depth of about 30 inches (75 centimeters) restricts roots.

Figure 9.—A profile of a Fuquay soil. A sandy epipedon extends to a depth of about 20 inches (50 centimeters). Plinthite occurs at a depth of about 50 inches (125 cm).

Figure 10.—A profile of a Grady soil. This poorly drained soil is in depressions and is dominantly gray throughout.

Figure 11.—A profile of a Lakeland soil. This soil is sandy to a depth of 72 inches (200 centimeters).

Figure 12.—A profile of a Susquehanna soil. Slickensides are in the subsoil, which expands when wet and contracts when dry.

structure; very firm; few fine roots; few faint clay films on faces of peds; moderately acid; gradual smooth boundary.
Btg2—30 to 45 inches; gray (10YR 6/1) clay; common medium prominent yellowish brown (10YR 5/6) mottles; weak medium subangular blocky structure; very firm; few faint clay films on faces of peds; few calcium concretions less than 0.25 inch in diameter; slightly acid; gradual smooth boundary.
Btg3—45 to 62 inches; gray (5Y 6/1) clay; common medium prominent yellowish brown (10YR 5/6) mottles; weak medium subangular blocky structure; very firm; few faint clay films on faces of peds; few calcium concretions less than 0.25 inch in diameter; few small limestone fragments; neutral.

Range in Characteristics

Thickness of the solum: 40 to 80 inches
Reaction: Very strongly acid to slightly acid in the A horizon, strongly acid to slightly acid in the upper part of the B horizon, and slightly acid to moderately alkaline in lower part of the B horizon
Other: The texture of the surface layer of the Meggett soils in the survey area is outside the normal range in charcteristics for the Megget series. This difference does not effect the use and management of the soils.

A horizon:
Thickness—3 to 6 inches
Color—hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2 or 3

BAg horizon, where present:
Color—hue of 7.5YR, value of 4 to 6, chroma of 1 or 2, and mottles in shades of brown and gray

Btg horizon:
Color—hue of 10YR to 5Y or neutral, value of 4 to 7, chroma of 1 or 2, and mottles in shades of yellow and brown; or mottled in shades of gray, yellow, and brown
Texture—clay, sandy clay, or silty clay

Nankin Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderately slow
Parent material: Clayey and loamy marine sediments
Landscape position: Ridges and hillslopes
Slope: 2 to 15 percent
Classification: Clayey, kaolinitic, thermic Typic Kanhapludults

Geographically Associated Soils

• Ailey soils, which have a sandy epipedon that is 20 to 40 inches thick and are in a loamy family
• Cowarts soils, which are in a fine-loamy family
• Dothan and Tifton soils, which are in a fine-loamy family and have more than 5 percent plinthite in the lower part of the subsoil
• Fuquay soils, which have a sandy epipedon that is 20 to 40 inches thick, are in a loamy family, and have more than 5 percent plinthite in the lower part of the subsoil
• Susquehanna soils, which are somewhat poorly drained and have a plastic, clayey subsoil

Typical Pedon

Nankin loamy sand, in an area of Cowarts-Nankin-Ailey loamy sands, 2 to 5 percent slopes; 4 miles north-northeast of Rochelle, Georgia; 2.1 miles north on Georgia Highway 233 from its junction with Georgia Highway 112 to the west road cut along Georgia Highway 233; in Wilcox County; USGS Quadrangle Pineview East, Georgia (1973); lat. 32 degrees 00 minutes 04 seconds N. and long. 83 degrees 26 minutes 13 seconds W.

Ap—0 to 7 inches; brown (10YR 4/3) loamy sand; weak fine granular structure; very friable; common fine and medium roots; very strongly acid; abrupt smooth boundary.
Bt1—7 to 14 inches; yellowish brown (10YR 5/6) sandy clay loam; weak medium subangular blocky structure; friable; common fine and medium roots; few very fine pores; few very faint clay films on faces of peds; very strongly acid; clear wavy boundary.
Bt2—14 to 28 inches; strong brown (7.5YR 5/6) sandy clay; common medium prominent yellowish red (5YR 5/8) mottles; moderate medium subangular blocky structure; firm; few fine and medium roots; few fine pores; few distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.
Bt3—28 to 42 inches; strong brown (7.5YR 5/8) sandy clay; common medium distinct yellowish red (5YR 5/8) and few medium prominent light gray (10YR 7/2) mottles; moderate medium subangular blocky structure; firm; few fine roots; common distinct clay films on face of peds; very strongly acid; gradual wavy boundary.
Bt4—42 to 50 inches; mottled red (2.5YR 4/6), brown (10YR 5/3), and light gray (10YR 7/2) clay; moderate medium subangular blocky structure; firm; few fine roots, mostly between peds; common distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.

C—50 to 65 inches; mottled light gray (10YR 7/2), strong brown (7.5YR 5/6), and red (2.5YR 4/6) sandy clay loam that has pockets and strata of sandy clay; massive; very firm; very strongly acid.

Range in Characteristics

Thickness of the solum: 40 to 60 inches
Content of ironstone nodules and quartz gravel: 0 to 25 percent in the surface layer and the subsoil
Reaction: Very strongly acid or strongly acid throughout, except for the surface layer where lime has been applied
Distinctive features: Very firm, compact substratum

Ap horizon:
Thickness—4 to 8 inches
Color—hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 2 to 4

E horizon, where present:
Color—hue of 10YR, value of 5 or 6, and chroma of 2 to 4

BE horizon, where present:
Color—hue of 5YR to 10YR, value of 5 or 6, and chroma of 4 to 8
Texture—sandy loam or sandy clay loam

Bt horizon, upper part:
Color—hue of 5YR to 10YR, value of 4 to 6, chroma of 6 to 8, and none or few mottles in shades of red or brown
Texture—dominantly sandy clay or clay; some pedons that do not have a BE horizon have a thin Bt1 horizon of sandy clay loam.

Bt horizon, lower part:
Color—hue of 5YR or 7.5YR, value of 4 to 6, chroma of 6 to 8, common or many mottles in shades of red and brown, and none or few mottles in shades of gray; or mottled in these colors
Texture—sandy clay or clay

BC horizon, where present:
Color—hue of 2.5YR to 10YR, value of 4 to 7, chroma of 6 to 8, and mottles in shades of red, brown, yellow, and gray; or mottled in shades of red, brown, yellow, and gray
Texture—sandy clay loam or sandy loam having finer and coarser pockets and strata

C horizon:
Color—mottled in shades of red, brown, yellow, and gray
Texture—sandy clay loam or sandy loam having finer and coarser strata

Orangeburg Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Loamy and clayey marine sediments
Landscape position: Ridges, high flats, and hillslopes
Slope: 0 to 12 percent
Classification: Fine-loamy, siliceous, thermic Typic Kandiudults

Geographically Associated Soils

- Dothan soils, which have a predominantly yellowish brown subsoil and have more than 5 percent plinthite in the lower part of the subsoil
- Faceville soils, which are in a clayey family
- Greenville soils, which are rhodic and are in a clayey family
- Lucy soils, which have a sandy epipedon that is 20 to 40 inches thick
- Red Bay soils, which are rhodic

Typical Pedon

Orangeburg loamy sand, 2 to 5 percent slopes; 0.7 mile east of Hawkinsville, Georgia; 3.0 miles south on Georgia Highway 230 from its junction with Georgia Highway 27 and 500 yards west of Georgia Highway 230; in Pulaski County; USGS Quadrangle Hawkinsville, Georgia (1973); lat. 32 degrees 15 minutes 03 seconds N. and long. 83 degrees 24 minutes 58 seconds W.

Ap—0 to 7 inches; dark brown (7.5YR 3/3) loamy sand; weak fine granular structure; very friable; many fine and few medium roots; very strongly acid; abrupt smooth boundary.
E—7 to 11 inches; brown (7.5YR 5/4) loamy sand; weak fine granular structure; very friable; common fine roots; very strongly acid; clear smooth boundary.
BA—11 to 18 inches; red (2.5YR 4/6) sandy loam; weak fine subangular blocky structure; friable; few fine roots; sand grains coated and bridged with clay; very strongly acid; gradual smooth boundary.
Bt1—18 to 50 inches; red (2.5YR 4/6) sandy clay loam; moderate medium subangular blocky structure; friable; few fine roots; common faint clay films on faces of peds; very strongly acid; gradual smooth boundary.
Bt2—50 to 63 inches; red (2.5YR 4/6) sandy clay loam; weak medium subangular blocky structure; friable; few faint clay films on faces of peds; very strongly acid.

Range in Characteristics

Thickness of the solum: More than 72 inches
Content of ironstone nodules: 0 to 5 percent in the A horizon and the upper part of the B horizon (0.25 to 0.75 inch in diameter)
Reaction: Very strongly acid or strongly acid throughout, except for the surface layer where lime has been applied

Ap horizon:
Thickness—4 to 10 inches
Color—hue of 10YR or 7.5YR, value of 3 or 4, and chroma of 2 to 4

E horizon, where present:
Color—hue of 10YR or 7.5YR, value of 5, and chroma of 3 or 4

BA horizon, where present:
Color—hue of 2.5YR to 7.5YR, value of 4 to 6, and chroma of 4 to 6

Bt horizon:
Color—hue of 2.5YR or 5YR, value of 4, and chroma of 6 to 8; none to common mottles in shades of brown in the lower part
Texture—sandy clay loam in the upper part; sandy clay loam or sandy clay in the lower part

Osier Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Rapid
Parent material: Sandy alluvial sediments
Depth to the seasonal high water table: During wet seasons, at the surface to a depth of 1 foot
Landscape position: Flood plains along streams
Slope: 0 to 2 percent
Classification: Siliceous, thermic Typic Psammaquents

Geographically Associated Soils

- Bibb soils, which are in a coarse-loamy family
- Meggett soils, which are in a fine texture family
- Pelham soils, which are loamy and are at the heads of streams and on low flats
- Tawcaw soil, which are in a fine texture family and are somewhat poorly drained

Typical Pedon

Osier sandy loam, in an area of Bibb and Osier soils, frequently flooded; about 400 feet down the main stream of the Alapaha River from the bridge crossing on Georgia Highway 112 and 100 feet south; in Wilcox County; USGS Quadrangle Rochelle, Georgia (1974); lat. 31 degrees 53 minutes 43 seconds N. and long. 83 degrees 29 minutes 12 seconds W.

A1—0 to 3 inches; dark gray (10YR 4/1) sandy loam; common thin (0.1 inch in thickness) strata of sand; weak fine granular structure; very friable; very strongly acid; clear smooth boundary.
A2—3 to 12 inches; gray (10YR 5/1) loamy sand; common thin (0.2 inch in thickness) strata of sand; common fine prominent strong brown (7.5YR 4/6) mottles; weak fine granular structure; very friable; very strongly acid; gradual wavy boundary.
Cg1—12 to 35 inches; grayish brown (10YR 5/2) loamy sand; common thin (0.2 inch in thickness) strata of sand; massive; very friable; very strongly acid; clear wavy boundary.
Cg2—35 to 42 inches; white (10YR 8/1) sand; few thin (0.2 inch in thickness) loamy strata; single grained; loose; very strongly acid; clear wavy boundary.
Cg3—42 to 52 inches; brown (7.5YR 4/2) sand; few thin (0.2 inch in thickness) loamy strata and strata of coarse sand; single grained; loose; very strongly acid; clear wavy boundary.
Cg4—52 to 62 inches; brown (7.5YR 5/2) coarse sand that has thin strata of fine and medium sand; single grained; loose; very strongly acid.

Range in Characteristics

Thickness of the sediments: 72 inches or more
Reaction: Very strongly acid or strongly acid throughout

A horizon:
Thickness—3 to 18 inches
Color—hue of 10YR, value of 4 or 5, chroma of 1 or 2, and none to common mottles in shades of brown or yellow
Texture—sandy loam, loamy sand, or sand; commonly stratified

Cg horizon:
Color—hue of 7.5YR or 10YR, value of 3 to 8, chroma of 1 or 2, and none to common mottles in shades of gray, brown, and yellow
Texture—loamy sand, sand, or coarse sand; commonly has thin loamy strata

Pelham Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderate
Parent material: Sandy and loamy marine sediments
Depth to the seasonal high water table: During wet

seasons, 1 foot above the surface to a depth of 1 foot
Landscape position: Low flats, drainageways, and depressions
Slope: 0 to 2 percent
Classification: Loamy, siliceous, thermic Arenic Paleaquults

Geographically Associated Soils

- Grady soils, which do not have a sandy epipedon that is as thick as 20 inches and are in a clayey family
- Rains soils, which do not have a sandy epipedon that is as thick as 20 inches
- Stilson soils, which are moderately well drained and have more than 5 percent plinthite in the lower part of the subsoil

Typical Pedon

Pelham loamy sand; about 1 mile west on U.S. Highway 280 from its junction with Georgia Highway 112 in Rochelle, Georgia, 0.3 mile north on a paved county road, 1.7 miles north on a dirt county road, 1,560 feet east on power line right-of-way, and 75 feet northwest; in Wilcox County; USGS Quadrangle Rochelle, Georgia (1974); lat. 31 degrees 58 minutes 44 seconds N. and long. 83 degrees 28 minutes 12 seconds W.

Ap—0 to 6 inches; dark gray (10YR 4/1) loamy sand; weak fine granular structure; very friable; many fine and medium roots; about 40 percent uncoated sand grains; very strongly acid; gradual smooth boundary.
E1—6 to 16 inches; dark gray (10YR 4/1) loamy sand; single grained; loose; few fine roots; about 80 percent uncoated sand grains; very strongly acid; clear wavy boundary.
E2—16 to 21 inches; gray (10YR 6/1) loamy sand; single grained; loose; few fine roots; about 90 percent uncoated sand grains; very strongly acid; clear wavy boundary.
E3—21 to 26 inches; gray (10YR 5/1) loamy sand; single grained; loose; few fine roots; about 95 percent uncoated sand grains; very strongly acid; clear wavy boundary.
BEg—26 to 34 inches; light gray (10YR 7/1) sandy loam; common fine faint light brownish gray (10YR 6/2) mottles; weak fine subangular blocky structure; friable; few fine roots; very strongly acid; gradual wavy boundary.
Btg1—34 to 50 inches; light gray (10YR 7/1) sandy clay loam; many medium prominent brownish yellow (10YR 6/6) and common medium prominent light brown (7.5YR 6/4) mottles; weak medium subangular blocky structure; friable; few fine roots; very strongly acid; gradual wavy boundary.
Btg2—50 to 56 inches; light gray (10YR 7/1) sandy clay loam; many medium prominent brownish yellow (10YR 6/8) mottles; weak medium subangular blocky structure; friable; few fine roots; very strongly acid; gradual wavy boundary.
Btg3—56 to 68 inches; light gray (10YR 7/2) sandy clay loam; common medium distinct light yellowish brown (10YR 6/4) mottles; weak fine subangular blocky structure; friable; very strongly acid; gradual wavy boundary.
Cg—68 to 80 inches; light gray (10YR 7/1) sandy loam; many medium prominent brownish yellow (10YR 6/6) mottles; massive; very friable; very strongly acid.

Range in Characteristics

Thickness of the solum: More than 60 inches
Thickness of the sandy epipedon: 21 to 40 inches
Reaction: Very strongly acid or strongly acid throughout

Ap horizon:
Thickness—4 to 8 inches
Color—hue of 10YR or 2.5Y, value of 2 to 4, and chroma of 1 or 2

E horizon:
Color—hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2

BEg horizon, where present:
Color—hue of 10YR or 2.5Y, value of 5 to 7, chroma of 1 or 2, and none to common mottles in shades of gray

Btg or Bt horizon, where present:
Color—dominantly hue of 10YR or 2.5Y, value of 5 to 7, chroma of 1 or 2, and none to many mottles in shades of yellow, brown, red, and gray; in some pedons, hue of 10YR, value of 5, chroma of 4 to 8, and common or many mottles in shades of gray in the lower part
Texture—sandy clay loam or sandy loam in the upper part; sandy clay loam, sandy loam, or sandy clay in the lower part

BCg or Cg horizon, where present:
Color—hue of 10YR, value of 3 to 7, chroma of 1 or 2, and none to many mottles in shades of yellow, brown, and gray
Texture—fine sandy loam, sandy loam, loamy sand, or sand

Rains Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability: Moderate
Parent material: Loamy marine sediments
Depth to the seasonal high water table: During wet seasons, at the surface to a depth of 1 foot
Landscape position: Slight depressions and low flats on uplands
Slope: 0 to 2 percent
Classification: Fine-loamy, siliceous, thermic Typic Paleaquults

Geographically Associated Soils

- Clarendon soils, which are moderately well drained and have more than 5 percent plinthite in the lower part of the subsoil
- Grady soils, which are in a clayey family
- Pelham soils, which have a sandy epipedon that is 20 to 40 inches thick
- Stilson soils, which are moderately well drained, have a sandy epipedon that is 20 to 40 inches thick, and have more than 5 percent plinthite in the lower part of the subsoil
- Tawcaw soils, which are in a fine texture family and are somewhat poorly drained

Typical Pedon

Rains loamy sand; 1.3 miles south on Georgia Highway 257 from the Ten Mile Creek crossing, 1.3 miles east on a paved county road, and 0.5 mile north of the road; in Pulaski County; USGS Quadrangle Finleyson West, Georgia (1972); lat. 32 degrees 08 minutes 25 seconds N. and long. 83 degrees 32 minutes 02 seconds W.

A—0 to 5 inches; very dark gray (10YR 3/1) loamy sand; weak fine granular structure; very friable; common fine and medium roots; very strongly acid; abrupt smooth boundary.
E—5 to 12 inches; dark gray (10YR 4/1) loamy sand; weak fine granular structure; very friable; common fine roots; very strongly acid; clear wavy boundary.
Btg1—12 to 18 inches; gray (10YR 5/1) sandy loam; common medium prominent yellow (10YR 7/6), few fine distinct light yellowish brown (10YR 6/4), and few medium faint gray (10YR 6/1) mottles; weak fine subangular blocky structure; friable; few fine roots; sand grains coated and bridged with clay; very strongly acid; clear wavy boundary.
Btg2—18 to 26 inches; gray (10YR 6/1) sandy clay loam; common coarse prominent yellowish brown (10YR 5/6) mottles; weak medium subangular blocky structure; friable; few fine roots; sand grains coated and bridged with clay; very strongly acid; gradual wavy boundary.
Btg3—26 to 33 inches; light gray (10YR 7/2) sandy clay loam; few fine prominent red (2.5YR 4/6) and common medium distinct yellowish brown (10YR 5/6) mottles; weak medium subangular blocky structure; friable; few fine roots; few faint clay films on faces of peds; very strongly acid; gradual wavy boundary.
Btg4—33 to 42 inches; light gray (10YR 7/1) sandy clay loam that has a few pockets of sandy clay; common medium prominent brownish yellow (10YR 6/6) and few fine prominent red (2.5YR 4/8) mottles; moderate medium subangular blocky structure; friable; few fine roots; common faint clay films on faces of peds; very strongly acid; gradual wavy boundary.
Btg5—42 to 55 inches; light gray (10YR 7/1) sandy clay loam; common medium prominent brownish yellow (10YR 6/6) mottles; moderate medium subangular blocky structure; friable; few fine roots; common faint clay films on faces of peds; very strongly acid; gradual wavy boundary.
BCg—55 to 65 inches; light gray (10YR 7/1) sandy clay loam; common medium prominent brownish yellow (10YR 6/6) mottles; weak medium subangular blocky structure; firm; very strongly acid.

Range in Characteristics

Thickness of the solum: More than 60 inches
Reaction: Very strongly acid or strongly acid throughout

A horizon:
Thickness—5 to 7 inches
Color—hue of 10YR, value of 3, and chroma of 1 or 2

E horizon, where present:
Color—hue of 10YR, value of 4 to 6, and chroma of 1 or 2
Texture—loamy sand or sandy loam

Btg horizon:
Color—hue of 10YR, value of 5 to 7, chroma of 1 or 2, and few or common mottles in shades of yellow, brown, and red
Texture—sandy loam or sandy clay loam in the upper part; sandy clay loam or sandy clay in the lower part

BCg horizon, where present:
Color—hue of 10YR, value of 6 or 7, chroma of 1 or 2, and few or common mottles in shades of yellow and brown
Texture—sandy clay loam or sandy clay

Red Bay Series

Depth class: Very deep
Drainage class: Well drained
Permeability: Moderate
Parent material: Loamy marine sediments
Landscape position: Ridges and hillslopes
Slope: 2 to 8 percent
Classification: Fine-loamy, siliceous, thermic Rhodic Kandiudults

Geographically Associated Soils

- Faceville soils, which are in a clayey family and are not rhodic
- Greenville soils, which are in a clayey family
- Lucy soils, which have a sandy epipedon that is 20 to 40 inches thick and are not rhodic
- Orangeburg soils, which are not rhodic

Typical Pedon

Red Bay loamy sand, 2 to 5 percent slopes; 0.5 mile south on Georgia Highway 126 from the Bleckley-Pulaski County line and 1.3 miles west of Georgia Highway 126; in Pulaski County; USGS Quadrangle Hawkinsville, Georgia (1973); lat. 32 degrees 21 minutes 50 seconds N. and long. 83 degrees 29 minutes 06 seconds W.

Ap—0 to 5 inches; dark reddish brown (5YR 3/4) loamy sand; weak fine granular structure; very friable; common fine and medium roots; very strongly acid; clear smooth boundary.
Bt1—5 to 18 inches; dark red (2.5YR 3/6) sandy loam; weak medium subangular blocky structure; friable; few fine and medium roots; sand grains coated and bridged with clay; very strongly acid; clear smooth boundary.
Bt2—18 to 50 inches; dark red (2.5YR 3/6) sandy clay loam; moderate medium subangular blocky structure; friable; few fine roots; few faint clay films on faces of peds; very strongly acid; gradual smooth boundary.
Bt3—50 to 65 inches; dark red (2.5YR 3/6) sandy clay loam; weak medium subangular blocky structure; friable; few fine roots; few faint clay films on faces of peds; very strongly acid.

Range in Characteristics

Thickness of the solum: More than 60 inches
Reaction: Very strongly acid or strongly acid throughout, except for the surface layer where lime has been applied

A horizon:
Thickness—4 to 8 inches
Color—hue of 2.5YR to 7.5YR, value of 3 or 4, and chroma of 3 or 4

AB horizon, where present:
Color—hue of 5YR, value of 3 or 4, and chroma of 4

BA horizon, where present:
Color—hue of 2.5YR or 5YR, value of 3 or 4, and chroma of 4 to 6
Texture—sandy loam or sandy clay loam

Bt1 horizon:
Color—hue of 10R or 2.5YR, value of 3, and chroma of 6
Texture—sandy loam or sandy clay loam

Bt2 and Bt3 horizons:
Color—hue of 10R or 2.5YR, value of 3, and chroma of 6

Stilson Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability: Moderate
Parent material: Loamy marine sediments
Depth to the seasonal high water table: 2 1/2 to 3 feet during wet seasons
Landscape position: Slight depressions and flats on uplands
Slope: 0 to 2 percent
Classification: Loamy, siliceous, thermic Arenic Plinthic Paleudults

Geographically Associated Soils

- Clarendon soils, which do not have a sandy epipedon that is as thick as 20 inches
- Fuquay soils, which are well drained
- Pelham soils, which are poorly drained and do not have as much as 5 percent plinthite in the lower part of the subsoil
- Tifton soils, which are well drained do not have a sandy epipedon that is as thick as 20 inches

Typical Pedon

Stilson loamy sand, 0 to 2 percent slopes; 1.4 miles west from Union Church on the paved road fronting the church (Union Church is 2.5 miles northeast of Seville, Georgia), 0.5 mile north on a paved road, and 600 yards east in a wooded area; in Wilcox County; USGS Quadrangle Pitts, Georgia (1974); lat. 31 degrees 59 minutes 43 seconds N. and long. 83 degrees 35 minutes 07 seconds W.

A—0 to 6 inches; very dark gray (10YR 3/1) loamy sand; weak fine granular structure; very friable;

many fine and medium roots; very strongly acid; abrupt smooth boundary.
E1—6 to 11 inches; brown (10YR 5/3) loamy sand; weak medium granular structure; very friable; common fine and medium roots; material from the A horizon mixed in some of the larger root holes; very strongly acid; clear smooth boundary.
E2—11 to 23 inches; brownish yellow (10YR 6/6) loamy sand; weak medium granular structure; very friable; few fine and medium roots; very strongly acid; clear wavy boundary.
Bt1—23 to 29 inches; brownish yellow (10YR 6/6) sandy loam; weak fine subangular blocky structure; friable; few fine roots; sand grains coated and bridged with clay; very strongly acid; gradual wavy boundary.
Bt2—29 to 35 inches; brownish yellow (10YR 6/6) sandy clay loam; few fine distinct light gray (10YR 7/2) and few medium faint yellowish brown (10YR 5/6) mottles; weak medium subangular blocky structure; friable; few fine roots; 2 percent plinthite; few faint clay films on faces of peds; very strongly acid; gradual wavy boundary.
Btv—35 to 55 inches; mottled brownish yellow (10YR 6/6), light gray (10YR 7/2), strong brown (7.5YR 5/6), and red (2.5YR 4/6) sandy clay loam; moderate medium subangular blocky structure; firm; few fine roots; 10 percent plinthite; common distinct clay films on faces of peds; very strongly acid; gradual wavy boundary.
2Bt—55 to 65 inches; mottled light gray (10YR 7/1), strong brown (7.5YR 5/6), and light yellowish brown (10YR 6/4) sandy clay loam; weak coarse subangular blocky structure; firm; 2 percent plinthite; few distinct 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 31 inches
Depth to mottles of chroma 2 or less: 27 to 38 inches; within 5 to 12 inches of the top of the argillic horizon
Content of plinthite: 5 to 12 percent at a depth of 30 to 50 inches
Content of ironstone nodules: 0 to less than 5 percent (0.25 to 0.75 inch in diameter)
Reaction: Very strongly acid or strongly acid throughout, except for the surface layer where lime has been applied

A 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 or 2.5Y, value of 5 to 7, and chroma of 3 to 6

Bt horizon:
Color—hue of 10YR, value of 5 to 7, and chroma of 4 to 6, and few or common mottles in shades of brown and gray in the lower part; or mottled in shades of brown and gray
Texture—sandy clay loam or sandy loam

Btv horizon:
Color—hue of 10YR, value of 5 to 7, chroma of 4 to 6, and common mottles in shades of brown, red, and gray; or mottled in shades of brown, red, and gray

Susquehanna Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability: Very slow
Parent material: Clayey marine sediments
Landscape position: Ridges, hillslopes, and toeslopes
Slope: 2 to 15 percent
Classification: Fine, montmorillonitic, thermic Vertic Paleudalfs

Geographically Associated Soils

• Ailey soils, which are well drained, have a sandy epipedon that is 20 to 40 inches thick, and are in a fine-loamy family
• Blanton soils, which are somewhat excessively drained, have a sandy epipedon that is more than 40 inches thick, and are in a fine-loamy family
• Cowarts soils, which are well drained and are in a fine-loamy family
• Nankin soils, which are well drained, are less plastic than the Susquehanna soils in the upper part of the subsoil, and are less clayey in the lower part of the subsoil

Typical Pedon

Susquehanna sandy loam, 5 to 12 percent slopes; 1.4 miles east on Georgia Highway 215 from the Dooly-Wilcox County line, 1.7 miles northeast on a paved county road, 0.9 mile east on a dirt road, and 300 yards south of the dirt road; in Wilcox County; USGS Quadrangle Pineview, Georgia (1971); lat. 32 degrees 03 minutes 09 seconds N. and long. 83 degrees 33 minutes 22 seconds W.

Ap—0 to 5 inches; brown (10YR 5/3) sandy loam; weak medium granular structure; very friable; many fine and medium roots; very strongly acid; abrupt wavy boundary.

Bt—5 to 12 inches; reddish brown (5YR 4/4) clay; few fine prominent red (2.5YR 4/8) mottles; strong fine and medium angular blocky structure; very firm, very plastic; common fine and medium roots; many distinct clay films on faces of peds; very strongly acid; clear wavy boundary.

Btss1—12 to 19 inches; reddish brown (5YR 5/4) clay; common fine prominent red (2.5YR 4/8) and few fine prominent light gray (10YR 7/2) mottles; strong fine angular blocky structure; very firm, very plastic; few fine and medium roots; many prominent clay films on faces of peds; few slickensides; very strongly acid; gradual wavy boundary.

Btss2—19 to 27 inches; mottled reddish brown (5YR 5/4), light gray (10YR 7/2), and red (2.5YR 4/8) clay; strong fine angular blocky structure; very firm, very plastic; few fine roots; many prominent clay films on faces of peds; common slickensides; very strongly acid; gradual wavy boundary.

Btss3—27 to 39 inches; light gray (10YR 7/2) clay; common medium prominent red (2.5YR 4/8) and common medium distinct very pale brown (10YR 7/4) mottles; strong fine and medium angular blocky structure; very firm, very plastic; few fine roots; many prominent clay films on faces of peds; common slickensides; very strongly acid; gradual wavy boundary.

Btss4—39 to 67 inches; light gray (10YR 7/1) clay; common medium prominent red (2.5YR 4/8) mottles; moderate medium subangular blocky structure; very firm, plastic; few fine roots; common distinct clay films on faces of peds; few slickensides; very strongly acid.

Range in Characteristics

Thickness of the solum: More than 60 inches

Depth to mottles of chroma 2 or less: 3 to 10 inches above the top of the argillic horizon

Reaction: Very strongly acid or strongly acid throughout

Distinctive features: Firm, plastic subsoil; slickensides throughout the lower part of the subsoil (fig. 12)

Ap horizon:
- Thickness—3 to 5 inches
- Color—hue of 10YR or 7.5YR, value of 4 to 6, and chroma of 2 to 5

E horizon, where present:
- Color—hue of 10YR, value of 4 or 5, and chroma of 3 or 4
- Texture—loamy sand or sandy loam

Bt horizon, upper part:
- Color—hue of 10R, 2.5YR, or 5YR, value of 4 or 5, chroma of 4 to 8, and few to many mottles in shades of red, gray, or brown; or mottled in shades of red, brown, gray, or yellow

Bt horizon, lower part:
- Color—hue of 10YR or 5Y, value of 6 or 7, chroma of 1 or 2, and few to many mottles in shades of red, brown, and gray; or mottled in shades of gray, red, and brown

Tawcaw Series

Depth class: Very deep

Drainage class: Somewhat poorly drained

Permeability: Slow

Parent material: Alluvial sediments

Depth to the seasonal high water table: $1\frac{1}{2}$ to $2\frac{1}{2}$ feet during wet seasons

Landscape position: Flood plains along the Ocmulgee River

Slope: 0 to 2 percent

Classification: Fine, kaolinitic, thermic Fluvaquentic Dystrochrepts

Geographically Associated Soils

- Bibb soils, which are poorly drained and are in a coarse-loamy family
- Meggett soils, which are poorly drained
- Rains soils, which are poorly drained, are in a fine-loamy family, and are on upland flats

Typical Pedon

Tawcaw silty clay, in an area of Tawcaw and Meggett silty clays, frequently flooded; 300 yards west from the west bank of the Ocmulgee River along the north edge of the U.S. Highway 280 right-of-way and 200 feet north; in Wilcox County; USGS Quadrangle Abbeville, Georgia (1974); lat. 31 degrees 59 minutes 47 seconds N. and long. 83 degrees 16 minutes 58 seconds W.

A—0 to 4 inches; brown (7.5YR 4/3) silty clay; weak medium granular structure; friable; many fine and very fine and few coarse roots; few fine flakes of mica; very strongly acid; clear smooth boundary.

Bw1—4 to 10 inches; brown (7.5YR 4/4) silty clay; common medium faint brown (7.5YR 5/4) mottles; weak medium subangular blocky structure; firm; common fine and few coarse roots; few fine flakes of mica; very strongly acid; clear smooth boundary.

Bw2—10 to 29 inches; brown (7.5YR 4/4) silty clay; common medium prominent light brownish gray (10YR 6/2) mottles; weak medium subangular

blocky structure; firm; few fine roots; few fine flakes of mica; very strongly acid; gradual smooth boundary.
Bg1—29 to 39 inches; gray (10YR 6/1) silty clay; common medium prominent brown (7.5YR 4/4) mottles; weak medium subangular blocky structure; firm; few fine roots; few fine flakes of mica; very strongly acid; gradual smooth boundary.
Bg2—39 to 48 inches; gray (10YR 6/1) silty clay; many medium prominent yellowish brown (10YR 5/6) mottles; weak medium subangular blocky structure; firm; few fine flakes of mica; moderately acid; clear smooth boundary.
BCg—48 to 55 inches; light gray (10YR 7/1) clay loam; common medium prominent yellowish brown (10YR 5/6) mottles; weak fine subangular blocky structure; friable; few fine flakes of mica; moderately acid; clear smooth boundary.
Cg—55 to 62 inches; light gray (10YR 7/1) loamy sand that has pockets of sandy loam; common medium prominent yellowish brown (10YR 5/6) mottles; massive; friable; few fine flakes of mica; moderately acid.

Range in Characteristics

Thickness of the solum: 40 to more than 72 inches
Depth to mottles of chroma 2 or less: 24 inches or less
Concretions: Few to many small dark concretions, less than 0.25 inch in diameter, in some pedons
Reaction: Very strongly acid to slightly acid throughout

A horizon:
Thickness—3 to 6 inches
Color—hue of 5YR to 10YR, value of 3 to 5, and chroma of 3 to 5

Bw horizon:
Color—hue of 5YR to 10YR, value of 4 to 6, chroma of 4 to 6, and mottles in shades of red, brown, and yellow
Texture—silty clay or silty clay loam

Bg horizon:
Color—hue of 7.5YR or 10YR, value of 4 to 7, chroma of 1 or 2, and mottles in shades of brown and yellow; or mottled in shades of brown, yellow, and gray
Texture—silty clay or silty clay loam

BC horizon, where present:
Color—hue of 7.5YR or 10YR, value of 4 to 7, chroma of 1 or 2, and mottles in shades of brown and yellow; or mottled in shades of brown, yellow, and gray
Texture—loam, clay loam, or silty clay loam

Cg horizon:
Color—hue of 7.5YR or 10YR, value of 4 to 7, chroma of 1 or 2, and mottles in shades of brown and yellow; or mottled in shades of brown, yellow, and gray
Texture—variable, dominantly sandy to loamy but includes clayey

Tifton 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 of the subsoil
Parent material: Loamy marine sediments
Seasonal high water table: At a depth of 3½ to 6 feet during wet seasons, perched
Landscape position: Ridges and hillslopes
Slope: 0 to 8 percent
Classification: Fine-loamy, siliceous, thermic Plinthic Kandiudults

Geographically Associated Soils

• Clarendon soils, which are moderately well drained and are on uplands in slight depressions and on flats
• Cowarts soils, which do not have a horizon that is more than 5 percent plinthite within a depth of 60 inches
• Dothan soils, which have less than 5 percent ironstone nodules in all horizons
• Fuquay soils, which have a sandy epipedon that is 20 to 40 inches thick
• Pelham soils, which are poorly drained and are in low lying areas
• Nankin soils, which are in a clayey family

Typical Pedon

Tifton loamy sand, 2 to 5 percent slopes; 0.9 mile north of the Wilcox-Ben Hill County line on Georgia Highway 233, west 1,400 feet on a dirt road, and 100 feet north of the road; in Wilcox County; USGS Quadrangle Rebecca, Georgia (1974); lat. 31 degrees 51 minutes 37 seconds N. and long. 83 degrees 26 minutes 20 seconds W.

Apc—0 to 7 inches; dark grayish brown (10YR 4/2) loamy sand; weak fine granular structure; very friable; common fine roots; 10 percent ironstone nodules less than 1.0 inch in diameter; strongly acid; clear smooth boundary.
Btc1—7 to 11 inches; yellowish brown (10YR 5/4) sandy loam; weak fine subangular blocky structure; very friable; common fine roots; common fine pores; sand grains bridged with clay;

10 percent ironstone nodules less than 0.5 inch in diameter; very strongly acid; clear wavy boundary.

Btc2—11 to 19 inches; yellowish brown (10YR 5/6) sandy clay loam; weak medium subangular blocky structure; friable; few fine roots; common fine pores; few faint clay films on faces of peds; 8 percent ironstone nodules less than 0.5 inch in diameter; very strongly acid; gradual wavy boundary.

Btc3—19 to 30 inches; yellowish brown (10YR 5/6) sandy clay loam; few medium prominent reddish brown (5YR 4/4) mottles; moderate medium subangular blocky structure; friable; few fine roots; common fine pores; few distinct clay films on faces of peds; 5 percent ironstone nodules less than 0.5 inch in diameter; very strongly acid; gradual wavy boundary.

Btv1—30 to 40 inches; yellowish brown (10YR 5/6) sandy clay loam; common medium prominent red (2.5YR 4/6) and few medium distinct very pale brown (10YR 7/3) mottles; moderate medium subangular blocky structure; friable; few fine pores; 5 percent plinthite; common distinct clay films on faces of peds; 3 percent ironstone nodules less than 0.5 inch in diameter; very strongly acid; gradual wavy boundary.

Btv2—40 to 60 inches; mottled yellowish brown (10YR 5/6), red (2.5YR 4/6), strong brown (7.5YR 5/6), and light gray (10YR 7/1) sandy clay loam; moderate medium subangular blocky structure; firm; few fine pores; 10 percent plinthite; few distinct clay films on faces of peds; 1 percent ironstone nodules less than 0.5 inch in diameter; very strongly acid; gradual wavy boundary.

BC—60 to 68 inches; mottled yellowish brown (10YR 5/6), red (2.5YR 4/6), and light gray (10YR 7/1) sandy clay loam that has pockets and strata of sandy loam; weak coarse subangular blocky structure; firm; very strongly acid.

Range in Characteristics

Thickness of the solum: More than 60 inches

Content of plinthite: 5 to 15 percent at a depth of 25 to 60 inches

Content of ironstone nodules: 5 to 20 percent in the A horizon and 5 to 10 percent in the Btc horizon

Reaction: Very strongly acid or strongly acid throughout, except for the surface layer where lime has been applied

Apc horizon:
- Thickness—6 to 11 inches
- Color—hue of 10YR, value of 4 or 5, and chroma of 2 to 4
- Texture—loamy sand or sandy loam

E horizon, where present:
- Color—hue of 10YR, value of 5 or 6, and chroma of 4 to 6

Btc horizon, upper part:
- Color—hue of 10YR or 7.5YR, value of 5 or 6, and chroma of 4 to 8
- Texture—sandy loam or sandy clay loam

Btc horizon, lower part:
- Color—hue of 10YR or 7.5YR, value of 5 or 6, chroma of 4 to 8, and none or few mottles in shades of red and brown

Btv horizon, upper part:
- Color—hue of 10YR or 7.5YR, value of 5 or 6, chroma of 4 to 8, common or many mottles in shades of red and brown, and none to common mottles in shades of gray

Btv horizon, lower part:
- Color—hue of 10YR or 7.5YR, value of 5 or 6, chroma of 4 to 8, and common or many mottles in shades of red, brown, yellow, and gray; or mottled in shades of red, brown, yellow, and gray
- Texture—sandy clay loam or sandy clay

BC horizon, where present:
- Color—mottled in shades of red, brown, yellow, and gray
- Texture—sandy clay loam or sandy clay; pockets and strata of sandy loam in some pedons

C horizon, where present:
- Color—mottled in shades of red, brown, yellow, and gray
- Texture—sandy clay loam, sandy loam, or sandy 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. Pulaski and Wilcox Counties are underlain by Coastal Plain sedimentary rock (Georgia Department of Natural Resources, 1976). Sandy to clayey marine sediment overlie the rock.

The Flint River formation makes up the parent material for the upland soils in the northern part of Wilcox County. The dominant soils that formed in this material are characterized by a red or dark red, loamy or clayey subsoil. Faceville, Greenville, and Orangeburg soils are the main soils that formed in this material. The southern part of Pulaski County and all of Wilcox County are within the Hawthorne Group, which was formerly named “Neogene undifferentiated.” Tifton, Dothan, and Fuquay soils are the main soils that formed in these materials. These soils are characterized by a predominantly yellowish brown, loamy subsoil that contains plinthite, which is a kind of iron concentration. Cowarts, Nankin, and Ailey soils also formed in this material. They also have a subsoil that is predominantly yellowish brown but are not as deeply developed as the Tifton, Dothan, and Fuquay soils and commonly have dense layers beneath the subsoil.

Stream alluvium is adjacent to all the streams in the survey area. It is most extensive on the flood plain along the Ocmulgee River. Soils that formed in alluvium formed in more recent sediments than soils that formed on uplands. Tawcaw and Meggett soils formed in clayey alluvium along the Ocmulgee River. Bibb and Osier soils formed in sandy and loamy alluvium and are the dominant soils on the flood plains in locations other than along the Ocmulgee River.

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 in 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. The rate of chemical reactions and other processes in the soil depends 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.

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 soil is mixed by ants, wasps, worms, and spiders that make channels; by crustacea, such as crabs and crayfish; and by turtles and foxes that dig burrows. Humans affect the soil-forming process by tilling crops, removing natural vegetation, establishing different plants, and reducing or increasing soil 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.

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 Grady, 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 lying areas receive the water that flows off and through the higher soils. The lower lying 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. Most of the soils in the survey area 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.

Bibb and Osier 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 well developed pedogenic horizons. The content of carbon decreases irregularly with increasing depth.

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Glossary

ABC soil. A soil having an A, a B, and a C horizon.

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alluvial cone. The material washed down the sides of mountains and hills by ephemeral streams and deposited at the mouth of gorges in the form of a moderately steep, conical mass descending equally in all directions from the point of issue.

Alluvial fan. The fanlike deposit of a stream where it issues from a gorge upon a plain or of a tributary stream near or at its junction with its main stream.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Alpha,alpha-dipyridyl. A dye that when dissolved in 1N ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction indicates a type of redoximorphic feature.

Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

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.

Arroyo. The flat-floored channel of an ephemeral stream, commonly with very steep to vertical banks cut in alluvium.

Aspect. The direction in which a slope faces.

Association, soil. A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	more than 12

Backslope. The geomorphic component that forms the steepest inclined surface and principal element of many hillsides. Backslopes in profile are commonly steep, are linear, and may or may not include cliff segments.

Basal area. The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Bedding planes. Fine strata, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediment.

Bedding system. A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

Bedrock-controlled topography. A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.

Bottom land. The normal flood plain of a stream, subject to flooding.

Breaks. The steep and very steep broken land at the border of an upland summit that is dissected by ravines.

Breast height. An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.

Brush management. Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

Butte. An isolated small mountain or hill with steep or precipitous sides and a top variously flat, rounded, or pointed that may be a residual mass isolated by erosion or an exposed volcanic neck.

Cable yarding. A method of moving felled trees to a nearby central area for transport to a processing facility. Most cable yarding systems involve use of a drum, a pole, and wire cables in an arrangement similar to that of a rod and reel used for fishing. To reduce friction and soil disturbance, felled trees generally are reeled in while one end is lifted or the entire log is suspended.

Canopy. The leafy crown of trees or shrubs. (See Crown.)

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.

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.

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.

Coarse textured soil. Sand or loamy sand.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.

Conglomerate. A coarse grained, clastic rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the “Soil Survey Manual.”

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that

part of the soil profile between depths of 10 inches and 40 or 80 inches.

Coppice dune. A small dune of fine grained soil material stabilized around shrubs or small trees.

Corrosion. Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cross-slope farming. Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Cuesta. A hill or ridge that has a gentle slope on one side and a steep slope on the other; specifically, an asymmetric, homoclinal ridge capped by resistant rock layers of slight or moderate dip.

Culmination of the mean annual increment (CMAI). The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Delta. A body of alluvium having a surface that is nearly flat and fan shaped; deposited at or near the mouth of a river or stream where it enters a body of relatively quiet water, generally a sea or lake.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Dip slope. A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Divided-slope farming. A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the "Soil Survey Manual."

Drainage, surface. Runoff, or surface flow of water, from an area.

Draw. A small stream valley that generally is more open and has broader bottom land than a ravine or gulch.

Duff. A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Ephemeral stream. A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation. A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.
Erosion (geologic). Erosion caused by geologic

processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

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.

Extrusive rock. Igneous rock derived from deep-seated molten matter (magma) emplaced on the earth's surface.

Fan terrace. A relict alluvial fan, no longer a site of active deposition, incised by younger and lower alluvial surfaces.

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.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

Fill slope. A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

Fine textured soil. Sandy clay, silty clay, or clay.

Firebreak. Area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

First bottom. The normal flood plain of a stream, subject to frequent or occasional flooding.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Fluvial. Of or pertaining to rivers; produced by river action, as a fluvial plain.

Foothill. A steeply sloping upland that has relief of as much as 1,000 feet (300 meters) and fringes a mountain range or high-plateau escarpment.

Footslope. The inclined surface at the base of a hill.

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.

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.

Ground water. Water filling all the unblocked pores of the material below the water table.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill. A natural elevation of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline; hillsides generally have slopes of more than 15 percent. The distinction between a hill and a mountain is arbitrary and is dependent on local usage.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the

"Soil Survey Manual." The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock. Rock formed by solidification from a molten or partially molten state. Major varieties include plutonic and volcanic rock. Examples are andesite, basalt, and granite.

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

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.

Iron depletions. Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are:

Basin.—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Border.—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation.—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow.—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation.—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding.—Water, released at high points, is allowed to flow onto an area without controlled distribution.

Leaching. The removal of soluble material from soil or other material by percolating water.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay

particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loess. Fine grained material, dominantly of silt-sized particles, deposited by wind.

Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Low strength. The soil is not strong enough to support loads.

Marl. An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal amounts.

Masses. Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Mesa. A broad, nearly flat topped and commonly isolated upland mass characterized by summit widths that are more than the heights of bounding erosional scarps.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. An area that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Mountain. A natural elevation of the land surface, rising more than 1,000 feet above surrounding lowlands, commonly of restricted summit area (relative to a plateau) and generally having steep sides. A mountain can occur as a single, isolated mass or in a group forming a chain or range.

Muck. Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Mudstone. Sedimentary rock formed by induration of silt and clay in approximately equal amounts.

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Natric horizon. A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules. Cemented bodies lacking visible internal structure. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up nodules. If formed in place, nodules of iron oxide or manganese oxide are considered types of redoximorphic concentrations.

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Low	less than 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

Parent material. The unconsolidated organic and mineral material in which soil forms.

Peat. Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedisediment. A thin layer of alluvial material that mantles an erosion surface and has been transported to its present position from higher lying areas of the erosion surface.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The downward movement of water through the soil.

Percs slowly (in tables). The slow movement of water through the soil adversely affects the specified use.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Extremely slow	0.0 to 0.01 inch
Very slow	0.01 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plateau. An extensive upland mass with relatively flat summit area that is considerably elevated (more than 100 meters) above adjacent lowlands and separated from them on one or more sides by escarpments.

Playa. The generally dry and nearly level lake plain that occupies the lowest parts of closed depressional areas, such as those on intermontane basin floors. Temporary flooding occurs primarily in response to precipitation and runoff.

Plinthite. The sesquioxide-rich, humus-poor, highly weathered mixture of clay with quartz and other diluents. It commonly appears as red mottles, usually in platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to an ironstone hardpan or to irregular aggregates on repeated wetting and drying, especially if it is exposed also to heat from the sun. In a moist soil, plinthite can be cut with a spade. It is a form of laterite.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poor filter (in tables). Because of rapid or very rapid permeability, the soil may not adequately filter effluent from a waste disposal system.

Potential native plant community. See Climax plant community.

Potential rooting depth (effective rooting depth). Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Redoximorphic concentrations. Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

Redoximorphic depletions. Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.

Redoximorphic features. Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

Reduced matrix. A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

Regolith. The unconsolidated mantle of weathered rock and soil material on the earth's surface; the loose earth material above the solid rock.

Relief. The elevations or inequalities of a land surface, considered collectively.

Rill. A steep-sided channel resulting from accelerated erosion. A rill generally is a few inches deep and not wide enough to be an obstacle to farm machinery.

Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Rooting depth (in tables). Shallow root zone. The soil is shallow over a layer that greatly restricts roots.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sapric soil material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Scarification. The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

Second bottom. The first terrace above the normal flood plain (or first bottom) of a river.

Seepage (in tables). The movement of water through the soil. Seepage adversely affects the specified use.

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.

Sodic (alkali) soil. A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum. The part of the soil below the solum.

Subsurface layer. Technically, the E horizon. Generally refers to a leached horizon lighter in color and lower in content of organic matter than the overlying surface layer.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the "plow layer," or the "Ap horizon."

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Talus. Fragments of rock and other soil material accumulated by gravity at the foot of cliffs or steep slopes.

Terrace. An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

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.

Upland. Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Water bars. Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

Weathering. All physical and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

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 Hawkinsville, Georgia)

Month	Temperature						Precipitation				
				2 years in 10 will have--				2 years in 10 will have--			
	Average daily maximum	Average daily minimum	Average daily	Maximum temperature higher than--	Minimum temperature lower than--	Average number of growing degree days*	Average	Less than--	More than--	Average number of days with 0.10 inch or more	Average snowfall
	°F	°F	°F	°F	°F	Units	In	In	In		In
January	58.4	32.6	45.5	78	10	64	5.03	2.66	7.12	7	0.1
February	62.3	35.5	48.9	82	16	94	4.60	2.56	6.40	7	.5
March	70.9	42.8	56.9	87	24	239	4.29	2.27	6.07	6	.1
April	78.8	50.4	64.6	93	32	429	3.64	1.42	5.50	5	.0
May	85.5	58.3	71.9	97	43	664	3.43	1.54	5.25	5	.0
June	91.2	66.0	78.6	102	51	837	3.93	1.98	5.62	6	.0
July	92.8	68.7	80.8	102	59	902	4.64	2.92	6.19	8	.0
August	92.3	68.2	80.3	101	58	886	3.73	2.04	5.23	5	.0
September	88.2	62.8	75.5	99	31	746	3.31	1.21	5.06	5	.0
October	80.6	50.9	65.8	86	31	478	2.15	0.69	3.93	3	.0
November	71.2	42.1	56.6	82	22	225	2.91	1.48	4.15	4	.0
December	62.2	35.3	48.8	79	14	102	4.09	2.29	5.68	6	.0
Yearly:											
Average	77.9	51.1	64.5	---	---	---	---	---	---	---	
Extreme	105	-2	---	103	8	---	---	---	---	---	
Total	---	---	---	---	---	5,665	45.75	39.96	49.87	67	.6

* 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 Hawkinsville, 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--	Mar. 4	Mar. 27	Apr. 8
2 years in 10 later than--	Feb. 27	Mar. 19	Apr. 1
5 years in 10 later than--	Feb. 13	Mar. 4	Mar. 19
First freezing temperature in fall:			
1 year in 10 earlier than--	Nov. 12	Nov. 2	Oct. 24
2 years in 10 earlier than--	Nov. 23	Nov. 8	Oct. 29
5 years in 10 earlier than--	Dec. 14	Nov. 18	Nov. 9

Table 3.--Growing Season

(Recorded in the period 1961-90 at Hawkinsville, 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	258	231	207
8 years in 10	273	241	217
5 years in 10	303	259	236
2 years in 10	333	278	255
1 year in 10	348	287	265

Table 4.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Pulaski County	Wilcox County	Total-- Area	Extent
		Acres	Acres	Acres	Pct
AeB	Ailey loamy sand, 0 to 5 percent slopes	265	3,865	4,130	1.0
AeC	Ailey loamy sand, 5 to 8 percent slopes	60	735	795	0.2
BO	Bibb and Osier soils, frequently flooded	9,930	25,455	35,385	8.7
BtB	Blanton sand, 0 to 5 percent slopes	4,120	6,210	10,330	2.5
BtC	Blanton sand, 5 to 8 percent slopes	655	1,850	2,505	0.6
BtD	Blanton sand, 8 to 17 percent slopes	70	390	460	0.1
CnA	Clarendon loamy sand, 0 to 2 percent slopes	3,840	5,750	9,590	2.4
CwB	Cowarts-Nankin-Ailey loamy sands, 2 to 5 percent slopes	6,050	23,140	29,190	7.2
DoA	Dothan loamy sand, 0 to 2 percent slopes	3,785	4,020	7,805	1.9
DoB	Dothan loamy sand, 2 to 5 percent slopes	23,980	19,825	43,805	10.8
FaB	Faceville sandy loam, 2 to 5 percent slopes	6,090	110	6,200	1.5
FaC	Faceville sandy loam, 5 to 8 percent slopes	4,175	15	4,190	1.0
FuB	Fuquay loamy sand, 0 to 5 percent slopes	8,225	20,020	28,245	7.0
FuC	Fuquay loamy sand, 5 to 8 percent slopes	815	1,335	2,150	0.5
Gr	Grady loam	2,880	1,680	4,560	1.1
GsA	Greenville sandy loam, 0 to 2 percent slopes	160	0	160	*
GsB	Greenville sandy loam, 2 to 5 percent slopes	2,315	0	2,315	0.6
GsC	Greenville sandy loam, 5 to 8 percent slopes	725	0	725	0.2
GsD	Greenville sandy loam, 8 to 12 percent slopes	280	0	280	0.1
LaB	Lakeland sand, 0 to 8 percent slopes	3,445	3,430	6,875	1.7
LuB	Lucy loamy sand, 0 to 5 percent slopes	3,935	165	4,100	1.0
LuC	Lucy loamy sand, 5 to 12 percent slopes	555	10	565	0.1
NaC	Nankin-Cowarts-Ailey loamy sands, 5 to 8 percent slopes	5,890	21,280	27,170	6.7
NsD	Nankin-Cowarts-Susquehanna complex, 8 to 15 percent slopes	2,605	2,235	4,840	1.2
OrA	Orangeburg loamy sand, 0 to 2 percent slopes	1,155	90	1,245	0.3
OrB	Orangeburg loamy sand, 2 to 5 percent slopes	11,395	290	11,685	2.9
OrC	Orangeburg loamy sand, 5 to 8 percent slopes	2,555	5	2,560	0.6
OrD	Orangeburg loamy sand, 8 to 12 percent slopes	845	0	845	0.2
PeA	Pelham loamy sand	4,850	23,015	27,865	6.9
PfA	Pelham loamy sand, occasionally flooded	3,985	7,955	11,940	2.9
PpA	Pelham loamy sand, ponded	50	515	565	0.1
Ra	Rains loamy sand	2,120	630	2,750	0.7
ReB	Red Bay loamy sand, 2 to 5 percent slopes	435	0	435	0.1
ReC	Red Bay loamy sand, 5 to 8 percent slopes	100	0	100	*
StA	Stilson loamy sand, 0 to 2 percent slopes	425	6,485	6,910	1.7
SuB	Susquehanna sandy loam, 2 to 5 percent slopes	275	2,900	3,175	0.8
SuC	Susquehanna sandy loam, 5 to 12 percent slopes	350	3,300	3,650	0.9
TE	Tawcaw and Meggett silty clays, frequently flooded	8,905	10,000	18,905	4.7
TfA	Tifton loamy sand, 0 to 2 percent slopes	2,675	5,180	7,855	1.9
TfB	Tifton loamy sand, 2 to 5 percent slopes	20,680	36,170	56,850	14.0
TnC2	Tifton sandy loam, 5 to 8 percent slopes, eroded	2,365	4,600	6,965	1.7
W	Water	1,885	2,745	4,630	1.1
	Total	159,900	245,400	405,300	100.0

* Less than 0.1 percent.

Table 5.--Important Farmland

Map symbol	Soil name	Prime farmland	Additional farmland of Statewide importance
		Acres	Acres
AeB	Ailey loamy sand, 0 to 5 percent slopes	---	4,130
AeC	Ailey loamy sand, 5 to 8 percent slopes	---	795
BtB	Blanton sand, 0 to 5 percent slopes	---	10,330
BtC	Blanton sand, 5 to 8 percent slopes	---	2,505
CnA	Clarendon loamy sand, 0 to 2 percent slopes	9,590	---
CwB	Cowarts-Nankin-Ailey loamy sands, 2 to 5 percent slopes	---	29,190
DoA	Dothan loamy sand, 0 to 2 percent slopes	7,805	---
DoB	Dothan loamy sand, 2 to 5 percent slopes	43,805	---
FaB	Faceville sandy loam, 2 to 5 percent slopes	6,200	---
FaC	Faceville sandy loam, 5 to 8 percent slopes	4,190	---
FuB	Fuquay loamy sand, 0 to 5 percent slopes	---	28,245
FuC	Fuquay loamy sand, 5 to 8 percent slopes	---	2,150
GsA	Greenville sandy loam, 0 to 2 percent slopes	160	---
GsB	Greenville sandy loam, 2 to 5 percent slopes	2,315	---
GsC	Greenville sandy loam, 5 to 8 percent slopes	725	---
GsD	Greenville sandy loam, 8 to 12 percent slopes	---	280
LuB	Lucy loamy sand, 0 to 5 percent slopes	---	4,100
LuC	Lucy loamy sand, 5 to 12 percent slopes	---	565
NaC	Nankin-Cowarts-Ailey loamy sands, 5 to 8 percent slopes	---	27,170
OrA	Orangeburg loamy sand, 0 to 2 percent slopes	1,245	---
OrB	Orangeburg loamy sand, 2 to 5 percent slopes	11,685	---
OrC	Orangeburg loamy sand, 5 to 8 percent slopes	2,560	---
OrD	Orangeburg loamy sand, 8 to 12 percent slopes	---	845
ReB	Red Bay loamy sand, 2 to 5 percent slopes	435	---
ReC	Red Bay loamy sand, 5 to 8 percent slopes	100	---
StA	Stilson loamy sand, 0 to 2 percent slopes	---	6,910
SuB	Susquehanna sandy loam, 2 to 5 percent slopes	---	3,175
TfA	Tifton loamy sand, 0 to 2 percent slopes	7,855	---
TfB	Tifton loamy sand, 2 to 5 percent slopes	56,850	---
TnC2	Tifton sandy loam, 5 to 8 percent slopes, eroded	6,965	---
	Total	162,485	120,390

Table 6.--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	Cotton	Peanuts	Soybeans	Wheat	Improved bermuda-grass	Bahiagrass
		Bu	Lbs	Lbs	Bu	Bu	AUM*	AUM*
AeB--Ailey	IIIs	50	400	2,300	20	25	6.0	6.0
AeC--Ailey	IVs	45	350	2,000	18	23	5.0	5.0
BO:								
Bibb	Vw	---	---	---	---	---	---	---
Osier	Vw	---	---	---	---	---	---	---
BtB--Blanton	IIIs	60	---	2,200	25	---	8.0	6.5
BtC--Blanton	IVs	50	500	2,000	20	30	7.5	6.5
BtD--Blanton	VIs	---	---	---	---	---	6.5	5.0
CnA--Clarendon	IIw	125	700	---	45	45	10.5	10.0
CwB:								
Cowarts	IIe	80	650	2,400	35	40	8.0	7.5
Nankin	IIe	75	---	2,200	30	38	9.0	7.0
Ailey	IIIs	50	400	2,300	20	25	6.0	6.0
DoA--Dothan	I	120	900	3,800	40	50	10.5	9.0
DoB--Dothan	IIe	120	900	3,600	35	44	10.5	9.0
FaB--Faceville	IIe	115	875	4,000	45	56	10.0	7.0
FaC--Faceville	IIIe	90	650	3,000	30	38	9.5	6.0
FuB--Fuquay	IIs	85	650	2,900	30	38	7.5	8.5
FuC--Fuquay	IIIs	75	600	2,600	25	31	7.0	8.5
Gr--Grady	Vw	---	---	---	---	---	---	---
GsA--Greenville	I	100	825	3,200	45	56	11.0	7.0
GsB--Greenville	IIe	95	800	3,000	35	50	11.0	7.0

See footnote at end of table.

Table 6.--Land Capability Classes and Yields per Acre of Crops and Pasture--Continued

Soil name and map symbol	Land capability	Corn	Cotton	Peanuts	Soybeans	Wheat	Improved bermuda-grass	Bahiagrass
		Bu	Lbs	Lbs	Bu	Bu	AUM*	AUM*
GsC---Greenville	IIIe	85	700	2,600	25	31	10.0	5.0
GsD---Greenville	IVe	---	---	---	---	---	8.5	4.5
LaB---Lakeland	IVs	55	---	2,000	20	25	7.0	7.0
LuB---Lucy	IIs	80	650	3,000	33	41	8.0	8.5
LuC---Lucy	IVs	---	---	---	---	31	7.5	7.5
NaC:								
Nankin	IIIe	55	---	1,800	20	25	7.0	6.0
Cowarts	IIIe	70	600	1,800	25	---	7.5	7.5
Ailey	IVs	45	350	2,000	18	---	5.0	5.0
NsD:								
Nankin	IVe	---	---	---	---	---	5.0	5.5
Cowarts	IVe	---	---	---	---	---	7.0	7.0
Susquehanna	VIe	---	---	---	---	20	---	5.5
OrA---Orangeburg	I	120	900	4,000	45	---	10.5	8.5
OrB---Orangeburg	IIe	120	900	4,000	45	56	10.5	8.5
OrC---Orangeburg	IIIe	95	800	3,200	35	50	10.0	8.0
OrD---Orangeburg	IVe	85	650	2,800	30	38	9.0	7.0
PeA, PfA, PpA---Pelham	Vw	---	---	---	---	---	---	---
Ra---Rains	IIIw	110	450	---	40	50	11.0	10.0
ReB---Red Bay	IIe	90	750	3,200	---	56	9.5	9.5
ReC---Red Bay	IIIe	85	700	2,800	---	50	9.0	9.0
StA---Stilson	IIw	80	600	3,100	35	35	10.0	7.5
SuB---Susquehanna	IVe	---	---	---	---	---	---	6.5
SuC---Susquehanna	VIe	---	---	---	---	---	---	5.5

See footnote at end of table.

Table 6.--Land Capability Classes and Yields per Acre of Crops and Pasture--Continued

Soil name and map symbol	Land capability	Corn	Cotton	Peanuts	Soybeans	Wheat	Improved bermuda-grass	Bahiagrass
		Bu	Lbs	Lbs	Bu	Bu	AUM*	AUM*
TE:								
Tawcaw	VIw	---	---	---	---	---	---	---
Meggett	VIw	---	---	---	---	---	---	---
TfA--Tifton	I	115	950	3,800	46	58	10.5	8.5
TfB--Tifton	IIe	115	950	3,800	46	58	10.5	8.5
TnC2--Tifton	IIIe	80	650	3,000	34	43	9.0	7.0

* Animal-unit-month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

Table 7.--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:				
Pulaski County	7,775	---	---	---
Wilcox County	9,290	---	---	---
II:				
Pulaski County	85,555	69,130	4,265	12,160
Wilcox County	105,013	72,593	12,235	20,185
III:				
Pulaski County	23,178	14,043	2,120	7,015
Wilcox County	38,498	19,516	630	18,352
IV:				
Pulaski County	8,663	2,181	---	6,482
Wilcox County	15,979	3,570	---	12,409
V:				
Pulaski County	21,695	---	21,695	---
Wilcox County	58,620	---	58,620	---
VI:				
Pulaski County	11,148	2,173	8,905	70
Wilcox County	15,254	4,864	10,000	390
VII:				
Pulaski County	---	---	---	---
Wilcox County	---	---	---	---
VIII:				
Pulaski County	---	---	---	---
Wilcox County	---	---	---	---

Table 8.--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	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
AeB, AeC---------- Ailey	8S	Slight	Moderate	Moderate	Slash pine---------- Longleaf pine-------- 	70 60 	8 4 	Slash pine.
BO: Bibb--------------	11W	Slight	Severe	Severe	Loblolly pine-------- Sweetgum------------- Water oak------------ Blackgum------------- Yellow-poplar-------- Atlantic white cedar- 	100 90 90 --- --- --- 	11 7 6 --- --- --- 	Loblolly pine, yellow-poplar.
Osier-------------	11W	Slight	Severe	Severe	Slash pine---------- Loblolly pine-------- Longleaf pine-------- 	85 87 69 	11 9 5 	Slash pine, loblolly pine.
BtB, BtC, BtD------ Blanton	11S	Slight	Moderate	Moderate	Slash pine---------- Loblolly pine-------- Longleaf pine-------- Bluejack oak--------- Turkey oak---------- Southern red oak----- Live oak------------- 	90 85 70 --- --- --- --- 	11 8 6 --- --- --- --- 	Slash pine, loblolly pine, longleaf pine.
CnA---------- Clarendon	9W	Slight	Slight	Moderate	Loblolly pine-------- Sweetgum------------- 	90 85 	9 6 	Loblolly pine, American sycamore, yellow-poplar.
CwB: Cowarts----------	9A	Slight	Slight	Slight	Loblolly pine-------- Slash pine---------- Longleaf pine-------- 	86 86 67 	9 11 5 	Loblolly pine, longleaf pine, slash pine.
Nankin------------	8A	Slight	Slight	Slight	Loblolly pine-------- Slash pine---------- Longleaf pine-------- 	80 80 70 	8 10 6 	Loblolly pine, slash pine.
Ailey-------------	8S	Slight	Moderate	Moderate	Slash pine---------- Longleaf pine-------- 	70 60 	8 4 	Slash pine, longleaf pine.
DoA, DoB---------- Dothan	9A	Slight	Slight	Slight	Loblolly pine-------- Slash pine---------- Longleaf pine-------- Hickory---------- Water oak------------ 	88 92 84 --- --- 	9 12 8 --- --- 	Loblolly pine, slash pine, longleaf pine.
FaB, FaC---------- Faceville	8A	Slight	Slight	Slight	Loblolly pine-------- Slash pine---------- Longleaf pine-------- 	82 80 65 	8 10 5 	Loblolly pine, slash pine.
FuB, FuC---------- Fuquay	8S	Slight	Moderate	Moderate	Loblolly pine-------- Longleaf pine-------- Slash pine---------- 	85 77 93 	8 7 12 	Loblolly pine, slash pine, longleaf pine.
Gr---------- Grady	6W	Slight	Severe	Severe	Water tupelo--------- Baldcypress---------- Water oak------------ 	68 65 65 	6 3 4 	American sycamore, water tupelo.

See footnote at end of table.

Table 8.--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
GsA, GsB, GsC, GsD-Greenville	8A	Slight	Slight	Slight	Loblolly pine	82	8	Loblolly pine, longleaf pine, slash pine.
					Longleaf pine	70	6	
					Slash pine	82	10	
LaB-Lakeland	9S	Slight	Moderate	Moderate	Slash pine	75	9	Slash pine, loblolly pine, longleaf pine.
					Loblolly pine	75	7	
					Longleaf pine	60	4	
					Turkey oak	---	---	
					Blackjack oak	---	---	
					Post oak	---	---	
LuB, LuC-Lucy	8S	Slight	Moderate	Moderate	Loblolly pine	80	8	Slash pine, longleaf pine, loblolly pine.
					Longleaf pine	70	6	
					Slash pine	84	11	
NaC:								
Nankin	8A	Slight	Slight	Slight	Loblolly pine	80	8	Loblolly pine, slash pine.
					Slash pine	80	10	
					Longleaf pine	70	6	
Cowarts	9A	Slight	Slight	Slight	Loblolly pine	86	9	Loblolly pine, slash pine.
					Slash pine	86	11	
					Longleaf pine	67	5	
Ailey	8S	Slight	Moderate	Moderate	Slash pine	70	8	Slash pine.
					Longleaf pine	60	4	
NsD:								
Nankin	8A	Slight	Slight	Slight	Loblolly pine	80	8	Loblolly pine, slash pine.
					Slash pine	80	10	
					Longleaf pine	70	6	
Cowarts	9A	Slight	Slight	Slight	Loblolly pine	86	9	Loblolly pine, longleaf pine, slash pine.
					Slash pine	86	11	
					Longleaf pine	67	5	
Susquehanna	8C	Slight	Moderate	Slight	Loblolly pine	78	8	Loblolly pine, shortleaf pine.
					Shortleaf pine	68	7	
OrA, OrB, OrC, OrD-Orangeburg	8A	Slight	Slight	Slight	Loblolly pine	80	8	Slash pine, loblolly pine.
					Slash pine	86	11	
					Longleaf pine	77	7	
PeA, PfA-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	Slash pine, loblolly pine.
					Loblolly pine	86	9	
					Sweetgum	86	7	
					Blackgum	86	9	
					Water oak	86	6	
					Pond pine	---	---	
					Baldcypress	---	---	
					Swamp tupelo	---	---	

See footnote at end of table.

Table 8.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ordination symbol	Management concerns: Erosion hazard	Management concerns: Equipment limitation	Management concerns: Seedling mortality	Potential productivity: Common trees	Potential productivity: Site index	Potential productivity: Productivity class*	Trees to plant
Ra Rains	10W	Slight	Moderate	Moderate	Loblolly pine Sweetgum	94 90	10 7	Loblolly pine.
ReB, ReC Red Bay	9A	Slight	Slight	Slight	Loblolly pine Slash pine Longleaf pine	90 90 77	9 11 7	Loblolly pine, slash pine, longleaf pine.
StA Stilson	9W	Slight	Moderate	Slight	Loblolly pine Slash pine Longleaf pine Sweetgum	95 95 80 ---	9 12 7 ---	Slash pine, loblolly pine, longleaf pine.
SuB, SuC Susquehanna	8C	Slight	Moderate	Slight	Loblolly pine Shortleaf pine	78 68	8 7	Loblolly pine.
TE: Tawcaw	8W	Slight	Moderate	Moderate	Sweetgum Water oak Water tupelo	95 --- ---	8 --- ---	
Meggett	13W	Slight	Severe	Severe	Slash pine Loblolly pine Pond pine	100 100 75	13 11 4	Slash pine, loblolly pine.
TfA, TfB, TnC2 Tifton	9A	Slight	Slight	Slight	Loblolly pine Slash pine Longleaf pine	86 86 72	9 11 6	Loblolly pine, slash pine.

* 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 9.--Recreational Development

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not rated.)

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
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.
BO: Bibb	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness, flooding.	Severe: wetness.	Severe: wetness, flooding.
Osier	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness, flooding.	Severe: wetness.	Severe: wetness, droughty, flooding.
BtB Blanton	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: droughty.
BtC, BtD Blanton	Severe: too sandy.	Severe: too sandy.	Severe: slope, too sandy.	Severe: too sandy.	Severe: droughty.
CnA Clarendon	Moderate: wetness.	Moderate: wetness.	Moderate: small stones.	Slight	Moderate: droughty.
CwB: Cowarts	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: slope, small stones.	Slight	Moderate: droughty.
Nankin	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: slope, percs slowly.	Slight	Slight.
Ailey	Moderate: too sandy.	Moderate: too sandy.	Moderate: slope, too sandy.	Moderate: too sandy.	Moderate: droughty.
DoA Dothan	Slight	Slight	Slight	Slight	Slight.
DoB Dothan	Slight	Slight	Moderate: slope.	Slight	Slight.
FaB Faceville	Slight	Slight	Moderate: slope.	Slight	Slight.
FaC Faceville	Slight	Slight	Severe: slope.	Slight	Slight.
FuB Fuquay	Moderate: too sandy.	Moderate: too sandy.	Moderate: slope, too sandy.	Moderate: too sandy.	Moderate: droughty.

Table 9.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
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.
GsC Greenville	Slight	Slight	Severe: slope.	Slight	Slight.
GsD Greenville	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope.
LaB Lakeland	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Moderate: droughty, too sandy.
LuB Lucy	Slight	Slight	Moderate: slope.	Slight	Moderate: droughty.
LuC Lucy	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: droughty, slope.
NaC: Nankin	Moderate: percs slowly.	Moderate: percs slowly.	Severe: slope.	Slight	Slight.
Cowarts	Moderate: percs slowly.	Moderate: percs slowly.	Severe: slope.	Slight	Moderate: droughty.
Ailey	Moderate: too sandy.	Moderate: too sandy.	Severe: slope.	Moderate: too sandy.	Moderate: droughty.
NsD: Nankin	Moderate: slope, percs slowly.	Moderate: slope, percs slowly.	Severe: slope.	Slight	Moderate: slope.
Cowarts	Moderate: slope, percs slowly.	Moderate: slope, percs slowly.	Severe: slope.	Slight	Moderate: droughty, slope.
Susquehanna	Severe: percs slowly.	Severe: percs slowly.	Severe: slope, percs slowly.	Slight	Moderate: slope.
OrA Orangeburg	Slight	Slight	Slight	Slight	Slight.
OrB Orangeburg	Slight	Slight	Moderate: slope.	Slight	Slight.
OrC Orangeburg	Slight	Slight	Severe: slope.	Slight	Slight.

Table 9.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
OrD---- Orangeburg	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope.
PeA---- Pelham	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
PfA---- Pelham	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
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.
ReC---- Red Bay	Slight	Slight	Severe: slope.	Slight	Slight.
StA---- Stilson	Moderate: too sandy.	Moderate: too sandy.	Moderate: too sandy.	Moderate: too sandy.	Slight.
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.
TE:					
Tawcaw----	Severe: flooding, wetness.	Moderate: flooding, wetness.	Severe: flooding, wetness	Moderate: wetness, flooding.	Severe: wetness, flooding.
Meggett----	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.
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.

Table 10.--Wildlife Habitat

(See text for definitions of "good," "fair," "poor," and "very poor." Absence of an entry indicates that the soil was not rated.)

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	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.
BO:										
Bibb----	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
Osier----	Very poor.	Poor	Fair	Fair	Fair	Fair	Good	Poor	Fair	Fair.
BtB, BtC, BtD---Blanton	Poor	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
CnA---Clarendon	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
CwB:										
Cowarts----	Poor	Fair	Good	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
Nankin----	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Ailey----	Poor	Fair	Fair	Poor	Poor	Poor	Very poor.	Fair	Poor	Very poor.
DoA, DoB---Dothan	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
FaB---Faceville	Good	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
FaC---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.
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.
GsC, GsD---Greenville	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
LaB---Lakeland	Poor	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
LuB---Lucy	Poor	Fair	Good	Good	Good	Poor	Very poor.	Fair	Good	Very poor.

Table 10.--Wildlife Habitat--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba-ceous plants	Hardwood trees	Conif-erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
LuC---- Lucy	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
NaC:										
Nankin----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Cowarts----	Poor	Fair	Good	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
Ailey----	Poor	Poor	Fair	Poor	Poor	Poor	Very poor.	Fair	Poor	Very poor.
NsD:										
Nankin----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Cowarts----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
Susquehanna----	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
OrA, OrB---- Orangeburg	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
OrC, OrD---- Orangeburg	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
PeA, PfA---- 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.
ReC---- Red Bay	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
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.
TE:										
Tawcaw----	Very poor.	Poor	Poor	Good	Fair	Fair	Fair	Fair	Fair	Fair.
Meggett----	Very poor.	Very poor.	Poor	Fair	Poor	Good	Good	Poor	Good	Good.
TfA---- Tifton	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

Table 10.--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
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.

Table 11.--Building Site Development

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not rated. 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.
BO:						
Bibb	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: wetness, flooding.
Osier	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: wetness, droughty, flooding.
BtB—Blanton	Severe: cutbanks cave.	Slight	Moderate: wetness.	Slight	Slight	Severe: droughty.
BtC—Blanton	Severe: cutbanks cave.	Slight	Moderate: wetness.	Moderate: slope.	Slight	Severe: droughty.
BtD—Blanton	Severe: cutbanks cave.	Moderate: slope.	Moderate: wetness, slope.	Severe: slope.	Moderate: slope.	Severe: droughty.
CnA—Clarendon	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Slight.
CwB:						
Cowarts	Slight	Slight	Slight	Slight	Slight	Moderate: droughty.
Nankin	Moderate: too clayey.	Slight	Slight	Slight	Slight	Slight.
Ailey	Severe: cutbanks cave.	Slight	Slight	Slight	Slight	Moderate: droughty.
DoA, DoB—Dothan	Moderate: wetness.	Slight	Moderate: wetness.	Slight	Slight	Slight.
FaB—Faceville	Moderate: too clayey.	Slight	Slight	Slight	Slight	Slight.
FaC—Faceville	Moderate: too clayey.	Slight	Slight	Moderate: slope.	Slight	Slight.
FuB—Fuquay	Slight	Slight	Moderate: wetness.	Slight	Slight	Moderate: droughty.
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.

Table 11.--Building Site Development--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
GsA, GsB Greenville	Moderate: too clayey.	Slight	Slight	Slight	Slight	Slight.
GsC Greenville	Moderate: too clayey.	Slight	Slight	Moderate: slope.	Slight	Slight.
GsD Greenville	Moderate: too clayey, slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope.
LaB Lakeland	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Slight	Moderate: droughty, too sandy.
LuB Lucy	Moderate: cutbanks cave.	Slight	Slight	Slight	Slight	Moderate: droughty.
LuC Lucy	Moderate: cutbanks cave, slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: droughty, slope.
NaC: Nankin	Moderate: too clayey.	Slight	Slight	Moderate: slope.	Slight	Slight.
Cowarts	Slight	Slight	Slight	Moderate: slope.	Slight	Moderate: droughty.
Ailey	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Slight	Moderate: droughty.
NsD: Nankin	Moderate: too clayey, slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope.
Cowarts	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: droughty, slope.
Susquehanna	Moderate: too clayey, slope.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell, slope.	Severe: low strength, shrink-swell.	Moderate: slope.
OrA, OrB Orangeburg	Slight	Slight	Slight	Slight	Slight	Slight.
OrC Orangeburg	Slight	Slight	Slight	Moderate: slope.	Slight	Slight.
OrD Orangeburg	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope.
PeA Pelham	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
PfA Pelham	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: wetness.

Table 11.--Building Site Development--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
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.
ReC---------- Red Bay	Slight---------	Slight---------	Slight---------	Moderate: slope.	Slight---------	Slight.
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.
TE:						
Tawcaw----------	Severe: wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Severe: flooding.	Severe: flooding.
Meggett----------	Severe: wetness.	Severe: flooding, wetness, shrink-swell.	Severe: flooding, wetness, shrink-swell.	Severe: flooding, wetness, shrink-swell.	Severe: shrink-swell, wetness, flooding.	Severe: wetness, flooding.
TfA, TfB---------- Tifton	Moderate: wetness.	Slight---------	Moderate: wetness.	Slight---------	Slight---------	Slight.
TnC2---------- Tifton	Moderate: wetness.	Slight---------	Moderate: wetness.	Moderate: slope.	Slight---------	Slight.

Table 12.--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.
BO:					
Bibb	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Poor: small stones, wetness.
Osier	Severe: flooding, wetness, poor filter.	Severe: seepage, flooding, wetness.	Severe: flooding, seepage, wetness.	Severe: flooding, seepage, wetness.	Poor: seepage, too sandy, wetness.
BtB, BtC Blanton	Moderate: wetness.	Severe: seepage.	Severe: too sandy.	Severe: seepage.	Poor: too sandy.
BtD Blanton	Moderate: wetness, slope.	Severe: seepage, slope.	Severe: too sandy.	Severe: seepage.	Poor: too sandy.
CnA Clarendon	Severe: wetness, percs slowly.	Severe: seepage, wetness.	Severe: wetness.	Severe: wetness.	Fair: wetness.
CwB:					
Cowarts	Severe: percs slowly.	Moderate: seepage, slope.	Moderate: too clayey.	Slight	Fair: too clayey.
Nankin	Severe: percs slowly.	Moderate: seepage, slope.	Moderate: too clayey.	Slight	Fair: too clayey.
Ailey	Severe: percs slowly.	Severe: seepage.	Slight	Slight	Good.
DoA Dothan	Moderate: wetness, percs slowly.	Moderate: seepage.	Moderate: wetness.	Slight	Good.
DoB Dothan	Moderate: wetness, percs slowly.	Moderate: seepage, slope.	Moderate: wetness.	Slight	Good.
FaB, FaC Faceville	Slight	Moderate: seepage, slope.	Moderate: too clayey.	Good	Fair: too clayey.
FuB, FuC Fuquay	Moderate: percs slowly, poor filter.	Severe: seepage.	Moderate: too sandy.	Severe: seepage.	Poor: seepage.
Gr Grady	Severe: ponding, percs slowly.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Poor: ponding.

Table 12.--Sanitary Facilities--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
GsA Greenville	Moderate: percs slowly.	Moderate: seepage.	Moderate: too clayey.	Slight	Fair: too clayey.
GsB, GsC Greenville	Moderate: percs slowly.	Moderate: seepage, slope.	Moderate: too clayey.	Slight	Fair: too clayey.
GsD Greenville	Moderate: percs slowly, slope.	Severe: slope.	Moderate: slope, too clayey.	Moderate: slope.	Fair: too clayey, slope.
LaB Lakeland	Slight	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: seepage, too sandy.
LuB Lucy	Slight	Severe: seepage.	Slight	Severe: seepage.	Fair: too clayey.
LuC Lucy	Moderate: slope.	Severe: seepage, slope.	Moderate: slope.	Severe: seepage.	Fair: too clayey, slope.
NaC:					
Nankin	Severe: percs slowly.	Moderate: seepage, slope.	Moderate: too clayey.	Slight	Fair: too clayey.
Cowarts	Severe: percs slowly.	Moderate: seepage, slope.	Moderate: too clayey.	Slight	Fair: too clayey.
Ailey	Severe: percs slowly.	Severe: seepage.	Slight	Slight	Good.
NsD:					
Nankin	Severe: percs slowly.	Severe: slope.	Moderate: slope, too clayey.	Moderate: slope.	Fair: too clayey, slope.
Cowarts	Severe: percs slowly.	Severe: slope.	Moderate: slope, too clayey.	Moderate: slope.	Fair: too clayey, slope.
Susquehanna	Severe: percs slowly.	Severe: slope.	Severe: too clayey.	Moderate: slope.	Poor: too clayey, hard to pack.
OrA Orangeburg	Slight	Moderate: seepage.	Slight	Slight	Good.
OrB, OrC Orangeburg	Slight	Moderate: seepage, slope.	Slight	Slight	Good.
OrD Orangeburg	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope.	Fair: slope.
PeA Pelham	Severe: wetness.	Severe: seepage, wetness.	Severe: wetness.	Severe: seepage, wetness.	Poor: wetness.

Table 12.--Sanitary Facilities--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
PfA Pelham	Severe: flooding, wetness.	Severe: seepage, flooding, wetness.	Severe: flooding, wetness, too acid.	Severe: flooding, seepage, wetness.	Poor: wetness, too acid.
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, ReC Red Bay	Slight	Moderate: seepage, slope.	Slight	Slight	Good.
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.
TE: Tawcaw	Severe: flooding, wetness, percs slowly.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding, wetness.	Fair: too clayey, hard to pack, wetness.
Meggett	Severe: flooding, wetness, percs slowly.	Severe: flooding.	Severe: flooding, wetness, too clayey.	Severe: flooding, wetness.	Poor: too clayey, hard to pack, wetness.
TfA Tifton	Moderate: percs slowly, wetness.	Moderate: seepage.	Slight	Severe: seepage.	Good.
TfB, TnC2 Tifton	Moderate: percs slowly, wetness.	Moderate: slope, seepage.	Slight	Severe: seepage.	Good.

Table 13.--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.
BO:				
Bibb	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones, area reclaim, wetness.
Osier	Poor: wetness.	Probable	Improbable: too sandy.	Poor: too sandy, wetness.
BtB, BtC, BtD---Blanton	Good	Probable	Improbable: too sandy.	Poor: too sandy.
CnA---Clarendon	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey, small stones.
CwB:				
Cowarts	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: thin layer.
Nankin	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
Ailey	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: too sandy.
DoA, DoB---Dothan	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: thin layer.
FaB, FaC---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, GsC, GsD---Greenville	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
LaB---Lakeland	Good	Probable	Improbable: too sandy.	Poor: too sandy.
LuB---Lucy	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: too sandy.
LuC---Lucy	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: too sandy, slope.

Table 13.--Construction Materials--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
NaC:				
Nankin	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
Cowarts	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: thin layer.
Ailey	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: too sandy.
NsD:				
Nankin	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
Cowarts	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: thin layer.
Susquehanna	Poor: low strength, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
OrA, OrB, OrC	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey.
Orangeburg				
OrD	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey, slope.
Orangeburg				
PeA, PfA, PpA	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.
Pelham				
Ra	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.
Rains				
ReB, ReC	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: too sandy, small stones.
Red Bay				
StA	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Fair: too sandy.
Stilson				
SuB, SuC	Poor: low strength, shrink-swell.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
Susquehanna				
TE:				
Tawcaw	Fair: low strength, shrink-swell, wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey.
Meggett	Poor: wetness, shrink-swell, low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, wetness.
TfA, TfB, TnC2	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones.
Tifton				

Table 14.--Water Management

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not evaluated. 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---------- Ailey	Moderate: seepage.	Slight---------	Deep to water	Droughty, percs slowly.	Too sandy, percs slowly.	Droughty, rooting depth.
AeC---------- Ailey	Moderate: seepage, slope.	Slight---------	Deep to water	Droughty, percs slowly, slope.	Too sandy, percs slowly.	Droughty, rooting depth.
BO:						
Bibb----------	Moderate: seepage.	Severe: piping, wetness.	Flooding-------	Wetness--------	Erodes easily, wetness.	Wetness, erodes easily.
Osier----------	Severe: seepage.	Severe: seepage, piping, wetness.	Flooding, cutbanks cave.	Wetness, droughty.	Wetness, too sandy.	Wetness, droughty.
BtB---------- Blanton	Severe: seepage.	Severe: seepage, piping.	Deep to water	Droughty, fast intake.	Too sandy, soil blowing.	Droughty.
BtC---------- Blanton	Severe: seepage.	Severe: seepage, piping.	Deep to water	Slope, droughty, fast intake.	Too sandy, soil blowing.	Droughty.
BtD---------- Blanton	Severe: seepage, slope.	Severe: seepage, piping.	Deep to water	Slope, droughty, fast intake.	Slope, too sandy, soil blowing.	Slope, droughty.
CnA---------- Clarendon	Moderate: seepage.	Severe: piping.	Favorable------	Wetness, droughty.	Wetness, soil blowing.	Favorable.
CwB:						
Cowarts----------	Moderate: seepage, slope.	Severe: piping.	Deep to water	Slope, droughty, fast intake.	Soil blowing, percs slowly.	Droughty, rooting depth.
Nankin----------	Moderate: seepage, slope.	Moderate: piping.	Deep to water	Fast intake, slope.	Soil blowing---	Favorable.
Ailey----------	Moderate: seepage, slope.	Slight---------	Deep to water	Droughty, percs slowly, slope.	Too sandy, percs slowly.	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.
FaB, FaC---------- Faceville	Moderate: seepage, slope.	Slight---------	Deep to water	Slope----------	Erodes easily	Erodes easily.

Table 14.--Water Management--Continued

Soil name and map symbol	Limitations for--		Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Drainage	Irrigation	Terraces and diversions	Grassed waterways
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, GsC---------- Greenville	Moderate: seepage, slope.	Severe: piping.	Deep to water	Slope----------	Soil blowing---	Favorable.
GsD---------- Greenville	Severe: slope.	Severe: piping.	Deep to water	Slope----------	Slope, soil blowing.	Slope.
LaB---------- Lakeland	Severe: seepage.	Severe: seepage.	Deep to water	Slope, droughty, fast intake.	Too sandy, soil blowing.	Droughty.
LuB---------- Lucy	Severe: seepage.	Severe: piping.	Deep to water	Droughty, fast intake.	Too sandy, soil blowing.	Droughty.
LuC---------- Lucy	Severe: seepage, slope.	Severe: piping.	Deep to water	Droughty, fast intake, slope.	Too sandy, slope, soil blowing.	Slope, droughty.
NaC:						
Nankin----------	Moderate: seepage, slope.	Moderate: piping.	Deep to water	Fast intake, slope.	Soil blowing---	Favorable.
Cowarts----------	Moderate: seepage, slope.	Severe: piping.	Deep to water	Slope, droughty, fast intake.	Soil blowing, percs slowly.	Droughty, rooting depth.
Ailey----------	Moderate: seepage, slope.	Slight---------	Deep to water	Droughty, percs slowly, slope.	Too sandy, percs slowly.	Droughty, rooting depth.
NsD:						
Nankin----------	Severe: slope.	Moderate: piping.	Deep to water	Slope----------	Slope----------	Slope.
Cowarts----------	Severe: slope.	Severe: piping.	Deep to water	Slope, droughty.	Slope, soil blowing, percs slowly.	Slope, droughty, rooting depth.
Susquehanna------	Severe: slope.	Severe: hard to pack.	Deep to water	Percs slowly, slope.	Slope, percs slowly.	Slope, percs slowly.
OrA---------- Orangeburg	Moderate: seepage.	Moderate: piping.	Deep to water	Fast intake----	Soil blowing---	Favorable.

Table 14.--Water Management--Continued

Soil name and map symbol	Limitations for--		Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Drainage	Irrigation	Terraces and diversions	Grassed waterways
OrB, OrC---------- Orangeburg	Moderate: seepage, slope.	Moderate: piping.	Deep to water	Fast intake, slope.	Soil blowing---	Favorable.
OrD---------- Orangeburg	Severe: slope.	Moderate: piping.	Deep to water	Fast intake, slope.	Slope, soil blowing.	Slope.
PeA---------- Pelham	Severe: seepage.	Severe: piping, wetness.	Favorable------	Fast intake, wetness.	Wetness, soil blowing.	Wetness.
PfA---------- Pelham	Severe: seepage.	Severe: piping, wetness.	Flooding, too acid.	Wetness, fast intake, flooding.	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, droughty, fast intake.	Wetness, soil blowing.	Wetness, droughty.
ReB, ReC---------- Red Bay	Moderate: seepage, slope.	Slight---------	Deep to water	Fast intake, slope.	Favorable------	Favorable.
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.
TE:						
Tawcaw----------	Slight---------	Severe: wetness.	Percs slowly, flooding.	Wetness, percs slowly.	Erodes easily, wetness, percs slowly.	Erodes easily, percs slowly.
Meggett----------	Slight---------	Severe: hard to pack, wetness.	Percs slowly, flooding.	Wetness, percs slowly.	Wetness, percs slowly.	Wetness, 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.--Engineering Index Properties

(Absence of an entry indicates that data were not estimated.)

Soil name and map symbol	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
AeB, AeC	0-30	Loamy sand	SM, SP-SM	A-2, A-3	85-100	75-100	50-80	5-20	---	NP
Ailey	30-42	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
	42-50	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
	50-65	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
BO:										
Bibb	0-18	Sandy loam	SM, SC-SM, ML, CL-ML	A-2, A-4	95-100	90-100	60-90	30-60	<25	NP-7
	18-60	Sandy loam, loam, silt loam.	SM, SC-SM, ML, CL-ML	A-2, A-4	60-100	50-100	40-100	30-90	<30	NP-7
Osier	0-12	Sandy loam	SM	A-2	100	98-100	70-90	13-25	---	NP
	12-42	Sand, loamy sand, loamy fine sand.	SP-SM, SM	A-2, A-3	100	95-100	65-96	5-20	---	NP
	42-62	Coarse sand, sand, fine sand.	SP, SP-SM	A-1, A-3, A-2-4	100	90-100	40-60	2-10	---	NP
BtB, BtC, BtD	0-68	Sand	SP-SM, SM	A-3, A-2-4	100	90-100	65-100	5-20	---	NP
Blanton	68-71	Sandy loam, loamy sand, loamy coarse sand.	SM	A-2-4	100	95-100	65-96	13-30	<25	NP-3
	71-85	Sandy clay loam, sandy loam, sandy clay.	SC, SC-SM, SM	A-4, A-2-4, A-2-6, A-6	100	95-100	69-100	25-50	12-45	3-22
CnA	0-8	Loamy sand	SM, SP-SM	A-2	98-100	85-100	65-90	10-30	<20	NP-3
Clarendon	8-27	Sandy clay loam, sandy loam.	SC, CL, SC-SM, CL-ML	A-4, A-6	98-100	85-100	75-95	36-55	20-40	5-15
	27-62	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
CwB:										
Cowarts	0-11	Loamy sand	SM	A-2	90-100	85-100	50-80	13-30	---	NP
	11-26	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
	26-32	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
	32-62	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	0-7	Loamy sand	SM, SP-SM	A-2	85-100	85-100	50-85	10-35	---	NP
	7-14	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
	14-50	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
	50-65	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

Table 15.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
CwB:										
Ailey	0-30	Loamy sand	SM, SP-SM	A-2, A-3	85-100	75-100	50-80	5-20	---	NP
	30-42	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
	42-50	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
	50-65	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	0-7	Loamy sand	SM	A-2	95-100	92-100	60-80	13-30	---	NP
Dothan	7-35	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
	35-65	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
FaB, FaC	0-8	Sandy loam	SM, SC-SM	A-2, A-4	90-100	85-100	72-97	17-38	<25	NP-7
Faceville	8-62	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	0-28	Loamy sand	SP-SM, SM	A-2, A-3	95-100	90-100	50-83	5-35	10-20	NP
Fuquay	28-36	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	20-45	NP-13
	36-65	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	0-5	Loam	ML, CL-ML, CL	A-4, A-6	100	99-100	85-100	50-75	<30	NP-15
Grady	5-8	Clay loam, sandy clay loam, loam.	CL	A-6	100	100	90-100	51-80	25-40	11-20
	8-65	Clay, sandy clay	CL, CH, MH	A-6, A-7	100	100	90-100	55-90	30-51	12-24
GsA, GsB, GsC, GsD	0-5	Sandy loam	SM, SC, SC-SM, CL-ML	A-2, A-4	95-100	90-100	65-85	25-55	10-25	NP-10
Greenville	5-62	Clay loam, sandy clay, sandy clay loam, clay.	CL, SC, ML	A-6, A-7, A-4	98-100	95-100	80-99	40-80	28-50	7-25
LaB	0-25	Sand	SP-SM	A-3, A-2-4	90-100	90-100	60-100	5-12	---	NP
Lakeland	25-88	Sand, fine sand	SP, SP-SM	A-3, A-2-4	90-100	90-100	50-100	1-12	---	NP
LuB, LuC	0-27	Loamy sand	SM, SP-SM	A-2, A-4	98-100	95-100	50-90	10-40	---	NP
Lucy	27-36	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
	36-63	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

Table 15.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
NaC:										
Nankin----------	0-7	Loamy sand-------	SM, SP-SM	A-2	85-100	85-100	50-85	10-35	---	NP
	7-14	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
	14-50	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
	50-65	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
Cowarts---------	0-11	Loamy sand-------	SM	A-2	90-100	85-100	50-80	13-30	---	NP
	11-24	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
	24-32	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
	32-62	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
Ailey-----------	0-30	Loamy sand-------	SM, SP-SM	A-2, A-3	85-100	75-100	50-80	5-20	---	NP
	30-42	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
	42-50	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
	50-65	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
NsD:										
Nankin----------	0-7	Sandy clay loam	SM, SC-SM, ML, CL-ML	A-4	90-100	90-100	70-95	36-55	<25	NP-7
	7-14	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
	14-50	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
	50-65	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
Cowarts---------	0-11	Sandy loam-------	SM, SC-SM	A-2, A-4	95-100	90-100	75-90	20-40	<20	NP-5
	11-26	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
	26-32	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
	32-62	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
Susquehanna-----	0-5	Sandy loam-------	ML, SM	A-4	100	100	65-90	40-55	---	NP
	5-67	Clay, silty clay loam, silty clay.	CH	A-7	100	100	88-100	80-98	50-90	28-56

Table 15.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
OrA, OrB, OrC, OrD---------- Orangeburg	0-11	Loamy sand-------	SM	A-2	98-100	95-100	60-87	14-28	---	NP
	11-50	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
	50-63	Sandy clay loam, sandy clay, sandy loam.	SC, CL	A-6, A-4, A-7	98-100	95-100	70-97	40-65	24-46	8-21
PeA---------- Pelham	0-26	Loamy sand-------	SM	A-2	100	95-100	75-100	15-30	---	NP
	26-56	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
	56-80	Sandy clay loam, sandy loam, sandy clay.	SC, SM, ML, CL	A-2, A-4, A-6, A-7	100	95-100	65-100	27-65	20-45	3-20
PfA---------- Pelham	0-26	Loamy sand-------	SM	A-2	100	95-100	75-90	15-30	---	NP
	26-56	Sandy clay loam, sandy loam, fine sandy loam.	SM, SC, SC-SM	A-2, A-4, A-6	100	95-100	65-90	27-50	15-30	2-12
	56-80	Sandy clay loam, sandy loam, sandy clay.	SC, SM, ML, CL	A-2, A-4, A-6, A-7	100	95-100	65-90	27-65	20-45	3-20
PpA---------- Pelham	0-26	Loamy sand-------	SM	A-2	100	95-100	75-90	15-30	---	NP
	26-56	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
	56-80	Sandy clay loam, sandy loam, sandy clay.	SC, SM, ML, CL	A-2, A-4, A-6, A-7	100	95-100	65-90	27-65	15-45	3-20
Ra---------- Rains	0-12	Loamy sand-------	SM	A-2	100	95-100	55-98	15-35	<30	NP-4
	12-18	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
	18-55	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
	55-65	Sandy loam, sandy clay loam, sandy clay.	SM, SC, ML, CL	A-2, A-4, A-6	100	95-100	60-95	30-60	15-40	3-18
ReB, ReC--------- Red Bay	0-5	Loamy sand-------	SM	A-2	100	90-100	51-75	15-30	---	NP
	5-18	Sandy loam, sandy clay loam.	SM, SC, SC-SM	A-2, A-4	100	95-100	60-85	15-50	<35	NP-10
	18-50	Sandy clay loam	SC-SM, SC	A-2, A-4, A-6	100	95-100	70-90	24-50	18-40	4-16
	50-65	Sandy clay loam, sandy clay.	SC, CL	A-6, A-4, A-7	100	98-100	70-97	40-65	24-46	8-21
StA---------- Stilson	0-23	Loamy sand-------	SM	A-2	94-100	94-100	74-92	15-24	---	NP
	23-35	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
	35-65	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	0-5	Sandy loam-------	ML, SM	A-4	100	100	65-90	40-55	---	NP
	5-67	Clay, silty clay loam, silty clay.	CH	A-7	100	100	88-100	80-98	50-90	28-56

Table 15.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
TE:										
Tawcaw	0-4	Silty clay	CL, CH	A-6, A-7, A-4	100	100	85-100	75-95	28-55	8-26
	4-55	Silty clay loam, silty clay, clay, clay loam.	CL, CH	A-6, A-7	100	100	90-100	51-98	30-65	11-33
	55-62	Variable	---	---	---	---	---	---	---	---
Meggett	0-9	Silty clay	CL, CH	A-4, A-6, A-7	100	95-100	85-100	55-80	28-55	8-26
	9-30	Clay, sandy clay, clay loam.	CH, MH, CL	A-6, A-7	100	90-100	75-100	51-90	30-60	11-30
	30-62	Clay, sandy clay, clay loam.	CH, MH, CL, ML	A-6, A-7	100	90-100	75-100	51-90	35-65	11-30
TfA, TfB	0-7	Loamy sand	SM, SP-SM	A-2	70-97	62-94	53-85	11-27	---	NP
Tifton	7-11	Sandy loam, gravelly sandy loam, fine sandy loam.	SM, SC-SM	A-2	70-95	56-89	55-89	20-35	<25	NP-7
	11-30	Sandy clay loam, gravelly sandy clay loam.	SC, CL	A-2, A-6, A-4	70-98	65-94	60-89	22-53	22-40	8-22
	30-60	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
	60-68	Sandy clay loam, sandy clay.	SC, CL	A-4, A-6, A-7	80-98	75-98	50-94	35-55	24-50	8-23
TnC2	0-6	Sandy loam	SM, SC-SM	A-2	70-95	60-89	55-89	15-30	<20	NP-6
Tifton	6-11	Sandy loam, gravelly sandy loam, fine sandy loam.	SM, SC-SM	A-2	70-95	56-89	55-89	20-35	<25	NP-7
	11-30	Sandy clay loam, gravelly sandy clay loam.	SC, CL	A-2, A-6, A-4	70-98	65-94	60-89	22-53	22-40	8-22
	30-60	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
	60-68	Sandy clay loam, sandy clay.	SC, CL	A-4, A-6, A-7	80-98	75-98	50-94	35-55	24-50	8-23

Table 16.--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		Organic matter
								K	T	
	In	Pct	g/cc	In/hr	In/in	pH				Pct
AeB, AeC---	0-30	5-10	1.35-1.45	6.0-20	0.03-0.05	4.5-6.5	Low---	0.15	4	<1
Ailey	30-42	15-35	1.55-1.70	0.6-2.0	0.09-0.12	4.5-5.5	Low---	0.24		
	42-50	18-35	1.70-1.80	0.06-0.2	0.06-0.10	4.5-5.5	Low---	0.24		
	50-65	15-30	1.80-1.95	0.06-0.2	0.04-0.08	4.5-5.5	Low---	0.15		
BO:										
Bibb---	0-18	2-18	1.50-1.70	0.6-2.0	0.12-0.18	4.5-5.5	Low---	0.20	5	1-3
	18-60	2-18	1.45-1.75	0.6-2.0	0.10-0.20	4.5-5.5	Low---	0.37		
Osier---	0-12	10-15	1.35-1.60	6.0-20	0.10-0.15	4.5-5.5	Low---	0.15	5	1-3
	12-42	1-10	1.40-1.60	6.0-20	0.03-0.10	4.5-5.5	Low---	0.10		
	42-62	2-5	1.40-1.60	>20	0.02-0.05	4.5-5.5	Low---	0.05		
BtB, BtC, BtD---	0-68	1-7	1.30-1.60	6.0-20	0.03-0.07	4.5-6.0	Low---	0.10	5	.5-1
Blanton	68-71	10-18	1.50-1.65	2.0-6.0	0.10-0.15	4.5-5.5	Low---	0.15		
	71-85	12-40	1.60-1.70	0.2-2.0	0.10-0.15	4.5-5.5	Low---	0.20		
CnA---	0-8	2-10	1.40-1.60	2.0-6.0	0.08-0.12	4.5-6.5	Low---	0.15	5	.5-1
Clarendon	8-27	18-35	1.40-1.60	0.6-2.0	0.10-0.15	4.5-5.5	Low---	0.20		
	27-62	15-40	1.40-1.70	0.2-0.6	0.08-0.12	4.5-5.5	Low---	0.15		
CwB:										
Cowarts---	0-11	3-10	1.30-1.70	2.0-6.0	0.06-0.10	4.5-5.5	Low---	0.15	4	.5-1
	11-26	10-30	1.30-1.50	0.6-2.0	0.10-0.16	4.5-5.5	Low---	0.28		
	26-32	25-40	1.30-1.50	0.2-2.0	0.10-0.16	4.5-5.5	Low---	0.28		
	32-62	18-35	1.65-1.80	0.06-0.6	0.10-0.14	4.5-5.5	Low---	0.24		
Nankin---	0-7	5-12	1.45-1.65	2.0-6.0	0.05-0.10	4.5-5.5	Low---	0.17	3	.5-1
	7-14	15-35	1.55-1.65	0.6-2.0	0.10-0.15	4.5-5.5	Low---	0.24		
	14-50	35-50	1.30-1.70	0.2-0.6	0.11-0.16	4.5-5.5	Low---	0.24		
	50-65	15-35	1.60-1.70	0.6-2.0	0.10-0.15	4.5-5.5	Low---	0.24		
Ailey---	0-30	5-10	1.35-1.45	6.0-20	0.03-0.05	4.5-6.5	Low---	0.15	4	<1
	30-42	15-35	1.55-1.70	0.6-2.0	0.09-0.12	4.5-5.5	Low---	0.24		
	42-50	18-35	1.70-1.80	0.06-0.2	0.06-0.10	4.5-5.5	Low---	0.24		
	50-65	15-30	1.80-1.95	0.06-0.2	0.04-0.08	4.5-5.5	Low---	0.15		
DoA, DoB---	0-7	5-15	1.30-1.60	2.0-6.0	0.06-0.10	4.5-6.0	Low---	0.15	5	.5-1
Dothan	7-33	18-35	1.40-1.60	0.6-2.0	0.12-0.16	4.5-5.5	Low---	0.28		
	33-65	18-40	1.45-1.70	0.2-0.6	0.08-0.12	4.5-5.5	Low---	0.28		
FaB, FaC---	0-8	5-20	1.40-1.65	6.0-20	0.06-0.09	4.5-5.5	Low---	0.28	5	.5-1
Faceville	8-62	35-55	1.25-1.60	0.6-2.0	0.12-0.18	4.5-5.5	Low---	0.37		
FuB, FuC---	0-28	2-10	1.60-1.70	>6.0	0.04-0.09	4.5-6.0	Low---	0.15	5	.5-1
Fuquay	28-36	10-35	1.40-1.60	0.6-2.0	0.12-0.15	4.5-5.5	Low---	0.20		
	36-65	20-35	1.40-1.60	0.06-0.2	0.10-0.13	4.5-5.5	Low---	0.20		
Gr---	0-5	20-30	1.20-1.45	0.6-2.0	0.10-0.18	4.5-5.5	Low---	0.24	5	1-4
Grady	5-8	20-35	1.40-1.55	0.2-0.6	0.10-0.15	4.5-5.5	Low---	0.10		
	8-65	45-65	1.50-1.60	0.06-0.2	0.12-0.16	4.5-5.5	Moderate---	0.10		
GsA, GsB, GsC, GsD---	0-5	5-20	1.30-1.65	0.6-6.0	0.07-0.14	4.5-6.0	Low---	0.24	5	.5-1
Greenville	5-62	35-55	1.35-1.55	0.6-2.0	0.14-0.18	4.5-5.5	Low---	0.17		
LaB---	0-25	2-8	1.35-1.65	6.0-20	0.05-0.09	4.5-6.0	Low---	0.10	5	.5-1
Lakeland	25-88	1-6	1.50-1.60	6.0-20	0.02-0.08	4.5-5.5	Low---	0.10		

Table 16.--Physical and Chemical Properties of the Soils--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors		Organic matter
	In	Pct	g/cc	In/hr	In/in	pH		K	T	Pct
LuB, LuC	0-27	1-12	1.30-1.70	6.0-20	0.06-0.09	5.1-6.0	Low	0.10	5	.5-1
Lucy	27-36	10-30	1.40-1.60	2.0-6.0	0.10-0.12	4.5-5.5	Low	0.24		
	36-63	20-45	1.40-1.60	0.6-2.0	0.12-0.14	4.5-5.5	Low	0.28		
NaC:										
Nankin	0-7	5-12	1.45-1.65	2.0-6.0	0.05-0.10	4.5-5.5	Low	0.17	3	.5-1
	7-14	15-35	1.55-1.65	0.6-2.0	0.10-0.15	4.5-5.5	Low	0.24		
	14-50	35-50	1.30-1.70	0.2-0.6	0.11-0.16	4.5-5.5	Low	0.24		
	50-65	15-35	1.60-1.70	0.6-2.0	0.10-0.15	4.5-5.5	Low	0.24		
Cowarts	0-11	3-10	1.30-1.70	2.0-6.0	0.06-0.10	4.5-5.5	Low	0.15	4	.5-1
	11-26	10-30	1.30-1.50	0.6-2.0	0.10-0.16	4.5-5.5	Low	0.28		
	26-32	25-40	1.30-1.50	0.2-2.0	0.10-0.16	4.5-5.5	Low	0.28		
	32-62	18-35	1.65-1.80	0.06-0.6	0.10-0.14	4.5-5.5	Low	0.24		
Ailey	0-30	5-10	1.35-1.45	6.0-20	0.03-0.05	4.5-6.5	Low	0.15	4	<1
	30-42	15-35	1.55-1.70	0.6-2.0	0.09-0.12	4.5-5.5	Low	0.24		
	42-50	18-35	1.70-1.80	0.06-0.2	0.06-0.10	4.5-5.5	Low	0.24		
	50-65	15-30	1.80-1.95	0.06-0.2	0.04-0.08	4.5-5.5	Low	0.15		
NsD:										
Nankin	0-7	20-30	1.45-1.60	0.6-2.0	0.10-0.13	4.5-5.5	Low	0.32	3	.5-1
	7-14	15-35	1.55-1.65	0.6-2.0	0.10-0.15	4.5-5.5	Low	0.24		
	14-50	35-50	1.30-1.70	0.2-0.6	0.11-0.16	4.5-5.5	Low	0.24		
	50-65	15-35	1.60-1.70	0.6-2.0	0.10-0.15	4.5-5.5	Low	0.24		
Cowarts	0-11	5-20	1.30-1.65	2.0-6.0	0.08-0.13	4.5-5.5	Low	0.24	4	.5-1
	11-26	10-30	1.30-1.50	0.6-2.0	0.10-0.16	4.5-5.5	Low	0.28		
	26-32	25-40	1.30-1.50	0.2-2.0	0.10-0.16	4.5-5.5	Low	0.28		
	32-62	18-35	1.65-1.80	0.06-0.6	0.10-0.14	4.5-5.5	Low	0.24		
Susquehanna	0-5	2-12	1.50-1.55	0.6-2.0	0.10-0.15	4.5-5.5	Low	0.28	5	.5-1
	5-67	35-60	1.25-1.50	<0.06	0.15-0.20	4.5-5.5	High	0.32		
OrA, OrB, OrC,										
OrD	0-11	4-10	1.35-1.55	2.0-6.0	0.06-0.09	4.5-6.0	Low	0.10	5	.5-1
Orangeburg	11-50	18-35	1.60-1.75	0.6-2.0	0.11-0.14	4.5-5.5	Low	0.24		
	50-63	20-45	1.60-1.75	0.6-2.0	0.11-0.14	4.5-5.5	Low	0.24		
PeA	0-26	5-10	1.50-1.70	6.0-20	0.05-0.08	4.5-5.5	Low	0.10	5	1-2
Pelham	26-56	15-30	1.30-1.60	0.6-2.0	0.10-0.13	4.5-5.5	Low	0.24		
	56-80	15-40	1.30-1.60	0.2-2.0	0.10-0.16	4.5-5.5	Low	0.24		
PfA	0-26	5-10	1.50-1.70	6.0-20	0.05-0.08	4.5-5.5	Low	0.10	5	1-2
Pelham	26-56	15-30	1.30-1.60	0.6-2.0	0.10-0.13	4.5-5.5	Low	0.24		
	56-80	15-40	1.30-1.60	0.2-2.0	0.10-0.16	4.5-5.5	Low	0.24		
PpA	0-26	5-10	1.50-1.70	6.0-20	0.05-0.08	4.5-5.5	Low	0.10	5	1-2
Pelham	26-56	15-30	1.30-1.60	0.6-2.0	0.10-0.13	4.5-5.5	Low	0.24		
	56-80	15-40	1.30-1.60	0.2-2.0	0.10-0.16	4.5-5.5	Low	0.24		
Ra	0-12	2-10	1.40-1.70	6.0-20	0.07-0.10	4.5-6.5	Low	0.15	5	1-2
Rains	12-18	18-35	1.30-1.60	0.6-2.0	0.11-0.15	4.5-5.5	Low	0.24		
	18-55	18-40	1.30-1.50	0.6-2.0	0.10-0.15	4.5-5.5	Low	0.28		
	55-65	15-45	1.30-1.60	0.6-2.0	0.10-0.15	4.5-5.5	Low	0.28		
ReB, ReC	0-5	4-12	1.45-1.60	6.0-20	0.06-0.11	4.5-6.0	Low	0.15	5	<1
Red Bay	5-18	10-25	1.30-1.60	0.6-6.0	0.10-0.14	4.5-6.0	Low	0.15		
	18-50	18-35	1.30-1.50	0.6-2.0	0.12-0.17	4.5-5.5	Low	0.17		
	50-65	20-45	1.40-1.60	0.6-2.0	0.11-0.14	4.5-5.5	Low	0.24		

Table 16.--Physical and Chemical Properties of the Soils--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors		Organic matter
	In	Pct	g/cc	In/hr	In/in	pH		K	T	Pct
StA	0-23	3-8	1.35-1.60	6.0-20	0.06-0.09	4.5-5.5	Low	0.10	5	.5-1
Stilson	23-35	15-30	1.40-1.60	0.6-2.0	0.09-0.12	4.5-5.5	Low	0.24		
	35-65	15-35	1.40-1.60	0.6-2.0	0.08-0.10	4.5-5.5	Low	0.17		
SuB, SuC	0-5	2-12	1.50-1.55	0.6-2.0	0.10-0.15	4.5-5.5	Low	0.28	5	.5-1
Susquehanna	5-67	35-60	1.25-1.50	<0.06	0.15-0.20	4.5-5.5	High	0.32		
TE:										
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	2-4
	4-55	35-70	1.30-1.60	0.06-0.2	0.12-0.16	4.5-6.5	Moderate	0.37		
	55-62	---	---	---	---	---	---	----		
Meggett	0-9	30-40	1.20-1.40	0.06-0.6	0.12-0.18	4.5-5.5	Moderate	0.28	5	2-4
	9-30	30-60	1.45-1.60	0.06-0.2	0.13-0.18	5.1-6.5	High	0.32		
	30-62	35-60	1.50-1.75	0.06-0.2	0.13-0.18	6.1-8.4	High	0.32		
TfA, TfB	0-7	3-8	1.30-1.55	6.0-20	0.03-0.08	4.5-6.0	Low	0.10	4	<1
Tifton	7-11	13-22	1.45-1.65	6.0-20	0.08-0.12	4.5-5.5	Low	0.24		
	11-30	20-35	1.50-1.70	0.6-2.0	0.12-0.16	4.5-5.5	Low	0.24		
	30-60	25-40	1.55-1.80	0.2-0.6	0.10-0.13	4.5-5.5	Low	0.17		
	60-68	25-45	1.60-1.85	0.2-0.6	0.10-0.12	4.5-5.5	Low	0.17		
TnC2	0-6	10-20	1.30-1.50	6.0-20	0.06-0.10	4.5-6.0	Low	0.17	4	<1
Tifton	6-11	13-22	1.45-1.65	6.0-20	0.08-0.12	4.5-5.5	Low	0.24		
	11-30	20-35	1.50-1.70	0.6-2.0	0.12-0.16	4.5-5.5	Low	0.24		
	30-60	25-40	1.55-1.80	0.2-0.6	0.10-0.13	4.5-5.5	Low	0.17		
	60-68	25-45	1.60-1.85	0.2-0.6	0.10-0.12	4.5-5.5	Low	0.17		

Table 17.--Soil and Water Features

("Flooding" and "water table" and terms such as " brief," "long," "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	Hydrologic group	Flooding			High water table			Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Uncoated steel	Concrete
					Ft				
AeB, AeC---------- Ailey	B	None--------	---	---	>6.0	---	---	Moderate	Moderate.
BO:									
Bibb----------	D	Frequent----	Brief to long.	Dec-May	0.5-1.0	Apparent	Dec-Apr	High-----	Moderate.
Osier----------	A/D	Frequent----	Brief to long.	Dec-Apr	0-0.5	Apparent	Nov-Mar	High-----	High.
BtB, BtC, BtD----- Blanton	A	None--------	---	---	4.0-6.0	Perched	Mar-Aug	High-----	High.
CnA---------- Clarendon	C	None--------	---	---	2.0-3.0	Apparent	Dec-Mar	Moderate	High.
CwB:									
Cowarts----------	C	None--------	---	---	>6.0	---	---	Moderate	Moderate.
Nankin----------	C	None--------	---	---	>6.0	---	---	High-----	High.
Ailey----------	B	None--------	---	---	>6.0	---	---	Moderate	Moderate.
DoA, DoB---------- Dothan	B	None--------	---	---	3.0-5.0	Perched	Jan-Apr	Moderate	Moderate.
FaB, FaC---------- Faceville	B	None--------	---	---	>6.0	---	---	Low------	Moderate.
FuB, FuC---------- Fuquay	B	None--------	---	---	4.0-6.0	Perched	Jan-Mar	Low------	High.
Gr---------- Grady	D	None--------	---	---	+2-1.0	Apparent	Dec-Jun	High-----	High.
GsA, GsB, GsC, GsD---------- Greenville	B	None--------	---	---	>6.0	---	---	Moderate	High.
LaB---------- Lakeland	A	None--------	---	---	>6.0	---	---	Low------	Moderate.
LuB, LuC---------- Lucy	A	None--------	---	---	>6.0	---	---	Low------	High.
NaC:									
Nankin----------	C	None--------	---	---	>6.0	---	---	High-----	High.
Cowarts----------	C	None--------	---	---	>6.0	---	---	Moderate	Moderate.
Ailey----------	B	None--------	---	---	>6.0	---	---	Moderate	Moderate.
NsD:									
Nankin----------	C	None--------	---	---	>6.0	---	---	High-----	High.
Cowarts----------	C	None--------	---	---	>6.0	---	---	Moderate	Moderate.

Table 17.--Soil and Water Features--Continued

Soil name and map symbol	Hydrologic group	Flooding			High water table			Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Uncoated steel	Concrete
					Ft				
NsD:									
Susquehanna	D	None	---	---	>6.0	---	---	High	High.
OrA, OrB, OrC, OrD	B	None	---	---	>6.0	---	---	Moderate	Moderate.
Orangeburg									
PeA	B/D	None	---	---	0-1.0	Apparent	Jan-Apr	High	High.
Pelham									
PfA	B/D	Occasional	Brief	Dec-Mar	0-1.0	Apparent	Jan-Apr	High	High.
Pelham									
PpA	B/D	None	---	---	+1-1.0	Apparent	Jan-Apr	High	High.
Pelham									
Ra	B/D	None	---	---	0-1.0	Apparent	Nov-Apr	High	High.
Rains									
ReB, ReC	B	None	---	---	>6.0	---	---	Moderate	Moderate.
Red Bay									
StA	B	None	---	---	2.5-3.0	Apparent	Dec-Apr	Moderate	High.
Stilson									
SuB, SuC	D	None	---	---	>6.0	---	---	High	High.
Susquehanna									
TE:									
Tawcaw	C	Frequent	Long	Dec-Apr	1.5-2.5	Apparent	Nov-Apr	High	High.
Meggett	D	Frequent	Long	Dec-Apr	0-1.0	Apparent	Nov-Apr	High	Moderate.
TfA, TfB, TnC2	B	None	---	---	3.5-6.0	Perched	Jan-Feb	Low	Moderate.
Tifton									

Table 18.--Classification of the Soils

Soil name	Family or higher taxonomic class
Ailey	Loamy, siliceous, thermic Arenic Kanhapludults
Bibb	Coarse-loamy, siliceous, acid, thermic Typic Fluvaquents
Blanton	Loamy, siliceous, thermic Grossarenic Paleudults
Clarendon	Fine-loamy, siliceous, thermic Plinthaquic Paleudults
Cowarts	Fine-loamy, siliceous, thermic Typic Kanhapludults
Dothan	Fine-loamy, siliceous, thermic Plinthic Kandiudults
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
Lakeland	Thermic, coated Typic Quartzipsamments
Lucy	Loamy, siliceous, thermic Arenic Kandiudults
Meggett	Fine, mixed, thermic Typic Albaqualfs
Nankin	Clayey, kaolinitic, thermic Typic Kanhapludults
Orangeburg	Fine-loamy, siliceous, thermic Typic Kandiudults
Osier	Siliceous, thermic Typic Psammaquents
Pelham	Loamy, siliceous, thermic Arenic Paleaquults
Rains	Fine-loamy, siliceous, thermic Typic Paleaquults
Red Bay	Fine-loamy, siliceous, thermic Rhodic Kandiudults
Stilson	Loamy, siliceous, thermic Arenic Plinthic Paleudults
Susquehanna	Fine, montmorillonitic, thermic Vertic Paleudalfs
Tawcaw	Fine, kaolinitic, thermic Fluvaquentic Dystrochrepts
Tifton	Fine-loamy, siliceous, thermic Plinthic Kandiudults

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