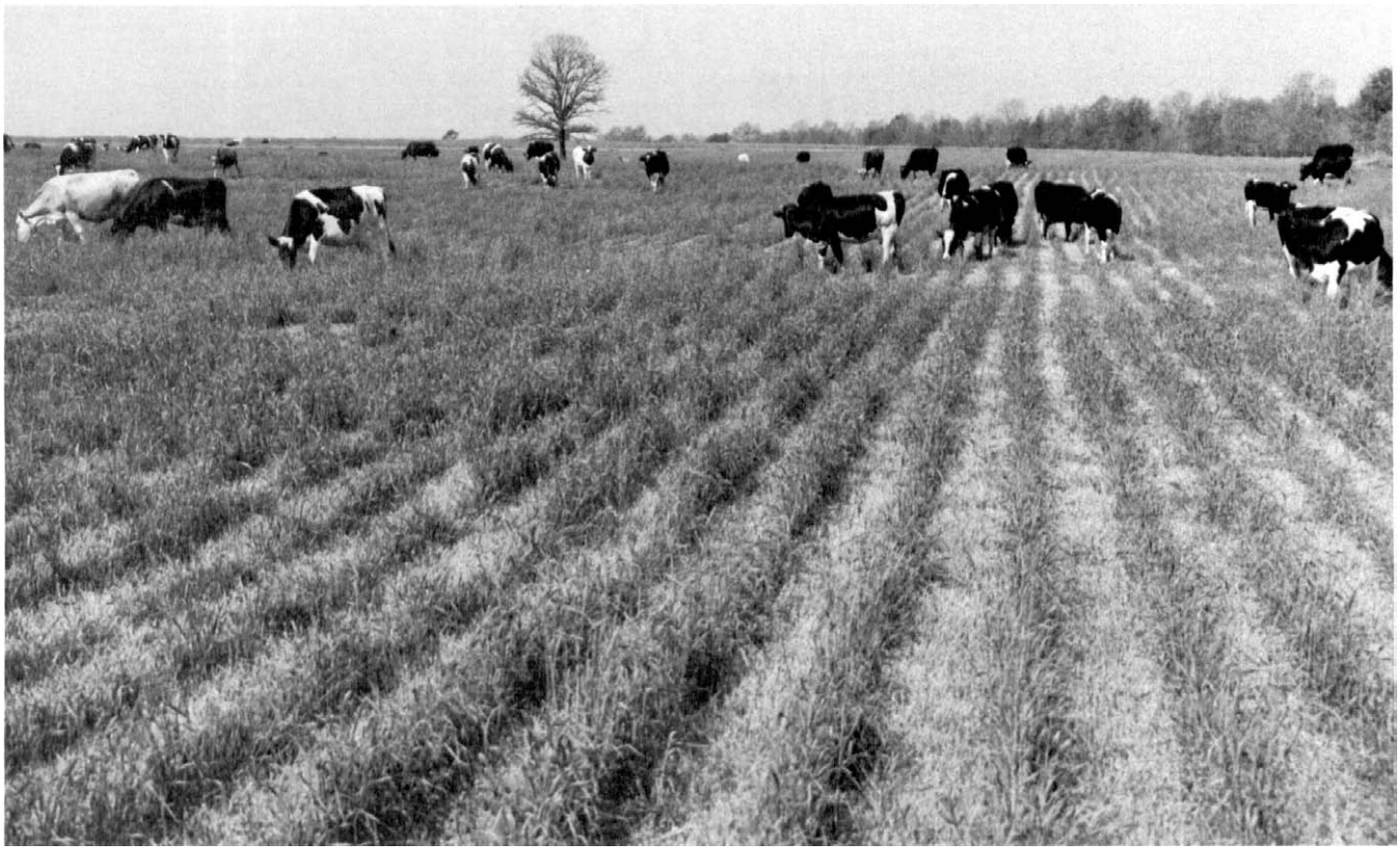
SOIL SURVEY

Jenkins County Georgia



UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
In cooperation with
UNIVERSITY OF GEORGIA, COLLEGE OF AGRICULTURE
AGRICULTURAL EXPERIMENT STATIONS

Issued December 1968

Major fieldwork for this soil survey was done in the period 1962–65. Soil names and descriptions were approved in 1966. Unless otherwise indicated statements in the publication refer to conditions in the county in 1965. This survey was made cooperatively by the Soil Conservation Service and the University of Georgia, College of Agriculture, Agricultural Experiment Stations; it is part of the technical assistance furnished to the Briar Creek Soil and Water Conservation District.

HOW TO USE THIS SOIL SURVEY

THIS SOIL SURVEY contains information that can be applied in managing farms and woodlands; in selecting sites for roads, ponds, buildings, or other structures; and in appraising the suitability of tracts of land for agriculture, industry, or recreation.

Locating Soils

All of the soils of Jenkins County are shown on the detailed map at the back of this survey. This map consists of many sheets that are made from aerial photographs. Each sheet is numbered to correspond with numbers shown on the Index to Map Sheets.

On each sheet of the detailed map, soil areas are outlined and are identified by symbol. All areas marked with the same symbol are the same kind of soil. The soil symbol is inside the area if there is enough room; otherwise, it is outside and a pointer shows where the symbol belongs.

Finding and Using Information

The "Guide to Mapping Units" can be used to find information in the survey. This guide lists all of the soils of the county in alphabetic order by map symbol. It shows the page where each kind of soil is described, and also the page for the capability unit, woodland group, and any other group in which the soil has been placed.

Individual colored maps showing the relative suitability or limitations of soils for many specific purposes can be developed by using the soil map and information in the text. Interpretations not included in the text can be developed by grouping the soils according to their suitability or limitations for a particular use. Translucent material can be used as an overlay over the soil map and colored to show soils that have the same limitation or suitability. For example, soils that have a slight limitation for a given use can be colored green, those with a moderate limitation can be colored yellow, and those with a severe limitation can be colored red.

Farmers and those who work with farmers can learn about use and management of the soils from the soil descriptions and the discussions of the capability units, woodland groups, and wildlife groups.

Foresters and others can refer to the section "Use of the Soils as Woodland," where the soils of the county are grouped according to their suitability for trees.

Game managers, sportsmen, and others can find information about soils and wildlife in the section "Use of the Soils for Wildlife."

Community planners and others concerned with suburban development can read about the soil properties that affect the choice of homesites, industrial sites, and parks in the section "Use of the Soils in Community Development."

Engineers and builders can find under "Use of the Soils in Engineering" tables that contain test data, estimates of soil properties, and information about soil features that affect engineering practices and structures.

Scientists and others can read about how the soils were formed and how they are classified in the section "Formation and Classification of the Soils."

Newcomers in Jenkins County may be especially interested in the section "General Soil Map," where broad patterns of soils are described. They may also be interested in the section "General Nature of the County," which gives additional information about the county.

COVER PICTURE

Dairy herd grazing winter rye early in April. The rye was seeded late in September in established Coastal bermudagrass, which is used for summer grazing and for hay. The soil is Dothan loamy sand, 2 to 5 percent slopes, eroded, which is in capability unit IIe–1.

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UNITED STATES DEPARTMENT OF AGRICULTURE, SOIL CONSERVATION SERVICE, IN COOPERATION WITH THE UNIVERSITY OF GEORGIA, COLLEGE OF AGRICULTURE, AGRICULTURAL EXPERIMENT STATIONS

JENKINS COUNTY is in the east-central part of Georgia (fig. 1), entirely within the Southern Coastal Plain. Millen is the county seat. The total area of the county is 224,640 acres, or 351 square miles. The agricultural land is about two-thirds woodland and one-third cropland and pasture.

Jenkins County is one of the major agricultural counties in the State. Much of the farm income is derived from field crops and dairy products. The county ranks fourth in the State in the sale of dairy products. Corn, the most extensive crop, is grown for food and for livestock feed. Other crops are cotton, soybeans, peanuts, tobacco, hay, and small grain.

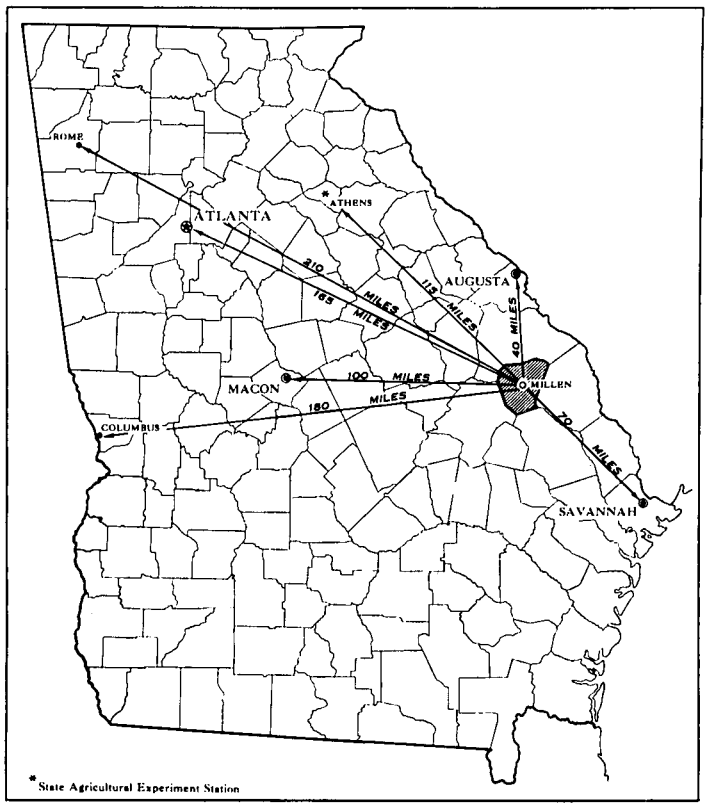

Figure 1.—Location of Jenkins County in Georgia.

How This Survey Was Made

Soil scientists made this survey to learn what kinds of soils are in Jenkins County, where they are located, and how they can be used. They went into the county knowing they would find many soils they had already seen and perhaps some they had not. As they traveled over the county, they observed steepness, length, and shape of slopes; size and speed of streams; kinds of native plants or crops; kinds of rock; and many facts about the soils. They dug many holes to expose soil profiles. A profile is the sequence of natural layers, or horizons, in a soil; it extends from the surface down into the parent material that has not been changed much by leaching or by roots of plants.

The soil scientists made comparisons among the profiles they studied, and they compared these profiles with those in counties nearby and in places more distant. They classified and named the soils according to nationwide uniform procedures. To use this survey efficiently, it is necessary to know the kinds of groupings most used in a local soil classification.

Soils that have profiles almost alike make up a soil series. Except for different texture in the surface layer, the major horizons of all the soils of one series are similar in thickness, arrangement, and other important characteristics. Each soil series is named for a town or other geographic feature near the place where a soil of that series was first observed and mapped. Tifton and Ocilla, for example, are the names of two soil series. All the soils in the United States having the same series name are essentially alike in those characteristics that affect their behavior in the natural, undisturbed landscape. Soils of one series can differ somewhat in texture of the surface soil and in slope, stoniness, or some other characteristic that affects use of the soils by man.

Many soil series contain soils that differ in the texture of their surface layer. According to such differences in texture, separations called soil types are made. Within a series, all soils having a surface layer of the same texture belong to one soil type. Tifton loamy sand is a soil type in the Tifton series.

Some soil types vary so much in slope, degree of erosion, number and size of stones, or in some other feature affect-

ing their use, that practical suggestions about their management could not be made if they were shown on the soil map as one unit. Such soil types are divided into phases. The name of a soil phase indicates a feature that affects management. For example, Tifton loamy sand, 2 to 5 percent slopes, is one phase of Tifton loamy sand, a soil type that has a slope range of 0 to 8 percent.

After a guide for classifying and naming the soils had been worked out, the soil scientists drew the boundaries of the individual soils on aerial photographs. These photographs show woodlands, buildings, field borders, trees, and other details that help in drawing boundaries accurately. The soil map at the back of this publication was prepared from the aerial photographs.

The areas shown on a soil map are called mapping units. On most maps detailed enough to be useful in planning management of farms and fields, a mapping unit is nearly equivalent to a soil type or a phase of a soil type. It is not exactly equivalent, because it is not practical to show on such a map all the small, scattered bits of soil of some other kind that have been seen within an area that is dominantly of a recognized soil type or soil phase.

In preparing some detailed maps, the soil scientists have a problem of delineating areas where different kinds of soils are so intricately mixed or occur in such small areas that it is not practical to show them separately on the map. They show such a mixture of soils as one mapping unit and call it a soil complex. Ordinarily, a soil complex is named for the major soils in it. An example is Bibb-Wehadkee complex.

Also, most surveys include areas where the soil material is so rocky, so shallow, or so frequently worked by wind and water that it cannot be classified by soil series. These areas are shown on the map like other mapping units, but they are called land types. An example is Local alluvial land.

While a soil survey is in progress, samples of soils are taken, as needed, for laboratory measurements and for engineering tests. Laboratory data from the same kinds of soils in other places are assembled. Data on yields of crops under defined practices are assembled from farm records and from field or plot experiments on the same kinds of soils. Yields under defined management are estimated for all the soils.

But only part of a soil survey is done when the soils have been named, described, and delineated on the map, and the laboratory data and yield data have been assembled. The mass of detailed information then needs to be organized in a way that is readily useful to different groups of readers, among them farmers, managers of woodland, engineers, and homeowners. Grouping soils that are similar in suitability for each specified use is the method of organization commonly used in the soil survey. On the basis of yield and practice tables and other data, the soil scientists set up trial groups. They test these groups by further study and by consultation with farmers, agronomists, engineers, and others, then adjust them according to the results of their studies and consultation. Thus, the groups that are finally evolved reflect up-to-date knowledge of the soils and their behavior under present methods of use and management.

General Soil Map

The general soil map at the back of this publication shows, in color, the soil asssociations in Jenkins County. A soil association is a landscape that has a distinctive proportional pattern of soils. It normally consists of one or more major soils and at least one minor soil, and it is named for the major soils. The soils in one association may occur in another, but in a different pattern.

A map showing soil associations is useful to people who want a general idea of the soils in a county, who want to compare different parts of a county, or who want to know the location of large tracts that are suitable for a certain kind of farming or other land use. Such a map is not suitable for planning the management of a farm or field, because the soils in any one association ordinarily differ in slope, depth, stoniness, drainage, and other characteristics that affect management.

The nine soil associations in Jenkins County are described in this section of the survey.

1. Norfolk-Tifton-Fuquay association

Well-drained, level to gently sloping, sandy soils on uplands; brownish-yellow to yellowish-red, loamy subsoil

This association is on broad interstream plains. About 90 percent of it has slopes of less than 5 percent, and the rest has slopes of 5 to 8 percent.

The total acreage of this association is about 14 percent of the county. Norfolk soils make up about 40 percent of the association, Tifton soils 25 percent, Fuquay soils 20 percent, and Grady and Ardilla soils the rest.

Norfolk soils are mostly on smooth, broad ridges. They have a surface layer of dark grayish-brown loamy sand 5 to 8 inches thick, and a subsoil of yellowish-brown fine sandy clay to sandy clay loam. The subsoil contains a small amount of plinthite.

Tifton soils occur among the Norfolk soils in small areas on ridge crests and on convex slopes at the head of drainageways. They are also in long, narrow areas parallel with drainageways. They have a surface layer of dark grayish-brown loamy sand 8 to 12 inches thick. Their subsoil is brownish-yellow or yellowish-brown sandy clay loam. It contains small, hard concretions of iron and nodules of plinthite.

Fuquay soils are in medium-sized areas on the lower parts of the plains. The have a surface layer of grayish-brown or dark-gray loamy sand 20 to 40 inches thick and a subsoil of brownish-yellow to strong-brown sandy clay loam that contains a small amount of plinthite.

Minor soils in this association are the poorly drained Grady soils and the somewhat poorly drained Ardilla soils. Grady soils are in oval depressions and small intermittent drainageways. Ardilla soils are in level areas adjoining the Grady soils.

About 80 percent of this association is cultivated or in pasture; 15 percent is in cutover mixed stands of pines and hardwoods or young pine plantations; the rest is idle. The farms in this association are large or medium sized. The soils are better suited to row cropping (fig. 2) than those in the rest of the county. The major soils are well suited to sprinkler irrigation.

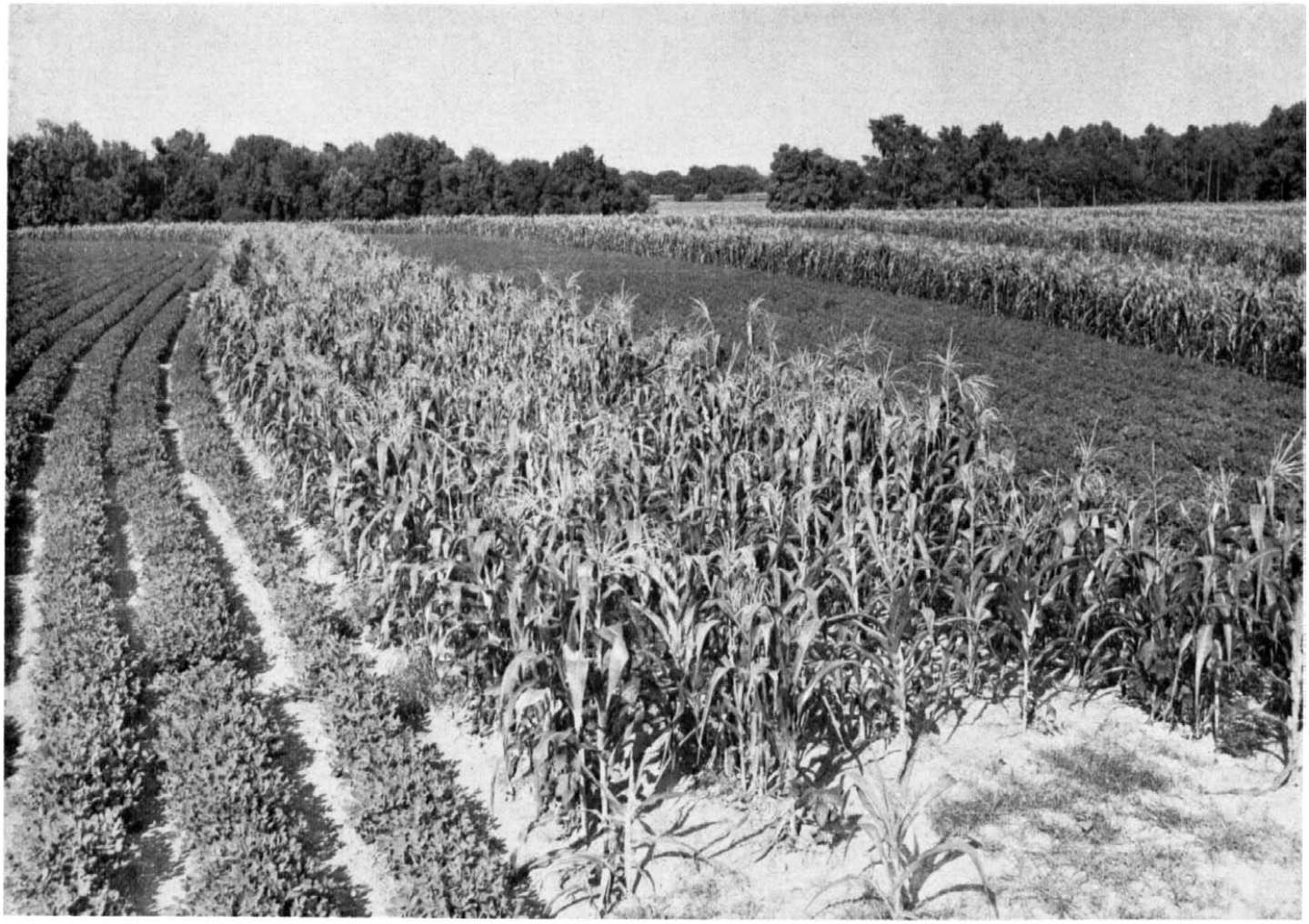

Figure 2.—**Contour stripcropping of corn and peanuts on Tifton loamy sand, 2 to 5 percent slopes, eroded.**

2. Troup-Fuquay-Dothan association

Well-drained, level to sloping soils on uplands; thick, sandy surface layer over brownish-yellow to strong-brown, loamy material

This association is on interstream ridges and hillsides. About 90 percent of it has slopes of less than 8 percent, but many small areas near Richardson Creek and Sculls Creek have slopes of 8 to 12 percent.

The total acreage of this association is about 26 percent of the county. Troup soils make up about 45 percent of the association, Fuquay soils 35 percent, Dothan soils 5 percent, and Rains, Bibb, Wehadkee, Tifton, Cowarts, and Sawyer soils the rest.

Troup soils are mostly on ridge crests and upper side slopes, but some small areas are on the lower parts of side slopes near streams. These soils have a surface layer of dark-gray to grayish-brown sand. It is underlain by yellow to brownish-yellow sand that extends to a depth of 40 to 70 inches and contains little or no plinthite.

Fuquay and Dothan soils are on the upper and middle parts of side slopes. Fuquay soils have a surface layer of grayish-brown or dark-gray loamy sand that extends to a depth of 20 to 40 inches. The subsoil is friable, brownish-yellow to strong-brown sandy clay loam that contains nodules of plinthite. Dothan soils have a surface layer of dark grayish-brown loamy sand, generally 6 to 10 inches thick but as much as 20 inches thick in some places. The subsoil is brownish-yellow to strong-brown, friable sandy clay loam. Plinthite occurs at a depth of 30 to 65 inches, and a few iron concretions commonly occur throughout the profile.

The Rains, Bibb, Wehadkee, Tifton, Cowarts, and Sawyer soils occur to a minor extent in this association. The poorly drained Rains, Bibb, and Wehadkee soils are on flood plains of many small streams and drainageways and are flooded more than once a year. The well-drained Tifton soils are on the crests of the ridges and interstream slopes. Small areas of Cowarts and Sawyer soils occur on the lower parts of slopes.

About 40 percent of the association is cultivated or in pasture; the rest is in cutover mixed stands of pines and hardwoods. A few of the woodland tracts are large. Many areas that were once cultivated are now young pine plantations.

The farms in this association are small to medium sized. The Dothan soils are well suited to row crops, and the Fuquay soils are moderately well suited to row crops and pasture, but the Troup soils are better suited to pasture and trees than to crops.

3. Cowarts-Sawyer-Susquehanna association

Well-drained to somewhat poorly drained, very gently sloping to sloping, sandy soils on uplands; mottled, loamy or clayey subsoil

This association is characterized by ridges that have short, narrow, very gently sloping tops and gently sloping and moderately sloping sides. It is dissected by many small, branching drainageways. About 90 percent of it has slopes of less than 8 percent; the rest has slopes of 8 to 12 percent. It is in the northeastern part of the county.

The total acreage of this association is about 14 percent of the county. Cowarts soils make up about 70 percent of the association, Sawyer soils 5 percent, Susquehanna soils 5 percent, and Troup, Esto, Fuquay, Bibb, Wehadkee, and Rains soils the rest.

Cowarts soils are well drained. They are on the ridge crests and extend slightly down the sides. They have a surface layer of loamy sand 3 to 8 inches thick and eroded in many places. Their subsoil is strong-brown to yellowish-brown sandy clay loam mottled with red and yellow. Plinthite is at a depth of 20 to 30 inches.

Adjoining the Cowarts soils are the moderately well drained Sawyer soils, which extend farther down the ridge sides and have a surface layer like that of the Cowarts soils. Their subsoil is firm, sticky sandy clay, prominently mottled with brown, red, and gray. They have little or no plinthite in their solum.

The somewhat poorly drained Susquehanna soils occupy the lower parts of side slopes that are dissected by drainageways. Their surface layer is loamy sand, like that of the other two major soils, but their subsoil is firm, sticky clay mottled with brown, red, and gray. There is little or no plinthite in the solum.

Minor soils in this association are the Troup, Esto, Fuquay, Bibb, Wehadkee, and Rains soils. Troup soils occur with Cowarts soils on the ridges and also with Esto soils, which are in small, slightly steeper areas near drainageways. Fuquay soils adjoin Sawyer soils on ridge sides. The poorly drained Bibb, Wehadkee, and Rains soils are on the flood plains of the many small streams.

About 50 percent of the association is cultivated or in pasture. Only the Cowarts soils are moderately well suited to row crops and pasture. The Sawyer and Susquehanna soils are in cutover woodland or in young pine plantations, which are growing in fields formerly cultivated. The farms are small to large. Several of the large ones are dairy farms.

4. Dothan-Orangeburg-Tifton association

Well-drained, mostly gently sloping soils on uplands; brownish-yellow to red, loamy or clayey subsoil

This association is on interstream plains. About 25 percent of it has slopes of 0 to 5 percent, and 65 percent has slopes of 5 to 8 percent. The rest, on hillsides and short bluffs, has slopes of 8 to 12 percent.

The total acreage of this association is about 2 percent of the county. Dothan soils make up about 55 percent of the association, Orangeburg soils 20 percent, Tifton soils 15 percent, and minor soils 10 percent.

Dothan soils are mostly on ridge crests and the upper parts of slopes. Their surface layer is loamy sand, and their subsoil is friable, brownish-yellow sandy clay loam that contains a moderate amount of plinthite.

Orangeburg soils are on the upper and middle parts of slopes. Their surface layer is like that of the Dothan soils but is more eroded in the more strongly sloping areas. Their subsoil is yellowish-red and red sandy clay loam that contains little or no plinthite.

Tifton soils are in small areas among Dothan soils on ridges and also on convex slopes near and parallel with most drainageways. Their surface layer, like that of the other major soils, is loamy sand. Their subsoil is friable, brownish-yellow to yellowish-red sandy clay loam that ranges to sandy clay in a few areas. Small iron concretions occur throughout the profile, and there are plinthite nodules beginning at a depth of about 36 inches.

Minor soils in this association are the well-drained Fuquay soils on ridge crests, the poorly drained Rains soils along narrow drainageways, and small areas of the well-drained Esto soils on ridge sides and upper parts of bluffs.

About 60 percent of this association is in cultivated crops or pasture. The steeper areas are in cutover stands of pines and hardwoods. Many of these areas that are eroded as a result of cultivation have been planted to pines.

The major soils are well suited to cotton, corn, soybeans, peanuts, and other cultivated crops. The farms are of medium size and are general or dairy farms.

5. Dunbar-Bladen-Rains association

Somewhat poorly drained and poorly drained, nearly level, loamy soils on stream terraces; mottled, clayey or loamy subsoil

This association is in broad, nearly level areas on low stream terraces bordering the Ogeechee River. About 95 percent of this association has a slope range of 0 to 2 percent.

The total acreage of this association is about 3 percent of the county. Dunbar soils make up about 45 percent of the association, Bladen soils 25 percent, Rains soils 20 percent, and minor soils 10 percent.

Dunbar soils are on slightly elevated stream terraces and are seldom flooded. They have a surface layer of dark grayish-brown to grayish-brown fine sandy loam 2 to 8 inches thick. The subsoil is olive to olive-brown fine sandy clay to clay mottled with shades of gray and red.

Bladen soils are on low terraces and are flooded more than once a year for periods of a few days to as long as a month. They have a surface layer of black to dark-gray fine sandy loam 2 to 7 inches thick. The subsoil is dark-gray to gray clay mottled with shades of brown, yellow, and red.

Rains soils are also on low terraces or in sloughs and are flooded more than once a year for 1 to 6 months. They have a sandy loam surface layer that is very dark gray to very dark brown and is 4 to 10 inches thick. The subsoil is gray sandy clay loam mottled with shades of gray, brown, and red. It contains lenses of sand and thin layers of clayey material. For periods of 2 to 6 months, the water table is at a depth of 0 to 3 inches in the major soils. It is generally at the surface in winter and early in spring.

Minor soils in this association are the poorly drained

Meggett soils on flood plains and the somewhat poorly drained Ardilla and Barth soils on stream terraces.

Most of this association is woodland. Much of it is farm woodland, although several large tracts are owned or operated by timber companies. The drainageways are largely in cutover woodland consisting of pine, gum, oak, cypress, myrtle, and gallberry. Slash pine and longleaf pine are dominant on the drier sites on Dunbar soils.

6. Meggett-Rains-Bibb-Wehadkee association

Poorly drained, nearly level soils on flood plains

This association is characterized by large areas of nearly level, poorly drained soils on flood plains. Most of the areas have a slope range of 0 to 2 percent.

The total acreage of this association is about 33 percent of the county. Meggett soils make up about 35 percent of the association, Rains soil 30 percent, Bibb and Wehadkee soils 30 percent, and minor soils 5 percent.

Meggett soils occur as large areas on the flood plains of the Ogeechee River. They have a surface layer of dark grayish-brown loam or clay loam 2 to 5 inches thick. The subsoil is mottled gray sandy clay or clay.

Bibb and Wehadkee soils are mostly along Beaverdam Creek, Richardson Creek, Sculls Creek, and other streams. These soils have a surface layer of sand to fine sandy loam 2 to 7 inches thick. Their subsoil is mottled gray, yellow, and strong-brown sandy clay loam to silty clay loam.

Rains soils are generally along the smaller branching streams and intermittent drainageways. They have a surface layer of very dark gray to very dark brown sandy loam, 4 to 10 inches thick, over a subsoil of gray sandy clay loam mottled with brown and red.

The major soils are flooded more than once a year. Some areas are flooded for periods of only 1 month, and some are flooded continuously. The water table is at a depth of 0 to 15 inches for 1 to 6 months a year.

Minor soils in this association are the poorly drained Bladen soils and the somewhat poorly drained Dunbar soils.

This association is made up of farm woodlands and of large woodland tracts owned or operated by timber companies. The dominant trees are cypress, gum, ash, and water pecan (fig. 3). Some oak and poplar grow in the drier areas. Almost all of the sparse stands of pine and most of the cypress have been harvested.

7. Kershaw-Plummer association

Excessively drained, gently sloping, sandy soils on upland ridges, and poorly drained, level, sandy soils in small drainageways and depressions

This association is made up of sandy soils on upland ridges, on hillsides and bluffs along streams, and in depressions that have closed drainage. About 40 percent of the association has slopes of 0 to 5 percent, and the rest has slightly stronger slopes.

The total acreage of this association is about 1 percent of the county. Kershaw soils make up about 90 percent of the association, Plummer soils 5 percent, and minor soils 5 percent.

Kershaw soils are on upland ridges and hillsides. Their surface layer is very dark grayish-brown to dark grayish-brown sand. It is underlain by yellowish-brown sandy material that extends to a depth of more than 72 inches.

Figure 3.—**Typical vegetation of gum, cypress, water pecan, and ironwood growing on Meggett loam along the Ogeechee River flood plain.**

Plummer soils are in drainageways and small, wet depressions. They have a dark-gray to black surface layer of sand 6 to 10 inches thick. Below this layer, sandy material extends to a depth of about 45 inches and is underlain by a subsoil of friable, gleyed sandy loam mottled with shades of brown. These soils are flooded more than once each year, and the water table is at a depth of 0 to 15 inches for periods of 6 to 12 months.

Minor soils in this association are the well-drained Troup soils and the somewhat poorly drained Barth soils.

This association is made up of small woodlots and pastures on medium-sized general farms and several large woodland tracts owned or operated by timber companies. Most of the acreage of Kershaw soils has been planted to Coastal bermudagrass or to slash pine. The Plumber soils are mostly in cutover slash pine, longleaf pine, and mixed hardwoods.

8. Grady-Plummer association

Poorly drained and very poorly drained, nearly level, loamy and sandy soils in upland depressions

This association is characterized by nearly level areas in oval depressions on uplands. Most of the association has a slope range of 0 to 2 percent.

The total acreage of this association is about 5 percent of the county. Grady soils make up about 80 percent of

the association, Plummer soils 5 percent, and minor soils 15 percent.

Grady soils occur mostly in large oval depressions that are without drainage outlets and are intermittently ponded. Other areas of Grady soils are along poorly defined drainageways and in depressions that drain the Norfolk, Tifton, and Fuquay soils. Near the center of the larger depressions, the surface layer of Grady soils is very dark gray to black sandy loam to clay loam 3 to 7 inches thick. The subsoil is gray, mottled sandy clay to clay. In the smaller depressions and toward the edges of most large depressions, the surface layer is sandy loam 4 to 8 inches thick.

Plummer soils are on the outside edges of the depressions, next to slight ridges of Norfolk and Tifton soils. They have a dark-gray to black surface layer of sand, 6 to 10 inches thick, over sandy material that extends to a depth of 45 inches. The subsoil is gleyed, friable, gray sandy loam mottled with shades of brown.

The major soils are flooded more than once each year for periods of 1 to 6 months. The water table is at a depth of 0 to 15 inches continuously in most areas of Grady soils and for 1 to 6 months in the Plummer soils.

Minor soils in this association are the poorly drained Rains soils and the somewhat poorly drained Barth soils. These soils are in low, level areas partly surrounding some of the Grady and Plummer soils. Most of this association is in stands of cypress, gum, and myrtle, and most of the better trees have been harvested. Some depressions have been drained by ditches so that slash pine and longleaf pine can grow.

9. Esto-Sawyer-Susquehanna association

Well-drained to somewhat poorly drained, gently sloping to strongly sloping soils on hillsides and bluffs; mottled, clayey subsoil

Gently sloping to strongly sloping soils on bluffs and hillsides, generally near the larger streams, are characteristic of this association. About 60 percent of it has a slope range of 8 to 17 percent, and 40 percent has a slope range of 2 to 8 percent.

The total acreage of this association is about 2 percent of the county. Esto soils make up about 60 percent of the association, Sawyer soils 10 percent, Susquehanna soils 10 percent, and minor soils 20 percent.

Esto soils are mostly on the steeper slopes of bluffs and escarpments along the Ogeechee River and Beaverdam Creek. They have a thin, eroded surface layer of loamy sand that is dark yellowish brown to brown. It is underlain by a firm, yellowish-red sandy clay subsoil.

Sawyer soils are on the middle part of gentle slopes. They have a thin, eroded surface layer of dark grayish-brown to brown loamy sand over a yellowish-brown to light olive-brown subsoil that is mottled in the lower part with shades of red, brown, and olive.

Adjoining the Sawyer soils are the Susquehanna soils. They also have a thin, eroded surface layer of loamy sand, but it is dark grayish brown to yellowish brown, and the subsoil is plastic clay that is strong brown to light yellowish brown mottled with shades of red, yellow, and olive.

Minor soils in this association are the well-drained Orangeburg soils and the well-drained Troup soils, which have a thick, sandy surface layer.

All of this association is in sparse stands of pines and mixed hardwoods. The better trees have been harvested. The soils are not suited to cultivated crops or to pasture.

Descriptions of the Soils

The soil series and their component mapping units are described in this section. The approximate acreage and proportionate extent of each mapping unit are given in table 1.

Each series description contains information about the features of the soils and the suitability of the soils for farming and other purposes. For each series a soil profile representative of the series is described. The component mapping units are then described individually, and, if they differ from the representative profile in ways that are not obvious from the name, the differences are pointed out. For full information about any one mapping unit, it is necessary to read the description of the soil series as well as the description of the mapping unit.

Following the name of each mapping unit is a symbol in parentheses that identifies the mapping unit on the detailed soil map. Listed at the end of the description of each mapping unit is the capability unit, woodland group, and wildlife group in which the mapping unit has been placed. The pages on which these are described are given in the "Guide to Mapping Units" at the back of this publication.

Many terms used in the soil descriptions are defined in the Glossary.

Ardilla Series

The Ardilla series consists of somewhat poorly drained soils on upland flats and on terraces along the larger streams. These soils formed in a thick bed of loamy and sandy marine sediments. They are in small, long, narrow areas on uplands and in medium-sized areas on terraces, chiefly along the Ogeechee River. The slope range is 0 to 2 percent. The water table fluctuates and is at a depth of 15 to 30 inches for 2 to 6 months of the year.

The surface layer is dark-gray to dark grayish-brown loamy sand. The upper part of the subsoil is brown sandy loam, but the major part is light yellowish-brown to brownish-yellow sandy clay loam mottled with gray and light gray. The lower part contains plinthite.

Ardilla soils have good tilth, although they are low in organic-matter content. They are also low in natural fertility and are very strongly acid. Infiltration and permeability are moderate. The root zone is thick, but roots are slightly restricted in some places by the plinthite and the seasonal high water table.

These soils are moderately well suited to cultivated crops and well suited to pasture and trees. More than 95 percent of the acreage is in cutover stands of slash pine, loblolly pine, longleaf pine, and hardwoods.

TABLE 1.—*Approximate acreage and proportionate extent of the soils*

Soil	Acres	Percent	Soil	Acres	Percent
Ardilla loamy sand, 0 to 2 percent slopes	4, 510	2. 0	Grady sandy loam	5, 170	2. 3
Barth fine sand, 0 to 2 percent slopes	810	. 4	Grady clay loam	2, 910	1. 3
Bibb-Wehadkee complex	22, 020	9. 8	Kershaw sand, 2 to 8 percent slopes	1, 650	. 7
Bladen fine sandy loam	1, 775	. 8	Local alluvial land	580	. 3
Carnegie loamy sand, 2 to 5 percent slopes, eroded	1, 680	. 7	Meggett loam	25, 040	11. 2
Carnegie loamy sand, 5 to 8 percent slopes, eroded	720	. 3	Norfolk loamy sand, 0 to 2 percent slopes	2, 060	. 9
Cowarts loamy sand, 2 to 5 percent slopes	8, 600	3. 8	Norfolk loamy sand, 2 to 5 percent slopes	6, 850	3. 0
Cowarts loamy sand, 2 to 5 percent slopes, eroded	4, 240	1. 9	Norfolk loamy sand, 2 to 5 percent slopes, eroded	4, 510	2. 0
Cowarts loamy sand, 5 to 8 percent slopes	4, 340	1. 9	Ocilla loamy sand, 0 to 2 percent slopes	4, 750	2. 1
Cowarts loamy sand, 5 to 8 percent slopes, eroded	5, 590	2. 5	Orangeburg loamy sand, 2 to 5 percent slopes	820	. 4
Dothan loamy sand, 0 to 2 percent slopes	2, 530	1. 1	Orangeburg loamy sand, 2 to 5 percent slopes, eroded	340	. 1
Dothan loamy sand, 2 to 5 percent slopes	5, 400	2. 4	Plummer sand, 0 to 2 percent slopes	390	. 2
Dothan loamy sand, 2 to 5 percent slopes, eroded	1, 360	. 6	Rains sandy loam	26, 565	11. 8
Dothan loamy sand, 5 to 8 percent slopes, eroded	950	. 4	Sawyer loamy sand, 2 to 5 percent slopes	3, 810	1. 7
Dunbar fine sandy loam	3, 070	1. 4	Sawyer loamy sand, 5 to 8 percent slopes, eroded	1, 510	. 7
Esto loamy sand, 2 to 5 percent slopes, eroded	340	. 2	Susquehanna loamy sand, 2 to 5 percent slopes, eroded	2, 320	1. 0
Esto loamy sand, 5 to 8 percent slopes, eroded	1, 410	. 6	Susquehanna loamy sand, 5 to 8 percent slopes, eroded	1, 400	. 6
Esto loamy sand, 8 to 17 percent slopes, eroded	2, 190	1. 0	Tifton loamy sand, 0 to 2 percent slopes	610	. 3
Fuquay loamy sand, 0 to 2 percent slopes	1, 680	. 7	Tifton loamy sand, 2 to 5 percent slopes	7, 560	3. 4
Fuquay loamy sand, 2 to 5 percent slopes	18, 700	8. 3	Tifton loamy sand, 2 to 5 percent slopes, eroded	4, 050	1. 8
Fuquay loamy sand, 5 to 8 percent slopes	1, 510	. 7	Tifton loamy sand, 5 to 8 percent slopes, eroded	460	. 2
Fuquay pebbly loamy sand, 2 to 5 percent slopes	1, 700	. 8	Troup sand, 0 to 5 percent slopes	20, 340	9. 1
			Troup sand, 5 to 12 percent slopes	5, 820	2. 6
			Total	[1] 224, 640	100. 0

[1] Including 64 acres of water.

Profile of Ardilla loamy sand, 0 to 2 percent slopes, under a powerline in a wooded area 1⅜ miles southeast of U.S. Highway No. 25 on Old River Road, then one-half mile northeast on farm road:

A1—0 to 13 inches, dark-gray (5YR 4/1) loamy sand; weak, fine, granular structure; very friable; very strongly acid; abrupt, smooth boundary.

B1t—13 to 23 inches, brown (10YR 5/3) light sandy loam; weak, fine, granular structure; loose when moist, nonsticky when wet; very strongly acid; gradual, wavy boundary.

B21t—23 to 26 inches, light yellowish-brown (2.5Y 6/4) sandy clay loam; weak, medium, subangular blocky structure; friable when moist, nonsticky when wet; very strongly acid; gradual, wavy boundary.

B22tg—26 to 32 inches, brownish-yellow (10YR 6/6) sandy clay loam; few, fine, distinct mottles of light gray (2.5Y 7/2) and reddish yellow (7.5YR 6/6); moderate, medium, subangular blocky structure; friable when moist, slightly sticky when wet, hard when dry; very strongly acid; gradual, wavy boundary.

B23tg—32 to 45 inches, yellowish-brown (10YR 5/6) sandy clay loam; common, medium, prominent mottles of light yellowish-brown (2.5Y 6/4), light-gray (10YR 7/2), and yellowish-red (5YR 5/6) plinthite; moderate, medium, subangular blocky structure; friable when moist, slightly sticky when wet, hard when dry; very strongly acid; gradual, wavy boundary.

B24tg—45 to 65 inches +, brownish-yellow (10YR 6/6) sandy clay loam; common, medium, prominent mottles of yellowish-brown (10YR 5/8), red (2.5YR 4/8), light-gray (5YR 7/1), and strong-brown (7.5YR 5/6) plinthite; moderate, medium, subangular blocky structure; very friable; very strongly acid.

The A1 horizon is dark gray in woodland and dark grayish brown in most cultivated areas. It ranges from 7 to 14 inches in thickness. The depth to sandy clay loam ranges from 10 to 25 inches. Mottles of gray and light gray begin at a depth of 20 to 30 inches, and plinthite at a depth of 30 to 42 inches.

Ardilla soils adjoin Ocilla and Rains soils. They are similar in drainage to Ocilla soils but have a coarser textured subsoil that is nearer the surface. They are better drained than Rains soils, which are in drainageways and on stream terraces that are flooded.

Ardilla loamy sand, 0 to 2 percent slopes (AqA).—This soil is well suited to pasture and trees. Because of the seasonal high water table, it is only moderately well suited to such crops as corn, soybeans, small grain, and grain sorghum. Artificial drainage would permit a wider choice of crops. (Capability unit IIw–2; woodland group 2; wildlife group 3)

Barth Series

The Barth series consists of somewhat poorly drained to moderately well drained soils in low areas on uplands and stream terraces. These soils formed in sandy marine sediments, chiefly along Buckhead Creek. The sediments are derived from upland Coastal Plain soils. The slope range is 0 to 2 percent. The water table is at a depth of 15 to 30 inches for 2 to 6 months during winter and spring. The soils on terraces are flooded for 2 to 7 days about once in 5 years.

The surface layer is grayish fine sand to a depth of about 30 inches. It is underlain by strong-brown to light yellow-

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ish-brown loamy fine sand or loamy sand that contains small nodules or thin, discontinuous strata of sandy loam.

Barth soils are low in natural fertility and are very strongly acid. They contain little organic matter. The root zone is thick, but roots are somewhat restricted by the seasonal high water table. The available water capacity is medium, and the permeability is rapid. Runoff is slow; consequently, the erosion hazard is slight.

These soils are inextensive, and most of the acreage is in pines and hardwoods.

Profile of Barth fine sand in a slash pine plantation 100 feet north of Georgia Highway No. 17 and 150 feet east of bridge crossing Buckhead Creek:

A1—0 to 3 inches, gray (10YR 5/1) fine sand; weak, fine, granular structure; very friable; very strongly acid; clean sand grains; clear, wavy boundary.

A21—3 to 11 inches, light-gray (10YR 6/1) fine sand; single grain; loose when moist, nonsticky when wet; very strongly acid; gradual, wavy boundary.

A22—11 to 29 inches, grayish-brown (10YR 5/2) fine sand; few, fine, faint mottles of brownish yellow; single grain; loose when moist, nonsticky when wet; very strongly acid; gradual, wavy boundary.

B21t—29 to 41 inches, strong-brown (7.5YR 5/6) loamy fine sand with slightly cemented nodules of dark-red (2.5YR 3/6) sandy loam; single grain; loose when moist, nonsticky when wet; the sandy loam nodules are friable when moist and slightly sticky when wet; very strongly acid; gradual, wavy boundary.

B22t—41 to 65 inches +, light yellowish-brown (10YR 6/4) loamy sand with common weakly cemented nodules of sandy loam; single grain; loose when moist, nonsticky when wet; the sandy loam nodules are friable when moist; very strongly acid.

The surface layer ranges from dark gray to light gray in color. The texture is predominantly fine sand, but small areas of loamy sand and loamy fine sand occur intermittently. The B horizon has a small accumulation of sandy loam or sandy clay loam in the form of small nodules or thin, discontinuous lenses.

Barth soils occur with Ardilla and Ocilla soils. They are similar to Ocilla soils in drainage but have a sandy subsoil, whereas Ocilla soils have a clay loam subsoil beginning at a depth of 20 to 40 inches. Barth soils are not so fine textured as Ardilla soils, which have a sandy clay loam subsoil at a depth of less than 20 inches.

Barth fine sand, 0 to 2 percent slopes (BgA).—This soil is well suited to pasture and trees. It is poorly suited to cultivated crops because of the low natural fertility, rapid permeability, seasonal high water table, and hazard of flooding. (Capability unit IIIw-1; woodland group 8; wildlife group 1)

Bibb Series

The Bibb series consists of nearly level, poorly drained soils on flood plains. These soils are flooded several times a year for periods of a week to a month, and the water table is near the surface for 2 to 6 months each year.

Bibb soils formed in alluvium washed mainly from nearby uplands. They show little horizon development. Their surface layer is brownish-yellow sand. It is underlain by mottled gray, very dark gray, grayish-brown, and black fine sandy loam to silty clay loam that is stratified in many places.

These soils are low in natural fertility and are very strongly acid. They are medium to high in available water capacity and are moderately permeable. Their organic-matter content is small to medium.

Because of wetness, these soils are not farmed. Most of the acreage is woodland.

Profile of Bibb sand in a wooded area 50 feet north of Mulky Bridge on Little Buckhead Creek:

A1—0 to 4 inches, brownish-yellow (10YR 6/6) sand; structureless; nonsticky when wet; very strongly acid; gradual, wavy boundary.

C1g—4 to 9 inches, mottled gray (10YR 5/1), dark-gray (10YR 4/1), and yellowish-red (5YR 4/6) silt loam; stratified; weak, medium, subangular blocky structure; friable when moist, slightly plastic when wet; very strongly acid; clear, wavy boundary.

C2g—9 to 16 inches, black (10YR 2/1) sandy loam; weak, medium, subangular blocky structure; friable when moist, slightly sticky when wet; massive in place; very strongly acid; gradual, wavy boundary.

C3g—16 to 25 inches, very dark gray (N 3/0) silty clay loam; weak, medium, subangular blocky structure; friable to firm when moist, plastic when wet; massive in place; very strongly acid; gradual, wavy boundary.

C4g—25 to 40 inches +, mottled grayish-brown (10YR 5/2) and light-gray (10YR 7/1) fine sandy loam; weak, medium, subangular blocky structure; friable when moist, slightly sticky when wet; massive in place; very strongly acid.

The A1 horizon is brownish yellow to very dark grayish brown in color and ranges from sand to loam in texture. The C horizon is mottled and gleyed and consists of stratified material ranging from sandy loam to sandy clay. The mottled colors range from black to gray.

Bibb soils commonly adjoin Rains soils in intermittent drainageways and Wehadkee soils on long, narrow flood plains. They are similar to Rains soils but are flooded longer and more frequently. Consequently, their profile is more stratified and more recent in origin. Bibb soils are intricately mingled with Wehadkee soils and, in this county, are mapped with those soils. They have a coarser textured subsoil than Wehadkee soils.

Bibb-Wehadkee complex (0 to 2 percent slopes) (Bwc).—These wet soils are intermingled in long areas 100 to 300 feet wide and parallel with streams. On the wider flood plains, the streams curve and wind sharply, and the soils are cut by many old stream channels and sloughs.

Bibb soils make up about 65 percent of this soil complex, and Wehadkee soils about 30 percent. Inclusions of other soils make up the rest.

Bibb soils vary in the texture of their surface layer. The underlying material is stratified sandy loam to silty clay loam that is mottled with black, very dark gray, grayish brown, and gray. Generally, the Wehadkee soils have a dark-brown fine sandy loam surface layer underlain by mottled gray, yellow, and strong-brown sandy clay loam.

Unless drained, the soils of this complex are not suited to crops. All but a few areas are forested with hardwoods and scattered slash pines. The principal trees are yellow-poplar, sweetgum, cypress, bayberry, and black alder. If surface water is controlled, these soils are suited to slash pine, loblolly pine, yellow-poplar, and sweetgum, but the sloughs make logging difficult. (Capability unit IVw–4; woodland group 4; wildlife group 1)

Bladen Series

The Bladen series consists of poorly drained soils on low terraces along the Ogeechee River. These soils formed in a thick bed of loamy and clayey alluvium. Their slope range is 0 to 2 percent. They are flooded more than once a year for periods of 1 to 6 months, and they have a fluctuating water table, which is at a depth of less than 15

inches for more than 2 months a year, usually from November to March.

The surface layer is fine sandy loam in texture, and it ranges from black to light gray in color. The subsoil is firm, plastic clay that is gray to dark gray and mottled with light olive brown.

Bladen soils are low in natural fertility and are very strongly acid. They contain a moderate amount of organic matter and generally have fair tilth. The available water capacity is high. Permeability is slow, and drainage is difficult. Runoff also is slow, and the erosion hazard is slight.

These soils are moderately well suited to trees and to wildlife habitat. More than 98 percent of the acreage is cutover woodland consisting chiefly of cypress, pine, and hardwoods. Because of the seasonal high water table, the hazard of flooding, and the clay subsoil, these soils are poorly suited to cultivated crops unless they are drained.

Profile of Bladen fine sandy loam in a wooded area 1 mile south of Ogeechee River bridge on U.S. Highway No. 25, then 5/16 mile east on logging road, and 10 feet south of pole bridge:

A1—0 to 3 inches, black (10YR 2/1) fine sandy loam; moderate, fine, granular structure; friable when moist, nonsticky when wet; very strongly acid; abrupt, smooth boundary.

A2g—3 to 7 inches, light-gray (10YR 6/1) fine sandy loam; moderate, medium, subangular blocky structure; firm to friable when moist, nonsticky when wet; very strongly acid; clear, wavy boundary.

B21tg—7 to 26 inches, dark-gray (N 4/0) clay; few, fine, distinct mottles of light olive brown (2.5Y 5/6) and strong brown (7.5YR 5/8); massive; firm when moist, plastic when wet; very strongly acid; gradual, wavy boundary.

B22tg—26 to 48 inches +, gray (N 5/0) clay; few, fine, distinct mottles of light olive brown (2.5Y 5/6) and gray (N 6/0); massive; firm when moist; plastic when wet; very strongly acid.

The surface layer is black to dark gray in the upper 2 to 7 inches. Included are a few, small, shallow depressions that have a thin layer of organic matter over a loam surface layer. The B2 horizon is dark-gray to gray clay that is gleyed and mottled with light olive brown, brownish yellow, and red.

Bladen soils are among the Rains and Dunbar soils on stream terraces and between Dunbar soils and Meggett soils on flood plains. Bladen soils are not so well drained as Dunbar soils. They are similar to Rains soils in drainage but are finer textured throughout, and they are better drained than Meggett soils.

Bladen fine sandy loam (0 to 2 percent slopes) (Bls).—This soil is in shallow depressions and in long, narrow stream meanders. The surface layer is black to dark-gray fine sandy loam about 5 inches thick. The subsoil is gray to dark-gray, plastic clay mottled with light olive brown and red. Included in mapping were areas that have a loam surface layer and areas that have an accumulation of organic matter on the surface. Most areas are very strongly acid, but those near the Meggett soils are medium acid.

Because of wetness and the hazard of flooding, this soil is not well suited to cultivated crops. It is moderately well suited to trees. Drainage is needed for pasture. (Capability unit IIIw–2; woodland group 4; wildlife group 1)

Carnegie Series

The Carnegie series consists of well-drained soils on uplands. These soils formed in a thick bed of sandy, loamy, and clayey material. They are generally in small areas on narrow ridges, on knolls, and on short slopes above the head of drainageways. The slope range is 2 to 8 percent.

Carnegie soils have a surface layer of very dark grayish-brown to brown loamy sand. Small iron concretions are common on the eroded surface and throughout the profile in most areas. The subsoil is yellowish-brown to yellowish-red sandy clay loam to sandy clay. It contains plinthite at a depth of 20 to 25 inches.

These soils are strongly acid and are moderately low in natural fertility. The subsoil is moderately permeable in the upper part, but the plinthite in the lower part slightly restricts water and roots. The organic-matter content is low, and the available water capacity is medium to low. The root zone is favorable for most plants. Tilth is fair to good. Runoff is moderate to rapid, and the erosion hazard is moderate to severe.

Carnegie soils are moderately well suited to all crops grown locally, and they are well suited to pasture and trees. More than 75 percent of the acreage is cultivated.

Profile of Carnegie loamy sand, 2 to 5 percent slopes, eroded, in a cultivated field 1¼ miles north of Four Points on Georgia Highway No. 121, and 50 feet west of the highway:

Apcn—0 to 5 inches, very dark grayish-brown (10YR 3/2) loamy sand; weak, fine, crumb structure; friable when moist, nonsticky when wet; many small iron concretions; strongly acid; clear, wavy boundary.

B21tcn—5 to 19 inches, yellowish-brown (10YR 5/6) sandy clay loam; weak, fine, subangular blocky structure; friable when moist, slightly sticky when wet; many small iron concretions; strongly acid; gradual, wavy boundary.

B22tcn—19 to 27 inches, yellowish-brown (10YR 5/8) sandy clay loam with few, fine, faint mottles of red; moderate, medium, subangular blocky structure; firm when moist, sticky when wet; many iron concretions and common plinthite nodules; strongly acid; gradual, wavy boundary.

B23tcn—27 to 50 inches +, yellowish-brown (10YR 5/8) sandy clay loam and sandy clay; common, medium, prominent mottles and nodules of red (2.5YR 4/8), very pale brown (10YR 7/4), and pale-yellow (2.5Y 8/4) plinthite; red mottles decrease and yellow mottles increase with depth; moderate, medium, subangular blocky structure; firm; few patchy clay films; strongly acid.

The Ap horizon is very dark grayish-brown loamy sand in most places, but it is brown sandy loam in a few small severely eroded areas where it has been mixed with the subsoil by cultivation. The B2t horizon is predominantly sandy clay loam to clay loam, but in some areas the B23tcn horizon is sandy clay. The B2 horizon contains a large amount of nonindurated plinthite. At the depth of 16 to 22 inches, the B2t horizon is predominantly mottled with red and is firm in consistence.

Carnegie soils are among the Cowarts, Tifton, and Dothan soils, chiefly in the southern part of the county. Carnegie soils contain more iron concretions than Cowarts soils. They are shallower to plinthite than Tifton soils. They have a profile similar to that of Dothan soils, but they have a less friable subsoil and a shallower root zone, and they contain more concretions.

Carnegie loamy sand, 2 to 5 percent slopes, eroded (CnB2).—This pebbly soil is on short slopes adjoining ridges of Tifton soils. A profile of this soil is the one described as representative of the series.

This soil is well suited to pasture and trees. It is suited to most commonly grown crops, although the many iron concretions sometimes interfere with the harvesting and cleaning of peanuts. Runoff is moderate in cultivated fields, and there is a hazard of further erosion. (Capability unit IIIe–4; woodland group 1; wildlife group 4)

Carnegie loamy sand, 5 to 8 percent slopes, eroded (CnC2).—This soil is on the lower parts of slopes. The surface layer contains many small, rounded iron concretions. The subsoil is sandy clay loam to clay loam and, in some areas, sandy clay. At a depth of 18 to 24 inches, the subsoil is firm and is reticulately mottled with shades of yellow, brown, and red. Small areas of Cowarts and Tifton soils were included in mapping.

This soil is well suited to trees and fairly well suited to pasture. Most of the previously cleared areas have reverted to pines. Runoff is moderate in cultivated fields, and there is a hazard of further erosion. (Capability unit IIIe–4; woodland group 1; wildlife group 4)

Cowarts Series

The Cowarts series consists of well-drained soils on uplands. These soils formed in a thick bed of sandy, loamy, and clayey material. They are on the crests and sides of narrow ridges. The slope range is 2 to 8 percent.

The surface layer is loamy sand that is dark grayish brown in wooded areas and dark yellowish brown in cultivated areas. The subsoil is strong-brown to brownish-yellow, friable sandy clay loam. It is mottled with yellow and contains yellowish-red and red plinthite nodules and stringers at a depth of 18 to 24 inches.

These soils are low in natural fertility and are strongly acid. Their content of organic matter is low, and the available water capacity is moderately low to medium. Tilth generally is good to fair, and the root zone is thick. Permeability is moderate in the upper part of the profile, but the plinthite in the subsoil slightly restricts water and roots. Runoff is slow to rapid.

Almost half the acreage is eroded. Most of the more nearly level areas are used for cultivated crops, and the more sloping areas for pasture and trees.

Profile of Cowarts loamy sand, 2 to 5 percent slopes, in a cultivated area three-fourths mile south of Sculls Creek bridge on U.S. Highway No. 25, then three-eighths mile west on county road, and 25 feet south of road:

Ap—0 to 6 inches, dark yellowish-brown (10YR 4/4) loamy sand; weak, medium, granular structure; very friable; strongly acid; clear, smooth boundary.

B1—6 to 10 inches, strong-brown (7.5YR 5/8) light sandy clay loam; weak, medium, subangular blocky structure; friable; strongly acid; gradual, wavy boundary.

B21t—10 to 21 inches, strong-brown (7.5YR 5/6) sandy clay loam, with few, medium, distinct mottles of yellow (10YR 7/8), yellowish red (5YR 5/6), and dark red (2.5YR 3/6); moderate, medium, subangular blocky structure; friable when moist, slightly hard when dry; few, small, yellowish-red plinthite nodules; strongly acid; gradual, wavy boundary.

B22t—21 to 30 inches, brownish-yellow (10YR 6/8) sandy clay loam; common, medium, distinct mottles and nodules of yellowish-red (5YR 4/8) and red (2.5YR 4/8) plinthite; moderate, medium, subangular blocky structure; friable; strongly acid; gradual, wavy boundary.

B23t—30 to 60 inches +, reticulately mottled light-gray (10YR 7/2) and yellowish-red (5YR 5/8) coarse sandy clay loam, with dusky-red (10R 3/3) plinthite stringers and veins; moderate, medium, subangular blocky structure; compact but friable; strongly acid.

The Ap horizon is dark gray to dark yellowish brown and is 4 to 10 inches thick unless eroded. The B1 horizon is strong-brown to yellowish-brown light sandy clay loam. It is friable and free of plinthite. Below this horizon the content of plinthite is 10 to 15 percent.

Cowarts soils occur with Carnegie, Sawyer, and Dothan soils. They contain fewer iron concretions than Carnegie soils. Their subsoil is coarser textured and contains more plinthite than that of Sawyer soils. They are similar to Dothan soils but are shallower to plinthite.

Cowarts loamy sand, 2 to 5 percent slopes (CqB).—A profile of this soil is the one described as representative of the series. This soil is moderately well suited to most locally grown crops and well suited to pasture and trees. About 40 percent of the acreage is woodland. Runoff is slow to moderate in cultivated fields. (Capability unit IIIe–4; woodland group 1; wildlife group 4)

Cowarts loamy sand, 2 to 5 percent slopes, eroded (CqB2).—This soil is in small, irregular areas. The surface layer of dark yellowish-brown loamy sand is 4 to 6 inches thick and is mixed with the upper part of the subsoil in many places. The subsoil is brownish-yellow to strong-brown sandy clay loam with red mottles and nodules of plinthite.

This soil is well suited to pasture and trees but only moderately well suited to cotton, corn, peanuts, soybeans, and other locally grown crops. Much of the acreage was once cultivated, but now about 70 percent is woodland. Runoff is moderate in cultivated fields; consequently, the hazard of further erosion is moderate. (Capability unit IIIe–4; woodland group 1; wildlife group 4)

Cowarts loamy sand, 5 to 8 percent slopes (CqC).—The loamy sand surface layer of this soil is dark gray to brown and is 8 to 10 inches thick. The subsoil is yellowish-brown to strong-brown sandy clay loam or coarse sandy clay loam. It is friable to firm and, in many places, compact.

This soil is well suited to pasture and trees. It is moderately well suited to most of the crops grown locally, but the complex slopes limit the use of farm machinery in some fields. Runoff is rapid in cultivated fields, and the erosion hazard is severe. (Capability unit IIIe–4; woodland group 1; wildlife group 4)

Cowarts loamy sand, 5 to 8 percent slopes, eroded (CqC2).—This soil is chiefly on complex lower slopes of ridges. The loamy sand surface layer is brown to yellowish brown and is 3 to 7 inches thick. The subsoil is yellowish brown to strong-brown, compact sandy clay loam mottled with red and gray in the lower part.

This soil is well suited to pasture and trees but not to cultivated crops. Most of the acreage is planted to pine trees or to pasture, although at one time it was cultivated. Runoff is rapid in cultivated fields, and runoff from upper slopes flows onto this soil unless diverted. In places the use of farm machinery is limited by the complex slopes. (Capability unit IVe–4; woodland group 1; wildlife group 4)

Dothan Series

The Dothan series consists of well-drained soils on uplands and stream terraces. They are in medium to large areas on the crests of broad ridges and the upper parts of slopes. These soils formed in a thick bed of sandy, loamy, and clayey material. Their slope range is 0 to 8 percent. They are extensive, and most of the acreage is in the northwestern part of the county.

The surface layer is dark grayish-brown to grayish-brown loamy sand. The major part of the subsoil is

yellowish-brown to strong-brown, friable sandy clay loam that grades to sandy clay in the lower part. Yellowish-red to red plinthite nodules and stringers are at a depth of 30 inches or more. The soils on stream terraces contain less plinthite than those on upland ridges and slopes.

These soils are low in natural fertility and are strongly acid. They contain little organic matter. The available water capacity is medium. Tilth is good, and the root zone is thick. Runoff is slow to moderately rapid; consequently, the erosion hazard is slight to moderate. Permeability is moderate in the upper part of the subsoil, but water and roots are slightly restricted by the plinthite in the lower part.

These soils are well suited to all crops grown locally, and the response to management is good. More than 70 percent of the acreage is in cultivated crops.

Profile of Dothan loamy sand, 0 to 2 percent slopes, in a cultivated field 4¼ miles west of Buckhead Creek bridge on Georgia Highway No. 17, then one-half mile north and one-half mile west on county road, and 100 feet north of road:

Ap—0 to 7 inches, dark grayish-brown (10YR 4/2) loamy sand; weak, medium, granular structure; very friable to loose when moist; many fine roots; strongly acid; abrupt, smooth boundary.

A2—7 to 10 inches, light yellowish-brown (10YR 6/4) loamy sand; weak, fine, crumb structure; very friable to loose when moist; few fine roots; strongly acid; gradual, wavy boundary.

B1—10 to 13 inches, yellowish-brown (10YR 5/6) sandy loam; weak, medium, subangular blocky structure; very friable when moist, soft when dry; strongly acid; gradual, wavy boundary.

B21t—13 to 18 inches, yellowish-brown (10YR 5/8) light sandy clay loam; weak to moderate, medium, subangular blocky structure; very friable when moist, slightly hard when dry; strongly acid; gradual, wavy boundary.

B22t—18 to 33 inches, yellowish-brown (10YR 5/8) sandy clay loam; moderate, medium, subangular blocky structure; friable when moist, hard when dry, slightly sticky when wet; strongly acid; gradual, wavy boundary.

B31—33 to 44 inches, yellowish-brown (10YR 5/8) sandy clay loam; common, medium, prominent mottles of red (2.5YR 4/8) plinthite; modern, medium, subangular blocky structure; few iron concretions; friable to firm when moist, hard when dry, slightly sticky when wet; strongly acid; gradual, wavy boundary.

B32—44 to 58 inches +, brownish-yellow (10YR 6/8) sandy clay loam; many, medium, prominent mottles of red (2.5YR 4/8) plinthite, and medium, faint, very pale brown mottles; weak, medium, subangular blocky structure; friable when moist, slightly hard when dry; very strongly acid.

The thickness of the A horizon in uneroded areas ranges from 8 to 20 inches, and the color of the Ap or A1 horizon ranges from dark grayish brown to grayish brown. The color of the B horizon ranges from brownish yellow or yellowish brown to strong brown, and the texture ranges from sandy clay loam to sandy clay. Plinthite is at a depth of 30 to 65 inches. A few iron concretions are common throughout the profile.

Dothan soils occur among Tifton, Sawyer, and Troup soils. They have a more friable subsoil than Sawyer soils, and they contain iron concretions and less plinthite than Tifton soils. Dothan soils are finer textured throughout than Troup soils.

Dothan loamy sand, 0 to 2 percent slopes (DoA).—This soil is on stream terraces and on broad upland plains that are mildly dissected by streams. The loamy sand surface layer is dark grayish brown to grayish brown and is 12 to 20 inches thick. The subsoil is brownish-yellow to strong-brown, friable sandy clay loam. At a depth of about 40 inches, it contains plinthite.

This soil is well suited to all commonly grown crops and pasture plants. Most of the acreage is cultivated. (Capability unit IIs–1; woodland group 1; wildlife group 5)

Dothan loamy sand, 2 to 5 percent slopes (DoB).—This soil is extensive. The loamy sand surface layer is dark grayish brown to grayish brown and 10 to 18 inches thick. The subsoil is yellowish-brown, friable clay loam to sandy clay. Red mottles of plinthite are at a depth of 32 to 38 inches.

If cultivated, this soil is susceptible to erosion because runoff is slow to moderate. It is suitable for intensive cultivation, however, and only moderate conservation measures are required. It is well suited to pasture and trees. (Capability unit IIe–1; woodland group 1; wildlife group 5)

Dothan loamy sand, 2 to 5 percent slopes, eroded (DoB2).—A profile of this soil is similar to the one described as representative of the series. The eroded surface layer is 6 to 10 inches thick, and it is mixed with the upper part of the subsoil in places.

This soil is well suited to many local crops and to pasture and trees. Because of moderate runoff, however, the hazard of further erosion is moderate, and moderate conservation measures are required if this soil is cultivated. (Capability unit IIe–1; woodland group 1; wildlife group 5)

Dothan loamy sand, 5 to 8 percent slopes, eroded (DoC2).—The eroded surface layer of this soil is 6 to 10 inches thick and is yellowish brown. In many places it is mixed with the upper part of the subsoil.

This soil is suited to most crops grown locally, but the slope and small size of the areas limit the use of farm machinery. Runoff is moderate, and the erosion hazard is moderate. Consequently, special conservation measures are required if this soil is cultivated. Much of it has reverted to woodland or is used for pasture. (Capability unit IIIe–1; woodland group 1; wildlife group 5)

Dunbar Series

The Dunbar series consists of level to gently sloping, somewhat poorly drained soils in medium to large areas on low stream terraces, chiefly along the Ogeechee River. These soils formed in a thick bed of loamy and clayey alluvium. They have a fluctuating water table, which is at a depth of 15 to 30 inches for periods of 2 to 6 months.

Dunbar soils have a dark grayish-brown to gray fine sandy loam surface layer 2 to 8 inches thick and a subsurface layer of light brownish-gray fine sandy loam. They have a fine sandy clay and clay subsoil that is olive to light olive brown mottled with yellowish red, gray, and red.

These soils range from very strongly acid in the upper part to medium acid at a depth of 24 inches or more. They are low in natural fertility and contain little organic matter. Tilth is good. The available water capacity is medium. Permeability is slow. Runoff is slow, and the erosion hazard is slight.

Because these soils are somewhat poorly drained and are slowly permeable, their suitability for cultivated crops is limited. They are well suited to trees and pasture, and more than 95 percent of the acreage is in pines and hardwoods.

Profile of Dunbar fine sandy loam in a wooded area 1 mile south of Ogeechee River bridge on U.S. Highway No. 25, then three-eighths of a mile east on logging road, 25 feet north of road, and 125 feet east of slough:

A1—0 to 5 inches, dark grayish-brown (10YR 4/2) fine sandy loam; weak, medium, granular structure; very friable when moist, nonsticky when wet; many fine roots; very strongly acid; gradual, wavy boundary.

A2—5 to 12 inches, light brownish-gray (2.5Y 6/2) fine sandy loam; weak, medium, granular structure; very friable when moist, nonsticky when wet; many fine roots; very strongly acid; gradual, wavy boundary.

B2t—12 to 24 inches, olive (5Y 5/3) fine sandy clay mottled with yellowish red (5YR 4/8), red (2.5YR 4/6), and gray (10YR 6/1); mottles are few, fine, and distinct; moderate, medium, subangular blocky structure; firm when moist, very sticky when wet; very thin, patchy clay films; strongly acid; gradual, wavy boundary.

B3—24 to 58 inches +, light olive-brown (2.5Y 5/4) clay; common, fine, distinct mottles of olive (5Y 5/3) and yellowish red (5YR 5/6); massive; firm when moist, slightly plastic when wet; medium acid.

The A1 horizon is dark grayish brown to grayish brown. It is generally 2 to 8 inches thick, but in a few small areas it is thicker. The B horizon is olive and light olive-brown sandy clay and clay mottled with gray, yellowish red, and red. The lower part of the B3 horizon ranges from very strongly acid to medium acid.

Dunbar soils occur with Bladen, Ocilla, and Rains soils on stream terraces. They are better drained than Rains and Bladen soils, which are flooded. They are similar to Ocilla soils in drainage and are finer textured throughout.

Dunbar fine sandy loam (0 to 5 percent slopes) (DmA).—Included with this soil in mapping were small areas that have a surface layer as much as 20 inches thick. These areas are on low knolls and are seldom flooded.

This soil is well suited to pasture and trees. Because of the high water table and slow permeability, it is not well suited to cultivated crops unless drained. Drainage would improve it and permit a wider choice of crops. (Capability unit IIw-2; woodland group 2; wildlife group 1)

Esto Series

The Esto series consists of well-drained soils on uplands. These soils formed in a thick bed of sandy and clayey material. They are on the lower parts of slopes and have a slope range of 2 to 17 percent. The more gently sloping areas are near Four Points and Butts; the steeper areas are on bluffs along the Ogeechee River and Buckhead Creek.

The surface layer is dark yellowish-brown loamy sand 1 to 5 inches thick. The upper part of the subsoil is strong-brown sandy loam, but the major part is yellowish-red, firm, blocky sandy clay that is mottled (fig. 4) at a depth of about 12 inches. Below 24 inches is a thick layer of dusky-red sandy clay loam.

Esto soils are low in natural fertility and are very strongly acid. They contain little organic matter. The available water capacity is medium. Tilth is fair. Permeability is moderate in the upper part of the subsoil and slow in the lower part. The root zone is thick. Runoff is moderate to very rapid, and the erosion hazard is moderate to very severe.

Esto soils are not suited to sprinkler irrigation. Only parts of the gentler slopes are used for cultivated crops and for pasture. Most of the acreage is woodland.

Figure 4.—**Profile of Esto loamy sand, east of Butts, showing the firm, blocky structure of the subsoil and the prominent mottling of the lower subsoil.**

Profile of Esto loamy sand, 2 to 5 percent slopes, eroded, in a wooded area one-half mile north of road leading from Four Points and U.S. Highway No. 25:

A1—0 to 2 inches, dark yellowish-brown (10YR 4/4) loamy sand; weak, fine, granular structure; very friable; many fine roots; very strongly acid; abrupt, smooth boundary.

B1—2 to 7 inches, strong-brown (7.5YR 5/6) sandy loam; weak, fine, subangular blocky structure; very friable; very strongly acid; gradual, wavy boundary.

B21t—7 to 12 inches, yellowish-red (5YR 5/6) sandy clay loam; moderate, medium, subangular blocky structure; firm; few patchy clay films on ped faces; very strongly acid; clear, wavy boundary.

B22t—12 to 24 inches, yellowish-red (5YR 4/6) sandy clay; many, coarse, prominent mottles of dusky red (10R 3/4) and very pale brown (10YR 7/4); strong, medium, subangular and angular blocky structure; many clay films on ped faces; very firm; very strongly acid; abrupt, smooth boundary.

B3—24 to 60 inches +, dusky-red (10R 3/3) sandy clay loam; moderate, coarse, prominent mottles of pale yellow (5Y 7/3) and weak red (10R 4/4); very firm and compact; moderate, coarse, blocky structure; thick, yellowish-brown clay films on some peds; ped interiors are mottled with red, yellow, and gray. Some horizontal bands of sandy clay and sandy loam are evident.

The A1 horizon ranges from 1 to 5 inches in thickness and from dark yellowish brown to brown in color. The B1 horizon is strong-brown to yellowish-red sandy loam. The B2t horizon is sticky, blocky, firm sandy clay loam to sandy clay. The color ranges from yellowish red to reddish brown. Textured bands are evident in most profiles below a depth of 24 inches. Mottles of dusky red, very pale brown, and yellow generally occur at a depth of 12 to 15 inches.

Esto soils occur with Troup, Cowarts, and Susquehanna soils. Esto soils have more clay and less sand throughout than Troup soils. They have a firmer subsoil than Cowarts soils. They have a coarser textured, less mottled subsoil than Susquehanna soils.

Esto loamy sand, 2 to 5 percent slopes, eroded (EuB2).—The loamy sand surface layer of this soil is dark yellowish brown to brown and is 1 to 5 inches thick. The subsoil is yellowish-red to red sandy clay. Mottling begins at a depth of 12 to 16 inches. In places a few small iron concretions and ironstone fragments are present in the profile.

Because of fair tilth and slow permeability, this soil is poorly suited to cultivated crops. It is fairly well suited to pasture and trees. (Capability unit IVe–3; woodland group 7; wildlife group 4)

Esto loamy sand, 5 to 8 percent slopes, eroded (EuC2).—A profile of this soil is similar to the one described as representative of the series, but this soil is near the base of hillsides, and the slopes are steeper and more complex. Runoff is moderately rapid, and the hazard of further erosion is severe in cultivated fields.

This soil is not suited to cultivated crops and is only moderately well suited to pasture and trees. Most of the acreage is cutover woodland. (Capability unit VIe–2; woodland group 7; wildlife group 4)

Esto loamy sand, 8 to 17 percent slopes, eroded (EuE2).—This soil occurs as small, narrow, irregular areas on the lower parts of slopes.

This soil is not suited to cultivated crops. It receives runoff from adjacent soils. Consequently, the erosion hazard is severe if vegetation is removed. Small, shallow gullies are common. All of the acreage is in slash pine and hardwoods. (Capability unit VIIe–2; woodland group 7; wildlife group 4)

Fuquay Series

The Fuquay series consists of well drained to moderately well drained soils on uplands and stream terraces. These soils formed in a thick bed of sandy, loamy, and clayey material. They have a slope range of 0 to 8 percent. They occur in most parts of the county but mostly in the southern and northeastern parts.

The surface layer is grayish-brown to dark-gray loamy sand. The loamy sand extends to a depth of 20 to 40 inches. The subsoil is yellowish-brown and brownish-yellow to strong-brown sandy clay loam. Plinthite occurs at a depth of 36 inches or more.

These soils are low in natural fertility and are strongly acid. They are moderately permeable in the upper part of the subsoil but are slowly permeable in the lower part because of the plinthite. The available water capacity is moderately low. Tilth is good, although the organic-matter content is low.

The native vegetation consisted of longleaf pine, slash pine, hardwoods, and wiregrass. Much of the acreage is cutover woodland. Many areas once cultivated have been planted to pasture or to slash pine.

Profile of Fuquay loamy sand, 0 to 2 percent slopes, in a young pine plantation three-eighths mile northwest of Martin Grove Church on county road, then three-eighths mile southwest on farm road, and 100 feet south of old homesite:

Ap—0 to 10 inches, grayish-brown (2.5Y 5/2) loamy sand; weak, fine, granular structure; very friable; strongly acid; clear, smooth boundary.

A2—10 to 17 inches, grayish-brown (10YR 5/2) loamy sand; weak, fine, granular structure; very friable; strongly acid; clear, smooth boundary.

A3—17 to 24 inches, light yellowish-brown (10YR 6/4) loamy sand; weak, fine, granular structure; very friable; clear, smooth boundary.

B21t—24 to 29 inches, yellowish-brown (10YR 5/6) sandy clay loam; weak, fine, subangular blocky structure; very friable when moist, slightly sticky when wet; strongly acid; gradual, wavy boundary.

B22t—29 to 38 inches, yellowish-brown (10YR 5/6) sandy clay loam; moderate, medium, subangular blocky structure; friable when moist, slightly sticky when wet; strongly acid; gradual, wavy boundary.

B23t—38 to 65 inches +, brownish-yellow (10YR 6/6) sandy clay loam; common, medium, distinct mottles of reddish-yellow (5YR 6/6) and red (2.5YR 4/8) plinthite; moderate, medium, subangular blocky structure; friable when moist, slightly sticky when wet; strongly acid.

About 7 percent of the acreage has a pebbly A horizon. The B21t horizon is yellowish brown to strong brown and is friable or very friable. The B22t and B23t horizons are mottled and firm in place but crush to a friable mass. The level areas on stream terraces are not subject to flooding, but they have a seasonal high water table that is within 42 inches of the surface for less than a month each year, late in winter or early in spring .

Fuquay soils occur with Dothan, Tifton, and Troup soils. They are somewhat similar to the Dothan and Tifton soils but have a thicker surface layer, and they generally lack the small iron concretions that are characteristic of Tifton soils. Their surface layer is finer textured than that of Troup soils, which is sand.

Fuquay loamy sand, 0 to 2 percent slopes (FsA).—This soil is in medium to large areas on crests of broad ridges and on stream terraces near the Ogeechee River. The loamy sand surface layer is 22 to 30 inches thick. The friable subsoil is yellowish-brown to strong-brown sandy clay loam that contains some soft iron concretions. Included in mapping were small areas that have a sandy loam subsoil.

This soil is well suited to pasture and trees. It is somewhat droughty during extended dry periods. The erosion hazard is slight. (Capability unit IIs–1; woodland group 1; wildlife group 5)

Fuquay loamy sand, 2 to 5 percent slopes (FsB).—This soil occurs as small to medium-sized areas, mainly on the crests of ridges and the upper parts of slopes. A profile of this soil is similar to the one described as representative of

the series. The loamy sand surface layer is 8 to 14 inches thick. It is underlain by loamy sand that extends to a depth of 22 to 32 inches.

This soil is somewhat droughty. It is well suited to pasture and trees. (Capability unit IIs–1; woodland group 1; wildlife group 5)

Fuquay loamy sand, 5 to 8 percent slopes (FsC).—This soil occurs as small areas on the middle and lower parts of slopes that are irregular in many places. The depth to the finer textured material in the profile is generally 30 to 40 inches.

This soil is moderately well suited to crops and well suited to pasture or pines. It is somewhat droughty, and the use of farm machinery is limited by the size and shape of the areas. Runoff is moderately slow, and the erosion hazard is slight. Much of the acreage once cultivated has been planted to pasture or pines. (Capability unit IIIe–5; woodland group 1; wildlife group 5)

Fuquay pebbly loamy sand, 2 to 5 percent slopes (FhB).—This soil occurs as small areas on the crests of knobs and narrow ridges. It is near Tifton soils. The loamy sand surface layer extends to a depth of 20 to 30 inches. In the surface layer and subsoil are small iron concretions that range from common to many in number. Plinthite is at a depth of about 36 inches.

This soil is well suited to crops and to pasture and trees. Most of the acreage is cultivated. (Capability unit IIs–1; woodland group 1; wildlife group 5)

Grady Series

The Grady series consists of poorly drained and very poorly drained soils on uplands. These soils formed in a thick bed of loamy and clayey marine sediments. They are in shallow, oval depressions and narrow, intermittent drainageways. They have a slope range of 0 to 2 percent. Most areas are flooded for 1 month to 6 months, usually from late in winter to early in summer. They have a fluctuating water table, which is at a depth of 0 to 30 inches for 2 to 6 months a year. These soils occur in most parts of the county but are chiefly in the northwestern part near Birdsville.

About 60 percent of the acreage is poorly drained and has a sandy loam surface layer about 15 inches thick. The upper part is dark gray to black, and the lower part is grayish brown. The rest of the acreage is very poorly drained and has a clay loam surface layer. The subsoil is dark-gray to gray sandy clay to clay that is mottled and strongly gleyed.

Grady soils are very strongly acid and have moderate natural fertility. They have a moderately high to high available water capacity. Tilth is fair to poor. Permeability is slow to very slow.

These soils are poorly suited to cultivated crops. More than 90 percent of the acreage is woodland. The native vegetation consists of cypress, pond pine, and willow oak in the depressions and slash pine and sweetgum near the edges of the depressions. Only a small acreage has been drained adequately for pasture. The depressions generally lack drainage outlets. If the depressions are drained, the ditches generally have to be extended through adjoining better drained soils to reach drainage outlets.

Profile of Grady sandy loam in a wooded area 1⅜ miles north of Birdsville on county road, then 1 mile east on farm road parallel to airstrip, then three-eighths mile southeast of airstrip on east side of canal in Big Dukes Pond:

A1—0 to 6 inches, very dark gray (10YR 3/1) sandy loam; weak, fine, granular structure; friable; very strongly acid; gradual, wavy boundary.

A2—6 to 15 inches, grayish-brown (2.5Y 5/2) sandy loam; common, fine, distinct mottles of dark brown (7. 5YR 4/4) and olive gray (5Y 5/2); weak, fine, granular structure; friable; very strongly acid; gradual, wavy boundary.

B21tg—15 to 29 inches, dark-gray (N 4/0) sandy clay loam; common, medium, distinct mottles of yellowish red (5YR 4/8), yellowish brown (10YR 5/6), and gray (5Y 6/1); moderate, medium, subangular blocky structure; firm when moist, slightly plastic when wet; very strongly acid; clear, wavy boundary.

B22tg—29 to 42 inches, light-gray (10YR 6/1) sandy clay; common, medium, distinct mottles of dark gray (N 4/0) and gray (N 5/0); strong, medium, subangular blocky structure; firm when moist, slightly plastic when wet; very strongly acid; gradual, wavy boundary.

B23tg—42 to 50 inches +, gray (N 5/0) sandy clay; many, coarse, distinct mottles of dark gray (N 4/0) and strong brown (7.5YR 5/8); moderate, medium, subangular blocky structure; firm to friable when moist, hard when dry, slightly plastic when wet; very strongly acid.

The texture of the A horizon ranges from sandy loam to clay loam. The color of the A1 horizon ranges from very dark gray to black. Some small areas have a thin deposit of organic matter on the surface. The texture of the firm, sticky B22t and B23t horizons ranges from sandy clay to clay, and the color from light gray to gray. The B horizon is gleyed and mottled with yellowish red, yellowish brown, dark gray, and strong brown.

Grady soils are generally finer textured than Rains and Plummer soils, which, like Grady soils, occur in depressions and drainageways.

Grady sandy loam (0 to 2 percent slopes) (Gra).—A profile of this soil is similar to the one described as representative of the series. Permeability is moderately slow in the upper part of the profile and slow in the lower part. Tilth is fair.

This soil is well suited to trees and moderately well suited to a few cultivated crops and to pasture. Water stands at or near the surface for 1 to 2 months a year, but many areas can be drained. (Capability unit IIIw–2; woodland group 4; wildlife group 1)

Grady clay loam (0 to 2 percent slopes) (Gcl).—The surface layer of this soil is gray to very dark gray to black clay loam 4 to 6 inches thick. The subsoil is light-gray to gray sandy clay to clay. Permeability is very slow.

This soil is ponded for 2 to 6 months a year and is difficult to drain. It is not suited to cultivated crops and is poorly suited to pasture. Cypress grows on it under natural drainage conditions, but drainage is needed for pines. (Capability unit Vw–1; woodland group 4; wildlife group 1)

Kershaw Series

The Kershaw series consists of excessively drained soils on uplands. These soils formed in a thick bed of sand. They occur as small to medium-sized areas on ridges and side slopes near the Ogeechee River, Sculls Creek, and Richardson Creek. The slope range is 2 to 8 percent.

Kershaw soils have a weakly developed profile. The surface layer is very dark grayish-brown or dark grayish-

brown loose sand. Underlying this is dark-brown loose sand that extends to a depth of more than 72 inches.

These soils are strongly acid throughout, and they are low in natural fertility. The organic-matter content is low, the available water capacity is very low, and the permeability is very rapid. The root zone is thick. Runoff is slow, and the erosion hazard is slight.

Almost all the acreage is woodland. The forest cover consists of scrub oak and some longleaf pine (fig. 5).

Figure 5.—**Typical stand of scrub oak and longleaf pine on Kershaw sand, 2 to 8 percent slopes, east of Sculls Creek.**

Profile of Kershaw sand, 2 to 8 percent slopes, in a young pine plantation, one-half mile east of Richardson Creek bridge on Old River Road, then 25 feet south of road:

A11—0 to 6 inches, very dark grayish-brown (10YR 3/2) sand; single grain; loose; few fine roots; strongly acid; clear, wavy boundary.

A12—6 to 17 inches, dark-brown (10YR 4/3) sand; single grain; loose; strongly acid; few, fine, organic-stained tongues from layer above; diffuse, irregular boundary.

C1—17 to 46 inches, yellowish-brown (10YR 5/6), uncoated sand, mostly clear quartz; single grain; loose; strongly acid; gradual, wavy boundary.

C2—46 to 80 inches +, very pale brown (10YR 7/4) sand, mostly clear quartz; single grain; loose; strongly acid.

The A11 horizon of sand is very dark grayish brown or dark grayish brown and is 2 to 7 inches thick. The underlying sand is more than 72 inches in thickness.

Kershaw soils occur with Troup and Plummer soils. They are coarser textured than the well-drained Troup soils. They are better drained than the poorly drained Plummer soils.

Kershaw sand, 2 to 8 percent slopes (KdC).—This soil is not suited to cultivated crops and is poorly suited to pasture. Scattered longleaf pines are the only commercial trees growing on it, and the seedling mortality is generally severe.

This coarse sand is used in concrete and mortar mixtures. (Capability unit VIIs–1; woodland group 6; wildlife group 2)

Local Alluvial Land

Local alluvial land (Lcm) is a land type made up of soil materials that have washed from uplands into small, shallow depressions and narrow drainageways. The range of slope is 0 to 2 percent. The texture and color vary within short distances and are influenced by the soils from which the material is derived. This land type occurs in most parts of the county and is associated with a number of upland soils. It is moderately well drained, but most areas are flooded more than once a year for periods of 7 days to 1 month, usually late in winter and early in spring.

The surface layer ranges from light sandy loam to loamy fine sand in texture and from dark gray to light brownish gray in color. The subsoil is stratified. It ranges from loam to loamy fine sand in texture and from dark grayish brown to very dark gray in color.

Natural fertility is moderately high. Tilth is good, the organic-matter content is moderate, and the available water capacity is generally medium to high. The root zone is thick. Permeability is generally moderate.

Because of the size and location of the areas, Local alluvial land is planted to the same crops and managed in the same way as the surrounding soils. It is well suited to most crops grown locally, but spring plowing and planting often have to be delayed because of the flooding. (Capability unit IIw–1; woodland group 2; wildlife group 3)

Meggett Series

The Meggett series consists of very poorly drained and poorly drained, nearly level soils on the lower flood plains of the Ogeechee River. These soils formed in material washed from upland Coastal Plain soils that are underlain by alkaline alluvium and marine sediments. They are flooded from one to three times a year for 1 to 6 months, mainly in winter but also after heavy rain in other seasons. The water table fluctuates and is at a depth of 0 to 15 inches for more than 6 months a year.

The surface layer is dominantly loam to clay loam that grades from dark grayish brown through dark brown to black. This layer is very strongly acid or extremely acid. It contains a moderate amount of organic matter. The mottled, gleyed subsoil is gray, olive-yellow, brownish-yellow, and greenish-gray sandy clay and clay. It grades from very strongly acid in the upper part to neutral at a depth of 28 to 34 inches and to moderately alkaline at a depth of 36 to 50 inches. The permeability is slow.

Because of the high water table and hazard of flooding, these soils are not suited to pasture or cultivated crops. They are moderately well suited to water-tolerant hardwoods. All of the acreage is woodland. The native vegetation consists of cypress, water pecan, and swamp gum and an understory of ironwood and saw-palmetto.

Profile of Meggett loam in a wooded area 300 feet east of the artesian well on U.S. Highway No. 25:

A1—0 to 3 inches, dark grayish-brown (10YR 4/2) loam; weak, fine, granular structure; very friable; common fine roots; extremely acid; clear, smooth boundary.

AB—3 to 6 inches, gray (5Y 6/1) sandy clay; few, medium, distinct mottles of dark grayish brown (10YR 4/2); moderate, medium, subangular blocky structure; firm to friable; very strongly acid; gradual, wavy boundary.

B21tg—6 to 12 inches, gray (10YR 5/1) clay; common, medium, prominent mottles of brownish yellow (10YR 6/6) and strong brown (7.5YR 5/6); moderate, coarse, blocky structure breaking to medium subangular blocky structure; firm when moist, plastic when wet; very strongly acid; gradual, wavy boundary.

B22tg—12 to 18 inches, gray (10YR 5/1) clay; common, medium and coarse, prominent mottles of brownish yellow (10YR 6/6) and yellow (10YR 7/6); moderate, medium, angular blocky structure; firm when moist, plastic when wet; slightly acid; gradual, wavy boundary.

B23tg—18 to 34 inches, gray (10YR 6/1) clay; few, fine, prominent mottles of strong brown (7.5YR 5/8); few, medium, dark-brown manganese nodules; weak, coarse, angular blocky structure; firm when moist, plastic when wet; mildly alkaline; gradual, wavy boundary.

B3g—34 to 42 inches +, mottled olive-yellow (2.5Y 6/6), gray (10YR 6/1), and greenish-gray (5GY 5/1) clay; moderate, coarse, angular blocky structure; very firm when moist, plastic when wet; few calcareous nodules, 5 to 10 millimeters in size, that increase in number with depth; moderately alkaline.

The A1 horizon is generally dark grayish-brown loam 2 to 5 inches thick, but in some areas it is clay loam or loamy sand and is dark brown or black. In many places, small calcium carbonate and phosphatic nodules are common below a depth of 30 inches. A few manganese nodules are present below a depth of 25 inches.

Small, successive escarpments separate Meggett soils from Bibb-Wehadkee soils, which are on the slightly higher alluvial flood plains of tributary streams, and from Rains soils, which are on terraces. Meggett soils have a finer textured subsoil than any of these soils and are not acid throughout.

Meggett loam (0 to 2 percent slopes) (Mba).—This soil is on wide flood plains along the Ogeechee River. It is marked by many shallow sloughs and swales, 10 to 20 feet wide and 50 feet to a half mile long, that are filled with stagnant water.

Meggett loam makes up about 90 percent of the flood plains. Small areas of the acid Bladen soil are interspersed with Meggett loam and account for the rest of the flood plains. Adjacent to the uplands are many narrow, wet areas of mixed sediments several feet thick. Much of the surface of Meggett loam is blanketed by a few inches of dark-brown sediment that is loamy in most places but sandy in some.

Because of wetness and frequent flooding, this soil is accessible only during the drier periods of the year, chiefly summer and fall, and is suitable mainly for woodland or for wildlife habitat. If it is drained, fertilized, and limed, some grasses will grow on it. (Capability unit Vw–1; woodland group 4; wildlife group 1)

Norfolk Series

The Norfolk series consists of well-drained soils on broad upland plains. These soils formed in a thick bed of sandy and loamy material. They occur as medium to moderately large areas, mostly in the northwestern part of the county. The slope range is 0 to 5 percent.

The surface layer is dark grayish-brown loamy sand. The subsoil is strong-brown to yellowish-brown fine sandy clay loam that is marginal to sandy clay in texture. In the lower part of the subsoil are red plinthite nodules and iron concretions in amounts ranging from 1 to 8 percent of the soil mass.

Norfolk soils are strongly acid. The available water capacity is medium. Permeability is moderate, and the movement of water is not affected by the small amounts of plinthite in the lower subsoil. Tilth is good, the root zone is thick, and runoff is slow to medium.

The native vegetation consisted of longleaf pine, slash pine, live oak, red oak, hickory, and wiregrass. Now, most of the acreage is in cultivated crops. The response to management is good. These soils are well suited to sprinkler irrigation.

Profile of Norfolk loamy sand, 2 to 5 percent slopes, in an idle area 4¾ miles east of Birdsville on old Louisville-to-Savannah road, then three-fourths mile north on farm road, and 50 feet west of road:

Ap—0 to 6 inches, dark grayish-brown (10YR 4/2) loamy sand; weak, fine, granular structure; very friable when moist, nonsticky when wet; strongly acid; few small iron concretions; abrupt, smooth boundary.

B1—6 to 8 inches, dark-brown (7.5YR 4/2) fine sandy clay loam; weak, moderate, subangular blocky structure; very friable when moist, slightly sticky when wet; strongly acid; gradual, wavy boundary.

B21t—8 to 17 inches, strong-brown (7.5YR 5/8) fine sandy clay loam; moderate, medium, subangular blocky structure; friable when moist, sticky when wet; strongly acid; gradual, wavy boundary.

B22t—17 to 36 inches, yellowish-brown (10YR 5/8) fine sandy clay loam; moderate, medium, subangular blocky structure; firm to friable when moist, hard when dry, sticky when wet; strongly acid; few, small, soft, reddish-brown (5YR 4/3) iron concretions; gradual, wavy boundary.

B23t—36 to 50 inches +, yellowish-brown (10YR 5/8) fine sandy clay loam; few, medium, distinct mottles and nodules of red (2.5YR 5/6) plinthite; moderate, medium, subangular blocky structure; firm to friable when moist, hard when dry, sticky when wet; strongly acid.

The color of the Ap horizon ranges from dark grayish brown to grayish brown, and the thickness from 4 to 9 inches. The color of the B2t horizon ranges from brownish yellow in the broad, smooth areas to strong brown on the upper parts of very gentle slopes around circular depressions and near intermittent drainageways. The lower part of the B23t horizon is light sandy clay in some areas.

Norfolk soils occur with Dothan, Troup, and Tifton soils. They are similar to Dothan soils but have a thinner solum and have less plinthite in the lower subsoil. They are finer textured throughout than Troup soils, which are sandy to a depth of 40 inches or more. Norfolk soils lack the numerous iron concretions that are typical of Tifton soils, and they contain less plinthite in the lower part of the subsoil.

Norfolk loamy sand, 0 to 2 percent slopes (NhA).—This soil occurs as medium-sized to large areas on broad, smooth uplands. It is between the more strongly sloping Norfolk soils near intermittent drainageways and the Grady soils in shallow, oval depressions. The surface layer

is 7 to 9 inches thick. The subsoil is yellowish-brown, friable to firm fine sandy clay loam that ranges to light sandy clay in some areas.

This soil is well suited to all crops grown locally. Runoff is slow, and the erosion hazard is slight. (Capability unit I–1; woodland group 1; wildlife group 5)

Norfolk loamy sand, 2 to 5 percent slopes (NhB).—A profile of this soil is the one described as representative of the series. The surface layer is about 7 inches thick. The subsoil is friable, yellowish-brown to strong-brown fine sandy clay loam.

In cultivated fields runoff is slow to medium, and erosion is not a serious hazard. This soil is suited to many of the locally grown crops and well suited to pasture and trees. (Capability unit IIe–1; woodland group 1; wildlife group 5)

Norfolk loamy sand, 2 to 5 percent slopes, eroded (NhB2).—This soil occurs as medium to small areas on broad uplands. The eroded surface layer is 4 to 6 inches thick and is mixed with the upper part of the sandy clay loam subsoil in places. Runoff is medium, and the erosion hazard is moderate.

Most of the acreage is used for cultivated crops, but some of the small eroded areas on the lower parts of slopes near depressions and intermittent drainageways have been planted to pines and to permanent pasture.

This soil is well suited to most crops grown locally, but moderate conservation practices are required if it is cultivated. (Capability unit IIe–1; woodland group 1; wildlife group 5)

Ocilla Series

The Ocilla series consists of somewhat poorly drained sandy soils on low uplands and on stream terraces. These soils formed in a thick bed of sandy, loamy, and clayey marine sediments and alluvium. They have a slope range of 0 to 2 percent. The water table fluctuates and is at a depth of 30 to 60 inches for 2 to 6 months a year.

The surface layer is gray to very dark gray loamy sand. It is underlain by light brownish-gray to pale-yellow loamy sand that is mottled and gleyed and extends to a depth of 20 to 40 inches. The subsoil is olive-yellow clay loam mottled with brownish yellow, light brownish gray, and red.

These soils are very strongly acid and are low in natural fertility. The organic-matter content is low. Permeability is rapid in the upper part of the profile but moderate through the lower part. The available water capacity is medium.

These soils are poorly suited to cultivated crops unless they are drained. They are well suited to pasture and trees. Almost all the acreage is in cutover stands of pines and hardwoods.

Profile of Ocilla loamy sand, 0 to 2 percent slopes, in a wooded area three-sixteenths mile west of Richardson Creek bridge on Old River Road, then northeast five-eighths mile on farm road, and 1 mile east on logging road:

A1—0 to 2 inches, gray (10YR 5/1) loamy sand; weak, very fine, crumb structure; very friable when moist, nonsticky when wet; very strongly acid; abrupt, smooth boundary.

A2—2 to 18 inches, light brownish-gray (2.5Y 6/2) loamy sand; single grain; loose when moist; few, fine, faint mottles of gray; very strongly acid; gradual, wavy boundary.

A3—18 to 36 inches, pale-yellow (2.5Y 7/4) loamy sand; single grain; loose when moist, nonsticky when wet; few, fine, faint mottles of yellow and light gray; very strongly acid; gradual, wavy boundary.

B21tg—36 to 50 inches, olive-yellow (2.5Y 6/6) clay loam; moderate, medium, subangular blocky structure; common, medium, distinct mottles of brownish yellow (10YR 6/6) and light brownish gray (10YR 6/2); friable when moist, slightly sticky when wet; very strongly acid; gradual, wavy boundary.

B22tg—50 to 65 inches, gray (10YR 6/1) clay; many, medium, prominent mottles of yellow (10YR 7/6) and light red (2.5YR 6/6); strong, medium, subangular blocky structure; firm when moist, sticky when wet; very strongly acid.

The A1 horizon is gray to very dark gray loamy sand 2 to 5 inches thick. It is underlain by light brownish-gray and pale-yellow loamy sand that extends to a depth of 23 to 40 inches. The B21tg horizon is predominantly clay loam, but it is sandy clay loam in some places. The B22tg horizon is sandy clay to clay.

Ocilla soils are extensive along the Ogeechee River and occur with Ardilla and Dunbar soils. They are similar to Ardilla and Dunbar soils in drainage, although they are coarser textured at a depth of 10 to 20 inches. Also, they lack the plinthite in the lower part of the subsoil that is characteristic of Ardilla soils.

Ocilla loamy sand, 0 to 2 percent slopes (OhA).—This soil occurs as medium-sized to large areas. Included in mapping were a few small areas of somewhat better drained soils that have a dark yellowish-brown surface layer and a small amount of plinthite in the lower part of the subsoil.

If adequately drained, this soil is suited to crops. It is well suited to pasture and trees and nearly all of it is woodland. (Capability unit IIIw–1; woodland group 8; wildlife group 1)

Orangeburg Series

The Orangeburg series consists of well-drained soils on uplands. These soils formed in a thick bed of sandy, loamy, and clayey material. They occur as small areas on ridge crests and on the upper parts of slopes. The slope range is 2 to 5 percent. The acreage is small and is mostly west of Little Buckhead Church.

The surface layer is dark grayish-brown loamy sand. The upper part of the subsoil is yellowish-red sandy loam, but the major part of the subsoil is friable, yellowish-red, red, and reddish-brown sandy clay loam.

These soils have low natural fertility and are strongly acid. Tilth is good to fair, and the root zone is thick. The organic-matter content is low. Infiltration is moderately rapid, and permeability is moderate. The available water capacity is medium.

The native vegetation consisted of longleaf pine, slash pine, and hardwoods. These soils are well suited to most crops grown locally and are now used mainly for row crops. They are suited to sprinkler irrigation.

Profile of Orangeburg loamy land, 2 to 5 percent slopes, eroded, in a cultivated field $1\frac{1}{16}$ miles south of bridge at Buckhead Church, then one-eighth mile east of old homesite:

Ap—0 to 7 inches, dark grayish-brown (10YR 4/2) loamy sand; weak, fine, granular structure; very friable when moist, soft when dry, nonsticky when wet; strongly acid; abrupt, smooth boundary.

B1—7 to 18 inches, yellowish-red (5YR 4/8) sandy loam; weak, medium, subangular blocky structure; strongly acid; gradual, wavy boundary.

B21t—18 to 38 inches, red (2.5YR 4/6) sandy clay loam; moderate, medium, subangular blocky structure; friable when moist, slightly hard when dry, slightly sticky when wet; strongly acid; gradual, wavy boundary.

B22t—38 to 60 inches +, reddish-brown (2.5YR 4/4) sandy clay loam; few, soft, dark-brown (7.5YR 4/4) concretions that have dusky-red (10R 3/4) centers; moderate, medium, subangular blocky structure; friable when moist, slightly hard when dry, slightly sticky when wet; strongly acid.

The A horizon ranges from 5 to 20 inches in thickness. The B2t horizon is yellowish-red, red, and reddish-brown sandy clay loam to light sandy clay. In some places the eroded Ap horizon has been mixed with the upper part of the B1 horizon by cultivation. The depth to the concretions in the subsoil is about 53 inches.

Orangeburg soils occur with Dothan and Tifton soils. They have a redder subsoil than Dothan and Tifton soils and lack the plinthite layer that is characteristic of those soils. Orangeburg soils contain some iron concretions, whereas Tifton soils contain many.

Orangeburg loamy sand, 2 to 5 percent slopes (OeB).—The loamy sand surface layer of this soil is dark grayish brown to grayish brown and is 7 to 20 inches thick. The subsoil is yellowish-red to red sandy clay loam to coarse sandy clay. Included in mapping were a few areas in which the surface layer is 20 to 24 inches thick.

Runoff is medium in cultivated fields. The erosion hazard is slight. Crops grown on this soil respond well to good management. (Capability unit IIe–1; woodland group 1; wildlife group 5)

Orangeburg loamy sand, 2 to 5 percent slopes, eroded (OeB2).—This soil occurs as small areas on narrow ridge crests, on short side slopes, and in areas where there is an abrupt change in a complex slope pattern.

The loamy sand surface layer is grayish brown to yellowish red and is 4 to 9 inches thick. The subsoil is yellowish-red to red sandy clay loam. Included in mapping were some small severely eroded areas that have a sandy clay loam surface layer and a few areas that have a slope of about 8 percent.

Runoff is medium in cultivated fields; consequently, erosion is a hazard. (Capability unit IIe–1; woodland group 1; wildlife group 5)

Plummer Series

The Plummer series consists of poorly drained soils on uplands and stream terraces. These soils formed in sand over finer textured marine sediments. They are in shallow depressions, intermittent drainageways, and level areas that receive seepage from adjacent, higher soils. The slope range is 0 to 2 percent. The water table is at a depth of less than 15 inches for more than 2 months each year.

Plummer soils are sandy to a depth of 40 inches or more. In a typical profile the surface layer is black loose sand about 7 inches thick. The next layer is gray to dark-gray sand that is mottled and gleyed by the high water table. Gray sandy loam occurs at a depth of 45 inches.

These soils are very strongly acid and are low in natural fertility. Permeability is rapid. The available water capacity is medium to low, although the profile is saturated during wet seasons. The organic-matter content is low. Tilth is good. Runoff is slow and, in places, ponded.

The total acreage of these soils is small, and all of it is woodland consisting of slash pine (fig. 6), longleaf pine, maple, cypress, and sweetgum and an understory of myrtle, gallberry, and bayberry.

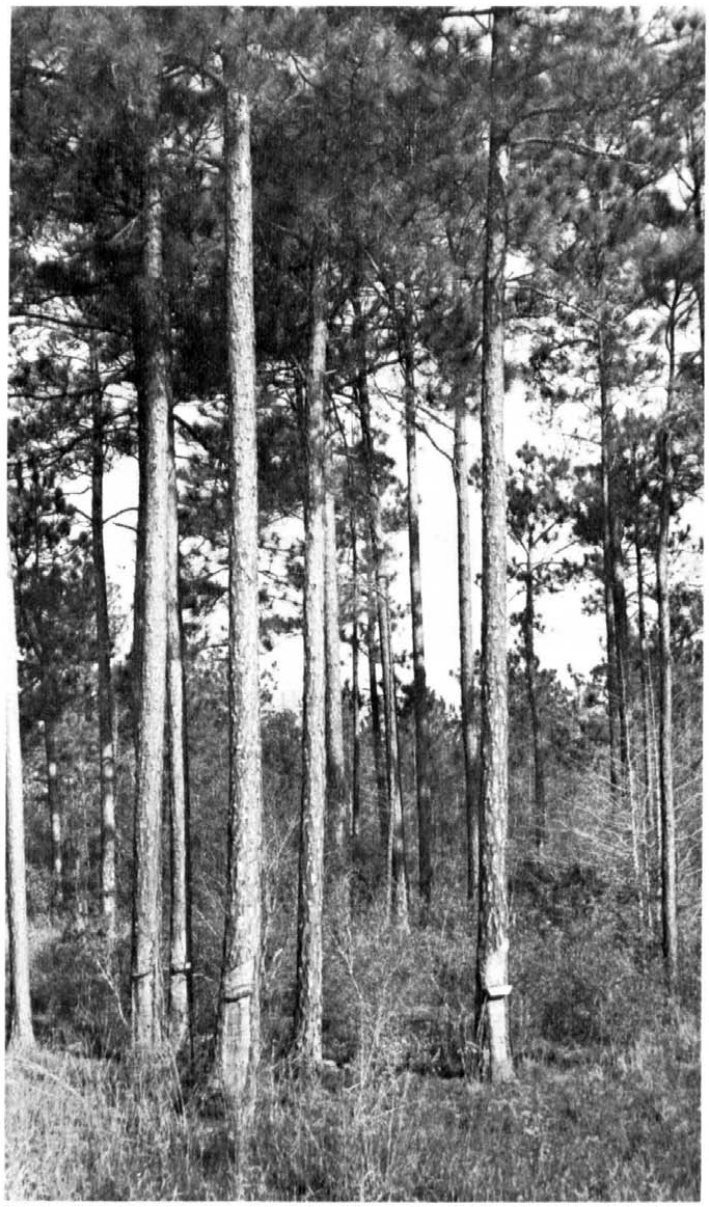

Figure 6.—**Slash pine being worked for gum on Plummer sand, 0 to 2 percent slopes.**

Profile of Plummer sand, 0 to 2 percent slopes, in a wooded area one-half mile south of Richardson Creek bridge on U.S. Highway No. 25, and 40 feet west of highway:

A1—0 to 7 inches, black (N 2/0) sand; single grain; loose when moist, nonsticky when wet; very strongly acid; gradual, wavy boundary.

A21g—7 to 17 inches, dark-gray (N 4/0) sand; few, fine, faint mottles of very dark gray; single grain; loose when moist, nonsticky when wet; very strongly acid; abrupt, smooth boundary.

A22g—17 to 19 inches, very dark-brown (10YR 2/2) sand stained with organic colloids; single grain; loose when moist, nonsticky when wet; very strongly acid; clear, wavy boundary.

A23g—19 to 45 inches, gray (10YR 5/1) sand; single grain; loose when moist, nonsticky when wet; very strongly acid; gradual, wavy boundary.

B2tg—45 to 55 inches +, gray (10YR 5/1) sandy loam; common, medium, faint mottles of grayish brown; weak, fine, subangular blocky structure; very friable when moist, nonsticky when wet; very strongly acid.

The A1 horizon of sand is dark gray to black, depending upon the organic-matter content, and is 6 to 10 inches thick. The A2 horizon is generally gray mottled sand, but in some shallow depressions there is an intermittent, thin layer of very dark brown sand stained with organic matter. This stained layer does not occur in drainageways.

Plummer soils occur with Rains and Ocilla soils. They are coarser textured throughout than Rains soils. They are similar to Ocilla soils, but Ocilla soils are better drained and are finer textured at a depth of 20 to 40 inches.

Plummer sand, 0 to 2 percent slopes (PeA).—This soil has the profile described as representative of the series.

Because of excess water, rapid permeability, and low fertility, this soil is poorly suited to cultivated crops. Drainage is required for pasture and is beneficial to pine seedlings. For many areas suitable outlets are hard to establish. (Capability unit Vw–2; woodland group 4; wildlife group 1)

Rains Series

The Rains series consists of poorly drained soils in intermittent drainageways on uplands and stream terraces. These soils formed in loamy material. They have a slope range of 0 to 2 percent. They are flooded for 2 to 30 days more than once a year, and the water table is at a depth of 0 to 15 inches for 2 to 6 months a year.

The surface layer is very dark gray to very dark brown sandy loam. The next layer is dark-gray sandy loam. The subsoil is gray sandy clay loam mottled with yellowish brown and red. It contains light brownish-gray sand lenses.

These soils are very strongly acid and are low in natural fertility and in organic-matter content. Runoff is slow and is ponded in some areas. The available water capacity is medium, although during wet seasons the soil is saturated. Permeability is moderate.

These soils are poorly suited to cultivated crops. They are well suited to trees, and most of the acreage is woodland. Only a small part is used for pasture. If these soils are drained and liberally limed, they produce moderate yields of dallisgrass, bahiagrass, white clover, and other pasture plants.

Profile of Rains sandy loam 200 feet south of a powerline in a wooded area 1⅝ miles southeast of U.S. Highway No. 25 on Old River Road, then one-half mile northeast on farm road:

A1g—0 to 5 inches, very dark gray (10YR 3/1) sandy loam; weak, fine, crumb structure; very friable when moist; very strongly acid; gradual, wavy boundary.

A2g—5 to 17 inches, dark-gray (5Y 4/1) sandy loam; few, fine, faint mottles of brownish yellow; weak, medium, subangular blocky structure; very friable when moist; very strongly acid; gradual, wavy boundary.

B2tg—17 to 25 inches, gray (10YR 5/1) sandy clay loam; common, medium, faint mottles of yellowish brown and sand lenses of light brownish gray; moderate, medium, subangular blocky structure; friable when moist, slightly sticky when wet; very strongly acid; gradual, wavy boundary.

B3tg—25 to 50 inches +, mottled gray (N 6/0), light olive-brown (2.5Y 5/6), and red (2.5YR 4/6) sandy clay loam; few thin strata or lenses of sand; many, coarse, prominent mottles; moderate, medium, subangular blocky structure; firm to friable when moist; very strongly acid.

The A1 horizon ranges from very dark gray to very dark brown. It is generally 4 to 10 inches thick, but in some upland drainageways it is as much as 20 inches thick. These areas are flooded more frequently but for shorter periods than the larger, level areas on stream terraces.

Rains soils are associated with Ardilla, Bladen, Bibb, and Wehadkee soils. They are more poorly drained than Ardilla soils, and have a coarser textured subsoil than Bladen soils. In drainage and texture Rains soils are similar to Bibb and Wehadkee soils, which are on flood plains, but Rains soils show more profile development.

Rains sandy loam (0 to 2 percent slopes) (Ros).—This soil has the profile described as representative of the series. Included in mapping were small areas with a loamy sand surface layer about 20 inches thick.

Because of the flooding and the high water table, this soil is poorly suited to cultivated crops. It is well suited to pasture if drained. The native vegetation consists of cypress, slash pine, loblolly pine, swamp gum, bayberry, maple, myrtle, and gallberry. This soil is well suited to slash pine, longleaf pine, loblolly pine, yellow-poplar, and swamp gum. (Capability unit IVw–4; woodland group 4; wildlife group 1)

Sawyer Series

The Sawyer series consists of moderately well drained soils on uplands. These soils formed in loamy and clayey material. The slope range is 2 to 8 percent. All of the acreage is eroded except the more gently sloping areas. These soils are mostly in the northeastern part of the county.

The surface layer is dark grayish-brown to brown loamy sand. The major part of the subsoil is yellowish-brown to light olive-brown, firm, sticky sandy clay that is mottled in the lower part.

These soils are low in natural fertility and are very strongly acid. They have a thick root zone. The organic-matter content is low, and the available water capacity is medium. Permeability is moderately slow. Runoff is medium to rapid; consequently, the erosion hazard is moderate to moderately severe.

More than half the acreage is in cultivated crops, but many eroded areas have reverted to pines.

Profile of Sawyer loamy sand, 2 to 5 percent slopes, in a cultivated and eroded field 1¼ miles south of Habersham Church on county road, then one-eighth mile east on county road, and 20 feet south of road:

Ap—0 to 6 inches, dark grayish-brown (2.5Y 4/2) light loamy sand; weak, fine, granular structure; very friable when moist; very strongly acid; abrupt, smooth boundary.

B1—6 to 11 inches, olive-brown (2.5Y 4/4) sandy loam; weak, medium, subangular blocky structure; very friable when moist; very strongly acid; clear, smooth boundary.

B22t—11 to 19 inches, yellowish-brown (10YR 5/6) sandy clay; moderate, medium, subangular blocky structure; friable to firm when moist; very strongly acid; clear, wavy boundary.

B23t—19 to 38 inches, light olive-brown (2.5Y 5/4) sandy clay; common, medium, prominent mottles of yellowish red (5YR 4/6) and very pale brown (10YR 7/3); moderate, medium, subangular blocky structure; firm to

friable when moist; very strongly acid; gradual, wavy boundary.

B3—38 to 60 inches +, mottled light-gray (10YR 7/2), dark-red (2.5YR 3/6), and olive (5Y 5/6) sandy clay loam; weak, medium, subangular blocky structure; friable when moist; very strongly acid.

The Ap horizon is 4 to 6 inches thick. It is generally dark grayish brown but is brown in small eroded areas where the upper part of the B1 horizon has been mixed with the surface layer by plowing. The B2t horizon is olive brown, yellowish brown, and light olive brown and ranges from sandy clay to clay in texture. Below a depth of 19 inches, the B horizon is mottled with yellowish red, very pale brown, olive, and light gray.

Sawyer soils are near Susquehanna and Cowarts soils. They are better drained than Susquehanna soils and they have a coarser textured subsoil that is not plastic. Sawyer soils are finer textured than Cowarts soils and are not so well drained.

Sawyer loamy sand, 2 to 5 percent slopes (SfB).—Most of this soil is on broad, wooded ridges. The loamy sand surface layer is dark grayish brown to grayish brown and is 7 to 11 inches thick. The subsoil is yellowish-brown to light olive-brown sandy clay. It is mottled in the lower part with yellowish red, very pale brown, and olive. Small eroded areas on short, complex slopes were included with this soil in mapping.

This soil is moderately well suited to all of the locally grown crops. Runoff is medium in cultivated fields; therefore, the erosion hazard is moderate. (Capability unit IIe–3; woodland group 3; wildlife group 5)

Sawyer loamy sand, 5 to 8 percent slopes, eroded (SfC2).—A profile of this soil is similar to the one described as representative of the series, but this soil occurs on the lower parts of stronger, more complex slopes. The eroded surface layer is 3 to 5 inches thick. Several severely eroded areas and a few small gullies were included in mapping.

Runoff is rapid, and the erosion hazard is moderately severe unless this soil is protected. The use of farm machinery is limited in some areas because of slope.

This soil is moderately well suited to small grain, soybeans, corn, and pasture plants and well suited to pines. Nearly half of the acreage once cultivated has reverted to pines. (Capability unit IIIe–3; woodland group 3; wildlife group 5)

Susquehanna Series

The Susquehanna series consists of somewhat poorly drained soils on uplands. These soils formed in clayey marine sediments that have been re-exposed by streams. They are on the lower parts of slopes near drainageways and on narrow ridge crests. The slope range is 2 to 8 percent.

The surface layer is dark grayish-brown to yellowish-brown loamy sand 3 to 6 inches thick. The subsoil is strong-brown to light yellowish-brown sandy clay loam in the upper few inches; it grades to clay in the lower part. Distinct mottles of pale olive, red, and brownish yellow begin at a depth of 7 to 10 inches, and they become prominent in the massive, plastic clay below a depth of 16 inches (fig. 7).

Susquehanna soils are very strongly acid and are low in natural fertility. They contain little organic matter and have poor tilth. Runoff is moderate to rapid. The available water capacity is medium to moderately low. Infiltration and permeability are slow.

The soils on the gentler slopes are poorly suited to cultivated crops. Those on the stronger slopes are moderately well suited to pasture and trees. Most areas that have been cleared have reverted to woodland.

Figure 7.—**Profile of Susquehanna loamy sand, 2 to 5 percent slopes, eroded, near Red Hill School, showing firm, blocky subsoil and underlying weathered sedimentary bedrock.**

Profile of Susquehanna loamy sand, 2 to 5 percent slopes, eroded, 10 feet south of road and 200 feet east of farm pond in a pasture three-eighths mile east of Sardis Road on Centerville Road:

Ap—0 to 5 inches, dark grayish-brown (10YR 4/2) loamy sand; weak, fine, granular structure; very friable to loose when moist; few fine roots; very strongly acid; clear, wavy boundary.

B1—5 to 7 inches, strong-brown (7.5YR 5/6) sandy clay loam; weak, medium, subangular blocky structure; friable when moist; very strongly acid; gradual, wavy boundary.

B2t—7 to 16 inches, yellowish-brown (10YR 5/6) clay; strong, coarse, angular blocky or blocky structure; common,

medium, distinct mottles that have pale-olive (5Y 6/3) and red (2.5YR 4/8) centers; clay films on ped surfaces, with imprints of fine flattened roots; very firm when moist, plastic and sticky when wet, hard when dry; few fine roots; very strongly acid; gradual, wavy boundary.

B3t—16 to 50 inches +, light brownish-gray (2.5Y 6/2) clay; massive; color becomes grayer and less brown with depth; many, coarse, prominent mottles of dark reddish brown (5YR 3/4) and brownish yellow (10YR 6/6); very firm when moist, plastic when wet, extremely hard when dry; few small mica flakes; very strongly acid.

The Ap horizon is dark grayish brown to yellowish brown and 3 to 6 inches thick. In eroded areas the surface layer has been mixed with the upper part of the strong-brown sandy clay loam B1 horizon.

Susquehanna soils occur as small areas among Sawyer and Troup soils on complex slopes. They are finer textured and more mottled than Sawyer soils, which are on the upper parts of slopes. They are not so well drained as the coarser textured Troup soils, which are on gentle ridge crests.

Susquehanna loamy sand, 2 to 5 percent slopes, eroded (SpB2).—The loamy sand surface layer of this soil is dark grayish brown to yellowish brown and 3 to 6 inches thick. The subsoil is yellowish-brown, plastic clay distinctly and prominently mottled with pale olive, red, and brownish yellow. Included in mapping were areas in which there is a thin, mottle-free layer of red clay in the upper part of the subsoil.

Runoff is moderately rapid in cultivated fields, and erosion is a hazard. This soil is poorly suited to cultivated crops and only moderately well suited to trees. Some areas are used for pasture. (Capability unit IVe–3; woodland group 7; wildlife group 4)

Susquehanna loamy sand, 5 to 8 percent slopes, eroded (SpC2).—The depth to bedrock is 24 to 30 inches in some places, and there are a few rock outcrops. Included in mapping were areas in which there is a thin, mottle-free layer of red clay in the upper part of the subsoil.

Runoff is rapid in cultivated fields, and the erosion hazard is severe. Infiltration is slow because the eroded surface layer has been mixed with the upper part of the subsoil. Tilth is poor.

This soil is poorly suited to cultivated crops and only moderately well suited to pasture and trees. Most of the acreage that was cleared has reverted to slash pine. (Capability unit VIe–2; woodland group 7; wildlife group 4)

Tifton Series

The Tifton series consists of well-drained, pebbly soils on uplands. These soils formed in a thick bed of sandy, loamy, and clayey sediments. They are chiefly on broad ridge crests and upper side slopes. The slope range is 0 to 8 percent. Much of the acreage is in the northwestern and southern parts of the county.

Tifton soils have a surface layer of grayish-brown to dark grayish-brown loamy sand 5 to 14 inches thick. The major part of the subsoil is friable to firm, yellowish-brown to brownish-yellow sandy clay loam. There are iron concretions (fig. 8) in varying amounts throughout the profile. Yellowish-red and red nodules and stringers of plinthite are common in the lower part of the subsoil.

These soils are low to moderate in natural fertility and are strongly acid. They are moderately permeable and have a medium available water capacity. The root zone is deep, and tilth is good.

Figure 8.—**A profile of Tifton loamy sand, 2 to 5 percent slopes, showing small iron concretions in the surface layer and upper part of the subsoil and plinthite nodules and stringers in the lower part.**

These soils have a wide range of suitability. The native vegetation consisted mostly of longleaf pine and an understory of hardwoods and wiregrass, but most of the acreage has been cleared and is used for crops. Only a few small areas are in cutover woodland.

Profile of Tifton loamy sand, 2 to 5 percent slopes, in a cultivated field one-eighth mile east of U.S. Highway No. 25 on Old River Road, and 25 feet north of road:

Apcn—0 to 10 inches, dark grayish-brown (2.5Y 4/2) loamy sand; weak, fine, granular structure; very friable

when moist; common, small, brown concretions; strongly acid; clear, wavy boundary.

A3—10 to 14 inches, yellowish-brown (10YR 5/4) loamy sand; weak, fine, granular structure; very friable when moist; few small iron concretions; strongly acid; gradual, wavy boundary.

B1—14 to 17 inches, yellowish-brown (10YR 5/6) sandy loam; weak, fine, subangular blocky structure; very friable when moist; few small iron concretions; strongly acid; gradual, wavy boundary.

B21tcn—17 to 24 inches, yellowish-brown (10YR 5/8) sandy clay loam; moderate, fine, subangular blocky structure; friable to firm when moist; common, small, hard iron concretions; strongly acid; gradual, wavy boundary.

B22tcn—24 to 37 inches, yellowish-brown (10YR 5/8) sandy clay loam; fine, medium, distinct mottles of strong brown (7.5YR 5/6) and yellowish red (5YR 4/8); moderate, medium, subangular blocky structure; common, small, hard iron concretions; firm when moist, slightly sticky when wet; strongly acid; gradual, wavy boundary.

B23—37 to 44 inches, brownish-yellow (10YR 6/8) sandy clay loam; common, medium, prominent mottles of red (2.5YR 4/8) and yellow (2.5Y 7/6) plinthite; moderate, medium, subangular blocky structure; firm when moist, slightly sticky when wet; strongly acid; gradual, wavy boundary.

B24—44 to 65 inches +, light yellowish-brown (2.5Y 6/4) sandy clay loam; many, coarse, prominent mottles of yellowish-red (5YR 5/6) and light-gray (2.5Y 7/2) plinthite; moderate, medium, subangular blocky structure; friable when moist; strongly acid.

The A horizon is 5 to 14 inches thick. Small, brown iron concretions are common in this horizon and the B horizon. The B2t horizon is brownish-yellow to yellowish-brown, friable sandy clay loam. Strong-brown and yellowish-red mottling begins at a depth of 24 to 32 inches. Yellowish-red and red plinthite occurs at a depth of 36 to 48 inches.

Tifton soils occur with Dothan, Troup, and Fuquay soils. They have a finer textured surface layer than Troup soils, which have a thick surface layer of sand that extends to a depth of 40 to 70 inches. They have a finer textured subsoil than Dothan and Troup soils and contain many more iron concretions.

Tifton loamy sand, 0 to 2 percent slopes (TqA).—A profile of this soil is similar to the profile described as representative of the series. The loamy sand surface layer is 10 to 14 inches thick. This soil has few limitations that restrict its use, and only simple conservation measures are required if it is cultivated. (Capability unit I–2; woodland group 1; wildlife group 5)

Tifton loamy sand, 2 to 5 percent slopes (TqB).—This soil occurs as medium-sized to large areas on broad ridge crests. It has a profile similar to the one described as representative of the series, except that the surface layer is 10 to 14 inches thick. The subsoil is yellowish-brown to strong-brown sandy clay loam to sandy clay. A few areas that have a yellowish-red subsoil were included in mapping. Iron concretions are common on the surface and throughout the profile. Mottling begins at a depth of 24 to 34 inches.

This soil is not extensive. About 90 percent of the acreage is cultivated, and about 5 percent is pasture. (Capability unit IIe–2; woodland group 1; wildlife group 5)

Tifton loamy sand, 2 to 5 percent slopes, eroded (TqB2).—This soil occurs as small areas on narrow ridges and gentle slopes. In places, the eroded surface layer has been mixed with the upper part of the subsoil by cultivation and is 5 to 10 inches thick. Consequently, infiltration is slower than in the uneroded phases, and runoff is medium. The erosion hazard is moderate in cultivated fields. Tilth is generally good.

This soil is well suited to most crops grown locally, but moderate conservation measures are required if it is cultivated. It is well suited to pasture and trees. (Capability unit IIe–2; woodland group 1; wildlife group 5)

Tifton loamy sand, 5 to 8 percent slopes, eroded (TqC2).—The eroded surface layer of this soil is only 5 to 8 inches thick, and there are more iron concretions in the profile than is typical of the series. In many places the surface layer has been mixed with the underlying material. The erosion hazard is severe. Tilth is moderately good.

This soil is well suited to pasture and trees, but only moderately well suited to some crops. Most of the acreage is in pines. The use of farm machinery is limited because of the short, irregular, concave slopes above the head of drainageways. Because of the severe erosion hazard, special conservation measures are required if this soil is cultivated. (Capability unit IIIe–2; woodland group 1; wildlife group 5)

Troup Series

The Troup series consists of well-drained soils on uplands and stream terraces. These soils formed in a thick bed of sandy material. They are on broad ridge crests, on the upper part of slopes, and on old, high stream terraces along the Ogeechee River. The slope range is 0 to 12 percent. These soils are in most parts of the county but are most extensive in the southern and north-central parts.

The surface layer is dark-gray to grayish-brown sand. It is underlain by yellow and very pale brown to brownish-yellow sand that extends to a depth of 40 to 70 inches. This layer is underlain by yellowish-brown sandy clay loam.

Troup soils are low in natural fertility and are strongly acid. They are low in organic-matter content. Tilth is good. The available water capacity is low, and runoff is slight to moderate. The root zone is thick (fig. 9). Infiltration and permeability are rapid; consequently, leaching of fertilizer is common.

These soils are moderately well suited to pasture and trees but have only limited suitability for cultivated crops. They are somewhat droughty and are not suited to sprinkler irrigation.

Profile of Troup sand, 0 to 5 percent slopes, in a new borrow area 1.2 miles south of Four Points on Woodpecker Trail (Georgia Highway No. 121), and 20 feet west of highway:

A1—0 to 2 inches, dark-gray (5Y 4/1) sand; single grain; loose when moist; many fine roots; strongly acid; clear, wavy boundary.

A21—2 to 30 inches, yellow (10YR 7/6) sand; single grain; loose when moist; few fine roots; strongly acid; diffuse, irregular boundary.

A22—30 to 54 inches, very pale brown (10YR 7/4) sand; few, fine, faint mottles of yellowish brown (10YR 5/8); single grain; loose when moist; strongly acid; clear, wavy boundary.

Bt—54 to 72 inches +, yellowish-brown (10YR 5/8) sandy clay loam; few, medium, distinct mottles of red (2.5YR 5/6); moderate, medium, subangular blocky structure; friable when moist; strongly acid.

The A1 horizon of dark-gray sand ranges from 1 to 6 inches in thickness. The depth to the finer textured material ranges from 40 to 70 inches.

Troup soils are associated with Dothan, Fuquay, and Tifton soils. They contain more sand and less clay throughout their profile than those soils. Troup soils do not have the plinthite in the subsoil that is common in the associated soils.

Troup sand, 0 to 5 percent slopes (TzB).—A profile of this soil is the one described as representative of the series. Because of the low natural fertility and low available water capacity, this soil is poorly suited to cultivated crops. It is better suited to pasture and trees. (Capability unit IVs–1; woodland group 5; wildlife group 2)

Troup sand, 5 to 12 percent slopes (TzD).—Because this soil has rapid permeability and low available water capacity, it is not suited to cultivated crops. All the acreage is woodland. The areas once used for crops have reverted to slash pine and longleaf pine. (Capability unit VIs–1; wodland group 5; wildlife group 2)

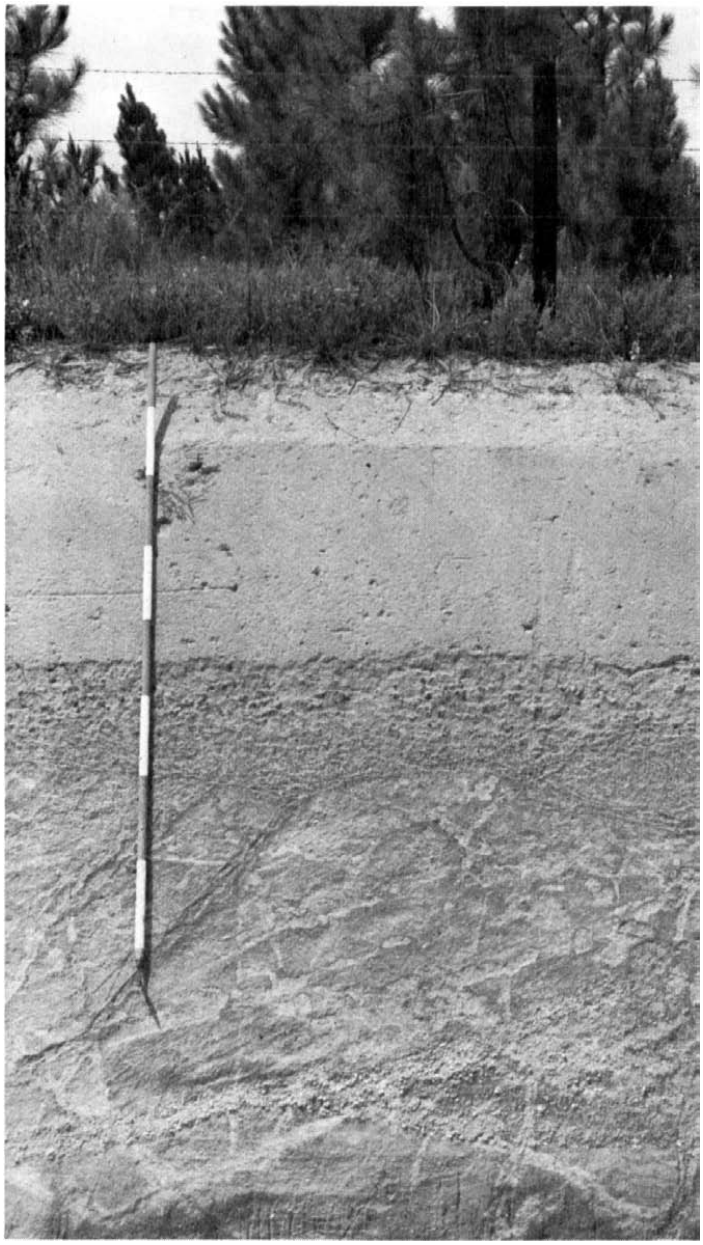

Figure 9.—**Profile of Troup sand, 0 to 5 percent slopes, showing the thick, rapidly permeable root zone of sand. This profile is in a field that was once used for crops and has been planted to slash pine.**

Wehadkee Series

The Wehadkee series consists of poorly drained soils on flood plains of drainageways and streams. These soils are in alluvium that washed mainly from nearby uplands. The slope range is 0 to 2 percent. Flooding occurs several times a year and lasts 7 days to 1 month. The water table fluctuates and is at a depth of 0 to 15 inches for 2 to 6 months each year.

Wehadkee soils show some horizon development. The surface layer generally is dark-brown fine sandy loam, but there are some small areas in which the surface layer is fine sand, loamy sand, or silt loam. The underlying material is sandy clay loam mottled with gray, yellow, strong brown, and yellowish red. This material is stratified and strongly gleyed.

Wehadkee soils are low in natural fertility and are very strongly acid. They contain a small to medium amount of organic matter and have a medium to high available water capacity. They are moderately permeable, although low-lying substrata tend to perch water.

Because these soils are poorly drained, they are not well suited to cultivated crops. Areas that can be adequately drained are suitable for truck crops, pasture, and trees.

Profile of Wehadkee fine sandy loam in a wet area along Richardson Creek, 50 feet west of bridge on Georgia Highway No. 23:

A11—0 to 4 inches, dark-brown (10YR 3/3) fine sandy loam; few, fine, distinct mottles of white (10YR 8/1); weak, fine, granular structure; very friable when moist, nonsticky when wet; very strongly acid; gradual, wavy boundary.

A12g—4 to 11 inches, mottled gray (10YR 5/1) and white (10YR 8/1) fine sandy loam; weak, fine, subangular blocky structure; very friable when moist, nonsticky when wet; very strongly acid; clear, wavy boundary.

B21g—11 to 28 inches, mottled gray (10YR 6/1), yellow (10YR 7/6), and reddish-yellow (5YR 6/6) sandy clay loam; weak, medium, subangular blocky structure; friable when moist, slightly sticky when wet; very strongly acid; gradual, wavy boundary.

B22g—28 to 38 inches, mottled gray (N 6/0) and strong-brown (7.5YR 5/6) sandy clay loam; weak, medium, subangular blocky structure; friable when moist, slightly sticky when wet; very strongly acid; clear, wavy boundary.

B23g—38 to 44 inches, mottled dark-gray (N 4/0), gray (N 5/0), and yellowish-red (5YR 5/6) sandy clay; moderate, medium, subangular blocky structure; friable to firm when moist, plastic when wet; very strongly acid; clear, wavy boundary.

Cg—44 to 50 inches +, mottled light-gray (10YR 6/1) and gray (10YR 5/1) coarse sandy loam; structureless; very friable when moist, nonsticky when wet; very strongly acid.

On the larger flood plains Wehadkee soils are closely associated with Bibb soils, and in intermittent drainageways they are associated with Rains soils. They are similar to Bibb soils in drainage but have a somewhat finer textured subsoil than either Bibb or Rains soils. Wehadkee soils are intricately mixed with Bibb soils, which are on slightly lower sites. In this county Wehadkee soils are mapped only in a complex with Bibb soils.

Use of the Soils for Crops and Pasture

In this section the system of capability grouping used by the Soil Conservation Service is defined. The soils are then grouped into capability units, and the characteristics of the soils in each unit, their limitations, and their use and management are discussed. The last part of this section contains estimated yields of the principal crops for each soil in the county.

Capability Groups of Soils

Capability classification is the grouping of soils to show, in a general way, their suitability for most kinds of farming. It is a practical classification based on limitations of the soils, the risk of damage when they are used, and the way they respond to treatment. The classification does not apply to soils used for horticultural crops, for rice, or for other crops that have special requirements. The soils are classified according to degree and kind of permanent limitation but without consideration of major and generally expensive landforming that would change the slope, depth, or other characteristics of the soils; and without consideration of possible but unlikely major reclamation projects.

In the capability system, all kinds of soils are grouped at three levels—the capability class, the subclass, and the unit.

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

Class I. Soils that have few limitations that restrict their use.

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

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

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

Class V. Soils that are subject to little or no erosion but have other limitations, impractical to remove, that limit their use largely to pasture, range, woodland, or wildlife.

Class VI. Soils that have severe limitations that make them generally unsuitable for cultivation and limit their use largely to pasture, range, woodland, or wildlife.

Class VII. Soils that have very severe limitations that make them unsuitable for cultivation and that restrict their use largely to pasture, woodland, or wildlife.

Class VIII. Soils and landforms that have limitations that preclude their use for commercial plant production and restrict their use to recreation, wildlife, or water supply, or to esthetic purposes. There are no class VIII soils in Jenkins County.

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

In class I there are no subclasses, because the soils of this class have few limitations. Class V can contain, at the most, only subclasses indicated by *w*, *s*, and *c*, because the soils in it are subject to little or no erosion, though they have other limitations that restrict their use largely to pasture, range, woodland, wildlife, or recreation.

Capability Units are soil groups within the subclasses. The soils in one capability unit are enough alike to be suited to the same crops and pasture plants, to require similar management, and to have similar productivity and other responses to management. Capability units are generally designated by adding an Arabic numeral to the subclass symbol, for example, IIe–1 or IIIe–2. Thus, in one symbol, the Roman numeral designates the capability class, or degree of limitation, the small letter indicates the subclass, or kind of limitation, and the Arabic numeral specifically identifies the capability unit within each subclass.

Capability units are generally identified by numbers assigned locally and are part of a statewide system. Because not all the units in the statewide system are represented in Jenkins County, capability units are not numbered consecutively in this survey.

Management by Capability Units [1]

In the following descriptions of capability units, the features of the soils that affect farming are described and suggestions are given for the use and management of the soils.

Statements about the natural fertility of the soils and the need for lime and fertilizer are made on the assumption that lime and fertilizer are to be applied according to the needs indicated by soil tests, the needs of the crops grown, and past experience.

The names of the soil series represented are given in the description of each capability unit, but all of the soils of a given series may not be in the same capability unit. The "Guide to Mapping Units" at the back of this publication lists the soils and shows the capability unit in which each has been placed.

CAPABILITY UNIT I–1

Norfolk loamy sand, 0 to 2 percent slopes, is the only soil in this capability unit. It is a well-drained soil on uplands and stream terraces, chiefly in the northwestern and southern parts of the county. Many of the terraces are along the Ogeechee River.

The loamy sand surface layer is very friable. The subsoil is fine sandy clay loam or light sandy clay.

Natural fertility is low, and the reaction is strongly acid. Tilth is good. The available water capacity is medium, and the content of organic matter is low. Permeability is moderate in the surface layer and upper part of the subsoil, but the plinthite in the lower part of the subsoil impedes the penetration of water and roots. The root zone is deep.

[1] James N. Nash, agronomist, Soil Conservation Service, assisted in writing this subsection.

Runoff is slow to medium, and the erosion hazard is slight. The soil features are favorable for sprinkler irrigation.

This soil is well suited to peanuts (fig. 10), cotton, corn, soybeans, and small grain, and to Coastal bermudagrass, bahiagrass, tall fescue, and annual lespedeza. A suitable cropping system consists of cotton or another row crop grown every year and a winter cover crop every other year.

Figure 10.—**Peanuts growing on Norfolk loamy sand, 0 to 2 percent slopes. The average yield is 2,000 pounds per acre.**

CAPABILITY UNIT I-2

Tifton loamy sand, 0 to 2 percent slopes, is the only soil in this capability unit. It is a well-drained soil on uplands, chiefly in the northwestern part of the county.

This soil has a very friable loamy sand surface layer, 10 to 14 inches thick, and a friable sandy clay loam subsoil.

Natural fertility is low to moderate, and the reaction is strongly acid. The available water capacity is medium, and tilth is good. The content of organic matter is low. Permeability is moderate in the upper part of the soil, but plinthite in the lower part somewhat impedes the penetration of water and roots. The soil features are favorable for sprinkler irrigation.

About 95 percent of the acreage is cultivated; the rest is pastured or wooded.

This soil is well suited to cotton, corn, small grain, soybeans, peanuts, and grain sorghum, and to Coastal bermudagrass, sericea lespedeza, tall fescue, and annual lespedeza. Cotton or some other row crop can be grown every year if a cover crop is grown every other year to maintain good tilth.

CAPABILITY UNIT IIe-1

This unit consists of well-drained soils of the Dothan, Norfolk, and Orangeburg series. These soils are on uplands in the southern and northwestern parts of the county. They have a slope range of 2 to 5 percent.

The surface layer is friable loamy sand 7 to 20 inches thick, and the subsoil is friable sandy clay loam to light sandy clay.

Tilth is good, the root zone is thick, and the available water capacity is medium. The reaction is strongly acid. The soil features are favorable for sprinkler irrigation.

About 70 percent of the acreage is cultivated, 15 percent is pastured, and the rest is wooded.

These soils are suited to corn, cotton, peanuts, tobacco, soybeans, and small grain, and to Coastal bermudagrass and bahiagrass.

Erosion is a slight hazard in many cultivated fields, but it can be controlled by a number of conservation measures that also maintain good tilth and organic-matter content. If these soils are terraced and cultivated on the contour, they can be used in a cropping system that consists of 1 year of corn, mulch planted, followed by 1 year of cotton.

CAPABILITY UNIT IIe-2

This capability unit consists of well-drained soils of the Tifton series. These soils are on uplands, mainly in the northwestern part of the county. They have a slope range of 2 to 5 percent.

The surface layer is very friable loamy sand, and the subsoil is friable to firm sandy clay loam.

Natural fertility is low to moderate, and the reaction is strongly acid. The available water capacity is low to medium. Tilth generally is good in the plow layer, and the root zone is thick. Permeability is moderate in the upper part of the subsoil, but the plinthite in the lower part somewhat restricts water and roots. Runoff is medium. The soil features are favorable for sprinkler irrigation.

About 90 percent of the acreage is cultivated, 5 percent is pastured, and the rest is wooded.

These soils are suited to tobacco (fig. 11), cotton, corn, small grain, soybeans, and peanuts, and to pecans and some truck crops. They are well suited to Coastal bermudagrass, bahiagrass, and other pasture plants.

Runoff is medium, and erosion is the main hazard if these soils are cultivated. Erosion can be controlled, tilth improved, and organic-matter content maintained by use of a suitable cropping system.

If these soils are stripcropped on the contour, they can be used in a cropping system that consists of 2 years of cotton, peanuts, or some other row crop, followed by 2 years of perennial grass.

CAPABILITY UNIT IIe-3

Sawyer loamy sand, 2 to 5 percent slopes, is the only soil in this capability unit. It is a moderately well drained, very gently sloping soil on uplands, chiefly in the northeastern part of the county.

The loamy sand surface layer is friable. The subsoil is firm sandy clay.

This soil is low in natural fertility and is very strongly acid. It contains little organic matter. Tilth is generally good, and the root zone is thick. The available water capacity is medium. Permeability is moderate in the surface layer but moderately slow in the firm, clayey subsoil. The soil features are moderately favorable for sprinkler irrigation.

About 60 percent of the acreage is cultivated, 10 percent is pastured, and the rest is wooded.

Figure 11.—**Skip-row planted tobacco growing on Tifton loamy sand, 2 to 5 percent slopes, eroded. Yields of tobacco average 2,150 pounds per acre.**

This soil is moderately well suited to corn, cotton, small grain, peanuts, and soybeans.

Runoff is medium, and erosion is the chief hazard. Erosion can be controlled and tilth improved by using a cropping system that adds a large amount of crop residue to the soil. If this soil is not terraced but is cultivated on the contour, it is suited to a cropping system consisting of 2 years of corn or another row crop, followed by 4 years of perennial grass.

CAPABILITY UNIT IIw-1

Local alluvial land is the only mapping unit in this capability unit. This land type is moderately well drained and occurs in shallow depressions, draws, and small intermittent drainageways on uplands. The range of slope is 0 to 2 percent.

The surface layer is friable light sandy loam or loamy fine sand. The subsoil is mottled, friable sandy loam or loamy sand.

Natural fertility is moderately high. The content of organic matter is moderate, and the available water capacity is medium to high. Tilth is good. The soil features are favorable for sprinkler irrigation.

About 40 percent of the acreage is cultivated, 20 percent is pastured, and the rest is wooded.

Local alluvial land is well suited to most of the crops grown locally. Because it occurs as small tracts, it generally is planted to the same crops as adjoining soils.

Flooding is a hazard, and the water table is at a depth of 15 to 30 inches for 1 to 2 months a year. Consequently, planting and harvesting are often delayed, but tile drains or open ditches can be used to remove excess water.

Corn can be grown every year if the residue is shredded or chopped and left on the surface.

CAPABILITY UNIT IIw-2

This capability unit consists of somewhat poorly drained soils of the Ardilla and Dunbar series. These soils are in low positions on uplands and stream terraces. They have a slope range of 0 to 5 percent.

The surface layer is very friable loamy sand to fine sandy loam. The subsoil is sandy clay loam to sandy clay or clay, mottled with gray and light gray.

These soils are low in natural fertility and are very strongly acid. They contain a small amount of organic matter. The available water capacity is medium. The tilth of the surface layer is good, and the root zone is thick. Permeability is moderately slow to slow because plinthite in the subsoil restricts water and roots. The soil features are favorable for sprinkler irrigation.

About 15 percent of the acreage is cultivated, 4 percent is pastured, and 80 percent is wooded.

Corn, soybeans, oats, wheat, and vegetables are some of the crops that can be grown on these soils. Bahiagrass, dallisgrass, white clover, and millet are well suited pasture plants.

These soils have a seasonal high water table, which is at a depth of 15 to 30 inches for 2 to 6 months a year. Drainage is needed if cultivated crops are grown. Drainage can be obtained by row arrangement or by tile drains. Although erosion is not a hazard, a cropping system should be used that maintains the organic-matter content and tilth. Corn can be grown every year if the residue is shredded or chopped and left on the surface.

CAPABILITY UNIT IIs-1

This capability unit consists of well-drained soils of the Dothan and Fuquay series. These soils have a slope range of 0 to 5 percent.

The surface layer is loamy sand or pebbly loamy sand, very friable or loose, that extends to a depth of 20 to 40 inches. The subsoil is friable sandy loam to sandy clay loam.

The reaction is strongly acid, and the response to fertilization is good. The root zone is thick. Permeability is moderate through the upper part of the subsoil, but plinthite in the lower part somewhat restricts penetration of water and roots. The available water capacity is low to medium. The soil features are favorable for sprinkler irrigation.

About 50 percent of the acreage is cultivated, 20 percent is pastured, and the rest is wooded.

These soils are suited to many of the crops grown locally, including cotton, corn, peanuts, grain sorghum, and soybeans, as well as Coastal bermudagrass, bahiagrass, sericea lespedeza, and common bermudagrass. Starr millet, browntop millet, and small grain can be grown for temporary grazing.

Wind erosion is a hazard in large open fields, but it can be controlled by planting alternate strips of close-growing crops and clean-tilled crops. Droughtiness also is a hazard because of the low to medium available water capacity. A fairly adequate supply of organic matter can be maintained by the use of close-growing crops that produce a large amount of residue. This practice also increases the available water capacity. A suitable cropping system, if these soils are not terraced but are cultivated on the con-

tour, consists of 1 year of cotton, mulch-planted corn, or peanuts, followed by 1 year of small grain.

CAPABILITY UNIT IIIe-1

Dothan loamy sand, 5 to 8 percent slopes, eroded, is the only soil in this capability unit. It is a well-drained soil on uplands.

The surface layer is very friable loamy sand. The subsoil is friable sandy clay loam.

This soil is low in natural fertility, but the response to fertilization is good. The reaction is strongly acid. In the slightly eroded areas the tilth of the plow layer is good, but in the more severely eroded areas, the tilth is only fair. The available water capacity is medium. The root zone is thick. The upper part of the subsoil is moderately permeable, but plinthite in the lower part slightly restricts water and roots. The soil features are favorable for sprinkler irrigation.

About 25 percent of the acreage is cultivated, 20 percent is pastured, and 50 percent is wooded.

This soil is suited to most of the local crops, including cotton, corn, peanuts, soybeans, and small grain. Suitable pasture and hay crops are Coastal bermudagrass, common bermudagrass, Pensacola bahiagrass, sericea lespedeza, grain sorghum, Starr millet, and browntop millet.

Runoff is moderately rapid, and the hazard of further erosion is moderate. Practices that help to control erosion are tilling on the contour, terracing, keeping waterways in grass, stripcropping, and including adequately fertilized, close-growing crops in the cropping system.

If this soil is not terraced but is farmed on the contour, it can be used in a cropping system that consists of 2 years of corn followed by 3 years of bahiagrass.

CAPABILITY UNIT IIIe-2

Tifton loamy sand, 5 to 8 percent slopes, eroded, is the only soil in this capability unit. It is a well-drained soil on uplands, mainly in the northwestern part of the county.

The loamy sand surface layer is very friable. The response to fertilization is good. Tilth is moderately good, and the root zone is thick. The available water capacity is medium. Permeability is moderate through the upper part of the subsoil, but the plinthite in the lower part somewhat restricts penetration of water and roots. The soil features are moderately favorable for sprinkler irrigation.

About 80 percent of the acreage is cultivated, 5 percent is pastured, and the rest is wooded.

This soil is suited to cotton, small grain, soybeans, grain sorghum, and corn. The many small concretions in the plow layer interfere with the harvesting of peanuts.

Runoff is moderate to moderately rapid, and the hazard of further erosion is severe. Practices that help control erosion are tilling on the contour, terracing, stripcropping, keeping waterways in grass, and including adequately fertilized, close-growing crops in the cropping system. A suitable cropping system consists of cotton or some other row crop grown in alternating strips with fescue or bahiagrass. The strips are managed so that crops are grown for 2 years and grass for 4 years.

CAPABILITY UNIT IIIe-3

Sawyer loamy sand, 5 to 8 percent slopes, eroded, is the only soil in this capability unit. It is a moderately well drained soil on uplands.

The surface layer is very friable loamy sand. The subsoil is sticky, firm sandy clay to clay.

The reaction is very strongly acid. The available water capacity is medium. Permeability in the subsoil is moderately slow to slow. Tilth is fair to poor, and the root zone is shallow.

About 10 percent of the acreage is cultivated, 35 percent is pastured, and the rest is wooded.

This soil is better suited to pasture, hay, or trees than to cultivated crops. It can be used for such crops as cotton, corn, peanuts, and small grain. Some of the suitable pasture plants are bahiagrass, Coastal bermudagrass, and sericea lespedeza.

Runoff is rapid, and the hazard of further erosion is moderately severe, even if this soil is cultivated only occasionally. The cropping system should include close-growing crops that produce a large amount of residue. The residue not only helps to control erosion but also supplies organic matter, increases the available water capacity, and improves tilth, structure, and productivity.

A suitable cropping system for a terraced field that is cultivated on the contour consists of 3 years of bahiagrass, followed by 1 year of cotton, grain sorghum, or some other row crop.

CAPABILITY UNIT IIIe-4

This capability unit consists of well-drained soils of the Carnegie and Cowarts series. These soils are on uplands and have a slope range of 2 to 8 percent. Most areas are eroded.

The plow layer is very friable loamy sand, and it contains many small concretions. The subsoil is friable sandy clay loam to light sandy clay.

The reaction is strongly acid. Tilth is fair in eroded areas but good in uneroded areas. The available water capacity is low to medium. Permeability is moderate in the upper part of the subsoil, but the plinthite in the lower part restricts water and roots.

About 20 percent of the acreage is cultivated, 10 percent is pastured, and the rest is wooded.

A number of different crops can be grown on these soils, although the root zone is shallow, tilth is only fair, and seeds germinate poorly in eroded areas because the soil crusts and clods.

Runoff is moderate to moderately rapid, and the hazard of further erosion is moderate to severe. Even if cultivated crops are grown only occasionally, intensive management is required to control erosion and increase fertility. Soil-improving crops, close-growing crops, and other crops that produce a large amount of residue are all useful in controlling erosion. They also help to maintain tilth and increase the available water capacity.

For a terraced field cultivated on the contour, a suitable cropping system consists of 4 years of bahiagrass, followed by 2 years of cotton, peanuts, or some other row crop.

CAPABILITY UNIT IIIe-5

Fuquay loamy sand, 5 to 8 percent slopes, is the only soil in this capability unit. It is a deep, well-drained to moderately well drained soil on uplands.

The loamy sand surface layer is very friable to loose and is 20 to 40 inches thick. The subsoil is friable sandy clay loam.

This soil is very strongly acid and is low in natural fertility. It contains little organic matter and is somewhat

droughty. Tilth is good. Permeability is moderately rapid or moderate.

This soil is inextensive, and most of the acreage is woodland. Only a small part is in cultivated crops and pasture.

The suitability of this soil is somewhat limited by the thick sandy surface layer, the slope, and the hazard of erosion. Some of the crops that can be grown on it are corn, cotton, sweetpotatoes, grain sorghum, watermelons, early truck crops, and small grain. Pensacola bahiagrass, Coastal bermudagrass, sericea lespedeza, Starr millet, and browntop millet are well suited pasture and hay crops. Pecan trees grown on it produce fairly good yields.

This soil is somewhat droughty and is susceptible to erosion. Erosion can be controlled and moisture conserved by terracing, tilling on the contour, stripcropping, and planting close-growing crops that produce a large amount of residue. The residue provides organic matter, which is depleted rapidly. Because of droughtiness, the response to fertilization is limited.

If this soil is not terraced but is cultivated on the contour, it is suited to a cropping system consisting of 1 year of mulch-planted corn or some other row crop, followed by 1 year of cotton or peanuts, then 4 years of bahiagrass or some other close-growing crop.

CAPABILITY UNIT IIIw-1

This capability unit consists of somewhat poorly drained to moderately well drained soils of the Barth and Ocilla series. These soils are on low uplands and stream terraces. They have a slope range of 0 to 2 percent.

The surface layer is very friable fine sand and loamy sand that extends to a depth of 20 to 60 inches. Underlying this is sandy to clayey material that is gleyed or mottled.

These soils have good tilth, a thick root zone, and medium to low available water capacity. They are very strongly acid. They are rapidly permeable in the upper part. The soil features are favorable for sprinkler irrigation.

About 8 percent of the acreage is cultivated, 12 percent is pastured, and 80 percent is wooded.

Some of the suitable crops are corn, soybeans, truck crops, grain sorghum, sugarcane, and millet. Suitable pasture and hay crops are dallisgrass, bahiagrass, and fescue. Coastal bermudagrass grows well in drained areas. Trees also grow well.

The water table fluctuates and is at a depth of 15 to 30 inches for 2 to 6 months a year. Flooding occurs once in 5 to 20 years for a period of 2 to 7 days.

These soils respond to good management, which includes applications of lime and fertilizer, addition of organic matter, and drainage. Cultivated areas can be drained by tile, open ditches, or bedding. Erosion is not a hazard. A cropping system that maintains tilth and organic-matter content is needed. A suitable cropping system consists of 4 years of perennial grass followed by 2 years of a row crop, such as corn for silage, or 2 years of truck crops.

CAPABILITY UNIT IIIw-2

This capability unit consists of poorly drained soils of the Bladen and Grady series. These soils are in depressions and drainageways on uplands, and on terraces along the Ogeechee River. They have a slope range of 0 to 2 percent.

The surface layer is friable fine sandy loam or sandy loam. The subsoil is sticky fine sandy clay or clay.

Natural fertility is low to moderate, and the reaction is very strongly acid. Permeability and infiltration are slow. The available water capacity is medium to high. Tilth is fair to poor. The organic-matter content is generally moderate, although some ponded areas have a large amount of organic matter in the surface layer.

About 1 percent of the acreage is cultivated, 3 percent is pastured, and the rest is wooded.

These soils are flooded for periods of 1 month to 6 months, usually late in winter and early in spring. Also, they have a fluctuating water table that is at a depth of 0 to 15 inches for more than 2 months a year.

Drainage is essential if these soils are to be used for crops or pasture, but natural outlets are generally lacking. Drained areas are suited to corn, soybeans, truck crops, bahiagrass, and millet. Crops respond well to applications of fertilizer and a large amount of lime. A suitable cropping system for drained areas consists of grass for 3 years, followed by corn or some other row crop for 3 years.

CAPABILITY UNIT IVe-3

This capability unit consists of well-drained to somewhat poorly drained, eroded soils of the Esto and Susquehanna series. These soils are on uplands in the southern and northeastern parts of the county. The slope range is 2 to 5 percent.

The eroded surface layer is friable loamy sand. The subsoil is firm, plastic and sticky sandy clay loam to clay.

The reaction is very strongly acid. Tilth is poor to fair. Permeability of the subsoil is moderate to very slow, and the available water capacity is medium to high. The soil features are not favorable for sprinkler irrigation.

About 2 percent of the acreage is cultivated, 10 percent is pastured, and the rest is wooded.

These soils are suited to only a few cultivated crops. The response to fertilizer and lime is good.

Runoff is moderate to rapid. If these soils are cultivated the hazard of further erosion is severe. Erosion can be controlled by cultivating on the contour, terracing, stripcropping, and keeping waterways in grass. Tilth can be improved and organic-matter content maintained by including in the cropping system soil-improving crops or crops that produce a large amount of residue.

For a field that is terraced and cultivated on the contour, a suitable cropping system consists of 4 years of bahiagrass, followed by 1 year of grain sorghum, corn for silage, soybeans, or some other row crop.

CAPABILITY UNIT IVe-4

Cowarts loamy sand, 5 to 8 percent slopes, eroded, is the only soil in this capability unit. It is a well-drained soil on uplands, mostly in the northeastern and southern parts of the county.

This soil has a friable surface layer that contains many small iron concretions. The subsoil also is friable, but it is mottled with plinthite at a depth of 18 to 24 inches.

The reaction is strongly acid. Tilth generally is fair, although the iron concretions interfere with the cultivation of small plants. Permeability is moderate in the upper part of the subsoil, but the plinthite in the lower part slightly restricts water and roots. The available water capacity is medium to moderately low. The soil features are moderately favorable for sprinkler irrigation. The amount of water must be carefully regulated.

About 13 percent of the acreage is cultivated, 3 percent is pastured, and the rest is wooded.

Because of the slope, the erosion hazard, and the tilth of the plow layer, this soil is suited to only occasional cultivation. Cotton, soybeans, small grain, and corn can be grown if the cropping system includes soil-improving crops, close-growing crops, or other crops that produce a large amount of residue. Sericea lespedeza, bahiagrass, and Coastal bermudagrass are moderately well suited.

Runoff is rapid and the hazard of further erosion is severe if this soil is cultivated. Erosion can be controlled by cultivating on the contour, terracing, and stripcropping. For a stripcropped field that is cultivated on the contour, a suitable cropping system consists of 2 years of perennial grass, followed by 1 year of corn or some other row crop, the residue of which is shredded and left on the surface.

CAPABILITY UNIT IVw–4

This capability unit consists of poorly drained soils of the Bibb, Wehadkee, and Rains series. These soils are on bottom lands and in drainageways and shallow depressions on uplands and terraces. The slope range is 0 to 2 percent.

The surface layer ranges from very friable sand to silt loam. The underlying material is mottled sandy loam to silty clay loam and is stratified with sand lenses in some areas.

The reaction is very strongly acid. Permeability is moderate to slow, and the available water capacity is medium to high. The root zone is favorable for pines and lowland hardwoods.

Most of the acreage is woodland. A few small areas are unimproved pasture.

These soils have a seasonal high water table, which is at a depth of 0 to 15 inches for 2 to 6 months a year, and they are flooded for 2 to 7 days more than once a year.

Pines and hardwoods, as well as crops, benefit from drainage of ponded areas. Drained areas of these soils are suitable for crops, if limed and fertilized. The level areas can be drained by open ditches, but some of the depressions are difficult to drain adequately for cultivated crops. A suitable cropping system consists of 3 years of bahiagrass followed by 2 years of truck crops or of row crops such as corn or sugarcane.

CAPABILITY UNIT IVs–1

Troup sand, 0 to 5 percent slopes, is the only soil in this capability unit. It is a well-drained soil on uplands.

The surface layer is very friable to loose.

The root zone is thick, and tilth is good. The reaction is strongly acid. Permeability is rapid, and the available water capacity is low. Runoff is moderately slow to slow, and the erosion hazard is slight. The soil features are not favorable for sprinkler irrigation.

About 22 percent of the acreage is cultivated, 6 percent is pastured, and the rest is wooded.

This soil is well suited to pine trees. It is also well suited to watermelons and early maturing vegetables and to bahiagrass, winter rye, and Coastal bermudagrass.

Split applications of fertilizer are advisable because of excessive leaching. Early in spring, soil blowing is a hazard in large, open fields if the surface is bare. Soil blowing can be controlled by planting close-growing crops and cultivated crops in alternate strips. Crop residue should be returned to the soil.

For a field that is stripcropped on the contour, a suitable cropping system consists of 3 years of bahiagrass, followed by 1 year of corn, grain sorghum, or a similar row crop.

CAPABILITY UNIT Vw–1

This unit consists of very poorly drained soils of the Grady and Meggett series. These soils are in shallow, oval depressions on uplands and flood plains. The slope range is 0 to 2 percent.

The surface layer is friable clay loam or loam. In many places a 1- to 2-inch mucky deposit covers the surface. The material underlying the surface layer is gray to light-gray, plastic sandy clay to clay.

Permeability is slow, and the available water capacity is moderately high or high. Natural fertility is moderate. The reaction is strongly acid. Tilth is poor, and the organic-matter content in the surface layer is moderate.

Unless these soils are drained, surface water is ponded on them for 2 to 6 months or more a year, and drainage is difficult because of the lack of outlets. A few of the smaller depressions have been drained. Bahiagrass, dallisgrass, and white clover can be grown in these, if fertilizer and large amounts of lime are applied. Most of the acreage has been only partly drained and is wooded with lowland hardwoods, swamp gum, sweetgum, cypress, and a few slash pines. Draining off the surface water is beneficial to pines.

Many of the ponded depressions provide drinking water for deer, turkeys, wild hogs, and ducks during dry periods.

CAPABILITY UNIT Vw–2

Plummer sand, 0 to 2 percent slopes, is the only soil in this capability unit. It is a poorly drained soil in shallow depressions and long, narrow drainageways.

In most places loose sand extends to a depth of 40 inches or more. In many places a 2-inch layer stained with organic matter occurs at a depth of 14 to 17 inches.

The reaction is very strongly acid. Permeability is rapid. The organic-matter content is low. The water table stands at a depth of 0 to 15 inches for 2 to 6 months a year. The areas in drainageways are frequently flooded for periods of less than 2 days, and areas in shallow depressions are flooded for periods of 1 to 5 months. Tilth is good, and the root zone is favorable for pine, cypress, and hardwoods.

All of the acreage is wooded.

CAPABILITY UNIT VIe–2

This capability unit consists of well-drained and somewhat poorly drained, eroded soils of the Esto and Susquehanna series. These soils are on uplands in the southern and northeastern parts of the county. The slope range is 5 to 8 percent.

The surface layer is predominantly friable loamy sand. The subsoil is firm, plastic and sticky sandy clay loam to clay. Sedimentary bedrock is at a depth of 30 to 40 inches in some of the sloping areas, and there are small areas of rock outcrops on some of the stronger slopes. Shallow gullies are common.

These soils are very strongly acid. The root zone is favorable, and tilth is fair. Permeability is moderately slow or slow. The available water capacity is medium to high.

Runoff is rapid; consequently, the hazard of further erosion is severe or very severe.

All of the acreage is woodland, except for a very small part that is pastured. These soils are not suited to cultivated crops. They are fairly well suited to bahiagrass, lespedeza, and common bermudagrass. Trees grow fairly well, but those on the upper parts of slopes are subject to windthrow. The mixed stands of sweetgum, oaks, hickory, pine, and poplar in the cutover woodland provide food and cover for wildlife. Many of the small drains are favorable sites for farm ponds.

Runoff is rapid; consequently, the hazard of further erosion is severe or very severe. The use of machinery is limited on some of the steeper slopes.

CAPABILITY UNIT VIs-1

Troup sand, 5 to 12 percent slopes, is the only soil in this capability unit. It is a well-drained soil on uplands and stream terraces.

The surface layer of sand is 40 to 60 inches thick. The subsoil is friable sandy clay loam.

This soil has good tilth. It has a low available water capacity, especially in the upper part of the profile, and is droughty. The reaction is strongly acid. The root zone is deep.

Most of the acreage is woodland. Most areas are too steep for cultivation. Some areas can be planted to Coastal bermudagrass or bahiagrass (fig. 12). Gullying is a hazard if the surface is left bare.

CAPABILITY UNIT VIIe-2

Esto loamy sand, 8 to 17 percent slopes, eroded, is the only soil in this capability unit. It is a well-drained soil that occurs in long, narrow tracts adjoining large wooded areas of river swamp or terrace soils along the Ogeechee River and Buckhead Creek.

The surface layer is friable loamy sand in most places. The subsoil is firm and sticky, mottled sandy clay.

This soil is very strongly acid. It has a moderately low available water capacity. The root zone is thick, and tilth is generally fair. Runoff is very rapid; consequently, the hazard of further erosion is very severe.

All of the acreage is woodland. Both pines and hardwoods grow fairly well on this soil, but all of the pines have been harvested, and there are now only stands of red oak, white oak, hickory, dogwood, sweetgum, and cherry.

Because of the strong slope and very severe erosion hazard, this soil is not suited to cultivated crops or pasture. It produces food and cover for wildlife.

Figure 12.—**Coastal bermudagrass pasture on Troup sand, 5 to 12 percent slopes.**

CAPABILITY UNIT VIIs-1

Kershaw sand, 2 to 8 percent slopes, is the only soil in this capability unit. It is an excessively drained soil adjoining some of the larger streams.

The surface layer and underlying layers are loose sand to a depth of 6 feet or more.

This soil is strongly acid and low in natural fertility. The organic-matter content is low. The available water capacity is very low. The root zone is thick.

Because this soil is coarse textured, droughty, and sloping, it is not suited to cultivated crops and is poorly suited to pasture. Most of the acreage is woodland. Pines grow fairly well if scrub hardwoods are removed or controlled; otherwise, competition for moisture is severe and seedling mortality is high. Replanting is often necessary to establish a stand of slash pines.

Estimated Yields

Table 2 shows estimated yields of principal crops on each soil under improved management. The figures are based on records of yields on individual farms, on yields obtained in long-term experiments, and on estimates made by agronomists who have had experience with the local crops and soils.

The management required to obtain the estimated yields is similar to that described for the soils in the preceding subsection "Management by Capability Units." It does not include irrigation, except for tobacco. In general, the practices are as follows: (1) Choosing a suitable crop for the soil and a suitable cropping system that includes high residue crops and cover crops if necessary; (2) preparing a good seedbed; (3) using high-yielding varieties and adapted hybrids; (4) planting at the proper time and seeding at the proper rates; (5) controlling weeds, insects, and diseases; (6) controlling erosion and excess water; (7) tilling on the contour and building terraces if necessary; (8) returning crop residue to the soil; (9) controlling grazing and mowing hay crops regularly; (10) using adequate amounts of lime and fertilizer, as indicated by soil tests and the needs of the crop.

For the principal crops grown in the county, the following amounts of fertilizer and rates of seeding per acre generally are required to obtain the estimated yields:

CORN: 80 to 100 pounds of nitrogen (N), 50 pounds of phosphoric acid (P_2O_5), and 75 pounds of potash (K_2O); seeding at the rate of 10,000 to 12,000 plants.

TOBACCO: 60 to 70 pounds of nitrogen, 150 to 175 pounds of phosphoric acid, and 170 to 190 pounds of potash at planting time and 100 pounds of 10–0–10 as side dressing; seeding at the rate of 7,000 to 8,000 plants.

PEANUTS: 12 to 20 pounds of nitrogen and 36 to 60 pounds, each, of phosphoric acid and potash, applied with 50 to 60 pounds of treated shelled seed, and a side dressing of 200 to 400 pounds of gypsum.

COTTON: 60 to 80 pounds of nitrogen and phosphoric acid and 100 pounds of potash; seeding at the rate of 40,000 to 60,000 plants.

OATS: 25 pounds of nitrogen at planting time, not more than 45 pounds late in winter, and 30 to 45 pounds early in spring, plus 50 to 75 pounds, each, of phosphoric acid and potash at planting time; seeding at the rate of 2 bushels per acre drilled or 3 bushels per acre broadcast.

SOYBEANS: 0 to 25 pounds of nitrogen, 40 to 50 pounds of phosphoric acid, and 60 to 80 pounds of potash; seeding in rows at the rate of 1 bushel per acre; planting between May 10 and 20 or planting late-maturing varieties following small grain.

COASTAL BERMUDAGRASS: for pasture, 100 pounds of nitrogen, 25 pounds of phosphoric acid, and 50 pounds of potash, one-half applied early in April and one-half in midsummer; for hay, 200 pounds of nitrogen, 50 pounds of phosphoric acid, and 75 pounds of potash in split applications as for grazing; established by sprigging 8 bushels of stolons per acre.

BAHIAGRASS FOR PASTURE OR HAY: 25 to 50 pounds of nitrogen and 60 to 75 pounds, each, of phosphoric acid and potash applied late in winter and an additional 50 to 75 pounds of nitrogen early in summer; seeding at the rate of 15 pounds of seed broadcast.

TABLE 2.—*Estimated yields per acre under improved management*

[Absence of yields indicates the soil is not suited to the crop, or the crop is not commonly grown on the soil]

Soil	Corn	Cotton	Oats	Peanuts	Soybeans	Tobacco	Coastal bermudagrass		Bahiagrass for pasture
							For pasture	For hay	
	Bu.	*Lb. of lint*	*Bu.*	*Lb.*	*Bu.*	*Lb.*	*Animal-unit-months* [1]	*Tons*	*Animal-unit-months* [1]
Ardilla loamy sand, 0 to 2 percent slopes	70	500	70	1,400	32	2,200	9.0	5.5	7.0
Barth fine sand, 0 to 2 percent slopes	40	------	45	1,400	27	1,400	6.0	3.0	4.0
Bibb-Wehadkee complex	------	------	------	------	------	------	------	------	6.0
Bladen fine sandy loam	------	400	54	------	30	------	------	------	10.0
Carnegie loamy sand, 2 to 5 percent slopes, eroded	65	675	60	1,700	25	------	8.0	4.5	6.5
Carnegie loamy sand, 5 to 8 percent slopes, eroded	60	600	55	1,600	21	------	7.5	4.2	6.0
Cowarts loamy sand, 2 to 5 percent slopes	65	650	65	1,900	25	------	7.0	4.2	5.2
Cowarts loamy sand, 2 to 5 percent slopes, eroded	60	550	65	1,700	22	------	7.0	4.2	5.0
Cowarts loamy sand, 5 to 8 percent slopes	46	500	60	1,700	22	------	6.9	4.1	5.0
Cowarts loamy sand, 5 to 8 percent slopes, eroded	40	450	60	1,500	20	------	6.7	4.0	4.7

See footnotes at end of table.

TABLE 2.—*Estimated yields per acre under improved management*—Continued

Soil	Corn	Cotton	Oats	Peanuts	Soybeans	Tobacco	Coastal bermudagrass		Bahiagrass for pasture
							For pasture	For hay	
	Bu.	*Lb. of lint*	*Bu.*	*Lb.*	*Bu.*	*Lb.*	*Animal-unit-months*[1]	*Tons*	*Animal-unit-months*[1]
Dothan loamy sand, 0 to 2 percent slopes	75	675	75	2, 200	35	2, 400	10. 0	6. 0	7. 5
Dothan loamy sand, 2 to 5 percent slopes	70	635	70	1, 900	35	2, 300	9. 5	5. 7	7. 0
Dothan loamy sand, 2 to 5 percent slopes, eroded	65	620	65	1, 850	30	2, 200	9. 3	5. 5	6. 8
Dothan loamy sand, 5 to 8 percent slopes, eroded	65	600	65	1, 800	30	1, 900	9. 0	5. 4	6. 6
Dunbar fine sandy loam	80	700	50	1, 500	35	------	------	------	8. 0
Esto loamy sand, 2 to 5 percent slopes, eroded	40	300	35	1, 300	------	------	7. 5	------	5. 5
Esto loamy sand, 5 to 8 percent slopes, eroded	------	------	------	------	------	------	6. 0	------	5. 2
Esto loamy sand, 8 to 17 percent slopes, eroded	------	------	------	------	------	------	6. 5	------	4. 8
Fuquay loamy sand, 0 to 2 percent slopes	70	500	70	1, 700	27	2, 200	8. 6	5. 1	7. 0
Fuquay loamy sand, 2 to 5 percent slopes	65	475	65	1, 600	22	2, 100	8. 2	4. 9	7. 0
Fuquay loamy sand, 5 to 8 percent slopes	40	300	40	1, 100	------	------	6. 6	3. 7	4. 5
Fuquay pebbly loamy sand, 2 to 5 percent slopes	80	600	65	1, 800	28	2, 000	8. 0	4. 8	7. 0
Grady sandy loam	40	------	------	------	------	------	------	------	5. 0
Grady clay loam	------	------	------	------	------	------	------	------	4. 5
Kershaw sand, 2 to 8 percent slopes	------	------	------	------	------	------	2. 0	------	2. 0
Local alluvial land	90	500	70	------	35	2, 200	9. 0	4. 5	7. 0
Meggett loam	------	------	------	------	------	------	------	------	------
Norfolk loamy sand, 0 to 2 percent slopes	75	675	75	2, 000	35	2, 300	10. 0	5. 0	7. 5
Norfolk loamy sand, 2 to 5 percent slopes	70	640	70	1, 900	32	2, 200	9. 5	4. 7	7. 0
Norfolk loamy sand, 2 to 5 percent slopes, eroded	65	620	65	1, 850	30	2, 200	9. 3	4. 5	6. 7
Ocilla loamy sand, 0 to 2 percent slopes	45	------	40	------	25	------	7. 0	4. 2	5. 5
Orangeburg loamy sand, 2 to 5 percent slopes	75	625	65	1, 700	30	2, 000	9. 5	5. 7	7. 0
Orangeburg loamy sand, 2 to 5 percent slopes, eroded	60	600	60	1, 650	25	1, 900	9. 3	5. 3	6. 8
Plummer sand, 0 to 2 percent slopes	------	------	------	------	------	------	------	------	5. 7
Rains sandy loam	60	------	------	------	20	------	------	------	5. 7
Sawyer loamy sand, 2 to 5 percent slopes	60	500	60	1, 300	28	------	5. 8	3. 2	5. 0
Sawyer loamy sand, 5 to 8 percent slopes, eroded	40	400	50	1, 100	20	------	5. 0	3. 0	4. 5
Susquehanna loamy sand, 2 to 5 percent slopes, eroded	------	------	------	------	------	------	5. 7	3. 4	5. 2
Susquehanna loamy sand, 5 to 8 percent slopes, eroded	------	------	------	------	------	------	5. 3	3. 2	4. 8
Tifton loamy sand, 0 to 2 percent slopes	80	900	75	2, 000	35	2, 250	10. 5	6. 3	7. 8
Tifton loamy sand, 2 to 5 percent slopes	80	800	75	1, 800	32	2, 200	10. 0	6. 0	7. 4
Tifton loamy sand, 2 to 5 percent slopes, eroded	75	800	70	1, 800	32	2, 150	9. 8	5. 8	7. 2
Tifton loamy sand, 5 to 8 percent slopes, eroded	75	700	60	1, 500	28	1, 900	9. 5	5. 7	7. 0
Troup sand, 0 to 5 percent slopes	30	250	35	900	------	------	5. 0	3. 0	5. 0
Troup sand, 5 to 12 percent slopes	------	------	------	------	------	------	4. 7	2. 8	4. 2

[1] Animal-unit-months is a term used to express the number of months that 1 animal unit can graze 1 acre without injury to the pasture. An animal unit is 1 cow, 1 steer, 1 horse, 5 hogs, or 7 sheep.

Use of the Soils as Woodland[2]

About 65 percent of the acreage of Jenkins County is woodland, and most of this is on farms. The principal commercial trees are longleaf pine on the dry ridges, slash pine and loblolly pine on the moist sandy flats, and pines, gum, and yellow-poplar on the smaller, poorly drained bottoms. Slash pine and longleaf pine are important as sources of naval stores, such as turpentine and rosin. There are local markets for pulpwood and saw timber, including trees that have been "worked out" for naval stores.

Management of woodland can be planned more effectively if soils are grouped according to those characteristics and limitations that affect the growth of trees and the management of stands. The soils of Jenkins County have been placed in woodland groups on the basis of site index, annual growth, plant competition, seedling mortality, equipment limitation, and erosion hazard.

SITE INDEX. —The potential productivity of a soil for a specified kind of tree is expressed as site index. The site index for a given soil is the height, in feet, that a specified

[2] NORMAN E. SANDS, forester, Soil Conservation Service, assisted in writing this section.

kind of tree growing on that soil will reach in 50 years. It is determined mainly by the capacity of the soil to provide moisture and growing space for tree roots. The site index for a woodland group of soils is the average for the group.

ANNUAL GROWTH.—Site index can be translated into board feet by using yield tables developed through forest research. In this survey, the average annual growth per acre is given in board feet, by the Scribner log rule, to age 60 for even-aged, well-stocked stands. Yields for loblolly pine, longleaf pine, and slash pine were interpolated directly from tables 56, 88, and 120 of USDA Miscellaneous Publication 50 (*8*).[3] The yields for sweetgum and yellow-poplar were adapted from table 7 of USDA Agriculture Handbook No. 181 (*6*) by using diameter growth data gathered by the Soil Conservation Service and cooperating agencies.

PLANT COMPETITION.—If woodland is disturbed by burning, cutting, grazing, or some other means, undesirable trees and other plants invade the area and compete with desirable trees. Competition is *slight* if unwanted plants present no special problem; *moderate* if the invaders delay but do not prevent the establishment of normal, fully stocked stands; and *severe* if trees cannot regenerate naturally. If plant competition is moderate, seedbed preparation is generally not needed, and competition can be controlled by simple methods. If competition is severe, careful site preparation, controlled burning, spraying with chemicals, and girdling may be necessary.

SEEDLING MORTALITY.—Even when healthy seedlings of suitable trees are correctly planted or occur naturally in adequate numbers, some of them will not survive if characteristics of the soil are unfavorable. Mortality is *slight* if not more than 25 percent of the planted seedlings die, or if trees regenerate naturally in places where there are enough seeds; *moderate* if 25 to 50 percent of the planted seedlings die, or if trees do not regenerate naturally in adequate numbers; *severe* if more than 50 percent of the planted seedlings die, or if trees do not regenerate naturally. If mortality is moderate, replanting may be necessary to fill open spaces. If mortality is severe, special seedbed preparation and careful planting are required.

EQUIPMENT LIMITATIONS.—Drainage, slope, stoniness, soil texture, or other soil characteristics may restrict or prohibit the use of ordinary equipment in woodland management. The limitation is *slight* if there are no restrictions on the type of equipment or on the time of year that the equipment can be used; *moderate* if the soils are moderately steep, stony, or rocky, or if they are wet in winter and early in spring and use of equipment would injure tree roots or damage soil structure; *severe* if equipment cannot be used more than 3 months a year, or if use of equipment would severely damage tree roots or soil structure and stability.

Management by Woodland Groups

In the following pages the woodland groups of soils are described, the site index and annual growth for the principal trees are given, and the major limitations and hazards affecting management are discussed.

[3] Italicized numbers in parentheses refer to Literature Cited, p. 60.

The "Guide to Mapping Units" at the back of this publication lists the soils and shows the woodland group in which each soil has been placed.

Woodland group 1

This group consists of well-drained, nearly level to gently sloping soils that have a sandy surface layer and a moderately permeable subsoil. These soils are on uplands and stream terraces.

The amount of water available to tree roots is moderate in most of the soils but moderately low in some of the soils that have a surface layer of loamy sand or sand 20 to 40 inches thick. Water and roots penetrate easily and deeply.

The average site index is 88 for slash pine, 74 for longleaf pine, and 87 for loblolly pine. The annual growth in board feet per acre is 470 for slash pine, 320 for longleaf pine, and 520 for loblolly pine.

Plant competition is moderate, and seedling mortality is slight. The equipment limitation is moderate.

Woodland group 2

This group consists of medium-textured, moderately well drained and somewhat poorly drained soils that have a moderately slowly permeable subsoil. The amount of water available to tree roots is high, and roots penetrate to a moderate depth.

Most of the acreage is woodland. Slash pine, loblolly pine, longleaf pine, sweetgum, and oaks are well suited. Slash pine is predominant (fig. 13), and it is intensively managed for naval stores. A few longleaf pines grow among the slash pines.

The average site index is 90 for slash pine, 75 for longleaf pine, 87 for loblolly pine, and 90 for sweetgum. The annual growth in board feet per acre is 790 for slash pine, 330 for longleaf pine, 510 for loblolly pine, and 400 for sweetgum.

Because of the good moisture supply, plant competition is moderate to severe. If an opening is made in the canopy, unwanted plants must be weeded out at least once. Seedling mortality is slight. The equipment limitation is slight to moderate. Conventional equipment can be used the entire year, but soil structure and tree roots are likely to be damaged if equipment is used during wet periods lasting 2 months or more each year.

Woodland group 3

This group consists of well drained and moderately well drained soils that have a medium-textured or fine-textured subsoil. The amount of water available to tree roots is moderate. Below a depth of 24 inches, the fine-textured soil material restricts root penetration.

The average site index is 90 for slash pine, 69 for longleaf pine, and 86 for loblolly pine. The average annual growth in board feet per acre is 490 for slash pine, 260 for longleaf pine, and 510 for loblolly pine.

These soils are used for cultivated crops, for pasture, and for trees. Pines are predominant on the dry sites and most moist sites. Sweetgum is predominant on some moist sites.

Because of the moderate moisture supply, plant competition is moderate to severe. If an opening is made in the canopy, unwanted plants must be weeded out at least once.

Figure 13.—**Slash pine and scattered longleaf pines on Ardilla loamy sand, 0 to 2 percent slopes. The understory is wiregrass and shrubs.**

Seedling mortality is slight. During wet seasons the use of equipment causes slight to moderate damage to tree roots and soil structure.

Woodland group 4

This group consists of poorly drained soils that have a coarse-textured to fine-textured subsoil. These soils are on broad flats, in depressions, and in drainageways. Water covers the surface for more than a month each year.

Most of the acreage is woodland and pasture. Areas that are not flooded are good sites for loblolly pine, slash pine, longleaf pine, sweetgum, and yellow poplar. Draining some of the wet sites would make them suitable for trees. The ponded areas, which generally have a clay loam subsoil, are moderately good sites for tupelo-gum and baldcypress.

The site index is 88 for slash pine, 78 for longleaf pine, 90 for loblolly pine, and 100 for sweetgum and yellow-poplar. The annual growth in board feet is 470 for slash pine, 370 for longleaf pine, 550 for loblolly pine, and 510 for sweetgum and yellow-poplar.

Because of the abundance of water, plant competition is severe. If an opening is made in the canopy, several weedings are necessary. Seedling mortality is moderate to severe. Drainage and bedding are generally necessary for the survival of naturally seeded or planted trees. The equipment limitation is severe. Conventional equipment can be used only during infrequent dry periods in midsummer. Drainage of surface water and proper construction of access roads are necessary for the use of conventional equipment.

Woodland group 5

This group consists of well-drained, coarse-textured soils that have a surface layer of sand that extends to a depth of 40 to 72 inches.

These soils are better suited to pines than to other locally grown trees (fig. 14).

The site index is 78 for slash pine, 65 for longleaf pine, and 76 for loblolly pine. The annual growth in board feet per acre is 370 for slash pine, 210 for longleaf pine, and 390 for loblolly pine.

Plant competition is moderate to severe. Because of droughtiness, however, control of competing plants is not warranted.

Seedling mortality is severe in most areas. It is moderate in small, nearly level areas that have a moderate amount of water available for short periods. Naturally seeded longleaf pines generally survive better than planted seedlings. The use of equipment is moderately restricted, especially on slopes of 8 to 12 percent.

Woodland group 6

Kershaw sand, 2 to 8 percent slopes, is the only soil in this group. This soil is coarse sand to a depth of 72 to 120 inches or more. Drainage is excessive, and the amount of water available to tree roots is very low.

This soil is not well suited to trees. Scattered longleaf pines are the only commercial trees that grow on it, and they occur in only a few areas.

The site index for longleaf pine is estimated to be less than 50. Data are not available on the productivity for other trees.

Only a few areas have been planted to pines. These are small, level areas where soil moisture is favorable for short periods. The drought hazard is severe, and seedling mortality is severe.

Woodland group 7

This group consists of moderately well drained soils that have a slowly permeable, clayey subsoil. The amount of water available to tree roots is moderately low or low.

The site index is 80 for slash pine and loblolly pine and 70 for longleaf pine. The annual growth in board feet per acre is 390 for slash pine, 290 for longleaf pine, and 440 for loblolly pine.

Figure 14.—Slash pine plantation on Troup sand, 0 to 5 percent slopes, in a field once used for cultivated crops.

These soils are used mainly for trees, and they are best suited to loblolly pine, slash pine (fig. 15), and longleaf pine.

Although the moisture supply is moderately low or low, plant competition is moderate. If an opening is made in the canopy, weeding is necessary at least once. Seedling mortality is slight to moderate. The equipment limitation ranges from slight on the gentler slopes to moderate on slopes greater than 12 percent.

Woodland group 8

This group consists of moderately well drained and somewhat poorly drained soils that have moderate to rapid permeability. These soils are best suited to slash pine and loblolly pine.

The site index is 75 for slash pine, 68 for longleaf pine, and 90 for loblolly pine. The annual growth in board feet per acre is 340 for slash pine, 260 for longleaf pine, and 550 for loblolly pine.

Plant competition is slight to moderate. If an opening is made in the canopy, one or two weedings are necessary. Because of the moisture supply, seedling mortality is slight. The equipment limitation is moderate.

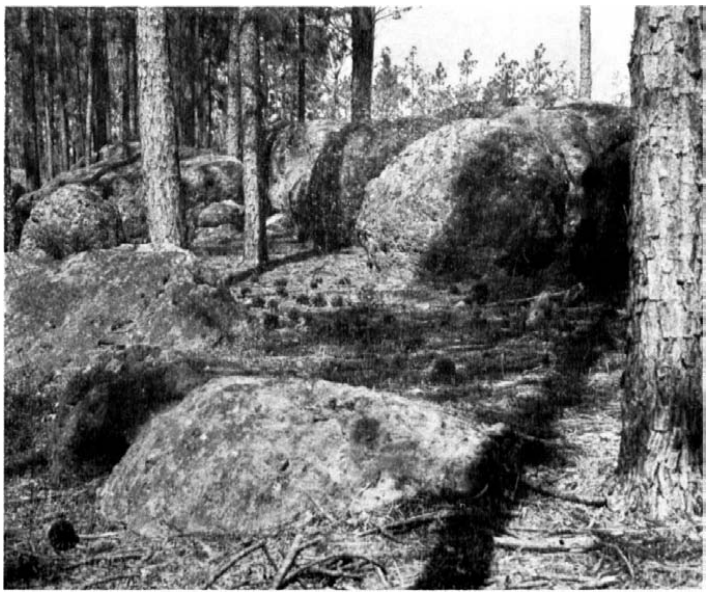

Figure 15.—Slash pine growing on Susquehanna loamy sand, 5 to 8 percent slopes, eroded. The sedimentary rock outcrops are on the lower parts of slopes.

Use of the Soils for Wildlife [4]

Most of the soils in Jenkins County produce food and cover for many kinds of wildlife. Bobwhites and doves live in the large cultivated fields in the southern and northwestern parts of the county. Rabbits, squirrels, foxes, opossums, raccoons, and many nongame birds are common throughout the county. Most farms have one or more sites suitable for a fishpond. Deer, turkeys, and wild hogs find good habitat in the extensive woodland of the Ogeechee River swamp and along the flood plains. The swamps and numerous small lakes and sloughs near the Ogeechee River, Buckhead Creek, and Big Dukes Pond are good habitat for wild ducks.

The food and habitat needs of the principal kinds of wildlife are summarized in the following paragraphs.

Bobwhites eat acorns, beechnuts, blackberries, browntop millet, wild black cherries, corn, cowpeas, dewberries, flowering dogwood berries, annual lespedeza, bicolor lespedeza, mulberries, pecans, pine seeds, common ragweed, sweetgum seeds, and tickclover. Bobwhites also eat many insects. The food must be close to vegetation that provides shade and protection from predators and from adverse weather.

Deer eat acorns, bahiagrass, clover, cowpeas, greenbrier, honeysuckle, annual lespedeza, bicolor lespedeza, oats, fescue, ryegrass, and wheat. Woodland of 500 acres or more generally provides adequate cover.

Mourning doves eat browntop millet, corn, Japanese millet, pine seeds, ragweed, and sweetgum seeds. Doves do not eat insects, green leaves, or fruit. They drink water daily.

Ducks eat acorns, beechnuts, browntop millet, corn, Japanese millet, and smartweed seeds. They prefer these foods covered with water. Occasionally ducks eat acorns and corn on dry land.

Rabbits need cover, such as a blackberry or plum thicket. They eat clover, grass, and other similar vegetation.

Squirrels eat acorns, beechnuts, blackgum seeds, black cherries, corn, flowering dogwood berries, hickory nuts, mulberries, pecans, and pine seeds.

Wild turkeys survive only in a large wooded area, generally 1,000 acres or larger in size. They need water for daily drinking, and they often roost in large trees over or near water. They eat insects, acorns, beechnuts, pecans, bahiagrass seeds, blackberries, dewberries, browntop millet, clover, corn, cowpeas, flowering dogwood berries, wild grapes, hackberries, mulberries, pine seeds, fescue, oats, ryegrass, and wheat.

Nongame birds vary in the kinds of food they eat. Several species eat only insects. A few eat insects and fruit. Some are seed eaters; others eat insects, fruit, and seeds.

The principal game fish in the county are bluegill, bass, and shellcracker. In addition to these, farm ponds are stocked with channel catfish. The principal native fish in the Ogeechee River and other larger streams are redbreast, bass, bluegill, catfish, warmouth, jackfish, and redfin pike. Annual "runs" of the migratory white shad and striped bass up the Ogeechee River provide good fishing in season.

Bluegill and shellcracker feed mostly on aquatic worms, insects, and larvae. Bass and channel catfish feed on small fish and other live organisms. The amount of fish produced in a pond or other body of water is related to the fertility of the water, which is determined by the soils of the watershed, and, somewhat, by the soils at the bottom of the ponds. Because the soils of this county are acid and low in fertility, most ponds need to be fertilized and limed to produce enough green microscopic algae to feed the worms and, thereby, the fish.

Farm ponds are stocked by the Fish and Wildlife Service from the hatchery at Magnolia Springs in this county. The hatchery serves 121 additional counties in Georgia and South Carolina.

[4] PAUL D. SCHUMACHER, biologist, Soil Conservation Service, assisted in writing this section.

Wildlife Groups

The soils in Jenkins County have been placed in five wildlife groups according to their capacity to produce food and cover for wildlife. These groups are described in the following pages. Turn to the "Guide to Mapping Units" at the back of this publication to find the soils in each group.

Guidance in planning and establishing wildlife habitat can be obtained from the local office of the Soil Conservation Service.

Wildlife group 1

This group consists of poorly drained and very poorly drained soils on broad, low flats and in long, narrow drainageways and oval depressions. The slope range is 0 to 5 percent. These soils are saturated or covered with water for long periods, and some are flooded frequently for short periods. Most of them have a seasonal high water table.

The seasonal high water table limits the vegetation mostly to water-tolerant plants on the wetter sites. Some of the food-producing plants are blueberry, smartweed, gallberry, saw-palmetto, baldcypress, blackgum, chinkapin, and magnolia. The many kinds of hardwoods, chiefly in large tracts, provide food and cover for deer, turkeys, and squirrels. The small lakes, sloughs, and perennial streams have water in them, even in periods of low rainfall. By construction of low dikes, many areas can be flooded for ducks. Water holes or pits are needed in some tracts for deer, turkeys, and wild hogs.

Wildlife group 2

This group consists of well-drained and excessively drained soils on narrow, steep bluffs along the larger streams and on sandy ridges and side slopes near the smaller streams and ponded depressions. The slope range is 0 to 12 percent.

These soils are wooded, except for the areas on the more gentle slopes. The low available water capacity and the steep slopes in some areas limit the production of food for wildlife. The cover is adequate, but supplemental food must be produced and water provided on soils nearby.

The principal food-producing plants are blackberry, beggarweed, lespedeza, wiregrass, oaks, hickory, pines, and black cherry. These provide food for bobwhites, turkeys, deer, squirrels, and other wildlife.

Wildlife group 3

This group consists of moderately well drained to somewhat poorly drained soils on stream terraces, on low up-

land flats, and in shallow unpland depressions. The slope range is 0 to 2 percent.

These soils have a moderate available water capacity and are suited to many plants that provide food for wildlife. Most of the acreage is wooded. Ponds can be easily established and maintained in natural drains and small depressions. An adequate water supply is also available on adjoining soils.

The principal food-producing plants are beggarweed, corn, cowpeas, annual lespedeza, white clover, blueberry, saw-palmetto, pines, oaks, and mahaws. These provide food for bobwhites, deer, rabbits, and other wildlife.

Wildlife group 4

This group consists of well-drained to somewhat poorly drained soils on uplands. They are in all parts of the county except the northwestern. The slope range is 2 to 17 percent.

These soils are wooded, except for the gentler slopes. Although they have a low available water capacity, they are suited to a number of plants that produce food for wildlife. These plants can be established and maintained if moderate practices are used to control erosion and fire and to regulate grazing.

The principal food-producing plants are beggarweed, blackberry, greenbrier, wiregrass, corn, millet, sericea lespedeza, cowpeas, dogwood, hickory, oak, pecan, and pine. Bobwhites, deer, and squirrels are prevalent in these areas.

There are many good sites for ponds in the drainageways, which are supplied with water from springs and from seepage.

Wildlife group 5

This group consists chiefly of well-drained soils on broad ridges and gently sloping hillsides. The slope range is 0 to 8 percent. Most of the acreage is cultivated, although many of the stronger slopes near the drainageways are wooded. These soils are extensive in the northwestern and southern parts of the county.

Tilth is good. The available water capacity is moderate to low. These soils are well suited to many field crops and native plants that provide food for wildlife.

The principal plants are blackberry, beggarweed, ragweed, millet, corn, annual lespedeza, crimson clover, cowpeas, peanuts, rye, and oats. Rabbits and doves are common in these areas.

The drainageways and shallow depressions are good sites for small ponds.

Use of the Soils in Engineering [5]

Engineers use soil as construction material or as the site on which structures are built. Within the area of this survey, there are many different soils, and they vary widely in properties that affect engineering. Engineers are concerned with locating and identifying the soils, determining their engineering properties, correlating those properties with the requirements of the construction job, and selecting the best material for the specific job.

[5] JOHN E. JACKSON, agricultural engineer, Soil Conservation Service, assisted in writing this section.

Engineers can use the information in this publication to—

1. Make soil and land-use studies that will aid in selecting and developing industrial, business, residential, and recreational sites.
2. Plan the construction of drainage and irrigation systems, farm ponds, diversions, and other soil and water conservation structures.
3. Make preliminary evaluations of soils in selecting locations for highways, airports, pipelines, cables, and buildings and in planning detailed soil surveys at the selected locations.
4. Locate sources of sand, gravel, topsoil, and other construction materials.
5. Correlate performance of engineering structures with soil mapping units and thus develop information that will be useful in designing and maintaining such structures.
6. Supplement information from other sources and make engineering maps and reports.
7. Develop other preliminary estimates for construction purposes pertinent to a specific area.

Most of the information in this section is given in table 3, "Engineering test data," table 4, "Estimated engineering properties of the soils," and table 5, "Engineering interpretations of the soils."

With the use of the soil map for identification, the engineering data reported here can be useful for many purposes. It should be emphasized that they do not eliminate the need for sampling and testing at the site of specific engineering works involving heavy loads or excavations deeper than the depths of layers here reported. Even in these situations, the soil map is useful for planning more detailed field investigations and for suggesting the kinds of problems that can be expected.

Some of the terms used in this publication have special meanings in soil science that do not correspond with the meanings of the same terms in engineering. These terms are defined in the Glossary according to their meaning in soil science. For additional information about the soils, engineers may want to refer to "Descriptions of the Soils," "Formation and Classification of the Soils," and other sections of this publication.

Engineering Classification Systems

Two systems of soil classification are in general use by engineers. They are the system used by the American Association of State Highway Officials (AASHO) (*2*) and the Unified system used by the U.S. Army, Corps of Engineers (*10*). Estimated classifications of all the soils according to these two systems and that used by the U.S. Department of Agriculture are shown in table 4.

In the AASHO system soil materials are classified in seven groups ranging from A–1 through A–7. Soils in the A–1 group are gravelly soils that have high bearing capacity; those in the A–7 group are clay soils that have low bearing capacity when wet. Within each group the relative engineering value of the soil material is indicated by a group index number ranging from 0 for the best material to 20 for the poorest. The group index numbers are in parentheses and are shown only in the test data.

TABLE 3.—*Engineering*

[Tests performed by the State Highway Department of Georgia in cooperation with U.S. Department of Commerce, Bureau

Soil name and location	Parent material	Georgia report No. S-63-Ga-82-	Depth	Horizon	Moisture-density data [1]		Volume change [2]		
					Maximum dry density	Optimum moisture	Shrinkage	Swell	Total volume change
			In.		*Lb. per cu. ft.*	*Pct.*	*Pct.*	*Pct.*	*Pct.*
Dothan loamy sand:									
2,250 ft. N. of Reeves farmstead on Old Midville Road. (Ortho)	Unconsolidated marine sediments.	4–1	0–7	Ap	115	9	0	0. 7	0. 7
		4–5	18–33	B22t	110	14	3. 2	1. 8	5. 0
		4–7	44–55	B32t	111	16	5. 7	2. 1	7. 8
1.8 mi. NW. of Butts and 0.4 mi. W. of school. (Toward Cowarts loamy sand)	Unconsolidated marine sediments.	3–1	0–4	A11	108	12	0	2. 9	2. 9
		3–5	18–26	B2t	111	13	3. 7	. 2	3. 9
		3–7	34–60	B32t	119	12	2. 4	2. 6	5. 0
1,275 ft. E. of Mt. Carmel Church on Old River Road. (Toward Fuquay loamy sand)	Unconsolidated marine sediments.	5–2	2–12	A21	116	10	. 1	2. 6	2. 7
		5–5	20–31	B2t	116	12	3. 1	. 7	3. 8
		5–6	31–48	B31t	116	12	2. 9	3. 8	6. 5
Troup sand:									
1.2 mi. S. of Four Points on Ga. Hwy. No. 121. (Ortho)	Unconsolidated marine sediments.	1–2	2–30	A21	107	13	0	7. 7	7. 7
		1–3	30–54	A22	104	6	0	2. 3	2. 3
		1–4	54–72	Bt	113	14	1. 1	. 3	1. 4
2,660 ft. NW. of Ga. Hwy. No. 17 and 760 ft. W. of Martin Grove Church. (Toward Fuquay loamy sand)	Unconsolidated marine sediments.	6–1	0–8	Ap	111	10	0	4. 1	4. 1
		6–2	8–30	A2	116	9	0	3. 8	3. 8
		6–4	43–52	IIB2t	117	13	5. 4	1. 6	7. 0

[1] Based on method described in Moisture-Density Relations of Soils Using 5.5-lb. Rammer and 12-in. Drop, AASHO Designation: T 99–57, Method A (*2*).

[2] Based on "A System of Soil Classification" by W. F. Abercrombie; Proceedings, Highway Research Board, 1954 (*1*).

[3] Mechanical analysis according to AASHO Designation: T 88 (*2*). Results by this procedure may differ somewhat from results obtained by the soil survey procedure of the Soil Conservation Service (SCS). In the AASHO procedure, the fine material is analyzed by the hydrometer method, and the various grain-size fractions are calculated on the basis of all the material, including that coarser than

In the Unified system soil materials are classified as coarse grained (eight classes), fine grained (six classes), and highly organic (one class).

Soil Test Data

To help in the evaluation of soils for structural purposes and to provide checks on estimated soil properties, samples of two extensive soil series, Troup and Dothan, were tested according to standard AASHO procedures. The results are shown in table 3.

The samples tested were obtained from depths of less than 6 feet and do not represent materials at greater depth. Tests were made to determine moisture-density relations, volume change, grain-size distribution, liquid limit, and plasticity index.

The moisture-density data are obtained by mechanical compaction. If a soil material is compacted at progressively higher moisture content and the compaction effort remains constant, the density of the compacted material will increase until the optimum moisture content is reached. After the optimum moisture content is reached, the density of the material decreases with an increase in moisture content. The data obtained from this test are important in earthwork because, as a rule, the soil material is most stable if it is compacted at optimum moisture content.

Volume change indicates the amount of shrinking and swelling that can be expected with changes in moisture content. The shrink-swell potential depends on the amount and kind of clay in the soil. Soils high in clay content have a high shrink-swell potential. Sands and other soils that contain a small amount of clay have a low shrink-swell potential, and silty clays and sandy clays a moderate one.

Grain-size distribution was determined by mechanical analysis according to AASHO methods. The data show the relative proportions of the different size particles that make up the soil.

The liquid limit and plasticity index show the effect of water on the consistence of soil material. As the addition of water changes a clayey or silty soil from a dry to a moist state the material changes from semisolid to plastic. As the moisture content further increases, the material changes from plastic to liquid. The plastic limit is the moisture content at which the material passes from a semisolid to a plastic state. The liquid limit is the moisture content at which the material passes from a plastic to a liquid state. The plasticity index is the numerical difference between the liquid limit and the plastic limit. It indicates the

test data

of Public Roads, in accordance with standard procedures of the American Association of State Highway Officials (AASHO)]

Mechanical analysis [3]									Liquid limit	Plasticity index	Classification	
Percentage passing sieve—					Percentage smaller than—						AASHO	Unified [4]
⅜-in.	No. 4 (4.7 mm.)	No. 10 (2.0 mm)	No. 40 (0.42 mm.)	No. 200 (0.074 mm.)	0.05 mm.	0.02 mm.	0.005 mm.	0.002 mm.				
									Pct.			
-------	100	97	72	13	10	7	4	2	[5] NP	[5] NP	A–2–4(0)	SM
100	96	90	72	39	38	36	33	31	40	21	A–6(3)	SC
100	99	94	71	41	40	38	35	33	36	18	A–6(3)	SC
-------	100	99	82	14	10	7	4	4	NP	NP	A–2–4(0)	SM
-------	100	99	90	40	39	38	36	34	21	1	A–4(1)	SM
-------	----------	100	75	24	24	24	22	21	27	15	A–2–6(1)	SC
100	98	97	80	14	11	9	6	3	NP	NP	A–2–4(0)	SM
-------	100	98	83	30	27	25	22	21	26	2	A–2–4(0)	SM
-------	100	99	84	32	30	27	26	25	25	12	A–2–6(0)	SC
-------	----------	100	94	8	6	4	3	2	NP	NP	A–3(0)	SP–SM
-------	----------	100	94	7	5	4	2	1	NP	NP	A–3(0)	SP–SM
-------	----------	100	95	27	24	23	21	20	NP	NP	A–2–4(0)	SM
-------	----------	100	84	14	10	6	3	2	NP	NP	A–2–4(0)	SM
-------	----------	100	81	20	14	10	6	4	NP	NP	A–2–4(0)	SM
-------	----------	100	84	35	30	26	25	24	24	12	A–2–6(0)	SC

2 millimeters in diameter. In the SCS soil survey procedure, the fine material is analyzed by the pipette method, and the material coarser than 2 millimeters in diameter is excluded from calculations of grain-size fractions. The mechanical analysis used in this table is not suitable for use in naming textural classes of soil.

[4] SCS and BPR have agreed to consider that all soils having plasticity indexes within two points of A-line are to be given a borderline classification, such as SP–SM.

[5] NP = Nonplastic.

range of moisture content within which the soil material is plastic.

Estimated Engineering Properties of the Soils

Table 4 contains estimates of some of the soil properties that affect structural practices. The properties recorded are those of the normal profile; variation from the recorded values can be expected.

The estimates are based on test data if available, on tests of soils in other counties, and on experience in the use of the soils in structural work. The depth to a seasonal high water table is based on field observations.

Permeability is the rate, measured in inches per hour, at which water passes through undisturbed soil material. The rate of permeability is influenced by the texture and structure of the soil material. Soils classified as coarse grained in the Unified system or A–1 in the AASHO system have the highest rate of permeability; those classified as fine grained or A–7 in the AASHO system have the lowest rate.

The available water capacity is the amount of water that soil material can hold available to plants when the material is wet to field capacity. Fine-textured soils, such as silt loam and silt, have the highest available water capacity.

Soil reaction is the intensity of soil acidity or alkalinity expressed in pH value. The lower values indicate acidity, and the higher values, alkalinity.

Shrink-swell potential is explained in the preceding subsection on test data.

Engineering Interpretations of the Soils

In table 5 each soil is rated as a source of construction material, and features of each soil are given that indicate its suitability for specific engineering works. The information is based on test data in table 3, on estimated properties in table 4, and on the judgment of engineers who have had experience with the soils.

Topsoil is used on slopes, road shoulders, and other areas that have been disturbed and need a vegetative cover to protect them from erosion. Generally, only the surface layer is used as topsoil.

Sand is used in cement, bituminous mixtures, and other construction materials. The sands in Jenkins County are too poorly graded and, except for Kershaw sand, are too fine textured for construction material.

TABLE 4.—*Estimated engineering*

Soil series and map symbols	Approximate depth to seasonal high water table	Depth from surface	Classification	
			USDA texture	Unified
	In.	*In.*		
Ardilla (AqA)	15	0–13	Loamy sand	SM
		13–23	Sandy loam	SM
		23–32	Sandy clay loam	SM–SC
		32–65	Sandy clay loam	SM–SC, SC
Barth (BgA)	15	0–29	Fine sand	SM–SP
		29–65	Loamy sand	SM
Bibb (Bwc)	0	0–4	Sand	SM
(For Wehadkee part of this mapping unit, see Wehadkee series.)		4–40	(1)	(1)
Bladen (Bls)	0	0–7	Fine sandy loam	SM, ML
		7–48	Clay	CH, CL
Carnegie (CnB2, CnC2)	48	0–5	Loamy sand	SM
		5–19	Sandy clay loam	SC
		19–50	Sandy clay loam	SM–SC
Cowarts (CqB, CqB2, CqC, CqC2)	48	0–6	Loamy sand	SP–SM, SM
		6–21	Sandy clay loam	SM–SC, SC
		21–30	Sandy clay loam	SM–SC, SC
		30–60	Coarse sandy clay loam	SM–SC
Dothan (DaA, DaB, DaB2, DaC2)	36	0–10	Loamy sand	SM
		10–33	Sandy clay loam	SC, SM
		33–58	Sandy clay loam	SC
Dunbar (DmA)	15	0–12	Fine sandy loam	SM, ML
		12–24	Fine sandy clay	CL
		24–48	Clay	CH
Esto (EuB2, EuC2, EuE2)	42	0–2	Loamy sand	SM
		2–7	Sandy loam	SM
		7–12	Sandy clay loam	SM–SC
		12–24	Sandy clay	SC, CL
		24–60	Sandy clay loam	SM–SC
Fuquay (FhB)	48	0–27	Loamy sand	SM
		27–32	Sandy loam	SM
		32–39	Sandy clay loam	SM–SC, SC
		39–65	Sandy clay loam	SM–SC, CL
Fuquay (FsA, FsB, FsC)	42	0–24	Loamy sand	SM
		24–38	Sandy clay loam	SC, SM
		38–65	Sandy clay loam	SM, SC
Grady (Gra)	0	0–15	Sandy loam	SM
		15–29	Sandy clay loam	SC
		29–50	Sandy clay	SC, CL, ML–CL
Grady (Gcl)	0	0–6	Clay loam	SC–CL
		6–19	Sandy clay	CL
		19–40	Fine sandy clay	CL, ML–CL
Kershaw (KdC)	96	0–80	Coarse sand	SP
Local alluvial land (Lcm)	0	0–12	Loamy fine sand	SP–SM
		12–42	Fine sandy loam	SM
		42–58	Sandy clay loam	SM–SC
Meggett (Mba)	0	0–3	Loam	ML
		3–6	Sandy clay	SC, CL
		6–42	Clay	CH, CL
Norfolk (NhA, NhB, NhB2)	72	0–6	Loamy sand	SM
		6–50	Fine sandy clay to sandy clay loam.	SC

See footnotes at end of table.

properties of the soils—Continued

Classification—Continued	Percentage passing sieve—			Permeability	Available water capacity	Reaction	Shrink-swell potential
AASHO	No. 4 (4.7 mm.)	No. 10 (2.0 mm.)	No. 200 (0.074 mm.)				
				In. per hr.	*In. per in. of soil*	*pH value*	
A-2	100	100	15–25	>6. 3	0. 08	4. 5–5. 0	Low.
A-2	100	100	25–35	2. 0–6. 3	. 10	4. 5–5. 0	Low.
A-2, A-4	100	100	25–45	0. 63–2. 0	. 14	4. 5–5. 0	Low.
A-2, A-4	100	100	25–50	0. 2–1. 0	. 11	4. 5–5. 0	Moderate.
A-2	100	100	10–20	2. 0–6. 3	. 10	4. 5–5. 0	Low.
A-3	100	100	15–25	>6. 3	. 08	4. 5–5. 0	Low.
A-2	100	100	10–20	0. 63–2. 0	. 08	4. 5–5. 0	Low.
(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1).
A-4	100	100	35–55	0. 63–2. 0	. 14	4. 5–5. 0	Low.
A-7	100	100	65–80	<0. 2	. 15	4. 5–5. 0	High.
A-2, A-1	[2] 95–100	[3] 90–95	15–25	>6. 3	. 08	5. 1–5. 5	Low.
A-2, A-6, A-7	[2] 95–100	[3] 90–95	25–50	0. 63–2. 0	. 15	5. 1–5. 5	Moderate.
A-2, A-6, A-7	[2] 95–100	[3] 90–95	30–50	0. 2–1. 0	. 11	5. 1–5. 5	Moderate.
A-2	100	100	10–20	>6. 3	. 08	5. 1–5. 5	Low.
A-2, A-4	100	100	25–45	0. 63–2. 0	. 14	5. 1–5. 5	Low.
A-2, A-4	100	100	25–45	0. 2–1. 0	. 11	5. 1–5. 5	Low.
A-2, A-4	100	100	20–40	0. 2–1. 0	. 11	5. 1–5. 5	Low.
A-2	100	[3] 95–100	12–25	>6. 3	. 08	5. 1–5. 5	Low.
A-2, A-6, A-4	[2] 95–100	[3] 90–95	30–45	0. 63–2. 0	. 14	5. 1–5. 5	Low.
A-6, A-2	[2] 95–100	[3] 95–100	24–45	0. 2–1. 0	. 11	5. 1–5. 5	Low.
A-4	100	100	40–55	0. 63–2. 0	. 13	4. 5–5. 0	Low.
A-4, A-6	100	100	50–60	0. 20–0. 63	. 16	4. 5–5. 0	Moderate.
A-7	100	100	65–80	<0. 2	. 15	5. 1–5. 5	High.
A-2	100	100	10–20	>6. 3	. 08	4. 5–5. 0	Low.
A-2	100	100	20–30	2. 0–6. 3	. 10	4. 5–5. 0	Low.
A-2, A-4	100	100	25–45	0. 63–2. 0	. 14	4. 5–5. 0	Moderate.
A-6	100	100	36–65	0. 2–0. 63	. 14	4. 5–5. 0	High.
A-2, A-4	100	100	25–45	0. 63–2. 0	. 14	4. 5–5. 0	High.
A-2	[2] 95–100	[3] 90–95	15–25	>6. 3	. 08	5. 1–5. 5	Low.
A-2, A-4	[2] 95–100	[3] 90–95	30–45	2. 0–6. 3	. 12	5. 1–5. 5	Low.
A-2, A-4	[2] 95–100	[3] 90–95	25–45	0. 63–2. 0	. 14	5. 1–5. 5	Low.
A-6	[2] 95–100	[3] 90–95	36–55	0. 2–1. 0	. 11	5. 1–5. 5	Low.
A-2	100	100	10–20	>6. 3	. 08	5. 1–5. 5	Low.
A-2, A-4	100	100	25–45	0. 63–2. 0	. 14	5. 1–5. 5	Low.
A-2, A-4	[2] 95–100	[3] 95–100	25–45	0. 2–1. 0	. 11	5. 1–5. 5	Low.
A-2, A-4	100	100	20–45	2. 0–6. 3	. 12	4. 5–5. 0	Low.
A-6, A-4	100	100	35–45	0. 63–2. 0	. 18	4. 5–5. 0	Moderate.
A-6, A-7	100	100	45–75	0. 2–0. 63	. 15	4. 5–5. 0	High.
A-6	100	100	45–75	0. 63–2. 0	. 14	4. 5–5. 0	High.
A-6	100	100	50–80	0. 2–0. 63	. 15	4. 5–5. 0	High.
A-6, A-7	100	100	60–80	0. 2–0. 63	. 16	4. 5–5. 0	High.
A-3	100	100	3–10	>6. 3	. 03	5. 1–5. 5	Low.
A-2	100	100	10–25	2. 0–6. 3	. 12	4. 5–5. 0	Low.
A-4	100	100	36–50	0. 63–2. 0	. 13	4. 5–5. 0	Low.
A-4	100	100	36–45	0. 63–2. 0	. 14	4. 5–5. 0	Low.
A-4	100	100	50–60	0. 63–2. 0	. 20	>4. 5	Low.
A-4, A-6	100	100	36–55	0. 2–0. 63	. 16	4. 5–5. 0	Moderate.
A-7	100	100	65–85	>0. 2	. 16	6. 1–8. 4	High.
A-2	100	100	15–25	>6. 3	. 08	4. 5–5. 5	Low.
A-2, A-6	100	100	30–45	0. 63–2. 0	. 15	4. 5–5. 5	Low.

TABLE 4.—*Estimated engineering*

Soil series and map symbols	Approximate depth to seasonal high water table	Depth from surface	Classification	
			USDA texture	Unified
	In.	*In.*		
Ocilla (OhA)	30	0–36	Loamy sand	SP–SM, SP
		36–50	Clay loam	SC
		50–65	Clay	CL–CH
Orangeburg (OeB,OeB2)	60	0–7	Loamy sand	SP–SM, SP
		7–18	Sandy loam	SM–SC, SC
		18–60	Sandy clay loam	SM–SC, SC
Plummer (PeA)	0	0–45	Sand	SP–SM, SP
		45–55	Sandy loam	SM
Rains (Ros)	0	0–17	Sandy loam	SM
		17–50	Sandy clay loam	SC
Sawyer (SfB, SfC2)	48	0–6	Loamy sand	SM
		6–11	Sandy loam	SM
		11–38	Sandy clay	SC, CL
		38–60	Sandy clay loam	SM–SC, SC
Susquehanna (SpB2, SpC2)	36	0–5	Loamy sand	SM
		5–7	Sandy clay loam	SM–SC, SC
		7–50	Clay	CH
Tifton (TqA, TqB, TqB2, TqC2)	48	0–14	Loamy sand	SM, SP–SM
		14–17	Sandy loam	SM–SC, SM
		17–37	Sandy clay loam	SM–SC, SC, CL
		37–65	Sandy clay loam	SC, CL
Troup (TzB, TzD)	72	0–54	Sand	SP–SM, SM
		54–72	Sandy clay loam	SM, SC
Wehadkee (Wehadkee part of Bibb-Wehadkee complex)	0	0–11	Fine sandy loam	SM, ML
		11–38	Sandy clay loam	SC, CL
		38–44	Sandy clay	CL
		44–50	Sandy loam	SM

[1] Estimates were not made; properties of soil materials are variable.
[2] Iron pebbles retained on No. 4 sieve.

TABLE 5.—*Engineering*

Soil series and map symbols	Suitability as a source of—			Soil features affecting—	
	Topsoil	Sand	Road fill	Highway location	Farm ponds: Reservoir area
Ardilla (AqA)	Fair to poor	Poor	Good	Somewhat poor drainage; upland level topography; low position; water table at a depth of 1.2 to 2.5 feet for 2 to 6 months.	Moderately slow seepage; terrace and low upland positions.
Barth (BgA)	Poor	Poor	Good	Water table at a depth of 1.2 to 2.5 feet for 2 to 6 months.	Excessive seepage; terrace and low upland positions.

properties of the soils—Continued

Classification—Continued	Percentage passing sieve—			Permeability	Available water capacity	Reaction	Shrink-swell potential
AASHO	No. 4 (4.7 mm.)	No. 10 (2.0 mm.)	No. 200 (0.074 mm.)				
				In. per hr.	*In. per in. of soil*	*pH value*	
A-3	100	100	15–25	>6.3	0.08	4.5–5.0	Low.
A-4, A-6	100	100	36–50	0.63–2.0	.12	4.5–5.0	Moderate.
A-6, A-7	100	100	55–80	>0.2	.15	4.5–5.0	Moderate.
A-2	100	100	10–20	>6.3	.08	5.1–5.5	Low.
A-2, A-4	100	100	30–45	6.3–2.0	.12	5.1–5.5	Low.
A-2, A-4	100	100	25–45	0.63–2.0	.14	5.1–5.5	Low.
A-2, A-3	100	100	5–20	>6.3	.05	4.5–5.0	Low.
A-4	100	100	36–50	0.63–2.0	.15	4.5–5.0	Low.
A-2	100	100	15–25	2.0–6.3	.12	4.5–5.0	Low.
A-2, A-6	100	100	26–50	0.63–2.0	.14	4.5–5.0	Low.
A-2	100	100	10–20	>6.3	.08	4.5–5.8	Low.
A-4	100	100	36–45	2.0–6.3	.10	4.5–5.0	Low.
A-4, A-6	100	100	40–65	0.2–1.0	.14	4.5–5.0	High.
A-4	100	100	36–50	0.63–2.0	.14	4.5–5.0	Moderate.
A-2	100	100	20–30	>6.3	.08	4.5–5.0	Low.
A-4	100	100	35–40	0.63–2.0	.14	4.5–5.0	Moderate.
A-7	100	100	70–90	<0.2	.16	4.5–5.0	High.
A-2	[2] 95–100	[3] 90–95	15–20	>6.3	.09	5.1–5.5	Low.
A-2	[2] 95–100	[3] 90–95	20–35	2.0–6.3	.14	5.1–5.5	Low.
A-4, A-6	[2] 95–100	[3] 90–95	36–55	0.63–2.0	.15	5.1–5.5	Moderate.
A-6	[2] 95–100	[3] 90–95	36–55	0.2–1.0	.12	5.1–5.5	Moderate.
A-3, A-2	100	100	5–15	>6.3	.05	5.1–5.5	Low.
A-2	100	100	20–35	>6.3	.14	5.1–5.5	Low.
A-2, A-4	100	100	25–55	2–6.3	.12	4.5–5.0	Low.
A-4, A-6, A-2	100	100	25–55	0.2–0.63	.17	4.5–5.0	Low.
A-6	100	100	50–65	0.2–0.63	.20	4.5–5.0	Moderate.
A-4, A-2	100	100	25–45	0.63–2.0	.12	4.5–5.0	Low.

[3] Iron pebbles retained on No. 10 sieve.

interpretations of the soils

Soil features affecting—Continued						
Farm ponds—Con.	Irrigation		Agricultural drainage		Water disposal systems	
Embankment	Sprinkler irrigation	Irrigation pits	Open drains	Tile drains	Terraces	Waterways and constructed outlets
Moderate strength and stability; moderately good compactibility; low to moderate shrink-swell potential.	Moderate intake rate; moderate water-holding capacity.	Water-bearing strata within reach; low stability of side slopes.	Seasonal high water table; suitable for open drainage.	Moderate permeability; suitable for drains spaced 90 feet or more apart.	Not required..	Not required.
Low strength and stability; fair compactibility.	Moderate intake rate; moderate to low water-holding capacity.	Water-bearing strata within reach; low strength and stability.	Low stability of side slopes; suitable for open drainage.	Rapid permeability; low stability of side slopes; suitable for drains spaced 90 feet or more apart.	Not required..	Not required.

TABLE 5.—*Engineering*

Soil series and map symbols	Suitability as a source of—			Soil features affecting—	
	Topsoil	Sand	Road fill	Highway location	Farm ponds: Reservoir area
Bibb (Bwc) (For Wehadkee part of Bwc, see Wehadkee series).	Poor	Poor	Poor	Water table at a depth of 0 to 1.2 feet for 2 to 6 months; flooded for 7 days to 1 month more than once each year.	Excessive seepage; stratified.
Bladen (Bls)	Fair to poor	Unsuitable	Poor	Water table at a depth of less than 1.4 feet for more than 2 months; flooded for 1 to 6 months.	Slow seepage
Carnegie (CnB2, CnC2)	Fair to poor	Poor	Fair	Good drainage; sloping topography; upland position.	Slow seepage; sloping topography; upland position.
Cowarts (CqB, CqB2, CqC, CqC2).	Fair	Poor	Fair	Good drainage; sloping topography; upland position.	Moderately slow seepage; sloping topography; upland position.
Dothan (DaA, DaB, DaB2, DaC2).	Fair	Poor	Good	Level to gentle slopes; good drainage; upland position; moderately erodible slopes; moderate strength and stability.	Moderately slow seepage; moderate strength and stability.
Dunbar (DmA)	Fair	Poor	Poor	Somewhat poor drainage; water table at a depth of 1.2 to 2.5 feet for 2 to 6 months; moderate stability and strength.	Slow seepage; level topography; terrace position.
Esto (EuB2, EuC2, EuE2)	Poor	Poor	Poor	Good drainage; sloping topography; upland position; moderately high stability; erodibility.	Not applicable
Fuquay (FhB, FsA, FsB, FsC).	Fair	Poor to fair	Good	Good drainage; very gently sloping topography; upland position; moderately high strength and stability.	Moderately slow seepage in subsoil; very gently sloping topography; upland position.

interpretations of the soils—Continued

Soil features affecting—Continued						
Farm ponds—Con.	Irrigation		Agricultural drainage		Water disposal systems	
Embankment	Sprinkler irrigation	Irrigation pits	Open drains	Tile drains	Terraces	Waterways and constructed outlets
Low to moderate strength and stability.	Not suitable for cultivation.	Low to moderate strength and stability; flooding.	Not suitable for cultivation.	Not suitable for cultivation.	Not suitable for cultivation.	Not suitable for cultivation.
High shrink-swell potential.	Slow intake rate; high water-holding capacity.	Water-bearing strata within reach; plastic material below a depth of 0.5 feet; difficult to excavate.	Slow permeability; suitable for shallow drainage and bedding.	Slow permeability; tile not advisable.	Not required	Not required.
Moderately high stability; good compactibility; moderate shrink-swell potential.	Moderate intake rate; moderate to low water-holding capacity.	Water-bearing strata at too great depth.	Not required	Not required	Medium to rapid runoff; erodibility.	Medium to rapid runoff; erodibility.
Moderate strength and stability; good compactibility; low shrink-swell potential.	Moderate intake rate; moderately low water-holding capacity.	Water-bearing strata at too great depth.	Not required	Not required	Sloping topography; upland position; medium to rapid runoff; erodibility.	Medium to rapid runoff; high erodibility.
Moderate strength and stability; good compactibility; low shrink-swell potential.	Moderately high intake rate; moderate water-holding capacity.	Water-bearing strata at too great depth for development.	Not required	Not required	Slow to moderate runoff.	Slow to moderate runoff; erodibility.
Moderate strength and stability; fair to good compactibility; high shrink-swell potential.	Moderate intake rate; moderately high water-holding capacity.	Water-bearing strata within reach; moderate strength and stability.	Moderate strength and stability; suitable for open drainage.	Slow permeability; suitable for drains spaced 70 feet or more apart.	Not required	Not required.
Good strength and stability; good to fair compactibility; high shrink-swell potential.	Not advisable; slow intake rate.	Water-bearing strata at too great depth for development.	Not required	Not required	Sloping topography; upland position; medium to rapid runoff; erodibility.	Medium to rapid runoff; erodibility.
Good strength and stability; good compactibility.	Moderately high intake rate; moderately low water-holding capacity.	Water-bearing strata at too great depth for development.	Not required	Not required	Very gently sloping topography; slow runoff; erodibility.	Slow runoff; erodibility.

TABLE 5.—*Engineering*

Soil series and map symbols	Suitability as a source of—			Soil features affecting—	
	Topsoil	Sand	Road fill	Highway location	Farm ponds: Reservoir area
Grady (Gra)	Fair	Unsuitable	Poor	Poor drainage; level to slightly depressional topography; water table near the surface for 1 to 2 months.	Slow permeability; slow seepage; depressional topography; upland position.
Grady (Gcl)	Poor	Unsuitable	Poor	Very poor drainage; depressional topography; water table at or near the surface for 2 to 6 months.	Very slow permeability; depressional topography; upland position.
Kershaw (KdC)	Poor	Good	Fair	Excessive drainage; gently sloping topography; upland position; low stability.	Excessive seepage; gently sloping topography; upland position.
Local alluvial land (Lcm)	Good	Poor	Poor	Moderately good drainage; in shallow depressions and along drainageways; water table at a depth of 1.2 to 2.5 feet for 1 to 2 months.	Moderately slow seepage; in shallow depressions and along drainageways.
Meggett (Mba)	Unsuitable	Unsuitable	Unsuitable	Very poor drainage; level topography; flooded more than once each year for 1 to 6 months; water table at a depth of 0 to 15 inches for more than 6 months.	Soil material variable.
Norfolk (NhA, NhB, NhB2)	Fair	Poor	Good	Good drainage; level to gently sloping topography; slight to moderate erodibility on slopes; high strength and stability.	Moderate seepage
Ocilla (OhA)	Poor	Poor	Good	Water table at a depth of 2.5 to 5.0 feet 2 to 6 months each year.	Excessive seepage; low upland positions.
Orangeburg (OeB, OeB2)	Fair	Poor	Good	Good drainage; gently sloping topography; upland position; moderately high strength and stability; unstable slopes.	Gently sloping topography; upland position; moderately slow seepage.
Plummer (PeA)	Poor	Fair	Fair	Poor drainage; level topography; low upland position; water table at a depth of 0 to 1.3 feet more than 2 months.	Excessive seepage; low upland position.

interpretations of the soils—Continued

Soil features affecting—Continued						
Farm ponds—Con.	Irrigation		Agricultural drainage		Water disposal systems	
Embankment	Sprinkler irrigation	Irrigation pits	Open drains	Tile drains	Terraces	Waterways and constructed outlets
Good strength and stability; moderately poor compactibility; moderate shrink-swell potential.	Not required	Water-bearing strata within reach.	Slow permeability; suitable for shallow drainage and bedding.	Not advisable	Not required	Not required.
Poor to moderately poor compactibility; high shrink-swell potential.	Not required	Water-bearing strata within reach.	Very slow permeability; suitable for shallow drainage and bedding.	Not advisable	Not required	Not required.
Poor compactibility; low strength and stability.	Not suitable for cultivation.	Not applicable	Not required	Not required	Not suitable for cultivation.	Not suitable for cultivation.
High strength and stability; low shrink-swell potential.	Moderate intake rate; high water-holding capacity.	Water-bearing strata within reach; high strength and stability.	Suitable for open drainage and bedding.	Moderate permeability; suitable for drains spaced 90 feet or more apart.	Not required	Ponded to slow runoff.
Variable soil material; poor strength and stability; high shrink-swell potential.	Not suitable for cultivation.	Not suitable for cultivation.	Not suitable for cultivation.	Not suitable for cultivation.	Not suitable for cultivation.	Not suitable for cultivation.
Good strength and stability; good compactibility.	Moderate to rapid intake rate; moderate water-holding capacity.	Water-bearing strata at too great depth.	Not required	Not required	Smooth slopes; slight to moderate erodibility.	Slow to medium runoff; slight to moderate erodibility.
Moderate strength and stability; fair compactibility.	Rapid intake rate; moderate water-holding capacity.	Water-bearing strata within reach; low stability of side slopes.	Low stability of side slopes; suitable for open drainage and bedding.	Moderate permeability; low stability of side slopes; suitable for drains spaced 90 feet or more apart.	Not required	Not required.
Moderately high strength and stability; good compactibility.	Moderately high intake rate; moderate water-holding capacity.	Water-bearing strata at too great depth.	Not required	Not required	Medium runoff; erodibility.	Medium runoff; erodibility.
Low strength and stability; poor compactibility.	Not required	Water-bearing strata within reach; low strength and stability; flowing sand.	Not suitable for cultivation.	Not suitable for cultivation.	Not required	Not required.

TABLE 5.—*Engineering*

Soil series and map symbols	Suitability as a source of—			Soil features affecting—	
	Topsoil	Sand	Road fill	Highway location	Farm ponds: Reservoir area
Rains (Ros)	Fair	Poor	Fair	Poor drainage; in intermittent drainageways and on level stream terraces; water table at a depth of 0 and 1.2 feet for 2 to 6 months; floods for 2 to 30 days more than once a year.	Moderate seepage; stratified; lenses of sandy material.
Sawyer (SfB, SfC2)	Fair	Poor	Fair to good	Moderately good drainage; high shrink-swell potential.	Slow seepage; gently sloping topography; upland position.
Susquehanna (SpB2, SpC2)	Poor	Poor	Poor	Somewhat poor drainage; sloping topography; upland position; erodible slopes; seepage; plastic below a depth of 7 inches; weathered sandstone below a depth of 2.5 to 3.5 feet.	Slow seepage; sloping topography; upland position.
Tifton (TqA, TqB, TqB2, TqC2).	Good	Poor	Fair	Good drainage; level to gently sloping topography; upland position; moderately erodible slopes; moderate permeability; high strength and stability.	Slow seepage; level to gently sloping topography; upland position.
Troup (TzB, TzD)	Poor	Good	Fair	Good drainage; level to sloping topography; upland position; rapid permeability; low stability.	Excessive seepage; level to sloping topography; upland position.
Wehadkee (Wehadkee part of Bibb-Wehadkee complex)	Poor	Poor	Poor	Water table at a depth of 0 to 1.2 feet for 2 to 6 months; flooded for 7 days to 1 month more than once each year.	Excessive seepage; stratified.

Soils are rated as a source of road fill on the basis of plasticity, moisture content, compaction characteristics, and erodibility. Highly plastic clay and loose sand are unsuitable because they are difficult to compact.

Highway location is affected by a seasonally high water table, flooding, seepage, plasticity, erodibility, instability, and depth to bedrock.

In the construction of farm ponds, the rate of permeability is important in the reservoir area. Slow or moderately slow permeability is desirable. Strength, stability, compaction characteristics, and permeability are important features in the embankment material. If core walls are used, stability is more important than permeability in the development of side slopes. In the center section of an embankment, material that is moderately to slowly permeable and easy to compact is desirable. Material that has a high shrink-swell potential is undesirable.

Irrigation is affected by permeability, water-holding capacity, and erodibility. Soils that have moderate permeability and moderate to high water-holding capacity and are not subject to erosion are suited to irrigation.

Irrigation pits are rectangular, shallow reservoirs that store water and have adequate recharge capacity. They are excavated into the water-bearing strata, which are normally at a depth of 10 to 18 feet. The depth to these strata and an estimate of the recharge capacity ought to be determined before excavation.

In the column "Agricultural drainage," the suitability of the soils for open drains and tile drains is indicated.

Under the heading "Water disposal systems" the soil

interpretations of the soils—Continued

Soil features affecting—Continued						
Farm ponds—Con.	Irrigation		Agricultural drainage		Water disposal systems	
Embankment	Sprinkler irrigation	Irrigation pits	Open drains	Tile drains	Terraces	Waterways and constructed outlets
Moderate strength and stability; fair compactibility.	Not required	Water-bearing strata within reach; moderate strength and stability.	Moderate strength and stability; suitable for open drainage and bedding.	Moderate permeability; depth to firm material more than 20 inches; suitable for drains spaced 70 feet or more apart.	Not applicable.	Not applicable.
Moderate strength and stability; erodible on slopes; fair compactibility; high shrink-swell potential.	Moderate intake rate; moderate water-holding capacity.	Water-bearing strata at too great depth for development.	Not required	Not required	Medium to rapid runoff; erodibility.	Medium to rapid runoff; erodibility.
Poor compactibility; low strength and stability; high shrink-swell potential.	Not advisable; slow intake rate.	Not required	Not required	Not applicable	Not advisable.	Medium to rapid runoff; erodibility.
High strength and stability; good compactibility; moderate shrink-swell potential.	Moderate intake rate; moderate water-holding capacity.	Water-bearing strata at too great depth for development.	Not required	Not required	Medium runoff; erodibility.	Runoff; erodibility.
Low strength and stability; poor compactibility.	Not advisable; rapid intake rate.	Not advisable	Not required	Not required	Not advisable.	Not advisable.
Low to moderate strength and stability; moderate shrink-swell potential.	Not suitable for cultivation.	Low to moderate strength and stability; flooding.	Not suitable for cultivation.	Not suitable for cultivation.	Not suitable for cultivation.	Not suitable for cultivation.

features that affect the construction of terraces, waterways, vegetated outlets, and field roads are listed.

Use of the Soils in Community Development

In table 6 the soils of the county are rated according to their limitations as sites for residences, septic tank filter fields, recreational facilities, structures for light industry, and trafficways. The ratings are estimated. They do not take the place of onsite investigations, nor do they constitute recommendations for the use of the soils.

The limitations are rated as *slight*, *moderate*, or *severe* and are determined by texture, permeability, drainage, slope, depth to bedrock, depth to water table, droughtiness, and other features that affect the usefulness of a soil for a specific purpose. The limitations are slight if they are few and are easily overcome. They are moderate if only ordinary planning and management are required to overcome them. They are severe if more than ordinary planning and management are required. If the limitations are slight, only the rating is given. If they are moderate or severe, the specific limitations are given as well as the degree.

Residences referred to in table 6 are dwellings of three stories or less. Shrink-swell potential, depth to water table, hazard of flooding, slope, and depth to bedrock are the main features that determine the degree of limitation.

TABLE 6.—*Degree of limitation of the*

Soil series and map symbols	Residences	Septic tank filter fields
Ardilla: AqA	Moderate: seasonal high water table; flooding in some areas.	Severe: seasonal high water table; flooding in some areas; percolation slower than 75 minutes per inch.
Barth: BgA	Moderate: flooding in some areas	Moderate: flooding in some areas; seasonal high water table.
Bibb: Bwc (For Wehadkee part, see Wehadkee series.)	Severe: flooding; high water table	Severe: flooding; high water table
Bladen: Bls	Severe: flooding; high water table; high shrink-swell potential.	Severe: flooding; high water table; percolation slower than 75 minutes per inch.
Carnegie:		
CnB2	Slight	Moderate: percolation 45 to 75 minutes per inch.
CnC2	Slight	Moderate: percolation 45 to 75 minutes per inch.
Cowarts:		
CqB, CqB2	Slight	Moderate: percolation 45 to 75 minutes per inch.
CqC, CqC2	Slight	Moderate: percolation 45 to 75 minutes per inch.
Dothan:		
DaA, DaB, DaB2	Slight	Slight
DaC2	Slight	Slight
Dunbar: DmA	Severe: seasonal high water table; flooding in some areas; high shrink-swell potential.	Severe: seasonal high water table; flooding in some areas; percolation slower than 75 minutes per inch.
Esto:		
EuB2, EuC2	Moderate: high shrink-swell potential	Severe: high shrink-swell potential; percolation slower than 75 minutes per inch.
EuE2	Severe: 8 to 17 percent slopes	Severe: high shrink-swell potential; percolation slower than 75 minutes per inch.
Fuquay:		
FsA, FsB	Slight	Slight
FsC	Slight	Slight
FhB	Slight	Moderate: percolation 45 to 75 minutes per inch.
Grady: Gra, Gcl	Severe: flooding; high water table; high shrink-swell potential.	Severe: flooding; high water table; percolation slower than 75 minutes per inch.

soils for community development

Recreational facilities		Structures for light industry	Trafficways
Campsites and intensive play areas	Picnic grounds		
Moderate: seasonal high water table; fair trafficability.	Moderate: seasonal high water table; fair trafficability.	Moderate: moderate shrink-swell potential in lower part of subsoil; seasonal high water table; flooding in some areas.	Moderate: seasonal high water table; fair traffic-supporting capacity.
Slight	Slight	Moderate: flooding in some areas.	Moderate: high water table; flooding in some places.
Severe: flooding; high water table; poor trafficability.	Severe: flooding; high water table; poor trafficability.	Severe: flooding; high water table.	Severe: high water table; flooding; poor traffic-supporting capacity.
Severe: flooding; high water table; poor trafficability.	Severe: flooding; high water table; poor trafficability.	Severe: flooding; high water table; high shrink-swell potential; high corrosion potential.	Severe: poor traffic-supporting capacity; flooding; high water table.
Slight	Slight	Moderate: moderate shrink-swell potential.	Moderate: fair traffic-supporting capacity.
Moderate: 5 to 8 percent slopes.	Slight	Moderate: moderate shrink-swell potential; 5 to 8 percent slopes.	Moderate: fair traffic-supporting capacity.
Slight	Slight	Slight	Slight.
Moderate: 5 to 8 percent slopes.	Slight	Moderate: moderate shrink-swell potential; 5 to 8 percent slopes.	Slight.
Slight	Slight	Slight	Slight.
Moderate: 5 to 8 percent slopes.	Slight	Moderate: 5 to 8 percent slopes.	Slight.
Moderate: seasonal high water table; fair trafficability.	Moderate: seasonal high water table; fair trafficability.	Severe: high shrink-swell potential; seasonal high water table; flooding in some areas.	Moderate: seasonal high water table; fair traffic-supporting capacity.
Moderate: fair trafficability; high erodibility.	Moderate: fair trafficability	Moderate: high shrink-swell potential.	Severe: poor traffic-supporting capacity.
Severe: 8 to 17 percent slopes; fair trafficability.	Moderate: 8 to 17 percent slopes; fair trafficability.	Severe: 8 to 17 percent slopes.	Severe: poor traffic-supporting capacity.
Slight	Slight	Slight	Slight.
Moderate: 5 to 8 percent slopes.	Slight	Moderate: 5 to 8 percent slopes.	Slight.
Slight	Slight	Slight	Slight.
Severe: flooding; high water table; poor trafficability.	Severe: flooding; high water table; poor trafficability.	Severe: flooding; high water table; high shrink-swell potential; high corrosion potential.	Severe: poor traffic-supporting capacity; flooding; high water table.

TABLE 6.—*Degree of limitation of the*

Soil series and map symbols	Residences	Septic tank filter fields
Kershaw: KdC	Moderate: low available water capacity	Moderate: low available water capacity; nearby water supply may be contaminated.
Local alluvial land: Lcm	Moderate: seasonal high water table; flooding in some areas.	Severe: seasonal high water table; flooding in some areas; percolation slower than 75 minutes per inch.
Meggett: Mba	Severe: seasonal high water table; flooding.	Severe: seasona high water table; flooding.
Norfolk: NhA, NhB, NhB2	Slight	Moderate: percolation 45 to 75 minutes per inch.
Ocilla: OhA	Moderate: seasonal high water table	Moderate: seasonal high water table
Orangeburg: OeB, OeB2	Slight	Slight
Plummer: PeA	Severe: flooding; high water table	Severe: flooding; high water table
Rains: Ros	Severe: flooding; high water table	Severe: flooding; high water table
Sawyer:		
SfB	Severe: high shrink-swell potential	Severe: high shrink-swell potential; percolation 45 to 75 minutes per inch.
SfC2	Severe: high shrink-swell potential	Severe: high shrink-swell potential; percolation 45 to 75 minutes per inch.
Susquehanna:		
SpB2	Severe: high shrink-swell potential	Severe: high shrink-swell potential; percolation slower than 75 minutes per inch.
SpC2	Severe: high shrink-swell potential	Severe: high shrink-swell potential; percolation slower than 75 minutes per inch.
Tifton:		
TqA, TqB, TqB2	Slight	Moderate: percolation 45 to 75 minutes per inch.
TqC2	Slight	Moderate: percolation 45 to 75 minutes per inch.
Troup: TzB, TzD	Moderate: low available water capacity	Moderate: low available water capacity; nearby water supply may be contaminated.
Wehadkee (Wehadkee part of Bibb-Wehadkee complex)	Severe: flooding; high water table	Severe: flooding; high water table

soils for community development—Continued

Recreational facilities		Structures for light industry	Trafficways
Campsites and intensive play areas	Picnic grounds		
Moderate: 2 to 12 percent slopes; fair trafficability.	Moderate: fair trafficability	Moderate: 2 to 12 percent slopes.	Moderate: fair traffic-supporting capacity.
Moderate: seasonal high water table; fair trafficability.	Moderate: seasonal high water table; fair trafficability.	Moderate: moderate shrink-swell potential; seasonal high water table; flooding in some areas.	Moderate: seasonal high water table; fair traffic-supporting capacity.
Severe: seasonal high water table; flooding.	Severe: seasonal high water table; flooding.	Severe: seasonal high water table; flooding.	Severe: seasonal high water table; flooding.
Slight	Slight	Slight	Moderate: fair traffic-supporting capacity.
Moderate: fair trafficability; seasonal high water table.	Moderate: fair trafficability; seasonal high water table.	Moderate: seasonal high water table.	Slight.
Slight	Slight	Slight	Slight.
Severe: flooding; high water table; poor trafficability.	Severe: flooding; high water table; poor trafficability.	Severe: flooding; high water table.	Severe: high water table; flooding; poor traffic-supporting capacity.
Severe: flooding; high water table; poor trafficability.	Severe: flooding; high water table; poor trafficability.	Severe: flooding; high water table.	Severe: high water table; flooding; poor traffic-supporting capacity.
Moderate: fair trafficability	Moderate: fair trafficability	Severe: high shrink-swell potential.	Severe: poor traffic-supporting capacity; moderate erodibility.
Moderate: 5 to 8 percent slopes.	Moderate: fair trafficability	Severe: high shrink-swell potential.	Severe: poor traffic-supporting capacity; severe erodibility.
Moderate: moderate erodibility; fair trafficability.	Moderate: moderate erodibility; fair trafficability.	Severe: high shrink-swell potential.	Severe: poor traffic-supporting capacity; very severe erodibility.
Moderate: 5 to 8 percent slopes.	Moderate: moderate erodibility; fair trafficability.	Severe: high shrink-swell potential.	Severe: poor traffic-supporting capacity; very severe erodibility.
Slight	Slight	Slight	Moderate: fair traffic-supporting capacity.
Moderate: 5 to 8 percent slopes.	Slight	Moderate: 5 to 8 percent slopes.	Moderate: fair traffic-supporting capacity.
Moderate: 2 to 12 percent slopes; fair trafficability.	Moderate: fair trafficability	Moderate: 2 to 12 percent slopes.	Moderate: fair traffic-supporting capacity.
Severe: flooding; high water table; poor trafficability.	Severe: flooding; high water table; poor trafficability.	Severe: flooding; high water table.	Severe: high water table; flooding; poor traffic-supporting capacity.

Limitations for use as septic tank filter fields depend on percolation rate, depth to water table, hazard of flooding, slope, and depth to bedrock.

Campsites, intensive play areas, and picnic grounds are the three kinds of recreational facilities considered in table 6.

Campsites are areas used for tent camping and related outdoor activities for at least one week. Septic tank filter fields are not required. Generally a site of not more than 2 acres is required, and little preparation is necessary. Hazard of flooding, depth to water table, trafficability, slope, and erodibility determine the degree of limitation.

Playgrounds, baseball diamonds, and tennis courts are examples of intensive play areas. They are subject to much foot traffic and generally require a nearly level, firm surface and good drainage. Also, they should be free of rock and rock outcrop. Slope, trafficability, and erodibility are considered in the rating of soils for this purpose.

The properties that are important for picnic grounds are slope, trafficability, and erosion hazard. Depth to water table and hazard of flooding are also important, but they determine trafficability and are not rated separately. Trafficability refers to the ease with which people can move about over the soil on foot, on horseback, or in small vehicles, such as motorbikes and golf carts.

Structures for light industry are buildings of not more than three stories used for stores, offices, and small industries. It is assumed that public sewage systems are available. The properties that determine the degree of limitation are slope, depth to water table, hazard of flooding, and shrink-swell potential.

Trafficways are low-cost roads and residential streets. The construction involves limited cut and fill and limited preparation of subgrade. Slope, depth to bedrock, depth to water table, hazard of flooding, erodibility, and traffic-supporting capacity are the soil properties that affect construction of trafficways. Traffic-supporting capacity is the ability of the undisturbed soil to support moving loads.

Formation and Classification of the Soils

In this section the soil-forming factors are discussed, the current system of classification is explained, and the soils are classified in categories above the series level.

Formation of the Soils

Soils are formed by the process of climate, topography, and living organisms acting upon parent material over a period of time. The characteristics of a soil at a given point are determined by (1) the physical and mineralogical composition of the parent material, (2) the climate under which the soil material accumulates and exists after accumulation, (3) the topography, which influences natural drainage, (4) the plants and animals that live in and on the soil, and (5) the length of time these processes act upon the soil material.

The relative importance of each soil-forming factor differs from place to place. In some places parent material is the dominant factor. For example, quartz sand is highly resistant to weathering, and soils that form in it commonly have faint horizons. Even in quartz sand, however, a distinct profile can be formed under certain types of vegetation if the topography is low and flat and the water table is high.

Climate

The climate of Jenkins County is warm and humid. Summers are long and hot, and winters are mild. Because rainfall is abundant, many of the soils are moist or are saturated during much of the year. In this kind of climate, the decay of minerals, the dissolution of bases, and the translocation of clay are accelerated. Iron oxidizes and organic matter decays rapidly in soils that have good drainage. Soils that have rapid permeability are highly leached by the water that moves through them.

Parent material

Parent material is the disintegrated and partly weathered rock from which a soil develops. It largely determines the chemical and mineralogical composition of a soil. In Jenkins County, the parent material of most of the soils is unconsolidated, fragmentary rock material that has been transported by water. The material varies in texture from coarse sand to clay.

According to the Geologic Map of Georgia (*4*), the soils of Jenkins County formed on three different kinds of marine terrace deposits and on stream alluvium and undifferentiated terrace deposits. Terraces are on the Hawthorn, Cooper Marl, and Barnwell formations, each of which has a mantle of Pleistocene sand ranging from a few inches to several feet in thickness. These formations are discussed in the subsection "Geology, Physiography, and Drainage."

Plants and animals

The kind and number of plants and animals that live on and in the soil are determined largely by the parent material, topography, climate, and time. In this county mixed stands of pine and hardwoods originally covered the uplands. Cypress, gum, and poplar grew on the flood plains. Many of the trees had roots that penetrated deeply and reached the nutrients in the lower part of the soil. These trees shed their leaves annually. Through the fallen leaves, the trees transferred nutrients from the lower part of the soil to the upper part and partly restored the nutrients that were removed by the leaching action of percolating water.

Decaying leaves, twigs, roots, and whole plants add much organic matter to the upper part of the soil where micro-organisms, earthworms, and other forms of life act upon them. Occasional wildfires and uncontrolled burning on uplands have reduced the organic matter in the surface layer of the soil.

Man, too, changes the direction and rate of soil development by clearing the forests, cultivating the soils, and introducing new kinds of plants. Few results from these activities can yet be seen, but studies indicate that organic matter in soil is sharply reduced and soil structure, tilth, and other characteristics are altered when soil is cultivated.

Topography

Topography affects drainage, temperature, and plant cover and thereby influences soil formation. The topography of Jenkins County ranges from level to steep. The

elevation ranges from 120 feet near Scarboro to 350 feet at Habersham Church.

The flood plains along the Ogeechee River and other streams are level and very poorly drained. The water table is at a depth of only a few inches for long periods. These areas are also frequently flooded and covered with fresh deposits of sediments. Thus, the soils on flood plains have little or no horizon differentiation.

The terraces are level or nearly level. They are higher than the flood plains and are infrequently flooded. The water table is at a depth of less than 30 inches for long periods. Because of the high water table and the slow surface runoff, the horizon development is not so advanced in soils on terraces as in the well-drained soils on uplands. In addition, soils on terraces generally have a fine-textured subsoil that restricts the movement of air and water and the penertation of roots and thus slows horizon development.

Most of the county is made up of nearly level to sloping uplands. The soils are well drained or excessively drained, and the water table is at a depth of several feet. These soils generally have well-developed profiles. The uplands in the northwestern part of the county have poorly defined drainageways and many depressions. The soils in the depressions are poorly drained, and the water table is at a depth of less than 30 inches for long periods. The uplands south of the Ogeechee River and northeast of Millen have well-defined drainageways in which the soils are poorly drained and the water table is only a few inches from the surface. These soils are frequently flooded in winter and during prolonged rainfall. The uplands in the northeastern corner of the county are made up of interstream ridges and slopes. The soils on the interstream ridges are well drained to somewhat poorly drained. They generally have a thin solum and a mottled, clayey, plastic substratum. The soils on the sand ridges, which are near the larger streams and on old shorelines, are droughty and have a water table at a depth of more than 100 inches.

Time

The time required for a soil to mature depends largely on the other soil-forming factors. A mature soil has well-defined horizons. Less time is generally required for a soil to develop in humid, warm areas under rank vegetation than in cold or dry areas under scant vegetation. Other factors being equal, less time is required for a soil to develop if the parent material is coarse textured than if it is fine textured.

Soils of the county vary considerably in maturity. For example, on the smoother uplands and old stream terraces, the soils are generally mature. On the stronger slopes, however, geologic or accelerated erosion has removed the soil material so rapidly that horizons have not formed.

Classification of the Soils

Soils are classified so that knowledge about them can be applied to various uses and to areas ranging in size from a few acres to many square miles. Soil series, types, and phases are the narrower categories and are most used for the study of small areas. These are defined in the section "How This Survey Was Made."

Two systems for classifying soils above the series level have been used in the United States. One is the 1938 system, revised (*3*, *7*). This system has been replaced by the current system, which places more emphasis on the observable and measurable characteristics of soil. The current system, adopted in 1965 for use in the cooperative soil survey, consists of the order, suborder, great group, subgroup, and family (*9*). This system is under continual study and revision. Placement of soil series in this system, especially in the families, may change as more precise information is available. Table 7 shows the classification of the soils of Jenkins County by this system.

The soil orders are the Entisols, Verticols, Inceptisols, Aridisols, Mollisols, Spodosols, Alfisols, Ultisols, Oxisols, and Histosols. Soils are placed in orders according to properties that show broad climatic groupings, except for the Entisols and Histosols, which occur in many climates. Only the Entisols, Inceptisols, Alfisols, and Ultisols are represented by the soils in Jenkins County.

Entisols are recent mineral soils that lack genetic horizons or have only the beginnings of such horizons. Inceptisols are mineral soils in which genetic horizons have started to develop. These soils generally form in young but not recent parent material. Alfisols are mineral soils that have an alluvial, or clay-enriched, horizon and a base saturation of more than 35 percent at a depth of 50 inches from the top of the illuvial horizon. Ultisols are mineral soils that have an illuvial horizon and a base saturation of less than 35 percent at a depth of 50 inches from the top of the illuvial horizon. Soils that have an illuvial fragipan and a base saturation of less than 35 percent at a depth of 30 inches from the top of the fragipan are also Ultisols. Plinthite within a depth of 65 inches was also considered in defining the Ultisols in Jenkins County.

Orders are subdivided into suborders, primarily on the basis of characteristics that reflect the presence or absence of waterlogging or differences in climate or vegetation. The suborders represented are Psamments, Aquents, Aquepts, Aqualfs, Aquults, Udalfs, and Udults.

Suborders are divided into great groups on the basis of the kind and sequence of major soil horizons, such as horizons that have an accumulation of clay, iron, or humus or pan horizons that interfere with the growth of plants or movement of water. Also considered are major soil features, such as soil temperature, chemical composition (mainly calcium, magnesium, sodium and potassium), and the irreversible hardening of soil material. The great groups represented in Jenkins County are Quartzipsamments, Haplaquepts, Paleudults, Albaqualfs, Ochraquults, Haplaquents, and Paleudalfs.

Great groups are divided into subgroups, one of which represents the central, or typic, segment of the great group. The others, called intergrades, have properties that grade toward another great group or other classification. Some subgroups have properties that are not like those of any other great group, suborder, or order; these are called extragrades.

Subgroups are divided into families, primarily on the basis of properties that affect the growth of plants or the use of the soils in engineering.

New soil series must be established and concepts of some established series, especially older ones that have been used little in recent years, must be revised in the course of the soil survey program across the country. A proposed new series has tentative status until review of the series concept at state, regional, and national levels of responsibility

TABLE 7.—*Classification of the soils*

Series	Family	Subgroup	Great group	Suborder	Order
Ardilla	Fine-loamy, siliceous, thermic	Plinthaquic Paleudults	Paleudults	Udults	Ultisols.
Barth	Sandy, siliceous, thermic	Aquic Psammentic Paleudults.	Paleudults	Udults	Ultisols.
Bibb	Coarse-loamy, siliceous, acid, thermic.	Typic Haplaquents	Haplaquents	Aquents	Entisols.
Bladen	Clayey, mixed, thermic	Typic Ochraquults	Ochraquults	Aquults	Ultisols.
Carnegie	Fine-loamy, siliceous, thermic	Plinthic Paleudults	Paleudults	Udults	Ultisols.
Cowarts	Fine-loamy, siliceous, thermic	Plinthic Paleudults	Paleudults	Udults	Ultisols.
Dothan	Fine-loamy, siliceous, thermic	Plinthic Paleudults	Paleudults	Udults	Ultisols.
Dunbar	Clayey, kaolinitic, thermic	Aeric Ochraquults	Ochraquults	Aquults	Ultisols.
Esto	Clayey, kaolinitic, thermic	Typic Paleudults	Paleudults	Udults	Ultisols.
Fuquay	Loamy, siliceous, thermic	Arenic Plinthic Paleudults.	Paleudults	Udults	Ultisols.
Grady	Clayey, kaolinitic, thermic	Typic Ochraquults	Ochraquults	Aquults	Ultisols.
Kershaw	Siliceous, thermic, uncoated	Typic Quartzipsamments	Quartzipsamments	Psamments	Entisols.
Meggett	Fine, mixed, thermic	Typic Albaqualfs	Albaqualfs	Aqualfs	Alfisols.
Norfolk	Fine-loamy, siliceous, thermic	Typic Paleudults	Paleudults	Udults	Ultisols.
Ocilla	Loamy, siliceous, thermic	Aquic Arenic Paleudults	Paleudults	Udults	Ultisols.
Orangeburg	Fine-loamy, siliceous, thermic	Typic Paleudults	Paleudults	Udults	Ultisols.
Plummer	Loamy, siliceous, thermic	Grossarenic Ochraquults	Ochraquults	Aquults	Ultisols.
Rains	Fine-loamy, siliceous, thermic	Typic Ochraquults	Ochraquults	Aquults	Ultisols.
Sawyer	Fine-silty over clayey, mixed, thermic.	Aquic Paleudults	Paleudults	Udults	Ultisols.
Susquehanna	Fine, montmorillonitic, thermic	Vertic Paleudalfs	Paleudalfs	Udalfs	Alfisols.
Tifton	Fine-loamy, siliceous, thermic	Plinthic Paleudults	Paleudults	Udults	Ultisols.
Troup	Loamy, siliceous, thermic	Grossarenic Paleudults	Paleudults	Udults	Ultisols.
Wehadkee	Fine-loamy, mixed, acid, thermic	Fluventic Haplaquepts	Haplaquepts	Aquepts	Inceptisols.

for soil classification results in a judgment that the new series should be established. Most of the soil series described in this publication have been established earlier. Four of the soil series used in this survey had tentative status when the survey was sent to the printer. They are the Ardilla, Cowarts, Dothan, and Troup series.

General Nature of the County

Jenkins County was organized in 1905 from parts of Bulloch, Burke, Emanuel, and Screven Counties. It was named after Charles J. Jenkins, a former Governor of Georgia. Millen, the county seat, began as a railroad junction in 1851 and was incorporated in 1881. The early settlers came from other parts of Georgia and from the Carolinas. They first farmed along the Old River Road parallel with the Ogeechee River, and later along the Central of Georgia Railroad. Some of the first settlements were under English land grants made during the colonial period.

In 1960 the population of the county was 9,148, of which about 60 percent was rural.

Jenkins County has been primarily agricultural, but industries are gaining in importance. Mobile homes are fabricated and equipped in Millen. A large textile plant and some garment and apparel plants employ several hundred people. Several sawmills operate within the county. Two electrical utility firms and one telephone company have area headquarters in Millen. One weekly newspaper is published.

The county has transportation that provides access to local and out-of-State markets. U.S. Highway No. 25 extends north and south through Millen. State highways and many hard-surfaced county roads also pass through the county. Daily railroad service, both freight and passenger, is available from Millen to Atlanta, Savannah, and Augusta.

Markets are maintained in Millen for all locally grown crops except tobacco. Livestock auctions are held weekly, and dairy products are sold locally and in Augusta and Savannah.

Farming

According to the U.S. Census of Agriculture, 138,676 acres, or nearly 62 percent of the county, was farmland in 1964. Farming is the main source of income, and dairy products and field crops are the leading sources of farm income. Corn, cotton, peanuts, soybeans, small grain, hay, and tobacco are the principal crops grown.

Farming is varied. In 1964, according to the census, there were 129 cotton farms, 86 general farms, 37 dairy farms, 36 livestock farms, and 23 cash grain farms, and many miscellaneous and unclassified farms.

The acreage of the principal crops grown in 1964 was as follows: corn, 16,407 acres; cotton, 8,909 acres; soybeans, 3,189 acres; hay, 2,710 acres; peanuts, 2,049 acres; rye, 1,004 acres; oats, 712 acres; and tobacco, 158 acres. Although tobacco is not an extensive crop, it is an important cash crop on farms south of the Ogeechee River.

The livestock in the county consists of beef cattle, dairy cattle, poultry, and hogs.

Water Supply

The Ogeechee River, Buckhead Creek, Little Buckhead Creek, and many smaller streams provide an adequate sup-

ply of water for farms, cities, and industry, and wells throughout the county provide drinking water. Artesian water underlies the entire county at a depth ranging from 85 feet near Scarboro to 225 feet at Habersham Church. The piezometric surface is approximately 155 feet above mean sea level. This is the level to which water from the limestone aquifer will rise in a cased, uncapped well that is drilled into the aquifer. Several such wells in the valleys of the Ogeechee River and Buckhead Creek are free flowing at the surface and supply high-quality, mildly alkaline water, but at most all upland locations pumping is necessary to obtain this water.

Numerous farm ponds, lakes, and pits provide water for livestock, fishing, and irrigation. There are suitable sites for many additional ponds.

Geology, Physiography, and Drainage

Jenkins County is in the middle of the Southern Coastal Plain section of Georgia. Parts of four major geological formations are at or near the surface and have influenced soil formation. Figure 16 is a geologic map of the county showing the four formations (*4*). Figure 17 is a profile of the county extending from southwest to northeast.

The Hawthorn formation of the Miocene system is the most extensive in the county. It is in the southern, northeastern, and northwestern parts of the county. The southern and northeastern parts are mildly dissected by dendritic streams, and Troup, Fuquay, and Dothan soils are predominant. The northwestern part has broad ridges, poorly defined streams, many small oval depressions, and several large ones. The predominant soils in this part are Norfolk, Tifton, and Fuquay soils, all of which are on the broad interstream upland ridges, and Grady soils, which are in the depressions and intermittent drainageways. In places, the formation is mantled by deposits of Pleistocene sand ranging from a few inches to several feet in thickness.

The Barnwell formation of the Eocene system is the oldest formation exposed in the county. It begins southwest of Magnolia Springs and extends northwest along Buckhead Creek. Orangeburg, Cuthbert, and Susquehanna soils are representative of the Barnwell formation.

The Cooper Marl formation, also of the Eocene system, extends northward from Millen and includes the lower reaches of the Little Buckhead Creek and Spring Mill Branch watersheds. Many shallow, oval depressions, small ponds, and partly filled dissolution cones (lime sinks) are typical of the landscape. This formation is capped by a more recent sandy mantle that is several feet thick in most places. The predominant soils are Troup, Fuquay, and Dothan.

The alluvium and undifferentiated terrace deposits are of recent origin and are on the flood plains and low terraces along the Ogeechee River. Meggett, Bladen, Dunbar, and Rains soils are predominant on these deposits.

Remnants of two Pleistocene shorelines are evident on the Miocene surface. They are the Brandywine at 270 feet above sea level and the Coharie at 215 feet above sea level. No formations or deposits are identified with these two marine stages.

The steep bluffs facing the Ogeechee River southeast of Millen correspond in elevation to the Okefenokee shoreline, at 170 feet.

The entire county is underlain by the Tampa limestone formation of the Miocene system (*5*). This porous limestone aquifer is a vast underground reservoir filled with artesian water.

The Ogeechee River and its tributaries drain all of the county except a small part that is drained by Beaverdam Creek, a tributary of the Savannah River system. Nearly all of the uplands are well drained by many creeks and intermittent streams. But the karstlike area in the northwestern part of the county has poorly defined drainageways and many small, shallow, oval depressions. Most of the depressions have no natural outlets. Large ones, like Big Dukes Pond, Jones Pond, and Long Pond, are intermittent lakes and serve as recharge basins for underground water supplies.

The poorest drainage in the county is associated with the alluvial flood plains and undifferentiated terrace deposits along the Ogeechee River. The flood plains are flooded frequently and usually for long periods. On the broad, level terraces, the ground water fluctuates and is at a depth of 30 inches much of the time.

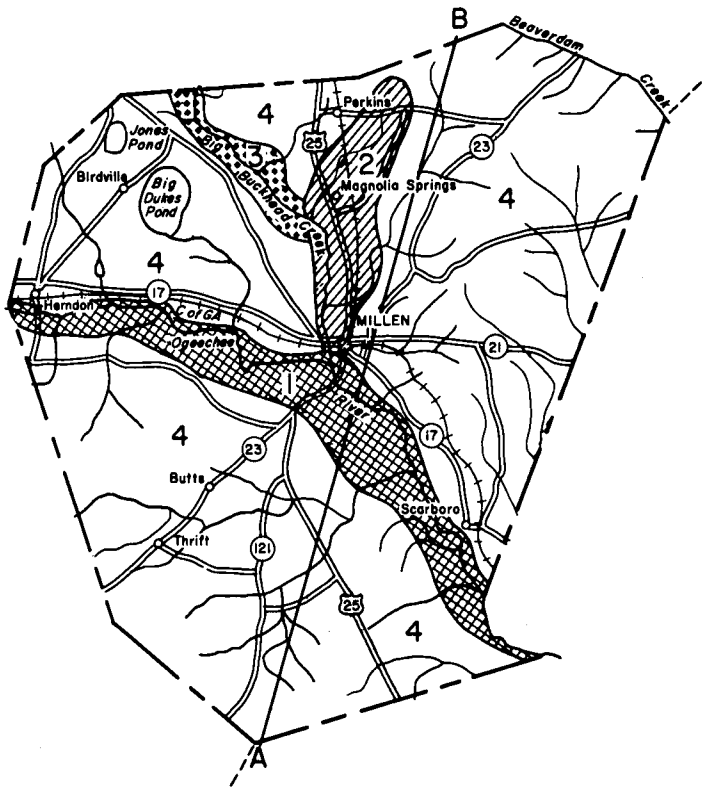

Figure 16.—**Geologic map of Jenkins County showing (1) alluvium and undifferentiated terrace deposits, (2) the Cooper Marl formation, (3) the Barnwell formation, and (4) the Hawthorn formation. Line A–B shows the direction and location of the profile in figure 17.**

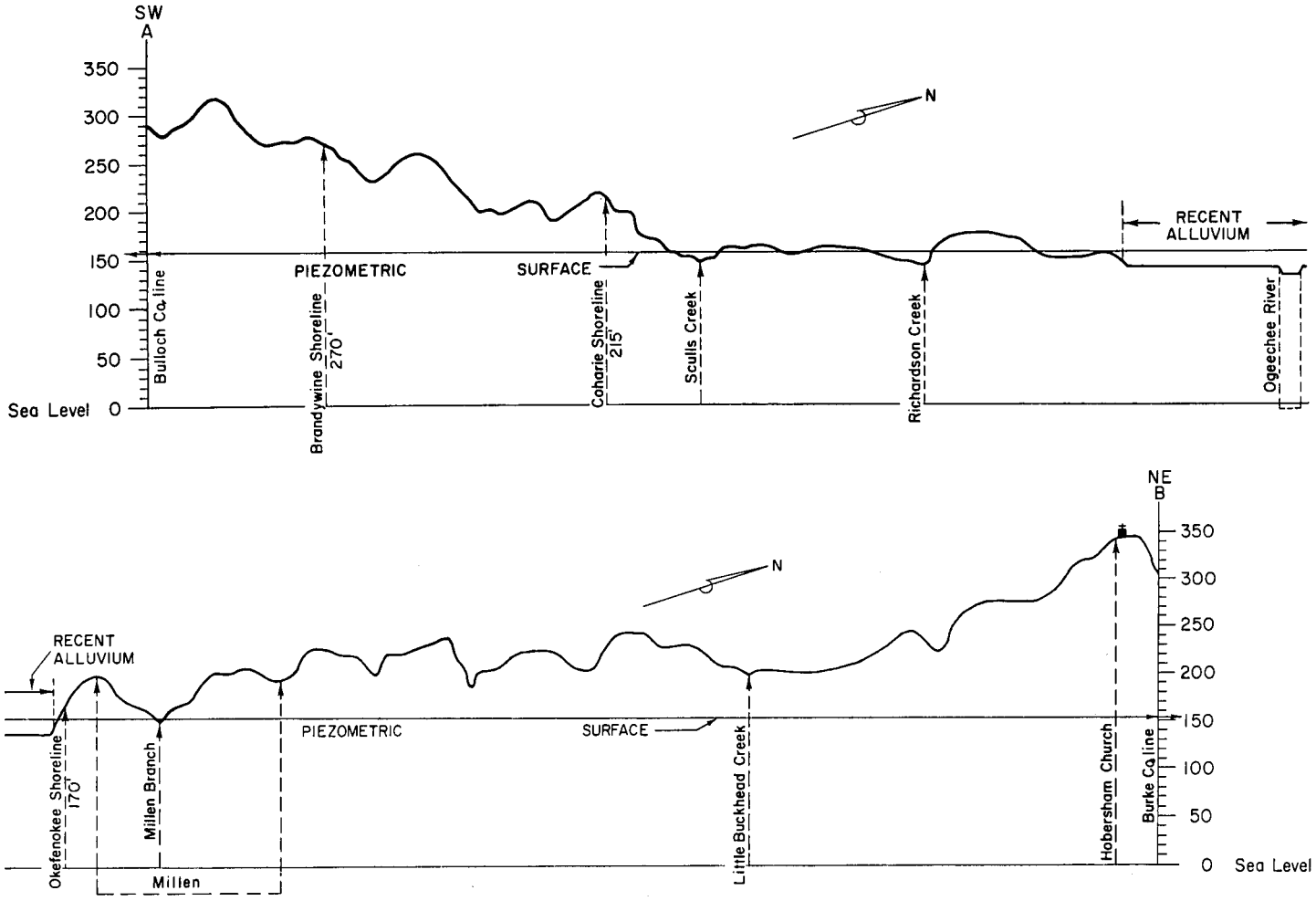

Figure 17.—**Profile of the county extending from Bulloch County, *A*, to Burke County. *B*. The line, *A–B*, crosses the dissected Hawthorn formation and recent alluvium along the Ogeechee River. The Brandywine shoreline at an elevation of 270 feet, the Coharie shoreline at 215 feet, and the Okefenokee shoreline at 170 feet are shown. The piezometric surface is at 155 feet.**

Climate in Relation to Soil Use [6]

Farmers of Jenkins County can use the information in this section in scheduling their plowing, planting, and harvesting activities. Much of the information is in tables. Table 8 contains data on temperature and precipitation. Table 9 shows the average number of days per month in any year on which specified amounts of rainfall can be expected. Table 10 shows the average number of days, by months, on which specified amounts of rainfall can be expected in 10 years. Table 11 lists the number of dry spells lasting 2, 4, and 6 weeks that have occurred each month in the year during a 10-year period. Table 12 gives the probability of freezing temperatures in spring and fall. The data in tables 8 and 12 are based on the period 1935–1964 at Millen, and the data in tables 9, 10, and 11 are based on the period 1955–1964.

Because of its latitude and nearness to the warm waters and currents of the Atlantic Ocean, Jenkins County has warm to hot, humid summers, fairly mild winters, and adequate rainfall that is usually well distributed throughout the year. Although summer thundershowers frequently slow the rise of afternoon temperatures, the maximum reaches or exceeds 90° F. on nearly 100 days from mid-May to mid-September. The temperature does not reach 100° every summer, but on the average, there are about 10 days with a maximum temperature of 100°. The average low temperature for June through August is just under 70°.

Winters are usually mild, but cool spells that drop early morning temperatures to freezing or below occur at regular intervals from mid-November to mid-March. These spells are usually short, however, and are followed by longer periods of comparatively mild weather. The minimum temperature drops to 32° F. or below on 35 to 40 days during an average winter, but a temperature under 20° can be expected on only 3 or 4 days. Daytime temperatures warm up to well above freezing. The average maximum temperature for the winter months is above 60°. The county's record low temperature of 2° occurred in February 1899. The lowest in recent years was 5° in December 1962.

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TABLE 8.—*Temperature and precipitation*

Month	Temperature				Precipitation		
	Average daily maximum	Average daily minimum	Two years in 10 will have at least 4 days with—		Average total	One year in 10 will have—	
			Maximum temperature equal to or higher than—	Minimum temperature equal to or lower than—		Less than—	More than—
	°F.	°F.	°F.	°F.	Inches	Inches	Inches
January	61.8	38.1	79	22	3.52	1.0	6.5
February	64.9	39.8	79	25	3.99	1.4	6.7
March	71.5	45.1	85	31	4.36	1.6	7.7
April	78.9	52.3	89	38	3.88	1.5	7.1
May	86.9	60.7	96	49	3.65	1.3	6.7
June	91.8	68.0	101	60	4.44	2.0	8.5
July	92.5	70.5	100	64	4.82	2.5	7.8
August	92.7	69.9	100	64	4.95	2.1	8.6
September	87.5	65.0	98	54	4.48	1.3	7.8
October	79.7	53.3	91	38	2.61	.2	5.9
November	70.4	43.3	83	27	2.28	.5	5.9
December	61.3	37.0	76	22	3.79	1.2	7.0
Year	78.3	53.6	[1] 103	[2] 17	46.77	34.1	61.4

[1] The maximum temperature that will be equaled or exceeded on at least 4 days in 2 years out of 10.
[2] The minimum temperature that will be equaled or exceeded on at least 4 days in 2 years out of 10.

TABLE 9.—*Average number of days per year (by months) on which rainfall equal to or greater than stated amounts can be expected*

Rainfall equal to or greater than—	Average number of days in—												
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
0.10 inch	7	7	7	6	6	7	9	6	6	4	4	6	75
0.25 inch	5	5	6	4	4	5	6	4	4	3	2	4	52
0.50 inch	3	4	3	3	3	4	4	3	3	2	2	2	36

TABLE 10.—*Total number of days in 10 years (by months) on which rainfall equal to or greater than stated amounts can be expected*

Rainfall equal to or greater than—	Total number of days in—												
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	10 years
1 inch	13	13	10	20	18	18	16	10	18	11	8	8	163
2 inches	2	3	1	6	3	4	6	3	8	3	1	2	42
3 inches	1	1	0	0	0	1	0	1	1	1	1	0	7
4 inches	0	0	0	0	0	0	0	1	0	1	0	0	2

TABLE 11.—*Total number of 2-week, 4-week, and 6-week periods in 10 years (by months) with no day having 0.25 inch or more of precipitation*

Periods equal to or greater than— [1]	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	10 years
2 weeks	2	3	4	6	5	8	4	5	5	9	10	8	69
4 weeks	1	0	1	2	1	0	0	2	1	4	3	1	16
6 weeks	0	0	0	0	0	0	0	0	0	2	2	0	4

[1] Periods are listed in the month during which the greater part occurred.

TABLE 12.—*Probabilities of last freezing temperatures in spring and first in fall*

Probability	Dates of given probability at temperature of—		
	24° F.	28° F.	32° F.
Spring:			
1 year in 10 later than	March 11	March 23	April 12
2 years in 10 later than	March 4	March 18	April 4
5 years in 10 later than	February 10	March 4	March 19
Fall:			
1 year in 10 earlier than	November 15	November 7	October 26
2 years in 10 earlier than	November 21	November 10	November 1
5 years in 10 earlier than	December 2	November 18	November 10

The length of the freeze-free season varies some from north to south but the average is between 235 and 240 days. The average dates of the last spring and first fall freezing temperatures are March 19 and November 10, respectively.

Although the county is in one of the drier parts of the State, the average annual rainfall is more than 46 inches. Rainfall is fairly evenly distributed throughout the year, but monthly and annual extremes vary widely. Monthly rainfall has ranged from 18.70 inches in September 1929 to none in four different months. The most recent rainless months were October 1961 and 1963. Annual rainfall has varied from only 28.92 inches in 1954 to 72.01 inches in 1964. Periods of dry weather are a problem during most years. They are longest and most frequent in fall and early in winter.

Snow has been observed only a few times. The greatest snowfall of record occurred in February 1914, when 6 inches was measured in Millen.

Wind direction varies with the passage of high and low pressure centers, but the wind is most frequently from a southerly direction from April through August and from a northerly direction during the remainder of the year. Average hourly speeds range from 6 miles per hour late in summer and fall to 10 miles per hour in winter and spring.

The average monthly relative humidity ranges from 85 to 92 percent early in the morning and from 50 to 60 percent early in the afternoon. The lower averages for morning and afternoon usually occur in spring, and the higher averages late in summer and in fall.

Records show only two tornadoes having been reported in the county through 1964. The most recent was in September 1963, when a storm moved through the county from west to east a few miles north of Millen. Locally damaging winds accompany some of the more severe thunderstorms, and a tropical cyclone occasionally moves near enough to bring gale force winds and excessive rains.

Literature Cited

(1) ABERCROMBIE, W. F.
1954. A SYSTEM OF SOIL CLASSIFICATION. Proc. 33rd Annual Meeting, Highway Research Board; Pub. 324, pp. 509–574, illus. Washington, D.C.

(2) AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS.
1961. STANDARD SPECIFICATIONS FOR HIGHWAY MATERIALS AND METHODS OF SAMPLING AND TESTING. Ed. 8, 2 v., 401 and 617 pp., illus.

(3) BALDWIN, MARK, KELLOGG, CHARLES E., AND THORP, JAMES.
1938. SOIL CLASSIFICATION. U.S. Dept. Agr. Ybk., pp. 978–1001, illus.

(4) GEORGIA DEPARTMENT OF MINES, MINING, AND GEOLOGY.
1939. GEOLOGIC MAP OF GEORGIA. Prepared in cooperation with U.S. Dept. of Int., Geol. Survey; 1 p.

(5) ———
1956. THE AVAILABILITY AND USE OF WATER IN GEORGIA. Prepared in cooperation with U.S. Dept. Int., Geol. Survey; Bul. No. 65, pp. 285–286, illus.

(6) PUTNAM, JOHN A., FURNIVAL, GEORGE M., AND MCKNIGHT, J. S.
1960. MANAGEMENT AND INVENTORY OF SOUTHERN HARDWOODS. U.S. Dept. Agr. Handbook No. 181, 102 pp., illus.

(7) THORP, JAMES, AND SMITH, GUY D.
1949. HIGHER CATEGORIES OF SOIL CLASSIFICATION: ORDER, SUBORDER, AND GREAT SOIL GROUPS. Soil Sci. 67: 117–126, illus.

(8) UNITED STATES DEPARTMENT OF AGRICULTURE.
1929. VOLUME, YIELD, AND STAND TABLES FOR SECOND-GROWTH SOUTHERN PINES. Misc. Pub. No. 50, 202 pp., Washington, D.C. [Out of print.]

(9) ———
1960. SOIL CLASSIFICATION, A COMPREHENSIVE SYSTEM, 7TH. APPROXIMATION. 265 pp., illus. [Supplement issued March 1967. U.S. Govt. Printing Office, Washington, D.C.]

(10) WATERWAYS EXPERIMENT STATION, CORPS OF ENGINEERS.
1953. UNIFIED SOIL CLASSIFICATION SYSTEM. Tech. Memo. No. 3–357, 2 v. and app., illus., Vicksburg, Miss.

Glossary

Acidity. See Reaction, soil.

Alluvium. Soil material, such as sand, silt, or clay, that has been deposited on land by streams.

Available water capacity. The difference between the amount of water in a soil at field capacity and the amount in the same soil at the permanent wilting point. Commonly expressed as inches of water per inch of soil depth.

Bedding. Plowing, grading, or otherwise elevating the surface of a flat field into a series of broad beds, or "lands," so as to leave shallow surface drains between the beds.

Concretions. Hard grains, pellets, or nodules of various sizes, shapes, and colors consisting of concentrations of compounds that cement the soil grains together. The composition of some concretions is unlike that of the surrounding soil. Calcium carbonate and iron oxide are examples of material commonly found in concretions.

Consistence, soil. The feel of the soil and the ease with which a lump can be crushed by the fingers. Terms commonly used to describe consistence are—

Loose. Noncoherent; soil will not hold together in a mass.

Friable. When moist, soil crushes easily under gentle to moderate pressure between thumb and forefinger, and can be pressed together into a lump.

Firm. When moist, soil crushes under moderate pressure between thumb and forefinger, but resistance is distinctly noticeable.

Plastic. When wet, soil is readily deformed by moderate pressure but can be pressed into a lump; will form a wire when rolled between thumb and forefinger.

Sticky. When wet, soil adheres to other material; tends to stretch somewhat and pull apart, rather than pull free from other material.

Hard. When dry, soil is moderately resistant to pressure; can be broken with difficulty between thumb and forefinger.

Soft. When dry, soil breaks into powder or individual grains under very slight pressure.

Cemented. Soil is hard and brittle; little affected by moistening.

Drainage, soil. The rapidity and extent of the removal of water from the soil by runoff, by flow through the soil to underground spaces, or by a combination of both processes.

Escarpment. The steep face of a line of cliffs or slopes, generally the result of erosion or of faulting.

Horizon, soil. A layer of soil, approximately parallel to the surface, that has distinct characteristics produced by soil-forming processes. These are the major horizons:

O horizon. The layer of organic matter on the surface of a mineral soil. This layer consists of decaying plant residues.

A horizon. The mineral horizon at the surface or just below an O horizon. This horizon is the one in which living organisms are most active and therefore is marked by the accumulation of humus. The horizon may have lost one or more of soluble salts, clay, and sesquioxides (iron and aluminum oxides).

B horizon. The mineral horizon below an A horizon. The B horizon is in part a layer of change from the overlying A to the underlying C horizon. The B horizon also has (1) distinctive characteristics caused by accumulation of clay, sesquioxides, humus, or some combination of these; (2) prismatic or blocky structure; (3) redder or stronger colors than the A horizon; or (4) some combination of these. Combined A and B horizons are usually called the solum, or true soil. If a soil lacks a B horizon, the A horizon alone is the solum.

C horizon. The weathered rock material immediately beneath the solum. In most soils this material is presumed to be like that from which the overlying horizons were formed. If the material is known to be different from that in the solum, a Roman numeral precedes the letter C.

R layer. Consolidated rock beneath the soil. The rock usually underlies a C horizon but may be immediately beneath an A or B horizon.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Leaching. The removal of soluble materials from soils or other material by percolating water.

Mottling, soil. Irregular marking of the soil with patches of color that vary in number and size. Mottling in soils usually indicates poor aeration and lack of drainage. Descriptive terms are as follows: Abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent.* The size measurements are these: *fine,* less than 5 millimeters (about 0.2 inch) in diameter along the greatest dimension; *medium,* 5 to 15 millimeters (about 0.2 to 0.6 inch) in diameter along the greatest dimension; and *coarse,* more than 15 millimeters (about 0.6 inch) in diameter along the greatest dimension.

Permeability, soil. The quality of a soil that enables water or air to move through it. Permeability is measured by the rate at which water percolates through undisturbed soil and is expressed in inches of soil per hour. Classes of permeability, as used in this survey, are—

	Inches per hour
Slow:	
Very slow	Less than 0.05
Slow	0.05 to 0.20
Moderate:	
Moderately slow	0.20 to 0.80
Moderate	0.80 to 2.50
Moderately rapid	2.50 to 5.00
Rapid:	
Rapid	5.00 to 10.00
Very rapid	Over 10.00

Plinthite. The sesquioxide-rich, humus-poor, highly weathered mixture of clay with quartz and other diluents, that commonly shows as red mottles, usually in platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to hardpan or to irregular aggregates on repeated wetting and drying, or it is the hardened relict of the soft, red mottles. It is a form of laterite.

Plow layer. The soil ordinarily moved in tillage; equivalent to surface soil.

Profile, soil. A vertical section of the soil through all its horizons and extending into the parent material. See Horizon, soil.

Reaction, soil. The degree of acidity or alkalinity of a soil expressed in pH values. A soil that tests to pH 7.0 is precisely neutral in reaction, because it is neither acid nor alkaline. In words the degrees of acidity or alkalinity are expressed thus:

	pH		*pH*
Extremely acid	Below 4.5	Neutral	6.6 to 7.3
Very strongly acid	4.5 to 5.0	Mildly alkaline	7.4 to 7.8
Strongly acid	5.1 to 5.5	Moderately alkaline	7.9 to 8.4
Medium acid	5.6 to 6.0	Strongly alkaline	8.5 to 9.0
Slightly acid	6.1 to 6.5	Very strongly alkaline	9.1 and higher

Slope, soil. The incline of the surface of the soil area. It is an integral part of the soil, not something apart from it.

Soil separates. Mineral particles, less than 2 millimeters in diameter and ranging between specified size limits. The names and sizes of separates recognized in the United States are as follows: *Very coarse sand* (2.0 to 1.0 millimeter); *coarse sand* (1.0 to 0.5 millimeter); *medium sand* (0.5 to 0.25 millimeter); *fine sand* (0.25 to 0.10 millimeter); *very fine sand* (0.10 to 0.05 millimeter); *silt* (0.05 to 0.002 millimeter); and *clay* (less than 0.002 millimeter). The separates recognized by the International Society of Soil Science are as follows: I (2.0 to 0.2 millimeters); II (0.2 to 0.02 millimeter); III (0.02 to 0.002 millimeter); IV (less than 0.002 millimeter).

Solum. The upper part of a soil profile, above the parent material, in which the processes of soil formation are active. The solum in mature soil includes the A and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the underlying parent material. The living roots and other plant and animal life characteristic of the soil are largely confined to the solum.

Structure, soil. The arrangement of primary soil particles into compound particles or clusters that are separated from adjoining aggregates and have properties unlike those of an equal mass of unaggregated primary soil particles. 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 (1) *single grain* (each grain by itself, as in dune sand) or (2) *massive* (the particles adhering together without any regular cleavage, as in many claypans and hardpans).

Subsoil. Technically, the B horizon; roughly, the part of the profile below plow depth.

Surface layer. A term used in nontechnical soil descriptions for one or more layers above the subsoil. Includes the A horizon and part of the B horizon; has no depth limit.

Surface soil. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, about 5 to 8 inches in thickness. The plowed layer.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportions of fine particles are as follows: sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay, and clay. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Tilth, soil. The condition of the soil in relation to the growth of plants, especially soil structure. Good tilth refers to the friable state and is associated with high noncapillary porosity and stable granular structure. A soil in poor tilth is nonfriable. hard, nonaggregated, and difficult to till.

GUIDE TO MAPPING UNITS

For a full description of a mapping unit, read both the description of the mapping unit and the description of the soil series to which the mapping unit belongs. Other information is given in tables, as follows:

Acreage and extent: table 1, page 7.
Estimated yields: table 2, page 31.
Community development: table 6, page 50.
Engineering uses of the soils: table 3, page 38; table 4, page 40, and table 5, page 42.

Boundaries of some soils mapped in Jenkins County do not coincide with those of the same kinds of soils mapped in adjacent Bulloch County because names of soils have been changed as a result of progress in soil classification and soils of minor extent have been included with more extensive similar soils.

Map symbol	Mapping unit	Described on page	Capability unit		Woodland group		Wildlife group	
			Symbol	Page	Number	Page	Number	Page
AqA	Ardilla loamy sand, 0 to 2 percent slopes	7	IIw-2	26	2	33	3	36
BgA	Barth fine sand, 0 to 2 percent slopes	8	IIIw-1	28	8	35	1	36
Bls	Bladen fine sandy loam	9	IIIw-2	28	4	34	1	36
Bwc	Bibb-Wehadkee complex	8	IVw-4	29	4	34	1	36
CnB2	Carnegie loamy sand, 2 to 5 percent slopes, eroded	9	IIIe-4	27	1	33	4	37
CnC2	Carnegie loamy sand, 5 to 8 percent slopes, eroded	10	IIIe-4	27	1	33	4	37
CqB	Cowarts loamy sand, 2 to 5 percent slopes	10	IIIe-4	27	1	33	4	37
CqB2	Cowarts loamy sand, 2 to 5 percent slopes, eroded	10	IIIe-4	27	1	33	4	37
CqC	Cowarts loamy sand, 5 to 8 percent slopes	10	IIIe-4	27	1	33	4	37
CqC2	Cowarts loamy sand, 5 to 8 percent slopes, eroded	10	IVe-4	28	1	33	4	37
DaA	Dothan loamy sand, 0 to 2 percent slopes	11	IIs-1	26	1	33	5	37
DaB	Dothan loamy sand, 2 to 5 percent slopes	11	IIe-1	25	1	33	5	37
DaB2	Dothan loamy sand, 2 to 5 percent slopes, eroded	11	IIe-1	25	1	33	5	37
DaC2	Dothan loamy sand, 5 to 8 percent slopes, eroded	11	IIIe-1	27	1	33	5	37
DmA	Dunbar fine sandy loam	12	IIw-2	26	2	33	1	36
EuB2	Esto loamy sand, 2 to 5 percent slopes, eroded	13	IVe-3	28	7	34	4	37
EuC2	Esto loamy sand, 5 to 8 percent slopes, eroded	13	VIe-2	29	7	34	4	37
EuE2	Esto loamy sand, 8 to 17 percent slopes, eroded	13	VIIe-2	30	7	34	4	37
FhB	Fuquay pebbly loamy sand, 2 to 5 percent slopes	14	IIs-1	26	1	33	5	37
FsA	Fuquay loamy sand, 0 to 2 percent slopes	13	IIs-1	26	1	33	5	37
FsB	Fuquay loamy sand, 2 to 5 percent slopes	13	IIs-1	26	1	33	5	37
FsC	Fuquay loamy sand, 5 to 8 percent slopes	14	IIIe-5	27	1	33	5	37
Gcl	Grady clay loam	14	Vw-1	29	4	34	1	36
Gra	Grady sandy loam	14	IIIw-2	28	4	34	1	36
KdC	Kershaw sand, 2 to 8 percent slopes	15	VIIs-1	31	6	34	2	36
Lcm	Local alluvial land	15	IIw-1	26	2	33	3	36
Mba	Meggett loam	16	Vw-1	29	4	34	1	36
NhA	Norfolk loamy sand, 0 to 2 percent slopes	16	I-1	24	1	33	5	37
NhB	Norfolk loamy sand, 2 to 5 percent slopes	17	IIe-1	25	1	33	5	37
NhB2	Norfolk loamy sand, 2 to 5 percent slopes, eroded	17	IIe-1	25	1	33	5	37
OeB	Orangeburg loamy sand, 2 to 5 percent slopes	18	IIe-1	25	1	33	5	37
OeB2	Orangeburg loamy sand, 2 to 5 percent slopes, eroded	18	IIe-1	25	1	33	5	37
OhA	Ocilla loamy sand, 0 to 2 percent slopes	17	IIIw-1	28	8	35	1	36
PeA	Plummer sand, 0 to 2 percent slopes	19	Vw-2	29	4	34	1	36
Ros	Rains sandy loam	19	IVw-4	29	4	34	1	36
SfB	Sawyer loamy sand, 2 to 5 percent slopes	20	IIe-3	25	3	33	5	37
SfC2	Sawyer loamy sand, 5 to 8 percent slopes, eroded	20	IIIe-3	27	3	33	5	37
SpB2	Susquehanna loamy sand, 2 to 5 percent slopes, eroded	21	IVe-3	28	7	34	4	37
SpC2	Susquehanna loamy sand, 5 to 8 percent slopes, eroded	21	VIe-2	29	7	34	4	37
TqA	Tifton loamy sand, 0 to 2 percent slopes	22	I-2	25	1	33	5	37
TqB	Tifton loamy sand, 2 to 5 percent slopes	22	IIe-2	25	1	33	5	37
TqB2	Tifton loamy sand, 2 to 5 percent slopes, eroded	22	IIe-2	25	1	33	5	37
TqC2	Tifton loamy sand, 5 to 8 percent slopes, eroded	22	IIIe-2	27	1	33	5	37
TzB	Troup sand, 0 to 5 percent slopes	23	IVs-1	29	5	34	2	36
TzD	Troup sand, 5 to 12 percent slopes	23	VIs-1	30	5	34	2	36

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