United States Department of Agriculture

Natural Resources Conservation Service

In cooperation with the University of Florida, Institute of Food and Agricultural Sciences, Agricultural Experiment Stations, and Soil and Water Science Department; and the Florida Department of Agriculture and Consumer Services

Soil Survey of Escambia County, Florida

How To Use This Soil Survey

General Soil Map

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

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

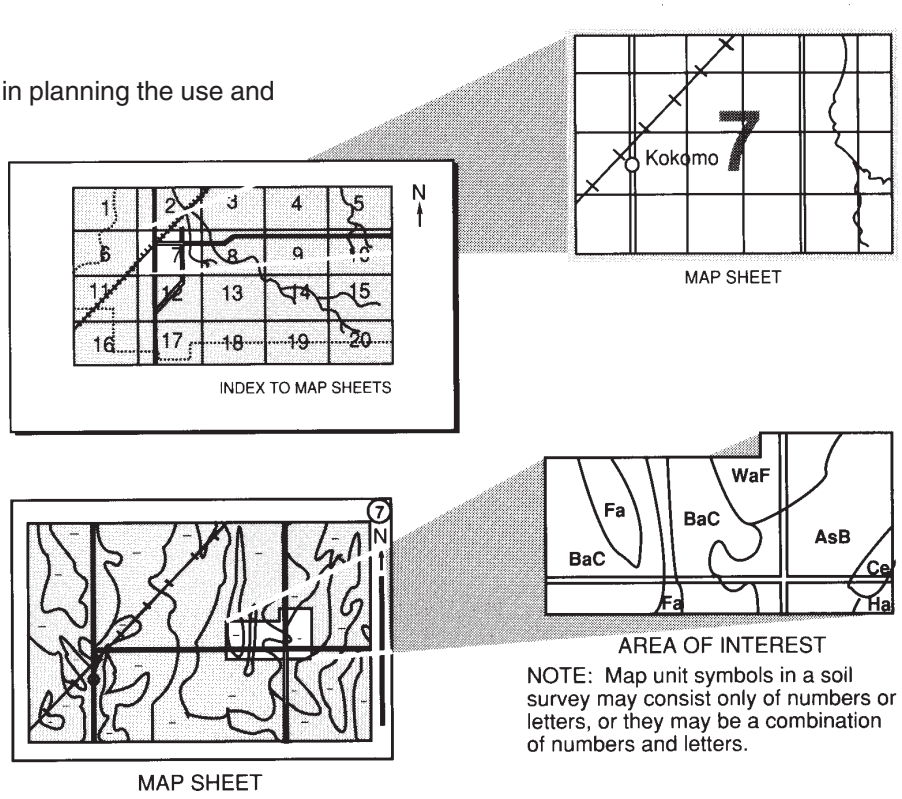
Detailed Soil Maps

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

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

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

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



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

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

Major fieldwork for this soil survey was completed in 1992. Soil names and descriptions were approved in 1997. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1992. This survey was made cooperatively by the Natural Resources Conservation Service and the University of Florida, Institute of Food and Agricultural Sciences, Agricultural Experiment Stations, and Soil and Water Science Department; and the Florida Department of Agriculture and Consumer Services. The survey is part of the technical assistance furnished to the Escambia Soil and Water Conservation District. The Escambia County Board of Commissioners contributed financially to the acceleration of the survey.

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

Cover: Logo of the Escambia County Board of Commissioners. Escambia County, located on the northern coast of the Gulf of Mexico, is noted for beautiful white-sand beaches and sailing ships. The county is the home of the Pensacola Naval Air Station.

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

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Issued 2004

Foreword

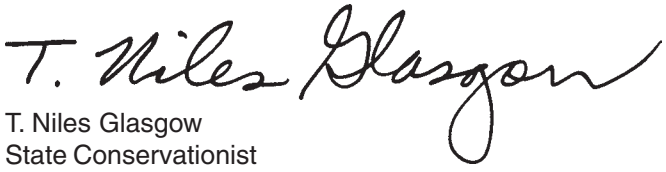
This soil survey contains information that affects land use planning in this survey area. It contains predictions of soil behavior for selected land uses. The survey also highlights soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

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

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

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

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



T. Niles Glasgow
State Conservationist
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Soil Survey of
Escambia County, Florida

By C. Andrew Williams, Natural Resources Conservation Service

Fieldwork by G. Wade Hurt, John D. Overing, and C. Andrew Williams,
Natural Resources Conservation Service

United States Department of Agriculture, Natural Resources Conservation Service,
in cooperation with
the University of Florida, Institute of Food and Agricultural Sciences, Agricultural Experiment Stations, and Soil and Water Science Department; and the Florida Department of Agriculture and Consumer Services

ESCAMBIA COUNTY is in the northwestern part of Florida (fig. 1). It is bordered by Baldwin County, Alabama, to the west, by Escambia County, Alabama, to the north, by Santa Rosa County, Florida, to the east, and by the Gulf of Mexico to the south. The county is irregular in outline. The Perdido River forms the western boundary, and the Escambia River forms the eastern boundary.

The total area of the county is 481,600 acres, or about 752 square miles. About 422,700 acres consists of land areas and small bodies of water. About 58,900 acres consists of large areas of water in lakes, rivers, bays, and the Gulf of Mexico. The county extends from the Gulf of Mexico to the Florida-Alabama State line, a distance of about 50 miles. The county is roughly the shape of an hourglass, varying in width from 25 miles along the northern boundary to about 8 miles at the narrowest part near the center of the county.

This soil survey updates an earlier soil survey of Escambia County published in 1960 (USDA–SCS, 1960). It provides additional information and an updated aerial photography base map at a scale of 1:24,000. Areas of the county not mapped in the 1960 report are mapped in this report. This updated soil survey is also available in digital format.

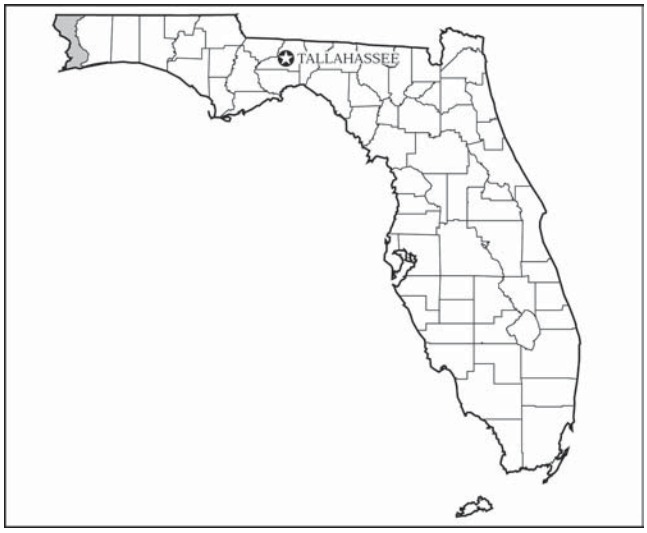

Figure 1.—Location of Escambia County in Florida.

General Nature of the County

This section gives general information about the county. It describes the climate, history and development, agriculture, and transportation facilities.

Climate

James T. Bradley, climatologist, helped prepare this section.

Table 1 gives data on temperature and precipitation for the survey area as recorded at Pensacola, Florida, in the period 1961 to 1990. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring as recorded at the Milton Experiment Station.

Escambia County has a warm, humid-temperate climate. In summer, the days are long, warm, and

humid. Winter is mild and short. Along the coast, the Gulf of Mexico moderates high temperatures in the summer and low temperatures in the winter. A few miles inland, however, the effect of the Gulf diminishes appreciably.

The total annual precipitation is about 62 inches. About 34 inches, or about 55 percent, of the rain falls during April through September. Unusual amounts, however, may fall during any month. In 3 years out of 10, the rainfall in April through September is less than 21 inches. The growing season for most crops falls within this period. The greatest amount of rain falls in July and August. The least amount falls in April. A large proportion of the rain falls during the afternoon and evening as thundershowers or showers. These thundershowers and showers, which occur on 40 percent of the days, are widely scattered, short, and often excessive. Sometimes, 2 to 4 inches of rain falls within 1 or 2 hours.

Winter brings gentle rains of long duration, usually 1 to 3 days. Long-lasting showers in summer usually are associated with tropical disturbances. Rainfall of more than 9 inches during a 24-hour period can be expected in about one year in nine, usually when a tropical depression or hurricane passes through the area.

Snowfall is rare. In 90 percent of the winters, there is no measurable snowfall. In 10 percent, the snowfall, usually of short duration, is more than 2 inches.

Hailstorms are infrequent and cover only restricted areas. Damage, therefore, is restricted. Ground fog is usually confined to the night and early morning in late fall, winter, and early spring. Although the sun usually dissipates the fog very quickly in most areas, the fog often persists for hours along the coast.

The Gulf of Mexico tempers the cold in the winter and causes warm sea breezes to move across the land on summer days. The average temperature in summer is 80 degrees Fahrenheit. Cloudiness, associated thundershowers, and showers relieve the heat and humidity. The average temperature in winter is 54 degrees Fahrenheit. The highest recorded temperature is 106 degrees Fahrenheit. The lowest is 7 degrees Fahrenheit.

Winters are mild but are punctuated by periodic invasions of cold air masses from the north. These cold periods generally last 1 to 3 days. The second day is usually the coldest because during the night, under clear skies, radiant cooling is accelerated and temperatures plummet during the early morning. Unprotected water pipes may freeze.

The average date of the last freezing temperature in winter is March 10. The average date of the earliest freeze in the fall is November 17. The average growing season is 292 days. On the average, the temperature goes to freezing or below 9 days a year. Table 2 gives additional data on freezing temperatures in the county.

March is the windiest month, and August has the lowest average windspeed. Windspeed averages 8 to 15 miles per hour during the day and usually drops below 8 miles per hour at night. The prevailing winds blow from the north and northwest during fall and winter and from the south and southwest during spring and summer. During summer, a moderate sea breeze usually blows off the Gulf. The breeze diminishes greatly as it moves inland. High winds of short duration occur occasionally in connection with thunderstorms in summer and with fronts moving across the county in other seasons. Tropical disturbances can generate very destructive winds of up to 200 miles per hour. These seriously destructive hurricanes occur about one year in eight.

Damaging winds and flooding caused by hurricanes can destroy crops and buildings. The hazard of erosion also increases when more than 1/2-inch of rain falls in less than 2 hours.

Occasionally, short droughts in late spring—when plants are beginning to grow and temperature is high—lead to a moisture deficiency that can damage crops, pastures, and gardens. Such a moisture deficiency can only be overcome by supplemental irrigation.

History and Development

David Breetzke, historian, helped prepare this section.

Escambia County has a long and rich history. Evidence dates the presence of Native Americans in the area back as far as 8000 B.C. (Bense, 1983; Fernald, 1981; Florida Department of State Staff, n.d). European civilization entered the area in 1559 with the arrival of Don Tristan de Luna from Spain (USDA–SCS, 1960). The original settlement, near present-day Pensacola, lasted only 2 years. The Spanish did not return to the area until 1698, when Don Andres de Arrida established a fort and settlement in the southwestern part of the county in an area that is now on the grounds of the naval air station (Parks, 1985).

During the 1700s, the area became—because of its strategic value—the object of French and British imperialism. The territory was under the jurisdiction of Spain, France, or England at various times for 123 years. In 1821, Andrew Jackson accepted the territory

from Spain and Florida became a part of the United States. The western half of the new territory was named Escambia County and extended from the Perdido River east to the Suwannee River. The present boundaries of the county were set in 1842.

Until the late 1800s, most of the settlements were close to the coast. With the completion of the railroad in the 1880s and the expansion of the lumber industry, more small towns developed in the central and northern parts of the county (Bense, 1989). As land was "cut over" and cleared, farming began to develop on the more fertile soils in the area. Through the turn of the century, lumbering, naval stores, farming, and fishing provided a living for most of the residents of Escambia County.

The military has played a role in the history of Escambia County. In 1825, Congress voted to establish a navy yard in recognition of the value of the harbor at Pensacola. As part of the military defense of the harbor, Fort Pickens was built in 1834, Fort McRee in 1840, and Fort Barrancas in 1844 (Coleman and Coleman, 1982). The Pensacola Naval Complex has been known as "The Cradle of Naval Aviation" since 1914. In 1971, it became the headquarters for the Chief of Naval Education and Training.

In the long and varied history of Escambia County, the city of Pensacola has changed hands 13 times. The flags of five different nations have flown over its forts, giving it the nickname of "City of Five Flags" (Pensacola Area Chamber of Commerce, 1993; Pensacola Bay Area League of Women Voters, 1983).

Agriculture

Ken Collar, district conservationist, helped prepare this section.

Residents of Escambia County did not turn to farming until forest resources were nearly exhausted, which occurred around 1900 (USDA–SCS, 1960). The main crops grown in the early days included corn, cotton, oats, hay, sugarcane, and sweet potatoes. Citrus was also grown. In 1930, there were 29,680 orange trees in the county. Due to occasional cold weather that damaged the trees, the number of orange trees dwindled to less than 20 by 1954.

By 1955, the principal crops were corn, soybeans, Irish potatoes, cotton, and small grains. Cotton faded from popularity after 1955 until the early 1990s. By 1993, small grain, cotton, soybeans, and corn, in that order, were the main crops. The acreages of the principal crops during 1929, 1954, and 1992 are listed in the following table (USDC–ESA, 1992; USDA–SCS, 1960).

Acreage of Principal Crops

Crop	1929	1954	1992
Cotton	6,704	1,600	8,722
Soybeans	144	10,948	9,083
Hay	1,147	1,239	4,247
Corn harvested for grain	10,188	6,563	6,193
Small grain (wheat and oats)	6	2,835	3,703

Also grown in 1992 was a small, scattered acreage of sorghum, vegetables, and canola.

Livestock operations also contribute to the agricultural production of the county. In 1992, the county had about 1,879 diary cattle on 25 dairies, 3,076 beef cattle, and 1,787 hogs (USDC–ESA, 1992).

Most of the agriculture and most of the soils that are well suited to agriculture are in the northern half of the county. As urban growth spreads out from Pensacola, agricultural lands in the central and southwestern parts of the county are being converted to suburban and urban land uses. This trend is expected to continue, with urbanization claiming more agricultural land in the central parts of the county. In the northern parts of the county, however, agriculture is expected to maintain a strong, viable presence.

Transportation Facilities

Escambia County has an array of transportation facilities that serve the needs of the people (Pensacola Area Chamber of Commerce, 1993). A network of highways and secondary roads provides access to cities, towns, markets, and recreational sites. Interstate 10 runs east and west through the county. Interstate Spur 110 provides easy access from Interstate 10 to the city of Pensacola. U.S. Highway 90 also runs east and west through the county. Alternate U.S. 90 provides a direct route—and is the original highway—following the scenic route along Escambia Bay and through downtown Pensacola. U.S. Highway 98 provides the southernmost east-west access through the county. The major north-south corridor is U.S. Highway 29, which connects downtown Pensacola with the town of Century on the Florida-Alabama State line, a distance of about 45 miles. Florida Highway 97 provides access from U.S. Highway 29 north-northwest to Alabama. Other State and county roads and many improved dirt roads are maintained for public use.

The city of Pensacola, which is in the southern part of the county, has a commercial airport and a deepwater port. Two railroads provide freight service to the port and to other industries. Another railroad

provides intercity passenger service and has a terminal in Pensacola.

Local and intercity bus services are available.

How This Survey Was Made

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

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

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

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

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

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

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

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

Survey Procedures

The general procedures followed in making the survey are described in the "National Soil Survey Handbook" (USDA–NRCS) of the Natural Resources Conservation Service and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993). The earlier soil survey of Escambia County was among the references used (USDA–SCS, 1960).

Before the fieldwork began, maps and aerial photographs were studied, including black-and-white aerial photographs taken in 1951 at a scale of 1:20,000 (USDA–SCS, 1960) and color infrared photographs taken in the spring of 1983 and the spring of 1984 at a scale of 1:24,000. Soil scientists studied United States Geological Survey topographic maps at a scale of 1:24,000 to relate land and image features.

Reconnaissance was made by vehicle before the landscape was traversed on foot. Some areas required remapping because they were not surveyed in the previous soil survey. The 1951 black-and-white photographs show the natural vegetation in many areas that were later cleared and planted to pine plantations, used for urban development, or both.

Soil boundary lines were adjusted as needed throughout the county due to changes in soil series concepts and advances in technology since the earlier survey. Traverses generally were made at intervals of about 1/4 mile. They were made at closer intervals in complex areas of high variability and wider intervals in less complex areas of low variability. A ground-penetrating radar (GPR) system and manual transect methods were used to document the type and variability of soils that occur in the detailed soil map units. Random transects were made with the GPR and by hand. Information from notes and ground-truth observations made in the field and GPR data were used to classify the soils and to determine the composition of map units.

General Soil Map Units

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

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

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

The boundaries of the general soil map units in Escambia County were matched, where possible, with those of the previously completed surveys of Baldwin and Escambia Counties, Alabama, and Santa Rosa County, Florida. In a few areas, however, the lines do not join and the names of the map units differ. These differences result mainly because of changes in soil series concepts, differences in map unit design, and changes in soil patterns near survey area boundaries.

Areas on Uplands Dominated by Nearly Level to Steep, Loamy and Sandy Soils

The six general soil map units in this group consist of excessively drained to poorly drained soils that are loamy or sandy throughout or that have thick, sandy surface and subsurface layers and a loamy subsoil. They make up about 78 percent of the county. Most of the acreage is used for woodland, cultivated crops, or pasture. Erosion, droughtiness, and low fertility are management concerns in the areas used for crops and pasture.

1. Red Bay-Notcher

Nearly level to strongly sloping, well drained and moderately well drained soils that are loamy throughout; on uplands

This map unit consists of soils on summits and side slopes of broad or narrow, convex ridges in the north-central part of the county. In most areas, the landscape consists of long, smooth slopes. Slopes range from 0 to 12 percent.

This map unit makes up about 10,570 acres, or about 2.5 percent of the land area of the county. It is about 50 percent Red Bay soils, 30 percent Notcher and similar soils, and 20 percent soils of minor extent.

The well drained Red Bay soils are on nearly level summits and on gently sloping and moderately sloping shoulder slopes and side slopes. Typically, the surface layer is brown fine sandy loam about 6 inches thick. The subsurface layer is yellowish red sandy loam. The subsoil is dark red sandy clay loam in the upper part and dark red sandy loam in the lower part.

The moderately well drained Notcher soils are on nearly level summits and on gently sloping to strongly sloping side slopes. Typically, the surface layer is dark grayish brown fine sandy loam about 5 inches thick. The subsurface layer is yellowish brown fine sandy loam that has common nodules of ironstone. The subsoil is brownish yellow sandy clay loam in the upper part, brownish yellow gravelly sandy clay loam in the middle part, and brownish yellow sandy clay loam in the lower part. The lower part of the subsoil has masses of plinthite and has mottles in shades of red, brown, and gray.

Of minor extent in this map unit are the well drained Bama, Malbis, Perdido, and Poarch soils on summits; the well drained Emory and poorly drained Grady soils in depressions; the well drained Cowarts and moderately well drained, clayey Maubila soils on side slopes; and the moderately well drained Iuka and somewhat poorly drained Mantachie soils and very poorly drained Fluvaquents on flood plains.

Most areas of this map unit are used for cultivated crops, pasture, or hay. A small acreage is used for woodland or has been developed for homesites.

The soils in this map unit are well suited to cultivated crops, pasture, and hay. The main management concern is a moderate to severe hazard of erosion in the more sloping areas.

The soils in this map unit are well suited to woodland. They have a high potential productivity for slash pine, loblolly pine, and longleaf pine. Few limitations affect the use of this map unit as woodland. Plant competition and soil compaction, however, are management concerns.

The soils in this map unit are well suited to most urban uses. The main limitation is the slope in the strongly sloping areas. The seasonal high water table and restricted permeability in the Notcher soils are limitations affecting septic tank absorption fields.

2. Troup-Lakeland

Nearly level to strongly sloping, somewhat excessively drained and excessively drained soils that have thick, sandy surface and subsurface layers and a loamy subsoil or that are sandy throughout; on uplands

This map unit consists of soils on summits and side slopes of convex ridges in the uplands. It is in the northeastern part of the county. In most areas, the landscape consists of long, smooth slopes. Slopes range from 0 to 12 percent.

This map unit makes up about 13,950 acres, or about 3.3 percent of the land area of the county. It is about 58 percent Troup soils, 18 percent Lakeland soils, and 24 percent soils of minor extent.

The somewhat excessively drained Troup soils are on narrow, gently sloping summits and on gently sloping to strongly sloping side slopes. Typically, the surface layer is dark grayish brown sand about 5 inches thick. The subsurface layer is yellowish brown sand in the upper part, strong brown sand in the middle part, and yellowish red loamy sand in the lower part. The subsoil is dark red sandy loam in the upper part and dark red sandy clay loam in the lower part.

The excessively drained Lakeland soils are on broad, gently sloping summits and on gently sloping to strongly sloping side slopes. Typically, the surface layer is dark grayish brown sand about 5 inches thick. The substratum is yellowish brown sand in the upper part and brownish yellow sand in the lower part.

Of minor extent in this map unit are the very poorly drained Fluvaquents, the moderately well drained Iuka soils, and the somewhat poorly drained Mantachie soils on flood plains; the well drained Bama, Bonifay, Lucy, Perdido, and Poarch soils on summits; the well drained Cowarts and moderately well drained, clayey Maubila soils on side slopes; and the somewhat poorly drained Albany and poorly drained Pelham soils on toeslopes and in shallow drainageways.

Most areas of this map unit are used for woodland. A small acreage is used for cultivated crops or pasture or has been developed for homesites.

The soils in this map unit are poorly suited to cultivated crops and are moderately well suited to pasture and hay. The main management concerns are droughtiness and low fertility.

The soils in this map unit are moderately well suited to woodland. They have a moderately high potential productivity for slash pine, loblolly pine, and longleaf pine. Lakeland soils have a high potential productivity for sand pine. The main limitations affecting commercial timber production are an equipment limitation and a high seedling mortality rate.

The soils in this map unit are moderately well suited to most urban uses. The main limitation is the slope in the strongly sloping areas. Seepage is a concern in areas of Lakeland soils if sanitary facilities are constructed. Additional concerns include the sandy textures and droughtiness.

3. Troup-Poarch-Perdido

Nearly level to steep, somewhat excessively drained and well drained soils that have thick, sandy surface and subsurface layers and a loamy subsoil or that are loamy throughout; on uplands

This map unit consists of soils on summits and side slopes of narrow to broad ridges in the uplands. It is in the northeastern part of the county. In most areas, the landscape consists of long, smooth slopes. Slopes range from 0 to 35 percent.

This map unit makes up about 18,600 acres, or about 4.4 percent of the land area of the county. It is about 32 percent Troup and similar soils, 28 percent Poarch and similar soils, 20 percent Perdido and similar soils, and 20 percent soils of minor extent.

The somewhat excessively drained Troup soils are on narrow, gently sloping summits and on gently sloping to steep side slopes. Typically, the surface layer is dark grayish brown sand about 5 inches thick. The subsurface layer is yellowish brown sand in the upper part, strong brown sand in the middle part, and yellowish red loamy sand in the lower part. The subsoil is dark red sandy loam in the upper part and dark red sandy clay loam in the lower part.

The well drained Poarch soils are on broad or narrow, nearly level summits and on gently sloping to

strongly sloping side slopes. Typically, the surface layer is very dark grayish brown sandy loam about 5 inches thick. The subsoil is yellowish brown sandy loam in the upper part; yellowish brown and brownish yellow sandy loam that has brownish, reddish, and grayish mottles in the middle part; and very pale brown and brownish yellow sandy loam that has brownish, reddish, and grayish mottles in the lower part. The middle and lower parts of the profile have masses of plinthite.

The well drained Perdido soils are on narrow, nearly level summits and on gently sloping to steep side slopes. Typically, the surface layer is dark yellowish brown sandy loam about 8 inches thick. The subsoil is strong brown sandy loam in the upper part, yellowish red and strong brown sandy loam in the middle part, and red sandy clay loam and sandy loam in the lower part. The middle and lower parts have masses of plinthite.

Of minor extent in this map unit are the somewhat poorly drained Albany and Hurricane soils on toeslopes; the well drained Bama, Bonifay, Lucy, Malbis, and Red Bay soils on summits; the well drained Cowarts and moderately well drained, clayey Maubila soils on narrow ridges and on side slopes; the poorly drained Grady soils in depressions; and the very poorly drained Fluvaquents and the moderately well drained Iuka and somewhat poorly drained Mantachie soils on flood plains.

Most areas of this map unit are used for cultivated crops, pasture, or hay. A small acreage has been developed for homesites or is used for woodland.

The soils in this map unit are poorly suited, moderately well suited, or well suited to cultivated crops and are moderately well suited or well suited to pasture and hay. Erosion is a hazard in the sloping areas. Additional concerns include the droughtiness and low fertility of the Troup soils.

The soils in this map unit are moderately well suited or well suited to woodland. They have a moderately high to high potential productivity for slash pine, loblolly pine, and longleaf pine. The main limitations affecting commercial timber production are a high seedling mortality rate and an equipment limitation in areas of the Troup soil.

The soils in this map unit are well suited or moderately well suited to most urban uses. Slope is a limitation affecting most uses in the strongly sloping to steep areas. Additional concerns include restricted permeability and a seasonal high water table in areas of the Poarch and Perdido soils and droughtiness and a potential for seepage in areas of the Troup soils.

4. Notcher-Troup

Nearly level to moderately steep, moderately well drained and somewhat excessively drained soils that are loamy throughout or that have thick, sandy surface and subsurface layers and a loamy subsoil; on uplands

This map unit consists of soils on summits and side slopes of convex ridges in the uplands. It is in the north-central part of the county. In most areas, the landscape consists of long, smooth slopes. Slopes range from 0 to 18 percent.

This map unit makes up about 72,280 acres, or about 17.1 percent of the land area in the county. It is about 47 percent Notcher and similar soils, 26 percent Troup soils, and 27 percent soils of minor extent.

The moderately well drained Notcher soils are on nearly level summits and on gently sloping to strongly sloping side slopes. Typically, the surface layer is dark grayish brown fine sandy loam about 5 inches thick. The subsurface layer is yellowish brown fine sandy loam that has common nodules of ironstone. The subsoil is brownish yellow sandy clay loam in the upper part, brownish yellow gravelly sandy clay loam in the middle part, and brownish yellow sandy clay loam in the lower part. The lower part of the subsoil has masses of plinthite and has mottles in shades of red, brown, and gray.

The somewhat excessively drained Troup soils are on narrow, gently sloping summits and on gently sloping to moderately steep side slopes. Typically, the surface layer is dark grayish brown sand about 5 inches thick. The subsurface layer is yellowish brown sand in the upper part, strong brown sand in the middle part, and yellowish red loamy sand in the lower part. The subsoil is dark red sandy loam in the upper part and dark red sandy clay loam in the lower part.

Of minor extent in this map unit are the well drained Bama, Lucy, Malbis, Poarch, and Red Bay soils on summits; the well drained Cowarts and Perdido and moderately well drained Maubila soils on side slopes; the poorly drained Grady soils in depressions; the very poorly drained Fluvaquents and the moderately well drained Iuka and somewhat poorly drained Mantachie soils on flood plains; and the moderately well drained Izagora and poorly drained Pelham soils on low terraces.

Most areas of this map unit are used for cultivated crops, pasture, and hay. Areas of woodland are scattered throughout the map unit, mostly in the more sloping areas and on flood plains.

The soils in this map unit are poorly suited, moderately well suited, or well suited to cultivated

crops and are well suited or moderately well suited to pasture and hay. Erosion is a hazard in the sloping areas. Additional concerns include the droughtiness and low fertility of the Troup soils.

The soils in this map unit are well suited or moderately well suited to woodland. They have a moderately high to high potential productivity for slash pine, loblolly pine, and longleaf pine. The main limitations affecting commercial timber production are a high seedling mortality rate and an equipment limitation in areas of the Troup soil.

The soils in this map unit are well suited or moderately well suited to most urban uses. Slope is a limitation affecting most uses in the strongly sloping and moderately steep areas. Additional concerns include restricted permeability and a seasonal high water table in areas of the Notcher soils and droughtiness and a potential for seepage in areas of the Troup soils.

5. Notcher-Bonifay-Troup

Nearly level to moderately steep, moderately well drained, well drained, and somewhat excessively drained soils that are loamy throughout or that have thick, sandy surface and subsurface layers and a loamy subsoil; on uplands

This map unit consists of soils on summits and side slopes of broad ridges in the uplands. It is in the central part of the county. In most areas, the landscape consists of long, smooth slopes. Slopes range from 0 to 18 percent.

This map unit makes up about 162,740 acres, or about 38.5 percent of the land area in the county. It is about 34 percent Notcher and similar soils, 19 percent Bonifay soils, 19 percent Troup soils, and 28 percent soils of minor extent.

The moderately well drained Notcher soils are on nearly level summits and on gently sloping to strongly sloping side slopes. Typically, the surface layer is dark grayish brown fine sandy loam about 5 inches thick. The subsurface layer is yellowish brown fine sandy loam that has common nodules of ironstone. The subsoil is brownish yellow sandy clay loam in the upper part, brownish yellow gravelly sandy clay loam in the middle part, and brownish yellow sandy clay loam in the lower part. The lower part of the subsoil has masses of plinthite and has mottles in shades of red, brown, and gray.

The well drained Bonifay soils are on gently sloping summits and on gently sloping and moderately sloping side slopes. Typically, the surface layer is dark grayish brown loamy sand about 3 inches thick. The subsurface layer is yellowish brown loamy sand in the upper part and brownish yellow loamy sand in the lower part. The subsoil is mottled yellowish, brownish, reddish, and grayish sandy clay loam.

The somewhat excessively drained Troup soils are on narrow, gently sloping summits and on gently sloping to moderately steep side slopes. Typically, the surface layer is dark grayish brown sand about 5 inches thick. The subsurface layer is yellowish brown sand in the upper part, strong brown sand in the middle part, and yellowish red loamy sand in the lower part. The subsoil is dark red sandy loam in the upper part and dark red sandy clay loam in the lower part.

Of minor extent in this map unit are the well drained Lucy, Malbis, Perdido, and Red Bay and excessively drained Lakeland soils on summits of broad ridges; the well drained Cowarts and moderately well drained, clayey Maubila soils on side slopes; the poorly drained Grady soils in depressions; the moderately well drained Iuka soils and very poorly drained Fluvaquents on flood plains; and the somewhat poorly drained Albany and poorly drained Pelham soils on toeslopes and in shallow drainageways.

Most areas of this map unit are used for woodland, pasture, or hay. A few small areas are used for cultivated crops, and a significant area in the southern part of the county has been developed for urban use.

The soils in this map unit are well suited, moderately well suited, or poorly suited to cultivated crops and are well suited or moderately well suited to pasture and hay. Erosion is a hazard in the sloping areas. Additional concerns include the droughtiness and low fertility in areas of the Bonifay and Troup soils.

The soils in this map unit are well suited or moderately well suited to woodland. They have a moderately high or high potential productivity for slash pine, loblolly pine, and longleaf pine. The main limitations affecting commercial timber production are a high seedling mortality rate and an equipment limitation in areas of the Bonifay and Troup soils.

The soils in this map unit are moderately well suited to most urban uses. Slope is a limitation affecting most uses in the strongly sloping to steep areas. Additional concerns include restricted permeability and a seasonal high water table in areas of the Notcher soils and droughtiness and a potential for seepage in areas of the Bonifay and Troup soils.

6. Troup-Poarch-Pelham

Nearly level to steep, somewhat excessively drained, well drained, and poorly drained soils that have thick, sandy surface and subsurface layers and a loamy subsoil or that are loamy throughout; on uplands

This map unit consists of soils on summits and side slopes of broad ridges in the northwestern part of the county. In most areas, the landscape consists of long, smooth slopes. Slopes range from 0 to 35 percent.

This map unit makes up about 51,150 acres, or about 12.1 percent of the land area of the county. It is about 29 percent Troup soils, 27 percent Poarch soils, 15 percent Pelham soils, and 29 percent soils of minor extent.

The somewhat excessively drained Troup soils are on narrow, gently sloping summits and on gently sloping to steep side slopes. Typically, the surface layer is dark grayish brown sand about 5 inches thick. The subsurface layer is yellowish brown sand in the upper part, strong brown sand in the middle part, and yellowish red loamy sand in the lower part. The subsoil is dark red sandy loam in the upper part and dark red sandy clay loam in the lower part.

The well drained Poarch soils are on nearly level summits and on gently sloping side slopes. Typically, the surface layer is very dark grayish brown sandy loam about 5 inches thick. The subsoil is yellowish brown sandy loam in the upper part; brownish yellow sandy loam that has reddish, brownish, and grayish mottles in the middle part; and mottled very pale brown and brownish yellow sandy loam in the lower part. The middle and lower parts have masses of plinthite.

The poorly drained Pelham soils are on flats and in shallow drainageways on stream terraces and uplands. Typically, the surface layer is very dark gray loamy sand about 5 inches thick. The subsurface layer is gray loamy sand that has brownish mottles. The subsoil is gray sandy loam in the upper part and mottled gray and light gray sandy clay loam in the lower part.

Of minor extent in this map unit are the well drained Bama, Lucy, and Malbis and excessively drained Lakeland soils on summits of ridges; the poorly drained Grady soils in depressions; the well drained Cowarts and Perdido and moderately well drained, clayey Maubila soils on side slopes; the moderately well drained Iuka and very poorly drained Dorovan soils and Fluvaquents on flood plains; and the moderately well drained Eunola, somewhat poorly drained Garcon, and poorly drained Weston soils on low terraces.

Most areas of this map unit are used for woodland and for wildlife habitat. A small acreage is used for cultivated crops, pasture, or hay.

The soils in this map unit are poorly suited, moderately well suited, or well suited to cultivated crops, pasture, and hay. Erosion is a hazard in the sloping areas. Additional concerns include droughtiness and low fertility in areas of the Troup soils and wetness in the Pelham soils.

The soils in this map unit are poorly suited, moderately well suited, or well suited to woodland. They have a moderately high or high potential productivity for slash pine, loblolly pine, and longleaf pine. The main limitations affecting commercial timber production are a high seedling mortality rate and an equipment limitation in areas of the Troup and Pelham soils.

The soils in this map unit are poorly suited, moderately well suited, or well suited to most urban uses. Slope is a limitation affecting most uses in the strongly sloping to steep areas. Additional concerns include restricted permeability and a seasonal high water table in areas of the Poarch and Pelham soils and a potential for seepage in areas of the Troup soils.

Areas on Coastal Lowlands Dominated by Nearly Level to Moderately Sloping, Sandy Mineral Soils and Mucky Organic Soils

The four general soil map units in this group consist of excessively drained to very poorly drained soils that are sandy throughout the profile or that have a thick surface tier of muck and a sandy or loamy substratum. They make up about 14 percent of the county. More than half of the acreage has been developed for urban and recreational uses. Most of the remaining acreage is used for woodland. Wetness caused by a seasonal high water table is the main limitation. Sandy textures and droughtiness are also management concerns in some of the soils.

7. Pickney-Croatan

Level, very poorly drained soils that are sandy throughout or that have thick, organic surface and subsurface layers and a sandy or loamy substratum; on coastal lowlands

This map unit consists of soils on flats and in large depressions. It is in the southwestern part of the county. Most areas are subject to ponding for long or

very long periods. Slopes are dominantly less than 1 percent.

This map unit makes up about 10,990 acres, or about 2.6 percent of the land area in the county. It is about 61 percent Pickney and similar soils, 20 percent Croatan soils, and 19 percent soils of minor extent.

The very poorly drained Pickney soils are in slightly concave positions on broad flats and in shallow depressions. Typically, the surface layer is black sand about 10 inches thick. The subsurface layer is black sand that has streaks of grayish uncoated sand. The substratum is very dark gray coarse sand and very dark grayish brown sand.

The very poorly drained Croatan soils are in depressions. Typically, the surface layer is black muck about 15 inches thick. The subsurface layer is dark brown muck. The middle layer is dark grayish brown loam. The substratum is gray sandy loam and loamy sand.

Of minor extent in this map unit are the very poorly drained Allanton and poorly drained Leon and Pottsburg soils on the slightly higher flats and the somewhat poorly drained Hurricane soils on convex knolls.

Most areas of this map unit are used for woodland and for wildlife habitat. A few areas have been drained, filled, and developed for urban uses.

The soils in this map unit are not suited to cultivated crops, pasture, or hay. Wetness and ponding are the main limitations.

The soils in this map unit are poorly suited to woodland. The main limitations affecting commercial timber production are a high seedling mortality rate and an equipment limitation.

The soils in this map unit are not suited to most urban uses. Wetness and ponding are severe limitations that are difficult to overcome.

8. Lakeland-Hurricane

Nearly level to moderately sloping, excessively drained and somewhat poorly drained soils that are sandy throughout; on coastal lowlands

This map unit consists of soils on broad, low ridges in the southern part of the county, primarily in and around the city of Pensacola. The landscape consists of long, smooth slopes and has little relief. Slopes range from 0 to 8 percent.

This map unit makes up about 31,280 acres, or about 7.4 percent of the land area of the county. It is about 60 percent Lakeland and similar soils, 20 percent Hurricane and similar soils, and 20 percent soils of minor extent.

The excessively drained Lakeland soils are on broad, gently sloping summits and on gently sloping and moderately sloping side slopes. Typically, the surface layer is dark grayish brown sand about 5 inches thick. The substratum is yellowish brown sand in the upper part and brownish yellow sand in the lower part.

The somewhat poorly drained Hurricane soils are on broad, nearly level and gently sloping summits of low ridges and on toeslopes. Typically, the surface layer is very dark grayish brown sand about 5 inches thick. The subsurface layer is yellowish brown sand in the upper part and light gray and very pale brown sand in the lower part. The subsoil is dark reddish gray and dark reddish brown sand.

Of minor extent in this map unit are the excessively drained Kureb soils on summits, the very poorly drained Pickney and Croatan soils in depressions, the poorly drained Leon and Pottsburg soils on flats, and the very poorly drained Direго soils in salt marshes.

Most areas of this map unit have been developed for urban use. A few small areas are used for woodland and for wildlife habitat.

The soils in this map unit are poorly suited to most cultivated crops and are moderately well suited to pasture and hay. The main limitations are droughtiness and low fertility.

The soils in this map unit are moderately well suited to woodland. They have a moderate to high potential productivity for slash pine, loblolly pine, and longleaf pine and a high potential productivity for sand pine. The main limitations affecting commercial timber production are a high seedling mortality rate and an equipment limitation.

The soils in this map unit are moderately well suited to most urban uses. The sandy textures, droughtiness, and a potential for seepage are limitations. An additional concern is the seasonal high water table in areas of the Hurricane soils.

9. Leon-Pickney

Nearly level, poorly drained and very poorly drained soils that are sandy throughout; on coastal lowlands

This map unit consists of soils in areas of flatwoods, on flats, and in shallow depressions. It is in the southern part of the county, primarily in and around the city of Pensacola. The landscape is generally flat and has little relief. Slope ranges from 0 to 2 percent.

This map unit makes up about 8,880 acres, or about 2.1 percent of the land area in the county. It is about 45 percent Leon and similar soils, 30 percent Pickney soils, and 25 percent soils of minor extent.

The poorly drained Leon soils are in flat to convex

positions in areas of flatwoods. Typically, the surface layer is dark gray sand about 5 inches thick. The subsurface horizon is gray sand. The subsoil is dark reddish brown and dark brown sand. The middle layer is light brownish gray and very pale brown sand. Below this is very dark brown sand.

The very poorly drained Pickney soils are in slightly concave positions on broad flats and in shallow depressions. Typically, the surface layer is black sand about 10 inches thick. The subsurface layer is black sand that has streaks of grayish uncoated sand. The substratum is very dark gray coarse sand and very dark grayish brown sand.

Of minor extent in this map unit are the excessively drained Lakeland and somewhat poorly drained Hurricane soils on convex knolls, the very poorly drained Croatan and Allanton soils in depressions, the poorly drained Pottsburg soils on flats, and Arents in areas that have been drained and filled.

Most areas of this map unit have been developed for urban uses. A few areas are used for woodland and for wildlife habitat.

The soils in this map unit are poorly suited or not suited to most cultivated crops and are moderately well suited or poorly suited to pasture and hay. The main limitations are the ponding in some areas of the Pickney soils and wetness. Additional concerns include droughtiness and low fertility.

The soils in this map unit are moderately well suited or poorly suited to woodland. The Leon soils have a moderately high potential productivity for slash pine and loblolly pine. The Pickney soils have a low potential productivity for slash pine and loblolly pine. The main limitations affecting commercial timber production are a high seedling mortality rate and an equipment limitation.

The soils in this map unit are poorly suited or not suited to most urban uses. Wetness is the main limitation in areas of the Leon soils. Wetness and ponding are the main limitations in areas of the Pickney soils.

10. Corolla-Newhan-Duckston

Nearly level to rolling, somewhat poorly drained, excessively drained, and poorly drained soils that are sandy throughout; on coastal lowlands

This map unit consists of soils on dunes, on flats, and in depressions and swales between dunes. It is adjacent to the coast and on the barrier islands. The landscape is flat to rolling. Slopes are dominantly less than 8 percent, but they range up to 12 percent on the higher dunes.

This map unit makes up about 7,600 acres, or about 1.8 percent of the land area of the county. It is about 38 percent Corolla soils, 27 percent Newhan soils, 16 percent Duckston soils, and 19 percent soils of minor extent

The somewhat poorly drained Corolla soils are on the lower parts of dunes and in shallow swales. Typically, the surface layer is grayish brown sand about 5 inches thick. The substratum is white and light gray sand that has brown organic stains and brownish and reddish mottles.

The excessively drained Newhan soils are on dunes. Typically, the surface layer is gray sand about 3 inches thick. The substratum is light gray and white sand.

The poorly drained Duckston soils are on flats and in shallow swales and other depressions between dunes. Typically, the surface layer is black muck and very dark gray sand about 3 inches thick. The substratum is light gray and white sand.

Of minor extent in this map unit are areas of Beaches, the very poorly drained Direго soils in salt marshes, the poorly drained Leon soils in areas of flatwoods, and the excessively drained Kureb and moderately well drained Resota soils on dunes.

Many areas in this map unit have been developed for homesites and commercial uses. A large acreage has been left in a natural state and is used for recreation. The dunes serve to protect the mainland from storm surges during hurricanes.

The soils in this map unit are not suited to cultivated crops, pasture, hay, or woodland. Salt spray from the Gulf of Mexico is a severe limitation affecting the growth of most trees, grasses, and cultivated crops.

The soils in this map unit are poorly suited to most urban uses. Flooding is the main limitation. Wetness in the Corolla and Duckston soils is also a management concern.

Areas on Flood Plains, in Swamps, and on Low Stream Terraces Dominated by Level to Gently Sloping, Loamy and Sandy Mineral Soils and Mucky Organic Soils that are Subject to Flooding

The three general soil map units in this group consist of excessively drained to very poorly drained soils that are loamy or sandy throughout; that have thick, sandy surface and subsurface layers and a loamy subsoil; or that have mucky textures throughout. They make up about 8 percent of the county. Most of the acreage is used for woodland and

for wildlife habitat. A few areas are used for cultivated crops or pasture. Wetness and flooding limit the use of equipment and increase the seedling mortality rate. The wetness and flooding are the main management concerns affecting woodland.

11. Dorovan-Fluvaquents-Pelham

Level and nearly level, very poorly drained and poorly drained soils that are mucky throughout, that are stratified sandy and loamy throughout, or that have thick, sandy surface and subsurface layers and a loamy subsoil; on flood plains and low terraces

This map unit consists of soils on flood plains and low stream terraces adjacent to the Perdido River in the southwestern part of the county. The landscape is generally flat or gently undulating and has little relief. Slopes range from 0 to 2 percent. Most areas of this map unit are subject to frequent or occasional flooding.

This map unit makes up about 16,060 acres, or about 3.8 percent of the land area of the county. It is about 30 percent Dorovan soils, 28 percent Fluvaquents, 20 percent Pelham and similar soils, and 22 percent soils of minor extent.

The very poorly drained Dorovan soils are in swales, sloughs, and other depressions on flood plains and terraces. Typically, the surface layer is dark reddish brown muck about 8 inches thick. Below this is black muck.

The very poorly drained Fluvaquents are in the lower parts of backswamps and in shallow depressions. They vary significantly in color, texture, and content of organic matter.

The poorly drained Pelham soils are on flats and in shallow drainageways on stream terraces. Typically, the surface layer is very dark gray loamy sand about 5 inches thick. The subsurface layer is gray loamy sand that has brownish mottles. The subsoil is gray sandy loam in the upper part and mottled gray and light gray sandy clay loam in the lower part.

Of minor extent in this map unit are the excessively drained Bigbee soils on terraces, the very poorly drained Croatan and Pickney soils in swales, the somewhat poorly drained Garcon and Yemassee soils on terraces, and the somewhat poorly drained Mantachie soils on flood plains.

Most areas of this map unit are used for woodland and for wildlife habitat. A few small areas are used for pasture or hay.

The Dorovan soils and Fluvaquents are not suited to cultivated crops, pasture, or hay because of frequent flooding and ponding. The Pelham soils are poorly suited to these uses because of occasional flooding and wetness.

The soils in this map unit are poorly suited to woodland. The main limitations affecting commercial timber production are a high seedling mortality rate and an equipment limitation.

The soils in this map unit are not suited to most urban uses. The flooding and wetness are the main limitations.

12. Dorovan-Fluvaquents-Mantachie

Level and nearly level, very poorly drained and somewhat poorly drained soils that are mucky throughout, that are stratified sandy and loamy throughout, or that have a loamy surface layer and a loamy subsoil; on flood plains

This map unit consists of soils on the flood plains along the Escambia River in the southeastern part of the county. The landscape is generally flat or gently undulating. Slopes range from 0 to 2 percent. Most areas of this map unit are subject to frequent flooding.

This map unit makes up about 8,880 acres, or about 2.1 percent of the land area of the county. It is about 40 percent Dorovan soils, 30 percent Fluvaquents, 20 percent Mantachie and similar soils, and 10 percent soils of minor extent.

The very poorly drained Dorovan soils are in swales, sloughs, and other depressions on flood plains and terraces. Typically, the surface layer is dark reddish brown muck about 8 inches thick. Below this is black muck.

The very poorly drained Fluvaquents are in the lower parts of backswamps and in shallow depressions. They vary significantly in color, texture, and content of organic matter.

The somewhat poorly drained Mantachie soils are on the middle and lower parts of natural levees and in the higher positions of backswamps. Typically, the surface layer is dark brown loam about 6 inches thick. The subsoil is brown loam in the upper part, grayish brown clay loam in the middle part, and mottled grayish, brownish, and reddish sandy clay loam in the lower part. The substratum is mottled grayish, brownish, and reddish loam.

Of minor extent in this map unit are the excessively drained Bigbee soils on terraces and natural levees; the very poorly drained Croatan and Pickney soils in swales; the somewhat poorly drained Garcon, Albany, and Hurricane and moderately well drained Eunola soils on terraces; and the moderately well drained Iuka soils on flood plains.

Most areas of this map unit are used for woodland

and for wildlife habitat. A few small areas are used for pasture or hay.

The Dorovan soils and Fluvaquents are not suited to cultivated crops, pasture, or hay because of the frequent flooding and the ponding. The Mantachie soils are poorly suited to these uses because of the frequent flooding and the wetness.

The soils in this map unit are poorly suited to woodland. The main limitations affecting commercial timber production are a high seedling mortality rate and an equipment limitation.

The soils in this map unit are not suited to most urban uses. The frequent flooding and the wetness are the main limitations.

13. Mantachie-Fluvaquents-Bigbee

Level and nearly level, somewhat poorly drained, very poorly drained, and excessively drained soils that have a loamy surface layer and a loamy subsoil, that are stratified sandy and loamy throughout, or that are sandy throughout; on flood plains

This map unit consists of soils on the flood plains along the Escambia River in the northeastern part of the county. The landscape is generally flat or gently undulating and has little relief. Slopes range from 0 to 2 percent. Most areas of this map unit are subject to frequent flooding.

This map unit makes up about 9,720 acres, or about 2.3 percent of the land area of the county. It is about 40 percent Mantachie and similar soils, 26 percent Fluvaquents, 15 percent Bigbee soils, and 19 percent soils of minor extent.

The somewhat poorly drained Mantachie soils are on the middle and lower parts of natural levees and in the higher positions of backswamps. Typically, the surface layer is dark brown loam about 6 inches thick. The subsoil is brown loam in the upper part, grayish brown clay loam in the middle part, and mottled grayish, brownish, and reddish sandy clay loam in the lower part. The substratum is mottled grayish, brownish, and reddish loam.

The very poorly drained Fluvaquents are in the lower parts of backswamps and in shallow depressions. They vary significantly in color, texture, and content of organic matter.

The excessively drained Bigbee soils are on the high parts of natural levees adjacent to stream channels and on low terraces. Typically, the surface layer is dark grayish brown fine sand about 7 inches thick. The substratum is yellowish brown and light yellowish brown fine sand in the upper part, white fine sand in the middle part, and light gray fine sand in the lower part.

Of minor extent in this map unit are the moderately well drained Eunola and somewhat poorly drained Albany and Hurricane soils on terraces, the very poorly drained Dorovan and Croatan soils in swales and sloughs, and the moderately well drained Iuka soils on flood plains.

Most areas of this map unit are used for woodland and for wildlife habitat. A few small areas are used for pasture or hay.

The soils in this map unit are poorly suited to cultivated crops, pasture, and hay. The main limitation is the flooding. Additional concerns include wetness in the Mantachie soils and Fluvaquents and droughtiness in the Bigbee soils.

The soils in this map unit are poorly suited to woodland. The main limitations affecting commercial timber production are a high seedling mortality rate and an equipment limitation.

The soils in this map unit are not suited to most urban uses. The frequent flooding and the wetness are the main limitations.

Detailed Soil Map Units

The map units delineated on the detailed soil maps in this survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this section, along with the maps, can be used to determine the suitability and potential of a unit for specific uses. They also can be used to plan the management needed for those uses.

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

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

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

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

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

Soils of one series can differ in texture of the surface layer, slope, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Bonifay loamy sand, 0 to 5 percent slopes, is a phase of the Bonifay series.

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

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Troup-Poarch complex, 5 to 8 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the

soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Croatan and Pickney soils, depressional, is an undifferentiated group in this survey area.

This survey includes *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Urban land is an example.

Table 3 gives the acreage and proportionate extent of each map unit. Other tables give properties of the soils and the limitations, capabilities, and potentials for many uses. The Glossary defines many of the terms used in describing the soils or miscellaneous areas.

2—Duckston sand, frequently flooded

This very deep, poorly drained, sandy soil is in the coastal lowlands. It is on nearly level flats and in depressions or swales on the barrier islands and near coastal beaches on the mainland. It is subject to frequent flooding for brief periods. Slopes are 0 to 1 percent. Individual areas are irregular in shape. They range from 3 to about 20 acres in size.

Typically, the surface layer consists of a layer of black muck about 0.5 inch thick overlying a layer of very dark gray sand about 3 inches thick. The substratum to a depth of 80 inches is light gray and white sand.

Important properties of the Duckston soil—

Seasonal high water table: Apparent, at the surface to a depth of 1/2 foot throughout the year
Available water capacity: Very low
Permeability: Very rapid
Flooding: Frequent, for brief periods

Included in mapping are a few small areas of Corolla and Direго soils. The somewhat poorly drained Corolla soils are in the slightly higher, more convex positions, generally near the upper edges of mapped areas. The very poorly drained Direго soils are in the lower positions and have an organic surface layer that is 20 to 44 inches thick. Also included are a few small areas of soils that are similar to the Duckston soil but have up to 8 inches of muck on the surface. They are in slightly lower positions than those of the Duckston soil. Included soils make up about 10 percent of the map unit. Individual areas generally are less than 1 acre in size.

This map unit is not suited to cultivated crops, pasture, woodland, urban uses, or recreational uses because of wetness and the flooding.

The capability subclass is VIIw. This map unit has not been assigned a woodland ordination symbol. It is in the Salt Marsh ecological community.

3—Corolla-Duckston sands, gently undulating, flooded

This map unit consists of the very deep, somewhat poorly drained Corolla soil and the poorly drained Duckston soil. It is in gently undulating areas of low dunes and swales in the coastal lowlands. The soils occur as areas so intricately intermingled that they could not be mapped separately at the scale selected for mapping. The Corolla soil makes up about 50 percent of the map unit, and the Duckston soil makes up about 35 percent. Slopes generally are short and complex. They range from 2 to 5 percent in areas of the Corolla soil and are 0 to 1 percent in areas of the Duckston soil. Individual areas are irregular in shape. They range from 5 to about 150 acres in size.

The Corolla soil generally is on slightly convex, low dunes and on convex slopes of flats. Typically, the surface layer is grayish brown sand about 5 inches thick. The substratum extends to a depth of 80 inches. It is very pale brown sand in the upper part, white sand that has strong brown and yellowish red mottles in the middle part, and light gray sand in the lower part.

Important properties of the Corolla soil—

Seasonal high water table: Apparent, at a depth of 1 1/2 to 3 feet throughout the year
Available water capacity: Very low
Permeability: Very rapid
Flooding: Rare

The Duckston soil generally is in shallow depressions or swales between low dunes. Typically, the surface layer consists of a layer of black muck about 0.5 inch thick overlying a layer of very dark gray sand about 3 inches thick. The substratum to a depth of 80 inches is light gray and white sand.

Important properties of the Duckston soil—

Seasonal high water table: Apparent, at the surface to a depth of 1/2 foot throughout the year
Available water capacity: Very low
Permeability: Very rapid
Flooding: Occasional, for brief periods

Included in mapping are a few small areas of Newhan and Direго soils. The excessively drained Newhan soils are on the higher parts of dunes. The very poorly drained Direго soils are in lower positions

than those of the Duckston soil and have an organic surface layer that is 20 to 44 inches thick. Also included are soils that are similar to Duckston soil but have up to 8 inches of muck on the surface. Included soils make up about 15 percent of the map unit. Individual areas generally are less than 1 acre in size.

This map unit is not suited to cultivated crops, pasture, hayland, or woodland because most areas receive salt spray from the Gulf of Mexico. Additional management concerns include droughtiness and wetness.

This map unit is poorly suited to most urban and recreational uses because of the flooding and wetness. Additional management concerns include the sandy textures, droughtiness, and salt spray.

The capability subclass is VIIs in areas of the Corolla soil and VIIw in areas of the Duckston soil. This map unit has not been assigned a woodland ordination symbol. The Corolla part is in the North Florida Coastal Strand ecological community, and the Duckston part is in the Salt Marsh ecological community.

4—Pickney sand

This very deep, very poorly drained, sandy soil is in the coastal lowlands. It is on nearly level flats. Slopes are flat or slightly concave and are generally less than 1 percent. Individual areas are irregular in shape. They range from 10 to about 700 acres in size.

Typically, the surface layer is black sand about 10 inches thick. The subsurface layer extends to a depth of 35 inches. It is black sand that has streaks and pockets of gray sand. The substratum extends to a depth of 80 inches. It is very dark gray coarse sand in the upper part and very dark grayish brown sand in the lower part.

Important properties of the Pickney soil—

Seasonal high water table: Apparent, at the surface to a depth of 1/2 foot from December through July
Available water capacity: Low
Permeability: Rapid
Flooding: None

Included in mapping are a few small areas of Allanton, Pelham, and Pottsburg soils. The very poorly drained Allanton soils are in slightly lower positions than those of the Pickney soil. The Pelham and Pottsburg soils are in slightly higher positions than those of the Pickney soil and do not have thick, dark surface and subsurface layers. Also included are a few small areas of very poorly drained soils that have a surface layer of mucky sand. They are in shallow depressions. Included soils make up about 15 percent of the map unit. Individual areas generally are less than 3 acres in size.

This map unit is not suited to cultivated crops, pasture, hay, woodland, urban uses, or recreational uses because of wetness.

The capability subclass is VIw. This map unit has not been assigned a woodland ordination symbol. It is in the Pitcher Plant Bogs ecological communities.

5—Croatan and Pickney soils, depressional

This map unit consists of the very deep, very poorly drained Croatan and Pickney soils in depressions in the coastal lowlands. These soils are subject to ponding for several months in most years. The composition of the unit is variable. Some areas mainly consist of the Croatan soil, some areas mainly consist of the Pickney soil, and other areas contain both soils in variable proportions. In a typical area, the Croatan soil makes up about 45 percent of the map unit and the Pickney soil makes up about 35 percent. Slopes are 0 to 1 percent. Individual areas are rounded or oblong in shape. They range from 10 to about 250 acres in size.

The Croatan soil is commonly in the lower parts of the depressions. Typically, the surface layer is black muck about 15 inches thick. The subsurface layer extends to a depth of 25 inches. It is dark brown muck. Below this is a buried surface layer of dark grayish brown loam to a depth of 33 inches. The substratum extends to a depth of 80 inches. It is gray sandy loam in the upper part, gray loamy sand in the middle part, and gray and dark gray sand in the lower part.

Important properties of the Croatan soil—

Seasonal high water table: Apparent, from 1 foot above the surface to a depth of 1/2 foot from December through July
Available water capacity: Very high
Permeability: Moderate
Flooding: None
Duration of ponding: Very long

The Pickney soil is commonly in shallow depressions or in the higher parts of deep depressions. Typically, the surface layer is black sand about 10 inches thick. The subsurface layer extends to a depth of 35 inches. It is black sand that has streaks and pockets of gray sand. The substratum extends to a depth of 80 inches. It is

very dark gray coarse sand in the upper part and very dark grayish brown sand in the lower part.

Important properties of the Pickney soil—

Seasonal high water table: Apparent, from 1 foot above the surface to a depth of 1/2 foot from December through July
Available water capacity: Low
Permeability: Rapid
Flooding: None
Duration of ponding: Very long

Included in mapping are a few small areas of Dorovan soils. The Dorovan soils are in the deeper parts of depressions and do not have mineral soil horizons within a depth of 51 inches. Also included are small areas of mineral soils that are similar to the Pickney soil but have a dark surface layer that is less than 24 inches thick. These soils are in slightly higher positions than those of the Pickney soil. Included soils make up about 20 percent of the map unit. Individual areas generally are less than 3 acres in size.

This map unit is not suited to cultivated crops, pasture, hay, woodland, urban uses, or recreational uses because of wetness and ponding.

The capability subclass is VIIw. This map unit has not been assigned a woodland ordination symbol. It is in the Swamp Hardwoods ecological community.

6—Direго muck, tidal

This very deep, very poorly drained soil is in the coastal lowlands. It is in tidal marshes on the barrier islands and bordering the bays and lagoons adjacent to the Gulf of Mexico. These soils are subject to daily flooding by fluctuating tides. Slopes are less than 1 percent. Individual areas are irregular in shape. They range from 10 to about 400 acres in size.

Typically, the surface layer is very dark brown muck about 8 inches thick. The subsurface layer to a depth of 35 inches is black muck. The substratum extends to a depth of 80 inches. It is dark grayish brown fine sand in the upper part and grayish brown fine sand in the lower part.

Important properties of the Direго soil—

Seasonal high water table: Apparent, at the surface to a depth of 1 foot throughout the year
Available water capacity: Very high
Permeability: Rapid
Flooding: Very frequent (twice daily) for very brief periods

Included in mapping are a few small areas of Duckston soils in the slightly higher positions near the upper edges of mapped areas. The Duckston soils are sandy throughout. Also included are small areas of mineral soils that have a surface layer of muck that is less than 16 inches thick. Included soils make up about 10 percent of the map unit. Individual areas generally are less than 3 acres in size.

This map unit is not suited to cultivated crops, pasture, hay, woodland, urban use, or recreational uses because of wetness, the frequent flooding, and a high content of salt and sulfur in the soil.

The capability subclass is VIIIw. This map unit has not been assigned a woodland ordination symbol. It is in the Salt Marsh ecological community.

7—Kureb sand, 0 to 8 percent slopes

This very deep, excessively drained, sandy soil is on undulating, low ridges, knolls, and old dunes in the coastal lowlands. Slopes generally are short and complex. Individual areas commonly are parallel to the coast and are long and narrow. They range from 15 to about 70 acres in size.

Typically, the surface layer is very dark gray sand about 3 inches thick. The subsurface layer extends to a depth of 19 inches. It is white sand. The next layer extends to a depth of 36 inches. It is brownish yellow sand that has streaks of white sand and thin bands of dark brown sand. The substratum to a depth of 80 inches is brownish yellow and yellow sand.

Important properties of the Kureb soil—

Depth to the seasonal high water table: More than 6 feet
Available water capacity: Very low
Permeability: Rapid
Flooding: None

Included in mapping are a few small areas of Lakeland, Leon, and Resota soils. The Lakeland soils are in positions similar to those of the Kureb soil and do not have bands or streaks of dark brown sand in the substratum. The poorly drained Leon soils are in shallow depressions and have dark colored, organic-matter enriched subsoil layers. The moderately well drained Resota soils are in slightly lower positions than those of the Kureb soil. Included soils make up about 15 percent of the map unit. Individual areas are generally less than 5 acres in size.

This map unit is poorly suited to cultivated crops.

The main management concerns are the very low available water capacity, very low fertility, and the hazard of erosion. Irrigation is needed for the production of cultivated crops in most years. Leaching of plant nutrients is also a management concern. Frequent, light applications of fertilizer are necessary to maintain the productivity of most crops.

This map unit is suited to pasture and hay. Coastal bermudagrass and bahiagrass are commonly grown grasses and are well adapted to the local conditions. The main management concerns are the very low available water capacity, very low fertility, and rapid leaching of nutrients. Proper stocking rates, pasture rotation, and restricted grazing during prolonged dry periods help to keep the pasture in good condition. Frequent, light applications of nitrogen are necessary to maintain the productivity of grasses.

This map unit is suited to sand pine, slash pine, loblolly pine, and longleaf pine. The potential productivity is moderate for sand pine and low for slash pine, loblolly pine, and longleaf pine. Moderate limitations affect timber management. The main management concerns are an equipment limitation, seedling mortality, and plant competition. The sandy texture of the surface layer restricts the use of wheeled equipment, especially when the soil is very dry. Harvesting activities should be planned for seasons when the soil is moist. The high seedling mortality rate is caused by droughtiness. It can be compensated for by increasing the number of trees planted. Plant competition reduces timber yields and can prevent adequate reforestation. The competing vegetation can be controlled by mechanical methods, herbicides, or prescribed burning.

This map unit is suited to most urban uses. It has slight limitations affecting building sites and local roads and streets and has slight to severe limitations affecting most kinds of sanitary facilities. The main management concerns are the sandy texture, seepage, and droughtiness. Cutbanks are unstable and subject to slumping. Support beams should be used to maintain the stability of the cutbanks. If this unit is used as a site for a septic tank absorption field, effluent can surface in downslope areas or impact the water table and create a health hazard. Mounding with suitable fill material increases the filtering capacity of the field. Applying lime and fertilizer, mulching, and irrigating help to establish lawns and landscape plants.

This map unit is suited to most recreational uses. It has moderate or severe limitations affecting most uses. The main management concerns are the sandy texture and the slope.

The capability subclass is VIIs. The woodland ordination symbol is 4S for slash pine. This map unit is in the Sand Pine Scrub ecological community.

8—Newhan-Corolla complex, rolling, rarely flooded

This map unit consists of the excessively drained Newhan soil and the somewhat poorly drained Corolla soil. It is on sand dunes on the barrier islands and adjacent to coastal beaches on the mainland (fig. 2). The soils occur as areas so intricately intermingled that they could not be mapped separately at the scale selected for mapping. The Newhan soil makes up about 55 percent of the map unit, and the Corolla soil makes up about 30 percent. Slopes are short and complex and range from 2 to 15 percent. Individual areas are generally long and narrow. They range from about 10 to 400 acres in size.

The Newhan soil generally is on the higher parts of dunes. Typically, the surface layer is gray sand about 3 inches thick. The substratum extends to a depth of 80 inches. It is light gray sand in the upper part and white sand in the lower part.

Important properties of the Newhan soil—

Depth to the seasonal high water table: More than 6 feet
Available water capacity: Very low
Permeability: Very rapid
Flooding: Rare

The Corolla soil generally is on the lower parts of dunes and in shallow swales between dunes. Typically, the surface layer is grayish brown sand about 5 inches thick. The substratum extends to a depth of 80 inches. It is very pale brown sand in the upper part, white sand that has strong brown and yellowish red mottles in the middle part, and light gray sand in the lower part.

Important properties of the Corolla soil—

Seasonal high water table: Apparent, at a depth of 1½ to 3 feet throughout the year
Available water capacity: Very low
Permeability: Very rapid
Flooding: Rare

Included in mapping are a few small areas of Duckston soils in interdunal swales and depressions. Also included are soils that are similar to the Corolla and Newhan soils but have a seasonal high water table at a depth of 3 to 6 feet. Included soils make up about 15 percent of the map unit.

Figure 2.—Sand dunes in an area of Newhan-Corolla complex, rolling, rarely flooded. Sea oats help to stabilize the dunes. The white sand beaches and sand dunes along the Gulf of Mexico are major attractions in Escambia County.

This map unit is not suited to cultivated crops, pasture, hay, or woodland because of salt spray from the Gulf of Mexico. Additional management concerns include droughtiness and the wetness in the Corolla soil.

This map unit is poorly suited to most urban and recreational uses because of the flooding and the wetness in the Corolla soils. Additional management concerns include the slope, the sandy textures, droughtiness, and salt spray.

The capability subclass is VIIIs. This map unit has not been assigned a woodland ordination symbol. It is in the North Florida Coastal Strand ecological community.

9—Leon sand

This very deep, poorly drained, sandy soil is in the coastal lowlands. It is in areas of nearly level flatwoods. Slopes are flat or slightly concave and are generally less than 2 percent. Individual areas are irregular in shape. They range from 10 to about 150 acres in size.

Typically, the surface layer is dark gray sand about 5 inches thick. The subsurface layer extends to a depth of 18 inches. It is gray sand. The subsoil extends to a depth of 80 inches. It is dark reddish brown and dark brown sand in the upper part, light brownish gray and very pale brown sand in the

middle part, and very dark brown sand in the lower part.

Important properties of the Leon soil—

Seasonal high water table: Apparent, at a depth of 1/2 to 1 1/2 feet from December through April
Available water capacity: Low
Permeability: Moderately slow
Flooding: None

Included in mapping are a few small areas of Hurricane, Pickney, and Pottsburg soils. The somewhat poorly drained Hurricane soils are on low knolls and do not have organic-enriched subsoil layers within a depth of 30 inches. The very poorly drained Pickney soils are in small depressions. The Pottsburg soils are in positions similar to those of the Leon soil and do not have organic-enriched subsoil layers within a depth of 30 inches. Included soils make up about 15 percent of the map unit. Individual areas generally are less than 5 acres in size.

This map unit is poorly suited to cultivated crops. The main management concerns are wetness, low available water capacity, low fertility, and leaching of plant nutrients. Installing a drainage system that includes open ditches, perforated tile, or land shaping; using supplemental irrigation; and planting crop varieties that are adapted to droughty conditions increase crop production. If irrigation is used, applying the water frequently in light amounts helps to prevent leaching of plant nutrients and pesticides to below the plant roots.

This soil is poorly suited to pasture and hay. The seasonal wetness and droughtiness are the main management concerns. Grasses that are tolerant of wet conditions should be selected. Shallow ditches can help to remove excess water from the surface. Proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture in good condition. Applications of fertilizer and lime are needed for the maximum production of forage.

This map unit is suited to slash pine, loblolly pine, and longleaf pine (fig. 3). The potential productivity is moderate. Severe limitations affect timber management. The main management concerns are an equipment limitation, seedling mortality, and plant competition. Harvesting activities should be planned for seasons when the soil is dry. Using standard wheeled and tracked equipment when the soil is wet results in rutting and compaction. Using low-pressure ground equipment minimizes rutting and the damage caused to tree roots by compaction. Planting seedlings on raised beds helps to establish the seedlings and increases the seedling survival rate. Plant competition reduces timber yields and can prevent adequate reforestation. The competing vegetation can be controlled by site preparation, herbicides, or prescribed burning. Applications of fertilizer can increase yields.

This map unit is poorly suited to most urban uses. Wetness is a severe limitation affecting building sites, local roads and streets, and most kinds of sanitary facilities. Additional management concerns include the sandy texture and droughtiness. Because of the seasonal high water table during winter and spring, a drainage system is needed for buildings. A deep drainage system can help to lower the water table. Constructing roads on raised, well-compacted fill material helps to overcome the wetness. Septic tank absorption fields do not function properly during rainy periods because of the wetness. Constructing the absorption field on a raised bed helps to compensate for this limitation. Using supplemental irrigation and seeding or planting varieties that are adapted to droughty conditions increase the survival rate of grasses and landscaping plants.

Figure 3.—Typical woodland vegetation in an area of Leon sand. The understory vegetation consists primarily of saw palmetto, gallberry, and assorted grasses and forbs.

This map unit is poorly suited to recreational uses. Wetness and the sandy texture are the main management concerns.

The capability subclass is IVw. The woodland ordination symbol is 8W for slash pine. This map unit is in the North Florida Flatwoods ecological community.

10—Beaches

This map unit is in the coastal lowlands in the southern part of the county. It is a miscellaneous land type that consists of narrow strips of tide-washed sand on the coast and on barrier islands. Beaches are subject to daily flooding by fluctuating tides and wave action. The shape and slope of the beaches commonly change due to storm surges and wave action. Most areas have a uniform, gentle slope, but some areas have a short, steep slope at the water's edge. Individual areas are long and narrow, generally ranging from 200 to 500 feet in width.

Most areas of Beaches consist of thick deposits of thinly stratified fine white sand. In most areas, common or many shell fragments and dark sand grains are throughout the profile. A typifying profile was not selected.

Important properties of Beaches—

Seasonal high water table: Apparent, at the surface to a depth of 1/2 foot throughout the year
Available water capacity: Very low
Permeability: Rapid
Flooding: Very frequent for very brief periods due to fluctuating tides

Included in mapping are a few small areas of Newhan, Corolla, and Duckston soils. The Newhan and Corolla soils are on sand dunes and are not subject to daily flooding by fluctuating tides. The poorly drained Duckston soils are in shallow swales and other depressions. Included soils make up less than 10 percent of the map unit. Individual areas generally are less than 1 acre in size

This map unit is not suited to cultivated crops, pasture, hay, woodland, or most urban uses because of the flooding, wetness, and the instability of the landforms. Beaches provide access to the Gulf of Mexico and are used extensively for recreational activities.

The capability subclass is VIIIw. This map unit has not been assigned a woodland ordination symbol or an ecological community.

11—Hurricane sand, 0 to 5 percent slopes

This very deep, somewhat poorly drained soil is in nearly level and gently sloping positions on low ridges and knolls in the coastal lowlands. Slopes are long and smooth. Individual areas are irregular in shape. They range from 3 to about 100 acres in size.

Typically, the surface layer is very dark grayish brown sand about 5 inches thick. The subsurface layer extends to a depth of 58 inches. It is yellowish brown sand in the upper part, light gray sand that has brownish mottles in the middle part, and white sand in the lower part. The subsoil extends to a depth of 80 inches. It is dark reddish gray sand in the upper part and dark reddish brown sand in the lower part.

Important properties of the Hurricane soil—

Seasonal high water table: Apparent, at a depth of 1 1/2 to 3 1/2 feet from December through April
Available water capacity: Very low
Permeability: Moderately rapid
Flooding: None

Included in mapping are a few small areas of Foxworth, Lakeland, Leon, Pickney, and Pottsburg soils. The moderately well drained Foxworth and excessively drained Lakeland soils are in slightly higher positions than those of the Hurricane soil and do not have dark colored subsoil layers within a depth of 60 inches. The poorly drained Leon and Pottsburg soils are in slightly lower, less convex positions than those of the Hurricane soil. The very poorly drained Pickney soils are in small depressions and have a thick, black surface layer. Included soils make up about 15 percent of the map unit. Individual areas generally are less than 5 acres in size.

This map unit is poorly suited to cultivated crops. The main management concerns are wetness and the very low available water capacity. Additional management concerns include soil blowing, very low fertility, and rapid leaching of plant nutrients. A water-control system that removes excess water in wet seasons and provides supplemental irrigation in dry seasons maximizes productivity. Conservation tillage, winter cover crops, crop residue management, and crop rotations that include grasses and legumes increase the amount of available water, decrease soil blowing, and improve fertility of the soil. Applying lime and fertilizer on the basis of soil testing increases the availability of plant nutrients and maximizes productivity. Using split applications increases the effectiveness of fertilizer and herbicides.

This map unit is suited to pasture and hay. Wetness and the very low available water capacity are the main management concerns. Coastal bermudagrass and bahiagrass are adapted to the local conditions. Shallow ditches can help to remove excess surface water. Proper stocking rates, pasture rotation, and restricted grazing during very wet or very dry periods help to keep the pasture in good condition. Applications of lime and fertilizer improve fertility and increase the production of forage. Using split applications increases the effectiveness of fertilizer and herbicides.

This map unit is suited to slash pine, loblolly pine, and longleaf pine. The potential productivity is moderate, and moderate limitations affect timber management. The main management concerns are an equipment limitation, seedling mortality, and plant competition. The sandy texture of the surface layer restricts the use of wheeled equipment, especially when the soil is very dry. Wetness limits the use of equipment during winter and spring. Using low-pressure ground equipment minimizes the damage to the soil and helps to maintain productivity. The moderate seedling mortality rate is caused by droughtiness. It can be compensated for by increasing the number of trees planted. Plant competition can prevent adequate reforestation unless sites receive appropriate site preparation and maintenance. Site preparation can control the initial plant competition, and herbicides can control subsequent growth.

This map unit is poorly suited to most urban uses. Wetness is a severe limitation affecting building sites, local roads and streets, and most kinds of sanitary facilities. Additional limitations include the instability of cutbanks, trafficability, and droughtiness. Because of the seasonal high water table during winter and spring, a drainage system is needed for buildings. Installing a subsurface drainage system helps to lower the water table. Cutbanks are unstable and subject to slumping. Support beams should be used to maintain the stability of the cutbanks. Constructing roads on raised, well-compacted fill material helps to overcome the wetness. Septic tank absorption fields do not function properly during rainy periods because of the wetness. Constructing the absorption field on a raised bed helps to compensate for this limitation and provides increased filtering capacity. Quickly establishing permanent ground cover helps to stabilize the soil and improves trafficability. Applying lime and fertilizer, mulching, and irrigating help to establish lawns and landscape plants.

This map unit is poorly suited to most recreational uses. It has severe and moderate limitations affecting most uses. The sandy texture and wetness are the main management concerns.

The capability subclass is IIIw. The woodland ordination symbol is 11W for slash pine. This map unit is in the Mixed Hardwood and Pine ecological community.

12—Croatan muck, depressional

This very deep, very poorly drained soil is in shallow depressions of the coastal lowlands in the southern part of the county. Slopes are long and smooth and are less than 1 percent. Individual areas are generally circular or oblong. They range from 3 to about 15 acres in size.

Typically, the surface layer is black muck about 15 inches thick. The subsurface layer extends to a depth of 25 inches. It is dark brown muck. Below this is a buried surface layer of dark grayish brown loam to a depth of 33 inches. The substratum extends to a depth of 80 inches. It is gray sandy loam in the upper part, gray loamy sand in the middle part, and gray and dark gray sand in the lower part.

Important properties of the Croatan soil—

Seasonal high water table: Apparent, from 1 foot above the surface to a depth of 1/2 foot from December through July
Available water capacity: Very high
Permeability: Moderately slow
Flooding: None
Duration of ponding: Very long

Included in mapping are a few small areas of Dorovan and Grady soils. The Dorovan soils are in the lower parts of the depressions and have organic layers to a depth of 51 inches or more. The Grady soils are in the upper parts of the depressions and do not have organic layers. Also included are soils that are similar to the Croatan soil but that have organic layers that are less than 16 inches thick. Included soils make up about 15 percent of the map unit. Individual areas are generally less than 3 acres in size.

This map unit is severely limited for use as cropland, pasture, or woodland or for urban or recreational uses because of the wetness, the thick organic layers, and ponding. A site that has better suited soils should be selected.

The capability subclass is VIIw. This map unit has not been assigned a woodland ordination symbol. It is in the Swamp Hardwoods ecological community.

13—Lakeland sand, 0 to 5 percent slopes

This very deep, excessively drained, sandy soil is on nearly level summits and gently sloping shoulder slopes of broad ridges. Slopes are long and smooth. Individual areas are irregular in shape. They range from 20 to about 300 acres in size.

Typically, the surface layer is dark grayish brown sand about 5 inches thick. The substratum to a depth of 80 inches is yellowish brown and brownish yellow sand.

Important properties of the Lakeland soil—

Depth to the seasonal high water table: More than 6 feet
Available water capacity: Very low
Permeability: Rapid
Flooding: None

Included in mapping are a few small areas of Bonifay, Foxworth, Poarch, and Troup soils. The Bonifay, Foxworth, and Troup soils are in positions similar to those of the Lakeland soil. The Bonifay and Troup soils have loamy subsoil layers within a depth of 40 to 80 inches. The Foxworth soils have a seasonally high water table within a depth of 6 feet. The Poarch soils are on small knolls and are loamy throughout. Also included are small areas of Lakeland soils that have slopes of more than 5 percent. Included soils make up about 15 percent of the map unit. Individual areas are generally less than 5 acres in size.

This map unit is suited to cultivated crops. The main management concerns are the very low available water capacity, very low fertility, and a moderate hazard of erosion. In most years, irrigation can prevent damage to crops and can increase productivity. Returning crop residue to the soil helps to maintain tilth and increases the available water capacity. Minimum tillage, contour farming, and cover crops reduce the runoff rate and help to control erosion. Leaching of plant nutrients is also a management concern. Most crops respond well to applications of lime and to frequent, light applications of fertilizer.

This map unit is suited to pasture and hay. Coastal bermudagrass and bahiagrass are commonly grown grasses and are well adapted to the local conditions. The main management concerns are the very low available water capacity, very low fertility, and rapid leaching of nutrients. Proper stocking rates, pasture rotation, and restricted grazing during prolonged dry periods help to keep the pasture in good condition. Frequent, light applications of nitrogen are necessary to maintain the productivity of grasses.

This map unit is suited to sand pine, slash pine, loblolly pine, and longleaf pine. The potential productivity is high for sand pine and moderate for slash pine, loblolly pine, and longleaf pine. Moderate limitations affect timber management. The main management concerns are an equipment limitation, seedling mortality, and plant competition. The sandy texture of the surface layer restricts the use of wheeled equipment, especially when the soil is very dry. Harvesting activities should be planned for seasons when the soil is moist. The moderate seedling mortality rate is caused by droughtiness. It can be compensated for by increasing the number of trees planted. Plant competition reduces timber yields and can prevent adequate reforestation. The competing vegetation can be controlled by mechanical methods, herbicides, or prescribed burning.

This map unit is suited to most urban uses. It has slight limitations affecting building sites and local roads and streets and has slight to severe limitations affecting most kinds of sanitary facilities. The main management concerns are the sandy texture, seepage, and droughtiness. Cutbanks are unstable and subject to slumping. Support beams should be used to maintain the stability of the cutbanks. If this unit is used as a site for a septic tank absorption field, effluent can surface in downslope areas or impact the water table and create a health hazard. Mounding with suitable fill material increases the filtering capacity of the field. Applying lime and fertilizer, mulching, and irrigating help to establish lawns and landscape plants.

This map unit is suited to most recreational uses. It has moderate or severe limitations affecting most uses. The main management concern is the sandy texture.

The capability subclass is IVs. The woodland ordination symbol is 5S for slash pine. This map unit is in the Longleaf Pine-Turkey Oak Hills ecological community.

14—Allanton-Pottsburg complex

This map unit consists of the very poorly drained Allanton soil and the poorly drained Pottsburg soil. The Allanton soil is on nearly level flats and in shallow depressions, and the Pottsburg soil is in areas of flatwoods. It is in the coastal lowlands in the southern part of the county. The areas are so intricately intermingled that they could not be mapped separately at the scale selected for mapping. The Allanton soil makes up about 60 percent of the map unit, and the

Pottsburg soil makes up about 30 percent. Slopes are long and smooth and range from 0 to 2 percent. Individual areas are irregular in shape. They range from 10 to 250 acres in size.

The Allanton soil is on flats and in rounded depressions. Typically, the surface layer is black and very dark gray sand about 17 inches thick. The subsurface layer extends to a depth of 53 inches. It is grayish brown sand in the upper part and light gray sand in the lower part. The subsoil extends to a depth of 80 inches. It is dark brown sand in the upper part and dark reddish brown sand in the lower part.

Important properties of the Allanton soil—

Seasonal high water table: Apparent, at the surface to a depth of 1/2 foot from December through April
Available water capacity: Low
Permeability: Moderate
Flooding: None

The Pottsburg soil is in areas of flatwoods in slightly higher positions than those of the Allanton soil. Typically, the surface layer is very dark grayish brown sand about 7 inches thick. The subsurface layer extends to a depth of 53 inches. It is brown sand in the upper part and light brownish gray sand in the lower part. The subsoil extends to a depth of 80 inches. It is dark reddish brown sand in the upper part and black sand in the lower part.

Important properties of the Pottsburg soil—

Seasonal high water table: Apparent, at a depth of 1/2 to 1 foot from December through April
Available water capacity: Low
Permeability: Moderate
Flooding: None

Included in mapping are a few small areas of Pelham and Pickney soils. The poorly drained Pelham soils are in positions similar to those of the Pottsburg soil and have loamy subsoil layers within a depth of 20 to 40 inches. The very poorly drained Pickney soils are in slightly lower positions than those of the Allanton soil and do not have organic-enriched layers in the substratum. Included soils make up about 10 percent of the map unit. Individual areas generally are less than 3 acres in size.

This map unit is poorly suited to cultivated crops. The main management concerns are ponding in areas of the Allanton soil and wetness. Additional management concerns include the low available water capacity, very low fertility, and rapid leaching of plant nutrients. A water-control system that removes excess water in wet seasons and provides supplemental irrigation in dry seasons maximizes productivity. Conservation tillage, winter cover crops, crop residue management, and crop rotations that include grasses and legumes increase the amount of available water, decrease wetness, and improve fertility of the soils. Applying lime and fertilizer on the basis of soil testing increases the availability of plant nutrients and maximizes productivity. Using split applications increases the effectiveness of fertilizer and herbicides.

This map unit is poorly suited to pasture and hay. The main management concerns are the ponding in areas of the Allanton soil and wetness. Shallow ditches can help to remove excess surface water. Proper stocking rates, pasture rotation, and restricted grazing during very wet or very dry periods help to keep the pasture in good condition. Applications of lime and fertilizer improve fertility and increase the production of forage. Using split applications increases the effectiveness of fertilizer and herbicides.

This map unit is suited to slash pine and loblolly pine. The potential productivity is moderately high, but severe limitations affect timber management. The main management concerns are an equipment limitation, seedling mortality, and plant competition. Harvesting activities should be planned for seasons when the soils are dry. Using standard wheeled and tracked equipment when the soils are wet results in rutting and compaction. Using low-pressure ground equipment minimizes rutting and the damage caused to tree roots by compaction. Planting seedlings on raised beds helps to establish the seedlings and increases the seedling survival rate. Plant competition reduces timber yields and can prevent adequate reforestation. The competing vegetation can be controlled by site preparation, herbicides, or prescribed burning. Applications of fertilizer can increase yields.

This map unit is poorly suited to most urban uses. Wetness is a severe limitation affecting building sites, local roads and streets, and most kinds of sanitary facilities. Because of the seasonal high water table during winter and spring, a drainage system is needed for buildings. A deep drainage system can help to lower the water table. Constructing roads on raised, well-compacted fill material helps to overcome the wetness. Septic tank absorption fields do not function properly during rainy periods because of the wetness. Constructing the absorption field on a raised bed helps to compensate for this limitation.

This map unit is poorly suited to recreational uses. It has severe limitations affecting most uses. Wetness and ponding are the main management concerns.

The capability subclass is VIw in areas of the Allanton soil and IVw in areas of the Pottsburg soil. The woodland ordination symbol is 10W for slash

pine. This map unit is in the Flats ecological community.

15—Resota sand, 0 to 5 percent slopes

This very deep, moderately well drained soil is on gently sloping knolls and low ridges in the coastal lowlands. Slopes are long and smooth. Individual areas are irregular in shape. They range from 100 to about 450 acres in size.

Typically, the surface layer is gray sand about 3 inches thick. The subsurface layer extends to a depth of 19 inches. It is white sand. The subsoil extends to a depth of 65 inches. It is brownish yellow sand that has streaks of white sand in the upper part, is yellow sand in the middle part, and is very pale brown sand in the lower part. The substratum to a depth of 80 inches is white sand.

Important properties of the Resota soil—

Seasonal high water table: Apparent, at a depth of 3 1/2 to 6 feet from December through April
Available water capacity: Very low
Permeability: Very rapid
Flooding: None

Included in mapping are a few small areas of Kureb, Hurricane, Lakeland, and Leon soils. The excessively drained Kureb and Lakeland soils are in slightly higher positions than those of the Resota soil and do not have a seasonally high water table within a depth of 6 feet. The somewhat poorly drained Hurricane and poorly drained Leon soils are on flats and in swales. Included soils make up about 15 percent of the map unit. Individual areas generally are less than 5 acres in size.

This map unit is poorly suited to cultivated crops. The main management concerns are the very low available water capacity, very low fertility, and a moderate hazard of erosion. In most years, irrigation can prevent damage to crops and can increase productivity. Returning crop residue to the soil helps to maintain tilth and increases the available water capacity. Minimum tillage, contour farming, and cover crops reduce the runoff rate and help to control erosion. Leaching of plant nutrients is also a concern. Most crops respond well to applications of lime and to frequent, light applications of fertilizer.

This map unit is suited to pasture and hay. Coastal bermudagrass and bahiagrass are commonly grown grasses and are well adapted to the local conditions. The main management concerns are the very low available water capacity, very low fertility, and rapid leaching of nutrients. Proper stocking rates, pasture rotation, and restricted grazing during prolonged dry periods help to keep the pasture in good condition. Frequent, light applications of nitrogen are necessary to maintain the productivity of grasses.

This map unit is suited to sand pine, slash pine, loblolly pine, and longleaf pine. The potential productivity is moderate, and moderate limitations affect timber management. The main management concerns are an equipment limitation, seedling mortality, and plant competition. The sandy texture of the surface layer restricts the use of wheeled equipment, especially when the soil is very dry. Harvesting activities should be planned for seasons when the soil is moist. The moderate seedling mortality rate is caused by droughtiness. It can be compensated for by increasing the number of trees planted. Plant competition reduces timber yields and can prevent adequate reforestation. The competing vegetation can be controlled by mechanical methods, herbicides, or prescribed burning.

This map unit is suited to most urban uses. It has slight or moderate limitations affecting building sites and local roads and streets and has slight to severe limitations affecting most kinds of sanitary facilities. The main management concerns are the sandy texture, the seasonal high water table, seepage, and droughtiness. Cutbanks are unstable and subject to slumping. Support beams should be used to maintain the stability of the cutbanks. If this unit is used as a site for a septic tank absorption field, effluent can surface in downslope areas or impact the water table and create a health hazard. Mounding with suitable fill material increases the filtering capacity of the field. Applying lime and fertilizer, mulching, and irrigating help to establish lawns and landscape plants.

This map unit is suited to most recreational uses. It has moderate or severe limitations affecting most uses. The main management concern is the sandy texture.

The capability subclass is VIs. The woodland ordination symbol is 8S for slash pine. This map unit is in the Sand Pine Scrub ecological community.

16—Arents-Urban land complex

This map unit consists of very deep Arents and areas of Urban land on uplands. It is primarily in the southwestern part of the county. The areas of Arents and Urban land are so closely intermingled that they could not be mapped separately at the scale selected for mapping. The Arents make up about 50 percent of the map unit, and the Urban land makes up about 40 percent. Slopes generally are less than 2 percent.

Individual areas are rectangular. They range from 5 to more than 50 acres in size.

The Arents consist of earthen materials that have been so modified by construction activities that the original soil components are no longer recognizable. The original soils were altered by cutting and filling, shaping and grading, and compacting. Fragments of the subsurface and subsoil layers of the natural soil are throughout most pedons. In many areas, the Arents consist of materials hauled in from other sources. The Arents can be highly variable within a short distance and can be sandy, loamy, or stratified with various textures. Fragments of concrete, wood, and metal and other debris from construction activities commonly are mixed in the Arents.

Important properties of the Arents—

Seasonal high water table: Variable
Available water capacity: Variable
Permeability: Variable
Flooding: None

The Urban land consists of areas that are covered by sidewalks, patios, driveways, parking lots, streets, playgrounds, and buildings.

Included in mapping are a few small areas of unaltered soils, mostly Allanton, Pelham, Pickney, and Pottsburg soils. They are generally on the edges of mapped areas or are covered by less than 20 inches of fill material. Also included are a few small, water-filled depressions, ditches, and canals. Included areas make up about 10 percent of the map unit. Individual areas are generally less than 1 acre in size.

The Arents cannot easily be managed for crops, pasture, timber, or wildlife habitat because of the limited size of the areas, the areas of Urban land, and the variability in soil properties. Onsite investigation and testing are needed to determine the suitability of areas of this unit.

This map unit has not been assigned a capability subclass, woodland ordination symbol, or ecological community.

17—Kureb sand, 8 to 12 percent slopes

This very deep, excessively drained, sandy soil is on strongly sloping side slopes of ridges, knolls, and old dunes in the coastal lowlands. Slopes generally are short and complex. Individual areas are irregular in shape. They range from 5 to about 20 acres in size.

Typically, the surface layer is very dark gray sand about 3 inches thick. The subsurface layer extends to a depth of 19 inches. It is white sand. Below this to a depth of 36 inches is brownish yellow sand that has streaks of white sand and thin bands of dark brown sand. The substratum to a depth of 80 inches is brownish yellow and yellow sand.

Important properties of the Kureb soil—

Depth to the seasonal high water table: More than 6 feet
Available water capacity: Very low
Permeability: Rapid
Flooding: None

Included in mapping are a few small areas of Hurricane, Lakeland, and Resota soils. The somewhat poorly drained Hurricane and moderately well drained Resota soils are in swales and on the lower parts of slopes. The Lakeland soils are in positions similar to those of the Kureb soil and do not have streaks or organic-enriched subsoil layers. Included soils make up about 10 percent of the map unit. Individual areas generally are less than 3 acres in size.

This map unit is severely limited for cultivated crops because of the slope, the hazard of erosion, and the very low available water capacity. A site that has better suited soils should be selected.

This map unit is poorly suited to pasture and hay. Coastal bermudagrass and bahiagrass are well adapted to the local conditions. The main management concerns are the slope, very low fertility, and the very low available water capacity. In the steeper areas, the slope can limit equipment use if hay is harvested. Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the germination rate. Proper stocking rates, pasture rotation, and restricted grazing during prolonged dry periods help to keep the pasture in good condition. Frequent, light applications of nitrogen are necessary to maintain the productivity of grasses.

This map unit is suited to sand pine, slash pine, loblolly pine, and longleaf pine. The potential productivity is moderate for sand pine and low for slash pine, loblolly pine, and longleaf pine. Moderate limitations affect timber management. The main management concerns are an equipment limitation, seedling mortality, and plant competition. The sandy texture of the surface layer restricts the use of wheeled equipment, especially when the soil is very dry. Harvesting activities should be planned for seasons when the soil is moist. The high seedling mortality rate is caused by droughtiness. It can be compensated for by increasing the number of trees planted. Plant competition reduces timber yields and can prevent adequate reforestation. The competing vegetation can be controlled by mechanical methods, herbicides, or prescribed burning. Installing broad-

based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings. Reseeding all disturbed areas with adapted grasses and legumes reduces the hazard of erosion and the siltation of streams.

This map unit is poorly suited to most urban uses. It has moderate limitations affecting building sites and local roads and streets and has slight to severe limitations affecting most kinds of sanitary facilities. The main management concerns are the slope and seepage. Cutbanks are unstable and subject to slumping. Support beams should be used to maintain the stability of the cutbanks. If this unit is used as a site for a septic tank absorption field, effluent can surface in downslope areas and create a health hazard. Increasing the length of the absorption lines and constructing the lines on the contour help to overcome this hazard. The sandy texture, the hazard of erosion, and the very low available water capacity are additional concerns. Vegetating cleared and graded areas as soon as possible or constructing silt fences helps to maintain soil stability and helps to keep soil on the site. Applying lime and fertilizer, mulching, and irrigating help to establish lawns and landscape plants.

This map unit is poorly suited to most recreational uses. It has moderate or severe limitations affecting most uses. The main management concerns are the sandy texture and the slope.

The capability subclass is VIIs. The woodland ordination symbol is 4S for slash pine. This map unit is in the Sand Pine Scrub ecological community.

18—Pits

This map unit consists of open excavations from which the original soil and underlying material have been removed for use at another location. Pits are scattered throughout the county, primarily on terraces that parallel large streams and on sandy or loamy uplands. Individual areas generally are rectangular and range from 5 to 25 acres in size. Areas smaller than 5 acres are identified on the soil maps by a special symbol.

In the uplands, this map unit is mainly in areas where Bama, Lakeland, Lucy, Perdido, Poarch, Red Bay, and Troup soils have been removed to a depth of 5 to 35 feet. In these areas, this map unit has been used as a source of construction material for highways and foundations and as a source of fill material. On stream terraces and flood plains, this map unit is mainly in areas where Bigbee, Eunola, Izagora, and Yemassee soils have been removed to a depth of 5 to 15 feet. In these areas, this map unit has been used mostly as a source of sand and gravel for construction. Pits on terraces and flood plains may be filled with water.

Included in mapping are areas of abandoned pits. These areas consist of pits and of banks of spoil material that are 10 to 25 feet high. The surface of these areas generally is a mixture of coarse sand and gravel. Reaction is extremely acid or very strongly acid. Also included are pits that hold water for extended periods after rains.

Most areas of this map unit do not support vegetation. A few low-quality trees and sparse stands of grass are in some of the abandoned pits. This map unit is unsuited to most uses. Extensive reclamation efforts are required to make it suitable as cropland, pasture, woodland, or a site for urban development. Onsite investigation and testing are needed to determine the suitability of areas of this unit.

The capability subclass is VIIIs. This map unit has not been assigned a woodland ordination symbol or an ecological community.

19—Foxworth sand, 0 to 5 percent slopes

This very deep, moderately well drained, sandy soil is on nearly level and gently sloping, low ridges and knolls in the coastal lowlands in the southwestern part of the county. Slopes are commonly long and smooth, but some are short and complex. Individual areas are irregular in shape. They range from 5 to about 100 acres in size.

Typically, the surface layer is dark brown sand about 6 inches thick. The substratum extends to a depth of 80 inches. It is yellowish brown sand in the upper part, light yellowish brown sand that has grayish and reddish mottles in the middle part, and white sand that has reddish mottles in the lower part.

Important properties of the Foxworth soil—

Seasonal high water table: Apparent, at a depth of 3½ to 6 feet from December through April
Available water capacity: Low
Permeability: Rapid
Flooding: None

Included in mapping are a few small areas of Hurricane and Lakeland soils. The somewhat poorly drained Hurricane soils are in slightly lower, less convex positions than those of the Foxworth soil. The excessively drained Lakeland soils are in slightly higher positions than those of the Foxworth soil. Also included are moderately well drained, sandy soils that have dark colored, slightly cemented horizons below a

depth of 40 inches. Included soils make up less than 15 percent of the map unit. Individual areas are generally less than 5 acres in size.

This map unit is suited to cultivated crops. The main management concerns are the low available water capacity, very low fertility, and a moderate hazard of erosion. In most years, irrigation can prevent damage to crops and can increase productivity. Returning crop residue to the soil helps to maintain tilth and increases the available water capacity. Minimum tillage, contour farming, and cover crops reduce the runoff rate and help to control erosion. Leaching of plant nutrients is also a concern. Most crops respond well to applications of lime and to frequent, light applications of fertilizer.

This map unit is suited to pasture and hay. Coastal bermudagrass and bahiagrass are commonly grown grasses and are well adapted to the local conditions. The main management concerns are the low available water capacity, very low fertility, and rapid leaching of nutrients. Proper stocking rates, pasture rotation, and restricted grazing during prolonged dry periods help to keep the pasture in good condition. Frequent, light applications of nitrogen are necessary to maintain the productivity of grasses.

This map unit is suited to slash pine, loblolly pine, and longleaf pine. The potential productivity is moderately high. Moderate limitations affect timber management. The main management concerns are an equipment limitation, seedling mortality, and plant competition. The sandy texture of the surface layer restricts the use of wheeled equipment, especially when the soil is very dry. Harvesting activities should be planned for seasons when the soil is moist. The moderate seedling mortality rate is caused by droughtiness. It can be compensated for by increasing the number of trees planted. Plant competition reduces timber yields and can prevent adequate reforestation. The competing vegetation can be controlled by mechanical methods, herbicides, or prescribed burning.

This map unit is suited to most urban uses. It has slight limitations affecting building sites and local roads and streets and has slight to severe limitations affecting most kinds of sanitary facilities. The main management concerns are the sandy texture, seepage, wetness, and droughtiness. Cutbanks are unstable and subject to slumping. Support beams should be used to maintain the stability of the cutbanks. If this unit is used as a site for a septic tank absorption field, effluent can surface in downslope areas or impact the water table and create a health hazard. Mounding with suitable fill material increases the filtering capacity of the field. Applying lime and fertilizer, mulching, and irrigating help to establish lawns and landscape plants.

This map unit is suited to most recreational uses. It has moderate or severe limitations affecting most uses. The main management concern is the sandy texture.

The capability subclass is IIIs. The woodland ordination symbol is 10S for slash pine. This map unit is in the Longleaf Pine-Turkey Oak Hills ecological community.

20—Lakeland sand, 5 to 8 percent slopes

This very deep, excessively drained, sandy soil is on moderately sloping side slopes of broad ridges. Slopes commonly are long and smooth, but some are short and complex. Individual areas are irregular in shape. They range from 15 to about 90 acres in size.

Typically, the surface layer is dark grayish brown sand about 5 inches thick. The substratum to a depth of 80 inches is yellowish brown and brownish yellow sand.

Important properties of the Lakeland soil—

Depth to the seasonal high water table: More than 6 feet
Available water capacity: Very low
Permeability: Rapid
Flooding: None

Included in mapping are a few small areas of Bonifay, Poarch, and Troup soils. The Bonifay and Troup soils are in positions similar to those of the Lakeland soil and have loamy subsoil layers within a depth of 40 to 80 inches. The Poarch soils are on narrow ridges or on small knolls and are loamy throughout. Also included are small areas of Lakeland soils that have slopes of less than 5 percent or more than 8 percent. Included soils make up about 15 percent of the map unit. Individual areas are generally less than 5 acres in size.

This map unit is poorly suited to cultivated crops. The main management concerns are the very low available water capacity, very low fertility, and a moderate hazard of erosion. In most years, irrigation can prevent damage to crops and can increase productivity. Returning crop residue to the soil helps to maintain tilth and increases the available water capacity. Minimum tillage, contour farming, and cover crops reduce the runoff rate and help to control erosion. Leaching of plant nutrients is also a concern.

Most crops respond well to applications of lime and to frequent, light applications of fertilizer.

This map unit is suited to pasture and hay. Coastal bermudagrass and bahiagrass are commonly grown grasses and are well adapted to the local conditions. The main management concerns are the very low available water capacity, very low fertility, and rapid leaching of nutrients. Proper stocking rates, pasture rotation, and restricted grazing during prolonged dry periods help to keep the pasture in good condition. Frequent, light applications of nitrogen are necessary to maintain the productivity of grasses.

This map unit is suited to sand pine, slash pine, and longleaf pine. The potential productivity is high for sand pine and moderate for slash pine and longleaf pine. Moderate limitations affect timber management. The main management concerns are an equipment limitation, seedling mortality, and plant competition. The sandy texture of the surface layer restricts the use of wheeled equipment, especially when the soil is very dry. Harvesting activities should be planned for seasons when the soil is moist. The moderate seedling mortality rate is caused by droughtiness. It can be compensated for by increasing the number of trees planted. Plant competition reduces timber yields and can prevent adequate reforestation. The competing vegetation can be controlled by mechanical methods, herbicides, or prescribed burning. Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings. Reseeding all disturbed areas with adapted grasses and legumes reduces the hazard of erosion and the siltation of streams.

This map unit is suited to most urban uses. It has slight limitations affecting building sites and local roads and streets and has slight to severe limitations affecting most kinds of sanitary facilities. The main management concerns are the sandy texture, seepage, and droughtiness. Cutbanks are unstable and subject to slumping. Support beams should be used to maintain the stability of the cutbanks. If this unit is used as a site for a septic tank absorption field, effluent can surface in downslope areas or impact the water table and create a health hazard. Mounding with suitable fill material and increasing the length of the field lines increases the filtering capacity of the field. Applying lime and fertilizer, mulching, and irrigating help to establish lawns and landscape plants.

This map unit is suited to most recreational uses. It has moderate or severe limitations affecting most uses. The main management concerns are the sandy texture and slope.

The capability subclass is VIs. The woodland ordination symbol is 5S for slash pine. This map unit is in the Longleaf Pine-Turkey Oak Hills ecological community.

21—Lakeland sand, 8 to 12 percent slopes

This very deep, excessively drained, sandy soil is on strongly sloping side slopes of ridges. Slopes generally are short and complex. Individual areas are irregular in shape. They range from 15 to about 90 acres in size.

Typically, the surface layer is dark grayish brown sand about 5 inches thick. The substratum to a depth of 80 inches is yellowish brown and brownish yellow sand.

Important properties of the Lakeland soil—

Depth to the seasonal high water table: More than 6 feet
Available water capacity: Very low
Permeability: Rapid
Flooding: None

Included in mapping are a few small areas of Iuka, Poarch, and Troup soils. The moderately well drained Iuka soils are in narrow drainageways and are subject to flooding. The Poarch soils are on the upper and middle parts of slopes and on narrow ridges and are loamy throughout. The Troup soils are in positions similar to those of the Lakeland soil and have a loamy subsoil within a depth of 40 to 80 inches. Also included are small areas of Lakeland soils that have slopes of less than 8 percent or more than 12 percent and areas of poorly drained soils in narrow drainageways. Included soils make up about 15 percent of the map unit. Individual areas are generally less than 5 acres in size.

This map unit is severely limited for cultivated crops because of the slope, the hazard of erosion, and the very low available water capacity. A site that has better suited soils should be selected.

This map unit is poorly suited to pasture and hay. Coastal bermudagrass and bahiagrass are well adapted to the local conditions. The main management concerns are the slope, very low fertility, and the very low available water capacity. In the steeper areas, the slope can limit equipment use if hay is harvested. Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the germination rate. Proper stocking rates, pasture rotation, and restricted

grazing during prolonged dry periods help to keep the pasture in good condition. Frequent, light applications of nitrogen are necessary to maintain the productivity of grasses.

This map unit is suited to sand pine, slash pine, and longleaf pine. The potential productivity is high for sand pine and moderate for slash pine and longleaf pine. Moderate limitations affect timber management. The main management concerns are an equipment limitation, seedling mortality, and plant competition. The sandy texture of the surface layer restricts the use of wheeled equipment, especially when the soil is very dry. Harvesting activities should be planned for seasons when the soil is moist. The moderate seedling mortality rate is caused by droughtiness. It can be compensated for by increasing the number of trees planted. Plant competition reduces timber yields and can prevent adequate reforestation. The competing vegetation can be controlled by mechanical methods, herbicides, or prescribed burning. Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings. Reseeding all disturbed areas with adapted grasses and legumes reduces the hazard of erosion and the siltation of streams.

This map unit is poorly suited to most urban uses. It has moderate limitations affecting building sites and local roads and streets and has slight to severe limitations affecting most kinds of sanitary facilities. The main management concerns are the slope and seepage. Cutbanks are unstable and subject to slumping. Support beams should be used to maintain the stability of the cutbanks. If this unit is used as a site for a septic tank absorption field, effluent can surface in downslope areas and create a health hazard. Increasing the length of the absorption lines and constructing the lines on the contour help to overcome this hazard. The sandy texture, the hazard of erosion, and the very low available water capacity are additional concerns. Vegetating cleared and graded areas as soon as possible or constructing silt fences helps to maintain soil stability and helps to keep soil on the site. Applying lime and fertilizer, mulching, and irrigating help to establish lawns and landscape plants.

This map unit is poorly suited to most recreational uses. It has moderate or severe limitations affecting most uses. The main management concerns are the sandy texture and the slope.

The capability subclass is VIs. The woodland ordination symbol is 5S for slash pine. This map unit is in the Longleaf Pine-Turkey Oak Hills ecological community.

22—Urban land

This map unit consists mainly of high density residential areas and commercial and industrial developments. Generally, these areas have been graded and smoothed. In most areas, the original soils have been altered beyond recognition or are covered by buildings or pavement. The original soils were altered by cutting and filling, shaping and grading, compacting, or covering with concrete and asphalt. Individual areas generally are rectangular. They are primarily in the southern part of the county in the Pensacola area.

Included in mapping are a few small areas of unaltered soils, mostly Allanton, Corolla, Foxworth, Lakeland, and Pottsburg soils. Included soils generally make up less than 15 percent of the map unit.

Onsite investigation and testing are needed to determine the suitability of areas of this unit.

The capability subclass is VIIIs. This map unit has not been assigned a woodland ordination symbol or an ecological community.

24—Poarch sandy loam, 0 to 2 percent slopes

This very deep, well drained soil is on nearly level summits of broad ridges in the central and northern parts of the county. Slopes generally are long and smooth. Individual areas are irregular in shape. They range from 5 to about 150 acres in size.

Typically, the surface layer is very dark grayish brown sandy loam about 5 inches thick. The subsoil extends to a depth of 80 inches. It is yellowish brown sandy loam in the upper part; yellowish brown and brownish yellow sandy loam that has brownish, reddish, and grayish mottles in the middle part; and very pale brown and brownish yellow sandy loam that has brownish, reddish, and grayish mottles in the lower part. The middle and lower parts of the subsoil have nodules of plinthite.

Important properties of the Poarch soil—

Seasonal high water table: Perched, at a depth of 2½ to 5 feet from December through April
Available water capacity: Moderate
Permeability: Moderately slow
Flooding: None

Included in mapping are a few small areas of Bonifay, Escambia, Grady, Notcher, and Perdido soils. The Bonifay soils are on the higher-lying knolls and have thick, sandy surface and subsurface layers. The

somewhat poorly drained Escambia soils are in slightly lower, less convex positions than those of the Poarch soil. The poorly drained Grady soils are in shallow depressions. The Perdido soils are in slightly higher, more convex positions than those of the Poarch soil and have a reddish subsoil. The Notcher soils are in positions similar to those of the Poarch soil and have a higher content of clay in the upper part of the subsoil. Included soils make up about 10 percent of the map unit. Individual areas generally are less than 5 acres in size.

This map unit is well suited to cultivated crops. It has few limitations affecting this use. Low fertility and droughtiness, however, are management concerns. Minimizing tillage and returning all crop residue to the soil or regularly adding other organic matter help to improve and maintain tilth and the content of organic matter. In most years, irrigation can prevent damage to crops and can increase productivity. Crops respond well to systematic applications of lime and fertilizer.

This map unit is well suited to pasture and hay. It has few limitations affecting these uses. Coastal bermudagrass, bahiagrass, and clovers are well adapted to the local conditions. Proper stocking rates, pasture rotation, and restricted grazing during prolonged wet or dry periods help to keep the pasture in good condition. Applications of lime and fertilizer improve fertility and increase the production of forage.

This map unit is well suited to slash pine, loblolly pine, and longleaf pine. It has few limitations affecting the production of timber. The potential productivity is high. Soil compaction and plant competition are minor management concerns. Harvesting during the drier periods helps to prevent compaction. Carefully managed reforestation helps to control competition from undesirable understory plants. Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control the initial plant competition and facilitate mechanical planting.

This map unit is suited to most urban uses. It has moderate limitations affecting building sites, slight limitations affecting local roads and streets, and severe limitations affecting most kinds of sanitary facilities. The main management concerns are wetness and the moderately slow permeability. A subsurface drainage system can help to lower the water table. Septic tank absorption fields do not function properly during rainy periods because of the wetness and the moderately slow permeability. Enlarging the size of the absorption field helps to overcome these limitations. Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves the performance of a septic system.

This map unit is well suited to most recreational uses. It has few limitations affecting these uses.

The capability class is I. The woodland ordination symbol is 11A for slash pine. This map unit is in the Mixed Hardwood and Pine ecological community.

25—Poarch sandy loam, 2 to 5 percent slopes

This very deep, well drained soil is on gently sloping shoulder slopes and side slopes of ridges in the central and northern parts of the county. Slopes generally are long and smooth. Individual areas are irregular in shape. They range from 5 to about 90 acres in size.

Typically, the surface layer is very dark grayish brown sandy loam about 5 inches thick. The subsoil extends to a depth of 80 inches. It is yellowish brown sandy loam in the upper part; yellowish brown and brownish yellow sandy loam that has brownish, reddish, and grayish mottles in the middle part; and very pale brown and brownish yellow sandy loam that has brownish, reddish, and grayish mottles in the lower part. The middle and lower parts of the subsoil have nodules of plinthite.

Important properties of the Poarch soil—

Seasonal high water table: Perched, at a depth of 2½ to 5 feet from December through April
Available water capacity: Moderate
Permeability: Moderately slow
Flooding: None

Included in mapping are a few small areas of Bama, Bonifay, Notcher, and Perdido soils. The Bama and Perdido soils are on the upper parts of slopes. The Bama soils have a higher content of clay than the Poarch soil in the upper part of the subsoil and are reddish. The Perdido soils have reddish colors in the subsoil. The Bonifay soils are on the lower parts of slopes and have thick, sandy surface and subsurface layers. The Notcher soils are in positions similar to those of the Poarch soil and have a higher content of clay in the subsoil. Included soils make up about 15 percent of the map unit. Individual areas generally are less than 5 acres in size.

This map unit is well suited to cultivated crops. The main management concerns are a moderate hazard of erosion and droughtiness. Conservation tillage, terraces, contour farming, and cover crops reduce the runoff rate and help to control erosion. Using supplemental irrigation and planting crop varieties that are adapted to droughty conditions increase crop

production. Crops respond well to systematic applications of lime and fertilizer.

This map unit is well suited to pasture and hay. It has few limitations affecting these uses. Bahiagrass and coastal bermudagrass are the most commonly grown grasses. Proper stocking rates, pasture rotation, and restricted grazing during prolonged wet or dry periods help to keep the pasture in good condition. Applications of lime and fertilizer improve fertility and increase the production of forage.

This map unit is well suited to slash pine, loblolly pine, and longleaf pine. It has few limitations affecting the production of timber. The potential productivity is high. Soil compaction and plant competition are minor management concerns. Harvesting during the drier periods helps to prevent compaction. Carefully managed reforestation helps to control competition from undesirable understory plants. Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control the initial plant competition and facilitate mechanical planting.

This map unit is suited to most urban uses. It has moderate limitations affecting building sites, slight limitations affecting local roads and streets, and severe limitations affecting most kinds of sanitary facilities. The main management concerns are wetness and the moderately slow permeability. A subsurface drainage system can help to lower the water table. Septic tank absorption fields do not function properly during rainy periods because of the wetness and the moderately slow permeability. Enlarging the size of the absorption field helps to overcome these limitations. Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves the performance of a septic system.

This map unit is well suited to most recreational uses. It has few limitations for most uses. Slope is a moderate limitation in areas used for playgrounds.

The capability subclass is IIe. The woodland ordination symbol is 11A for slash pine. This map unit is in the Mixed Hardwood and Pine ecological community.

26—Poarch sandy loam, 5 to 8 percent slopes

This very deep, well drained soil is on moderately sloping side slopes of ridges in the central and northern parts of the county. Slopes generally are short and complex. Individual areas are irregular in shape. They range from 5 to about 35 acres in size.

Typically, the surface layer is very dark grayish brown sandy loam about 5 inches thick. The subsoil extends to a depth of 80 inches. It is yellowish brown sandy loam in the upper part; yellowish brown and brownish yellow sandy loam that has brownish, reddish, and grayish mottles in the middle part; and very pale brown and brownish yellow sandy loam that has brownish, reddish, and grayish mottles in the lower part. The middle and lower parts of the subsoil have nodules of plinthite.

Important properties of the Poarch soil—

Seasonal high water table: Perched, at a depth of 2½ to 5 feet from December through April
Available water capacity: Moderate
Permeability: Moderately slow
Flooding: None

Included in mapping are a few small areas of Bonifay, Iuka, Notcher, and Perdido soils. The Bonifay soils are on the lower parts of slopes and have thick, sandy surface and subsurface layers. The Iuka soils are in narrow drainageways and are subject to flooding. The Notcher and Perdido soils are in positions similar to those of the Poarch soil. The Notcher soils have a higher content of clay in the upper part of the subsoil than the Poarch soil. The Perdido soils have a reddish subsoil. Also included are small areas of Poarch soils that have slopes of less than 5 percent or more than 8 percent. Included soils make up about 15 percent of the map unit. Individual areas generally are less than 5 acres in size.

This map unit is suited to cultivated crops. The main management concerns are a severe hazard of erosion, droughtiness, and the short, complex slopes. Using a resource management system that includes contour farming, conservation tillage, crop residue management, stripcropping, and a sod-based rotation reduces the hazard of erosion, helps to control surface runoff, and maximizes infiltration of water. Installing drop-inlet structures in grassed waterways helps to prevent the formation of gullies. Using supplemental irrigation and planting crop varieties that are adapted to droughty conditions increase crop production. Crops respond well to systematic applications of lime and fertilizer.

This map unit is well suited to pasture and hay. Coastal bermudagrass, bahiagrass, and clovers are well adapted to the local conditions. The main management concerns are droughtiness and a severe hazard of erosion. The seedbed should be prepared on the contour or across the slope where practical. Proper stocking rates, pasture rotation, and restricted grazing during prolonged wet or dry periods help to keep the pasture in good condition. Applications of

lime and fertilizer improve fertility and increase the production of forage.

This map unit is well suited to slash pine, loblolly pine, and longleaf pine. It has few limitations affecting the production of timber. The potential productivity is high. Soil compaction, plant competition, and the hazard of erosion are minor management concerns. Harvesting during the drier periods helps to prevent compaction. Carefully managed reforestation helps to control competition from undesirable understory plants. Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control the initial plant competition and facilitate mechanical planting. Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings. Reseeding all disturbed areas with adapted grasses and legumes reduces the hazard of erosion and the siltation of streams.

This map unit is suited to most urban uses. It has moderate limitations affecting building sites, slight limitations affecting local roads and streets, and severe limitations affecting most kinds of sanitary facilities. The main management concerns are the slope, wetness, and the moderately slow permeability. A subsurface drainage system can help to lower the water table. Septic tank absorption fields do not function properly during rainy periods because of the wetness and the moderately slow permeability. Enlarging the size of the absorption field helps to overcome these limitations. Absorption lines should be installed on the contour. Preserving the existing plant cover during construction helps to control erosion. Vegetating disturbed areas and using erosion-control structures, such as sediment fences and catch basins, help to keep soil on the site.

This map unit is suited to most recreational uses. It has slight limitations affecting most uses. Slope is a severe limitation in areas used for playgrounds.

The capability subclass is IIIe. The woodland ordination symbol is 11A for slash pine. This map unit is in the Mixed Hardwood and Pine ecological community.

27—Escambia fine sandy loam, 0 to 2 percent slopes

This very deep, somewhat poorly drained soil is in flat or slightly depressional positions on uplands and on toeslopes. It is in the central and northern parts of the county. Slopes are long and smooth. Individual areas are generally broad or oblong. They range from 3 to about 70 acres in size.

Typically, the surface layer is very dark grayish brown fine sandy loam about 5 inches thick. The subsurface layer extends to a depth of 10 inches. It is grayish brown fine sandy loam. The subsoil extends to a depth of 80 inches. It is light yellowish brown fine sandy loam that has brownish and grayish mottles in the upper part; light yellowish brown fine sandy loam that has brownish and grayish mottles and nodules of plinthite in the middle part; and mottled grayish, brownish, and reddish fine sandy loam that has nodules of plinthite in the lower part.

Important properties of the Escambia soil—

Seasonal high water table: Perched, at a depth of 1 1/2 to 2 1/2 feet from December through April
Available water capacity: Moderate
Permeability: Moderately slow
Flooding: None

Included in mapping are a few small areas of Albany, Poarch, Notcher, and Robertsdale soils. The Albany and Robertsdale soils are in positions similar to those of the Escambia soil. The Albany soils have thick, sandy surface and subsurface layers. The Robertsdale soils have a higher content of clay in the subsoil than the Escambia soil. The moderately well drained Poarch and Notcher soils are in slightly higher, more convex positions than those of the Escambia soil. Also included are small areas of poorly drained, loamy soils in narrow drainageways and depressions. Included soils make up about 15 percent of the map unit. Individual areas generally are less than 5 acres in size.

This map unit is suited to cultivated crops. The main management concern is wetness. Planting may be delayed in spring because of the wetness. Well maintained drainageways and ditches can help to remove excess water. Minimizing tillage and returning all crop residue to the soil or regularly adding other organic matter improve fertility and help to maintain tilth and the content of organic matter. Applying lime and fertilizer on the basis of soil testing increases the availability of plant nutrients and maximizes productivity.

This map unit is suited to pasture and hay. Wetness is the main management concern. Grasses that are tolerant of wet conditions should be selected. Shallow ditches can help to remove excess water from the surface. Proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture in good condition. Applications of fertilizer and lime are needed for maximum production of forage.

This map unit is well suited to slash pine, loblolly pine, and longleaf pine. The potential productivity is high, but moderate and severe limitations affect timber

management. The main management concerns are an equipment limitation and plant competition. Harvesting activities should be planned for seasons when the soil is dry. Using standard wheeled and tracked equipment when the soil is wet results in rutting and compaction. Using low-pressure ground equipment minimizes damage to the soil and helps to maintain productivity. Plant competition reduces timber yields and can prevent adequate reforestation. The competing vegetation can be controlled by site preparation, herbicides, or prescribed burning.

This map unit is poorly suited to most urban uses. Wetness is a severe limitation affecting building sites, local roads and streets, and most kinds of sanitary facilities. Because of the seasonal high water table during winter and spring, a drainage system is needed for buildings. A deep drainage system can help to lower the water table. Constructing roads on raised, well-compacted fill material helps to overcome the wetness. Septic tank absorption fields do not function properly during rainy periods because of the wetness. Constructing the absorption field on a raised bed helps to compensate for this limitation.

This map unit is suited to recreational uses. Wetness and restricted permeability are the main management concerns.

The capability subclass is IIw. The woodland ordination symbol is 11W for slash pine. This map unit is in the Mixed Hardwood and Pine ecological community.

28—Grady loam

This very deep, poorly drained soil is in shallow depressions on summits of broad ridges in the central and northern parts of the county. Slopes are long and smooth and range from 0 to 2 percent. Individual areas are generally circular or oblong. They range from 2 to about 20 acres in size.

Typically, the surface layer is very dark grayish brown loam about 5 inches thick. The subsurface layer to a depth of 11 inches is dark grayish brown clay loam that has reddish brown mottles. The subsoil extends to a depth of 80 inches. It is dark gray clay that has brownish mottles in the upper part, grayish brown clay that has brownish mottles in the middle part, and light brownish gray and light gray clay that has brownish and reddish mottles in the lower part.

Important properties of the Grady soil—

Seasonal high water table: Apparent, from 2 feet above the surface to a depth of 1 foot from December through July
Available water capacity: High
Permeability: Slow
Flooding: None
Duration of ponding: Several months in most years

Included in mapping are a few small areas of Croatan and Escambia soils. The Croatan soils are in the lower parts of depressions and have thick organic layers in the upper part of the profile. The somewhat poorly drained Escambia soils are in the slightly higher positions near the upper edge of depressions. Also included are small areas of poorly drained and very poorly drained, loamy soils in positions similar to those of the Grady soil. Included soils make up about 10 percent of the map unit. Individual areas are generally less than 3 acres in size.

This map unit is severely limited for cultivated crops, pasture, woodland, and urban and recreational uses because of wetness and ponding. A site that has better suited soils should be selected.

The capability subclass is VIIw. This map unit has not been assigned a woodland ordination symbol. It is in the Cypress Swamp ecological community.

29—Perdido sandy loam, 0 to 2 percent slopes

This very deep, well drained soil is on nearly level summits of broad to narrow ridges in the central and northern parts of the county. Slopes generally are long and smooth. Individual areas are irregular in shape. They range from 20 to about 150 acres in size.

Typically, the surface layer is dark yellowish brown sandy loam about 8 inches thick. The subsoil extends to a depth of 80 inches. It is strong brown sandy loam in the upper part, yellowish red and strong brown sandy loam in the middle part, and red sandy clay loam and sandy loam in the lower part. The middle and lower parts of the subsoil have nodules of plinthite.

Important properties of the Perdido soil—

Seasonal high water table: Perched, at a depth of 4 to 6 feet from December through April
Available water capacity: Moderate
Permeability: Moderately slow
Flooding: None

Included in mapping are a few small areas of Bama, Emory, Lucy, Poarch, and Red Bay soils. The Bama and Red Bay soils are in positions similar to those of the Perdido soil and have a higher content of clay in the upper part of the subsoil. The Emory soils are in shallow depressions and are subject to ponding following periods of prolonged rainfall. The Lucy soils

are on small knolls and have thick, sandy surface and subsurface layers. The Poarch soils are in slightly less convex positions than the Perdido soil and have brownish colors throughout the subsoil. Included soils make up about 10 percent of the map unit. Individual areas generally are less than 3 acres in size.

This map unit is well suited to cultivated crops. It has few limitations affecting this use. Low fertility and droughtiness, however, are management concerns. Minimizing tillage and returning all crop residue to the soil or regularly adding other organic matter help to improve and maintain tilth and the content of organic matter. In most years, irrigation can prevent damage to crops and can increase productivity. Crops respond well to systematic applications of lime and fertilizer.

This map unit is well suited to pasture and hay. It has few limitations affecting these uses. Coastal bermudagrass, bahiagrass, and clovers are well adapted to the local conditions. Proper stocking rates, pasture rotation, and restricted grazing during prolonged wet or dry periods help to keep the pasture in good condition. Applications of lime and fertilizer improve fertility and increase the production of forage.

This map unit is well suited to slash pine, loblolly pine, and longleaf pine. It has few limitations affecting the production of timber. The potential productivity is high. Soil compaction and plant competition are minor management concerns. Harvesting during the drier periods helps to prevent compaction. Carefully managed reforestation helps to control competition from undesirable understory plants. Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control the initial plant competition and facilitate mechanical planting.

This map unit is suited to most urban uses. It has slight limitations affecting building sites and local roads and streets and has severe limitations affecting most kinds of sanitary facilities. The main management concerns are wetness and the moderately slow permeability. A subsurface drainage system can help to lower the water table. Septic tank absorption fields do not function properly during rainy periods because of the wetness and the moderately slow permeability. Enlarging the size of the absorption field helps to overcome these limitations. Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves the performance of a septic system.

This map unit is well suited to most recreational uses. It has no significant limitations for most uses.

The capability class is I. The woodland ordination symbol is 11A for slash pine. This map unit is in the Mixed Hardwood and Pine ecological community.

30—Perdido sandy loam, 2 to 5 percent slopes

This very deep, well drained soil is on gently sloping shoulder slopes and side slopes of ridges in the central and northern parts of the county. Slopes generally are long and smooth. Individual areas are irregular in shape. They range from 15 to about 85 acres in size.

Typically, the surface layer is dark yellowish brown sandy loam about 8 inches thick. The subsoil extends to a depth of 80 inches. It is strong brown sandy loam in the upper part, yellowish red and strong brown sandy loam in the middle part, and red sandy clay loam and sandy loam in the lower part. The middle and lower parts of the subsoil have nodules of plinthite.

Important properties of the Perdido soil—

Seasonal high water table: Perched, at a depth of 4 to 6 feet from December through April
Available water capacity: Moderate
Permeability: Moderately slow
Flooding: None

Included in mapping are a few small areas of Bama, Lucy, Poarch, and Red Bay soils. The Bama and Red Bay soils are on the upper parts of slopes and have a higher content of clay in the upper part of the subsoil than the Perdido soil. The Lucy soils are on the upper parts of slopes and have thick, sandy surface and subsurface layers. The Poarch soils are in less sloping positions than the Perdido soil and have brownish colors throughout the subsoil. Included soils make up about 15 percent of the map unit. Individual areas generally are less than 3 acres in size.

This map unit is well suited to cultivated crops. The main management concerns are a moderate hazard of erosion and droughtiness. Conservation tillage, terraces, contour farming, and cover crops reduce the runoff rate and help to control erosion. Using supplemental irrigation and planting crop varieties that are adapted to droughty conditions increase crop production. Crops respond well to systematic applications of lime and fertilizer.

This map unit is well suited to pasture and hay. It has few limitations affecting these uses. Bahiagrass and coastal bermudagrass are the most commonly grown grasses. Proper stocking rates, pasture rotation, and restricted grazing during prolonged wet or dry periods help to keep the pasture in good condition. Applications of lime and fertilizer improve fertility and increase the production of forage.

This map unit is well suited to slash pine, loblolly pine, and longleaf pine. It has few limitations affecting

the production of timber. The potential productivity is high. Soil compaction and plant competition are minor management concerns. Harvesting during the drier periods helps to prevent compaction. Carefully managed reforestation helps to control competition from undesirable understory plants. Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control the initial plant competition and facilitate mechanical planting.

This map unit is suited to most urban uses. It has slight or moderate limitations affecting building sites, slight limitations affecting local roads and streets, and moderate or severe limitations affecting sanitary facilities. The main management concerns are wetness and the moderately slow permeability. A subsurface drainage system can reduce the wetness. Septic tank absorption fields may not function properly during rainy periods because of the moderately slow permeability. Enlarging the size of the absorption field helps to overcome this limitation. Preserving the existing plant cover during construction helps to control erosion. Mulching, applying fertilizer, and irrigating help to establish lawn grasses and other small-seeded plants.

This map unit is well suited to most recreational uses. It has slight management concerns affecting most uses. Slope is a moderate limitation in areas used for playgrounds.

The capability subclass is IIe. The woodland ordination symbol is 11A for slash pine. This map unit is in the Mixed Hardwood and Pine ecological community.

31—Perdido sandy loam, 5 to 8 percent slopes

This very deep, well drained soil is on side slopes of ridges in the central and northern parts of the county. Slopes generally are short and complex. Individual areas are irregular in shape. They range from 15 to about 45 acres in size.

Typically, the surface layer is dark yellowish brown sandy loam about 8 inches thick. The subsoil extends to a depth of 80 inches. It is strong brown sandy loam in the upper part, yellowish red and strong brown sandy loam in the middle part, and red sandy clay loam and sandy loam in the lower part. The middle and lower parts of the subsoil have nodules of plinthite.

Important properties of the Perdido soil—

Seasonal high water table: Perched, at a depth of 4 to 6 feet from December through April
Available water capacity: Moderate
Permeability: Moderately slow
Flooding: None

Included in mapping are a few small areas of Lucy, Iuka, Maubila, Notcher, and Poarch soils. Lucy soils are on the lower parts of slopes and have thick, sandy surface and subsurface layers. The Iuka soils are in narrow drainageways and are subject to flooding. The Maubila soils are in positions similar to those of the Perdido soil and are clayey in the upper part of the subsoil. The Notcher and Poarch soils are in positions similar to those of the Perdido soil. The Notcher soils have a higher content of clay in the upper part of the subsoil than the Perdido soil. The Poarch soils have a brownish subsoil. Also included are small areas of Perdido soils that have slopes of less than 5 percent or more than 8 percent. Included soils make up about 15 percent of the map unit. Individual areas generally are less than 5 acres in size.

This map unit is suited to cultivated crops. The main management concerns are a severe hazard of erosion, droughtiness, and the short, complex slopes. Using a resource management system that includes contour farming, conservation tillage, crop residue management, stripcropping, and a sod-based rotation reduces the hazard of erosion, helps to control surface runoff, and maximizes infiltration of water. Installing drop-inlet structures in grassed waterways helps to prevent the formation of gullies. Using supplemental irrigation and planting crop varieties that are adapted to droughty conditions increase crop production. Crops respond well to systematic applications of lime and fertilizer.

This map unit is well suited to pasture and hay. Coastal bermudagrass, bahiagrass, and clovers are well adapted to the local conditions. The main management concerns are a severe hazard of erosion and droughtiness. The seedbed should be prepared on the contour or across the slope where practical. Proper stocking rates, pasture rotation, and restricted grazing during prolonged wet or dry periods help to keep the pasture in good condition. Applications of lime and fertilizer improve fertility and increase the production of forage.

This map unit is well suited to slash pine, loblolly pine, and longleaf pine. It has few limitations affecting the production of timber. The potential productivity is high. Soil compaction, plant competition, and the hazard of erosion are minor management concerns. Harvesting during the drier periods helps to prevent compaction. Carefully managed reforestation helps to control competition from undesirable understory plants. Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to

control the initial plant competition and facilitate mechanical planting. Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings. Reseeding all disturbed areas with adapted grasses and legumes reduces the hazard of erosion and the siltation of streams.

This map unit is suited to most urban uses. It has moderate limitations affecting building sites, slight limitations affecting local roads and streets, and severe limitations affecting most kinds of sanitary facilities. The main management concerns are the slope, wetness, and the moderately slow permeability. A subsurface drainage system can help to lower the water table. Septic tank absorption fields do not function properly during rainy periods because of the wetness and the moderately slow permeability. Enlarging the size of the absorption field helps to overcome these limitations. Absorption lines should be installed on the contour. Preserving the existing plant cover during construction helps to control erosion. Vegetating disturbed areas and using erosion-control structures, such as sediment fences and catch basins, help to keep soil on the site.

This map unit is suited to most recreational uses. It has slight limitations affecting most uses. Slope is a severe limitation in areas used for playgrounds.

The capability subclass is IIIe. The woodland ordination symbol is 11A for slash pine. This map unit is in the Mixed Hardwood and Pine ecological community.

32—Troup sand, 0 to 5 percent slopes

This very deep, somewhat excessively drained soil is on nearly level summits and gently sloping shoulder slopes of ridges in the central and northern parts of the county. Slopes generally are long and smooth. Individual areas are irregular in shape. They range from 15 to about 600 acres in size.

Typically, the surface layer is dark grayish brown sand about 5 inches thick. The subsurface layer extends to a depth of 58 inches. It is yellowish brown sand in the upper part, strong brown sand in the middle part, and yellowish red loamy sand in the lower part. The subsoil to a depth of 80 inches is red sandy loam and sandy clay loam.

Important properties of the Troup soil—

Depth to the seasonal high water table: More than 6 feet
Available water capacity: Low
Permeability: Rapid in the surface and subsurface layers and moderate in the subsoil
Flooding: None

Included in mapping are a few small areas of Bonifay, Lakeland, Lucy, and Perdido soils. The Bonifay, Lakeland, and Lucy soils are in positions similar to those of the Troup soil. The Bonifay soils have a significant accumulation of plinthite in the subsoil. The Lakeland soils do not have a loamy subsoil within a depth of 80 inches. The Lucy soils have a loamy subsoil within a depth of 40 inches. The Perdido soils are on small knolls and do not have thick, sandy surface and subsurface layers. Included soils make up about 15 percent of the map unit. Individual areas generally are less than 5 acres in size.

This map unit is suited to cultivated crops. The main management concerns are the low available water capacity, very low fertility, and a moderate hazard of erosion. Returning crop residue to the soil helps to maintain tilth and increases the available water capacity. Minimum tillage, contour farming, and cover crops reduce the runoff rate and help to control erosion. Leaving the maximum amount of crop residue on the surface helps to control soil blowing and conserves soil moisture. In most years, irrigation can prevent damage to crops and can increase productivity. Most crops respond well to applications of lime and to frequent, light applications of fertilizer.

This map unit is suited to pasture and hay. Coastal bermudagrass and bahiagrass are well adapted to the local conditions. The main management concerns are low fertility and the low available water capacity. Proper stocking rates, pasture rotation, and restricted grazing during prolonged dry periods help to keep the pasture in good condition. Leaching of plant nutrients is also a management concern. Frequent, light applications of nitrogen are necessary to maintain the productivity of grasses.

This map unit is suited to slash pine, loblolly pine, and longleaf pine. The potential productivity is moderately high. Moderate limitations affect timber management. The main management concerns are an equipment limitation, seedling mortality, and plant competition. The sandy texture of the surface layer restricts the use of wheeled equipment, especially when the soil is very dry. Harvesting activities should be planned for seasons when the soil is moist. The moderate seedling mortality rate is caused by droughtiness. It can be compensated for by increasing the number of trees planted. Plant competition reduces timber yields and can prevent adequate reforestation. The competing vegetation can be

controlled by mechanical methods, herbicides, or prescribed burning.

This map unit is suited to most urban uses. It has slight limitations affecting building sites and local roads and streets and has slight to severe limitations affecting most kinds of sanitary facilities. The main management concerns are the sandy texture, seepage, and droughtiness. Cutbanks are unstable and subject to slumping. Support beams should be used to maintain the stability of the cutbanks. If this unit is used as a site for a septic tank absorption field, effluent can surface in downslope areas and create a health hazard. Increasing the length of the absorption lines helps to reduce this hazard. Applying lime and fertilizer, mulching, and irrigating help to establish lawns and landscape plants.

This map unit is suited to most recreational uses. It has moderate or severe limitations affecting most uses. The main limitation is the sandy texture.

The capability subclass is IIIs. The woodland ordination symbol is 11S for slash pine. This map unit is in the Longleaf Pine-Turkey Oak Hills ecological community.

33—Troup sand, 5 to 8 percent slopes

This very deep, somewhat excessively drained soil is on moderately sloping shoulder slopes and side slopes of ridges in the central and northern parts of the county. Slopes generally are long and smooth, but some are short and complex. Individual areas are irregular in shape. They range from 10 to about 150 acres in size.

Typically, the surface layer is dark grayish brown sand about 5 inches thick. The subsurface layer extends to a depth of 58 inches. It is yellowish brown sand in the upper part, strong brown sand in the middle part, and yellowish red loamy sand in the lower part. The subsoil to a depth of 80 inches is red sandy loam and sandy clay loam.

Important properties of the Troup soil—

Depth to the seasonal high water table: More than 6 feet
Available water capacity: Low
Permeability: Rapid in the surface and subsurface layers and moderate in the subsoil
Flooding: None

Included in mapping are a few small areas of Bonifay, Lakeland, Lucy, and Perdido soils. The Bonifay, Lakeland, and Lucy soils are in positions similar to those of the Troup soil. The Bonifay soils have a significant accumulation of plinthite in the subsoil. The Lakeland soils do not have a loamy subsoil within a depth of 80 inches. The Lucy soils have a loamy subsoil within a depth of 40 inches. The Perdido soils are on narrow ridges or high knolls and do not have thick, sandy surface and subsurface layers. Also included are small areas of Troup soils that have slopes of less than 5 percent or more than 8 percent. Included soils make up about 15 percent of the map unit. Individual areas generally are less than 5 acres in size.

This map unit is poorly suited to cultivated crops. The main management concerns are the low available water capacity, very low fertility, and the hazard of erosion. Gullies form readily in areas that are subject to concentrated flow of water on the surface. Returning crop residue to the soil helps to maintain tilth and increases the available water capacity. Minimum tillage, contour farming, and cover crops reduce the runoff rate and help to control erosion. Leaving the maximum amount of crop residue on the surface helps to control soil blowing and conserves soil moisture. In most years, irrigation can prevent damage to crops and can increase productivity. Leaching of plant nutrients is also a management concern. Most crops respond well to applications of lime and to frequent, light applications of fertilizer.

This map unit is suited to pasture and hay. Coastal bermudagrass and bahiagrass are well adapted to the local conditions. The main management concerns are very low fertility and the low available water capacity. Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the germination rate. Proper stocking rates, pasture rotation, and restricted grazing during prolonged dry periods help to keep the pasture in good condition. Leaching of plant nutrients is also a management concern. Frequent, light applications of nitrogen are necessary to maintain the productivity of grasses.

This map unit is suited to slash pine, loblolly pine, and longleaf pine. The potential productivity is moderately high. Moderate limitations affect timber management. The main management concerns are an equipment limitation, seedling mortality, and plant competition. The sandy texture of the surface layer restricts the use of wheeled equipment, especially when the soil is very dry. Harvesting activities should be planned for seasons when the soil is moist. The moderate seedling mortality rate is caused by droughtiness. It can be compensated for by increasing the number of trees planted. Plant competition reduces timber yields and can prevent adequate reforestation. The competing vegetation can be

controlled by mechanical methods, herbicides, or prescribed burning. Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings. Reseeding all disturbed areas with adapted grasses and legumes reduces the hazard of erosion and the siltation of streams.

This map unit is suited to most urban uses. It has slight limitations affecting building sites and local roads and streets and has slight to severe limitations affecting most kinds of sanitary facilities. The main management concerns are the sandy texture, seepage, and droughtiness. Cutbanks are unstable and subject to slumping. Support beams should be used to maintain the stability of the cutbanks. If this unit is used as a site for a septic tank absorption field, effluent can surface in downslope areas and create a health hazard. Increasing the length of the absorption lines and installing the lines on the contour help to reduce this hazard. Vegetating cleared and graded areas as soon as possible or constructing silt fences helps to maintain soil stability and helps to keep soil on the site. Applying lime and fertilizer, mulching, and irrigating help to establish lawns and landscape plants.

This map unit is suited to most recreational uses. It has moderate or severe limitations affecting most uses. The main management concerns are the sandy texture and the slope.

The capability subclass is IVs. The woodland ordination symbol is 11S for slash pine. This map unit is in the Longleaf Pine-Turkey Oak Hills ecological community.

34—Troup sand, 8 to 12 percent slopes

This very deep, sandy, somewhat excessively drained soil is on strongly sloping side slopes of ridges in the central and northern parts of the county. Slopes generally are short and complex. Individual areas are irregular in shape. They range from 10 to about 60 acres in size.

Typically, the surface layer is dark grayish brown sand about 5 inches thick. The subsurface layer extends to a depth of 58 inches. It is yellowish brown sand in the upper part, strong brown sand in the middle part, and yellowish red loamy sand in the lower part. The subsoil to a depth of 80 inches is red sandy loam and sandy clay loam.

Important properties of the Troup soil—

Depth to the seasonal high water table: More than 6 feet
Available water capacity: Low
Permeability: Rapid in the surface and subsurface layers and moderate in the subsoil
Flooding: None

Included in mapping are a few small areas of Iuka, Lakeland, Lucy, Maubila, and Perdido soils. The moderately well drained Iuka soils are in narrow drainageways and are subject to flooding. The Lakeland and Lucy soils are in positions similar to those of the Troup soil. The Lakeland soils do not have a loamy subsoil within a depth of 80 inches. The Lucy soils have a loamy subsoil within a depth of 40 inches. The Maubila and Perdido soils are on the upper and middle parts of slopes and do not have thick, sandy surface and subsurface layers. Also included are small areas of Troup soils that have slopes of less than 8 percent or more than 12 percent and areas of poorly drained soils in narrow drainageways. Included soils make up about 15 percent of the map unit. Individual areas generally are less than 5 acres in size.

This map unit is severely limited for cultivated crops because of the slope, the hazard of erosion, and the low available water capacity. A site that has better suited soils should be selected.

This map unit is poorly suited to pasture and hay. Coastal bermudagrass and bahiagrass are well adapted to the local conditions. The main management concerns are the slope, very low fertility, and the low available water capacity. In the steeper areas, the slope can limit equipment use if hay is harvested. Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the germination rate. Proper stocking rates, pasture rotation, and restricted grazing during prolonged dry periods help to keep the pasture in good condition. Frequent, light applications of nitrogen are necessary to maintain the productivity of grasses.

This map unit is suited to slash pine, loblolly pine, and longleaf pine. The potential productivity is moderately high. Moderate limitations affect timber management. The main management concerns are an equipment limitation, seedling mortality, and plant competition. The sandy texture of the surface layer restricts the use of wheeled equipment, especially when the soil is very dry. Harvesting activities should be planned for seasons when the soil is moist. The moderate seedling mortality rate is caused by droughtiness. It can be compensated for by increasing the number of trees planted. Plant competition reduces timber yields and can prevent adequate reforestation. The competing vegetation can be controlled by mechanical methods, herbicides, or prescribed burning. Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid

trails, and landings. Reseeding all disturbed areas with adapted grasses and legumes reduces the hazard of erosion and the siltation of streams.

This map unit is suited to most urban uses. It has moderate limitations affecting building sites and local roads and streets and has slight to severe limitations affecting most kinds of sanitary facilities. The main management concerns are the slope and seepage. Cutbanks are unstable and subject to slumping. Support beams should be used to maintain the stability of the cutbanks. If this unit is used as a site for a septic tank absorption field, effluent can surface in downslope areas and create a health hazard. Increasing the length of the absorption lines and constructing the lines on the contour help to overcome this hazard. The sandy texture, the hazard of erosion, and the low available water capacity are additional concerns. Vegetating cleared and graded areas as soon as possible or constructing silt fences helps to maintain soil stability and helps to keep soil on the site. Applying lime and fertilizer, mulching, and irrigating help to establish lawns and landscape plants.

This map unit is poorly suited to most recreational uses. It has moderate or severe limitations affecting most uses. The main management concerns are the sandy texture and the slope.

The capability subclass is VIs. The woodland ordination symbol is 11S for slash pine. This map unit is in the Longleaf Pine-Turkey Oak Hills ecological community.

35—Lucy loamy sand, 0 to 2 percent slopes

This very deep, well drained soil is on nearly level summits of ridges in the central and northern parts of the county. Slopes generally are long and smooth. Individual areas are irregular in shape. They range from 15 to about 120 acres in size.

Typically, the surface layer is brown loamy sand about 6 inches thick. The subsurface layer extends to a depth of 26 inches. It is brown loamy sand. The subsoil extends to a depth of 80 inches. It is red sandy loam in the upper part, red sandy clay loam in the middle part, and red sandy loam in the lower part.

Important properties of the Lucy soil—

Depth to the seasonal high water table: More than 6 feet
Available water capacity: Low
Permeability: Rapid in the surface and subsurface layers and moderate in the subsoil
Flooding: None

Included in mapping are a few small areas of Perdido, Red Bay, and Troup soils. The Perdido and Red Bay soils are on small knolls and do not have thick, sandy surface and subsurface layers. The Troup soils are in positions similar to those of the Lucy soil and do not have a loamy subsoil within a depth of 40 inches. Included soils make up about 10 percent of the map unit. Individual areas generally are less than 5 acres in size.

This map unit is suited to cultivated crops. The main management concern is the low available water capacity. Returning crop residue to the soil helps to maintain tilth and increases the available water capacity. Leaving the maximum amount of crop residue on the surface helps to control soil blowing and conserves soil moisture. In most years, irrigation can prevent damage to crops and can increase productivity. Leaching of plant nutrients is also a management concern. Most crops respond well to applications of lime and to frequent, light applications of fertilizer.

This map unit is well suited to pasture and hay. Coastal bermudagrass and bahiagrass are well adapted to the local conditions. The main management concerns are low fertility and the low available water capacity. Proper stocking rates, pasture rotation, and restricted grazing during prolonged dry periods help to keep the pasture in good condition. Leaching of plant nutrients is also a management concern. Frequent, light applications of nitrogen are necessary to maintain the productivity of grasses.

This map unit is suited to slash pine, loblolly pine, and longleaf pine. The potential productivity is moderately high. Moderate limitations affect timber management. The main management concerns are an equipment limitation, seedling mortality, and plant competition. The sandy texture of the surface layer restricts the use of wheeled equipment, especially when the soil is very dry. Harvesting activities should be planned for seasons when the soil is moist. The moderate seedling mortality rate is caused by droughtiness. It can be compensated for by increasing the number of trees planted. Plant competition reduces timber yields and can prevent adequate reforestation. The competing vegetation can be controlled by mechanical methods, herbicides, or prescribed burning.

This map unit is well suited to most urban uses. It has slight limitations affecting building sites and local roads and streets and has slight to severe limitations affecting most kinds of sanitary facilities. The main management concerns are the sandy texture, seepage, and droughtiness. If this unit is used as a

site for a septic tank absorption field, effluent can surface in downslope areas and create a health hazard. Increasing the length of the absorption lines helps to reduce this hazard. Applying lime and fertilizer, mulching, and irrigating help to establish lawns and landscape plants.

This map unit is well suited to most recreational uses. It has slight or moderate limitations affecting most uses. The main limitation is the sandy texture.

The capability subclass is IIs. The woodland ordination symbol is 11S for slash pine. This map unit is in the Mixed Hardwood and Pine ecological community.

36—Lucy loamy sand, 2 to 5 percent slopes

This very deep, well drained soil is on gently sloping shoulder slopes of ridges in the central and northern parts of the county. Slopes generally are long and smooth. Individual areas are irregular in shape. They range from 15 to about 100 acres in size.

Typically, the surface layer is brown loamy sand about 6 inches thick. The subsurface layer extends to a depth of 26 inches. It is brown loamy sand. The subsoil extends to a depth of 80 inches. It is red sandy loam in the upper part, red sandy clay loam in the middle part, and red sandy loam in the lower part.

Important properties of the Lucy soil—

Depth to the seasonal high water table: More than 6 feet
Available water capacity: Low
Permeability: Rapid in the surface and subsurface layers and moderate in the subsoil
Flooding: None

Included in mapping are a few small areas of Perdido, Red Bay, and Troup soils. The Perdido and Red Bay soils are on the upper parts of slopes or on narrow ridges and do not have thick, sandy surface and subsurface layers. The Troup soils are in positions similar to those of the Lucy soil and do not have a loamy subsoil within a depth of 40 inches. Included soils make up about 15 percent of the map unit. Individual areas generally are less than 5 acres in size.

This map unit is suited to cultivated crops. The main management concerns are the low available water capacity and a moderate hazard of erosion. Returning crop residue to the soil helps to maintain tilth and increases the available water capacity. Minimum tillage, contour farming, and cover crops reduce the runoff rate and help to control erosion. Leaving the maximum amount of crop residue on the surface helps to control soil blowing and conserves soil moisture. In most years, irrigation can prevent damage to crops and can increase productivity. Leaching of plant nutrients is also a management concern. Most crops respond well to applications of lime and to frequent, light applications of fertilizer.

This map unit is suited to pasture and hay. Coastal bermudagrass and bahiagrass are well adapted to the local conditions. The main management concerns are low fertility and the low available water capacity. Proper stocking rates, pasture rotation, and restricted grazing during prolonged dry periods help to keep the pasture in good condition. Leaching of plant nutrients is also a management concern. Frequent, light applications of nitrogen are necessary to maintain the productivity of grasses.

This map unit is suited to slash pine, loblolly pine, and longleaf pine. The potential productivity is moderately high. Moderate limitations affect timber management. The main management concerns are an equipment limitation, seedling mortality, and plant competition. The sandy texture of the surface layer restricts the use of wheeled equipment, especially when the soil is very dry. Harvesting activities should be planned for seasons when the soil is moist. The moderate seedling mortality rate is caused by droughtiness. It can be compensated for by increasing the number of trees planted. Plant competition reduces timber yields and can prevent adequate reforestation. The competing vegetation can be controlled by mechanical methods, herbicides, or prescribed burning.

This map unit is suited to most urban uses. It has slight limitations affecting building sites and local roads and streets and has slight to severe limitations affecting most kinds of sanitary facilities. The main management concerns are the sandy texture, seepage, and droughtiness. If this unit is used as a site for a septic tank absorption field, effluent can surface in downslope areas and create a health hazard. Increasing the length of the absorption lines helps to reduce this hazard. Applying lime and fertilizer, mulching, and irrigating help to establish lawns and landscape plants.

This map unit is well suited to most recreational uses. It has slight or moderate limitations affecting most uses. The main limitation is the sandy texture.

The capability subclass is IIs. The woodland ordination symbol is 11S for slash pine. This map unit is in the Mixed Hardwood and Pine ecological community.

38—Bonifay loamy sand, 0 to 5 percent slopes

This very deep, well drained soil is on nearly level summits and gently sloping shoulder slopes of ridges in the central and northern parts of the county. Slopes generally are long and smooth. Individual areas are irregular in shape. They range from 10 to about 350 acres in size.

Typically, the surface layer is dark grayish brown loamy sand about 3 inches thick. The subsurface layer extends to a depth of 54 inches. It is yellowish brown loamy sand in the upper part, brownish yellow loamy sand in the middle part, and brownish yellow loamy sand that has brownish mottles in the lower part. The subsoil to a depth of 80 inches is mottled yellowish, brownish, grayish, and reddish sandy clay loam that has masses of plinthite within the matrix.

Important properties of the Bonifay soil—

Seasonal high water table: Perched, at a depth of 3½ to 5 feet from December through April
Available water capacity: Low
Permeability: Rapid in the surface and subsurface layers and moderately slow in the subsoil
Flooding: None

Included in mapping are a few small areas of Albany, Lakeland, Lucy, Poarch, and Troup soils. The somewhat poorly drained Albany soils are in shallow depressions. The Lakeland, Lucy, and Troup soils are in positions similar to those of the Bonifay soil. The Lakeland soils do not have a loamy subsoil within a depth of 80 inches. The Lucy soils have a loamy subsoil within a depth of 40 inches. The Troup soils do not have a significant accumulation of plinthite in the subsoil. The Poarch soils are on high knolls and do not have thick, sandy surface and subsurface layers. Also included are small areas of Bonifay soils that have slopes of more than 5 percent. Included soils make up about 15 percent of the map unit. Individual areas generally are less than 5 acres in size.

This map unit is suited to cultivated crops. The main management concerns are the low available water capacity, very low fertility, and a moderate hazard of erosion. Returning crop residue to the soil helps to maintain tilth and increases the available water capacity. Minimum tillage, contour farming, and cover crops reduce the runoff rate and help to control erosion. Leaving the maximum amount of crop residue on the surface helps to control soil blowing and conserves soil moisture. In most years, irrigation can prevent damage to crops and can increase productivity. Leaching of plant nutrients is also a management concern. Most crops respond well to applications of lime and to frequent, light applications of fertilizer.

This map unit is suited to pasture and hay. Coastal bermudagrass and bahiagrass are well adapted to the local conditions. The main management concerns are low fertility and the low available water capacity. Proper stocking rates, pasture rotation, and restricted grazing during prolonged dry periods help to keep the pasture in good condition. Leaching of plant nutrients is also a management concern. Frequent, light applications of nitrogen are necessary to maintain the productivity of grasses.

This map unit is suited to slash pine, loblolly pine, and longleaf pine. The potential productivity is moderately high. Moderate limitations affect timber management. The main management concerns are an equipment limitation, seedling mortality, and plant competition. The sandy texture of the surface layer restricts the use of wheeled equipment, especially when the soil is very dry. Harvesting activities should be planned for seasons when the soil is moist. The moderate seedling mortality rate is caused by droughtiness. It can be compensated for by increasing the number of trees planted. Plant competition reduces timber yields and can prevent adequate reforestation. The competing vegetation can be controlled by mechanical methods, herbicides, or prescribed burning.

This map unit is suited to most urban uses. It has slight or moderate limitations affecting building sites and local roads and streets and has moderate or severe limitations affecting most kinds of sanitary facilities. The main management concerns are wetness and the restricted permeability of the subsoil. Additional management concerns include the sandy texture, the hazard of erosion, and droughtiness. Cutbanks are unstable and subject to slumping. Support beams should be used to maintain the stability of the cutbanks. If this unit is used as a site for a septic tank absorption field, effluent can surface in downslope areas and create a health hazard. Increasing the length of the absorption lines helps to reduce this hazard. Vegetating cleared and graded areas as soon as possible or constructing silt fences helps to maintain soil stability and helps to keep soil on the site. Applying lime and fertilizer, mulching, and irrigating help to establish lawns and landscape plants.

This map unit is suited to most recreational uses. It has moderate limitations affecting most uses. The main limitation is the sandy texture.

The capability subclass is IIIs. The woodland

ordination symbol is 10S for slash pine. This map unit is in the Longleaf Pine-Turkey Oak Hills ecological community.

39—Bonifay loamy sand, 5 to 8 percent slopes

This very deep, well drained soil is on moderately sloping shoulder slopes and side slopes of ridges in the central and northern parts of the county. Slopes generally are long and smooth, but some are short and complex. Individual areas are irregular in shape. They range from 10 to about 100 acres in size.

Typically, the surface layer is dark grayish brown loamy sand about 3 inches thick. The subsurface layer extends to a depth of 54 inches. It is yellowish brown loamy sand in the upper part, brownish yellow loamy sand in the middle part, and brownish yellow loamy sand that has brownish mottles in the lower part. The subsoil to a depth of 80 inches is mottled yellowish, brownish, grayish, and reddish sandy clay loam that has masses of plinthite within the matrix.

Important properties of the Bonifay soil—

Seasonal high water table: Perched, at a depth of 3½ to 5 feet from December through April
Available water capacity: Low
Permeability: Rapid in the surface and subsurface layers and moderately slow in the subsoil
Flooding: None

Included in mapping are a few small areas of Lakeland, Lucy, Poarch, and Troup soils. The Lakeland, Lucy, and Troup soils are in positions similar to those of the Bonifay soil. The Lakeland soils do not have a loamy subsoil within a depth of 80 inches. The Lucy soils have a loamy subsoil within a depth of 40 inches. The Troup soils do not have a significant accumulation of plinthite in the subsoil. The Poarch soils are on narrow ridges or high knolls and do not have thick, sandy surface and subsurface layers. Also included are small areas of Bonifay soils that have slopes of less than 5 percent or more than 8 percent. Included soils make up about 15 percent of the map unit. Individual areas generally are less than 5 acres in size.

This map unit is poorly suited to cultivated crops. The main management concerns are the low available water capacity, very low fertility, and the hazard of erosion. Gullies form readily in areas that are subject to concentrated flow of water on the surface. Returning crop residue to the soil helps to maintain tilth and increases the available water capacity. Minimum tillage, contour farming, and cover crops reduce the runoff rate and help to control erosion. Leaving the maximum amount of crop residue on the surface helps to control soil blowing and conserves soil moisture. In most years, irrigation can prevent damage to crops and can increase productivity. Leaching of plant nutrients is also a management concern. Most crops respond well to applications of lime and to frequent, light applications of fertilizer.

This map unit is suited to pasture and hay. Coastal bermudagrass and bahiagrass are well adapted to the local conditions. The main management concerns are the very low fertility and the low available water capacity. Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the germination rate. Proper stocking rates, pasture rotation, and restricted grazing during prolonged dry periods help to keep the pasture in good condition. Leaching of plant nutrients is also a management concern. Frequent, light applications of nitrogen are necessary to maintain the productivity of grasses.

This map unit is suited to slash pine, loblolly pine, and longleaf pine. The potential productivity is moderately high. Moderate limitations affect timber management. The main management concerns are an equipment limitation, seedling mortality, and plant competition. The sandy texture of the surface layer restricts the use of wheeled equipment, especially when the soil is very dry. Harvesting activities should be planned for seasons when the soil is moist. The moderate seedling mortality rate is caused by droughtiness. It can be compensated for by increasing the number of trees planted. Plant competition reduces timber yields and can prevent adequate reforestation. The competing vegetation can be controlled by mechanical methods, herbicides, or prescribed burning. Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings. Reseeding all disturbed areas with adapted grasses and legumes reduces the hazard of erosion and the siltation of streams.

This map unit is suited to most urban uses. It has slight or moderate limitations affecting building sites and local roads and streets and has moderate or severe limitations affecting most kinds of sanitary facilities. The main management concerns are wetness, seepage, and the restricted permeability of the subsoil. Additional management concerns include the sandy texture, the hazard of erosion, and droughtiness. Cutbanks are unstable and subject to slumping. Support beams should be used to maintain the stability of the cutbanks. If this unit is used as a site for a septic tank absorption field, effluent can

surface in downslope areas and create a health hazard. Increasing the length of the absorption lines and installing the lines on the contour help to reduce this hazard. Vegetating cleared and graded areas as soon as possible or constructing silt fences helps to maintain soil stability and helps to keep soil on the site. Applying lime and fertilizer, mulching, and irrigating help to establish lawns and landscape plants.

This map unit is suited to most recreational uses. It has moderate or severe limitations affecting most uses. The main management concerns are the sandy texture and the slope.

The capability subclass is IVs. The woodland ordination symbol is 10S for slash pine. This map unit is in the Longleaf Pine-Turkey Oak Hills ecological community.

40—Eunola fine sandy loam, 0 to 2 percent slopes, occasionally flooded

This very deep, moderately well drained soil is on low terraces that parallel the Escambia and Perdido Rivers and other large streams in the central and northern parts of the county. Slopes generally are long and smooth. Individual areas are generally oblong. They range from 10 to about 50 acres in size.

Typically, the surface layer is dark brown fine sandy loam about 5 inches thick. The subsurface layer extends to a depth of 10 inches. It is yellowish brown fine sandy loam. The subsoil extends to a depth of 50 inches. It is yellowish brown sandy loam in the upper part and yellowish brown sandy clay loam that has grayish, reddish, and brownish mottles in the lower part. The substratum extends to a depth of 80 inches. It is yellowish brown loamy sand in the upper part and yellowish brown sand in the lower part.

Important properties of the Eunola soil—

Seasonal high water table: Apparent, at a depth of 1 1/2 to 2 1/2 feet from December through April
Available water capacity: High
Permeability: Moderate in the subsoil and moderately rapid or rapid in the substratum
Flooding: Occasional, for brief periods

Included in mapping are a few small areas of Fluvaquents and Garcon, Izagora, Yemassee, and Weston soils. The very poorly drained Fluvaquents are in swales and narrow drainageways. The somewhat poorly drained Garcon and Yemassee soils are in slightly lower, less convex positions that those of the Eunola soil. The Izagora soils are in positions similar to those of the Eunola soil and do not decrease in clay content with depth. The poorly drained Weston soils are in the slightly lower, flat or concave positions. Included soils make up about 15 percent of the map unit. Individual areas generally are less than 5 acres in size.

This map unit is suited to cultivated crops. The main management concerns are wetness and the occasional flooding. The planting of early-season crops may be delayed in some years because of the flooding. The surface layer is friable and easy to keep in good tilth. It can be worked over a wide range of moisture content. Shallow ditches can help to remove excess surface water. Minimizing tillage and returning all crop residue to the soil or regularly adding other organic matter improve fertility and help to maintain tilth and the content of organic matter. Most crops respond well to applications of lime and fertilizer.

This map unit is well suited to pasture and hay. Wetness and the occasional flooding are the main management concerns. Coastal bermudagrass and bahiagrass are well adapted to the local conditions. Excess surface water can be removed by shallow ditches. Deferring or restricting grazing during very wet periods helps to keep the pasture in good condition. Applications of lime and fertilizer improve fertility and promote the growth of forage plants.

This map unit is well suited to loblolly pine, slash pine, and hardwoods. The potential productivity is high. Moderate limitations affect timber management. The main management concerns are an equipment limitation and plant competition. Using standard wheeled and tracked equipment when the soil is wet results in rutting and compaction. Using low-pressure ground equipment minimizes the damage to the soil and helps to maintain productivity. Harvesting activities should be planned for seasons when the soil is dry. Plant competition reduces timber yields and can prevent adequate reforestation. The competing vegetation can be controlled by site preparation or prescribed burning.

This map unit is poorly suited to most urban uses. The main management concerns are the flooding and wetness. Buildings can be elevated above the expected level of flooding by constructing them on pilings or mounds. Septic tank absorption fields may not function properly during the rainy season because of the moderate permeability and the seasonal high water table. Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves the performance of a septic system.

This map unit is poorly suited to recreational uses. It has moderate or severe limitations affecting most

uses. The main management concerns are wetness and the flooding.

The capability subclass is IIw. The woodland ordination symbol is 12W for slash pine. This map unit is in the Mixed Hardwood and Pine ecological community.

41—Malbis sandy loam, 0 to 2 percent slopes

This very deep, moderately well drained soil is on nearly level summits of broad ridges in the central and northern parts of the county. Slopes generally are long and smooth. Individual areas are irregular in shape. They range from 15 to about 100 acres in size.

Typically, the surface layer is dark brown sandy loam about 7 inches thick. The subsoil extends to a depth of 80 inches. It is yellowish brown loam in the upper part, brownish yellow and yellowish brown clay loam that has reddish and brownish mottles and masses of plinthite in the middle part, and mottled brownish, grayish, reddish, and yellowish clay loam in the lower part.

Important properties of the Malbis soil—

Seasonal high water table: Perched, at a depth of 2½ to 4 feet from December through April
Available water capacity: High
Permeability: Moderately slow
Flooding: None

Included in mapping are a few small areas of Bama, Escambia, Grady, Notcher, and Poarch soils. The Bama soils are in slightly higher, more convex positions than those of the Malbis soil and have reddish colors throughout the subsoil. The somewhat poorly drained Escambia soils are in slightly lower, more concave positions than those of the Malbis soil. The poorly drained Grady soils are in shallow depressions. The Notcher and Poarch soils are in positions similar to those of the Malbis soil. The Notcher soils have more than 5 percent ironstone nodules in the subsoil. The Poarch soils have less clay in the upper part of the subsoil than the Malbis soil. Included soils make up about 10 percent of the map unit. Individual areas generally are less than 5 acres in size.

This map unit is well suited to cultivated crops. It has few limitations affecting this use. Low fertility, however, is a management concern. The surface layer is friable and is easy to keep in good tilth. It can be tilled over a wide range of moisture content without becoming cloddy. Conservation practices, such as growing cover crops, minimizing tillage, and returning all crop residue to the soil or regularly adding other organic matter, improve fertility and help to maintain tilth and the content of organic matter. Most crops respond well to systematic applications of lime and fertilizer.

This map unit is well suited to pasture and hay (fig. 4). It has few limitations affecting these uses. Coastal bermudagrass, bahiagrass, and clovers are well adapted to the local conditions. Proper stocking rates, pasture rotation, and restricted grazing during prolonged wet or dry periods help to keep the pasture in good condition. Applications of lime and fertilizer improve fertility and increase the production of forage.

This map unit is well suited to slash pine, loblolly pine, and longleaf pine. It has few limitations affecting the production of timber. The potential productivity is high. Soil compaction and plant competition are minor management concerns. Harvesting during the drier periods helps to prevent compaction. Carefully managed reforestation helps to control competition from undesirable understory plants. Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control the initial plant competition and facilitate mechanical planting.

This map unit is suited to most urban uses. It has moderate limitations affecting building sites, slight limitations affecting local roads and streets, and severe limitations affecting most kinds of sanitary facilities. The main management concerns are wetness and the moderately slow permeability. A subsurface drainage system can help to lower the water table. Septic tank absorption fields do not function properly during rainy periods because of the wetness and the moderately slow permeability. Enlarging the size of the absorption field helps to overcome these limitations. Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves the performance of a septic system.

This map unit is well suited to most recreational uses. It has few limitations for most uses.

The capability class is I. The woodland ordination symbol is 11A for slash pine. This map unit is in the Mixed Hardwood and Pine ecological community.

42—Malbis sandy loam, 2 to 5 percent slopes

This very deep, moderately well drained soil is on gently sloping shoulder slopes and side slopes of broad ridges in the central and northern parts of the county. Slopes generally are long and smooth.

Figure 4.—Rolled bales of improved bermudagrass hay in an area of Malbis sandy loam, 0 to 2 percent slopes. This soil is well suited to pasture and hay.

Individual areas are irregular in shape. They range from 10 to about 100 acres in size.

Typically, the surface layer is dark brown sandy loam about 7 inches thick. The subsoil extends to a depth of 80 inches. It is yellowish brown loam in the upper part, brownish yellow and yellowish brown clay loam that has reddish and brownish mottles and masses of plinthite in the middle part, and mottled brownish, grayish, reddish, and yellowish clay loam in the lower part.

Important properties of the Malbis soil—

Seasonal high water table: Perched, at a depth of 2½ to 4 feet from December through April
Available water capacity: High
Permeability: Moderately slow
Flooding: None

Included in mapping are a few small areas of Bama, Escambia, Notcher, Poarch, and Robertsdale soils. The Bama soils are on the upper parts of slopes and have reddish colors throughout the subsoil. The somewhat poorly drained Escambia and Robertsdale soils are in concave swales. The Notcher and Poarch soils are in positions similar to those of the Malbis soil. The Notcher soils have more than 5 percent ironstone nodules in the subsoil. The Poarch soils have a lower content of clay in the upper part of the subsoil than the Malbis soil. Also included are small areas of Malbis soils that have slopes of less than 2 percent or more than 5 percent. Included soils make up about 10 percent of the map unit. Individual areas generally are less than 5 acres in size.

This map unit is well suited to cultivated crops. The main management concern is a moderate hazard of erosion. Conservation tillage, terraces, contour farming, and cover crops reduce the runoff rate and help to control erosion. Minimizing tillage and returning all crop residue to the soil or regularly adding other organic matter help to improve and maintain tilth and

the content of organic matter. Crops respond well to systematic applications of lime and fertilizer.

This map unit is well suited to pasture and hay. It has few limitations affecting these uses. Bahiagrass and coastal bermudagrass are the most commonly grown grasses. Proper stocking rates, pasture rotation, and restricted grazing during prolonged wet or dry periods help to keep the pasture in good condition. Applications of lime and fertilizer improve fertility and increase the production of forage.

This map unit is well suited to slash pine, loblolly pine, and longleaf pine. It has few limitations affecting the production of timber. The potential productivity is high. Soil compaction and plant competition are minor management concerns. Harvesting during the drier periods helps to prevent compaction. Carefully managed reforestation helps to control competition from undesirable understory plants. Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control the initial plant competition and facilitate mechanical planting.

This map unit is suited to most urban uses. It has moderate limitations affecting building sites and local roads and streets and has severe limitations affecting most kinds of sanitary facilities. The main management concerns are wetness and the moderately slow permeability. A subsurface drainage system can help to lower the water table. Septic tank absorption fields do not function properly during rainy periods because of the wetness and the moderately slow permeability. Enlarging the size of the absorption field helps to overcome these limitations. Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves the performance of a septic system.

This map unit is well suited to most recreational uses. It has few limitations for most uses. The slope is a moderate limitation in areas used for playgrounds.

The capability subclass is IIe. The woodland ordination symbol is 11A for slash pine. This map unit is in the Mixed Hardwood and Pine ecological community.

43—Albany sand, 0 to 5 percent slopes

This very deep, somewhat poorly drained soil is in flat or slightly concave positions on nearly level summits of low ridges and on gently sloping positions on toeslopes. It is in positions that are depressed relative to the surrounding landforms. Slopes are long and smooth. Individual areas are irregular in shape. They range from 3 to about 50 acres in size.

Typically, the surface layer is very dark grayish brown sand about 7 inches thick. The subsurface layer extends to a depth of 57 inches. It is brown sand in the upper part, light yellowish brown sand that has brownish mottles in the middle part, and light gray sand in the lower part. The subsoil extends to a depth of 80 inches. It is light brownish gray sandy loam that has brownish mottles in the upper part and gray sandy clay loam that has brownish mottles in the lower part.

Important properties of the Albany soil—

Seasonal high water table: Apparent, at a depth of 1 to $2^1/_2$ feet from December through April
Available water capacity: Very low
Permeability: Rapid in the surface and subsurface layers and moderately slow in the subsoil
Flooding: None

Included in mapping are a few small areas of Bonifay, Escambia, Foxworth, and Pelham soils. The well drained Bonifay and moderately well drained Foxworth soils are in slightly higher, more convex positions than those of the Albany soil. The Bonifay soils have a significant accumulation of plinthite in the subsoil. The Foxworth soils do not have loamy subsoil layers within a depth of 80 inches. The Escambia soils are in positions similar to those of the Albany soil and do not have thick, sandy surface and subsurface layers. The poorly drained Pelham soils are in slightly lower positions than those of the Albany soil and have loamy subsoil layers within a depth of 20 to 40 inches. Included soils make up about 15 percent of the map unit. Individual areas generally are less than 5 acres in size.

This map unit is suited to cultivated crops. The main management concerns are seasonal wetness and the very low available water capacity. Additional management concerns include soil blowing, low fertility, and rapid leaching of plant nutrients. A water-control system that removes excess water in wet seasons and provides supplemental irrigation in dry seasons maximizes productivity. Conservation tillage, winter cover crops, crop residue management, and crop rotations that include grasses and legumes increase the amount of available water, decrease soil blowing, and improve fertility of the soil. Applying lime and fertilizer on the basis of soil testing increases the availability of plant nutrients and maximizes productivity. Using split applications increases the effectiveness of fertilizer and herbicides.

This map unit is suited to pasture and hay. Wetness and the very low available water capacity are the main management concerns. Coastal bermudagrass and bahiagrass are adapted to the local conditions. Shallow ditches can help to remove excess surface

water. Proper stocking rates, pasture rotation, and restricted grazing during very wet or very dry periods help to keep the pasture in good condition. Applications of lime and fertilizer improve fertility and increase the production of forage. Using split applications increases the effectiveness of fertilizer and herbicides.

This map unit is well suited to slash pine, loblolly pine, and longleaf pine. The potential productivity is moderately high for slash pine and loblolly pine and moderate for longleaf pine. Moderate limitations affect timber management. The main management concerns are an equipment limitation, seedling mortality, and plant competition. The sandy texture of the surface layer restricts the use of wheeled equipment, especially when the soil is very dry. Wetness limits the use of equipment during winter and spring. Using low-pressure ground equipment minimizes the damage to the soil and helps to maintain productivity. The moderate seedling mortality rate is caused by droughtiness. It can be compensated for by increasing the number of trees planted. Plant competition can prevent adequate reforestation unless sites receive appropriate site preparation and maintenance. Site preparation can control the initial plant competition, and herbicides can control subsequent growth.

This map unit is poorly suited to most urban uses. Wetness is a severe limitation affecting building sites, local roads and streets, and most kinds of sanitary facilities. Because of the seasonal high water table during winter and spring, a drainage system is needed for buildings. A deep drainage system can help to lower the water table. Constructing roads on raised, well-compacted fill material helps to overcome the wetness. Septic tank absorption fields do not function properly during rainy periods because of the wetness. Constructing the absorption field on a raised bed helps to compensate for this limitation.

This map unit is suited to recreational uses. Wetness, the sandy texture, and restricted permeability are the main management concerns.

The capability subclass is IIIw. The woodland ordination symbol is 11W for slash pine. This map unit is in the Mixed Hardwood and Pine ecological community.

44—Corolla-Urban land complex, 0 to 5 percent slopes, rarely flooded

This map unit consists of the very deep, somewhat poorly drained Corolla soil and areas of Urban land. It is on barrier islands in the coastal lowlands. The areas of Corolla soil and Urban land are so closely intermingled that they could not be mapped separately at the scale selected for mapping. The Corolla soil makes up about 50 percent of the map unit, and the Urban land makes up about 40 percent. Slopes generally are long and smooth. Individual areas are rectangular. They range from 200 to about 400 acres in size.

The Corolla soil generally is on slightly convex, low dunes and on convex positions on flats. Typically, the surface layer is grayish brown sand about 5 inches thick. The substratum extends to a depth of 80 inches. It is very pale brown sand in the upper part, white sand that has strong brown and yellowish red mottles in the middle part, and light gray sand in the lower part.

Important properties of the Corolla soil—

Seasonal high water table: Apparent, at a depth of 1½ to 3 feet throughout the year
Available water capacity: Very low
Permeability: Very rapid
Flooding: Rare

Urban land consists of areas that are covered by sidewalks, patios, driveways, parking lots, streets, playgrounds, and buildings.

Included in mapping are a few small areas of Newhan and Duckston soils. The excessively drained Newhan soils are in slightly higher positions than those of the Corolla soil and do not have a seasonal high water table within a depth of 6 feet. The poorly drained Duckston soils are in interdunal swales. Also included are areas that have been modified to such an extent that the soil series cannot be identified. Inclusions make up about 10 percent of the map unit. Individual areas generally are less than 5 acres in size.

The Corolla soil cannot easily be managed for crops, pasture, hay, or woodland because of the limited size of the areas and the areas of Urban land and highly disturbed soils.

The Corolla soil is poorly suited to most urban uses because of the flooding and wetness. Additional limitations include the instability of cutbanks, trafficability, and droughtiness. Because of the seasonal high water table during winter and spring, a drainage system is needed for buildings. Installing a subsurface drainage system helps to lower the water table. Cutbanks are unstable and subject to slumping. Support beams should be used to maintain the stability of the cutbanks. Constructing roads on raised, well-compacted fill material helps to overcome the wetness. Septic tank absorption fields do not function properly during rainy periods because of the wetness.

Constructing the absorption field on a raised bed helps to compensate for this limitation and provides increased filtering capacity. Quickly establishing permanent ground cover helps to stabilize the soil and improves trafficability. Applying lime and fertilizer, mulching, and irrigating help to establish lawns and landscape plants.

This map unit is poorly suited to most recreational uses. It has severe and moderate limitations affecting most uses. The sandy texture and wetness are the main management concerns.

This map unit has not been assigned a capability subclass, woodland ordination symbol, or ecological community.

45—Troup and Perdido soils, 8 to 35 percent slopes, severely eroded

This map unit consists of the sandy, somewhat excessively drained Troup soil and the loamy, well drained Perdido soil. It is on strongly sloping to steep hillslopes in the central and northern parts of the county. The composition of the unit is variable. Some areas mainly consist of the Troup soil, some areas mainly consist of the Perdido soil, and other areas contain both soils in variable proportions. In a typical area, the Troup soil makes up about 50 percent of the map unit and the Perdido soil makes up about 35 percent. In most areas, the surface layer is a mixture of the original surface layer and material from the subsurface layer or subsoil. In some places, all of the original surface layer has been removed. Most areas have numerous rills and gullies. Slopes generally are short and complex, but some are long and smooth. Individual areas are irregular in shape. They range from 15 to 75 acres in size.

The Troup soil generally is on the lower parts of side slopes and on footslopes. Typically, the surface layer is dark grayish brown sand about 5 inches thick. The subsurface layer extends to a depth of 58 inches. It is yellowish brown sand in the upper part, strong brown sand in the middle part, and yellowish red loamy sand in the lower part. The subsoil to a depth of 80 inches is red sandy loam and sandy clay loam.

Important properties of the Troup soil—

Depth to the seasonal high water table: More than 6 feet
Available water capacity: Low
Permeability: Rapid in the surface and subsurface layers and moderate in the subsoil
Flooding: None

The Perdido soil generally is on shoulder slopes and the upper parts of side slopes. Typically, the surface layer is dark yellowish brown sandy loam about 8 inches thick. The subsoil extends to a depth of 80 inches. It is strong brown sandy loam in the upper part, yellowish red and strong brown sandy loam in the middle part, and red sandy clay loam and sandy loam in the lower part. The middle and lower parts of the subsoil have nodules of plinthite.

Important properties of the Perdido soil—

Seasonal high water table: Perched, at a depth of 4 to 6 feet from December through April
Available water capacity: Moderate
Permeability: Moderately slow
Flooding: None

Included in mapping are a few small areas of Fluvaquents and Bonifay, Iuka, Lakeland, Lucy, and Poarch soils. The Bonifay, Lakeland, and Lucy soils are in positions similar to those of the Troup soil. The Bonifay soils have thick, sandy surface and subsurface layers and a significant accumulation of plinthite in the subsoil. The Lakeland soils are sandy to a depth of more than 80 inches. The Lucy soils have sandy surface and subsurface layers that are 20 to 40 inches thick. The poorly drained Fluvaquents and moderately well drained Iuka soils are on narrow flood plains. The Poarch soils are in positions similar to those of the Perdido soil. They do not have thick, sandy surface and subsurface layers and have brownish colors throughout the subsoil. Also included are a few small areas of soils that are similar to the Perdido soil but that contain common fragments of ironstone ranging in size from channers to boulders. Included soils make up about 15 percent of the map unit. Individual areas generally are less than 10 acres in size.

This map unit is not suited to cultivated crops. The main management concerns are the moderately steep slopes and a severe hazard of erosion. Additional management concerns include the complex topography, droughtiness in areas of the Troup soil, and the presence of deep gullies.

This map unit is poorly suited to pasture and hay. The main management concerns are the slope, droughtiness in areas of the Troup soil, and a severe hazard of erosion. The more steeply sloping areas are best suited to native grasses. Proper stocking rates, pasture rotation, and restricted grazing during wet periods help to maintain the pasture.

This map unit is suited to slash pine, loblolly pine, and longleaf pine. The potential productivity is high. Moderate limitations affect timber management. The main management concerns are the hazard of

erosion, an equipment limitation, seedling mortality, and plant competition. Exposing the surface by removing ground cover increases the hazard of erosion, including rill and gully erosion. Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings. Reseeding disturbed areas with adapted grasses and legumes helps to control erosion and the siltation of streams. The slope and the sandy texture in areas of the Troup soil restrict the use of equipment. Using equipment that has wide tires or crawler-type equipment improves trafficability. The moderate seedling mortality rate in areas of the Troup soil is caused by droughtiness. It can be compensated for by increasing the number of trees planted. Plant competition reduces timber yields and can prevent adequate reforestation unless sites receive intensive preparation and maintenance. Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control plant competition.

This map unit is poorly suited to most urban and recreational uses. It is generally not suitable as a site for buildings because of the slope. Other limitations include the moderately slow permeability of the Perdido soil and the sandy texture of the Troup soil.

The capability subclass is VIIe. The woodland ordination symbol is 11R for slash pine. This map unit is in the Mixed Hardwood and Pine ecological community.

46—Garcon-Bigbee-Yemassee complex, 0 to 5 percent slopes, occasionally flooded

This map unit consists of the somewhat poorly drained Garcon and Yemassee soils and the excessively drained Bigbee soil. It is on flood plains and low terraces in the central and northern parts of the county. The soils occur as areas so intricately intermingled that they could not be mapped separately at the scale selected for mapping. The Garcon soil makes up about 35 percent of the map unit, the Bigbee soil makes up about 30 percent, and the Yemassee soil makes up about 20 percent. Slopes range from 0 to 2 percent. Individual areas generally are long and narrow or are oblong. They range from 10 to about 60 acres in size.

The Garcon soil is on low terraces. Typically, the surface layer is very dark gray loamy fine sand about 5 inches thick. The subsurface layer to a depth of 27 inches is light yellowish brown loamy fine sand that has brownish and grayish mottles. The subsoil extends to a depth of 57 inches. It is brownish yellow fine sandy loam that has brownish and grayish mottles in the upper part and is light brownish gray sandy clay loam and fine sandy loam that has brownish and grayish mottles in the lower part. The substratum to a depth of 80 inches is white fine sand that has brownish mottles.

Important properties of the Garcon soil—

Seasonal high water table: Apparent, at a depth of 1 1/2 to 3 feet from December through April
Available water capacity: Low
Permeability: Rapid in the surface and subsurface layers and moderate in the subsoil
Flooding: Occasional, for brief periods

The Bigbee soil generally is on high parts of natural levees. Typically, the surface layer is dark grayish brown fine sand about 7 inches thick. The substratum extends to a depth of 80 inches. It is yellowish brown fine sand in the upper part, light yellowish brown fine sand in the middle part, and white and light gray fine sand that has brownish and grayish mottles in the lower part.

Important properties of the Bigbee soil—

Seasonal high water table: Apparent, at a depth of 3 1/2 to 6 feet from December through April
Available water capacity: Very low
Permeability: Rapid
Flooding: Occasional, for brief periods

The Yemassee soil is on low terraces. Typically, the surface layer is very dark grayish brown fine sandy loam about 5 inches thick. The subsurface layer to a depth of 12 inches is grayish brown fine sandy loam. The subsoil extends to a depth of 74 inches. It is olive yellow sandy clay loam that has brownish and grayish mottles in the upper part, olive yellow fine sandy loam and sandy clay loam having brownish and grayish mottles in the middle part, and light gray fine sandy loam that has brownish and reddish mottles in the lower part. The substratum to a depth of 80 inches is light gray sand.

Important properties of the Yemassee soil—

Seasonal high water table: Apparent, at a depth of 1 to 1 1/2 feet from December through April
Available water capacity: High
Permeability: Moderate
Flooding: Occasional, for brief periods

Included in mapping are a few small areas of Albany, Dorovan, Pelham, and Weston soils. The Albany soils are on low terraces in positions similar to those of the Garcon and Yemassee soils. The Albany soils have sandy surface and subsurface layers

having a combined thickness of 40 to 80 inches. The Dorovan soils are in deep sloughs and have organic layers to a depth of 50 inches or more. The poorly drained Pelham and Weston soils are in slightly lower, less convex positions than those of the Garcon and Yemassee soils. Also included are a few areas of soils that are similar to the Bigbee soil but have a seasonal high water table at a depth of 24 to 40 inches. They are on positions similar to those of the Bigbee soil. Included soils make up about 15 percent of the map unit. Individual areas generally are less than 5 acres in size.

This map unit is suited to cultivated crops. The main management concerns are the flooding, wetness in the Garcon and Yemassee soils, and the droughtiness of the Bigbee soil. The planting of early-season crops may be delayed in some years because of the flooding. Well maintained drainageways and ditches can help to remove excess water in areas of the Garcon and Yemassee soils. Minimizing tillage and returning all crop residue to the soil or regularly adding other organic matter improve fertility and help to maintain tilth and the content of organic matter. Applying lime and fertilizer on the basis of soil testing increases the availability of plant nutrients and maximizes productivity.

This map unit is suited to pasture and hay. The main management concerns are the occasional flooding, the wetness in the Garcon and Yemassee soils, and the droughtiness of the Bigbee soil. Coastal bermudagrass and bahiagrass are adapted to the local conditions. Excess surface water can be removed by shallow ditches. Deferring or restricting grazing during very wet periods helps to keep the pasture in good condition. Applications of lime and fertilizer improve fertility and promote the growth of forage plants.

This map unit is suited to pines and hardwoods. The potential productivity is moderately high for slash pine, longleaf pine, loblolly pine, and hardwoods. The main management concerns are an equipment limitation, seedling mortality, and plant competition. The seasonal high water table and the flooding restrict the use of equipment to periods when the soils are dry. The high seedling mortality rate is caused by droughtiness in areas of the Bigbee soil and by wetness in areas of the Garcon and Yemassee soils. It can be reduced by planting on raised beds, or it can be compensated for by increasing the number of trees planted. Plant competition reduces timber yields and can prevent adequate reforestation unless sites receive intensive preparation and maintenance. Site preparation can control the initial plant competition, and herbicides can control subsequent growth.

This map unit is not suited to most urban and recreational uses. The flooding and wetness are severe limitations affecting most uses. Buildings can be elevated above the expected level of flooding by constructing them on pilings or on well-compacted fill.

The capability subclass is IIw in areas of the Garcon soil, IIIs in areas of the Bigbee soil, and IIw in areas of the Yemassee soil. The woodland ordination symbol for slash pine is 10W in areas of the Garcon soil, 11S in areas of the Bigbee soil, and 11W in areas of the Yemassee soil. This map unit is in the Bottomland Hardwoods ecological community.

47—Hurricane and Albany soils, 0 to 5 percent slopes, occasionally flooded

This map unit consists of the very deep, somewhat poorly drained Hurricane and Albany soils. It is on low terraces that parallel the Escambia and Perdido Rivers in the central and northern parts of the county. The composition of this unit is variable. Some areas mainly consist of the Hurricane soil, some areas mainly consist of the Albany soil, and other areas contain both soils in variable proportions. In a typical area, the Hurricane soil makes up about 45 percent of the map unit and the Albany soil makes up about 40 percent. Individual areas are long and narrow or are oblong. They range from 5 to about 45 acres in size.

The Hurricane soil is in slightly convex positions on low terraces. Typically, the surface layer is very dark grayish brown sand about 5 inches thick. The subsurface layer extends to a depth of 58 inches. It is yellowish brown sand in the upper part, light gray sand that has brownish mottles in the middle part, and white sand in the lower part. The subsoil extends to a depth of 80 inches. It is dark reddish gray sand in the upper part and dark reddish brown sand in the lower part.

Important properties of the Hurricane soil—

Seasonal high water table: Apparent, at a depth of 1 1/2 to 3 1/2 feet from December through April
Available water capacity: Very low
Permeability: Moderately rapid
Flooding: Occasional, for brief periods

The Albany soil is in slightly lower positions than the Hurricane soil. Typically, the surface layer is very dark grayish brown sand about 7 inches thick. The subsurface layer extends to a depth of 57 inches. It is brown sand in the upper part, light yellowish brown sand that has brownish mottles in the middle part, and light gray sand in the lower part. The subsoil extends

to a depth of 80 inches. It is light brownish gray sandy loam that has brownish mottles in the upper part and gray sandy clay loam that has brownish mottles in the lower part.

Important properties of the Albany soil—

Seasonal high water table: Apparent, at a depth of 1 to 2½ feet from December through April
Available water capacity: Very low
Permeability: Rapid in the surface and subsurface layers and moderately slow in the subsoil
Flooding: Occasional, for brief periods

Included in mapping are a few small areas of Eunola, Garcon, Pelham, and Weston soils. The moderately well drained Eunola soils are on small knolls and are loamy throughout. The Garcon soils are in positions similar to those of the Albany soil and have loamy subsoil layers at a depth of 20 to 40 inches. The poorly drained Pelham and Weston soils are in shallow depressions and drainageways. Included soils make up about 15 percent of the map unit. Individual areas generally are less than 5 acres in size.

This map unit is poorly suited to cultivated crops. The main management concerns are the occasional flooding, seasonal wetness, and the very low available water capacity. Additional management concerns include soil blowing, low fertility, and rapid leaching of plant nutrients. A water-control system that removes excess water in wet seasons and provides supplemental irrigation in dry seasons maximizes productivity. Conservation tillage, winter cover crops, crop residue management, and crop rotations that include grasses and legumes increase the amount of available water, decrease soil blowing, and improve fertility of the soils. Applying lime and fertilizer on the basis of soil testing increases the availability of plant nutrients and maximizes productivity. Using split applications increases the effectiveness of fertilizer and herbicides.

This map unit is suited to pasture and hay. The occasional flooding, wetness, and the very low available water capacity are the main management concerns. Coastal bermudagrass and bahiagrass are adapted to the local conditions. Shallow ditches can help to remove excess surface water. Proper stocking rates, pasture rotation, and restricted grazing during very wet or very dry periods help to keep the pasture in good condition. Applications of lime and fertilizer improve fertility and increase the production of forage. Using split applications increases the effectiveness of fertilizer and herbicides.

This map unit is well suited to slash pine, loblolly pine, and longleaf pine. The potential productivity is moderately high for slash pine and loblolly pine and moderate for longleaf pine. Moderate limitations affect timber management. The main management concerns are an equipment limitation, seedling mortality, and plant competition. The sandy texture of the surface layer restricts the use of wheeled equipment, especially when the soils are very dry. Wetness limits the use of equipment during winter and spring. Using low-pressure ground equipment minimizes the damage to the soils and helps to maintain productivity. The moderate seedling mortality rate is caused by droughtiness. It can be compensated for by increasing the number of trees planted. Plant competition can prevent adequate reforestation unless sites receive appropriate site preparation and maintenance. Site preparation can control the initial plant competition, and herbicides can control subsequent growth.

This map unit is poorly suited to most urban uses. It has severe limitation affecting building sites, local roads and streets, and most kinds of sanitary facilities. The main management concerns are wetness and the occasional flooding. Buildings can be elevated above the expected level of flooding by constructing them on pilings or mounds. Septic tank absorption fields do not function properly during rainy periods because of the wetness. Constructing the absorption field on a raised bed helps to compensate for this limitation.

This map unit is poorly suited to recreational uses. It has severe and moderate limitations affecting most uses. The occasional flooding, wetness, and the sandy textures are the main management concerns.

The capability subclass is IIIw. The woodland ordination symbol is 11W for slash pine. This map unit is in the Mixed Hardwood and Pine ecological community.

48—Pelham-Yemassee complex, occasionally flooded

This map unit consists of the poorly drained Pelham soil and the somewhat poorly drained Yemassee soil. It is on low terraces in the central and northern parts of the county. The soils occur as areas so intricately intermingled that they could not be mapped separately at the scale selected for mapping. The Pelham soil makes up about 65 percent of the map unit, and the Yemassee soil makes up about 20 percent. Slopes range from 0 to 2 percent. Individual areas generally are long and narrow or are oblong. They range from 10 to about 100 acres in size.

The Pelham soil is in low, concave positions on terraces. Typically, the surface layer is very dark gray loamy sand about 5 inches thick. The subsurface layer

to a depth of 35 inches is gray loamy sand that has brownish mottles. The subsoil extends to a depth of 80 inches. It is gray sandy loam that has brownish mottles in the upper part and mottled gray and light gray sandy clay loam that has yellowish and brownish mottles in the lower part.

Important properties of the Pelham soil—

Seasonal high water table: Apparent, at the surface to a depth of 1/2 foot from December through April
Available water capacity: Low
Permeability: Rapid in the surface and subsurface layers and moderately slow in the subsoil
Flooding: Occasional, for brief periods

The Yemassee soil is in flat or slightly convex positions on terraces. Typically, the surface layer is very dark grayish brown fine sandy loam about 5 inches thick. The subsurface layer to a depth of 12 inches is grayish brown fine sandy loam. The subsoil extends to a depth of 74 inches. It is olive yellow sandy clay loam that has brownish and grayish mottles in the upper part, olive yellow fine sandy loam and sandy clay loam having brownish and grayish mottles in the middle part, and light gray fine sandy loam that has brownish and reddish mottles in the lower part. The substratum to a depth of 80 inches is light gray sand.

Important properties of the Yemassee soil—

Seasonal high water table: Apparent, at a depth of 1 to 1 1/2 feet from December through April
Available water capacity: High
Permeability: Moderate
Flooding: Occasional, for brief periods

Included in mapping are a few small areas of Fluvaquents and Eunola, Garcon, and Weston soils. The very poorly drained Fluvaquents are in sloughs or swales. The moderately well drained Eunola soils are in slightly higher, more convex positions than those of the Yemassee soil. The somewhat poorly drained Garcon soils are in slightly higher positions than those of the Pelham soil and have sandy surface and subsurface layers having a combined thickness of 20 to 40 inches. The poorly drained Weston soils are in shallow drainageways or swales and do not have thick, sandy surface and subsurface layers. Also included are small areas of Pelham and Yemassee soils that have slopes of more than 2 percent. Included soils make up about 15 percent of the map unit. Individual areas generally are less than 5 acres in size.

This map unit is poorly suited to cultivated crops. The main management concerns are wetness and the occasional flooding. The planting of early-season crops may be delayed in some years because of the flooding. Installing a drainage system that includes open ditches, perforated tile, or land shaping improves productivity. Delaying spring planting minimizes the rutting that occurs if equipment is used when the soils are wet. Applying lime and fertilizer on the basis of soil testing increases the availability of plant nutrients and maximizes productivity.

This map unit is poorly suited to pasture and hay. Wetness and the occasional flooding are the main management concerns. Grasses that are tolerant of wet conditions should be selected. Shallow ditches can help to remove excess water from the surface. Proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture in good condition. Applying lime and fertilizer on the basis of soil testing increases the availability of plant nutrients and maximizes productivity.

This map unit is suited to slash pine and loblolly pine. The potential productivity is high, but severe limitations affect timber management. The main management concerns are an equipment limitation, seedling mortality, and plant competition. Harvesting activities should be planned for seasons when the soils are dry. Using standard wheeled and tracked equipment when the soils are wet results in rutting and compaction. Using low-pressure ground equipment minimizes rutting and the damage caused to tree roots by compaction. Planting seedlings on raised beds helps to establish the seedlings and increases the seedling survival rate. Plant competition reduces timber yields and can prevent adequate reforestation. The competing vegetation can be controlled by site preparation, herbicides, or prescribed burning. Applications of fertilizer can increase yields.

This map unit is poorly suited to most urban uses. Wetness and the flooding are severe limitations affecting building sites, local roads and streets, and most kinds of sanitary facilities. Buildings can be elevated above the expected level of flooding by constructing them on pilings or mounds. Septic tank absorption fields may not function properly during the rainy season because of the slow permeability and the seasonal high water table. Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves the performance of a septic system. Constructing roads on raised, well-compacted fill material helps to overcome the wetness.

This map unit is poorly suited to recreational uses. It has severe limitations affecting most uses. The main management concerns are wetness and the flooding.

The capability subclass is IIIw in areas of the Pelham soil and IIw in areas of the Yemassee soil. The woodland ordination symbol is 11W for slash pine. This map unit is in the Mixed Hardwood and Pine ecological community.

49—Dorovan muck and Fluvaquents, frequently flooded

This map unit consists of the very poorly drained, mucky Dorovan soil and loamy and sandy Fluvaquents. It is on flood plains along rivers and streams in the central and northern parts of the county. This map unit is subject to frequent flooding and ponding for very long periods in most years. The composition of this unit is variable. Some areas mainly consist of the Dorovan soil, some areas mainly consist of the Fluvaquents, and other areas contain both in variable proportions. In a typical area, the Dorovan soil makes up about 45 percent of the map unit and the Fluvaquents make up about 40 percent. Slopes are less than 2 percent. Individual areas are long and narrow and range from 20 to several hundred acres in size.

The Dorovan soil commonly is on the lower parts of the flood plain. Typically, the surface layer is dark reddish brown muck about 8 inches thick. Below this is black muck to a depth of 80 inches.

Important properties of the Dorovan soil—

Seasonal high water table: Apparent, from 2 feet above the surface to a depth of 1/2 foot from December through July
Available water capacity: Very high
Permeability: Moderate
Flooding: Frequently flooded for very long periods in most years
Duration of ponding: Very long periods in most years

The Fluvaquents are in slightly higher positions on the flood plains than the Dorovan soil. Fluvaquents are mineral soils that have variable soil properties. Because of this variability, Fluvaquents are classified only to the Great Group level. No typical pedon has been selected.

Important properties of the Fluvaquents—

Seasonal high water table: Apparent, at the surface to a depth of 1/2 foot from December through July
Available water capacity: Variable
Permeability: Variable
Flooding: Frequently flooded for very long periods in most years

Included in mapping are a few small areas of Bigbee, Croatan, Mantachie, and Pelham soils. The excessively drained Bigbee soils are on high parts of natural levees and are sandy throughout. The Croatan soils are in positions similar to those of the Dorovan soil and have mineral layers within a depth of 16 to 51 inches. The somewhat poorly drained Mantachie soils are on the intermediate parts of natural levees and are loamy throughout. The poorly drained Pelham soils are on low terraces and have thick, sandy surface and subsurface layers. Included soils make up about 15 percent of the map unit. Individual areas generally are less than 10 acres in size.

This map unit is not suited to cultivated crops, pasture, hayland, woodland, urban uses, or recreational uses because of wetness, the flooding, and ponding.

The capability subclass is VIIw. This map unit has not been assigned a woodland ordination symbol. It is in the Swamp Hardwoods ecological community.

50—Bigbee-Garcon-Fluvaquents complex, flooded

This map unit consists of the excessively drained Bigbee soil, the somewhat poorly drained Garcon soil, and the very poorly drained Fluvaquents. It is on the flood plains along the Perdido River, Eight-Mile Creek, and Eleven-Mile Creek in the central and northern parts of the county. The soils occur as areas so intricately intermingled that they could not be mapped separately at the scale selected for mapping. The Bigbee soil makes up about 35 percent of the map unit, the Garcon soil makes up about 30 percent, and the Fluvaquents make up about 20 percent. Slopes range from 0 to 2 percent. Individual areas generally are long and narrow. They range from 25 to about 800 acres in size.

The Bigbee soil generally is on high parts of natural levees. Typically, the surface layer is dark grayish brown fine sand about 7 inches thick. The substratum extends to a depth of 80 inches. It is yellowish brown fine sand in the upper part, light yellowish brown fine sand in the middle part, and white and light gray fine sand that has brownish and grayish mottles in the lower part.

Important properties of the Bigbee soil—

Seasonal high water table: Apparent, at a depth of 3 1/2 to 6 feet from December through April
Available water capacity: Very low
Permeability: Rapid
Flooding: Occasional, for brief periods

The Garcon soil is in flat or slightly convex positions on low terraces. Typically, the surface layer is very dark gray loamy fine sand about 5 inches thick. The subsurface layer to a depth of 27 inches is light yellowish brown loamy fine sand that has brownish and grayish mottles. The subsoil extends to a depth of 57 inches. It is brownish yellow fine sandy loam that has brownish and grayish mottles in the upper part and is light brownish gray sandy clay loam and fine sandy loam having brownish and grayish mottles in the lower part. The substratum to a depth of 80 inches is white fine sand that has brownish mottles.

Important properties of the Garcon soil—

Seasonal high water table: Apparent, at a depth of 1 1/2 to 3 feet from December through April
Available water capacity: Low
Permeability: Rapid in the surface and subsurface layers and moderate in the subsoil
Flooding: Occasional, for brief periods

The Fluvaquents are in swales and sloughs in the lower parts of backswamps. Fluvaquents generally are very poorly drained but may vary significantly in color, texture, and content of organic matter.

Important properties of the Fluvaquents—

Seasonal high water table: Apparent, from 1 foot above the surface to a depth of 1/2 foot from December through July
Available water capacity: Variable
Permeability: Variable
Flooding: Occasional, for brief periods
Duration of ponding: Long or very long

Included in mapping are a few small areas of Albany, Dorovan, Pelham, Weston, and Yemassee soils. The Albany and Yemassee soils are on low terraces in positions similar to those of the Garcon soil. The Albany soils have sandy surface and subsurface layers having a combined thickness of 40 to 80 inches. The Yemassee soils do not have thick, sandy surface and subsurface layers. The Dorovan soils are in positions similar to those of the Fluvaquents and have organic layers to depth of 50 inches or more. The poorly drained Pelham and Weston soils are in slightly lower, less convex positions than those of the Garcon soil. Also included are a few areas of soils that are similar to the Bigbee soil but have loamy layers below a depth of 40 inches. They are in positions similar to those of the Bigbee soil. Included soils make up about 15 percent of the unit. Individual areas generally are less than 10 acres in size.

This map unit is poorly suited to cultivated crops, pasture, and hay. The flooding is the main management concern. Additional management concerns include wetness in the Garcon soil and Fluvaquents, droughtiness in the Bigbee soil, and the complex topography.

This map unit is suited to pine and hardwoods. The Garcon and Bigbee soils have a moderately high potential productivity for slash pine, longleaf pine, and loblolly pine and hardwoods. Because the Fluvaquents are subject to ponding for long and very long durations, they are not suited to the production of pine. The main management concerns in areas of the Garcon and Bigbee soils are an equipment limitation, seedling mortality, and plant competition. The seasonal high water table and the flooding restrict the use of equipment to periods when the soils are dry. The high seedling mortality rate is caused by droughtiness in areas of the Bigbee soil and by excessive wetness in areas of the Garcon soil and Fluvaquents. It can be reduced by planting on raised beds, or it can be compensated for by increasing the number of trees planted. Plant competition reduces timber yields and can prevent adequate reforestation unless sites receive intensive preparation and maintenance. Site preparation can control the initial plant competition, and herbicides can control subsequent growth.

This map unit is not suited to most urban and recreational uses. The flooding and wetness are severe limitations affecting most uses. Buildings can be elevated above the expected level of flooding by constructing them on pilings or on well-compacted fill.

The capability subclass is IIIs in areas of the Bigbee soil, IIIw in areas of the Garcon soil, and VIIw in areas of the Fluvaquents. The woodland ordination symbol for slash pine is 11S in areas of the Bigbee soil and 10W in areas of the Garcon soil. The Fluvaquents have not been assigned a woodland ordination symbol. This map unit is in the Bottomland Hardwoods ecological community.

51—Pelham loamy sand, 0 to 2 percent slopes

This very deep, poorly drained soil is in flat or slightly depressional positions on stream terraces and uplands in the northern and central parts of the county. Slopes are long and smooth. Individual areas are irregular in shape. They range from 3 to about 90 acres in size.

Typically, the surface layer is very dark gray loamy sand about 5 inches thick. The subsurface layer to a depth of 35 inches is gray loamy sand that has

brownish mottles. The subsoil extends to a depth of 80 inches. It is gray sandy loam that has brownish mottles in the upper part and is mottled gray and light gray sandy clay loam that has yellowish and brownish mottles in the lower part.

Important properties of the Pelham soil—

Seasonal high water table: Apparent, at the surface to a depth of 1/2 foot from December through April
Available water capacity: Low
Permeability: Rapid in the surface and subsurface layers and moderately slow in the subsoil
Flooding: None

Included in mapping are a few small areas of Albany, Escambia, Yemassee, and Weston soils. The somewhat poorly drained Albany, Escambia, and Yemassee soils are in slightly higher, more convex positions than those of the Pelham soil. The Weston soils are in positions similar to those of the Pelham soil and do not have thick, sandy surface and subsurface layers. Also included are small areas of Pelham soils that have slopes of more than 2 percent. Included soils make up about 15 percent of the map unit. Individual areas generally are less than 5 acres in size.

This map unit is poorly suited to cultivated crops. Wetness is the main limitation. Installing a drainage system that includes open ditches, perforated tile, or land shaping improves productivity. Delaying spring planting minimizes the rutting that occurs if equipment is used when the soil is wet. Applying lime and fertilizer on the basis of soil testing increases the availability of plant nutrients and maximizes productivity.

This map unit is poorly suited to pasture and hay. Wetness is the main limitation. Grasses that are tolerant of wet conditions should be selected. Shallow ditches can help to remove excess water from the surface. Proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture in good condition. Applications of fertilizer and lime are needed for the maximum production of forage.

This map unit is suited to slash pine and loblolly pine. The potential productivity is high, but severe limitations affect timber management. The main management concerns are an equipment limitation, seedling mortality, and plant competition. Harvesting activities should be planned for seasons when the soil is dry. Using standard wheeled and tracked equipment when the soil is wet results in rutting and compaction. Using low-pressure ground equipment minimizes rutting and the damage caused to tree roots by compaction. Planting seedlings on raised beds helps to establish the seedlings and increases the seedling survival rate. Plant competition reduces timber yields and can prevent adequate reforestation. The competing vegetation can be controlled by site preparation, herbicides, or prescribed burning. Applications of fertilizer can increase yields.

This map unit is poorly suited to most urban uses. Wetness is a severe limitation affecting building sites, local roads and streets, and most kinds of sanitary facilities. Because of the seasonal high water table during winter and spring, a drainage system is needed for buildings. A deep drainage system can help to lower the water table. Constructing roads on raised, well-compacted fill material helps to overcome the wetness. Septic tank absorption fields do not function properly during rainy periods because of the wetness. Constructing the absorption field on a raised bed helps to compensate for this limitation.

This map unit is poorly suited to recreational uses. Wetness is the main limitation.

The capability subclass is IIIw. The woodland ordination symbol is 11W for slash pine. This map unit is in the Pitcher Plant Bogs ecological community.

52—Robertsdale sandy loam, 0 to 2 percent slopes

This very deep, somewhat poorly drained soil is in flat or slightly depressional positions on uplands and on toeslopes in the central and northern parts of the county. Slopes are long and smooth. Individual areas are irregular in shape. They range from 30 to about 150 acres in size.

Typically, the surface layer is very dark gray fine sandy loam about 5 inches thick. The subsurface layer to a depth of 12 inches is brownish yellow fine sandy loam. The subsoil extends to a depth of 80 inches. It is light yellowish brown loam that has mottles in shades of brown, yellow, and gray in the upper part and is mottled grayish, brownish, and reddish sandy clay loam that has masses of plinthite in the lower part.

Important properties of the Robertsdale soil—

Seasonal high water table: Perched, at a depth of 1 to 2 1/2 feet from December through April
Available water capacity: High
Permeability: Slow
Flooding: None

Included in mapping are a few small areas of Escambia, Malbis, Notcher, and Poarch soils. The Escambia soils are in positions similar to those of the Robertsdale soil and have a lower content of clay in the subsoil. The moderately well drained Malbis,

Notcher, and Poarch soils are in slightly higher, more convex positions than those of the Robertsdale soil. Also included are small areas of poorly drained, loamy soils in narrow drainageways and depressions. Included soils make up about 10 percent of the map unit. Individual areas generally are less than 5 acres in size.

This map unit is suited to cultivated crops. The main management concern is wetness. Planting may be delayed in spring because of the wetness. Well maintained drainageways and ditches can help to remove excess water. Minimizing tillage and returning all crop residue to the soil or regularly adding other organic matter improve fertility and help to maintain tilth and the content of organic matter. Applying lime and fertilizer on the basis of soil testing increases the availability of plant nutrients and maximizes productivity.

This map unit is suited to pasture and hay. Wetness is the main limitation. Grasses that are tolerant of wet conditions should be selected. Shallow ditches can help to remove excess water from the surface. Proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture in good condition. Applications of fertilizer and lime are needed for the maximum production of forage.

This map unit is well suited to slash pine, loblolly pine, and longleaf pine. The potential productivity is high, but moderate and severe limitations affect timber management. The main management concerns are an equipment limitation and plant competition. Harvesting activities should be planned for seasons when the soil is dry. Using standard wheeled and tracked equipment when the soil is wet results in rutting and compaction. Using low-pressure ground equipment minimizes the damage to the soil and helps to maintain productivity. Plant competition reduces timber yields and can prevent adequate reforestation. The competing vegetation can be controlled by site preparation, herbicides, or prescribed burning.

This map unit is poorly suited to most urban uses. Wetness is a severe limitation affecting building sites, local roads and streets, and most kinds of sanitary facilities. Because of the seasonal high water table during winter and spring, a drainage system is needed for buildings. A deep drainage system can help to lower the water table. Constructing roads on raised, well-compacted fill material helps to overcome the wetness. Septic tank absorption fields do not function properly during rainy periods because of the wetness. Constructing the absorption field on a raised bed helps to compensate for this limitation.

This map unit is suited to recreational uses. Wetness and restricted permeability are the main management concerns.

The capability subclass is IIIw. The woodland ordination symbol is 11W for slash pine. This map unit is in the Mixed Hardwood and Pine ecological community.

54—Troup-Poarch complex, 8 to 12 percent slopes

This map unit consists of the sandy, somewhat excessively drained Troup soil and the loamy, well drained Poarch soil. It is on strongly sloping hillslopes in the central and northern parts of the county. The soils occur as areas so intricately intermingled that they could not be mapped separately at the scale selected for mapping. The Troup soil makes up about 45 percent of the map unit, and the Poarch soil makes up about 35 percent. Slopes generally are short and complex. Individual areas are irregular in shape. They range from 10 to about 125 acres in size.

The Troup soil generally is on the middle and lower parts of side slopes and on footslopes. Typically, the surface layer is dark grayish brown sand about 5 inches thick. The subsurface layer extends to a depth of 58 inches. It is yellowish brown sand in the upper part, strong brown sand in the middle part, and yellowish red loamy sand in the lower part. The subsoil to a depth of 80 inches is red sandy loam and sandy clay loam.

Important properties of the Troup soil—

Depth to the seasonal high water table: More than 6 feet
Available water capacity: Low
Permeability: Rapid in the surface and subsurface layers and moderate in the subsoil
Flooding: None

The Poarch soil generally is on shoulder slopes and the upper parts of side slopes. Typically, the surface layer is very dark grayish brown sandy loam about 5 inches thick. The subsoil extends to a depth of 80 inches. It is yellowish brown sandy loam in the upper part; yellowish brown and brownish yellow sandy loam that has brownish, reddish, and grayish mottles in the middle part; and very pale brown and brownish yellow sandy loam that has brownish, reddish, and grayish mottles in the lower part. The middle and lower parts of the subsoil have nodules of plinthite.

Important properties of the Poarch soil—

Seasonal high water table: Perched, at a depth of 2½ to 5 feet from December through April

Available water capacity: Moderate
Permeability: Moderately slow
Flooding: None

Included in mapping are a few small areas of Bonifay, Iuka, Lakeland, Notcher, and Maubila soils. The Bonifay and Lakeland soils are in positions similar to those of the Troup soil. The Bonifay soils have thick, sandy surface and subsurface layers and a significant accumulation of plinthite in the subsoil. The Lakeland soils are sandy throughout. The moderately well drained Iuka soils are in narrow drainageways. The Notcher and Maubila soils are in positions similar to those of the Poarch soil and have a higher content of clay in the subsoil. Also included are poorly drained soils in narrow drainageways and soils that have slopes of less than 8 percent or more than 12 percent. Included soils make up about 15 percent of the unit. Individual areas generally are less than 10 acres in size.

This map unit is not suited to cultivated crops. The complex topography and the slope are limitations affecting the use of equipment. Erosion is a severe hazard. In areas of the Troup soil, the sandy texture and droughtiness are limitations. If the soils are cultivated, all tillage should be on the contour or across the slope.

This map unit is suited to pasture and hay. Coastal bermudagrass and bahiagrass are well adapted to the local conditions. The main management concerns are the slope, low fertility, and the available water capacity. In the steeper areas, the slope can limit equipment use if hay is harvested. Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the germination rate. Proper stocking rates, pasture rotation, and restricted grazing during prolonged dry periods help to keep the pasture in good condition. Frequent, light applications of nitrogen are necessary to maintain the productivity of grasses.

This map unit is suited to slash pine, loblolly pine, and longleaf pine. The potential productivity is moderately high. The Poarch soil has no significant limitations affecting timber management, and the Troup soil has moderate limitations. The main management concerns are the hazard of erosion, an equipment limitation, seedling mortality, and plant competition. Exposing the surface by removing ground cover increases the hazard of erosion, including rill and gully erosion. Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings. Reseeding disturbed areas with adapted grasses and legumes helps to control erosion and the siltation of streams. The sandy texture in areas of the Troup soil restricts the use of equipment. Using equipment that has wide tires or crawler-type equipment improves trafficability. The moderate seedling mortality rate in areas of the Troup soil is caused by droughtiness. It can be compensated for by increasing the number of trees planted. Plant competition reduces timber yields and can prevent adequate reforestation unless sites receive intensive preparation and maintenance. Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control plant competition.

This map unit is poorly suited to most urban uses. It has moderate and severe limitations affecting building sites and local roads and streets and has severe limitations affecting most kinds of sanitary facilities. The main management concerns are the slope and the moderate and moderately slow permeability. Additional management concerns include the seasonal high water table in areas of the Poarch soil and the sandy texture and droughtiness of the Troup soil. Erosion is a hazard in the steeper areas. If areas of this map unit are used as building sites, only the part of the site that is used for construction should be disturbed. Access roads can be designed so that surface runoff is controlled and cut slopes are stabilized. Septic tank absorption fields may not function properly during rainy periods because of the restricted permeability. Effluent from absorption areas may surface in downslope areas and create a health hazard. Increasing the length of the absorption lines and constructing the lines on the contour help to overcome this hazard. Vegetating cleared and graded areas as soon as possible or constructing silt fences helps to maintain soil stability and helps to keep soil on the site. Applying lime and fertilizer, mulching, and irrigating help to establish lawns and landscape plants.

This map unit is poorly suited to most recreational uses. It has moderate or severe limitations affecting most uses. The main management concerns are the sandy texture of the Troup soil and the slope.

The capability subclass is VIs in areas of the Troup soil and IVe in areas of the Poarch soil. The woodland ordination symbol for slash pine is 11S in areas of the Troup soil and 11A in areas of the Poarch soil. This map unit is in the Mixed Hardwood and Pine ecological community.

55—Troup-Poarch complex, 2 to 5 percent slopes

This map unit consists of the sandy, somewhat excessively drained Troup soil and the loamy, well drained Poarch soil. It is on gently sloping summits and side slopes of ridges in the central and northern

parts of the county. The soils occur as areas so intricately intermingled that they could not be mapped separately at the scale selected for mapping. The Troup soil makes up about 45 percent of the map unit, and the Poarch soil makes up about 35 percent. Slopes generally are long and smooth. Individual areas are irregular in shape. They range from 5 to about 50 acres in size.

The Troup soil generally is in the lower and less sloping positions. Typically, the surface layer is dark grayish brown sand about 5 inches thick. The subsurface layer extends to a depth of 58 inches. It is yellowish brown sand in the upper part, strong brown sand in the middle part, and yellowish red loamy sand in the lower part. The subsoil to a depth of 80 inches is red sandy loam and sandy clay loam.

Important properties of the Troup soil—

Depth to the seasonal high water table: More than 6 feet
Available water capacity: Low
Permeability: Rapid in the surface and subsurface layers and moderate in the subsoil
Flooding: None

The Poarch soil generally is on shoulder slopes and knolls. Typically, the surface layer is very dark grayish brown sandy loam about 5 inches thick. The subsoil extends to a depth of 80 inches. It is yellowish brown sandy loam in the upper part; yellowish brown and brownish yellow sandy loam that has brownish, reddish, and grayish mottles in the middle part; and very pale brown and brownish yellow sandy loam that has brownish, reddish, and grayish mottles in the lower part. The middle and lower parts of the subsoil have nodules of plinthite.

Important properties of the Poarch soil—

Seasonal high water table: Perched, at a depth of 2½ to 5 feet from December through April
Available water capacity: Moderate
Permeability: Moderately slow
Flooding: None

Included in mapping are a few small areas of Albany, Bonifay, Escambia, Lakeland, and Notcher soils. The somewhat poorly drained Albany and Escambia soils are in slightly depressional positions around the heads of drains and in shallow swales. The Bonifay and Lakeland soils are in positions similar to those of the Troup soil. The Bonifay soils have thick, sandy surface and subsurface layers and have a significant accumulation of plinthite in the subsoil. The Lakeland soils are sandy throughout. The Notcher soils are in positions similar to those of the Poarch soil and have a higher content of clay in the subsoil. The included soils make up about 15 percent of the unit. Individual areas generally are less than 10 acres in size.

This map unit is suited to cultivated crops. The main management concerns are the available water capacity, low fertility, and a moderate hazard of erosion. Returning crop residue to the soil helps to maintain tilth and increases the available water capacity. Minimum tillage, contour farming, and cover crops reduce the runoff rate and help to control erosion. Leaving the maximum amount of crop residue on the surface helps to control soil blowing and conserves soil moisture. In most years, irrigation can prevent damage to crops and can increase productivity. Most crops respond well to applications of lime and to frequent, light applications of fertilizer.

This map unit is suited to pasture and hay. Coastal bermudagrass and bahiagrass are well adapted to the local conditions. The main management concerns are low fertility and the available water capacity. Proper stocking rates, pasture rotation, and restricted grazing during prolonged dry periods help to keep the pasture in good condition. Leaching of plant nutrients is also a management concern. Frequent, light applications of nitrogen are necessary to maintain the productivity of grasses.

This map unit is suited to slash pine, loblolly pine, and longleaf pine. The potential productivity is moderately high. The Poarch soil has no significant limitations affecting timber management, and the Troup soil has moderate limitations. The main management concerns are an equipment limitation, seedling mortality, and plant competition. The sandy texture of the Troup soil restricts the use of wheeled equipment, especially when the soil is very dry. Harvesting activities should be planned for seasons when the soils are moist. The moderate seedling mortality rate is caused by droughtiness. It can be compensated for by increasing the number of trees planted. Plant competition reduces timber yields and can prevent adequate reforestation. The competing vegetation can be controlled by mechanical methods, herbicides, or prescribed burning.

This map unit is suited to most urban uses. It has moderate and severe limitations affecting building sites and local roads and streets and has severe limitations affecting most kinds of sanitary facilities. The main management concerns are the seasonal high water table and restricted permeability in areas of the Poarch soil. The sandy texture and droughtiness of the Troup soil are also management concerns. In

areas of the Poarch soil, septic tank absorption fields may not function properly during rainy periods because of the restricted permeability and the seasonal high water table. A subsurface drainage system can help to lower the water table. Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves the performance of a septic system. Vegetating cleared and graded areas as soon as possible or constructing silt fences helps to maintain soil stability and to keep soil on the site. Applying lime and fertilizer, mulching, and irrigating help to establish lawns and landscape plants.

This map unit is suited to most recreational uses. It has slight or moderate limitations affecting most uses. The main limitation is the sandy texture of the Troup soil.

The capability subclass is IIIs in areas of the Troup soil and IIe in areas of the Poarch soil. The woodland ordination symbol for slash pine is 11S in areas of the Troup soil and 11A in areas of the Poarch soil. This map unit is in the Mixed Hardwood and Pine ecological community.

56—Troup-Poarch complex, 5 to 8 percent slopes

This map unit consists of the sandy, somewhat excessively drained Troup soil and the loamy, well drained Poarch soil. It is on moderately sloping hillslopes in the central and northern parts of the county. The soils occur as areas so intricately intermingled that they could not be mapped separately at the scale selected for mapping. The Troup soil makes up about 45 percent of the map unit, and the Poarch soil makes up about 35 percent. Slopes generally are short and complex. Individual areas are irregular in shape. They range from 5 to about 65 acres in size.

The Troup soil generally is on the middle and lower parts of side slopes and on footslopes. Typically, the surface layer is dark grayish brown sand about 5 inches thick. The subsurface layer extends to a depth of 58 inches. It is yellowish brown sand in the upper part, strong brown sand in the middle part, and yellowish red loamy sand in the lower part. The subsoil to a depth of 80 inches is red sandy loam and sandy clay loam.

Important properties of the Troup soil—

Depth to the seasonal high water table: More than 6 feet
Available water capacity: Low
Permeability: Rapid in the surface and subsurface layers and moderate in the subsoil
Flooding: None

The Poarch soil generally is on shoulder slopes and the upper parts of side slopes. Typically, the surface layer is very dark grayish brown sandy loam about 5 inches thick. The subsoil extends to a depth of 80 inches. It is yellowish brown sandy loam in the upper part; yellowish brown and brownish yellow sandy loam that has brownish, reddish, and grayish mottles in the middle part; and very pale brown and brownish yellow sandy loam that has brownish, reddish, and grayish mottles in the lower part. The middle and lower parts of the subsoil have nodules of plinthite.

Important properties of the Poarch soil—

Seasonal high water table: Perched, at a depth of 2½ to 5 feet from December through April
Available water capacity: Moderate
Permeability: Moderately slow
Flooding: None

Included in mapping are a few small areas of Bonifay, Iuka, Lakeland, Notcher, and Maubila soils. The Bonifay and Lakeland soils are in positions similar to those of the Troup soil. The Bonifay soils have thick, sandy surface and subsurface layers and a significant accumulation of plinthite in the subsoil. The Lakeland soils are sandy throughout. The moderately well drained Iuka soils are in narrow drainageways. The Notcher and Maubila soils are in positions similar to those of the Poarch soil and have a higher content of clay in the subsoil. Also included are poorly drained soils in narrow drainageways and soils that have slopes of less than 5 percent or more than 8 percent. Included soils make up about 15 percent of the unit. Individual areas generally are less than 10 acres in size.

This map unit is poorly suited to cultivated crops. The main management concerns are the available water capacity, low fertility, and the hazard of erosion. Gullies form readily in areas that are subject to concentrated flow of water on the surface. Returning crop residue to the soil helps to maintain tilth and increases the available water capacity. Minimum tillage, contour farming, and cover crops reduce the runoff rate and help to control erosion. Leaving the maximum amount of crop residue on the surface helps to control soil blowing and conserves soil moisture. In most years, irrigation can prevent damage to crops and can increase productivity. Leaching of plant nutrients is also a management concern. Most crops respond well to applications of lime and to frequent, light applications of fertilizer.

This map unit is suited to pasture and hay. Coastal bermudagrass and bahiagrass are well adapted to the local conditions. The main management concerns are low fertility and the available water capacity. Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the germination rate. Proper stocking rates, pasture rotation, and restricted grazing during prolonged dry periods help to keep the pasture in good condition. Leaching of plant nutrients is also a management concern. Frequent, light applications of nitrogen are necessary to maintain the productivity of grasses.

This map unit is suited to slash pine, loblolly pine, and longleaf pine. The potential productivity is moderately high. The Poarch soil has no significant limitations affecting timber management, and the Troup soil has moderate limitations. The main management concerns are an equipment limitation, seedling mortality, and plant competition. The sandy texture of the Troup soil restricts the use of wheeled equipment, especially when the soil is very dry. Harvesting activities should be planned for seasons when the soils are moist. The moderate seedling mortality rate is caused by droughtiness. It can be compensated for by increasing the number of trees planted. Plant competition reduces timber yields and can prevent adequate reforestation. The competing vegetation can be controlled by mechanical methods, herbicides, or prescribed burning.

This map unit is suited to most urban uses. It has moderate and severe limitations affecting building sites and local roads and streets and has severe limitations affecting most kinds of sanitary facilities. The main management concerns are the seasonal high water table and restricted permeability in areas of the Poarch soil. The sandy texture and droughtiness of the Troup soil are also management concerns. In areas of the Poarch soil, septic tank absorption fields may not function properly during rainy periods because of the restricted permeability and the seasonal high water table. A subsurface drainage system can help to lower the water table. Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves the performance of a septic system. Vegetating cleared and graded areas as soon as possible or constructing silt fences helps to maintain soil stability and helps to keep soil on the site. Applying lime and fertilizer, mulching, and irrigating help to establish lawns and landscape plants.

This map unit is suited to most recreational uses. It has slight to severe limitations affecting most uses. The main management concerns are the sandy texture of the Troup soil and the slope.

The capability subclass is IVs in areas of the Troup soil and IIIe in areas of the Poarch soil. The woodland ordination symbol for slash pine is 11S in areas of the Troup soil and 11A in areas of the Poarch soil. This map unit is in the Mixed Hardwood and Pine ecological community.

57—Cowarts-Troup complex, 12 to 18 percent slopes

This map unit consists of the very deep, well drained Cowarts soil and the somewhat excessively drained Troup soil. It is on hillslopes in the central and northern parts of the county. The soils occur as areas so intricately intermingled that they could not be mapped separately at the scale selected for mapping. The Cowarts soil makes up about 45 percent of the map unit, and the Troup soil makes up about 35 percent. Slopes generally are short and complex. Individual areas are irregular in shape. They range from 10 to about 125 acres in size.

The Cowarts soil generally is on the upper and middle parts of slopes. Typically, the surface layer is dark grayish brown sandy loam about 4 inches thick. The subsurface layer to a depth of 9 inches is strong brown sandy loam. The subsoil extends to a depth of 40 inches. It is strong brown sandy clay loam in the upper part and strong brown sandy loam that has mottles in shades of red and gray in the lower part. The substratum to a depth of 80 inches is strong brown sandy loam that has thin strata of loamy sand.

Important properties of the Cowarts soil—

Depth to the seasonal high water table: More than 6 feet
Available water capacity: Moderate
Permeability: Moderately slow
Flooding: None

The Troup soil generally is on the lower parts of slopes and on narrow ridges. Typically, the surface layer is dark grayish brown sand about 5 inches thick. The subsurface layer extends to a depth of 58 inches. It is yellowish brown sand in the upper part, strong brown sand in the middle part, and yellowish red loamy sand in the lower part. The subsoil to a depth of 80 inches is red sandy loam and sandy clay loam.

Important properties of the Troup soil—

Depth to the seasonal high water table: More than 6 feet

Available water capacity: Low
Permeability: Rapid in the surface and subsurface layers and moderate in the subsoil
Flooding: None

Included in mapping are a few small areas of Iuka, Lucy, Maubila, Notcher, and Perdido soils. The moderately well drained Iuka soils are on narrow flood plains. The Lucy soils are in positions similar to those of the Troup soil and have loamy subsoil layers within a depth of 20 to 40 inches. The Maubila and Perdido soils are in positions similar to those of the Cowarts soil. The Maubila soils are clayey in the upper part of the subsoil. The Perdido soils do not have thick, sandy surface and subsurface layers and have reddish colors in the subsoil. The Notcher soils are on narrow ridges and have a significant accumulation of plinthite in the subsoil. Also included are loamy soils that have thin layers of ironstone within a depth of 40 inches and areas of Cowarts and Troup soils that have slopes of less than 12 percent or more than 18 percent. Included soils make up about 20 percent of the unit. Individual areas generally are less than 10 acres in size.

This map unit is not suited to cultivated crops. The main management concerns are the moderately steep slopes and a severe hazard of erosion. Additional management concerns include the complex topography, the droughtiness of the Troup soil, and the presence of deep gullies.

This map unit is suited to pasture and hay. Coastal bermudagrass and bahiagrass are well adapted to the local conditions. The main management concerns are the slope, droughtiness, low fertility, and a severe hazard of erosion. The use of equipment is restricted by the sloping, complex topography and by the sandy texture of the Troup soil. Seedbeds should be prepared on the contour or across the slope where practical. Proper stocking rates, pasture rotation, and restricted grazing during very wet or dry periods help to keep the pasture in good condition.

This map unit is suited to slash pine, loblolly pine, and longleaf pine. The potential productivity is high. Moderate limitations affect timber management. The main management concerns are the hazard of erosion, an equipment limitation, seedling mortality, and plant competition. Exposing the surface by removing ground cover increases the hazard of erosion, including rill and gully erosion. Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings. Reseeding disturbed areas with adapted grasses and legumes helps to control erosion and the siltation of streams. The slope and the sandy texture of the Troup soil restrict the use of equipment. Using equipment that has wide tires or crawler-type equipment improves trafficability. The moderate seedling mortality rate in areas of the Troup soil is caused by droughtiness. It can be compensated for by increasing the number of trees planted. Plant competition reduces timber yields and can prevent adequate reforestation unless sites receive intensive preparation and maintenance. Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control plant competition.

This map unit is poorly suited to most urban and recreational uses. It is generally not suitable as a site for buildings because of the slope. Other limitations include the moderately slow permeability of the Cowarts soil and the sandy texture of the Troup soil.

The capability subclass is VIe in areas of the Cowarts soil and VIIe in areas of the Troup soil. The woodland ordination symbol for slash pine is 11R in areas of the Cowarts soil and 10R in areas of the Troup soil. This map unit is in the Mixed Hardwood and Pine ecological community.

58—Eunola fine sandy loam, 2 to 5 percent slopes, occasionally flooded

This very deep, moderately well drained soil is on gently sloping side slopes of low terraces that parallel the Escambia and Perdido Rivers and other large streams in the central and northern parts of the county. Slopes generally are long and smooth. Individual areas are generally long and narrow. They range from 15 to about 50 acres in size.

Typically, the surface layer is dark brown fine sandy loam about 5 inches thick. The subsurface layer to a depth of 10 inches is yellowish brown fine sandy loam. The subsoil extends to a depth of 50 inches. It is yellowish brown sandy loam in the upper part and yellowish brown sandy clay loam that has grayish, reddish, and brownish mottles in the lower part. The substratum extends to a depth of 80 inches. It is yellowish brown loamy sand in the upper part and yellowish brown sand in the lower part.

Important properties of the Eunola soil—

Seasonal high water table: Apparent, at a depth of 1½ to 2½ feet from December through April
Available water capacity: High
Permeability: Moderate in the subsoil and moderately rapid to rapid in the substratum
Flooding: Occasional, for brief periods

Included in mapping are a few small areas of Fluvaquents and Garcon, Izagora, and Yemassee

soils. The very poorly drained Fluvaquents are in swales and narrow drainageways. The somewhat poorly drained Garcon and Yemassee soils are in slightly lower, less convex positions than those of the Eunola soil. The Izagora soils are in positions similar to those of the Eunola soil and do not decrease in clay content with depth. Also included are small areas of Eunola soils that have slopes of less than 2 percent or more than 5 percent. Included soils make up about 15 percent of the map unit. Individual areas generally are less than 5 acres in size.

This map unit is well suited to cultivated crops. The main management concerns are the occasional flooding and a moderate hazard of erosion. In some years, the planting of early-season crops may be delayed and crops may be damaged because of the flooding. Using a resource management system that includes terraces and diversions, stripcropping, contour tillage, no-till planting, and crop residue management reduces the hazard of erosion, reduces the runoff rate, and increases the infiltration of rainfall. Most crops respond well to applications of lime and fertilizer.

This map unit is well suited to pasture and hay. The main management concern is the occasional flooding. Coastal bermudagrass and bahiagrass are well adapted to the local conditions. Deferring or restricting grazing during very wet periods helps to keep the pasture in good condition. Applications of lime and fertilizer improve fertility and promote the growth of forage plants.

This map unit is well suited to loblolly pine, slash pine, and hardwoods. The potential productivity is high. Moderate limitations affect timber management. The main management concerns are an equipment limitation and plant competition. Using standard wheeled and tracked equipment when the soil is wet results in rutting and compaction. Using low-pressure ground equipment minimizes the damage to the soil and helps to maintain productivity. Harvesting activities should be planned for seasons when the soil is dry. Plant competition reduces timber yields and can prevent adequate reforestation. The competing vegetation can be controlled by site preparation or prescribed burning.

This map unit is poorly suited to most urban uses. It has severe limitations affecting most uses. The main management concerns are the flooding and wetness. Buildings can be elevated above the expected level of flooding by constructing them on pilings or mounds. Septic tank absorption fields may not function properly during the rainy season because of the moderately slow permeability and the seasonal high water table. Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves the performance of a septic system.

This map unit is poorly suited to recreational uses. It has moderate or severe limitations affecting most uses. The main management concerns are wetness and the flooding.

The capability subclass is IIe. The woodland ordination symbol is 12W for slash pine. This map unit is in the Mixed Hardwood and Pine ecological community.

59—Notcher fine sandy loam, 0 to 2 percent slopes

This very deep, moderately well drained soil is on nearly level summits of broad ridges in the central and northern parts of the county. Slopes generally are long and smooth. Individual areas are irregular in shape. They range from 15 to about 150 acres in size.

Typically, the surface layer is dark grayish brown fine sandy loam about 5 inches thick. The subsurface layer to a depth of 12 inches is yellowish brown fine sandy loam. The subsoil extends to a depth of 80 inches. It is brownish yellow sandy clay loam in the upper part and brownish yellow gravelly sandy clay loam that has mottles in shades of red, brown, and gray in the lower part. The lower part of the subsoil has nodules of ironstone and masses of plinthite.

Important properties of the Notcher soil—

Seasonal high water table: Perched, at a depth of 3 to 4 feet from December through April
Available water capacity: High
Permeability: Moderately slow
Flooding: None

Included in mapping are a few small areas of Bama, Escambia, Grady, Malbis, Poarch, and Robertsdale soils. The Bama soils are in slightly higher, more convex positions than those of the Notcher soil and have reddish colors throughout the subsoil. The somewhat poorly drained Escambia and Robertsdale soils are in slightly lower, more concave positions than those of the Notcher soil. The poorly drained Grady soils are in shallow depressions. The Malbis and Poarch soils are in positions similar to those of the Notcher soil. The Malbis soils have less than 5 percent ironstone nodules in the subsoil. The Poarch soils have less clay in the upper part of the subsoil than the Notcher soil. Included soils make up about 10 percent of the map unit. Individual areas generally are less than 5 acres in size.

This map unit is well suited to cultivated crops (fig. 5). It has few limitations affecting this use. Low

Figure 5.—Soybeans in an area of Notcher fine sandy loam, 0 to 2 percent slopes. Most areas of this unit are used for cultivated crops.

fertility, however, is a management concern. The surface layer is friable and is easy to keep in good tilth. It can be tilled over a wide range of moisture content without becoming cloddy. Conservation practices, such as growing cover crops, minimizing tillage, and returning all crop residue to the soil or regularly adding other organic matter, improve fertility and help to maintain tilth and the content of organic matter. Most crops respond well to systematic applications of lime and fertilizer.

This map unit is well suited to pasture and hay. It has few limitations affecting these uses. Coastal bermudagrass, bahiagrass, and clovers are well adapted to the local conditions. Proper stocking rates, pasture rotation, and restricted grazing during prolonged wet or dry periods help to keep the pasture in good condition. Applications of lime and fertilizer improve fertility and increase the production of forage.

This map unit is well suited to slash pine, loblolly pine, and longleaf pine. It has few limitations affecting the production of timber. The potential productivity is high. Soil compaction and plant competition are minor

management concerns. Harvesting during the drier periods helps to prevent compaction. Carefully managed reforestation helps to control competition from undesirable understory plants. Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control the initial plant competition and facilitate mechanical planting.

This map unit is suited to most urban uses. It has moderate limitations affecting building sites and local roads and streets and has severe limitations affecting most kinds of sanitary facilities. The main management concerns are wetness and the moderately slow permeability. A subsurface drainage system can help to lower the water table. Septic tank absorption fields do not function properly during rainy periods because of the wetness and the moderately slow permeability. Enlarging the size of the absorption field helps to overcome these limitations. Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves the performance of a septic system.

This map unit is well suited to most recreational uses. It has few limitations for most uses. The content of small nodules of ironstone is a moderate limitation in areas used for playgrounds.

The capability class is I. The woodland ordination symbol is 11A for slash pine. This map unit is in the Mixed Hardwood and Pine ecological community.

60—Notcher fine sandy loam, 2 to 5 percent slopes

This very deep, moderately well drained soil is on gently sloping shoulder slopes and side slopes of broad ridges in the central and northern parts of the county. Slopes generally are long and smooth. Individual areas are irregular in shape. They range from 10 to about 160 acres in size.

Typically, the surface layer is dark grayish brown fine sandy loam about 5 inches thick. The subsurface layer to a depth of 12 inches is yellowish brown fine sandy loam. The subsoil extends to a depth of 80 inches. It is brownish yellow sandy clay loam in the upper part and brownish yellow gravelly sandy clay loam that has mottles in shades of red, brown, and gray in the lower part. The subsoil has nodules of ironstone and masses of plinthite.

Important properties of the Notcher soil—

Seasonal high water table: Perched, at a depth of 3 to 4 feet from December through April
Available water capacity: High
Permeability: Moderately slow
Flooding: None

Included in mapping are a few small areas of Bama, Escambia, Malbis, Poarch, and Robertsdale soils. The Bama soils are on the upper parts of slopes and have reddish colors throughout the subsoil. The somewhat poorly drained Escambia and Robertsdale soils are in concave swales. The Malbis and Poarch soils are in positions similar to those of the Notcher soil. The Malbis soils have less than 5 percent ironstone nodules in the subsoil. The Poarch soils have a lower content of clay in the upper part of the subsoil than the Notcher soil. Also included are small areas of Notcher soils that have slopes of less than 2 percent or more than 5 percent. Included soils make up about 10 percent of the map unit. Individual areas generally are less than 5 acres in size.

This map unit is well suited to cultivated crops. The main management concern is a moderate hazard of erosion. Conservation tillage, terraces, contour farming, and cover crops reduce the runoff rate and help to control erosion. Minimizing tillage and returning all crop residue to the soil or regularly adding other organic matter help to improve and maintain tilth and the content of organic matter. Crops respond well to systematic applications of lime and fertilizer.

This map unit is well suited to pasture and hay. It has few limitations affecting these uses. Bahiagrass and coastal bermudagrass are the most commonly grown grasses. Proper stocking rates, pasture rotation, and restricted grazing during prolonged wet or dry periods help to keep the pasture in good condition. Applications of lime and fertilizer improve fertility and increase the production of forage.

This map unit is well suited to slash pine, loblolly pine, and longleaf pine. It has few limitations affecting the production of timber. The potential productivity is high. Soil compaction and plant competition are minor management concerns. Harvesting during the drier periods helps to prevent compaction. Carefully managed reforestation helps to control competition from undesirable understory plants. Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control the initial plant competition and facilitate mechanical planting.

This map unit is suited to most urban uses. It has moderate limitations affecting building sites and local roads and streets and has severe limitations affecting most kinds of sanitary facilities. The main management concerns are wetness and the moderately slow permeability. A subsurface drainage system can help to lower the water table. Septic tank absorption fields do not function properly during rainy periods because of the wetness and the moderately

slow permeability. Enlarging the size of the absorption field helps to overcome these limitations. Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves the performance of a septic system.

This map unit is well suited to most recreational uses. It has few limitations for most uses. The slope and the content of small nodules of ironstone are moderate limitations in areas used for playgrounds.

The capability subclass is IIe. The woodland ordination symbol is 11A for slash pine. This map unit is in the Mixed Hardwood and Pine ecological community.

61—Notcher fine sandy loam, 5 to 8 percent slopes

This very deep, moderately well drained soil is on side slopes of ridges in the central and northern parts of the county. Slopes generally are short and complex. Individual areas are irregular in shape. They range from 5 to about 35 acres in size.

Typically, the surface layer is dark grayish brown fine sandy loam about 5 inches thick. The subsurface layer to a depth of 12 inches is yellowish brown fine sandy loam. The subsoil extends to a depth of 80 inches. It is brownish yellow sandy clay loam in the upper part and brownish yellow gravelly sandy clay loam that has mottles in shades of red, brown, and gray in the lower part. Nodules of ironstone and masses of plinthite are in the lower part of the subsoil.

Important properties of the Notcher soil—

Seasonal high water table: Perched, at a depth of 3 to 4 feet from December through April
Available water capacity: High
Permeability: Moderately slow
Flooding: None

Included in mapping are a few small areas of Bonifay, Iuka, Perdido, and Poarch soils. The Bonifay soils are on the lower parts of slopes and have thick, sandy surface and subsurface layers. The Iuka soils are in narrow drainageways and are subject to flooding. The Perdido and Poarch soils are in positions similar to those of the Notcher soil and have a lower content of clay in the upper part of the subsoil. Also included are small areas of Notcher soils that have slopes of less than 5 percent or more than 8 percent. Included soils make up about 15 percent of the map unit. Individual areas generally are less than 5 acres in size.

This map unit is suited to cultivated crops. The main management concerns are a severe hazard of erosion and the short, complex slopes. Using a resource management system that includes contour farming, conservation tillage, crop residue management, stripcropping, and a sod-based rotation reduces the hazard of erosion, helps to control surface runoff, and maximizes infiltration of water. Installing drop-inlet structures in grassed waterways helps to prevent the formation of gullies. Crops respond well to systematic applications of lime and fertilizer.

This map unit is well suited to pasture and hay. Coastal bermudagrass, bahiagrass, and clovers are well adapted to the local conditions. The main management concern is a severe hazard of erosion. The seedbed should be prepared on the contour or across the slope where practical. Proper stocking rates, pasture rotation, and restricted grazing during prolonged wet or dry periods help to keep the pasture in good condition. Applications of lime and fertilizer improve fertility and increase the production of forage.

This map unit is well suited to slash pine, loblolly pine, and longleaf pine. It has few limitations affecting the production of timber. The potential productivity is high. Soil compaction, plant competition, and the hazard of erosion are minor management concerns. Harvesting during the drier periods helps to prevent compaction. Carefully managed reforestation helps to control competition from undesirable understory plants. Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control the initial plant competition and facilitate mechanical planting. Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings. Reseeding all disturbed areas with adapted grasses and legumes reduces the hazard of erosion and the siltation of streams.

This map unit is suited to most urban uses. It has moderate limitations affecting building sites and local roads and streets and has severe limitations affecting most kinds of sanitary facilities. The main management concerns are the slope, wetness, and the moderately slow permeability. A subsurface drainage system can help to lower the water table. Septic tank absorption fields do not function properly during rainy periods because of the wetness and the moderately slow permeability. Enlarging the size of the absorption field helps to overcome these limitations. Absorption lines should be installed on the contour. Preserving the existing plant cover during construction helps to control erosion. Vegetating disturbed areas and using erosion-control structures, such as sediment fences and catch basins, help to keep soil on the site.

This map unit is suited to most recreational uses. It has slight limitations affecting most uses. Slope is a severe limitation in areas used for playgrounds.

The capability subclass is IIIe. The woodland ordination symbol is 11A for slash pine. This map unit is in the Mixed Hardwood and Pine ecological community.

62—Bama fine sandy loam, 0 to 2 percent slopes

This very deep, well drained soil is on nearly level summits of broad ridges in the central and northern parts of the county. Slopes are long and smooth. Individual areas are irregular or oblong in shape. They range from 5 to more than 60 acres in size.

Typically, the surface layer is brown fine sandy loam about 6 inches thick. The subsoil extends to a depth of 80 inches. It is reddish yellow sandy clay loam in the upper part, yellowish red sandy clay loam in the middle part, and red sandy clay loam in the lower part.

Important properties of the Bama soil—

Depth to the seasonal high water table: More than 6 feet
Available water capacity: High
Permeability: Moderate
Flooding: None

Included in mapping are small areas of Emory, Malbis, Notcher, and Red Bay soils. The moderately well drained Emory soils are in shallow depressions and are subject to ponding for short periods following heavy rains. The moderately well drained Malbis and Notcher soils are in slightly lower, less convex positions than the Bama soil. They have a brownish subsoil that has masses of plinthite. The Red Bay soils are in positions similar to those of the Bama soil and have a dark red subsoil. Included soils make up about 10 percent of the map unit. Individual areas are generally less than 3 acres in size.

This map unit is well suited to cultivated crops. It has few limitations affecting this use. Low fertility, however, is a management concern. The surface layer is friable and is easy to keep in good tilth. It can be tilled over a wide range of moisture content without becoming cloddy. Conservation practices, such as growing cover crops, minimizing tillage, and returning all crop residue to the soil or regularly adding other organic matter, improve fertility and help to maintain tilth and the content of organic matter. Most crops respond well to systematic applications of lime and fertilizer.

This map unit is well suited to pasture and hay. It has no significant limitations affecting these uses. Low fertility, however, is a management concern. Bahiagrass and coastal bermudagrass are the commonly grown grasses. Proper stocking rates, pasture rotation, and restricted grazing during prolonged wet or dry periods help to keep the pasture in good condition. Applications of lime and fertilizer improve fertility and increase the production of forage.

This map unit is well suited to slash pine, loblolly pine, and longleaf pine. It has few limitations affecting the production of timber. The potential productivity is high. Soil compaction and plant competition are minor management concerns. Harvesting during the drier periods helps to prevent compaction. Carefully managed reforestation helps to control competition from undesirable understory plants. Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control the initial plant competition and facilitate mechanical planting.

This map unit is well suited to most urban uses. It has no significant management concerns for most uses. Mulching, applying fertilizer, and irrigating help to establish lawn grasses and other small-seeded plants.

This map unit is well suited to most recreational uses. It has no significant management concerns for most uses.

The capability class is I. The woodland ordination symbol is 11A for slash pine. This map unit is in the Mixed Hardwood and Pine ecological community.

63—Bama fine sandy loam, 2 to 5 percent slopes

This very deep, well drained soil is on gently sloping shoulder slopes and side slopes of broad ridges in the central and northern parts of the county. Slopes generally are long and smooth. Individual areas are irregular in shape. They range from 5 to about 50 acres in size.

Typically, the surface layer is brown fine sandy loam about 6 inches thick. The subsoil extends to a depth of 80 inches. It is reddish yellow sandy clay loam in the upper part, yellowish red sandy clay loam in the middle part, and red sandy clay loam in the lower part.

Important properties of the Bama soil—

Depth to the seasonal high water table: More than 6 feet
Available water capacity: High

Permeability: Moderate
Flooding: None

Included in mapping are a few small areas of Perdido, Lucy, and Red Bay soils. The Perdido soils are on the upper parts of slopes and have less clay in the upper part of the subsoil than the Bama soil. The Lucy soils are on the upper parts of slopes or on narrow ridges and have thick, sandy surface and subsurface layers. The Red Bay soils are in positions similar to those of the Bama soil and have dark red colors throughout the subsoil. Included soils make up about 15 percent of the unit. Individual areas generally are less than 5 acres in size.

This map unit is well suited to cultivated crops. The main management concern is a moderate hazard of erosion. Gullies form readily in areas that are subject to concentrated flow of water on the surface. Conservation tillage, terraces, contour farming, and cover crops reduce the runoff rate and help to control erosion. Minimizing tillage and returning all crop residue to the soil or regularly adding other organic matter help to improve and maintain tilth and the content of organic matter. Crops respond well to systematic applications of lime and fertilizer.

This map unit is well suited to pasture and hay. It has few limitations affecting these uses. Bahiagrass and coastal bermudagrass are the most commonly grown grasses. Proper stocking rates, pasture rotation, and restricted grazing during prolonged wet or dry periods help to keep the pasture in good condition. Applications of lime and fertilizer improve fertility and increase the production of forage.

This map unit is well suited to slash pine, loblolly pine, and longleaf pine. It has few limitations affecting the production of timber. The potential productivity is high. Soil compaction and plant competition are minor management concerns. Harvesting during the drier periods helps to prevent compaction. Carefully managed reforestation helps to control competition from undesirable understory plants. Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control the initial plant competition and facilitate mechanical planting.

This map unit is well suited to most urban uses. It has no significant limitations for most uses. Preserving the existing plant cover during construction helps to control erosion. Topsoil from disturbed areas should be stockpiled and then replaced before landscaping. Applying lime and fertilizer, mulching, and irrigating help to establish lawns and landscape plants.

This map unit is well suited to most recreational uses. It has slight limitations affecting most uses. Slope is a moderate limitation in areas used for playgrounds.

The capability subclass is IIe. The woodland ordination symbol is 11A for slash pine. This map unit is in the Mixed Hardwood and Pine ecological community.

64—Red Bay fine sandy loam, 0 to 2 percent slopes

This very deep, well drained soil is on nearly level summits of broad ridges in the central and northern parts of the county. Slopes are long and smooth. Individual areas are irregular or oblong in shape. They range from 20 to more than 220 acres in size.

Typically, the surface layer is brown fine sandy loam about 6 inches thick. The subsurface layer to a depth of 12 inches is yellowish red sandy loam. The subsoil extends to a depth of 80 inches. It is dark red sandy clay loam in the upper part and dark red sandy loam in the lower part.

Important properties of the Red Bay soil—

Depth to the seasonal high water table: More than 6 feet
Available water capacity: High
Permeability: Moderate
Flooding: None

Included in mapping are small areas of Bama, Emory, Grady, Lucy, and Perdido soils. The Bama and Perdido soils are in positions similar to those of the Red Bay soil and do not have dark red colors throughout the subsoil. The moderately well drained Emory and poorly drained Grady soils are in shallow depressions and are subject to ponding for brief to very long periods following prolonged rainfall. The Lucy soils are on small knolls and have thick, sandy surface and subsurface layers. Included soils make up about 10 percent of the map unit. Individual areas generally are less than 3 acres in size.

This map unit is well suited to cultivated crops (fig. 6). It has few limitations affecting this use. Low fertility, however, is a management concern. The surface layer is friable and is easy to keep in good tilth. It can be tilled over a wide range of moisture content without becoming cloddy. Conservation practices, such as growing cover crops, minimizing tillage, and returning all crop residue to the soil or regularly adding other organic matter, improve fertility and help to maintain tilth and the content of organic matter. Most crops respond well to systematic applications of lime and fertilizer.

This map unit is well suited to pasture and hay. It has no significant limitations affecting these uses. Low fertility, however, is a management concern.

Figure 6.—Soybeans in an area of Red Bay fine sandy loam, 0 to 2 percent slopes. This soil is well suited to cultivated crops, pasture, and hay. The woodland in the background is an area of Croatan muck, depressional.

Bahiagrass and coastal bermudagrass are the commonly grown grasses. Proper stocking rates, pasture rotation, and restricted grazing during prolonged wet or dry periods help to keep the pasture in good condition. Applications of lime and fertilizer improve fertility and increase the production of forage.

This map unit is well suited to slash pine, loblolly pine, and longleaf pine. It has few limitations affecting the production of timber. The potential productivity is high. Soil compaction and plant competition are minor management concerns. Harvesting during the drier periods helps to prevent compaction. Carefully managed reforestation helps to control competition from undesirable understory plants. Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control the initial plant competition and facilitate mechanical planting.

This map unit is well suited to most urban uses. It

has no significant management concerns for most uses. Mulching, applying fertilizer, and irrigating help to establish lawn grasses and other small-seeded plants.

This map unit is well suited to most recreational uses. It has no significant management concerns for most uses.

The capability class is I. The woodland ordination symbol is 11A for slash pine. This map unit is in the Mixed Hardwood and Pine ecological community.

65—Red Bay fine sandy loam, 2 to 5 percent slopes

This very deep, well drained soil is on gently sloping shoulder slopes and side slopes of broad ridges in the central and northern parts of the county. Slopes generally are long and smooth. Individual areas are irregular in shape. They range from 15 to about 120 acres in size.

Typically, the surface layer is brown fine sandy loam about 6 inches thick. The subsurface layer to a depth of 12 inches is yellowish red sandy loam. The subsoil extends to a depth of 80 inches. It is dark red sandy clay loam in the upper part and dark red sandy loam in the lower part.

Important properties of the Red Bay soil—

Depth to the seasonal high water table: More than 6 feet
Available water capacity: High
Permeability: Moderate
Flooding: None

Included in mapping are a few small areas of Bama, Perdido, and Lucy soils. The Bama and Perdido soils are on the upper parts of slopes and do not have dark red colors throughout the subsoil. The Lucy soils are on the upper parts of slopes or on narrow ridges and have thick, sandy surface and subsurface layers. Included soils make up about 15 percent of the unit. Individual areas generally are less than 5 acres in size.

This map unit is well suited to cultivated crops. The main management concern is a moderate hazard of erosion. Gullies form readily in areas that are subject to concentrated flow of water on the surface. Conservation tillage, terraces, contour farming, and cover crops reduce the runoff rate and help to control erosion. Minimizing tillage and returning all crop residue to the soil or regularly adding other organic matter help to improve and maintain tilth and the content of organic matter. Crops respond well to systematic applications of lime and fertilizer.

This map unit is well suited to pasture and hay (fig. 7). It has few limitations affecting these uses. Bahiagrass and coastal bermudagrass are the most commonly grown grasses. Proper stocking rates, pasture rotation, and restricted grazing during prolonged wet or dry periods help to keep the pasture in good condition. Applications of lime and fertilizer improve fertility and increase the production of forage.

This map unit is well suited to slash pine, loblolly pine, and longleaf pine. It has few limitations affecting the production of timber. The potential productivity is high. Soil compaction and plant competition are minor management concerns. Harvesting during the drier periods helps to prevent compaction. Carefully managed reforestation helps to control competition from undesirable understory plants. Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control the initial plant competition and facilitate mechanical planting.

This map unit is well suited to most urban uses. It has no significant limitations for most uses. Preserving the existing plant cover during construction helps to control erosion. Topsoil from disturbed areas should be stockpiled and then replaced before landscaping. Applying lime and fertilizer, mulching, and irrigating help to establish lawns and landscape plants.

This map unit is well suited to most recreational uses. It has slight limitations affecting most uses. Slope is a moderate limitation in areas used for playgrounds.

The capability subclass is IIe. The woodland ordination symbol is 11A for slash pine. This map unit is in the Mixed Hardwood and Pine ecological community.

66—Red Bay fine sandy loam, 5 to 8 percent slopes

This very deep, well drained soil is on moderately sloping side slopes of broad ridges in the central and northern parts of the county. Slopes generally are long and smooth, but some are short and complex. Individual areas are irregular in shape. They range from 15 to about 120 acres in size.

Typically, the surface layer is brown fine sandy loam about 6 inches thick. The subsurface layer to a depth of 12 inches is yellowish red sandy loam. The subsoil extends to a depth of 80 inches. It is dark red sandy clay loam in the upper part and dark red sandy loam in the lower part.

Figure 7.—An area of Red Bay fine sandy loam, 2 to 5 percent slopes, that supports a well-maintained pasture of coastal bermudagrass.

Important properties of the Red Bay soil—

Depth to the seasonal high water table: More than 6 feet
Available water capacity: High
Permeability: Moderate
Flooding: None

Included in mapping are a few small areas of Bama, Iuka, Perdido, and Lucy soils. The Bama and Perdido soils are on the upper parts of slopes and do not have dark red colors throughout the subsoil. The moderately well drained Iuka soils are in narrow drainageways that are subject to flooding. The Lucy soils are on the upper parts of slopes or on narrow ridges and have thick, sandy surface and subsurface layers. Included soils make up about 15 percent of the unit. Individual areas generally are less than 5 acres in size.

This map unit is suited to cultivated crops. The main management concern is a severe hazard of erosion. Gullies form readily in areas that are subject to concentrated flow of water on the surface. Using a resource management system that includes terraces and diversions, conservation tillage, stripcropping, contour farming, crop residue management, and soil conserving crops in rotation reduces the hazard of erosion, helps to control surface runoff, and maximizes infiltration of water. Crops respond well to systematic applications of lime and fertilizer.

This map unit is well suited to pasture and hay. The main management concern is a severe hazard of erosion. Bahiagrass and coastal bermudagrass are the most commonly grown grasses. Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the germination rate. Proper stocking rates, pasture rotation, and restricted grazing during prolonged wet or dry periods help to keep the pasture in good condition. Applications of lime and fertilizer improve fertility and increase the production of forage.

This map unit is well suited to slash pine, loblolly pine, and longleaf pine. It has few limitations affecting

the production of timber. The potential productivity is high. Soil compaction, plant competition, and the hazard of erosion are minor management concerns. Harvesting during the drier periods helps to prevent compaction. Carefully managed reforestation helps to control competition from undesirable understory plants. Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control the initial plant competition and facilitate mechanical planting. Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings. Reseeding all disturbed areas with adapted grasses and legumes reduces the hazard of erosion and the siltation of streams.

This map unit is suited to most urban uses. It has slight limitations affecting most uses. Preserving the existing plant cover during construction helps to control erosion. Vegetating disturbed areas and using erosion-control structures, such as sediment fences and catch basins, help to keep soil on the site.

This map unit is suited to most recreational uses. It has slight limitations affecting most uses. The slope is a severe limitation in areas used for playgrounds.

The capability subclass is IIIe. The woodland ordination symbol is 11A for slash pine. This map unit is in the Mixed Hardwood and Pine ecological community.

67—Notcher-Maubila complex, 2 to 5 percent slopes

This map unit consists of the loamy, moderately well drained Notcher soil and the clayey, moderately well drained Maubila soil. It is on gently sloping summits and side slopes of ridges in the central and northern parts of the county. The soils occur as areas so intricately intermingled that they could not be mapped separately at the scale selected for mapping. The Notcher soil makes up about 50 percent of the map unit, and the Maubila soil makes up about 35 percent. Slopes generally are long and smooth. Individual areas are irregular in shape. They range from 5 to about 50 acres in size.

The Notcher soil generally is on knolls and shoulder slopes. Typically, the surface layer is dark grayish brown fine sandy loam about 5 inches thick. The subsurface layer to a depth of 12 inches is yellowish brown fine sandy loam. The subsoil extends to a depth of 80 inches. It is brownish yellow sandy clay loam in the upper part and brownish yellow gravelly sandy clay loam that has mottles in shades of red, brown, and gray in the lower part. The lower part of the subsoil has nodules of ironstone and masses of plinthite.

Important properties of the Notcher soil—

Seasonal high water table: Perched, at a depth of 3 to 4 feet from December through April
Available water capacity: High
Permeability: Moderately slow
Flooding: None

The Maubila soil is generally on the middle and lower parts of slopes. Typically, the surface layer is very dark grayish brown gravelly fine sandy loam about 4 inches thick. The subsurface layer to a depth of 9 inches is yellowish brown fine sandy loam. The subsoil extends to a depth of 80 inches. It is reddish yellow and strong brown clay loam in the upper part and mottled reddish, brownish, yellowish, and grayish sandy clay loam in the lower part.

Important properties of the Maubila soil—

Seasonal high water table: Perched, at a depth of 2 to $3\frac{1}{2}$ feet from December through April
Available water capacity: High
Permeability: Slow
Flooding: None

Included in mapping are a few small areas of Albany, Bonifay, Cowarts, Perdido, and Poarch soils. The somewhat poorly drained Albany soils are in slightly depressional positions around heads of drainages. The Bonifay soils are on the lower parts of slopes and have thick, sandy surface and subsurface layers. The Cowarts soils are in positions similar to those of the Maubila soil, are loamy in the upper part of the subsoil, and do not have a significant accumulation of plinthite in the subsoil. The Perdido and Poarch soils are in positions similar to those of the Notcher soil and have less clay in the subsoil. Also included are soils that have slopes of less than 2 percent or more than 5 percent. Included soils make up about 15 percent of the map unit. Individual areas generally are less than 5 acres in size.

This map unit is suited to cultivated crops. The main management concern is a moderate hazard of erosion. Conservation tillage, terraces, contour farming, and cover crops reduce the runoff rate and help to control erosion. Minimizing tillage and returning all crop residue to the soil or regularly adding other organic matter help to improve and maintain tilth and the content of organic matter. Crops respond well to systematic applications of lime and fertilizer.

This map unit is well suited to pasture and hay. It has few limitations affecting these uses. Bahiagrass and coastal bermudagrass are the most commonly

grown grasses. Proper stocking rates, pasture rotation, and restricted grazing during prolonged wet or dry periods help to keep the pasture in good condition. Applications of lime and fertilizer improve fertility and increase the production of forage.

This map unit is well suited to slash pine, loblolly pine, and longleaf pine. It has few limitations affecting the production of timber. The potential productivity is high in areas of the Notcher soil and moderate in areas of the Maubila soil. Soil compaction and plant competition are minor management concerns. Harvesting during the drier periods helps to prevent compaction. Carefully managed reforestation helps to control competition from undesirable understory plants. Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control the initial plant competition and facilitate mechanical planting.

This map unit is suited to most urban uses. It has moderate and severe limitations affecting building sites and local roads and streets and has severe limitations affecting most kinds of sanitary facilities. The main management concerns are wetness, low strength, and restricted permeability. A subsurface drainage system can help to lower the water table. Septic tank absorption fields do not function properly during rainy periods because of the wetness and the restricted permeability. Enlarging the size of the absorption field helps to overcome these limitations. Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves the performance of a septic system.

This map unit is suited to most recreational uses. It has slight or moderate limitations affecting most uses. The slope, restricted permeability, and the content of small nodules of ironstone are moderate limitations in areas used for playgrounds.

The capability subclass is IIe in areas of the Notcher soil and IIIe in areas of the Maubila soil. The woodland ordination symbol for slash pine is 11A in areas of the Notcher soil and 10C in areas of the Maubila soil. This map unit is in the Mixed Hardwood and Pine ecological community.

68—Notcher-Maubila complex, 5 to 8 percent slopes

This map unit consists of the loamy, moderately well drained Notcher soil and the clayey, moderately well drained Maubila soil. It is on moderately sloping side slopes of ridges in the central and northern parts of the county. The soils occur as areas so intricately intermingled that they could not be mapped separately at the scale selected for mapping. The Notcher soil makes up about 50 percent of the map unit, and the Maubila soil makes up about 35 percent. Slopes generally are short and complex. Individual areas are irregular in shape. They range from 5 to about 35 acres in size.

The Notcher soil is generally on shoulder slopes and the upper parts of side slopes. Typically, the surface layer is dark grayish brown fine sandy loam about 5 inches thick. The subsurface layer to a depth of 12 inches is yellowish brown fine sandy loam. The subsoil extends to a depth of 80 inches. It is brownish yellow sandy clay loam in the upper part and brownish yellow gravelly sandy clay loam that has mottles in shades of red, brown, and gray in the lower part. The lower part of the subsoil has nodules of ironstone and masses of plinthite.

Important properties of the Notcher soil—

Seasonal high water table: Perched, at a depth of 3 to 4 feet from December through April
Available water capacity: High
Permeability: Moderately slow
Flooding: None

The Maubila soil is generally on the middle and lower parts of side slopes. Typically, the surface layer is very dark grayish brown gravelly fine sandy loam about 4 inches thick. The subsurface layer to a depth of 9 inches is yellowish brown fine sandy loam. The subsoil extends to a depth of 80 inches. It is reddish yellow and strong brown clay loam in the upper part and mottled reddish, brownish, yellowish, and grayish sandy clay loam in the lower part.

Important properties of the Maubila soil—

Seasonal high water table: Perched, at a depth of 2 to $3^1/_2$ feet from December through April
Available water capacity: High
Permeability: Slow
Flooding: None

Included in mapping are a few small areas of Albany, Bonifay, Cowarts, and Perdido soils. The somewhat poorly drained Albany soils are in slightly depressional positions around heads of drainages. The Bonifay soils are on the lower parts of slopes and have thick, sandy surface and subsurface layers. The Cowarts soils are in positions similar to those of the Maubila soil, are loamy in the upper part of the subsoil, and do not have a significant accumulation of plinthite in the subsoil. The Perdido soils are in positions similar to those of the Notcher soil and have less clay in the subsoil. Also included are soils that have slopes of less than 5 percent or more than 8

percent. Included soils make up about 15 percent of the map unit. Individual areas generally are less than 5 acres in size.

This map unit is poorly suited to cultivated crops. The main management concerns are a severe hazard of erosion and the short, complex slopes. Using a resource management system that includes contour farming, conservation tillage, crop residue management, stripcropping, and a sod-based rotation reduces the hazard of erosion, helps to control surface runoff, and maximizes infiltration of water. Installing drop-inlet structures in grassed waterways helps to prevent the formation of gullies. Crops respond well to systematic applications of lime and fertilizer.

This map unit is well suited to pasture and hay. Coastal bermudagrass, bahiagrass, and clovers are well adapted to the local conditions. The main management concern is a severe hazard of erosion. The seedbed should be prepared on the contour or across the slope where practical. Proper stocking rates, pasture rotation, and restricted grazing during prolonged wet or dry periods help to keep the pasture in good condition. Applications of lime and fertilizer improve fertility and increase the production of forage.

This map unit is well suited to slash pine, loblolly pine, and longleaf pine. It has few limitations affecting the production of timber. The potential productivity is high in areas of the Notcher soil and moderate in areas of the Maubila soil. Soil compaction, plant competition, and the hazard of erosion are minor management concerns. Harvesting during the drier periods helps to prevent compaction. Carefully managed reforestation helps to control competition from undesirable understory plants. Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control the initial plant competition and facilitate mechanical planting. Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings. Reseeding all disturbed areas with adapted grasses and legumes reduces the hazard of erosion and the siltation of streams.

This map unit is suited to most urban uses. It has moderate and severe limitations affecting building sites and local roads and streets and has severe limitations affecting most kinds of sanitary facilities. The main management concerns are the slope, low strength, wetness, and restricted permeability. A subsurface drainage system can help to lower the water table. Septic tank absorption fields do not function properly during rainy periods because of the wetness and the restricted permeability. Enlarging the size of the absorption field helps to overcome these limitations. Absorption lines should be installed on the contour. Preserving the existing plant cover during construction helps to control erosion. Vegetating disturbed areas and using erosion-control structures, such as sediment fences and catch basins, help to keep soil on the site.

This map unit is suited to most recreational uses. It has slight to severe limitations affecting most uses. Slope is a severe limitation in areas used for playgrounds. Additional limitations include restricted permeability and the small fragments of ironstone in the surface and subsurface layers.

The capability subclass is IIIe in areas of the Notcher soil and IVe in areas of the Maubila soil. The woodland ordination symbol for slash pine is 11A in areas of the Notcher soil and 10C in areas of the Maubila soil. This map unit is in the Mixed Hardwood and Pine ecological community.

69—Notcher-Maubila complex, 8 to 12 percent slopes

This map unit consists of the loamy, moderately well drained Notcher soil and the clayey, moderately well drained Maubila soil. It is on strongly sloping hillslopes in the central and northern parts of the county. The soils occur as areas so intricately intermingled that they could not be mapped separately at the scale selected for mapping. The Notcher soil makes up about 45 percent of the map unit, and the Maubila soil makes up about 35 percent. Slopes generally are short and complex. Individual areas are irregular in shape. They range from 10 to about 50 acres in size.

The Notcher soil generally is on shoulder slopes and the upper parts of side slopes. Typically, the surface layer is dark grayish brown fine sandy loam about 5 inches thick. The subsurface layer to a depth of 12 inches is yellowish brown fine sandy loam. The subsoil extends to a depth of 80 inches. It is brownish yellow sandy clay loam in the upper part and brownish yellow gravelly sandy clay loam that has mottles in shades of red, brown, and gray in the lower part. The lower part of the subsoil has nodules of ironstone and masses of plinthite.

Important properties of the Notcher soil—

Seasonal high water table: Perched, at a depth of 3 to 4 feet from December through April
Available water capacity: High
Permeability: Moderately slow
Flooding: None

The Maubila soil generally is on the middle and lower parts of side slopes. Typically, the surface layer

is very dark grayish brown gravelly fine sandy loam about 4 inches thick. The subsurface layer to a depth of 9 inches is yellowish brown fine sandy loam. The subsoil extends to a depth of 80 inches. It is reddish yellow and strong brown clay loam in the upper part and mottled reddish, brownish, yellowish, and grayish sandy clay loam in the lower part.

Important properties of the Maubila soil—

Seasonal high water table: Perched, at a depth of 2 to 3 1/2 feet from December through April
Available water capacity: High
Permeability: Slow
Flooding: None

Included in mapping are a few small areas of Bonifay, Cowarts, Iuka, and Perdido soils. The Bonifay soils are on toeslopes and have thick, sandy surface and subsurface layers. The Cowarts and Perdido soils are in positions similar to those of the Notcher soil and have a lower content of clay in the upper part of the subsoil than the Notcher and Maubila soils. Iuka soils are in narrow drainageways and are subject to flooding. Also included are small areas of poorly drained soils in narrow drainageways and soils that have slopes of less than 8 percent or more than 12 percent. Included soils make up about 20 percent of the map unit. Individual areas generally are less than 5 acres in size.

This map unit is not suited to cultivated crops. The complex topography and the slope are limitations affecting the use of equipment. Erosion is a severe hazard. If the soils are cultivated, all tillage should be on the contour or across the slope.

This map unit is suited to pasture and hay. Coastal bermudagrass and bahiagrass are well adapted to the local conditions. The main management concerns are the slope and a severe hazard of erosion. In the steeper areas, the slope can limit equipment use if hay is harvested. Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the germination rate. Proper stocking rates, pasture rotation, and restricted grazing during prolonged dry periods help to keep the pasture in good condition. Applications of lime and fertilizer improve fertility and increase the production of forage.

This map unit is suited to slash pine, loblolly pine, and longleaf pine. The potential productivity is high in areas of the Notcher soil and moderate in areas of the Maubila soil. Moderate limitations affect the production of timber. The main management concerns are an equipment limitation, plant competition, and the hazard of erosion. Constructing roads, fire lanes, and skid trails on the contour helps to overcome the slope. Carefully managed reforestation helps to control competition from undesirable understory plants. Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control the initial plant competition and facilitate mechanical planting. Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings. Reseeding all disturbed areas with adapted grasses and legumes reduces the hazard of erosion and the siltation of streams.

This map unit is poorly suited to most urban uses. It has moderate and severe limitations affecting building sites and local roads and streets and has severe limitations affecting most kinds of sanitary facilities. The main management concerns are the slope, wetness, low strength, and restricted permeability. Erosion is a severe hazard. If areas of this map unit are used as building sites, only the part of the site that is used for construction should be disturbed. Access roads can be designed so that surface runoff is controlled and cut slopes are stabilized. Installing a subsurface drainage system helps to intercept water from seeps and springs. Septic tank absorption fields may not function properly during rainy periods because of the seasonal high water table and the restricted permeability. Effluent from absorption areas may surface in downslope areas and create a health hazard. Increasing the size of septic tank absorption fields and installing the distribution lines on the contour improve the performance of the fields. Vegetating cleared and graded areas as soon as possible or constructing silt fences helps to maintain soil stability and helps to keep soil on the site.

This map unit is poorly suited to most recreational uses. It has moderate or severe limitations affecting most uses. The main management concerns are the slope, restricted permeability, and fragments of ironstone in the surface and subsurface layers.

The capability subclass is IVe in areas of the Notcher soil and VIe in areas of the Maubila soil. The woodland ordination symbol for slash pine is 11A in areas of the Notcher soil and 10C in areas of the Maubila soil. This map unit is in the Mixed Hardwood and Pine ecological community.

70—Izagora fine sandy loam, 0 to 2 percent slopes, occasionally flooded

This very deep, moderately well drained soil is on low terraces that parallel large streams in the central and northern parts of the county. Slopes generally are

long and smooth. Individual areas are generally oblong. They range from 15 to about 400 acres in size.

Typically, the surface layer is dark grayish brown and grayish brown fine sandy loam about 8 inches thick. The subsurface layer to a depth of 10 inches is light yellowish brown fine sandy loam. The subsoil extends to a depth of 80 inches. It is brownish yellow loam in the upper part and mottled grayish, brownish, and reddish clay loam in the lower part.

Important properties of the Izagora soil—

Seasonal high water table: Perched, at a depth of 2 to 3 feet from December through April
Available water capacity: High
Permeability: Slow
Flooding: Occasional, for brief periods

Included in mapping are a few small areas of Fluvaquents and Eunola, Garcon, Yemassee, and Weston soils. The very poorly drained Fluvaquents are in swales and narrow drainageways. The Eunola soils are in positions similar to those of the Izagora soil and have a sandy substratum. The somewhat poorly drained Garcon and Yemassee soils are in slightly lower, less convex positions that those of the Izagora soil. The poorly drained Weston soils are in the slightly lower, flat, or concave positions. Included soils make up about 15 percent of the map unit. Individual areas generally are less than 5 acres in size.

This map unit is suited to cultivated crops. The main management concerns are wetness and the occasional flooding. The planting of early-season crops may be delayed in some years because of the flooding. The surface layer is friable and easy to keep in good tilth. It can be worked over a wide range of moisture content. Shallow ditches can help to remove excess surface water. Minimizing tillage and returning all crop residue to the soil or regularly adding other organic matter improve fertility and help to maintain tilth and the content of organic matter. Most crops respond well to applications of lime and fertilizer.

This map unit is well suited to pasture and hay. Wetness and the occasional flooding are the main management concerns. Coastal bermudagrass and bahiagrass are well adapted to the local conditions. Excess surface water can be removed by shallow ditches. Deferring or restricting grazing during very wet periods helps to keep the pasture in good condition. Applications of lime and fertilizer improve fertility and promote the growth of forage plants.

This map unit is well suited to loblolly pine, slash pine, and hardwoods. The potential productivity is high. Moderate limitations affect timber management. The main management concerns are an equipment limitation and plant competition. Using standard wheeled and tracked equipment when the soil is wet results in rutting and compaction. Using low-pressure ground equipment minimizes the damage to the soil and helps to maintain productivity. Harvesting activities should be planned for seasons when the soil is dry. Plant competition reduces timber yields and can prevent adequate reforestation. The competing vegetation can be controlled by site preparation or prescribed burning.

This map unit is poorly suited to most urban uses. The main management concerns are the flooding and wetness. Buildings can be elevated above the expected level of flooding by constructing them on pilings or mounds. Septic tank absorption fields may not function properly during the rainy season because of the slow permeability and the seasonal high water table. Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves the performance of a septic system.

This map unit is poorly suited to recreational uses. It has moderate or severe limitations affecting most uses. The main management concerns are wetness and the flooding.

The capability subclass is IIw. The woodland ordination symbol is 11W for slash pine. This map unit is in the Mixed Hardwood and Pine ecological community.

71—Iuka fine sandy loam, frequently flooded

This very deep, moderately well drained soil is on narrow flood plains in the northern and central parts of the county. Slopes are long and smooth and range from 0 to 2 percent. Individual areas are long and narrow. They range from 5 to about 30 acres in size.

Typically, the surface layer is very dark grayish brown fine sandy loam about 9 inches thick. The substratum extends to a depth of 80 inches. It is dark yellowish brown sandy loam in the upper part; yellowish brown sandy loam that has mottles in shades of red, brown and gray in the middle part; and mottled grayish, brownish, and reddish sandy loam in the lower part.

Important properties of the Iuka soil—

Seasonal high water table: Apparent, at a depth of 1 to 3 feet from December through April
Available water capacity: Moderate
Permeability: Moderate
Flooding: Frequent, for brief periods

Included in mapping are a few small areas of Fluvaquents and Bigbee, Eunola, and Mantachie soils. The very poorly drained Fluvaquents are in swales and sloughs. The Bigbee soils are on high parts of natural levees and are sandy throughout. The Eunola soils are on small knolls and have a higher content of clay in the upper part of the subsoil than the Iuka soil. The somewhat poorly drained Mantachie soils are in slightly lower, less convex positions on the flood plain than the Iuka soil. Included soils make up about 15 percent of the map unit. Individual areas are generally less than 5 acres in size.

This map unit is poorly suited to cultivated crops. The frequent flooding is the main management concern. If cultivated crops are grown, a surface drainage system and protection from flooding are needed.

This map unit is suited to pasture and hay. Grasses that are toleratant of the wet conditions should be selected. Bermudagrass and bahiagrass are suitable. The frequent flooding is a management concern, especially on newly seeded pasture.

This map unit is suited to slash pine, loblolly pine, and hardwoods. The potential productivity is high, but moderate and severe limitations affect timber management. The main management concerns are an equipment limitation, seedling mortality, and plant competition. The seasonal high water table and the flooding restrict the use of equipment to periods when the soil is dry. Using standard wheeled and tracked equipment when the soil is wet results in rutting and compaction. Using low-pressure ground equipment minimizes the damage to the soil and helps to maintain productivity. The high seedling mortality rate is caused by the flooding. It can be reduced by planting on beds or compensated for by increasing the number of trees planted. Plant competition reduces timber yields and can prevent adequate reforestation unless sites receive intensive preparation and maintenance. Site preparation can control the initial plant competition, and herbicides can control subsequent growth.

This map unit is not suited to most urban uses. The flooding and wetness are severe limitations affecting most uses. Buildings can be elevated above the expected level of flooding by constructing them on pilings or on well-compacted fill.

This map unit is poorly suited to recreational uses. The flooding and wetness are limitations affecting most uses.

The capability subclass is Vw. The woodland ordination symbol is 13W for slash pine. This map unit is in the Bottomland Hardwoods ecological community.

72—Yemassee fine sandy loam, 0 to 2 percent slopes, occasionally flooded

This very deep, somewhat poorly drained soil is on low terraces that parallel major streams in the central and northern parts of the county. Slopes generally are long and smooth. Individual areas generally are oblong. They range from 5 to about 25 acres in size.

Typically, the surface layer is very dark grayish brown fine sandy loam about 5 inches thick. The subsurface layer to a depth of 12 inches is grayish brown fine sandy loam. The subsoil extends to a depth of 74 inches. It is olive yellow sandy clay loam that has brownish and grayish mottles in the upper part, olive yellow fine sandy loam and sandy clay loam having brownish and grayish mottles in the middle part, and light gray fine sandy loam that has brownish and reddish mottles in the lower part. The substratum to a depth of 80 inches is light gray sand.

Important properties of the Yemassee soil—

Seasonal high water table: Apparent, at a depth of 1 to 1 1/2 feet from December through April
Available water capacity: High
Permeability: Moderate
Flooding: Occasional, for brief periods

Included in mapping are a few small areas of Fluvaquents and Eunola, Garcon, Izagora, and Weston soils. The very poorly drained Fluvaquents are in swales and narrow drainageways. The moderately well drained Eunola and Izagora soils are in slightly higher, more convex positions than those of the Yemassee soil. The Garcon soils are in positions similar to those of the Yemassee soil and have thick, sandy surface and subsurface layers. The poorly drained Weston soils are in the slightly lower, flat or concave positions. Included soils make up about 15 percent of the map unit. Individual areas generally are less than 5 acres in size.

This map unit is suited to cultivated crops. The main management concerns are wetness and the occasional flooding. The planting of early-season crops may be delayed in some years because of the flooding. The surface layer is friable and easy to keep in good tilth. It can be worked over a wide range of moisture content. Shallow ditches can help to remove excess surface water. Minimizing tillage and returning all crop residue to the soil or regularly adding other organic matter improve fertility and help to maintain tilth and the content of organic matter. Most crops respond well to applications of lime and fertilizer.

This map unit is suited to pasture and hay. The

main management concerns are wetness and the occasional flooding. Coastal bermudagrass, bahiagrass, and white clover are adapted to the local conditions. Excess surface water can be removed by shallow ditches. Deferring or restricting grazing during very wet periods helps to keep the pasture in good condition. Applications of lime and fertilizer improve fertility and promote the growth of forage plants.

This map unit is well suited to loblolly pine, slash pine, and hardwoods. The potential productivity is high, but moderate and severe limitations affect timber management. The main management concerns are an equipment limitation and plant competition. Using standard wheeled and tracked equipment when the soil is wet results in rutting and compaction. Using low-pressure ground equipment minimizes the damage to the soil and helps to maintain productivity. Harvesting activities should be planned for seasons when the soil is dry. Plant competition reduces timber yields and can prevent adequate reforestation. The competing vegetation can be controlled by site preparation or prescribed burning.

This map unit is poorly suited to most urban uses. The main management concerns are the flooding and wetness. Buildings can be elevated above the expected level of flooding by constructing them on pilings or mounds. Septic tank absorption fields may not function properly during the rainy season because of the moderate permeability and the seasonal high water table. Using suitable fill material to raise the filter field a sufficient distance above the seasonal high water table improves the performance of a septic system.

This map unit is poorly suited to recreational uses. It has moderate or severe limitations affecting most uses. The main management concerns are wetness and the flooding.

The capability subclass is IIw. The woodland ordination symbol is 11W for slash pine. This map unit is in the Mixed Hardwood and Pine ecological community.

73—Grady loam, drained

This very deep, poorly drained soil is in shallow, rounded depressions on summits of broad ridges in the central and northern parts of the county. Areas of this unit have been cleared and drained for agricultural use. Slopes are long and smooth and range from 0 to 2 percent. Individual areas are generally circular or oblong. They range from 2 to about 20 acres in size.

Typically, the surface layer is very dark grayish brown loam about 5 inches thick. The subsurface layer to a depth of 11 inches is dark grayish brown clay loam that has reddish brown mottles. The subsoil extends to a depth of 80 inches. It is dark gray clay that has brownish mottles in the upper part, grayish brown clay that has brownish mottles in the middle part, and light brownish gray and light gray clay that has brownish and reddish mottles in the lower part.

Important properties of the Grady soil—

Seasonal high water table: Apparent, at a depth of 1 to 2 feet from December through April
Available water capacity: High
Permeability: Slow
Flooding: None

Included in mapping are a few small areas of somewhat poorly drained Escambia soils in the slightly higher positions near the upper edge of depressions. Also included are small areas of poorly drained and very poorly drained, loamy soils in positions similar to those of the Grady soil and areas of Grady soils that are subject to ponding. Included soils make up about 10 percent of the map unit. Individual areas are generally less than 3 acres in size.

This map unit is suited to cultivated crops in areas that have a functional, well maintained drainage system. In most years, planting and tilling are delayed because of wetness. Restricting tillage to periods when the soil is dry minimizes clodding and crusting. Applying lime and fertilizer on the basis of soil testing increases the availability of plant nutrients and maximizes productivity.

This map unit is suited to pasture and hay in areas that have a functional, well maintained drainage system. Growing plants that are adapted to wet conditions helps to ensure the production of high quality forage. Proper stocking rates, pasture rotation, timely deferment of grazing, and restricted use during wet periods minimize compaction, maintain productivity, and help to keep the pasture in good condition.

This map unit is suited to slash pine and loblolly pine. It has moderate and severe limitations affecting timber management. The potential productivity is high in areas that have a functional, well maintained drainage system. The main management concerns are an equipment limitation, seedling mortality, and plant competition. Harvesting activities should be planned for seasons when the soil is dry. Using standard wheeled and tracked equipment when the soil is wet results in rutting and compaction. Using low-pressure ground equipment minimizes the damage to the soil and helps to maintain productivity. Planting seedlings on raised beds helps to establish the seedlings and increases the seedling survival rate. Plant competition reduces timber yields and can

prevent adequate reforestation. The competing vegetation can be controlled by site preparation, herbicides, or prescribed burning. Applications of fertilizer can increase yields.

This map unit is suited to most urban uses in areas that have a functional, well maintained drainage system. Wetness and restricted permeability are limitations affecting building sites, local roads and streets, and most kinds of sanitary facilities. Because of the seasonal high water table during winter and spring, a drainage system is needed for buildings. A deep drainage system can help to lower the water table. Constructing roads on raised, well-compacted fill material helps to overcome the wetness. Septic tank absorption fields do not function properly during rainy periods because of the wetness and slow permeability. Constructing the absorption field on a raised bed helps to compensate for these limitations.

This map unit is poorly suited to recreational uses. Wetness and restricted permeability are the main management concerns.

The capability subclass is IVw. The woodland ordination symbol is 11W for slash pine. This map unit is in the Cypress Swamp ecological community.

74—Lucy loamy sand, 5 to 8 percent slopes

This very deep, well drained soil is on moderately sloping shoulder slopes and side slopes of ridges in the central and northern parts of the county. Slopes generally are long and smooth, but some are short and complex. Individual areas are irregular in shape. They range from 15 to about 80 acres in size.

Typically, the surface layer is brown loamy sand about 6 inches thick. The subsurface layer to a depth of 26 inches is brown loamy sand. The subsoil extends to a depth of 80 inches. It is red sandy loam in the upper part, red sandy clay loam in the middle part, and red sandy loam in the lower part.

Important properties of the Lucy soil—

Depth to the seasonal high water table: More than 6 feet
Available water capacity: Low
Permeability: Rapid in the surface and subsurface layers and moderate in the subsoil
Flooding: None

Included in mapping are a few small areas of Perdido, Red Bay, and Troup soils. The Perdido and Red Bay soils are on narrow ridges or high knolls and do not have thick, sandy surface and subsurface layers. The Troup soils are in positions similar to those of the Lucy soil and do not have a loamy subsoil within a depth of 40 inches. Also included are small areas of Lucy soils that have slopes of less than 5 percent or more than 8 percent. Included soils make up about 15 percent of the map unit. Individual areas generally are less than 5 acres in size.

This map unit is suited to cultivated crops. The main management concerns are the low available water capacity, the hazard of erosion, and soil blowing. Gullies form readily in areas that are subject to concentrated flow of water on the surface. Returning crop residue to the soil helps to maintain tilth and increases the available water capacity. Minimum tillage, contour farming, and cover crops reduce the runoff rate and help to control erosion. Leaving the maximum amount of crop residue on the surface helps to control soil blowing and conserves soil moisture. In most years, irrigation can prevent damage to crops and can increase productivity. Leaching of plant nutrients is also a management concern. Most crops respond well to applications of lime and to frequent, light applications of fertilizer.

This map unit is suited to pasture and hay. Coastal bermudagrass and bahiagrass are well adapted to the local conditions. The main management concerns are the low available water capacity and the hazard of erosion. Preparing seedbeds on the contour or across the slope reduces the hazard of erosion and increases the germination rate. Proper stocking rates, pasture rotation, and restricted grazing during prolonged dry periods help to keep the pasture in good condition. Leaching of plant nutrients is also a management concern. Frequent, light applications of nitrogen are necessary to maintain the productivity of grasses.

This map unit is suited to slash pine, loblolly pine, and longleaf pine. The potential productivity is moderately high. Moderate limitations affect timber management. The main management concerns are an equipment limitation, seedling mortality, and plant competition. The sandy texture of the surface layer restricts the use of wheeled equipment, especially when the soil is very dry. Harvesting activities should be planned for seasons when the soil is moist. The moderate seedling mortality rate is caused by droughtiness. It can be compensated for by increasing the number of trees planted. Plant competition reduces timber yields and can prevent adequate reforestation. The competing vegetation can be controlled by mechanical methods, herbicides, or prescribed burning. Installing broad-based dips, water bars, and culverts helps to stabilize logging roads, skid trails, and landings. Reseeding all disturbed areas with adapted grasses

and legumes reduces the hazard of erosion and the siltation of streams.

This map unit is suited to most urban uses. It has slight limitations affecting building sites and local roads and streets and has slight to severe limitations affecting most kinds of sanitary facilities. The main management concerns are the sandy texture, seepage, and droughtiness. If this unit is used as a site for a septic tank absorption field, effluent can surface in downslope areas and create a health hazard. Increasing the length of the absorption lines and installing the lines on the contour help to reduce this hazard. Vegetating cleared and graded areas as soon as possible or constructing silt fences helps to maintain soil stability and helps to keep soil on the site. Applying lime and fertilizer, mulching, and irrigating help to establish lawns and landscape plants.

This map unit is suited to most recreational uses. It has slight limitations affecting most uses. Slope is a moderate or severe limitation in areas used for playgrounds.

The capability subclass is IIIs. The woodland ordination symbol is 11S for slash pine. This map unit is in the Mixed Hardwood and Pine ecological community.

75—Weston fine sandy loam, 0 to 2 percent slopes

This very deep, poorly drained soil is in flat or slightly depressional positions on stream terraces and uplands in the northern and central parts of the county. Slopes are long and smooth. Individual areas are long and narrow or oblong. They range from 3 to about 80 acres in size.

Typically, the surface layer is dark grayish brown fine sandy loam about 4 inches thick. The subsoil extends to a depth of 68 inches. It is grayish brown fine sandy loam that has reddish mottles in the upper part and gray fine sandy loam and sandy loam having reddish and brownish mottles in the lower part. The substratum to a depth of 80 inches is mottled grayish, yellowish, reddish, and brownish sandy loam.

Important properties of the Weston soil—

Seasonal high water table: Apparent, at the surface to a depth of 1/2 foot from December through April
Available water capacity: Moderate
Permeability: Moderate
Flooding: None

Included in mapping are a few small areas of Izagora, Pelham, and Yemassee soils. The moderately well drained Izagora and somewhat poorly drained Yemassee soils are in slightly higher, more convex positions than those of the Weston soil. The Pelham soils are in positions similar to those of the Weston soil and have thick, sandy surface and subsurface layers. Included soils make up about 15 percent of the map unit. Individual areas generally are less than 5 acres in size.

This map unit is poorly suited to cultivated crops. Wetness is the main limitation. Installing a drainage system that includes open ditches, perforated tile, or land shaping improves productivity. Delaying spring planting minimizes the clodding and rutting that occurs if equipment is used when the soil is wet. Applying lime and fertilizer on the basis of soil testing increases the availability of plant nutrients and maximizes productivity.

This map unit is poorly suited to pasture and hay. Wetness is the main limitation. Grasses that are tolerant of wet conditions should be selected. Shallow ditches can help to remove excess water from the surface. Proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture in good condition. Applications of fertilizer and lime are needed for the maximum production of forage.

This map unit is suited to slash pine, loblolly pine, and hardwoods. The potential productivity is high, but severe limitations affect timber management. The main management concerns are an equipment limitation, seedling mortality, and plant competition. Harvesting activities should be planned for seasons when the soil is dry. Using standard wheeled and tracked equipment when the soil is wet results in rutting and compaction. Using low-pressure ground equipment minimizes rutting and the damage caused to tree roots by compaction. Planting seedlings on raised beds helps to establish the seedlings and increases the seedling survival rate. Plant competition reduces timber yields and can prevent adequate reforestation. The competing vegetation can be controlled by site preparation, herbicides, or prescribed burning. Applications of fertilizer can increase yields.

This map unit is poorly suited to most urban uses. Wetness is a severe limitation affecting building sites, local roads and streets, and most kinds of sanitary facilities. Because of the seasonal high water table during winter and spring, a drainage system is needed for buildings. A deep drainage system can help to lower the water table. Constructing roads on raised, well-compacted fill material helps to overcome the wetness. Septic

tank absorption fields do not function properly during rainy periods because of the wetness. Constructing the absorption field on a raised bed helps to compensate for this limitation.

This map unit is poorly suited to recreational uses. Wetness is the main limitation.

The capability subclass is IVw. The woodland ordination symbol is 11W for slash pine. This map unit is in the Swamp Hardwoods ecological community.

76—Mantachie-Fluvaquents-Bigbee complex, frequently flooded

This map unit consists of the very deep, somewhat poorly drained Mantachie soil, the very poorly drained Fluvaquents, and the excessively drained Bigbee soil. It is on flood plains along the Escambia River and other major streams. These soils are subject to flooding by fast-flowing water for brief periods several times each year. These soils occur as areas so intricately intermingled that it was not possible to separate them at the scale selected for mapping. The Mantachie soil make up about 50 percent of the map unit, the Fluvaquents make up about 20 percent, and the Bigbee soil makes up about 15 percent. Slopes are short and smooth and range from 0 to 5 percent. Individual areas are long and narrow. They range from 150 to more than 500 hundred acres in size.

The somewhat poorly drained Mantachie soil is in flat to slightly concave areas, generally in low to intermediate positions on low ridges. Typically, the surface layer is dark brown loam about 6 inches thick. The subsoil extends to a depth of 55 inches. It is brown loam in the upper part, grayish brown clay loam that has mottles in shades of brown and gray in the middle part, and mottled grayish, brownish, and reddish sandy clay loam in the lower part. The substratum to a depth of 80 inches is gray loam that has brownish and reddish mottles.

Important properties of the Mantachie soil—

Seasonal high water table: Apparent, at a depth of 1 to 1 1/2 feet from December through April
Available water capacity: High
Permeability: Moderate
Flooding: Frequent, for brief periods

The Fluvaquents are in swales, sloughs, and other depressional areas at the lowest elevations on the flood plain. Fluvaquents generally are very poorly drained but may vary significantly in color, texture, and content of organic matter.

Important properties of the Fluvaquents—

Seasonal high water table: Apparent, from 1 foot above the surface to a depth of 1/2 foot from December through July
Available water capacity: Variable
Permeability: Variable
Flooding: Frequent, for brief periods
Duration of ponding: Long or very long

The excessively drained Bigbee soil generally is in high, convex positions on low ridges and on high parts of natural levees. Typically, the surface layer is dark grayish brown fine sand about 7 inches thick. The substratum extends to a depth of 80 inches. It is yellowish brown fine sand in the upper part, light yellowish brown fine sand in the middle part, and white and light gray fine sand that has brownish and grayish mottles in the lower part.

Important properties of the Bigbee soil—

Seasonal high water table: Apparent, at a depth of 3 1/2 to 6 feet from December through April
Available water capacity: Very low
Permeability: Rapid
Flooding: Frequent, for brief periods

Included in mapping are a few small areas of Albany, Dorovan, Izagora, and Weston soils. The Albany, Izagora, and Weston soils are on small knolls or remnants of low terraces. The somewhat poorly drained Albany soils have thick, sandy surface and subsurface layers. The moderately well drained Izagora and poorly drained Weston soils have a loamy subsoil. The Dorovan soils are in positions similar to those of the Fluvaquents and have thick organic layers in the upper part. Included soils make up about 15 percent of the map unit. Individual areas generally are less than 10 acres in size.

This map unit is poorly suited to most cultivated crops. The frequent flooding and the wetness in the Mantachie soils and Fluvaquents are the main management concerns. If cultivated crops are grown, a surface drainage system and protection from flooding are needed.

This map unit is poorly suited to pasture and hay because of the frequent flooding and the wetness. If areas are used for pasture or hay, grasses that are tolerant of the wet conditions should be selected. Common bermudagrass and bahiagrass are suitable. Shallow ditches can help to remove excess water from the surface.

The Mantachie and Bigbee soils are suited to loblolly pine and slash pine. The potential productivity is high for slash and loblolly pine in areas of the Mantachie soil and moderate in areas of the Bigbee

soil. The Fluvaquents are not suited to pine trees because of ponding. This map unit has severe limitations affecting timber management. The main management concerns in areas of the Mantachie and Bigbee soils are an equipment limitation, seedling mortality, and plant competition. In areas of the Mantachie soils and Fluvaquents, the seasonal high water table and the flooding restrict the use of equipment to periods when the soils are dry. Using standard wheeled and tracked equipment when the soils are wet results in rutting and compaction. Using low-pressure ground equipment minimizes the damage to the soils and helps to maintain productivity. The high seedling mortality rate is caused by excessive wetness in areas of the Mantachie soil and Fluvaquents and by droughtiness in areas of the Bigbee soil. The high seedling mortality rate can be reduced by planting on beds or compensated for by increasing the number of trees planted. Plant competition reduces timber yields and can prevent adequate reforestation unless sites receive intensive preparation and maintenance. Site preparation can control the initial plant competition, and herbicides can control subsequent growth.

This map unit is not suited to most urban uses or recreational uses. The flooding and wetness are severe limitations affecting most uses. Buildings can be elevated above the expected level of flooding by constructing them on pilings or on well-compacted fill.

The capability subclass is Vw in areas of the Mantachie and Bigbee soils and VIIw in areas of the Fluvaquents. The woodland ordination symbol for slash pine is 13W in areas of the Mantachie soil and 11S in areas of the Bigbee soil. The Fluvaquents have not been assigned a woodland ordination symbol. This map unit is in the Bottomland Hardwoods ecological community.

77—Arents-Water complex, undulating

This map unit consists of the very deep Arents and areas of water. It is in areas that have been mined for sand and gravel and have not been reclaimed. Most areas are in the northeastern part of the county, mainly on stream terraces near the confluence of the Escambia River and Big Escambia Creek. The areas generally consist of parallel ridges or piles of sandy and loamy material that have a high content of gravel and small pits that are filled with water. The areas are so intricately intermingled that they could not be mapped separately at the scale selected for mapping. The Arents make up about 65 percent of the map unit, and the areas of water make up about 25 percent. Slopes are short and complex. They range from 5 to 15 percent. Individual areas are rectangular in shape. They range from about 10 to 250 acres in size.

Arents do not have an orderly sequence of soil layers. They vary significantly within a short distance, and they may be sandy, loamy, or stratified with various textures. The content of coarse fragments, mainly rounded quartzite pebbles, is also highly variable, ranging from 15 percent to more than 60 percent, by volume. Fragments of the subsurface layer and subsoil of the natural soil are throughout most pedons.

Important properties of the Arents—

Seasonal high water table: Variable
Available water capacity: Variable
Permeability: Variable
Flooding: None

Included in mapping are a few small areas of unaltered soils, mostly Albany, Eunola, Izagora, and Yemassee soils. They are generally on the edges of the mapped areas. Also included are small areas of Arents that have slopes of more than 15 percent. Inclusions make up about 10 percent of the map unit. Individual areas are generally less than 1 acre in size.

Most areas of this map unit are idle and have reverted to poor-quality woodland. Slash pine, loblolly pine, longleaf pine, sweetgum, yellow-poplar, and water oak are the common trees.

This map unit generally is not suited to agricultural and urban uses and is poorly suited to woodland. The irregular topography intermingled with small areas of water and the variability of the soils are limitations affecting most uses. Additional limitations include low fertility, droughtiness, and a high content of coarse fragments. Onsite investigation and testing are needed to determine the suitability of areas of this unit.

The capability subclass is VIIs. This map unit has not been assigned a woodland ordination symbol or an ecological community.

78—Emory fine sandy loam, ponded

This very deep, well drained soil is in shallow depressions on nearly level summits in the uplands in the northern part of the county. This soil receives runoff from higher positions and is subject to ponding for a few days following intense rain. Slopes are long,

smooth, and slightly concave. They are 0 to 1 percent. Individual areas are oblong to circular. They range from 5 to about 95 acres in size.

Typically, the surface layer is brown fine sandy loam about 10 inches thick. The subsoil extends to a depth of 80 inches. It is dusky red sandy clay loam in the upper part and dark red sandy clay loam in the lower part.

Important properties of the Emory soil—

Depth to the seasonal high water table: More than 6 feet
Available water capacity: High
Permeability: Moderate
Flooding: None
Duration of ponding: 2 to 7 days following periods of heavy rain

Included in mapping are a few small areas of Bama, Perdido, and Red Bay soils. They are commonly in convex positions on the upper edges of the mapped areas and are not subject to ponding. The Bama and Perdido soils do not have dark red colors throughout the subsoil. The Red Bay soils are not subject to ponding. Also included are small areas of soils that are similar to the Emory soil but have a dark colored surface layer that is more than 10 inches thick. Included soils make up less than 10 percent of mapped areas. Individual areas commonly are less than 2 acres in size.

This map unit is moderately well suited to cultivated crops. The main management concern is ponding. In most years, planting and tilling are delayed and crops may be damaged because of ponding. Field ditches and vegetated outlets are needed to remove the excess surface water. Land grading and smoothing can also help to remove the excess water. Minimizing tillage and returning all crop residue to the soil or regularly adding other organic matter improve fertility and help to maintain tilth and the content of organic matter. Crops respond well to applications of lime and fertilizer.

This map unit is well suited to pasture and hay. The ponding is a moderate limitation. Bahiagrass and coastal bermudagrass grow well if properly managed. The excess water on the surface can be removed by a system of shallow ditches. Deferred grazing during wet periods helps to prevent soil compaction and helps to keep the pasture and soil in good condition. Applications of lime and fertilizer help to overcome the low fertility and promote the growth of forage plants.

This map unit is well suited to woodland. The potential productivity is high for loblolly pine, slash pine, and longleaf pine. Soil compaction and plant competition are minor management concerns. Harvesting during the drier periods helps to prevent compaction. Site preparation practices, such as chopping, prescribed burning, and applying herbicides, help to control the initial plant competition and facilitate mechanical planting. Prescribed burning in established stands can help to control the competing vegetation and maintain ease of access.

This map unit has severe limitations affecting septic tank absorption fields, dwellings, small commercial buildings, sanitary landfills, and sewage lagoons. The main limitation is ponding. Land grading and shaping and installing a system of shallow ditches help to remove excess surface water. Septic tank absorption fields may not function during rainy periods because of the ponding. Installing a drainage system and diverting water away from the absorption field help to overcome this limitation.

This map unit has severe limitations affecting camp areas and playgrounds. The main limitation is ponding. Land grading and shaping and installing a system of shallow ditches help to remove excess surface water.

The capability subclass is IIw. The woodland ordination symbol is 11W for slash pine. This map unit is in the Mixed Hardwood and Pine ecological community.

Use and Management of the Soils

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

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

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

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

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

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

Hydric Soils

In this section, hydric soils are defined and described and the hydric soils in the survey area are listed.

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; Environmental Laboratory, 1987; National Research Council, 1995; Tiner, 1985). Criteria for each of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 1995). These criteria are used to identify a phase of a soil series that normally is associated with wetlands. The criteria used are selected estimated soil properties that are described in “Soil Taxonomy” (USDA–SCS, 1975) and “Keys to Soil Taxonomy” (Soil Survey Staff, 1996) and in the “Soil Survey Manual” (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils in this survey area are specified in “Field Indicators of Hydric Soils in the United States” (USDA–NRCS, n.d.)

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This

depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

The following map units meet the definition of hydric soils and, in addition, have at least one of the hydric soil indicators. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; USDA–NRCS, Field indicators).

2 Duckston sand, frequently flooded
4 Pickney sand
5 Croatan and Pickney soils, depressional
6 Direго muck, tidal
10 Beaches
12 Croatan muck, depressional
28 Grady loam
49 Dorovan muck and Fluvaquents, frequently flooded
51 Pelham loamy sand, 0 to 2 percent slopes
73 Grady loam, drained
75 Weston fine sandy loam, 0 to 2 percent slopes

Map units that are made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The following map units have one or more named components that do not meet the definition of hydric soils. A part of these map units, however, does include hydric soils. Onsite investigation is recommended to determine whether hydric soils occur and the location of the hydric soils.

3 Duckston part; Corolla-Duckston sands, gently undulating, flooded
14 Allanton part; Allanton-Pottsburg complex
48 Pelham part; Pelham-Yemassee complex, occasionally flooded
50 Fluvaquents part; Bigbee-Garcon-Fluvaquents complex, flooded
76 Fluvaquents part; Mantachie-Fluvaquents-Bigbee complex, frequently flooded

Ecological Communities

John F. Vance, Jr., biologist, Natural Resources Conservation Service, helped prepare this section.

The ecological community concept is based on the knowledge that a soil type commonly supports a specific vegetative community, which in turn provides the habitat needed by specific wildlife species.

These vegetative communities form recognizable units on the landscape, most of which are apparent to the casual observer after only a little training. Even without prior botanical training, an observer can quickly learn to distinguish between pine flatwoods and pine-turkey oak sandhills, between hardwood hammocks and cypress swamps, and between mangrove swamps and salt marsh. Once a community is recognized, information can be found concerning the general characteristics of the soil on which it occurs and the types of plants and animals it supports.

Although some plants are found only within a very narrow range of habitat conditions, many plants thrive throughout a wide range of conditions. Individual plants that have a wide tolerance can occur in many different communities and on a variety of soils. When describing ecological communities, plant scientists study the patterns in which vegetation occurs. They study what species occur, the relative abundance of each species, the stage of plant succession, the dominance of species, the position of species on the landscape, and the soil or soils on which the patterns occur. Recognizable patterns of vegetation are usually found in a small group of soil types that have common characteristics. During many years of field observation while conducting soil surveys, the Natural Resources Conservation Service determined which vegetative communities commonly occur on which soils throughout Florida. This information is summarized in a booklet named “26 Ecological Communities of Florida” (USDA–SCS, 1985a).

In the following paragraphs, the vegetative community occurring on the individual map unit during the climax state of plant succession is described. The plant community described is based on relatively natural conditions. Human activities, such as commercial production of pine, agriculture, urbanization, and fire suppression, can alter the community on a specific site.

North Florida Coastal Strand

The North Florida Coastal Strand ecological community has an overstory of cabbage palm, sand pine, and sand live oak. Common shrubs include marshelder, saw palmetto, Spanish bayonet, yaupon,

and redbay. Common herbaceous plants and vines include blanket flower, rosemary, fiddleleaf, morning glory, large leaf pennywort, seapurslane, greenbrier, and wild grape. Common grasses include bitter panicum, Gulf bluestem, marshhay cordgrass, sandbur, seaoats, seashore paspalum, seashore panicum, low panicum, and seashore saltgrass. The map units that support the North Florida Coastal Strand ecological community in Escambia County include:

3 Corolla part of Corolla-Duckston sands, gently undulating, flooded
8 Newhan-Corolla complex, rolling, rarely flooded

Sand Pine Scrub

The Sand Pine Scrub ecological community commonly has an overstory of bluejack oak, turkey oak, Chapman oak, myrtle oak, sand live oak, running oak, and sand pine. Common shrubs include dwarf huckleberry, gopher apple, pricklypear cactus, and saw palmetto. Common herbaceous plants and vines include rosemary, grassleaf goldaster, raindeer moss, and greenbrier. Common grasses are yellow Indiangrass, wiregrass, and low panicum. The map units that support the Sand Pine Scrub ecological community in Escambia County include:

7 Kureb sand, 0 to 8 percent slopes
15 Resota sand, 0 to 5 percent slopes
17 Kureb sand, 8 to 12 percent slopes

Longleaf Pine-Turkey Oak Hills

The Longleaf Pine-Turkey Oak Hills ecological community commonly has an overstory of longleaf pine, turkey oak, live oak, bluejack oak, and sand post oak. Common shrubs include Adam's needle, coontie, coral bean, shining sumac, and yaupon. Common herbaceous plants include pricklypear cactus, partridge pea, brackenfern, blazingstar, elephantsfoot, and grassleaf goldaster. The most common grasses include wiregrass, yellow Indiangrass, and dropseed. The map units that support the Longleaf Pine-Turkey Oak Hills ecological community in Escambia County include:

13 Lakeland sand, 0 to 5 percent slopes
19 Foxworth sand, 0 to 5 percent slopes
20 Lakeland sand, 5 to 8 percent slopes
21 Lakeland sand, 8 to 12 percent slopes
32 Troup sand, 0 to 5 percent slopes
33 Troup sand, 5 to 8 percent slopes
34 Troup sand, 8 to 12 percent slopes
38 Bonifay loamy sand, 0 to 5 percent slopes
39 Bonifay loamy sand, 5 to 8 percent slopes

Mixed Hardwood and Pine

The Mixed Hardwood and Pine ecological community commonly has an overstory of eastern hophornbeam, flowering dogwood, hawthorns, longleaf pine, loblolly pine, slash pine, mockernut hickory, pignut hickory, post oak, southern red oak, southern magnolia, sweetgum, white oak, laurel oak, and water oak. Common shrubs include shining sumac, sparkleberry, yaupon, gallberry, and saw palmetto. The common grasses are broomsedge bluestem, longleaf uniola, low panicum, wiregrass, and spike uniola. Other common herbaceous plants and vines include aster, common ragweed, partridgeberry, partridge pea, poison ivy, violet, Virginia creeper, and wild grape. The map units that support the Mixed Hardwood and Pine ecological community in Escambia County include:

11 Hurricane sand, 0 to 5 percent slopes
24 Poarch sandy loam, 0 to 2 percent slopes
25 Poarch sandy loam, 2 to 5 percent slopes
26 Poarch sandy loam, 5 to 8 percent slopes
27 Escambia fine sandy loam, 0 to 2 percent slopes
29 Perdido sandy loam, 0 to 2 percent slopes
30 Perdido sandy loam, 2 to 5 percent slopes
31 Perdido sandy loam, 5 to 8 percent slopes
35 Lucy loamy sand, 0 to 2 percent slopes
36 Lucy loamy sand, 2 to 5 percent slopes
40 Eunola fine sandy loam, 0 to 2 percent slopes, occasionally flooded
41 Malbis sandy loam, 0 to 2 percent slopes
42 Malbis sandy loam, 2 to 5 percent slopes
43 Albany sand, 0 to 5 percent slopes
45 Troup and Perdido soils, 8 to 35 percent slopes, severely eroded
47 Hurricane and Albany soils, 0 to 5 percent slopes, occasionally flooded
48 Pelham-Yemassee complex, occasionally flooded
52 Robertsdale sandy loam, 0 to 2 percent slopes
54 Troup-Poarch complex, 8 to 12 percent slopes
55 Troup-Poarch complex, 2 to 5 percent slopes
56 Troup-Poarch complex, 5 to 8 percent slopes
57 Cowarts-Troup complex, 12 to 18 percent slopes
58 Eunola fine sandy loam, 2 to 5 percent slopes, occasionally flooded
59 Notcher fine sandy loam, 0 to 2 percent slopes
60 Notcher fine sandy loam, 2 to 5 percent slopes
61 Notcher fine sandy loam, 5 to 8 percent slopes
62 Bama fine sandy loam, 0 to 2 percent slopes
63 Bama fine sandy loam, 2 to 5 percent slopes
64 Red Bay fine sandy loam, 0 to 2 percent slopes

65 Red Bay fine sandy loam, 2 to 5 percent slopes
66 Red Bay fine sandy loam, 5 to 8 percent slopes
67 Notcher-Maubila complex, 2 to 5 percent slopes
68 Notcher-Maubila complex, 5 to 8 percent slopes
69 Notcher-Maubila complex, 8 to 12 percent slopes
70 Izagora fine sandy loam, 0 to 2 percent slopes, occasionally flooded
72 Yemassee fine sandy loam, 0 to 2 percent slopes, occasionally flooded
74 Lucy loamy sand, 5 to 8 percent slopes
78 Emory fine sandy loam, ponded

North Florida Flatwoods

The North Florida Flatwoods ecological community commonly has an overstory of slash pine, longleaf pine, pond pine, live oak, sand live oak, water oak, laurel oak, and sweetgum. Common shrubs include saw palmetto, gallberry, blueberry, and wax-myrtle. Common grasses include chalky bluestem, broomsedge bluestem, lopsided Indiangrass, low panicums, switchgrass, and wiregrass. Other herbaceous plants include grassleaf goldaster, blackberry, brackenfern, deertongue, gayfeather, milkwort, and a variety of seed producing legumes. The map unit that supports the North Florida Flatwoods ecological community in Escambia County is:

9 Leon sand

Cypress Swamp

The Cypress Swamp ecological community commonly has an overstory of bald cypress, blackgum, Coastal Plain willow, pond cypress, and red maple. Understory shrubs include cotton buttonbush and southern wax-myrtle. The most common grasses are maidencane and narrowleaf sawgrass. Other common herbaceous plants and vines include cinnamon fern, fall-flowering ixia, laurel greenbrier, pickerel weed, royal fern, Spanish moss, stiff-leaved wild pine, and sphagnum moss. The map units that support the Cypress Swamp ecological community in Escambia County include:

28 Grady loam
73 Grady loam, drained

Salt Marsh

The Salt Marsh ecological community consists of grasses and grasslike plants, such as big cordgrass, black needlerush, Gulf cordgrass, marshhay cordgrass, smooth cordgrass, saltmarsh cordgrass, sand cordgrass, olney bulrush, and seashore dropseed. Herbaceous plants and vines include seablite and seapurslane. The map units that support the Salt Marsh ecological community in Escambia County include:

2 Duckston sand, frequently flooded
3 Duckston part of Corolla-Duckston sands, gently undulating, flooded
6 Diregо muck, tidal

Bottomland Hardwoods

The Bottomland Hardwoods ecological community has an overstory of American elm, loblolly pine, American hornbeam, black willow, green ash, overcup oak, river birch, swamp chestnut oak, Shumard's oak, sweetgum, American sycamore, water hickory, water oak, and willow oak. The main understory plants include crossvine, greenbriers, peppervine, poison ivy, trumpet creeper, and wild grape. The map units that support the Bottomland Hardwoods ecological community in Escambia County include:

46 Garcon-Bigbee-Yemassee complex, 0 to 5 percent slopes, occasionally flooded
50 Bigbee-Garcon-Fluvaquents complex, flooded
71 Iuka fine sandy loam, frequently flooded
76 Mantachie-Fluvaquents-Bigbee complex, frequently flooded

Swamp Hardwoods

The Swamp Hardwoods ecological community has an overstory of blackgum, red maple, black willow, Ogeechee lime, bald cypress, sweetbay, and redbay. Common shrubs include fetterbush, white cedar, gallberry, Virginia willow, titi, buttonbush, river birch, redbay, dahoon holly, and wax-myrtle. Common herbaceous plants and vines include wild grape, greenbriers, poison ivy, maidencane, cinnamon fern, and sphagnum moss. The map units that support the Swamp Hardwoods ecological community in Escambia County include:

5 Croatan and Pickney soils, depressional
12 Croatan muck, depressional
49 Dorovan muck and Fluvaquents, frequently flooded
75 Weston fine sandy loam, 0 to 2 percent slopes

Pitcher Plant Bogs

The Pitcher Plant Bogs ecological community has a sparse overstory of slash pine or longleaf pine. Common shrubs include wax-myrtle, myrtleleaved holly, and titi. Herbaceous plants and vines include

Figure 8.—Pitcher plants (*Sarracenia* sp.) and other forbs in an area of Pickney sand. This map unit is in the Pitcher Plant Bogs ecological community.

hatpin sedge, pitcher plants, rush feathering, and sundews (fig. 8). Common grasses include blue maidencane, Florida threeawn, pineland threeawn, toothache grass, and warty panicum. The map units that support the Pitcher Plant Bogs ecological community in Escambia County include:

4 Pickney sand
51 Pelham loamy sand, 0 to 2 percent slopes

Flats

The Flats ecological community has an overstory of slash pine, red maple, bald cypress, sweetbay, sweetgum, and scattered pond pine. Understory shrubs include gallberry, wax-myrtle, titi, and saw palmetto. The most common grasses are low panicums and wiregrass. The map unit that supports the Flats ecological community in Escambia County is:

14 Allanton-Pottsburg complex

Crops and Pasture

Randy English, resource conservationist, helped prepare this section.

General management needed for crops and pasture is suggested in this section. The estimated yields of the main crops and pasture plants are listed for each soil, the system of land capability classification used by the Natural Resources Conservation Service is explained, and prime farmland is described.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under the heading “Detailed Soil Map Units.” Specific information can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

In 1992, Escambia County had 27,701 acres that was used for crops (USDC–ESA, 1992). Of this total, about 9,083 acres was used for soybeans, 8,722 acres for cotton, 3,703 acres for small grain (wheat and oats), and 6,193 acres for corn. About 4,247 acres was used for hay. Sorghum, vegetables, and specialty crops were also grown.

The acreage of cropland has been decreasing slightly because of the changing economics of crop production and the growing pressure from urban development as the population of the county has been increasing.

Erosion caused by water is a major management concern in Escambia County, especially in areas of cropland that have slopes of more than 2 percent. The loss of the surface layer because of erosion reduces the productivity of soil. Also, water is polluted as sediment leaves the site and enters streams and ponds. Some soils, such as Notcher, Poarch, Perdido, and Red Bay soils, are very susceptible to water erosion where slopes are more than 2 percent.

Properly installed and maintained terraces and diversions can greatly reduce the hazard of erosion and the amount of sediment entering streams and ponds. Terraces and diversions control erosion by reducing the length of the slope and by intercepting runoff. Contour farming can be used in conjunction with terraces and diversions. Crops can be planted along the contour using the terrace as a guide. Leaving crop residue on the surface helps to control erosion until field preparation begins for the next crop. This residue helps to prevent the dislodging of soil particles by rainfall and runoff. Conservation tillage is a practice in which residue from harvested crops is left standing or lying on the surface, thereby providing a protective cover. The next crop is planted directly into this cover. A conservation cropping sequence, or crop rotation, provides year-round soil protection by maintaining a continuous cover of crops or crop residue on the surface. Conservation practices can hold soil losses to amounts that do not reduce the productivity of the soils.

Erosion caused by wind is sometimes a problem in Escambia County, especially on sandy soils, such as Bonifay, Lakeland, Lucy, and Troup soils. Wind erosion, or soil blowing, is seldom so serious that it is as damaging to the soil as water erosion; however, soil blowing can damage or destroy young crops. Leaving crop residue on the soil surface, planting permanent windbreaks of trees and shrubs, or planting annual windbreaks of small grain effectively reduce the hazard of wind erosion.

Soil fertility is naturally low in most of the soils used as cropland in the county. Most of the soils range from moderately acid to strongly acid and require applications of agricultural limestone to raise the pH sufficiently for successful crop production. Nitrogen, phosphorus, and potassium must also be applied for optimum yields. Applications of lime and fertilizer should be based on the results of soil tests, the needs of the crop, and the planned levels of yields. The Cooperative Extension Service can help in determining the kinds and amounts of fertilizer and lime to apply.

Most of the soils used for agriculture in Escambia County have good tilth. Tilth is an important factor affecting the germination of seeds and the infiltration of water into the soil. Soils that have good tilth are granular, porous, and easily tilled.

Most of the soils used as cropland in the county have a surface layer of fine sandy loam and a relatively low content of organic matter. A thin crust can form on the surface of these soils after intense, heavy rainfall. This crust reduces infiltration of subsequent rainfall and slows seedling emergence. Returning crop residue to the soil, spreading animal waste on the soil, and planting cover crops increase the content of organic matter in the surface layer, thereby improving soil structure, increasing the available water capacity, and reducing the hazard of further crusting.

Drainage is a management concern in some areas used for agriculture in the county. A subsurface drainage system can help to control the water table in fields where somewhat poorly drained soils, such as Robertsdale and Escambia soils, are cultivated. In the past, areas of the poorly drained Grady soils were drained using both surface and subsurface drainage systems. As long as the drainage systems are properly maintained, these areas can continue to be successfully cropped. Surface drainage systems are used to remove excess surface water, thereby allowing pasture production in areas of poorly drained soils, such as Leon and Pottsburg soils. The design of surface and subsurface drainage systems varies with the soil series.

Information regarding the planning, design, installation, and maintenance of erosion-control practices and drainage systems can be obtained from

the local office of the Natural Resources Conservation Service.

In Escambia County, pastures provide forage for beef cattle, dairy cattle, and horses. Beef cattle and cow-calf operations are the most common cattle systems. Bahiagrass and hybrid bermudagrass are the dominant pasture plants. Some producers seed cool-season grazing crops to provide seasonal grazing. Examples include clover, oats, winter rye, and ryegrass. Excess seasonal and permanent grasses are harvested as hay and utilized as feed when grazing is limited. Pasture production can be improved by adjusting stocking rates, implementing a rotational grazing plan, and applying fertilizer.

Additional information regarding pasture management, including the selection and planting of appropriate grass species, can be obtained from the local offices of the Natural Resources Conservation Service and the Cooperative Extension Service.

Yields per Acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in table 4. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of each map unit also is shown in the table.

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

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

For yields of irrigated crops, it is assumed that the irrigation system is adapted to the soils and to the crops grown, that good-quality irrigation water is uniformly applied as needed, and that tillage is kept to a minimum.

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

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

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops (USDA–SCS, 1961). Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, for woodland, and for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit. Only class and subclass are used in this survey.

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

Class I soils have few limitations that restrict their use.

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

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

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

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

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

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

Class VIII soils and miscellaneous areas have

limitations that nearly preclude their use for commercial crop production.

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

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

The capability classification of each map unit is given in the section "Detailed Soil Map Units" and in the yields table.

Prime Farmland

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

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

About 93,475 acres in the survey area, or nearly 20 percent of the total acreage, meets the soil requirements for prime farmland. Scattered areas of this land are throughout the county, but most are in the northern part, mainly in associations 1, 3, 4, and 5, which are described under the heading "General Soil Map Units."

A recent trend in land use in some parts of the survey area has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

The map units in the survey area that are considered prime farmland are listed below. This list does not constitute a recommendation for a particular land use. On some soils included in the list, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures. The extent of each listed map unit is shown in table 3. The location is shown on the detailed soil maps. The soil qualities that affect use and management are described under the heading "Detailed Soil Map Units."

24 Poarch sandy loam, 0 to 2 percent slopes
25 Poarch sandy loam, 2 to 5 percent slopes
26 Poarch sandy loam, 5 to 8 percent slopes
27 Escambia fine sandy loam, 0 to 2 percent slopes
29 Perdido sandy loam, 0 to 2 percent slopes
30 Perdido sandy loam, 2 to 5 percent slopes
31 Perdido sandy loam, 5 to 8 percent slopes
40 Eunola fine sandy loam, 0 to 2 percent slopes, occasionally flooded
41 Malbis sandy loam, 0 to 2 percent slopes
42 Malbis sandy loam, 2 to 5 percent slopes
52 Robertsdale sandy loam, 0 to 2 percent slopes
58 Eunola fine sandy loam, 2 to 5 percent slopes, occasionally flooded
59 Notcher fine sandy loam, 0 to 2 percent slopes
60 Notcher fine sandy loam, 2 to 5 percent slopes
61 Notcher fine sandy loam, 5 to 8 percent slopes
62 Bama fine sandy loam, 0 to 2 percent slopes
63 Bama fine sandy loam, 2 to 5 percent slopes
64 Red Bay fine sandy loam, 0 to 2 percent slopes
65 Red Bay fine sandy loam, 2 to 5 percent slopes

66 Red Bay fine sandy loam, 5 to 8 percent slopes
70 Izagora fine sandy loam, 0 to 2 percent slopes, occasionally flooded
72 Yemassee fine sandy loam, 0 to 2 percent slopes, occasionally flooded (where drained)
78 Emory fine sandy loam, ponded

Woodland Management and Productivity

Tom Serviss, county forester, Florida Department of Agriculture and Consumer Services, helped prepare this section.

Escambia County has about 250,800 acres on which wood is grown and harvested for pulp, lumber, and other uses (USDA–FS, 1993). About 102,300 acres is owned by the forest industry, 8,300 acres by units of government, and 140,200 acres by private individuals.

About 157,500 acres, or 63 percent of the productive woodland, is managed for pines. Slash pine, longleaf pine, and loblolly pine are the main species, but shortleaf pine and sand pine are also grown. Slash pine has been planted extensively throughout the county on poorly drained to moderately well drained soils and on well drained soils that have a loamy subsoil layer within a depth of 2 to 5 feet. Examples include Albany, Escambia, Hurricane, Leon, Lucy, Notcher, Pelham, Robertsdale, and Yemassee soils. Loblolly pine is recommended for planting on soils in which the subsoil is close to the surface and has a relatively high content of clay. Examples include Bama, Eunola, Izagora, Notcher, Maubila, Malbis, Red Bay, and Poarch soils. Longleaf pine can be grown on most soils. Sand pine is adapted to sandy, droughty soils, such as Foxworth, Kureb, Lakeland, and Resota soils.

Hardwood trees, such as sweetgum, blackgum, sweetbay, and black willow, and conifers, such as bald cypress, are dominant in wetland depressions and on flood plains. Soils in these areas include Fluvaquents and Iuka, Mantachie, Croatan, Grady, Pickney, and Weston soils.

In the section “Detailed Soil Map Units,” each map unit description provides information on potential productivity, limitations for planting and harvesting timber, and management concerns.

Table 5 can be used by woodland owners or forest managers in planning the use of soils for wood crops. Only those soils suitable for wood crops are listed. The table lists the ordination symbol for each soil. Soils assigned the same ordination symbol for the same tree species require the same general management and have about the same potential productivity.

The first part of the *ordination symbol*, a number, indicates the potential productivity of the soils for an indicator tree species (USDA–NRCS, National forestry manual). The number indicates the volume, in cubic meters per hectare per year, which the indicator species can produce in a pure stand under natural conditions. The number 1 indicates low potential productivity; 2 or 3, moderate; 4 or 5, moderately high; 6 to 8, high; 9 to 11, very high; and 12 to 39, extremely high. The second part of the symbol, a letter, indicates the major kind of soil limitation. The letter *R* indicates steep slopes; *W*, excess water in or on the soil; *C*, clay in the upper part of the soil; and *S*, sandy texture. The letter *A* indicates that limitations or restrictions are insignificant. If a soil has more than one limitation, the priority is as follows: R, W, C, and S.

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

Erosion hazard is the probability that damage will occur as a result of site preparation and cutting where the soil is exposed along roads, skid trails, and fire lanes and in log-handling areas. Forests that have been burned or overgrazed are also subject to erosion. Ratings of the erosion hazard are based on the percent of the slope. A rating of *slight* indicates that no particular prevention measures are needed under ordinary conditions. A rating of *moderate* indicates that erosion-control measures are needed in certain silvicultural activities. A rating of *severe* indicates that special precautions are needed to control erosion in most silvicultural activities.

Equipment limitation reflects the characteristics and conditions of the soil that restrict use of the equipment generally needed in woodland management or harvesting. The chief characteristics and conditions considered in the ratings are slope, soil wetness, and texture of the surface layer. A rating of *slight* indicates that under normal conditions the kind of equipment and season of use are not significantly restricted by soil factors. Soil wetness can restrict equipment use, but the wet period does not exceed 1 month. A rating of *moderate* indicates that equipment use is moderately restricted because of one or more soil factors. If the soil is wet, the wetness restricts equipment use for a period of 1 to 3 months. A rating of *severe* indicates that equipment use is severely restricted either as to the kind of equipment that can be used or the season of use. If the soil is wet, the wetness restricts equipment use for more than 3 months.

Seedling mortality refers to the death of naturally

occurring or planted tree seedlings, as influenced by the kinds of soil, soil wetness, or topographic conditions. The factors used in rating the soils for seedling mortality are texture of the surface layer, depth to a seasonal high water table and the length of the period when the water table is high, rock fragments in the surface layer, effective rooting depth, and slope aspect. A rating of *slight* indicates that seedling mortality is not likely to be a problem under normal conditions. Expected mortality is less than 25 percent. A rating of *moderate* indicates that some problems from seedling mortality can be expected. Extra precautions are advisable. Expected mortality is 25 to 50 percent. A rating of *severe* indicates that seedling mortality is a serious problem. Extra precautions are important. Replanting may be necessary. Expected mortality is more than 50 percent.

Plant competition ratings indicate the degree to which undesirable species are expected to invade and grow when openings are made in the tree canopy. The main factors that affect plant competition are depth to the water table and the available water capacity. A rating of *slight* indicates that competition from undesirable plants is not likely to prevent natural regeneration or suppress the more desirable species. Planted seedlings can become established without undue competition. A rating of *moderate* indicates that competition may delay the establishment of desirable species. Competition may hamper stand development, but it will not prevent the eventual development of fully stocked stands. A rating of *severe* indicates that competition can be expected to prevent regeneration unless precautionary measures are applied.

The *potential productivity* of merchantable or *common trees* on a soil is expressed as a *site index* and as a *volume* number. The site index is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years (Broadfoot, 1964; Schumaker and Coile, 1960; USDA–FS, 1976; USDA–NRCS, National forestry manual; USDA–SCS, 1985b). The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that woodland managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability.

The *volume*, a number, is the yield likely to be produced by the most important trees. This number, expressed as cubic meters per hectare per year, indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand. Cubic meters per hectare can be converted to cubic feet per acre by multiplying by a factor of 14.3. Cubic feet can be converted to board feet by multiplying by a factor of 5.

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

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

Recreation

A variety of recreational activities are available in Escambia County, including fishing, swimming, boating, canoeing, camping, hunting, hiking, and visiting historical sites (Pensacola Area Chamber of Commerce, 1993). The Gulf of Mexico, the Escambia and Perdido Rivers, Lake Stone, and numerous smaller creeks, streams, and ponds provide recreational opportunities for water enthusiasts. Both fresh- and salt-water fishing are popular and readily available. Boating, canoeing, swimming, fishing, and camping are popular on the Escambia and Perdido Rivers (fig. 9). Gulf Islands National Seashore and Big Lagoon State Recreation Area help preserve the unique Coastal Strand ecological community while providing opportunities for picnicking, hiking, and camping. Pensacola Beach and Perdido Bay provide public access to the Gulf Coast beaches for sunbathing, swimming, surfing, fishing, and diving.

The large tracts of forestland in the county are popular with hunters, hikers, campers, and birdwatchers. State and private wildlife management areas provide hunters with controlled public access to deer, quail, squirrel, dove, wild hogs, and other game.

The county has many historical sites. Fort Pickins, Fort McRee, and Fort Barrancas are part of the long military history of the area. The Seville Historic District in downtown Pensacola is one of the oldest settlements in the United States and is listed on the National Register of Historic Places. The Pensacola Historical Museum, Historic Pensacola Village, the Museum of Naval Aviation, and the T.T. Wentworth, Jr., Florida State Museum are popular places to visit and learn about the rich history of Pensacola and Escambia County.

Escambia County has a number of private and public golf courses. Other available recreational facilities include parks, athletic fields, tennis courts, and community centers.

The soils of the survey area are rated in table 6 according to limitations that affect their suitability for recreation. The ratings are based on restrictive soil features, such as wetness, slope, and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in

Figure 9.—Sand bars, such as this one in a bend of the Escambia River, provide picnicking and camping areas for fishermen and canoeists.

evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation are also important. Soils subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

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

The information in the table can be supplemented by other information in this survey, for example, interpretations for septic tank absorption fields in table 9 and interpretations for dwellings without basements and for local roads and streets in table 8.

Camp areas require site preparation, such as shaping and leveling the tent and parking areas, stabilizing roads and intensively used areas, and installing sanitary facilities and utility lines. Camp

areas are subject to heavy foot traffic and some vehicular traffic. The best soils have mild slopes and are not wet or subject to flooding during the period of use. The surface has few or no stones or boulders, absorbs rainfall readily but remains firm, and is not dusty when dry. Strong slopes and stones or boulders can greatly increase the cost of constructing campsites.

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

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

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

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

Wildlife Habitat

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

In table 7, the soils in the survey area are rated according to their potential for providing habitat for various kinds of wildlife. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting soils that are suitable for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

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

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

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

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

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

Hardwood trees and woody understory produce nuts or other fruit, buds, catkins, twigs, bark, and foliage. Soil properties and features that affect the

growth of hardwood trees and shrubs are depth of the root zone, available water capacity, and wetness. Examples of these plants are oak, black cherry, sweetgum, cabbage palm, hawthorn, dogwood, hickory, blackberry, and persimmon. Examples of fruit-producing shrubs that are suitable for planting on soils rated *good* are blueberry, autumn-olive, and crabapple.

Coniferous plants furnish browse and seeds. Soil properties and features that affect the growth of coniferous trees, shrubs, and ground cover are depth of the root zone, available water capacity, and wetness. Examples of coniferous plants are pine, cedar, and bald cypress.

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

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

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

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

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

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

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the estimated data and test data in the "Soil Properties" section.

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil within a depth of 5 or 6 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

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

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

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about grain-size distribution, liquid limit, plasticity index, soil reaction, soil wetness, depth to a seasonal high water table, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, earthfill, and topsoil; plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and predict performance of proposed small structures and pavements by comparing the

performance of existing similar structures on the same or similar soils.

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

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

Building Site Development

Table 8 shows the degree and kind of soil limitations that affect shallow excavations, dwellings with and without basements, small commercial buildings, local roads and streets, and lawns and landscaping. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome; *moderate* if soil properties or site features are somewhat restrictive for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required. Special feasibility studies may be required where the soil limitations are severe.

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

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

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

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

Sanitary Facilities

Table 9 shows the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, and sanitary landfills. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required.

The table also shows the suitability of the soils for use as daily cover for landfill. A rating of *good* indicates that soil properties and site features are favorable for the use and good performance and low maintenance can be expected; *fair* indicates that soil properties and site features are moderately favorable for the use and one or more soil properties or site features make the soil less desirable than the soils rated good; and *poor*

indicates that one or more soil properties or site features are unfavorable for the use and overcoming the unfavorable properties requires special design, extra maintenance, or costly alteration.

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

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

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

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

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

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

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

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

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

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

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

Construction Materials

Table 10 gives information about the soils as a source of roadfill, sand, gravel, and topsoil. The soils are rated *good, fair,* or *poor* as a source of roadfill and topsoil. They are rated as a *probable* or *improbable* source of sand and gravel. The ratings are based on soil properties and site features that affect the removal

of the soil and its use as construction material. Normal compaction, minor processing, and other standard construction practices are assumed. Each soil is evaluated to a depth of 5 or 6 feet.

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

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

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

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

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

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

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

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

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

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

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

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

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

Water Management

Table 11 gives information on the soil properties and site features that affect water management. The

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

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

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to permeable material. Excessive slope can affect the storage capacity of the reservoir area.

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

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

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

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

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

Irrigation is the controlled application of water to supplement rainfall and support plant growth. The design and management of an irrigation system are affected by depth to the water table, the need for drainage, flooding, available water capacity, intake rate, permeability, erosion hazard, and slope. The construction of a system is affected by large stones and depth to a cemented pan. The performance of a system is affected by the depth of the root zone, the amount of salts or sodium, and soil reaction.

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

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

Soil Properties

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

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

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

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

Engineering Index Properties

Table 12 gives estimates of the engineering classification and of the range of index properties for the major layers of each soil in the survey area. Most soils have layers of contrasting properties within the upper 5 or 6 feet.

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

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

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

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

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

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

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

and in nearby areas and on estimates made in the field.

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

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

Physical and Chemical Properties

Table 13 shows estimates of some characteristics and features that affect soil behavior. These estimates are given for the major layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

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

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

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

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

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

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

Salinity is a measure of soluble salts in the soil at saturation. It is expressed as the electrical conductivity of the saturation extract, in millimhos per centimeter at 25 degrees C. Estimates are based on field and laboratory measurements at representative sites of nonirrigated soils. The salinity of irrigated soils is affected by the quality of the irrigation water and by the frequency of water application. Hence, the salinity of soils in individual fields can differ greatly from the value given in the table. Salinity affects the suitability of a soil for crop production, the stability of soil if used as construction material, and the potential of the soil to corrode metal and concrete.

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

If the shrink-swell potential is rated moderate to

very high, shrinking and swelling can cause damage to buildings, roads, and other structures. Special design is often needed.

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

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

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

Wind erodibility groups are made up of soils that have similar properties affecting their resistance to wind erosion in cultivated areas. The groups indicate the susceptibility of soil to wind erosion. The soils assigned to group 1 are the most susceptible to wind erosion, and those assigned to group 8 are the least susceptible. The groups are as follows:

1. Coarse sands, sands, fine sands, and very fine sands.
2. Loamy coarse sands, loamy sands, loamy fine sands, loamy very fine sands, ash material, and sapric soil material.
3. Coarse sandy loams, sandy loams, fine sandy loams, and very fine sandy loams.

4L. Calcareous loams, silt loams, clay loams, and silty clay loams.

4. Clays, silty clays, noncalcareous clay loams, and silty clay loams that are more than 35 percent clay.
5. Noncalcareous loams and silt loams that are less than 20 percent clay and sandy clay loams, sandy clays, and hemic soil material.
6. Noncalcareous loams and silt loams that are more than 20 percent clay and noncalcareous clay loams that are less than 35 percent clay.
7. Silts, noncalcareous silty clay loams that are less than 35 percent clay, and fibric soil material.
8. Soils that are not subject to wind erosion because of coarse fragments on the surface or because of surface wetness.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In the table, the estimated content of organic matter is expressed as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

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

Soil and Water Features

Table 14 gives estimates of various soil and water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

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

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

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to two hydrologic groups in the table, the first letter is for drained areas and the second is for undrained areas.

Flooding, the temporary inundation of an area, is caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall is not considered flooding, and

water standing in swamps and marshes is considered ponding rather than flooding.

The table gives the frequency and duration of flooding and the time of year when flooding is most likely.

Frequency, duration, and probable dates of occurrence are estimated. Frequency is expressed as none, rare, occasional, and frequent. *None* means that flooding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of flooding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of flooding is more than 50 percent in any year). *Common* is used when the occasional and frequent classes are grouped for certain purposes. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 days to 1 month, and *very long* if more than 1 month. Probable dates are expressed in months. About two-thirds to three-fourths of all flooding occurs during the stated period.

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

High water table (seasonal) is the highest level of a saturated zone in the soil in most years. The estimates are based mainly on observations of the water table at selected sites and on the evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. Indicated in the table are the depth to the seasonal high water table; the kind of water table—that is, perched or apparent; and the months of the year that the water table commonly is high. A water table that is seasonally high for less than 1 month is not indicated in the table.

An *apparent* water table is a thick zone of free water in the soil. It is indicated by the level at which water stands in an uncased borehole after adequate time is allowed for adjustment in the surrounding soil. A *perched* water table is water standing above an unsaturated zone. In places an upper, or perched, water table is separated from a lower one by a dry zone.

Two numbers in the column showing depth to the water table indicate the normal range in depth to a saturated zone. Depth is given to the nearest half foot. The first numeral in the range indicates the highest water level. A plus sign preceding the range in depth indicates that the water table is above the surface of the soil. “More than 6.0” indicates that the water table is below a depth of 6 feet or that it is within a depth of 6 feet for less than a month.

Subsidence is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected initial subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that dissolves or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than steel in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low, moderate,* or *high,* is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion is also expressed as *low, moderate,* or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (USDA-SCS, 1975; Soil Survey Staff, 1996). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. Classification is based on soil properties observed in the field or inferred from those observations or from laboratory measurements. Table 15 shows the classification of the soils in the survey area. The categories are defined in the following paragraphs.

ORDER. Twelve soil orders are recognized. The differences among orders reflect the dominant soil-forming processes and the degree of soil formation. Each order is identified by a word ending in *sol*. An example is Ultisol.

SUBORDER. Each order is divided into suborders primarily on the basis of properties that influence soil genesis and are important to plant growth or properties that reflect the most important variables within the orders. The last syllable in the name of a suborder indicates the order. An example is Udult (*Ud*, meaning humid, plus *ult*, from Ultisol).

GREAT GROUP. Each suborder is divided into great groups on the basis of close similarities in kind, arrangement, and degree of development of pedogenic horizons; soil moisture and temperature regimes; type of saturation; and base status. Each great group is identified by the name of a suborder and by a prefix that indicates a property of the soil. An example is Paleudults (*Pale*, meaning excessive development, plus *udult*, the suborder of the Ultisols that has a udic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. The adjective *Typic* identifies the subgroup that typifies the great group. An example is Typic Paleudults.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle size, mineral content, cation exchange capacity, soil temperature regime, soil depth, and reaction. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-loamy, siliceous, subactive, thermic Typic Paleudults.

SERIES. The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. The soils in the Bama series are fine-loamy, siliceous, subactive, thermic Typic Paleudults.

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each series. A pedon, a small three-dimensional area of soil, that is typical of the series in the survey area is described. The detailed description of each soil horizon follows standards in the "Soil Survey Manual" (Soil Survey Division Staff, 1993). Many of the technical terms used in the descriptions are defined in "Soil Taxonomy" (USDA-SCS, 1975) and in "Keys to Soil Taxonomy" (Soil Survey Staff, 1996). Unless otherwise indicated, colors in the descriptions are for moist soil. Following the pedon description is the range of important characteristics of the soils in the series.

The map units of each soil series are described in the section "Detailed Soil Map Units."

Albany Series

The Albany series consists of very deep, somewhat poorly drained soils that formed in sandy and loamy marine sediments. These soils are in positions that are depressed relative to surrounding landforms on low

terraces and on broad ridges and knolls, on toeslopes, and on the lower parts of footslopes. They are in the uplands. The seasonal high water table is at a depth of 1 to 2½ feet from December through April in most years. The areas on low terraces are subject to occasional flooding. Slopes range from 0 to 5 percent. These soils are loamy, siliceous, subactive, thermic Grossarenic Paleudults.

Albany soils are geographically associated with Bonifay, Eunola, Lakeland, Pelham, Troup, and Weston soils. The Bonifay, Lakeland, and Troup soils are on summits and shoulder slopes in higher positions than the Albany soils. The well drained Bonifay soils have a significant accumulation of plinthite in the subsoil. The excessively drained Lakeland soils are sandy throughout. The somewhat excessively drained Troup soils have a reddish argillic horizon. The moderately well drained Eunola soils are on stream terraces and do not have a thick, sandy epipedon. The poorly drained Pelham and Weston soils are in lower positions than the Albany soils. The Pelham soils have a loamy argillic horizon at a depth of 20 to 40 inches. The Weston soils do not have a thick, sandy epipedon.

Typical pedon of Albany sand, 0 to 5 percent slopes (fig. 10); about 100 feet north of Langley Avenue and 3,750 feet east of Ninth Avenue in Pensacola; about 3,700 feet east and 100 feet north of the southwest corner of sec. 10, T. 1 S., R. 29 W.

A—0 to 7 inches; very dark grayish brown (10YR 3/2) sand; weak medium granular structure; very friable; common medium and fine roots; strongly acid; clear smooth boundary.

E1—7 to 22 inches; brown (10YR 5/3) sand; single grained; loose; few fine roots; strongly acid; clear wavy boundary.

E2—22 to 42 inches; light yellowish brown (10YR 6/4) sand; single grained; loose; common medium prominent yellowish red (5YR 5/8) masses of iron accumulation that have clear boundaries throughout the matrix; common fine faint pale brown (10YR 6/3) iron depletions that have clear boundaries throughout the matrix; strongly acid; gradual wavy boundary.

Eg—42 to 57 inches; light gray (10YR 7/2) sand; single grained; loose; common fine faint light brownish gray (10YR 6/2) iron depletions throughout the matrix; strongly acid; clear wavy boundary.

Btg1—57 to 72 inches; light brownish gray (10YR 6/2) sandy loam; weak medium subangular blocky structure; friable; sand grains bridged and coated with clay; common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation that have sharp boundaries throughout the matrix; strongly acid; gradual wavy boundary.

Btg2—72 to 80 inches; gray (10YR 6/1) sandy clay loam; moderate medium subangular blocky structure; friable; few faint clay films on faces of peds; common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation that have sharp boundaries throughout the matrix; strongly acid.

The solum is more than 70 inches thick. The sandy epipedon ranges from 40 to 80 inches in thickness. Reaction ranges from extremely acid to moderately acid in the A and E horizons, except in areas where lime has been applied, and from very strongly acid to moderately acid in the Btg horizon.

The A horizon has hue of 10YR, value of 3 to 5, and chroma of 1 or 2.

The E horizon has hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 3 or 4. In many pedons, it has thin streaks and pockets of white or light gray uncoated sand. It has few to many redoximorphic depletions in shades of gray or brown and redoximorphic accumulations in shades of red, yellow, and brown. It is sand, fine sand, loamy sand, or loamy fine sand.

The Eg horizon has hue of 10YR, value of 6 to 8, and chroma of 1 or 2. It has few to many redoximorphic accumulations in shades of yellow, olive, brown, and red. It is sand, fine sand, loamy sand, or loamy fine sand.

The Bt horizon, where present, has hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 3 to 8. It has common or many redoximorphic depletions in shades of brown and gray and redoximorphic accumulations in shades of red, brown, and yellow. It is sandy loam, fine sandy loam, or sandy clay loam.

The Btg horizon has hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 1 or 2; or it does not have a dominant matrix color and is multicolored in shades of red, yellow, brown and gray. It has common or many redoximorphic accumulations in shades of red, yellow, and brown. It is sandy loam, fine sandy loam, or sandy clay loam.

Allanton Series

The Allanton series consists of very deep, very poorly drained soils that formed in sandy marine sediments. These soils are on broad flats and in shallow depressions. They are on the coastal lowlands. The seasonal high water table is within a depth of ½ foot from December through April in most years. Slopes range from 0 to 2 percent. These soils are sandy, siliceous, thermic Grossarenic Alaquods.

Allanton soils are geographically associated with Hurricane, Leon, Pelham, Pickney, and Pottsburg soils. The somewhat poorly drained Hurricane soils are on knolls in slightly higher positions than the Allanton soils. The poorly drained Leon soils are in areas of flatwoods, are at slightly higher elevations than the Allanton soils, and have a spodic horizon within a depth of 30 inches. The poorly drained Pelham soils are in positions similar to those of the Allanton soils on flats and have a loamy argillic horizon at a depth of 20 to 40 inches. The Pickney soils are in positions similar to those of the Allanton soils and do not have a spodic horizon. The poorly drained Pottsburg soils are in slightly higher positions than the Allanton soils on flats and do not have an umbric epipedon.

Typical pedon of Allanton sand, in an area of Allanton-Pottsburg complex; about 250 feet south and 875 feet west of the northeast corner of sec. 22, T. 2 S., R. 31 W.

A1—0 to 10 inches; black (10YR 2/1) sand; weak fine granular structure; very friable; many medium and fine roots; common uncoated sand grains; very strongly acid; clear wavy boundary.

A2—10 to 17 inches; very dark gray (10YR 3/1) sand; single grained; loose; few medium and fine roots; common uncoated sand grains; very strongly acid; clear wavy boundary.

Eg1—17 to 28 inches; grayish brown (10YR 5/2) sand; single grained; loose; few fine roots; very strongly acid; gradual wavy boundary.

Eg2—28 to 53 inches; light gray (10YR 7/2) sand; single grained; loose; very strongly acid; gradual wavy boundary.

Bh1—53 to 65 inches; dark brown (7.5YR 3/2) sand; massive; friable; about 70 percent of the sand grains are coated with organic matter; very strongly acid; clear wavy boundary.

Bh2—65 to 80 inches; dark reddish brown (5YR 2.5/2) sand; massive; friable; about 90 percent of the sand grains are coated with organic matter; very strongly acid.

The solum is more than 80 inches thick. Reaction is very strongly acid or strongly acid in the A and Eg horizons and ranges from extremely acid to strongly acid in the Bh horizon. Depth to the spodic horizon ranges from 50 to 80 inches. The umbric epipedon ranges from 16 to 30 inches in thickness.

The A horizon has hue of 10YR or 2.5Y, value of 2 or 3, and chroma of 2 or less.

The Eg horizon has hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 2 or less. It is sand, fine sand, or loamy sand.

The Bh1 horizon has hue of 7.5YR or 10YR, value of 2 to 5, and chroma of 2 or less. It is sand, fine sand, or loamy sand.

The Bh2 horizon has hue of 5YR to 10YR, value of 2 to 3, and chroma of 2 or less. It is sand, fine sand, or loamy sand.

Bama Series

The Bama series consists of very deep, well drained soils that formed in loamy sediments. These soils are on summits and shoulder slopes in the uplands. In most years, the seasonal high water table is below a depth of 6 feet throughout the year. Slopes range from 0 to 5 percent. These soils are fine-loamy, siliceous, subactive, thermic Typic Paleudults.

Bama soils are geographically associated with Emory, Malbis, Notcher, and Red Bay soils. The Emory soils are in shallow depressions and have a dark red argillic horizon. The Malbis and Notcher soils are in slightly lower positions than the Bama soils, have a brownish argillic horizon, and have a significant accumulation of plinthite in the subsoil. The Red Bay soils are in positions similar to those of the Bama soils and have a dark red argillic horizon.

Typical pedon of Bama fine sandy loam, 0 to 2 percent slopes; about 300 feet north and 500 feet east of the intersection of County Highways 97 and 4 in the northern part of the county; 1,300 feet south and 350 feet east of the northwest corner of sec. 7, T. 5 N., R. 33 W.

Ap—0 to 6 inches; brown (10YR 5/3) fine sandy loam; weak medium granular structure; friable; common medium, fine, and very fine roots; moderately acid; clear smooth boundary.

Bt1—6 to 20 inches; reddish yellow (5YR 6/6) sandy clay loam; weak medium subangular blocky structure; friable; common fine roots; few faint clay films on faces of peds; few pebbles of ironstone; strongly acid; clear smooth boundary.

Bt2—20 to 32 inches; yellowish red (5YR 5/8) sandy clay loam; weak medium subangular blocky structure; friable; few fine roots; few faint clay films on faces of peds; strongly acid; gradual wavy boundary.

Bt3—32 to 56 inches; red (2.5YR 5/8) sandy clay loam; moderate medium subangular blocky structure; firm; few faint clay films on faces of peds; strongly acid; gradual wavy boundary.

Bt4—56 to 80 inches; red (10R 5/8) sandy clay loam; weak medium subangular block structure; firm; few faint clay films on faces of peds; strongly acid.

The solum is more than 60 inches thick. The content of ironstone concretions, quartz gravel, or both ranges from 0 to 15 percent, by volume, in the solum. Reaction ranges from very strongly acid to slightly acid in the A and E horizons, except in areas where lime has been applied, and from very strongly acid to moderately acid in the Bt horizon.

The A or Ap horizon has hue of 5YR to 10YR, value of 3 to 5, and chroma of 2 to 4.

The E horizon, where present, has hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 4 to 8. It is fine sandy loam or sandy loam.

The Bt horizon dominantly has hue of 10R to 5YR, value of 4 to 6, and chroma of 6 to 8. In some pedons, however, below a depth of about 40 inches the Bt horizon has hue of 10R or 2.5YR, value of 3, and chroma of 4 to 6. In the lower part of some pedons, the Bt horizon has redoximorphic accumulations in shades of brown. These accumulations are assumed to be relict features. The texture is loam, sandy clay loam, or clay loam.

Bigbee Series

The Bigbee series consists of very deep, excessively drained soils that formed in sandy fluvial sediments. These soils are on high parts of natural levees on flood plains. The seasonal high water table is within a depth of 3½ to 6 feet from December through April in most years. These soils are subject to occasional flooding for brief periods. Slopes range from 0 to 5 percent. These soils are thermic, coated Typic Quartzipsamments.

Bigbee soils are geographically associated with Fluvaquents and Garcon, Mantachie, and Yemassee soils. The very poorly drained Fluvaquents are in depressions on the lower parts of the flood plains. The somewhat poorly drained Garcon and Yemassee soils are on low terraces and have loamy subsoil layers. The somewhat poorly drained, loamy Mantachie soils are on the lower parts of the flood plains.

Typical pedon of Bigbee fine sand, in an area of Garcon-Bigbee-Yemassee complex, 0 to 5 percent slopes, occasionally flooded; in the Bristol Park subdivision, about 3,165 feet north and 3,170 feet east of the southwest corner of sec. 3, T. 1 S., R. 31 W.

A—0 to 7 inches; dark grayish brown (10YR 4/2) fine sand; weak fine granular structure; very friable; common medium and fine roots; strongly acid; clear wavy boundary.

C1—7 to 18 inches; yellowish brown (10YR 5/4) fine sand; single grained; loose; strongly acid; gradual wavy boundary.

C2—18 to 25 inches; light yellowish brown (10YR 6/4) fine sand; single grained; loose; strongly acid; gradual wavy boundary.

C3—25 to 35 inches; light yellowish brown (10YR 6/4) fine sand; single grained; loose; few faint streaks of clean sand; common medium prominent reddish yellow (7.5YR 6/6) masses of iron accumulation with sharp boundaries throughout the matrix; strongly acid; clear wavy boundary.

C4—35 to 63 inches; white (10YR 8/1) fine sand; single grained; loose; common medium faint very pale brown (10YR 7/4) masses of iron accumulation with clear boundaries; strongly acid; gradual wavy boundary.

C5—63 to 80 inches; light gray (10YR 7/1) fine sand; single grained; loose; common medium faint gray (10YR 6/1) iron depletions; strongly acid.

The combined thickness of the sandy sediments is more than 80 inches. Reaction ranges from very strongly acid to moderately acid throughout the profile, except in areas where lime has been applied.

The A horizon has hue of 10YR, value of 3 to 5, and chroma of 2 to 4.

The upper part of the C horizon has hue of 10YR or 7.5YR, value of 4 to 7, and chroma of 4 or 5. Redoximorphic features, if present, are in shades of brown. The texture is sand or fine sand. The lower part of the C horizon has hue of 10YR, value of 6 to 8, and chroma of 1 to 6. It has few to many redoximorphic accumulations in shades of brown and yellow. It has few or common redoximorphic depletions in shades of brown and gray below a depth of 40 inches. In many pedons, the C horizon has few or common streaks or pockets of uncoated sand.

Bonifay Series

The Bonifay series consists of very deep, well drained soils that formed in sandy and loamy marine sediments. These soils are on broad summits, shoulder slopes, and side slopes in the uplands. The seasonal high water table is at a depth of 3½ to 5 feet from December through April in most years. Slopes range from 0 to 8 percent. These soils are loamy, siliceous, subactive, thermic Grossarenic Plinthic Paleudults.

Bonifay soils are geographically associated with Albany, Lakeland, and Troup soils. The somewhat poorly drained Albany soils are in lower positions than the Bonifay soils and do not have a significant accumulation of plinthite in the subsoil. The excessively drained Lakeland and somewhat excessively drained Troup soils are in slightly higher

positions than the Bonifay soils and do not have a significant accumulation of plinthite in the subsoil.

Typical pedon of Bonifay loamy sand, 0 to 5 percent slopes; about 1,000 feet south and 3,170 feet east of the northwest corner of sec. 13, T. 3 N., R. 33 W.

A—0 to 3 inches; dark grayish brown (10YR 4/2) loamy sand; weak fine granular structure; very friable; common medium, fine, and very fine roots; strongly acid; clear smooth boundary.

E1—3 to 16 inches; yellowish brown (10YR 5/6) loamy sand; weak coarse subangular blocky structure; very friable; few medium and fine roots; strongly acid; gradual wavy boundary.

E2—16 to 34 inches; brownish yellow (10YR 6/6) loamy sand; weak coarse subangular blocky structure; very friable; strongly acid; gradual wavy boundary.

E3—34 to 54 inches; brownish yellow (10YR 6/6) loamy sand; weak coarse subangular blocky structure; very friable; common medium faint very pale brown (10YR 7/3) iron depletions; common medium faint yellowish brown (10YR 5/4) masses of iron accumulation; strongly acid; clear wavy boundary.

Btv—54 to 80 inches; 25 percent yellow (10YR 7/6), 25 percent light gray (10YR 7/2), 20 percent strong brown (7.5YR 5/8), 15 percent pale yellow (2.5Y 7/4), and 15 percent red (10R 4/6) sandy clay loam; moderate medium subangular blocky structure; firm; few faint clay films on faces of peds; about 12 percent, by volume, firm and brittle masses of plinthite; about 4 percent, by volume, rounded quartzite pebbles; areas of yellow, strong brown, and red are masses of iron accumulation; areas of light gray are iron depletions; strongly acid.

The solum is more than 60 inches thick. Reaction is very strongly acid or strongly acid throughout the profile, except in areas where lime has been applied.

The A or Ap horizon has hue of 10YR, value of 3 to 5, and chroma of 1 to 3.

The E horizon has hue of 10YR, value of 5 to 7, and chroma of 3 to 8. In many pedons, it has few to common, fine to coarse streaks or pockets of whitish or grayish uncoated sand. It has few or common redoximorphic accumulations in shades of yellow, olive, brown, and red in the lower part. The quantity of redoximorphic depletions in shades of brown and gray ranges from none to common below a depth of 40 inches. The texture is loamy sand.

The Btv horizon commonly has no dominant matrix color and is multicolored in shades of brown, red, yellow, and gray. In some pedons, however, it has hue of 10YR or 7.5YR, value of 5 or 6, and chroma of 4 to 8. It has few to many masses of iron accumulation in shades of yellow, brown, or red and iron depletions in shades of brown and gray. It is sandy loam, fine sandy loam, or sandy clay loam.

Corolla Series

The Corolla series consists of very deep, somewhat poorly drained soils that formed in thick deposits of marine sands that have been reworked by wind and wave action. These soils are on the lower parts of dunes and in shallow swales between dunes on the barrier islands and near the coastal beaches on the mainland. The seasonal high water table is influenced by daily tidal fluctuations. In most years, it is at a depth of 1$^1/_2$ to 3 feet throughout the year. These soils are subject to rare flooding. Slopes range from 2 to 6 percent. These soils are thermic, uncoated Aquic Quartzipsamments.

Corolla soils are geographically associated with Direго, Duckston, Kureb, Newhan, and Resota soils. The very poorly drained Direго soils are in tidal marshes and have a thick, histic epipedon. The poorly drained Duckston soils are in lower positions than the Corolla soils on flats and in swales between dunes. The excessively drained Kureb and moderately well drained Resota soils are in the higher positions and have spodic materials in the subsoil. The excessively drained Newhan soils are in the higher positions on the dunes.

Typical pedon of Corolla sand, in an area of Newhan-Corolla complex, rolling, rarely flooded; in Big Lagoon State Recreation Area, about 2,640 feet south and 675 feet west of the northeast corner of sec. 13, T. 3 S., R. 32 W.

A—0 to 5 inches; grayish brown (10YR 5/2) sand; single grained; loose; few fine roots; moderately acid; clear wavy boundary.

C1—5 to 28 inches; very pale brown (10YR 7/3) sand; single grained; loose; common medium distinct brown (10YR 4/3) streaks of organic stains; moderately acid; clear wavy boundary.

C2—28 to 40 inches; white (N 8/0) sand; single grained; loose; common fine prominent strong brown (7.5YR 5/8) masses of iron accumulation with sharp boundaries throughout the matrix; common medium prominent brown (10YR 4/3) streaks of organic stains; moderately acid; gradual wavy boundary.

C3—40 to 48 inches; white (10YR 8/1) sand; single grained; loose; common fine prominent yellowish

red (5YR 5/8) masses of iron accumulation with sharp boundaries throughout the matrix; moderately acid; gradual wavy boundary.
C4—48 to 80 inches; light gray (10YR 7/1) sand; single grained; loose; common black sand grains; moderately acid.

The combined thickness of the sandy sediments is more than 80 inches. Reaction ranges from moderately acid to slightly alkaline throughout the profile. In many pedons, the profile contains dark sand grains of ilmenite or other dark colored minerals.

The A horizon has hue of 10YR or 2.5Y, value of 3 to 7, and chroma of 1 to 3; or it is neutral in hue and has value of 3 to 7.

The upper part of the C horizon has hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 3 or 4. It has few or common masses of iron accumulation in shades of red, yellow, and brown. The lower part has hue of 10YR or 2.5Y, value of 4 to 8, and chroma of 1 or 2; or it is neutral in hue and has value of 7 or 8.

Cowarts Series

The Cowarts series consists of very deep, well drained soils that formed in loamy marine sediments. These soils are on side slopes of ridges in the uplands. In most years, the seasonal high water table is below a depth of 6 feet throughout the year. Slopes are short and complex and range from 12 to 18 percent. These soils are fine-loamy, kaolinitic, thermic Typic Kanhapludults.

Cowarts soils are geographically associated with Lakeland, Maubila, Notcher, Poarch, and Troup soils. The Lakeland soils are on summits and are sandy throughout. The Maubila soils are in positions similar to those of the Cowarts soils and have a clayey argillic horizon. The Notcher and Poarch soils are on summits and shoulder slopes and have significant accumulations of plinthite in the lower part of the subsoil. Also, Poarch soils are coarse-loamy. The Troup soils are on summits or in positions similar to those of the Cowarts soils on side slopes and have a thick, sandy epipedon.

Typical pedon of Cowarts sandy loam, in an area of Cowarts-Troup complex, 12 to 18 percent slopes; about 1,670 feet south and 2,085 feet east of the northwest corner of sec. 15, T. 4 N., R. 32 W.

A—0 to 4 inches; dark grayish brown (10YR 4/2) sandy loam; weak fine granular structure; very friable; many medium and fine roots; strongly acid; clear wavy boundary.
BE—4 to 9 inches; strong brown (7.5YR 5/6) sandy loam; weak fine subangular blocky structure; very friable; common medium and fine roots; strongly acid; clear wavy boundary.
Bt1—9 to 22 inches; strong brown (7.5YR 5/8) sandy clay loam; moderate medium subangular blocky structure; friable; few medium and fine roots; few faint clay films on faces of peds; strongly acid; gradual wavy boundary.
Bt2—22 to 32 inches; strong brown (7.5YR 5/8) sandy clay loam; moderate medium subangular blocky structure; friable; few faint clay films on faces of peds; common medium distinct red (2.5YR 4/8) masses of iron accumulation; common medium distinct light brownish gray (10YR 6/2) iron depletions; the redoximorphic features are assumed to be relict features; strongly acid; gradual wavy boundary.
BC—32 to 40 inches; strong brown (7.5YR 5/8) sandy loam; weak coarse subangular blocky structure; friable; common medium distinct yellowish red (5YR 5/8) and red (2.5YR 4/8) masses of iron accumulation; common medium distinct light brownish gray (10YR 6/2) and grayish brown (10YR 5/2) iron depletions with gradual boundaries throughout the matrix; strongly acid; gradual wavy boundary.
C—40 to 80 inches; strong brown (7.5YR 5/8) sandy loam; massive; very friable; common thin strata of loamy sand; common medium distinct brownish yellow (10YR 6/6), yellowish red (5YR 5/8), and red (2.5YR 4/8) masses of iron accumulation; common medium distinct light brownish gray (10YR 6/2) and grayish brown (10YR 5/2) iron depletions with gradual boundaries throughout the matrix; strongly acid.

The solum ranges from 18 to 40 inches in thickness. Reaction is very strongly acid or strongly acid throughout the profile, except for the surface layer in areas where lime has been applied.

The A or Ap horizon has hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2 to 4.

The BE horizon, where present, has hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 4 to 8. It is sandy loam or fine sandy loam.

The Bt horizon commonly has hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 4 to 8. In some pedons, however, it has hue of 5YR, value of 5 or 6, and chroma of 4 to 8. It is sandy loam, fine sandy loam, or sandy clay loam. Redoximorphic accumulations, if present, are in shades of yellow, olive, brown, and red and are assumed to be relict features.

The BC horizon, where present, has hue of 10YR to 5YR, value of 4 to 8, and chroma of 3 to 8; or it does not have a dominant matrix color and is multicolored in

shades of red, brown, yellow, and gray. The texture ranges from sandy loam to sandy clay.

The C horizon, or the Cd horizon where present, has the same range in hue, value, and chroma as the BC horizon. The C horizon is commonly layered and pocketed with finer- and coarser-textured sediments. The texture ranges from loamy sand to sandy clay loam.

Croatan Series

The Croatan Series consists of very deep, very poorly drained soils that formed in highly decomposed plant materials and the underlying loamy and sandy sediments. These soils are in depressions in the coastal lowlands. The seasonal high water table ranges from 1 foot above the surface to a depth of 1/2 foot from December through July in most years. Slopes are less than 1 percent. These soils are loamy, siliceous, dysic, thermic Terric Medisaprists.

Croatan soils are geographically associated with Dorovan, Hurricane, Leon, and Pickney soils in the southwestern part of the county and with Escambia and Robertsdale soils in the central and northern parts. All of the associated soils, except the Dorovan soils, are in higher positions than the Croatan soils and are mineral soils. The Dorovan soils are in lower positions than the Croatan soils and have a histic epipedon that is more than 51 inches thick.

Typical pedon of Croatan muck, depressional; about 665 feet west and 1,985 feet south of the northeast corner of sec. 3, T. 1 S., R. 31 W.

Oa1—0 to 15 inches; black (10YR 2/1) muck, rubbed and unrubbed; less than 5 percent fiber rubbed and unrubbed; common medium, fine, and very fine roots; about 95 percent organic matter; extremely acid; gradual wavy boundary.

Oa2—15 to 25 inches; dark brown (7.5YR 3/2) muck, rubbed and unrubbed; less than 5 percent fiber rubbed and unrubbed; few medium, fine, and very fine roots; about 95 percent organic matter; extremely acid; gradual wavy boundary.

2Ag—25 to 33 inches; dark grayish brown (10YR 4/2) loam; massive; very friable; estimated 10 percent organic matter; extremely acid; gradual wavy boundary.

2Cg1—33 to 50 inches; gray (10YR 6/1) sandy loam; massive; very friable; extremely acid; gradual wavy boundary.

2Cg2—50 to 60 inches; gray (10YR 6/1) loamy sand; massive; very friable; extremely acid; gradual wavy boundary.

2Cg3—60 to 80 inches; 60 percent gray (10YR 6/1) and 40 percent dark gray (10YR 4/1) sand; massive; very friable; extremely acid.

The combined thickness of the organic layers ranges from 16 to 51 inches. The O horizon is ultra acid or extremely acid. The 2A and 2C horizons range from extremely acid to slightly acid. Woody materials make up less than 10 percent of the O horizon. The content of fiber in the O horizon ranges from 3 to 30 percent unrubbed and is less than 10 percent rubbed.

The Oa horizon has hue of 10YR or 7.5YR, value of 2 or 3, and chroma of 1 or 2.

The 2Ag horizon has hue of 10YR or 2.5Y, value of 2 to 7, and chroma of 1 or 2. It is loam, fine sandy loam, sandy loam, or mucky sandy loam.

The 2Cg horizon has hue of 10YR, 2.5Y, 5GY, or 5G; value of 2 to 7; and chroma of 1 or 2. The texture ranges from sand to clay loam.

Diego Series

The Diego series consists of very deep, very poorly drained organic soils that formed in highly decomposed plant materials and the underlying sandy sediments. These soils are in tidal marshes on the barrier islands and adjacent to the coastline. Diego soils have a high water table within a depth of 1/2 foot throughout the year and are subject to daily flooding by the tides. Slopes are less than 1 percent. These soils are sandy or sandy-skeletal, siliceous, euic, thermic Terric Sulfisaprists.

Diego soils are geographically associated with Corolla, Duckston, Leon, Newhan, and Pickney soils. All of the associated soils are in higher positions than the Diego soils and are mineral soils.

Typical Pedon of Diego muck, in an area of Diego muck, tidal; on Santa Rosa Island, about 2.0 miles east of Big Sabine Point and 0.7 mile north of County Road 399; lat. 30 degrees 21 minutes 32 seconds N. and long. 87 degrees 00 minutes 51 seconds W.

Oa1—0 to 8 inches; very dark brown (10YR 2/2) muck; less than 10 percent fiber rubbed and unrubbed; many medium and fine roots; strong odor of hydrogen sulfide; slightly acid when wet, extremely acid when dry; gradual smooth boundary.

Oa2—8 to 35 inches; black (10YR 2/1) muck; less than 5 percent fiber rubbed and unrubbed; slightly acid when wet, extremely acid when dry; clear smooth boundary.

2Cg1—35 to 43 inches; dark grayish brown (10YR 4/2) fine sand; single grained; loose; slightly acid when wet, extremely acid when dry; gradual wavy boundary.

2Cg2—43 to 80 inches; grayish brown (10YR 5/2) fine sand; single grained; loose; slightly acid when wet, extremely acid when dry.

The organic material is dominantly sapric. When the Oa horizon is in its natural wet condition, reaction is slightly acid or neutral. When it is dry, reaction is extremely acid or ultra acid. The 2Cg horizon is moderately acid or slightly acid when wet.

The Oa horizon has hue of 5YR to 10YR, value of 2 or 3, and chroma of 1 or 2; or it is neutral in hue and has value of 2 or 3.

The 2Cg horizon has hue of 7.5YR to 5Y, value of 2 to 7, and chroma of 1 or 2; or it is neutral in hue and has value of 2 to 8. It is loamy fine sand, fine sand, sand, mucky fine sand, or mucky sand. In some pedons, the horizon has thin subhorizons of fine sandy loam; but the average texture of the mineral part of the control section is loamy fine sand or fine sand.

Dorovan Series

The Dorovan series consists of very deep, very poorly drained organic soils that formed in highly decomposed remains of woody and herbaceous plants. These soils are in depressions on nearly level flood plains along streams and rivers. The seasonal high water table ranges from 2 feet above the surface to a depth of 1/2 foot from December through July in most years. Slopes are less than 1 percent. These soils are dysic, thermic Typic Medisaprists.

Dorovan soils are geographically associated with Fluvaquents and Croatan, Mantachie, Pelham, and Yemassee soils. The Croatan soils are in positions similar to those of the Dorovan soils and have loamy or sandy sediments within a depth of 51 inches. The Fluvaquents and Mantachie soils are in slightly higher positions than the Dorovan soils on flood plains and are mineral soils. The Pelham and Yemassee soils are in higher positions than the Dorovan soils on terraces and are mineral soils.

Typical pedon of Dorovan muck, in an area of Dorovan muck and Fluvaquents, frequently flooded; on the flood plains along the Escambia River, about 1,500 feet south and 1,170 feet east of the northwest corner of sec. 19, T. 2 N., R. 30 W.

Oa1—0 to 8 inches; dark reddish brown (5YR 3/2) muck; about 25 percent fiber unrubbed, 5 percent rubbed; many medium and fine roots; very strongly acid; gradual wavy boundary.

Oa2—8 to 45 inches; black (5YR 2/1) muck; about 10 percent fiber unrubbed, 2 percent rubbed; common medium and fine roots; very strongly acid; gradual wavy boundary.

Oa3—45 to 80 inches; black (N 2/0) muck; about 10 percent fiber unrubbed, 2 percent rubbed; very strongly acid.

The combined thickness of the organic material ranges from 51 to more than 80 inches. Reaction is extremely acid or very strongly acid throughout the profile.

The Oa horizon has hue of 5YR to 10YR, value of 2 or 3, and chroma of 1 to 3; or it is neutral in hue and has value of 2 or 3. The content of fiber is generally less than 30 percent unrubbed and less than 15 percent rubbed.

The 2Cg horizon, where present, is neutral in hue and has value of 2.5 to 6; or it has hue of 10YR, 2.5Y, or 5Y, value of 2 to 5, and chroma of 1 or 2. It is sand, fine sand, loamy sand, loamy fine sand, sandy loam, fine sandy loam, clay, or their mucky analogues.

Duckston Series

The Duckston series consists of very deep, poorly drained soils that formed in sandy marine sediments. These soils are on flats and in swales between dunes. They are on the barrier islands and adjacent to the coastal beaches on the mainland. The seasonal high water table is influenced by daily tidal fluctuations. In most years, it is within a depth of 1/2 foot throughout the year. Duckston soils are subject to occasional or frequent flooding for brief periods throughout the year. Slopes range from 0 to 2 percent. These soils are siliceous, thermic Typic Psammaquents.

Duckston soils are geographically associated with Corolla, Direго, and Newhan soils. The somewhat poorly drained Corolla and excessively drained Newhan soils are in higher positions than the Duckston soils on dunes adjacent to the Duckston soils. The very poorly drained Direго soils are in tidal marshes and are organic soils.

Typical pedon of Duckston sand, frequently flooded; in Big Lagoon State Recreation Area, about 2,670 feet south and 670 feet west of the northeast corner of sec. 13, T. 3 S., R. 32 W.

Oa—0 to 1 inch; black (10YR 2/1) muck; less than 5 percent fiber rubbed and unrubbed; common fine roots; slightly acid; clear wavy boundary.

A—1 to 4 inches; very dark gray (10YR 3/1) sand; weak medium granular structure; very friable; common fine roots; common medium faint very dark grayish brown (10YR 3/2) streaks of organic stains; common thin streaks and pockets of light gray (10YR 7/1) clean sand; slightly acid; clear wavy boundary.

Cg1—4 to 12 inches; light gray (10YR 7/2) sand;

single grained; loose; many coarse faint pale brown (10YR 6/3) masses of iron accumulation; strong odor of hydrogen sulfide; slightly acid; gradual wavy boundary.

Cg2—12 to 50 inches; light gray (10YR 7/2) sand; single grained; loose; slightly acid; gradual wavy boundary.

Cg3—50 to 80 inches; white (10YR 8/2) sand; single grained; loose; common black sand grains; slightly acid.

The combined thickness of the sandy sediments is more than 80 inches. Reaction ranges from extremely acid to moderately alkaline throughout the profile. Small fragments of mollusk shells are in some pedons.

The Oa horizon, or the Oe horizon where present, has hue of 10YR, value of 2 or 3, and chroma of 1 or 2. It is less than 8 inches thick.

The A horizon has hue of 10YR to 5Y, value of 3 to 5, and chroma of 1 or 2; or it is neutral in hue and has value of 2.5 to 5.

The Cg horizon commonly has hue of 10YR to 5Y, value of 5 to 8, and chroma of 1 or 2. In some pedons, however, it has hue of 5GY, value of 5 or 6, and chroma of 1. In some pedons, it has redoximorphic accumulations in shades of yellow, olive, brown, and red and redoximorphic depletions in shades of brown and gray.

Emory Series

The Emory series consists of very deep, well drained soils that formed in loamy sediments. These soils are in shallow depressions on broad, nearly level summits in the uplands. The seasonal high water table is below a depth of 6 feet. Most areas, however, are subject to ponding for 2 to 7 days following periods of heavy rainfall. Slopes are 0 to 1 percent.

The Emory soils in this survey area are taxadjuncts to the Emory series because they do not have the high content of silt and dark surface colors that are definitive for the series. These differences, however, do not significantly affect the use, management, or interpretations of the soils. The soils of the Emory series are classified as fine-silty, siliceous, active, thermic Fluventic Umbric Dystrochrepts. In this survey area, the Emory soils are fine-loamy, siliceous, subactive, thermic Rhodic Paleudults.

Emory soils are geographically associated with Bama, Perdido, Poarch, and Red Bay soils. The Bama and Red Bay soils are in slightly higher, more convex positions than the Emory soils and are not subject to ponding. The Perdido and Poarch soils are in higher, more convex positions, are coarse-loamy, and have a significant accumulation of plinthite in the lower part of the subsoil.

Typical pedon of Emory fine sandy loam, ponded; about 200 feet east and 600 feet north of the southwest corner of sec. 14, T. 5 N., R. 32 W.

Ap—0 to 10 inches; brown (7.5YR 4/4) fine sandy loam; moderate fine granular structure; very friable; common medium roots and many fine and very fine roots; strongly acid; clear wavy boundary.

Bt1—10 to 15 inches; dusky red (10R 3/4) sandy clay loam; weak medium subangular blocky structure; friable; common medium roots and many fine and very fine roots; few faint clay films on faces of peds; strongly acid; clear wavy boundary.

Bt2—15 to 24 inches; dark red (10R 3/6) sandy clay loam; moderate medium subangular blocky structure; friable; few fine roots; few faint clay films on faces of peds; extremely acid; gradual wavy boundary.

Bt3—24 to 80 inches; dark red (10R 3/6) sandy clay loam; moderate medium subangular blocky structure; friable; few fine roots; few faint clay films on faces of peds; extremely acid.

The solum is more than 60 inches thick. Reaction ranges from extremely acid to moderately acid in the Ap horizon, except in areas where lime has been applied, and from extremely acid to strongly acid in the Bt horizon.

The Ap horizon has hue of 2.5YR to 10YR, value of 3 or 4, and chroma of 2 to 4.

The BA horizon, where present, has hue of 2.5YR to 7.5YR, value of 3 or 4, and chroma of 4 to 6. It is sandy loam or sandy clay loam.

The Bt horizon has hue of 10R or 2.5YR, value of 3, and chroma of 4 to 6. It is commonly sandy clay loam; in some pedons, however, it is sandy clay in the lower part. Also, in some pedons, it has a thin subhorizon of sandy loam in the upper part.

Escambia Series

The Escambia series consists of very deep, somewhat poorly drained soils that formed in loamy sediments. These soils are in slightly convex positions on broad, nearly level flats and summits. The seasonal high water table is at a depth of 1½ to 2½ feet from December through April in most years. Slopes range from 0 to 2 percent. These soils are coarse-loamy, siliceous, semiactive, thermic Plinthaquic Paleudults.

Escambia soils are geographically associated with Grady, Notcher, Poarch, and Robertsdale soils. The poorly drained Grady soils are in depressions and

have a clayey argillic horizon. The moderately well drained Notcher and well drained Poarch soils are in slightly higher positions than the Escambia soils. Robertsdale soils are in positions similar to those of the Escambia soils and are fine-loamy.

Typical pedon of Escambia fine sandy loam, 0 to 2 percent slopes; about 415 feet north and 2,085 feet east of the southwest corner of sec. 25, T. 1 S., R. 31 W.

A—0 to 5 inches; very dark grayish brown (2.5Y 3/2) fine sandy loam; weak medium granular structure; very friable; common medium and fine roots; very strongly acid; clear smooth boundary.

E—5 to 10 inches; grayish brown (2.5Y 5/2) fine sandy loam; weak medium granular structure; very friable; common medium and fine roots; common medium distinct light yellowish brown (10YR 6/4) masses of iron accumulation; very strongly acid; clear smooth boundary.

Bt—10 to 24 inches; light yellowish brown (10YR 6/4) fine sandy loam; weak medium subangular blocky structure; very friable; common fine roots; few faint clay films on faces of peds; common medium faint light brownish gray (10YR 6/2) iron depletions; few medium prominent strong brown (7.5YR 5/8) masses of iron accumulation with sharp boundaries throughout the matrix; very strongly acid; gradual wavy boundary.

Btv1—24 to 48 inches; light yellowish brown (10YR 6/4) fine sandy loam; weak medium subangular blocky structure; very friable; few faint clay films on faces of peds; about 3 percent firm and brittle masses of dark red (2.5YR 3/6) plinthite; common medium faint very pale brown (10YR 7/4), common medium prominent strong brown (7.5YR 5/8), and common medium faint brownish yellow (10YR 6/6) masses of iron accumulation; common medium faint light gray (10YR 7/2) irregularly shaped iron depletions; very strongly acid; gradual wavy boundary.

Btv2—48 to 60 inches; 35 percent light gray (10YR 7/2), 35 percent brownish yellow (10YR 6/6), and 30 percent strong brown (7.5YR 5/8) fine sandy loam; weak medium subangular blocky structure; very friable; common faint clay films on faces of peds; about 7 percent firm and brittle masses of dark red (2.5YR 3/6) plinthite; areas of brownish yellow and strong brown are masses of iron accumulation; areas of light gray are iron depletions; very strongly acid; gradual wavy boundary.

Btv3—60 to 80 inches; 30 percent light gray (10YR 7/2), 25 percent brownish yellow (10YR 6/8), 25 percent strong brown (7.5YR 5/8), and 20 percent red (2.5YR 5/8) fine sandy loam; weak coarse subangular blocky structure; firm; few faint clay films on faces of peds; about 12 percent firm and brittle masses of dark red (2.5YR 3/6) plinthite; areas of brownish yellow, strong brown, and red are masses of iron accumulation; areas of light gray are iron depletions; very strongly acid.

The solum is more than 60 inches thick. Depth to horizons that have more than 5 percent plinthite ranges from 20 to 48 inches. Reaction ranges from extremely acid to strongly acid throughout the profile, except for surface layer in areas where lime has been applied.

The A or Ap horizon has hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 1 or 2.

The E horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 2 to 4. It is sandy loam, fine sandy loam, or loam.

The upper part of the Bt horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 3 to 8. It has few to many redoximorphic accumulations in shades of yellow, olive, brown, and red and redoximorphic depletions in shades of brown and gray. It is fine sandy loam, sandy loam, or loam.

The lower part of the Bt horizon commonly has no dominant matrix color and is multicolored in shades of brown, gray, olive, and red; or it has hue of 10YR to 5Y, value of 5 to 7, and chroma of 3 to 8. It has common or many redoximorphic accumulations in shades of brown, yellow, and olive and redoximorphic depletions in shades of brown and gray. It is fine sandy loam, loam, or sandy clay loam. The content of plinthite ranges from 5 to about 25 percent, by volume.

Eunola Series

The Eunola series consists of very deep, moderately well drained soils that formed in loamy and sandy fluvial sediments. These soils are on low terraces adjacent to major streams and rivers. The seasonal high water table is at a depth of 1½ to 2½ feet from December through April in most years. These soils are subject to occasional flooding. Slopes range from 0 to 5 percent. These soils are fine-loamy, siliceous, semiactive, thermic Aquic Hapludults.

Eunola soils are geographically associated with Albany, Izagora, Weston, and Yemassee soils. The Albany, Izagora, and Yemassee soils are in positions similar to those of the Eunola soils on low terraces. The Albany soils are somewhat poorly drained and have a thick, sandy epipedon. The Izagora soils do not have a significant decrease in clay content within a depth of 60 inches. The Yemassee soils are somewhat

poorly drained. The poorly drained Weston soils are in shallow drainageways.

Typical pedon of Eunola fine sandy loam, 0 to 2 percent slopes, occasionally flooded; about 625 feet south of Fletcher Creek and 935 feet east of the railroad tracks, in a wooded area near Cotton Lake Road; about 1.25 miles east and 1.8 miles south of the northwest corner of Spanish Land Grant 2, T. 3 N., R. 31 W.

A—0 to 5 inches; dark brown (10YR 3/3) fine sandy loam; moderate medium granular structure; very friable; common medium and fine roots; strongly acid; clear smooth boundary.

BE—5 to 10 inches; yellowish brown (10YR 5/4) fine sandy loam; weak fine subangular blocky structure; very friable; common medium and fine roots; strongly acid; clear smooth boundary.

Bt1—10 to 18 inches; yellowish brown (10YR 5/6) sandy loam; moderate medium subangular blocky structure; friable; common fine roots; few faint clay films on faces of peds; strongly acid; clear smooth boundary.

Bt2—18 to 28 inches; yellowish brown (10YR 5/6) sandy clay loam; moderate medium subangular blocky structure; friable; few fine roots; few faint clay films on faces of peds; common coarse distinct very pale brown (10YR 7/3) and common medium distinct light gray (10YR 7/2) areas of iron depletion with sharp boundaries throughout the matrix; strongly acid; clear wavy boundary.

Bt3—28 to 38 inches; yellowish brown (10YR 5/8) sandy clay loam; moderate medium subangular blocky structure; friable; few faint clay films on faces of peds; common medium distinct very pale brown (10YR 7/3) and common medium distinct light gray (10YR 7/2) areas of iron depletion with sharp boundaries throughout the matrix; strongly acid; gradual wavy boundary.

Bt4—38 to 50 inches; yellowish brown (10YR 5/6) sandy clay loam; moderate medium subangular blocky structure; friable; few faint clay films on faces of peds; common medium distinct strong brown (7.5YR 5/8) masses of iron accumulation; common medium distinct very pale brown (10YR 7/3) and light gray (10YR 7/2) irregularly shaped iron depletions with sharp boundaries throughout the matrix; strongly acid; clear wavy boundary.

2C1—50 to 58 inches; yellowish brown (10YR 5/6) loamy sand; massive; very friable; common medium distinct strong brown (7.5YR 5/8) masses of iron accumulation with sharp boundaries throughout the matrix; strongly acid; gradual wavy boundary.

2C2—58 to 80 inches; yellowish brown (10YR 5/6) sand; single grained; loose; common medium distinct strong brown (7.5YR 5/8) masses of iron accumulation; common medium faint pale brown (10YR 6/3) irregularly shaped iron depletions with sharp boundaries throughout the matrix; strongly acid.

The solum is more than 40 inches thick. Reaction is very strongly acid or strongly acid throughout the profile, except for the surface layer in areas where lime has been applied.

The A or Ap horizon has hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 1 to 4.

The BE horizon, which is present in most pedons, has hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 4 to 8. It is sandy loam or fine sandy loam.

The upper part of the Bt horizon has hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 4 to 8. The quantity of redoximorphic accumulations in shades of yellow, olive, brown, and red and redoximorphic depletions in shades of brown and gray ranges from none to common. The texture is sandy loam, sandy clay loam, or clay loam.

The lower part of the Bt horizon has hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 4 to 8; or it has no dominant matrix color and is multicolored in shades of brown, yellow, gray, and red. It has few to many redoximorphic accumulations in shades of brown, yellow, or red and redoximorphic depletions in shades of brown or gray. It is sandy clay loam, clay loam, or sandy clay.

The 2C horizon has a range in color similar to that of the lower part of the Bt horizon. The texture is sand, loamy sand, sandy loam, or fine sandy loam. In many pedons, the 2C horizon has strata of finer- and coarser-textured sediments.

Foxworth Series

The Foxworth series consists of very deep, moderately well drained soils that formed in sandy sediments. These soils are on low ridges and on knolls. They are in the coastal lowlands. The seasonal high water table is at a depth of 3½ to 6 feet from December through April in most years. Slopes range from 0 to 5 percent. These soils are thermic, coated Typic Quartzipsamments.

Foxworth soils are geographically associated with Albany, Hurricane, and Lakeland soils. The somewhat poorly drained Albany and Hurricane soils are in slightly lower positions than the Foxworth soils. The Albany soils have a loamy argillic horizon within a depth of 40 to 80 inches. The Hurricane soils have a

spodic horizon below a depth of 50 inches. The excessively drained Lakeland soils are in slightly higher positions than the Foxworth soils.

Typical pedon of Foxworth sand, 0 to 5 percent slopes; about 50 feet north and 50 feet west of the southeast corner of sec. 7, T. 3 S., R. 32 W.

A—0 to 6 inches; dark brown (10YR 3/3) sand; weak fine granular structure; very friable; common medium and fine roots; very strongly acid; clear smooth boundary.

C1—6 to 15 inches; yellowish brown (10YR 5/6) sand; single grained; loose; common medium and fine roots; few thin streaks and fine pockets of uncoated sand; very strongly acid; clear smooth boundary.

C2—15 to 45 inches; yellowish brown (10YR 5/6) sand; single grained; loose; few thin streaks and fine pockets of uncoated sand; very strongly acid; gradual wavy boundary.

C3—45 to 55 inches; light yellowish brown (10YR 6/4) sand; single grained; loose; common medium prominent yellowish red (5YR 5/8) masses of iron accumulation; few medium faint light brownish gray (10YR 6/2) iron depletions with gradual boundaries throughout the matrix; very strongly acid; gradual wavy boundary.

C4—55 to 80 inches; white (10YR 8/2) sand; single grained; loose; common medium prominent yellowish red (5YR 5/8) masses of iron accumulation; very strongly acid.

Reaction ranges from very strongly acid to slightly acid throughout the profile, except in areas where lime has been applied.

The A or Ap horizon has hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 1 to 3.

The upper part of the C horizon has hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 3 to 8. It is sand or fine sand. The lower part has hue of 7.5YR or 10YR, value of 5 to 8, and chroma of 1 to 6 and has few or common redoximorphic accumulations in shades of yellow, olive, brown, and red and redoximorphic depletions in shades of brown and gray. It is sand or fine sand.

Garcon Series

The Garcon series consists of very deep, somewhat poorly drained soils that formed in sandy and loamy fluvial sediments. These soils are on low terraces adjacent to major streams and rivers. The seasonal high water table is at a depth of 1$^1/_2$ to 3 feet from December through April in most years. These soils are subject to occasional flooding. Slopes commonly are less than 2 percent but range from 0 to 5 percent. These soils are loamy, siliceous, semiactive, thermic Aquic Arenic Hapludults.

Garcon soils are geographically associated with Fluvaquents and Bigbee, Mantachie, and Yemassee soils. Bigbee soils are on high parts of natural levees and are sandy throughout the profile. The very poorly drained Fluvaquents and the loamy Mantachie soils are on flood plains adjacent to the Garcon soils. The Yemassee soils are in positions similar to those of the Garcon soils and do not have a thick, sandy epipedon.

Typical pedon of Garcon loamy fine sand, in an area of Garcon-Bigbee-Yemassee complex, 0 to 5 percent slopes, occasionally flooded; about 2,100 feet north and 2,700 feet east of the southwest corner of sec. 3, T. 1 S., R. 31 W.

A—0 to 5 inches; very dark gray (10YR 3/1) loamy fine sand; weak fine granular structure; very friable; common medium and fine roots; strongly acid; abrupt wavy boundary.

E1—5 to 14 inches; light yellowish brown (2.5Y 6/4) loamy fine sand; weak coarse subangular blocky structure; very friable; common fine roots; few fine prominent strong brown (7.5YR 5/6) masses of iron accumulation; strongly acid; clear smooth boundary.

E2—14 to 27 inches; light yellowish brown (2.5Y 6/4) loamy fine sand; weak coarse subangular blocky structure; very friable; few fine roots; common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation; common medium distinct light gray (10YR 7/2) irregularly shaped iron depletions with sharp boundaries throughout the matrix; strongly acid; clear smooth boundary.

Bt—27 to 38 inches; brownish yellow (10YR 6/6) fine sandy loam; weak medium subangular blocky structure; friable; few faint clay films on faces of peds; common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation; common medium distinct light gray (10YR 7/2) irregularly shaped iron depletions with diffuse boundaries throughout the matrix; strongly acid; clear wavy boundary.

Btg1—38 to 47 inches; light brownish gray (10YR 6/2) sandy clay loam; moderate medium subangular blocky structure; friable; few faint clay films on faces of peds; many medium faint light gray (10YR 7/2) and gray (10YR 5/1) irregularly shaped iron depletions with diffuse boundaries; common medium distinct dark yellowish brown (10YR 4/4) and common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation with diffuse boundaries; strongly acid; gradual wavy boundary.

Btg2—47 to 57 inches; light brownish gray (10YR 6/2) fine sandy loam; weak coarse subangular blocky structure; friable; few faint clay films on faces of peds; many medium faint light gray (10YR 7/2) and gray (10YR 5/1) irregularly shaped iron depletions with diffuse boundaries; common medium distinct dark yellowish brown (10YR 4/4) and common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation with diffuse boundaries; strongly acid; clear wavy boundary.

Cg—57 to 80 inches; white (10YR 8/1) fine sand; single grained; loose; common medium prominent brownish yellow (10YR 6/6) masses of iron accumulation with diffuse boundaries throughout the matrix; strongly acid.

The solum ranges from 45 to 60 inches in thickness. Reaction is very strongly acid or strongly acid throughout the profile, except in areas where lime has been applied.

The A horizon has hue of 10YR, value of 2 to 4, and chroma of 1 or 2.

The E horizon has hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 3 to 6. It has few or common redoximorphic accumulations in shades of brown, yellow, and red and redoximorphic depletions in shades of brown and gray. It is fine sand, loamy fine sand, or loamy sand.

The Bt horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 3 to 6. It has few or common redoximorphic accumulations in shades of brown, yellow, and red and redoximorphic depletions in shades of brown and gray. It is sandy loam, fine sandy loam, or sandy clay loam.

The Btg horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 1 or 2. It has common or many redoximorphic accumulations in shades of brown, yellow, and red and redoximorphic depletions in shades of brown and gray. It is sandy loam, fine sandy loam, or sandy clay loam.

The Cg horizon has hue of 10YR or 2.5Y, value of 6 to 8, and chroma of 1 or 2. It has few to many redoximorphic accumulations in shades of brown, yellow, and red and redoximorphic depletions in shades of brown and gray. It is sand or fine sand.

Grady Series

The Grady series consists of very deep, poorly drained soils that formed in clayey sediments. These soils are in depressions on broad, nearly level summits in the uplands. The seasonal high water table ranges from 2 feet above the surface to a depth of 1 foot from December through July in most years, except in areas that have been drained. Slopes are 0 to 1 percent. These soils are fine, kaolinitic, thermic Typic Paleaquults.

Grady soils are geographically associated with Bama, Escambia, Malbis, and Red Bay soils. The well drained Bama, Malbis, and Red Bay soils are on convex summits at slightly higher elevations than the Grady soils. The somewhat poorly drained Escambia soils are in slightly higher, more convex positions than the Grady soils and are coarse-loamy.

Typical pedon of Grady loam; about 2,700 feet south and 2,580 feet west of the northeast corner of Spanish Land Grant 38, T. 1 S., R. 31 W.

A—0 to 5 inches; very dark grayish brown (10YR 3/2) loam; weak fine granular structure; very friable; common medium and fine roots; very strongly acid; clear smooth boundary.

BE—5 to 11 inches; dark grayish brown (10YR 4/2) clay loam; weak fine subangular blocky structure; friable; few fine roots; common fine prominent reddish brown (5YR 4/4) masses of iron accumulation with gradual boundaries; very strongly acid; clear smooth boundary.

Btg1—11 to 26 inches; dark gray (10YR 4/1) clay; moderate medium subangular blocky structure; firm; few faint clay films on faces of peds; few fine prominent strong brown (7.5YR 4/6) masses of iron accumulation with sharp boundaries; very strongly acid; clear wavy boundary.

Btg2—26 to 47 inches; grayish brown (10YR 5/2) clay; moderate medium subangular blocky structure; firm; few faint clay films on faces of peds; common fine prominent strong brown (7.5YR 5/6) masses of iron accumulation with sharp boundaries; many medium faint light brownish gray (10YR 6/2) iron depletions with diffuse boundaries throughout the matrix; very strongly acid; gradual wavy boundary.

Btg3—47 to 54 inches; light brownish gray (2.5Y 6/2) clay; moderate medium subangular blocky structure; firm; few faint clay films on faces of peds; common medium faint light gray (5Y 7/2) irregularly shaped iron depletions with clear boundaries throughout the matrix; very strongly acid; gradual wavy boundary.

Btg4—54 to 80 inches; light gray (2.5Y 7/2) clay; moderate medium subangular blocky structure; firm; few faint clay films on faces of peds; many medium prominent yellowish red (5YR 5/6) and common medium prominent brown (7.5YR 4/4) masses of iron accumulation with sharp boundaries; very strongly acid.

The solum is more than 60 inches thick. Reaction ranges from extremely acid to strongly acid throughout the profile, except for the surface layer in areas where lime has been applied.

The A or Ap horizon has hue of 10YR to 5Y, value of 2 to 4, and chroma of 1 or 2; or it is neutral in hue and has value of 2 to 4.

The Eg horizon, where present, has hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 or 2. It is sandy loam, fine sandy loam, or loam.

The BE horizon, where present, has hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 or 2; or it is neutral in hue and has value of 4 to 6. It is sandy clay loam or clay loam.

The Btg horizon has hue of 10YR to 5Y, value of 4 to 7, and chroma of 1 or 2; or it is neutral in hue and has value of 4 to 7. It has few to many redoximorphic accumulations in shades of brown, yellow, or red and redoximorphic depletions in shades of gray. It is clay or sandy clay.

Hurricane Series

The Hurricane series consists of very deep, somewhat poorly drained soils that formed in sandy sediments. These soils are on broad ridges and knolls in the coastal lowlands and on low terraces adjacent to major streams and rivers. The seasonal high water table is at a depth of 1½ to 3½ feet from December through April in most years. The areas on the low terraces are subject to occasional flooding. Slopes range from 0 to 5 percent. These soils are sandy, siliceous, thermic Oxyaquic Alorthods.

Hurricane soils are geographically associated with Albany, Allanton, Foxworth, Leon, and Pottsburg soils. The Albany soils are in positions similar to those of the Hurricane soils on terraces and do not have a spodic horizon. The very poorly drained Allanton and poorly drained Pottsburg soils are on flats in slightly lower positions than the Hurricane soils. The moderately well drained Foxworth soils are on higher, more convex knolls than the Hurricane soils and do not have a spodic horizon. The poorly drained Leon soils are in areas of flatwoods and have a spodic horizon within a depth of 30 inches.

Typical pedon of Hurricane sand, 0 to 5 percent slopes; about 750 feet west and 2,375 feet south of the northeast corner of sec. 13, T. 3 S., R. 31 W.

A—0 to 5 inches; very dark grayish brown (10YR 3/2) sand; weak fine granular structure; very friable; common fine and very fine roots; strongly acid; clear smooth boundary.

E1—5 to 24 inches; yellowish brown (10YR 5/6) sand; single grained; loose; very friable; few fine roots; strongly acid; clear wavy boundary.

E2—24 to 38 inches; yellowish brown (10YR 5/6) sand; single grained; loose; common medium distinct strong brown (7.5YR 5/8) masses of iron accumulation; common medium distinct light brownish gray (10YR 6/2) iron depletions with clear boundaries throughout the matrix; strongly acid; clear wavy boundary.

Eg1—38 to 45 inches; light gray (10YR 7/2) sand; single grained; loose; common medium faint pale brown (10YR 6/3) and common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation with clear boundaries throughout the matrix; strongly acid; gradual wavy boundary.

Eg2—45 to 58 inches; white (10YR 8/2) sand; single grained; loose; strongly acid; clear smooth boundary.

Bh1—58 to 68 inches; dark reddish gray (5YR 4/2) sand; massive; very friable; about 80 percent of the sand grains are coated with organic matter; very strongly acid; gradual smooth boundary.

Bh2—68 to 80 inches; dark reddish brown (5YR 2.5/2) sand; massive; very friable; about 95 percent of the sand grains are coated with organic matter; very strongly acid.

The solum is more than 60 inches thick. Reaction ranges from extremely acid to moderately acid throughout the profile, except in areas where lime has been applied.

The A horizon has hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 1 to 3.

The E horizon has hue of 10YR or 2.5Y, value of 5 to 8, and chroma of 2 to 6. In some pedons, it has redoximorphic accumulations in shades of yellow, olive, brown, and red below a depth of 24 inches. It is sand or fine sand.

The Eg horizon has hue of 10YR or 2.5Y, value of 5 to 8, and chroma of 1 or 2. The quantity of redoximorphic accumulations in shades of yellow, olive, brown, and red ranges from none to common. The texture is sand or fine sand.

The Bh horizon has hue of 10YR to 5YR, value of 2 to 4, and chroma of 1 to 4. It is sand, fine sand, or loamy sand. In some pedons, it is weakly cemented.

Iuka Series

The Iuka series consists of very deep, moderately well drained soils that formed in stratified loamy and sandy alluvium. These soils are on the high and intermediate parts of natural levees along flood plains.

The seasonal high water table is at a depth of 1 to 3 feet from December through April in most years. These soils are subject to frequent flooding of brief duration. Slopes range from 0 to 2 percent. These soils are coarse-loamy, siliceous, active, acid, thermic Aquic Udifluvents.

Iuka soils are geographically associated with Fluvaquents and Bigbee, Eunola, and Mantachie soils. The Bigbee soils are on the higher parts of the natural levees and are sandy throughout the profile. The Eunola soils are on low terraces adjacent to the Iuka soils and have a loamy argillic horizon. The very poorly drained Fluvaquents and the somewhat poorly drained Mantachie soils are on the lower parts of the flood plain.

Typical pedon of Iuka fine sandy loam, frequently flooded; about 2,670 feet east and 1,585 feet north of the southwest corner of sec. 34, T. 2 N., R. 31 W.

A—0 to 9 inches; very dark grayish brown (10YR 3/2) fine sandy loam; weak fine granular structure; very friable; common fine roots; strongly acid; clear wavy boundary.

C1—9 to 20 inches; dark yellowish brown (10YR 4/4) sandy loam; massive; very friable; common fine roots; common fine faint yellowish brown (10YR 5/6) masses of iron accumulation; strongly acid; gradual wavy boundary.

C2—20 to 32 inches; yellowish brown (10YR 5/6) sandy loam; massive; very friable; few thin strata of loamy fine sand; common fine distinct grayish brown (10YR 5/2) and pale brown (10YR 6/3) iron depletions with clear boundaries throughout the matrix; very strongly acid; gradual wavy boundary.

C3—32 to 58 inches; yellowish brown (10YR 5/6) sandy loam; massive; very friable; few thin strata of sand and loamy sand; common medium distinct light brownish gray (10YR 6/2) iron depletions; common medium prominent yellowish red (5YR 5/8) masses of iron accumulation with clear boundaries throughout the matrix; very strongly acid; gradual wavy boundary.

C4—58 to 80 inches; 20 percent light gray (10YR 7/1), 20 percent light brownish gray (10YR 6/2), 20 percent brownish yellow (10YR 6/6), 20 percent yellowish red (5YR 5/8), and 20 percent red (2.5YR 4/8) sandy loam; massive; very friable; common thin strata of sand and loamy sand; areas of light gray and light brownish gray are iron depletions; areas of brownish yellow, yellowish red, and red are masses of iron accumulation; very strongly acid.

Reaction ranges from extremely acid to strongly acid throughout the profile, except for the surface layer in areas where lime has been applied.

The A horizon has hue of 10YR or 7.5YR, value of 3 or 4, and chroma of 2 to 4.

The upper part of the C horizon has hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 3 to 8. It has few or common redoximorphic accumulations in shades of yellow, olive, brown, and red and redoximorphic depletions in shades of brown and gray. It is fine sandy loam or sandy loam. The quantity of thin strata of finer- or coarser-textured sediments ranges from none to common.

The lower part of the C horizon has hue of 10YR or 2.5Y, value of 4 to 6, and chroma of 3 to 8; or it does not have a dominant matrix color and is multicolored in shades of brown, yellow, and red. It is fine sandy loam, sandy loam, or loamy sand. It has few or common thin strata of finer- or coarser-textured sediments.

The Cg horizon, where present, has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 1 or 2. It is fine sandy loam, sandy loam, or loamy sand. It has few or common thin strata of finer- or coarser-textured sediments.

Izagora Series

The Izagora series consists of very deep, moderately well drained soils that formed in loamy and clayey sediments. These soils are on low terraces adjacent to major streams and rivers. The seasonal high water table is at a depth of 1½ to 2½ feet from December through April. These soils are subject to occasional flooding. Slopes range from 0 to 2 percent. These soils are fine-loamy, siliceous, semiactive, thermic Aquic Paleudults.

Izagora soils are geographically associated with Dorovan, Eunola, Yemassee, and Weston soils. The very poorly drained Dorovan soils are in deep sloughs or other depressions and are organic soils. The Eunola soils are in positions similar those of the Izagora soils and have sandy substrata within a depth of 60 inches. The poorly drained Weston and somewhat poorly drained Yemassee soils are in the slightly lower, less convex positions on the terraces.

Typical pedon of Izagora fine sandy loam, 0 to 2 percent slopes, occasionally flooded; about 500 feet east and 170 feet south of the northwest corner of sec. 3, T. 5 N., R. 30 W.

Ap1—0 to 4 inches; dark grayish brown (2.5Y 4/2) fine sandy loam; weak fine granular structure; very

friable; common medium, fine, and very fine roots; very strongly acid; clear smooth boundary.
Ap2—4 to 8 inches; grayish brown (2.5Y 5/2) fine sandy loam; weak medium granular structure; very friable; common medium, fine, and very fine roots; very strongly acid; clear smooth boundary.
E—8 to 10 inches; light yellowish brown (2.5Y 6/4) fine sandy loam; weak coarse subangular blocky structure; very friable; common fine and very fine roots; very strongly acid; clear wavy boundary.
Bt1—10 to 18 inches; brownish yellow (10YR 6/6) loam; moderate medium subangular blocky structure; friable; few fine roots; few faint clay films on faces of peds; very strongly acid; clear wavy boundary.
Bt2—18 to 28 inches; brownish yellow (10YR 6/6) loam; moderate medium subangular blocky structure; friable; few faint clay films on faces of peds; few fine prominent yellowish red (5YR 5/8) masses of iron accumulation; few fine faint light gray (10YR 7/2) iron depletions with clear boundaries throughout the matrix; very strongly acid; clear wavy boundary.
Bt3—28 to 80 inches; 30 percent light gray (10YR 7/1), 30 percent brownish yellow (10YR 6/8), 20 percent strong brown (7.5YR 5/8), and 20 percent red (2.5YR 4/8) clay loam; weak coarse prisms that part to moderate coarse subangular blocky structure; firm; common thin clay films on faces of peds; areas of brownish yellow, strong brown, and red are masses of iron accumulation; areas of light gray are iron depletions; very strongly acid.

The solum is more than 60 inches thick. Reaction ranges from very strongly acid to moderately acid throughout the profile, except for the surface layer in areas where lime has been applied.

The A or Ap horizon has hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 1 to 4.

The E horizon, where present, has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 2 to 4. It is fine sandy loam or loam.

The upper part of the Bt horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 4 to 8. The quantity of redoximorphic accumulations in shades of brown and red and redoximorphic depletions in shades of brown and gray ranges from none to common. The texture is loam or clay loam.

The lower part of the Bt horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 3 to 8; or it does not have a dominant matrix color and is multicolored in shades of brown, yellow, and red. It has common or many redoximorphic accumulations in shades of brown and red and redoximorphic depletions in shades of brown and gray. It is clay loam or clay.

Kureb series

The Kureb series consists of very deep, excessively drained soils that formed in sandy marine sediments. These soils are on low ridges and knolls and on old dunes. They are in the coastal lowlands. The seasonal high water table is below a depth of 6 feet throughout the year. Slopes range from 0 to 12 percent. These soils are thermic, uncoated Spodic Quartzipsamments.

Kureb soils are geographically associated with Corolla, Duckston, Lakeland, Newhan, and Resota soils. The somewhat poorly drained Corolla and poorly drained Duckston soils are in lower positions than the Kureb soils. The Lakeland soils are in positions similar to those of the Kureb soils and do not have spodic materials within the profile. The Newhan soils are on the less stable dunes that are affected by salt spray and do not have spodic materials within the profile. The moderately well drained Resota soils are in lower positions than the Kureb soils.

Typical pedon of Kureb sand, 0 to 8 percent slopes; about 1,600 feet south and 2,900 feet east of the northwest corner of sec. 23, T. 3 S., R. 31 W.

A—0 to 3 inches; very dark gray (10YR 3/1) sand; single grained; loose; common medium and fine roots; many uncoated sand grains; very strongly acid; clear wavy boundary.
E—3 to 19 inches; white (N 8/0) sand; single grained; loose; common medium and fine roots; strongly acid; clear irregular boundary.
C/Bh—19 to 36 inches; 70 percent brownish yellow (10YR 6/8) sand (C); single grained; loose; few streaks of white (N 8/0) sand; 30 percent dark brown (7.5YR 4/4) sand (Bh) in thin bands at the horizon contact and bordering the streaks of white sand; single grained; loose; strongly acid; clear wavy boundary.
C1—36 to 50 inches; brownish yellow (10YR 6/8) sand; single grained; loose; strongly acid; gradual wavy boundary.
C2—50 to 80 inches; yellow (10YR 7/8) sand; single grained; loose; strongly acid.

Reaction ranges from very strongly acid to slightly acid throughout the profile.

The A horizon has hue of 10YR, value of 3 or 4, and chroma of 1 or 2.

The E horizon has hue of 10YR or 2.5Y, value of 5 to 8, and chroma of 1 to 3; or it is neutral in hue and has value of 8. It is fine sand or sand.

The Bh part of the C/Bh horizon has hue of 5YR to 10YR, value of 2 to 4, and chroma of 2 to 4. It is fine sand or sand.

Figure 10.—Profile of Albany sand. A loamy argillic horizon is at a depth of about 54 inches. The shovel is 42 inches long.

Figure 11.—Profile of Lakeland sand. The shovel is 42 inches long.

Figure 12.—Profile of Leon sand. A dark-colored spodic horizon is at a depth of about 24 inches. The shovel is 42 inches long.

Figure 13.—Profile of Lucy loamy sand. A loamy kandic horizon begins at a depth of about 33 inches. Depth is marked in feet.

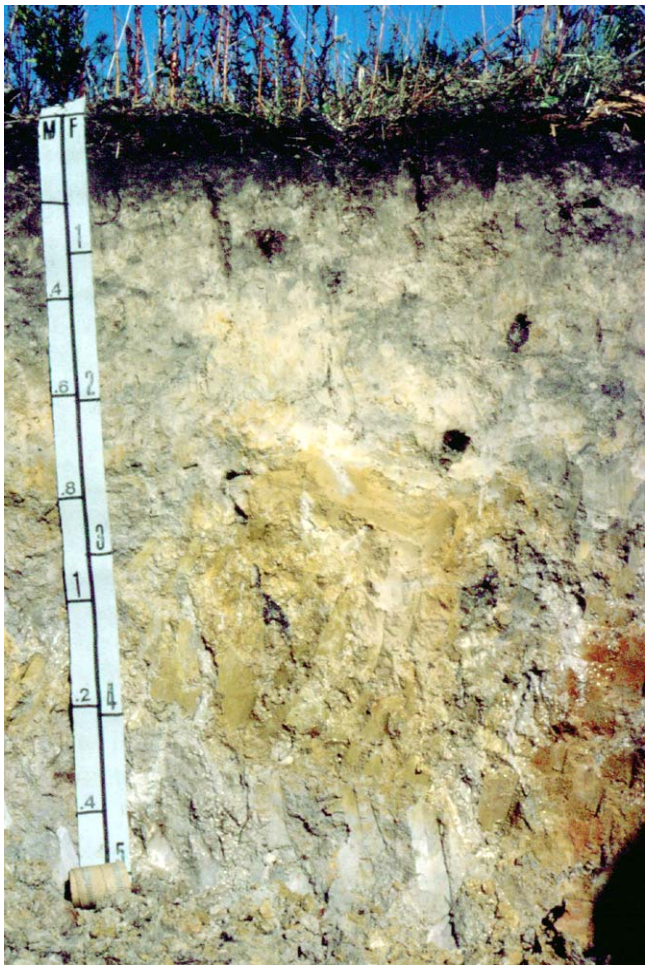

Figure 14.—Profile of Pelham loamy sand. A loamy argillic horizon begins at a depth of about 30 inches. Depth is marked in meters and feet.

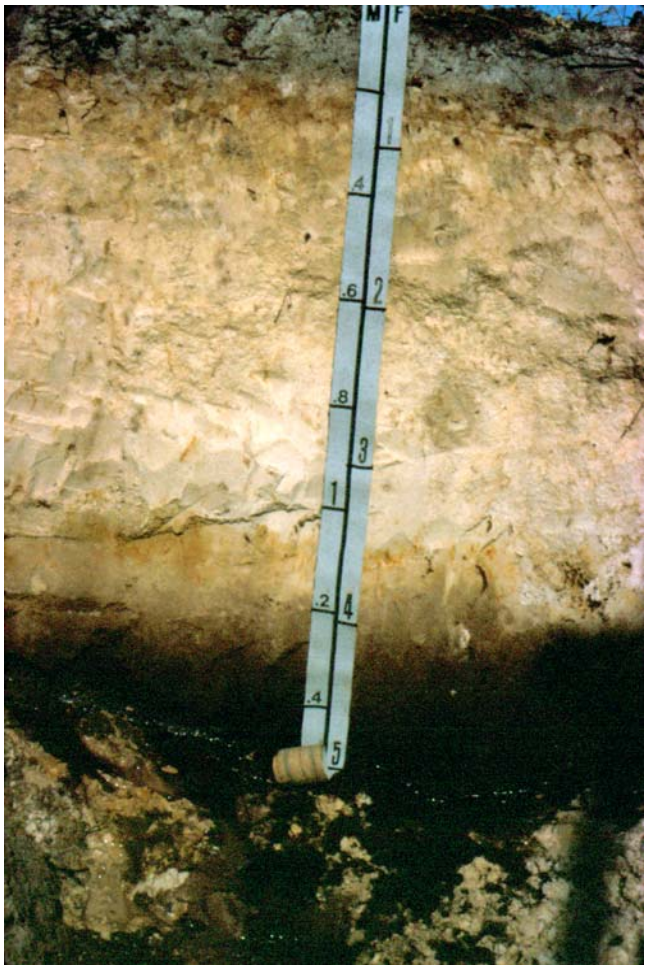

Figure 15.—Profile of a Pottsburg soil. A spodic horizon is at a depth of about 52 inches. Depth is marked in meters and feet.

Figure 16.—Profile of Resota sand. The shovel is 42 inches long.

Figure 17.—Profile of Troup sand. A loamy kandic horizon begins at a depth of about 60 inches. The shovel is 42 inches long.

The C horizon and the C part of the C/Bh horizon have hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 1 to 8. The quantity of redoximorphic accumulations in shades of yellow, olive, brown, and red ranges from none to common. The texture is fine sand or sand. In many pedons, the C horizon and the C part of the C/Bh horizon have streaks of clean or uncoated sand.

Lakeland Series

The Lakeland series consists of very deep, excessively drained soils that formed in sandy marine sediments. These soils are on the summits and side slopes of ridges in the uplands and on low ridges and knolls in the coastal lowlands. The seasonal high water table is below a depth of 6 feet throughout the year. Slopes range from 0 to 12 percent. These soils are thermic, coated Typic Quartzipsamments.

Lakeland soils are geographically associated with Albany, Bonifay, Foxworth, Poarch, and Troup soils. The somewhat poorly drained Albany soils are on toeslopes and terraces and have a loamy argillic horizon within a depth of 40 to 80 inches. The Bonifay and Troup soils are in positions similar to those of the Lakeland soils and have a loamy argillic horizon within a depth of 40 to 80 inches. The moderately well drained Foxworth soils are in positions similar to those of the Lakeland soils but are at lower elevations. The Poarch soils are on summits or side slopes at slightly higher elevations than the Lakeland soils and are fine-loamy.

Typical pedon of Lakeland sand, 0 to 5 percent slopes (fig. 11); about 1,100 feet south and 80 feet east of the northwest corner of sec. 13, T. 2 S., R. 30 W.

A—0 to 5 inches; dark grayish brown (10YR 4/2) sand; weak fine granular structure; very friable; common medium and fine roots; strongly acid; clear wavy boundary.
C1—5 to 15 inches; yellowish brown (10YR 5/4) sand; single grained; loose; common medium and fine roots; strongly acid; gradual wavy boundary.
C2—15 to 58 inches; yellowish brown (10YR 5/6) sand; single grained; loose; few streaks of clean sand; strongly acid; gradual wavy boundary.
C3—58 to 80 inches; brownish yellow (10YR 6/6) sand; single grained; loose; common streaks and pockets of clean sand; strongly acid.

Reaction ranges from very strongly acid to moderately acid throughout the profile, except in areas where lime has been applied.

The A or Ap horizon has hue of 10YR, value of 3 to 5, and chroma of 1 to 4.

The C horizon has hue of 10YR, value of 4 to 7, and chroma of 3 to 8; or it has hue of 7.5YR, value of 5 or 6, and chroma of 6 to 8. In most pedons, it has streaks and pockets of clean sand.

Leon Series

The Leon series consists of very deep, poorly drained soils that formed in sandy marine sediments. These soils are in convex or concave positions in areas of flatwoods in the coastal lowlands. The seasonal high water table is at a depth of 1/2 to 1 1/2 feet from December through April in most years. Slopes range from 0 to 2 percent. These soils are sandy, siliceous, thermic Aeric Alaquods.

Leon soils are geographically associated with Allanton, Croatan, Hurricane, Pickney, and Pottsburg soils. The very poorly drained Allanton, Croatan, and Pickney soils are in flats and depressions at slightly lower elevations than the Leon soils. The Allanton soils do not have a spodic horizon within a depth of 30 inches. The Croatan soils are organic soils. The Pickney soils have an umbric epipedon. The somewhat poorly drained Hurricane soils are in slightly higher positions than the Leon soils and do not have a spodic horizon within a depth of 30 inches. The Pottsburg soils are in positions similar to those of the Leon soils and do not have a spodic horizon within a depth of 30 inches.

Typical pedon of Leon sand (fig. 12); about 500 feet south and 170 feet east of the northwest corner of Spanish Land Grant 17, T. 3 S., R. 31 W.

A—0 to 5 inches; dark gray (10YR 4/1) sand; weak fine granular structure; very friable; many medium and fine roots; many clean sand grains; very strongly acid; clear smooth boundary.
Eg1—5 to 12 inches; gray (10YR 6/1) sand; single grained; loose; common medium and fine roots; very strongly acid; gradual smooth boundary.
Eg2—12 to 18 inches; gray (10YR 6/1) sand; single grained; loose; few fine roots; common medium distinct dark yellowish brown (10YR 4/6) masses of iron accumulation; common faint streaks of gray (10YR 5/1) clean sand; very strongly acid; abrupt smooth boundary.
Bh1—18 to 22 inches; dark reddish brown (5YR 2.5/2) sand; weak coarse subangular blocky structure; very friable; more than 95 percent of the sand grains are coated with organic matter; very strongly acid; clear wavy boundary.
Bh2—22 to 26 inches; dark brown (7.5YR 3/3) sand; weak coarse subangular blocky structure; very friable; more than 90 percent of the sand grains

are coated with organic matter; very strongly acid; clear wavy boundary.
E´g1—26 to 38 inches; light brownish gray (10YR 6/2) sand; single grained; loose; common medium distinct dark brown (7.5YR 3/2) organic stains in root channels; very strongly acid; gradual wavy boundary.
E´g2—38 to 65 inches; very pale brown (10YR 8/2) sand; single grained; loose; common coarse faint pale brown (10YR 6/3) masses of iron accumulation; very strongly acid; clear wavy boundary.
B´h—65 to 80 inches; very dark brown (10YR 2/2) sand; weak coarse subangular blocky structure; very friable; more than 90 percent of the sand grains are coated with organic matter; common medium faint dark grayish brown (10YR 4/2) iron depletions; very strongly acid.

Reaction ranges from extremely acid to slightly acid throughout the profile.

The A horizon has hue of 10YR, value of 2 to 4, and chroma of 1 or 2; or it is neutral in hue and has value of 2 to 4.

The Eg and E´g horizons have hue of 10YR or 2.5Y, value of 5 to 8, and chroma of 1 or 2. They are sand or fine sand.

The Bh and B´h horizons have hue of 5YR to 10YR, value of 2 to 4, and chroma of 1 to 3. They are sand, fine sand, loamy sand, or loamy fine sand.

The C horizon, where present, has hue of 10YR or 2.5Y, value of 5 to 8, and chroma of 1 to 6. It is sand or fine sand.

Lucy Series

The Lucy series consists of very deep, well drained soils that formed in sandy and loamy sediments. These soils are on summits, shoulder slopes, and side slopes of ridges in the uplands. The seasonal high water table is below a depth of 6 feet throughout the year. Slopes range from 0 to 8 percent. These soils are loamy, kaolinitic, thermic Arenic Kandiudults.

Lucy soils are geographically associated with Bama, Bonifay, Cowarts, Perdido, and Troup soils. The Bama soils are on summits at slightly higher elevations than the Lucy soils and do not have a thick, sandy epipedon. The Bonifay and Troup soils are in positions similar to those of the Lucy soils and have sandy epipedons that range from 40 to 80 inches in thickness. The Cowarts and Perdido soils commonly are in the lower positions on side slopes and do not have a thick, sandy epipedon.

Typical pedon of Lucy loamy sand, 0 to 2 percent slopes (fig. 13); about 2,335 feet north and 2,670 feet east of the southwest corner of sec. 21, T. 2 N., R. 31 W.

A—0 to 6 inches; brown (10YR 4/3) loamy sand; weak medium granular structure; very friable; many medium, fine, and very fine roots; strongly acid; clear smooth boundary.
E1—6 to 20 inches; brown (7.5YR 5/4) loamy sand; weak coarse subangular blocky structure; very friable; common medium and fine roots; strongly acid; gradual wavy boundary.
E2—20 to 26 inches; brown (7.5YR 4/4) loamy sand; weak coarse subangular blocky structure; very friable; few medium and fine roots; strongly acid; clear wavy boundary.
Bt1—26 to 38 inches; red (2.5YR 4/6) sandy loam; weak medium subangular blocky structure; friable; few medium and fine roots; few faint clay films on faces of peds; strongly acid; gradual wavy boundary.
Bt2—38 to 65 inches; red (2.5YR 4/6) sandy clay loam; moderate medium subangular structure; friable; few faint clay films on faces of peds; strongly acid; gradual wavy boundary.
Bt3—65 to 80 inches; red (2.5YR 4/6) sandy loam; weak medium subangular blocky structure; friable; few faint clay films on faces of peds; strongly acid.

The solum is more than 60 inches thick. The combined thickness of the sandy layers ranges from 20 to 40 inches. Reaction ranges from very strongly acid to moderately acid in the A and E horizons, except where lime has been applied, and is very strongly acid or strongly acid in the Bt horizon. The content of rounded quartz pebbles, ironstone nodules, or both ranges from 0 to 10 percent, by volume.

The A or Ap horizon has hue of 10YR or 7.5YR, value of 3 to 5, and chroma of 2 or 3.

The E horizon has hue of 10YR or 7.5YR, value of 4 to 7, and chroma of 3 to 6. It is sand, loamy sand, or loamy fine sand.

The Bt horizon has hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 6 to 8. In some pedons, it has redoximorphic features in shades of brown and gray in the lower part. These features are assumed to be relict and are not reflective of current hydrology. The texture is sandy loam, sandy clay loam, or clay loam.

Malbis Series

The Malbis series consists of very deep, moderately well drained soils that formed in loamy sediments. These soils are on summits and shoulder slopes in the uplands. The seasonal high water table

is at a depth of 2½ to 4 feet from December through April in most years. Slopes range from 0 to 8 percent. These soils are fine-loamy, siliceous, subactive, thermic Plinthic Paleudults.

Malbis soils are geographically associated with Bama, Escambia, Grady, Notcher, and Poarch soils. The Bama, Notcher, and Poarch soils are in positions similar to those of the Malbis soils. The Bama soils have a reddish argillic horizon and do not have a significant accumulation of plinthite in the subsoil. The Notcher soils have more than 5 percent ironstone nodules throughout. The Poarch soils are coarse-loamy. The somewhat poorly drained Escambia soils are in slightly lower positions than the Malbis soils and are coarse-loamy. The poorly drained Grady soils are in depressions.

Typical pedon of Malbis sandy loam, 0 to 2 percent slopes; about 1,875 feet east and 50 feet south of the northwest corner of sec. 2, T. 2 S., R. 31 W.

Ap—0 to 7 inches; dark brown (10YR 3/3) sandy loam; moderate medium granular structure; very friable; many medium, fine, and very fine roots; strongly acid; abrupt smooth boundary.

Bt—7 to 22 inches; yellowish brown (10YR 5/6) loam; weak medium subangular blocky structure; friable; few medium and common fine roots; few faint clay films on faces of peds; strongly acid; clear wavy boundary.

Btv1—22 to 37 inches; brownish yellow (10YR 6/6) clay loam; moderate medium subangular blocky structure; friable; common faint clay films on faces of peds; about 8 percent firm and brittle masses of plinthite; common medium prominent yellowish red (5YR 5/8) masses of iron accumulation; common medium distinct brown (10YR 5/3) iron depletions with sharp boundaries throughout the matrix; very strongly acid; gradual wavy boundary.

Btv2—37 to 50 inches; brownish yellow (10YR 6/6) clay loam; moderate medium subangular blocky structure; friable; common faint clay films on faces of peds; about 12 percent firm and brittle masses of plinthite; common medium prominent yellowish red (5YR 5/8) masses of iron accumulation; common medium distinct light gray (2.5Y 7/2) and brown (10YR 5/3) iron depletions with sharp boundaries throughout the matrix; very strongly acid; gradual wavy boundary.

Btv3—50 to 62 inches; yellowish brown (10YR 5/4) clay loam; moderate medium subangular blocky structure; firm; common faint clay films on faces of peds; about 10 percent firm and brittle masses of plinthite; many medium prominent yellowish red (5YR 5/8) and many medium distinct yellowish brown (10YR 5/8) masses of iron accumulation; many medium distinct light gray (10YR 7/2) iron depletions with sharp boundaries throughout the matrix; very strongly acid; gradual wavy boundary.

BC—62 to 80 inches; 25 percent yellowish brown (10YR 5/4), 25 percent light gray (10YR 7/2), 20 percent strong brown (7.5YR 5/8), 15 percent red (2.5YR 4/8), and 15 percent pale yellow (2.5Y 7/3) clay loam; weak coarse subangular blocky structure; firm; areas of yellowish brown, strong brown, and red are masses of iron accumulation; areas of light gray are iron depletions; very strongly acid.

The solum is more than 60 inches thick. Reaction ranges from very strongly acid to moderately acid in the surface layer, except in areas where lime has been applied, and is very strongly acid or strongly acid in the subsoil.

The A or Ap horizon has hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 2 or 3.

The Bt horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 4 to 8. The quantity of redoximorphic accumulations in shades of brown or red is none or few. The texture is loam, sandy clay loam, or clay loam.

The upper part of the Btv horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 4 to 8. It has few or common redoximorphic accumulations in shades of yellow, olive, brown, and red. It has few to many redoximorphic depletions in shades of gray below a depth of 30 inches. It is sandy clay loam or clay loam.

The lower part of the Btv horizon has a range in color similar to that of the upper part; or it has no dominant matrix color and is multicolored in shades of brown, yellow, red, and gray. It is loam, clay loam, or sandy clay loam. The content of plinthite ranges from 5 to 15 percent, by volume, in the Btv horizon.

The BC horizon, where present, has no dominant matrix color and is multicolored in shades of brown, yellow, red, and gray. It is clay loam, sandy clay loam, or clay.

Mantachie Series

The Mantachie series consists of very deep, somewhat poorly drained soils that formed in loamy alluvium. These soils are on the lower parts of natural levees and the higher parts of backswamps on flood plains along major streams and rivers. The seasonal high water table is at a depth of 1 to 1½ feet from December through April in most years. These soils are subject to frequent flooding. Slopes range from 0 to 2

percent. These soils are fine-loamy, siliceous, active, acid, thermic Aeric Endoaquepts.

Mantachie soils are geographically associated with Fluvaquents and Bigbee, Dorovan, Eunola, and Iuka soils. The Bigbee soils are on the highest parts of the natural levees and are sandy throughout. The very poorly drained Dorovan soils and Fluvaquents are in depressions on the flood plains. The moderately well drained Eunola soils are on low terraces and have a loamy argillic horizon. The moderately well drained Iuka soils are on the slightly higher parts of the natural levees and are coarse-loamy.

Typical pedon of Mantachie loam, in an area of Mantachie-Fluvaquents-Bigbee complex, frequently flooded; on the flood plains along the Escambia River, about 670 feet north and 1,670 feet east of the southwest corner of sec. 35, T. 6 N., R. 30 W.

A—0 to 6 inches; dark brown (10YR 3/3) loam; weak medium granular structure; friable; common medium roots and many fine roots; few medium and fine concretions of iron and manganese oxides; strongly acid; gradual smooth boundary.

Bw—6 to 11 inches; brown (10YR 4/3) loam; weak fine subangular blocky structure; friable; common medium and fine roots; few medium and fine concretions of iron and manganese oxides; few fine faint dark yellowish brown (10YR 4/6) masses of iron accumulation; few fine faint grayish brown (10YR 5/2) iron depletions; strongly acid; clear wavy boundary.

Bg1—11 to 26 inches; grayish brown (10YR 5/2) clay loam; weak medium subangular blocky structure; friable; few fine roots; common medium and fine concretions of iron and manganese oxides; common fine faint gray (10YR 5/1) iron depletions; common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation with gradual boundaries throughout the matrix; strongly acid; gradual wavy boundary.

Bg2—26 to 55 inches; 50 percent gray (10YR 6/1), 20 percent brownish yellow (10YR 6/6), 20 percent strong brown (7.5YR 5/8), and 10 percent reddish brown (5YR 5/4) sandy clay loam; weak medium subangular blocky structure; friable; areas of gray are iron depletions; areas of brownish yellow, strong brown, and reddish brown are masses of iron accumulation; strongly acid; gradual wavy boundary.

Cg—55 to 80 inches; gray (10YR 5/1) loam; massive; friable; many fine and medium prominent brownish yellow (10YR 6/8), strong brown (7.5YR 5/8), and reddish brown (5YR 5/4) masses of iron accumulation; strongly acid.

The solum ranges from 30 to 65 inches in thickness. Reaction is very strongly acid or strongly acid throughout the profile, except for the surface layer in areas where lime has been applied.

The A or Ap horizon has hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 2 to 4.

The Bw horizon commonly has hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 3 to 6. In some pedons, however, it does not have a dominant matrix color and is multicolored in shades of brown, yellow, gray, and red. It has few to many redoximorphic accumulations in shades of yellow, olive, brown, and red and redoximorphic depletions in shades of gray. It is loam, clay loam, or sandy clay loam.

The Bg horizon commonly has hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2 and has few to many masses of iron accumulation in shades of yellow, olive, brown, and red. In some pedons, however, it does not have a dominant matrix color and is multicolored in shades of brown, yellow, gray, and red. It is loam, clay loam, or sandy clay loam.

The Cg horizon has hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2 and has few to many redoximorphic accumulations in shades of yellow, olive, brown, and red. It is clay loam, sandy clay loam, loam, or sandy loam.

Maubila Series

The Maubila series consists of very deep, moderately well drained soils that formed in clayey marine sediments. These soils are on summits, shoulder slopes, and side slopes in the uplands. The seasonal high water table is at a depth of 2 to 3½ feet from December through April in most years. Slopes range from 2 to 12 percent. These soils are fine, mixed, subactive, thermic Aquic Hapludults.

Maubila soils are geographically associated with Cowarts, Notcher, Perdido, Poarch, and Troup soils. The Cowarts, Notcher, Perdido, and Troup soils are in positions similar to those of the Maubila soils. The Cowarts soils are fine-loamy. The Notcher soils are fine-loamy and have a significant accumulation of plinthite in the subsoil. The Perdido soils are coarse-loamy. The Troup soils have a thick, sandy epipedon. The Poarch soils are on higher summits than the Maubila soils and are coarse-loamy.

Typical pedon of Maubila gravelly fine sandy loam, in an area of Notcher-Maubila complex, 2 to 5 percent slopes; about 170 feet south and 1,835 feet east of the northwest corner of sec. 27, T. 4 N., R. 31 W.

Ap—0 to 4 inches; very dark grayish brown (10YR 3/2) gravelly fine sandy loam; weak fine granular

structure; very friable; many medium, fine, and very fine roots; 20 percent, by volume, fine and medium nodules of ironstone; strongly acid; clear smooth boundary.

E—4 to 9 inches; yellowish brown (10YR 5/4) fine sandy loam; weak fine granular structure; common medium and fine roots; 8 percent, by volume, fine and medium nodules of ironstone; strongly acid; clear wavy boundary.

Bt1—9 to 16 inches; reddish yellow (7.5YR 6/8) clay loam; weak medium subangular blocky structure; few medium and fine roots; few faint clay films on faces of peds; very strongly acid; clear wavy boundary.

Bt2—16 to 32 inches; strong brown (7.5YR 5/8) clay loam; moderate medium subangular blocky structure; firm; few fine roots; common faint clay films on faces of peds; common fine and medium reddish yellow (5YR 6/8) and red (2.5YR 4/8) masses of iron accumulation; few medium distinct grayish brown (10YR 5/2) iron depletions; very strongly acid; gradual wavy boundary.

Bt3—32 to 54 inches; 30 percent reddish yellow (7.5YR 6/8), 30 percent yellowish red (5YR 5/8), 20 percent red (2.5YR 4/8), and 20 percent light gray (10YR 7/1) clay loam; moderate medium subangular blocky structure; firm; common faint clay films on faces of peds; areas of reddish yellow, yellowish red, and red are masses of iron accumulation; areas of light gray are iron depletions; very strongly acid; gradual wavy boundary.

BC—54 to 80 inches; 25 percent brownish yellow (10YR 6/8), 25 percent reddish yellow (7.5YR 6/8), 25 percent yellowish red (5YR 5/8), and 25 percent light gray (10YR 7/1) sandy clay loam; massive; firm; areas of brownish yellow, reddish yellow, and yellowish red are masses of iron accumulation; areas of light gray are iron depletions; very strongly acid.

The solum ranges from 40 to 60 inches in thickness. Reaction ranges from extremely acid to strongly acid throughout the profile, except for the surface layer in areas where lime has been applied. The content of coarse fragments, mainly nodules or channers of ironstone, ranges from 5 to 25 percent, by volume, in the A and E horizons and is less than 15 percent, by volume, in the Bt, BC, and C horizons.

The A or Ap horizon has hue of 10YR or 7.5YR, value of 3 to 5, and chroma of 2 to 4.

The E horizon, where present, has hue of 10YR, value of 5 or 6, and chroma of 2 to 4. It is loamy sand, loamy fine sand, fine sandy loam, loam, or their gravelly analogues.

The upper part of the Bt horizon commonly has hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 6 to 8. It has few or common redoximorphic accumulations in shades of yellow, olive, brown, and red and redoximorphic depletions in shades of brown and gray. The texture commonly is clay loam or clay. In some pedons, however, it is sandy clay loam.

The lower part of the Bt horizon has a range in color similar to that of the upper part, or it does not have a dominant matrix color and is multicolored in shades of brown, yellow, gray, and red. It has common or many redoximorphic accumulations in shades of yellow, olive, brown, and red and redoximorphic depletions in shades of brown and gray. It is clay loam, clay, or silty clay.

The BC horizon, where present, typically does not have a dominant matrix color and is multicolored in shades of brown, yellow, gray, and red. It is sandy clay loam, clay loam, or clay. The quantity of thin strata or pockets of finer- or coarser-textured sediments ranges from none to common.

The C horizon, where present, has the same range in color as the BC horizon. It is firm or very firm and is massive. It is clay loam, clay, silty clay, or sandy clay loam. Most pedons have one or more thin, discontinuous strata of ironstone and thin strata or pockets of finer- or coarser-textured sediments.

Newhan Series

The Newhan series consists of very deep, excessively drained soils that formed in thick deposits of marine sands that have been reworked by wind and wave action. These soils are on dunes on the barrier islands and adjacent to the coastal beaches on the mainland. The seasonal high water table is below a depth of 6 feet throughout the year. Slopes range from 2 to 12 percent. These soils are thermic, uncoated Typic Quartzipsamments.

Newhan soils are geographically associated with Corolla, Dirego, Duckston, Kureb, and Resota soils. The somewhat poorly drained Corolla soils are on the lower parts of dunes and in shallow swales between dunes. The very poorly drained Dirego soils are in tidal marshes and have a thick histic horizon. The poorly drained Duckston soils are on flats and in swales between dunes. The Kureb and Resota soils are on dunes and knolls that are not subject to salt spray. The Kureb soils have discontinuous spodic horizons. The Resota soils are moderately well drained.

Typical pedon of Newhan sand, in an area of Newhan-Corolla complex, rolling, rarely flooded; about 2,500 feet south and 4,850 feet west of the northeast corner of sec. 34, T. 3 S., R. 32 W.

A—0 to 3 inches; gray (10YR 6/1) sand; single grained; loose; few fine roots; slightly acid; clear wavy boundary.
C1—3 to 22 inches; light gray (10YR 7/1) sand; single grained; loose; few fine roots; common black sand grains; slightly acid; gradual wavy boundary.
C2—22 to 80 inches; white (10YR 8/1) sand; single grained; loose; common black sand grains; slightly acid.

The combined thickness of the sandy sediments is more than 80 inches. Reaction ranges from extremely acid to slightly alkaline. Up to 35 percent, by volume, of the soil is fragments of mollusk shell, mostly of sand size. In most pedons, dark sand grains of ilmenite are throughout the profile.

The A horizon has hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 to 3.

The C horizon has hue of 10YR or 2.5Y, value of 5 to 8, and chroma of 1 or 2. It is sand or fine sand.

Notcher Series

The Notcher series consists of very deep, moderately well drained soils that formed in loamy sediments. These soils are on summits, shoulder slopes, and side slopes in the uplands. The seasonal high water table is at a depth of 3 to 4 feet from December through April in most years. Slopes range from 0 to 12 percent. These soils are fine-loamy, siliceous, subactive, thermic Plinthic Paleudults.

Notcher soils are geographically associated with Bama, Grady, Malbis, Maubila, and Robertsdale soils. The Bama and Malbis soils are in positions similar to those of the Notcher soils. The Bama soils have a reddish argillic horizon and do not have a significant accumulation of plinthite in the subsoil. The Malbis soils have less than 5 percent, by volume, nodules of ironstone throughout. The poorly drained Grady soils are in depressions. The Maubila soils are on side slopes and have a clayey argillic horizon. The somewhat poorly drained Robertsdale soils are in slightly lower positions than the Notcher soils.

Typical pedon of Notcher fine sandy loam, 0 to 2 percent slopes; about 1,670 feet east and 2,250 feet south of the northwest corner of sec. 33, T. 3 N., R. 31 W.

Ap—0 to 5 inches; dark grayish brown (10YR 4/2) fine sandy loam; moderate fine granular structure; very friable; common medium, fine, and very fine roots; about 5 percent, by volume, fine and medium nodules of ironstone; very strongly acid; clear smooth boundary.
EB—5 to 12 inches; yellowish brown (10YR 5/8) fine sandy loam; weak fine subangular blocky structure; very friable; common medium and fine roots; about 7 percent, by volume, medium nodules of ironstone; very strongly acid; clear wavy boundary.
Btc1—12 to 20 inches; brownish yellow (10YR 6/8) sandy clay loam; weak medium subangular blocky structure; friable; few faint clay films on faces of peds; about 10 percent, by volume, fine and medium nodules of ironstone; very strongly acid; gradual wavy boundary.
Btc2—20 to 34 inches; brownish yellow (10YR 6/8) gravelly sandy clay loam; moderate medium subangular blocky structure; friable; few faint clay films on faces of peds; about 20 percent, by volume, fine and medium nodules of ironstone; few medium prominent yellowish red (5YR 5/8) masses of iron accumulation; few fine distinct grayish brown (10YR 5/2) iron depletions; very strongly acid; gradual wavy boundary.
Btv1—34 to 48 inches; brownish yellow (10YR 6/8) gravelly sandy clay loam; moderate medium subangular blocky structure; firm; few faint clay films on faces of peds; about 20 percent, by volume, fine and medium nodules of ironstone; about 5 percent, by volume, firm and brittle masses of plinthite; few medium prominent yellowish red (5YR 5/8) and red (2.5YR 5/8) masses of iron accumulation with clear boundaries throughout the matrix; few fine distinct grayish brown (10YR 5/2) iron depletions; very strongly acid; gradual wavy boundary.
Btv2—48 to 80 inches; brownish yellow (10YR 6/8) sandy clay loam; moderate medium subangular blocky structure; firm; few faint clay films on faces of peds; about 10 percent, by volume, fine and medium nodules of ironstone; about 7 percent, by volume, firm and brittle masses of plinthite; common medium distinct light gray (10YR 7/2) iron depletions with sharp boundaries throughout the matrix; common medium prominent reddish yellow (5YR 6/8) and red (2.5YR 5/8) masses of iron accumulation with clear boundaries throughout the matrix; very strongly acid.

The solum is more than 60 inches thick. Reaction ranges from very strongly acid to moderately acid in the surface layer, except where lime has been applied, and is very strongly acid or strongly acid in the subsoil. The content of nodules of ironstone, ranging from 0.25 to 2 inches in diameter, is 5 to 25 percent, by volume, in the A, E, EB, and Btc horizons.

The A or Ap horizon has hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 2 or 3.

The EB or BE horizon, where present, has hue of

10YR, value of 5 or 6, and chroma of 3 to 8. It is sandy loam, fine sandy loam, loam, or their gravelly analogues.

The Btc horizon has hue of 7.5YR or 10YR, value of 5 or 6, and chroma of 4 to 8. It has few or common redoximorphic accumulations in shades of yellow, olive, brown, and red and redoximorphic depletions in shades of brown and gray. It is sandy clay loam, clay loam, loam, or their gravelly analogues.

The Btv horizon dominantly has a range in color similar to that of the Btc horizon or has hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 4 to 8. In some pedons, however, the lower part of the horizon has no dominant matrix color and is multicolored in shades of red, brown, yellow, and gray. The texture is sandy clay loam, clay loam, loam, or their gravelly analogues.

Pelham Series

The Pelham series consists of very deep, poorly drained soils that formed in sandy and loamy sediments. These soils are on flats in the coastal lowlands and in slightly depressional positions on low stream terraces. The seasonal high water table is within a depth of 1/2 foot from December through April in most years. Areas on low terraces are subject to occasional flooding. Slopes range from 0 to 2 percent. These soils are loamy, siliceous, subactive, thermic Arenic Paleaquults.

Pelham soils are geographically associated with Albany, Dorovan, Escambia, and Yemassee soils. The somewhat poorly drained Albany and Escambia soils are in slightly higher positions than the Pelham soils. The Albany soils have a sandy epipedon that is 40 to 80 inches thick. The Escambia soils do not have a thick, sandy epipedon. The very poorly drained Dorovan soils are in depressions and have a thick histic epipedon. The somewhat poorly drained Yemassee soils are in positions similar to those of the Pelham soils on low terraces and do not have a thick, sandy epipedon.

Typical pedon of Pelham loamy sand, 0 to 2 percent slopes (fig. 14); about 2,500 feet north and 2,500 feet east of the southwest corner of sec. 29, T. 3 N., R. 32 W.

A—0 to 5 inches; very dark gray (10YR 3/1) loamy sand; weak fine granular structure; very friable; many medium and fine roots; very strongly acid; clear wavy boundary.

Eg1—5 to 20 inches; gray (10YR 5/1) loamy sand; weak coarse subangular blocky structure; very friable; few medium and fine roots; common fine distinct yellowish brown (10YR 5/6) and brownish yellow (10YR 6/6) masses of iron accumulation with clear boundaries throughout the matrix; very strongly acid; clear wavy boundary.

Eg2—20 to 35 inches; gray (10YR 5/1) loamy sand; weak coarse subangular blocky structure; very friable; common fine prominent strong brown (7.5YR 5/6) masses of iron accumulation with sharp boundaries throughout the matrix; very strongly acid; clear wavy boundary.

Btg1—35 to 58 inches; gray (10YR 5/1) sandy loam; weak medium subangular blocky structure; friable; few faint clay films on faces of peds; common medium prominent yellowish brown (10YR 5/6) and strong brown (7.5YR 5/6) masses of iron accumulation with gradual boundaries throughout the matrix; very strongly acid; gradual wavy boundary.

Btg2—58 to 80 inches; 55 percent gray (10YR 6/1) and 45 percent light gray (10YR 7/1) sandy clay loam; weak coarse subangular blocky structure; friable; few faint clay films on faces of peds; common coarse prominent yellow (10YR 7/6) and strong brown (7.5YR 5/8) masses of iron accumulation with sharp boundaries throughout the matrix; very strongly acid.

The solum is more than 60 inches thick. The combined thickness of the sandy layers ranges from 20 to 40 inches. Reaction ranges from extremely acid to strongly acid throughout the profile, except in areas where lime has been applied.

The A horizon has hue of 10YR to 5Y, value of 2 to 5, and chroma of 1 or 2; or it is neutral in hue and has value of 2 to 4.

The Eg horizon has hue of 10YR to 5Y, value of 4 to 7, and chroma of 1 or 2. The quantity of redoximorphic accumulations in shades of yellow, olive, brown, and red ranges from none to common. The texture is loamy sand, sand, or fine sand.

The Btg horizon has hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 or 2; or it is neutral in hue and has value of 5 to 7. It has few to many redoximorphic accumulations in shades of yellow, olive, brown, and red and redoximorphic depletions in shades of brown and gray. It is sandy loam, fine sandy loam, or sandy clay loam.

Perdido Series

The Perdido series consists of very deep, well drained soils that formed in loamy sediments. These soils are on summits, shoulder slopes, and side slopes in the uplands. The seasonal high water table is at a depth of 4 to 6 feet from December through

April in most years. Slopes range from 0 to 35 percent. These soils are coarse-loamy, siliceous, subactive, thermic Plinthic Paleudults.

Perdido soils are geographically associated with Lucy, Maubila, Notcher, Poarch, and Troup soils. The Lucy soils are in higher positions than the Perdido soils and have a thick, sandy epipedon. The Maubila soils are in lower positions than the Perdido soils and have a clayey argillic horizon. The Notcher, Poarch, and Troup soils are in positions similar to those of the Perdido soils. The Notcher soils are fine-loamy and have brownish colors in the subsoil. The Poarch soils have brownish colors in the subsoil. The Troup soils have a thick, sandy epipedon.

Typical pedon of Perdido sandy loam, 0 to 2 percent slopes; about 100 feet north and 100 feet west of the intersection of County Highway 4 and Raines Road; about 1,420 feet south and 50 feet east of the northwest corner of sec. 10, T. 5 N., R. 31 W.

Ap—0 to 8 inches; dark yellowish brown (10YR 3/4) sandy loam; moderate medium granular structure; friable; common medium, fine, and very fine roots; strongly acid; clear smooth boundary.

Bt1—8 to 27 inches; strong brown (7.5YR 5/6) sandy loam; weak medium subangular blocky structure; friable; common medium and fine roots; few faint clay films on faces of peds; strongly acid; clear wavy boundary.

Bt2—27 to 45 inches; yellowish red (5YR 5/6) sandy loam; weak medium subangular blocky structure; friable; few fine roots; common faint clay films on faces of peds; strongly acid; clear wavy boundary.

Btv—45 to 57 inches; strong brown (7.5YR 5/6) sandy loam; weak medium subangular blocky structure; friable; few faint clay films on faces of peds; about 10 percent, by volume, firm and brittle masses of plinthite; common medium distinct red (2.5YR 4/6) masses of iron accumulation; strongly acid; gradual wavy boundary.

B´t1—57 to 72 inches; red (2.5YR 4/6) sandy clay loam; weak coarse subangular blocky structure; friable; few faint clay films on faces of peds; strongly acid; gradual wavy boundary.

B´t2—72 to 80 inches; red (2.5YR 4/6) sandy loam; weak coarse subangular blocky structure; friable; few faint clay films on faces of peds; common medium distinct strong brown (7.5YR 5/6) masses of iron accumulation; few fine distinct light gray (10YR 7/2) iron depletions; strongly acid.

The solum is more than 60 inches thick. Reaction is very strongly acid or strongly acid throughout the profile, except for the surface layer in areas where lime has been applied.

The A or Ap horizon has hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2 to 4.

The E horizon, where present, has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 to 6. It is fine sandy loam or sandy loam.

The upper part of the Bt horizon has hue of 5YR or 7.5YR, value of 4 or 5, and chroma of 4 to 6. It is sandy loam or fine sandy loam. The lower part has hue of 2.5YR to 7.5YR, value of 4 or 5, and chroma of 6 to 8. It is sandy loam or sandy clay loam.

The Btv horizon has hue of 2.5YR to 7.5YR, value of 4 or 5, and chroma of 6 to 8. It has few or common redoximorphic accumulations in shades of yellow, olive, brown, and red and redoximorphic depletions in shades of brown and gray. The content of nodular plinthite ranges from 5 to 15 percent, by volume. The texture is sandy loam or sandy clay loam.

The B´t horizon, where present, has hue of 2.5YR to 7.5YR, value of 4 or 5, and chroma of 6 to 8. It has few or common redoximorphic accumulations in shades of yellow, olive, brown, and red and redoximorphic depletions in shades of brown and gray. It is sandy loam or sandy clay loam.

The BC horizon, where present, has the same range in color as the B´t horizon; or it has no dominant matrix color and is multicolored in shades of red, brown, and gray. It is sandy loam or sandy clay loam.

Pickney Series

The Pickney series consists of very deep, very poorly drained soils that formed in sandy marine sediments. These soils are on broad flats and in shallow depressions. They are in the coastal lowlands. On the flats, the seasonal high water table is within a depth of 1/2 foot from December through April in most years. The depressional areas are subject to ponding for long periods. Slopes are 0 to 1 percent. These soils are sandy, siliceous, thermic Cumulic Humaquepts.

Pickney soils are geographically associated with Allanton, Croatan, Hurricane, Leon, and Pottsburg soils. The very poorly drained Allanton and Croatan soils are in positions similar to those of the Pickney soils. The Allanton soils have a spodic horizon. The Croatan soils have a thick, histic epipedon. The somewhat poorly drained Hurricane soils are on knolls and do not have a thick, umbric epipedon. The poorly drained Leon and Pottsburg soils are in slightly higher positions than the Pickney soils on flats and in areas of flatwoods and do not have a thick, umbric epipedon.

Typical pedon of Pickney sand; about 1,500 feet south and 250 feet east of the northwest corner of sec. 14, T. 3 S., R. 31 W.

A1—0 to 10 inches; black (10YR 2/1) sand; weak medium granular structure; very friable; common medium, fine, and very fine roots; very strongly acid; gradual smooth boundary.
A2—10 to 35 inches; black (10YR 2/1) sand; single grained; loose; common thin streaks of gray (10YR 6/1) uncoated sand; very strongly acid; gradual smooth boundary.
Cg1—35 to 52 inches; very dark gray (10YR 3/1) coarse sand; single grained; loose; very strongly acid; clear smooth boundary.
Cg2—52 to 80 inches; very dark grayish brown (10YR 3/2) sand; single grained; loose; very strongly acid.

Reaction ranges from extremely acid to moderately acid throughout the profile.

The A horizon has hue of 10YR or 2.5Y, value of 2 or 3, and chroma of 1 or 2.

The Cg horizon has hue of 10YR or 2.5Y, value of 3 to 7, and chroma of 1 or 2; or it is neutral in hue and has value of 3 to 7. It is coarse sand or sand.

Poarch Series

The Poarch series consists of very deep, well drained soils that formed in sandy and loamy sediments. These soils are on summits, shoulder slopes, and side slopes in the uplands. The seasonal high water table is at a depth of 2$^1/_2$ to 4 feet from December through April in most years. Slopes range from 0 to 8 percent. These soils are coarse-loamy, siliceous, semiactive, thermic Plinthic Paleudults.

Poarch soils are geographically associated with Escambia, Grady, Notcher, Perdido, and Red Bay soils. The somewhat poorly drained Escambia soils are in slightly lower, less convex positions than those of the Poarch soils. The poorly drained Grady soils are in depressions and have a clayey argillic horizon. The Notcher, Perdido, and Red Bay soils are in positions similar to those of the Poarch soils. The moderately well drained Notcher soils are fine-loamy. The Perdido soils have hue of 5YR or redder throughout the subsoil. The Red Bay soils have a dark red argillic horizon.

Typical pedon of Poarch sandy loam, 0 to 2 percent slopes; about 250 feet north and 1,850 feet west of the southeast corner of sec. 1, T. 1 S., R. 31 W.

A—0 to 5 inches; very dark grayish brown (10YR 3/2) sandy loam; weak fine granular structure; very friable; many fine and very fine roots; strongly acid; clear smooth boundary.
Bt—5 to 31 inches; yellowish brown (10YR 5/6) sandy loam; weak medium subangular blocky structure; very friable; common fine roots; few faint clay films on faces of peds; strongly acid; clear wavy boundary.
Btv1—31 to 38 inches; yellowish brown (10YR 5/6) sandy loam; weak medium subangular blocky structure; friable; few faint clay films on faces of peds; about 7 percent, by volume, firm and brittle masses of plinthite; common medium distinct strong brown (7.5YR 5/8) and common medium prominent red (2.5YR 4/8) masses of iron accumulation; few fine distinct light gray (10YR 7/2) iron depletions; very strongly acid; gradual wavy boundary.
Btv2—38 to 45 inches; brownish yellow (10YR 6/6) sandy loam; weak medium subangular blocky structure; friable; few faint clay films on faces of peds; about 10 percent, by volume, firm and brittle masses of plinthite; common medium distinct strong brown (7.5YR 5/8) and common medium prominent red (2.5YR 4/8) masses of iron accumulation; few fine distinct light gray (10YR 7/2) iron depletions; very strongly acid; gradual wavy boundary.
Btv3—45 to 63 inches; brownish yellow (10YR 6/6) sandy loam; weak medium subangular blocky structure; friable; few faint clay films on faces of peds; about 10 percent, by volume, firm and brittle masses of plinthite; common medium distinct strong brown (7.5YR 5/8) masses of iron accumulation; common coarse distinct light gray (10YR 7/2) iron depletions; very strongly acid; gradual wavy boundary.
Btv4—63 to 80 inches; 40 percent very pale brown (10YR 7/4), 30 percent brownish yellow (10YR 6/6), 20 percent light gray (10YR 7/2), and 10 percent strong brown (7.5YR 5/8) sandy loam; weak coarse subangular blocky structure; friable; few faint clay films on faces of peds; about 5 percent, by volume, firm and brittle masses of plinthite; areas of brownish yellow and strong brown are masses of iron accumulation; areas of very pale brown and light gray are iron depletions; very strongly acid.

The solum is more than 60 inches thick. Reaction is very strongly acid or strongly acid throughout the profile, except for the surface layer in areas where lime has been applied.

The A or Ap horizon has hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 1 to 3.

The E horizon, where present, has hue of 10YR or 7.5YR, value of 5 or 6, and chroma of 2 or 3. It is sandy loam, fine sandy loam, or loam.

The Bt horizon has hue of 10YR or 2.5Y, value of 5

or 6, and chroma of 4 to 8. It is fine sandy loam, sandy loam, or loam.

The Btv horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 4 to 8; or it does not have a dominant matrix color and is multicolored in shades of brown, yellow, gray, and red. It has common or many redoximorphic accumulations in shades of yellow, olive, brown, and red and redoximorphic depletions in shades of brown and gray. It is commonly fine sandy loam, sandy loam, or loam. In the lower part of some pedons, however, it is sandy clay loam or clay loam. The content of nodular plinthite ranges from 5 to about 25 percent, by volume.

Pottsburg Series

The Pottsburg series consists of very deep, poorly drained soils that formed in sandy marine sediments. These soils are in areas of flatwoods in the coastal lowlands. The seasonal high water table is at a depth of 1/2 to 1 foot from December through April in most years. Slopes range from 0 to 2 percent. These soils are sandy, siliceous, thermic Grossarenic Alaquods.

Pottsburg soils are geographically associated with Allanton, Hurricane, Leon, and Pickney soils. The very poorly drained Allanton soils are in slightly lower positions than the Pottsburg soils. The somewhat poorly drained Hurricane soils are on knolls at slightly higher elevations than the Pottsburg soils. The Leon soils are in areas of flatwoods adjacent to the Pottsburg soils and have a spodic horizon within a depth of 30 inches. The very poorly drained Pickney soils are in lower, more concave positions than those of the Pottsburg soils and do not have a spodic horizon.

Typical pedon of Pottsburg sand, in an area of Allanton-Pottsburg complex (fig. 15); about 450 feet north and 2,300 feet east of the southwest corner of sec. 23, T. 2 S., R. 31 W.

A—0 to 7 inches; very dark grayish brown (10YR 3/2) sand; weak fine granular structure; very friable; many medium and fine roots; very strongly acid; clear wavy boundary.

E—7 to 21 inches; brown (10YR 5/3) sand; single grained; loose; common medium and fine roots; common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation; common thin streaks and pockets of light gray (10YR 7/2) uncoated sand; very strongly acid; clear wavy boundary.

Eg1—21 to 38 inches; grayish brown (10YR 5/2) sand; single grained; loose; common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation; very strongly acid; gradual wavy boundary.

Eg2—38 to 53 inches; grayish brown (10YR 5/2) sand; single grained; loose; very strongly acid; clear wavy boundary.

Bh1—53 to 68 inches; dark reddish brown (5YR 3/2) sand; massive; very friable; about 75 percent of the sand grains are coated with organic matter; very strongly acid; gradual wavy boundary.

Bh2—68 to 80 inches; black (5YR 2/1) sand; massive; very friable; about 90 percent of the sand grains are coated with organic matter; very strongly acid.

The solum is more than 80 inches thick. Reaction ranges from extremely acid to moderately acid throughout the profile, except in areas where lime has been applied.

The A horizon has hue of 10YR, value of 2 to 5, and chroma of 1 or 2; or it is neutral in hue and has value of 2 to 5.

The E horizon has hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 3 or 4. It has few or common redoximorphic accumulations in shades of yellow, olive, brown, and red and redoximorphic depletions in shades of brown and gray. It is sand or fine sand.

The Eg horizon has hue of 10YR or 2.5Y, value of 5 to 8, and chroma of 1 or 2. It has few or common redoximorphic accumulations in shades of yellow, olive, brown, and red. It is sand or fine sand.

The Bh horizon has hue of 5YR to 10YR, value of 2 to 5, and chroma of 1 to 4. It is sand, fine sand, loamy fine sand, or loamy sand.

Red Bay Series

The Red Bay series consists of very deep, well drained soils that formed in loamy sediments. These soils are on summits, shoulder slopes, and side slopes in the uplands. The seasonal high water table is below a depth of 6 feet throughout the year. Slopes range from 0 to 8 percent. These soils are fine-loamy, kaolinitic, thermic Rhodic Kandiudults.

Red Bay soils are geographically associated with Bama, Emory, Grady, Malbis, and Perdido soils. The Bama, Malbis, and Perdido soils are in positions similar to those of the Red Bay soils. The Bama soils do not have dark red colors throughout the subsoil. The Malbis soils have brownish colors and have a significant accumulation of plinthite in the subsoil. The Perdido soils are coarse-loamy and have a significant accumulation of plinthite in the subsoil. The Emory soils are in shallow depressions and are subject to ponding. The poorly drained Grady soils are in depressions and have a clayey argillic horizon.

Typical pedon of Red Bay fine sandy loam, 0 to 2 percent slopes; 2,050 feet east and 1,835 feet north of the southwest corner of sec. 13, T. 1 N., R. 30 W.

Ap—0 to 6 inches; brown (10YR 4/3) fine sandy loam; moderate fine granular structure; very friable; common medium roots and many fine and very fine roots; strongly acid; clear wavy boundary.
BA—6 to 12 inches; yellowish red (5YR 4/6) sandy loam; moderate medium granular structure; friable; common medium roots and many fine and very fine roots; strongly acid; clear wavy boundary.
Bt1—12 to 72 inches; dark red (2.5YR 3/6) sandy clay loam; moderate medium subangular blocky structure; friable; few fine roots; few faint clay films on faces of peds; strongly acid; gradual wavy boundary.
Bt2—72 to 80 inches; dark red (2.5YR 3/6) sandy loam; moderate medium subangular blocky structure; friable; few faint clay films on faces of peds; strongly acid.

The solum is more than 60 inches thick. Reaction ranges from very strongly acid to moderately acid in the Ap and BA horizons, except in areas where lime has been applied, and is very strongly acid or strongly acid in the Bt horizon.

The Ap horizon has hue of 5YR to 10YR, value of 3 or 4, and chroma of 2 to 4.

The BA horizon, where present, has hue of 2.5YR or 5YR, value of 3 or 4, and chroma of 4 to 6. It is sandy loam or fine sandy loam.

The Bt horizon has hue of 10R or 2.5YR, value of 3, and chroma of 4 to 6. It is sandy loam or sandy clay loam.

Resota Series

The Resota series consists of very deep, moderately well drained soils that formed in sandy marine sediments. These soils are on low ridges and knolls in the coastal lowlands. The seasonal high water table is at a depth of 3½ to 6 feet from December through April in most years. Slopes range from 0 to 5 percent. These soils are thermic, uncoated Spodic Quartzipsamments.

Resota soils are geographically associated with Corolla, Duckston, Kureb, Lakeland, and Newhan soils. The somewhat poorly drained Corolla and poorly drained Duckston soils are on the lower parts of dunes and in swales. The excessively drained Kureb and Lakeland soils are in slightly higher positions than the Resota soils and do not have a seasonal high water within a depth of 6 feet. The Newhan soils are on dunes that receive salt spray from the Gulf and do not have spodic materials within the profile.

Typical pedon of Resota sand, 0 to 5 percent slopes (fig. 16); about 380 feet east and 1,900 feet south of the northwest corner of sec. 23, T. 3 S., R. 31 W.

A—0 to 3 inches; gray (10YR 5/1) sand; single grained; loose; many medium and fine roots; strongly acid; clear smooth boundary.
E—3 to 19 inches; white (10YR 8/1) sand; single grained; loose; common medium and fine roots; strongly acid; clear irregular boundary.
B/E—19 to 25 inches; 75 percent brownish yellow (10YR 6/8) sand (B); single grained; loose; 25 percent streaks or tongues of white (10YR 8/1) sand (E); single grained; loose; a thin, discontinuous band of dark reddish brown (5YR 3/2) spodic material borders the E material; strongly acid; clear irregular boundary.
Bw1—25 to 44 inches; yellow (10YR 7/6) sand; single grained; loose; few streaks of brownish yellow (10YR 6/8) sand bordered by a thin, discontinuous band of dark reddish brown (5YR 3/3) sand; strongly acid; gradual wavy boundary.
Bw2—44 to 65 inches; very pale brown (10YR 7/4) sand; single grained; loose; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation; common medium faint light gray (10YR 7/2) iron depletions; strongly acid; gradual wavy boundary.
Cg—65 to 80 inches; white (10YR 8/1) sand; single grained; loose; strongly acid.

The solum is more than 50 inches thick. Reaction ranges from extremely acid to slightly acid throughout the profile.

The A horizon has hue of 10YR, value of 4 to 6, and chroma of 1 or 2.

The E horizon and the E part of the B/E horizon have hue of 10YR, value of 6 to 8, and chroma of 1 or 2. They are sand or fine sand.

In most pedons, the B/E horizon, where present, has thin, discontinuous bands, streaks, or spots of spodic materials.

The Bw horizon and B part of the B/E horizon have hue of 10YR or 7.5YR, value of 5 to 7, and chroma of 4 to 8. They are sand or fine sand. In most pedons, the upper part of the Bw horizon has thin, discontinuous bands, streaks, or spots of spodic materials. The lower part of the Bw horizon has common or many redoximorphic accumulations in shades of yellow, olive, brown, and red.

The Cg horizon has hue of 10YR, value of 6 to 8, and chroma of 1 or 2. It has few or common

redoximorphic accumulations in shades of yellow, olive, brown, and red. It is sand or fine sand.

Robertsdale Series

The Robertsdale series consists of very deep, somewhat poorly drained soils that formed in loamy sediments. These soils are in flat and slightly concave positions on nearly level summits in the uplands. The seasonal high water table is at a depth of 1 to 2 feet from December through April in most years. Slopes range from 0 to 2 percent. These soils are fine-loamy, siliceous, semiactive, thermic Plinthaquic Paleudults.

Robertsdale soils are geographically associated with Escambia, Grady, Malbis, and Notcher soils. The Escambia soils are in positions similar to those of the Robertsdale soils and are coarse-loamy. The poorly drained Grady soils are in depressions and have a clayey argillic horizon. The well drained Malbis and moderately well drained Notcher soils are in slightly higher, more convex positions than those of the Robertsdale soils.

Typical pedon of Robertsdale sandy loam, 0 to 2 percent slopes; about 335 feet north and 2,335 feet east of the southwest corner of sec. 1, T. 5 N., R. 33 W.

Ap—0 to 5 inches; very dark gray (10YR 3/1) sandy loam; moderate fine granular structure; very friable; many medium, fine, and very fine roots; about 4 percent, by volume, fine nodules of ironstone; strongly acid; abrupt smooth boundary.

EB—5 to 12 inches; brownish yellow (10YR 6/6) fine sandy loam; weak coarse subangular blocky structure; very friable; many medium and fine roots; about 4 percent, by volume, fine nodules of ironstone; strongly acid; clear wavy boundary.

Btc—12 to 24 inches; light yellowish brown (2.5Y 6/4) loam; moderate medium subangular blocky structure; friable; few fine roots; few faint clay films on faces of peds; about 5 percent, by volume, fine and medium nodules of ironstone; common fine distinct light gray (10YR 7/1) iron depletions throughout the matrix; common medium distinct brownish yellow (10YR 6/6) and common medium prominent reddish yellow (7.5YR 6/8) masses of iron accumulation with sharp boundaries throughout the matrix; very strongly acid; clear wavy boundary.

Btvg1—24 to 48 inches; 50 percent light gray (10YR 7/1), 30 percent brownish yellow (10YR 6/8), and 20 percent strong brown (7.5YR 5/8) sandy clay loam; moderate medium subangular blocky structure; firm; few faint clay films on faces of peds; about 5 percent, by volume, fine and medium nodules of ironstone; about 5 percent, by volume, firm and brittle masses of plinthite; areas of light gray are iron depletions; areas of brownish yellow and strong brown are masses of iron accumulation; strongly acid; gradual wavy boundary.

Btvg2—48 to 80 inches; 50 percent gray (10YR 5/1), 20 percent brownish yellow (10YR 6/8), 15 percent strong brown (7.5YR 5/8), and 15 percent red (10R 4/6) sandy clay loam; moderate medium subangular blocky structure; firm; few faint clay films on faces of peds; about 5 percent, by volume, fine nodules of ironstone; about 7 percent, by volume, firm and brittle masses of plinthite; areas of gray are iron depletions; areas of brownish yellow, strong brown, and red are masses of iron accumulation; strongly acid.

The solum is more than 60 inches thick. Reaction is very strongly acid or strongly acid throughout the profile, except for surface layer in areas where lime has been applied. The content of ironstone nodules ranges from 4 to 12 percent, by volume, in the Ap and EB horizons and from 5 to 25 percent, by volume, in the Bt horizons.

The Ap or A horizon has hue of 10YR, value of 2 to 4, and chroma of 1 or 2.

The EB or BE horizon, where present, has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 3 to 6. It is loam, fine sandy loam, or sandy loam.

The Btc horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 4 to 8. It has few or common redoximorphic accumulations in shades of yellow, olive, brown, and red and redoximorphic depletions in shades of brown and gray. It is loam, sandy clay loam, or clay loam.

The Btvg horizon commonly does not have a dominant matrix color and is multicolored in shades of brown, yellow, gray, and red. In some pedons, however, it has hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 1 or 2. It has common or many redoximorphic accumulations in shades of yellow, olive, brown, and red and redoximorphic depletions in shades of brown and gray. The content of nodular plinthite ranges from 5 to 20 percent, by volume.

Troup Series

The Troup series consists of very deep, somewhat excessively drained soils that formed in sandy and loamy marine sediments. These soils are on summits, shoulder slopes, and side slopes in the uplands. The

seasonal high water table is below a depth of 6 feet throughout the year. Slopes range from 0 to 35 percent. These soils are loamy, kaolinitic, thermic Grossarenic Kandiudults.

Troup soils are geographically associated with Bonifay, Cowarts, Lakeland, Lucy, and Perdido soils. The Bonifay soils are in positions similar to those of the Troup soils and have a significant accumulation of plinthite in the subsoil. The Cowarts and Perdido soils are on side slopes and do not have a thick, sandy epipedon. The Lakeland soils are in positions similar to those of the Troup soils and do not have loamy subhorizons within a depth of 80 inches. The Lucy soils are in slightly higher positions than the Troup soils and have a sandy epipedon that is 20 to 40 inches thick.

Typical pedon of Troup sand, 0 to 5 percent slopes (fig. 17); about 50 feet north and 1,500 feet east of the southwest corner of Spanish Land Grant 42, T. 1 S., R. 30 W.

A—0 to 5 inches; dark grayish brown (10YR 4/2) sand; weak fine granular structure; very friable; common medium and fine roots; very strongly acid; clear smooth boundary.

E1—5 to 21 inches; yellowish brown (10YR 5/6) sand; single grained; loose; few medium and fine roots; very strongly acid; clear wavy boundary.

E2—21 to 42 inches; strong brown (7.5YR 5/6) sand; single grained; loose; very friable; very strongly acid; gradual wavy boundary.

E3—42 to 58 inches; yellowish red (5YR 5/6) loamy sand; weak coarse subangular blocky structure; very friable; very strongly acid; gradual wavy boundary.

Bt1—58 to 68 inches; red (2.5YR 4/6) sandy loam; weak medium subangular blocky structure; friable; few faint clay films on faces of peds; very strongly acid; gradual wavy boundary.

Bt2—68 to 80 inches; red (2.5YR 4/6) sandy clay loam; moderate medium subangular blocky structure; friable; few faint clay films on faces of peds; very strongly acid.

The solum is more than 80 inches thick. Reaction ranges from very strongly acid to moderately acid in the A and E horizons, except in areas where lime has been applied, and is very strongly acid or strongly acid in the Bt horizon.

The A or Ap horizon has hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 2 to 4.

The E horizon has hue of 5YR to 10YR, value of 5 or 6, and chroma of 3 to 6. It is sand, loamy sand, or loamy fine sand.

The Bt horizon has hue of 10R to 5YR, value of 4 or 5, and chroma of 4 to 8. It is sandy loam, fine sandy loam, or sandy clay loam.

Weston Series

The Weston series consists of very deep, poorly drained soils that formed in loamy sediments. These soils are in flat and slightly concave positions on stream terraces. The seasonal high water table is within a depth of 1 foot from December through April in most years. Slopes range from 0 to 2 percent. These soils are coarse-loamy, siliceous, semiactive, thermic Typic Endoaquults.

Weston soils are geographically associated with Eunola, Izagora, Mantachie, Pelham, and Yemassee soils. The moderately well drained Eunola and Izagora and somewhat poorly drained Yemassee soils are in the slightly higher, more convex positions on the terraces and are fine-loamy. The somewhat poorly drained Mantachie soils are on flood plains in areas adjacent to the Weston soils. The Pelham soils are in positions similar to those of the Weston soils on terraces and have a thick, sandy epipedon.

Typical pedon of Weston fine sandy loam, 0 to 2 percent slopes; about 1,170 feet south and 500 feet west of the northeast corner of sec. 34, T. 3 N., R. 32 W.

A—0 to 4 inches; dark grayish brown (10YR 4/2) fine sandy loam; weak medium granular structure; very friable; many medium and fine roots; very strongly acid; clear wavy boundary.

Btg1—4 to 15 inches; grayish brown (10YR 5/2) fine sandy loam; weak medium subangular blocky structure; friable; common medium and fine roots; few faint clay films on faces of peds; common medium prominent yellowish red (5YR 5/8) irregularly shaped masses of iron accumulation with diffuse boundaries throughout; very strongly acid; gradual wavy boundary.

Btg2—15 to 40 inches; gray (10YR 5/1) fine sandy loam; weak medium subangular blocky structure; friable; few faint clay films on faces of peds; common fine faint light gray (10YR 7/1) irregularly shaped iron depletions with clear boundaries in the matrix; common medium prominent yellowish red (5YR 5/8) masses of iron accumulation with sharp boundaries throughout the matrix; very strongly acid; gradual wavy boundary.

Btg3—40 to 68 inches; gray (10YR 5/1) sandy loam; weak coarse subangular blocky structure; friable; few faint clay films on faces of peds; common fine faint light gray (10YR 7/2) irregularly shaped iron depletions with clear boundaries in the matrix;

common medium prominent yellowish red (5YR 5/8) masses of iron accumulation with sharp boundaries throughout the matrix; very strongly acid; gradual wavy boundary.

Cg—68 to 80 inches; 35 percent gray (10YR 6/1), 25 percent olive yellow (2.5Y 6/6), 20 percent yellowish red (5YR 5/8), and 20 percent very pale brown (10YR 8/2) sandy loam; massive, thinly bedded; very friable; areas of gray and very pale brown are iron depletions; areas of yellowish red and olive yellow are masses of iron accumulation; very strongly acid.

The solum is more than 40 inches thick. Reaction ranges from very strongly acid to moderately acid in the A and E horizons, except in areas where lime has been applied, and is very strongly acid or strongly acid in the Btg and Cg horizons.

The A horizon has hue of 10YR, value of 3 or 4, and chroma of 1 or 2.

The E horizon, where present, has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 2 to 4. It has few or common redoximorphic accumulations in shades of yellow, olive, brown, and red and redoximorphic depletions in shades of brown and gray. It is fine sandy loam, sandy loam, or loamy fine sand.

The Btg horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 1 or 2. It has common or many redoximorphic accumulations in shades of yellow, olive, brown, and red. It is sandy loam, fine sandy loam, or loam.

The Cg horizon commonly is stratified. It does not have a dominant matrix color and is multicolored in shades of gray, brown, yellow, and red. The texture is variable, but the range in texture includes sandy clay loam, loam, sandy loam, and loamy sand.

Yemassee Series

The Yemassee series consists of very deep, somewhat poorly drained soils that formed in sandy and loamy fluvial sediments. These soils are in flat or slightly concave positions on stream terraces. The seasonal high water table is at a depth of 1 to 1 1/2 feet from December through April in most years. These soils are subject to occasional flooding. Slopes range from 0 to 2 percent. These soils are fine-loamy, siliceous, semiactive, thermic Aeric Endoaquults.

Yemassee soils are geographically associated with Bigbee, Eunola, Garcon, Izagora, Pelham, and Weston soils. The Bigbee soils are on flood plains adjacent to the Yemassee soils and are sandy throughout. The moderately well drained Eunola and Izagora soils are in the slightly higher, more convex positions on the terraces. The Garcon, Pelham, and Weston soils are in the slightly lower positions on the stream terraces. The Garcon and Pelham soils have a thick, sandy epipedon. The Weston soils are poorly drained and are coarse-loamy.

Typical pedon of Yemassee fine sandy loam, 0 to 2 percent slopes, occasionally flooded; about 2,085 feet north and 1,335 feet west of the southeast corner of sec. 13, T. 1 N., R. 32 W.

A—0 to 5 inches; very dark grayish brown (10YR 3/2) fine sandy loam; moderate medium granular structure; very friable; common medium and fine roots; very strongly acid; clear smooth boundary.

E—5 to 12 inches; grayish brown (2.5Y 5/2) fine sandy loam; weak medium granular structure; very friable; common medium and fine roots; very strongly acid; clear wavy boundary.

Bt1—12 to 26 inches; olive yellow (2.5Y 6/4) sandy clay loam; moderate medium subangular blocky structure; friable; few fine roots; few faint clay films on faces of peds; common medium prominent strong brown (7.5YR 5/8) masses of iron accumulation; common fine distinct light gray (2.5Y 7/2) irregularly shaped iron depletions; very strongly acid; gradual wavy boundary.

Bt2—26 to 42 inches; olive yellow (2.5Y 6/4) fine sandy loam; weak medium subangular blocky structure; friable; few faint clay films on faces of peds; common fine distinct light gray (2.5Y 7/2) irregularly shaped iron depletions; few fine distinct brownish yellow (10YR 6/6) masses of iron accumulation; very strongly acid; gradual wavy boundary.

Bt3—42 to 48 inches; olive yellow (2.5Y 6/4) sandy clay loam; moderate medium subangular blocky structure; friable; few faint clay films on faces of peds; common medium prominent strong brown (7.5YR 5/8) masses of iron accumulation; common medium distinct light gray (2.5Y 7/2) irregularly shaped iron depletions; very strongly acid; gradual wavy boundary.

Bt4—48 to 62 inches; 25 percent brownish yellow (10YR 6/6), 20 percent yellowish brown (10YR 5/6), 20 percent light gray (10YR 7/2), 20 percent strong brown (7.5YR 5/8), and 15 percent red (2.5YR 5/6) fine sandy loam; moderate medium subangular blocky structure; friable; very strongly acid; few faint clay films on faces of peds; areas of brownish yellow, yellowish brown, strong brown, and red are masses of iron accumulation; areas of light gray are iron depletions; very strongly acid; gradual wavy boundary.

Btg—62 to 74 inches; light gray (10YR 7/1) fine sandy

loam; weak coarse subangular blocky structure; friable; few faint clay films on faces of peds; common medium prominent strong brown (7.5YR 5/6), reddish brown (2.5YR 5/4), and light yellowish brown (2.5Y 6/4) masses of iron accumulation; very strongly acid; clear wavy boundary.

Cg—74 to 80 inches; light gray (10YR 7/1) sand; single grained; loose; common coarse distinct light yellowish brown (10YR 6/4) masses of iron accumulation; very strongly acid.

The solum is more than 40 inches thick. Reaction ranges from extremely acid to moderately acid in the A and E horizons, except in areas where lime has been applied, and ranges from extremely acid to strongly acid in the Bt, Btg, and Cg horizons.

The A or Ap horizon has hue of 10YR or 2.5Y, value of 2 to 5, and chroma of 1 or 2.

The E horizon, where present, has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 2 to 4. It is fine sandy loam or loamy fine sand.

The upper part of the Bt horizon has hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 3 to 8. It has few or common redoximorphic accumulations in shades of yellow, olive, brown, and red and redoximorphic depletions in shades of brown and gray. The lower part of the horizon does not have a dominant matrix color and is multicolored in shades of brown, yellow, red, and gray. The Bt horizon is fine sandy loam, sandy clay loam, or clay loam.

The Btg horizon has hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 1 or 2. It has common or many redoximorphic accumulations in shades of yellow, olive, brown, and red. It is fine sandy loam, sandy clay loam, or clay loam.

The Cg horizon has hue of 10YR to 5Y, value of 5 to 8, and chroma of 1 or 2. It has common or many redoximorphic accumulations in shades of brown, yellow, or red. The texture is variable, but the range in texture includes fine sandy loam, sandy loam, sandy clay loam, clay loam, loamy sand, and sand. In some pedons, the Cg horizon is stratified with contrasting textures.

Formation of the Soils

In this section, the factors of soil formation are described and related to the soils of the county and the processes of horizon differentiation are explained. Also, the geomorphology, stratigraphy, ground water, and mineral resources of the county are described.

Factors of Soil Formation

The kind of soil that develops in an area depends on five major factors. These factors are the physical and mineral composition of the parent material; the climate under which the soil material has accumulated and has existed since accumulation; the plant and animal life on and in the soil; the relief, or lay of the land; and the length of time that these factors have acted on the soil material (Jenny, 1941, 1980). All of these factors affect the formation of each soil, but the relative importance of each factor differs from place to place. In some areas, one factor may determine most of the soil properties. For example, if the parent material is pure quartz sand, which is highly resistant to weathering, the soil generally has weakly expressed horizons. Even where quartz sand is the parent material, however, a distinct profile can be formed under certain types of vegetation if the relief is low and flat and the water table is high.

The interrelationship among the five factors is complex, and the effects of any one factor cannot be isolated and completely evaluated. Each factor is described separately, and the probable effects of each are indicated.

Parent Material

The parent material of the soils in Escambia County consists mostly of deposits of marine origin. The northern two-thirds of the county is thought to be the stream-dissected remnant of an extensive delta plain, known as the Citronelle Formation, that was covered unconformably by sand and clay deposits from high standing seas in the Pleistocene Epoch (2 to 3 million years ago). The southern third is Pleistocene and Holocene (11,000 years ago to present) marine deposits that are predominantly sandy. These deposits are mostly quartz sand and contain varying amounts of clay, silt, and shell fragments. Clay and silt are more abundant in the soils that formed in the sediment on marine terraces and in lagoons. Clay and silt are virtually absent on shoreline ridges, where most of the deposits are eolian sand. Ocean currents transported the parent material. The ocean covered the area a number of times during the Pleistocene age.

The parent material in the county varies somewhat in mineral and chemical composition and in physical structure. The main physical differences, such as those between sand, silt, and clay, can be observed in the field. Other differences, such as mineral and chemical composition, are important to soil formation and affect the present physical and chemical characteristics of the soils. Many differences between the soils in the county reflect original differences in the parent material as it was laid down.

Some organic soils are located throughout the county. They formed in partly decayed wetland vegetation.

Climate

Climate, particularly temperature and rainfall, mainly determines the rate and nature of the physical, chemical, and biological processes that affect the weathering of soil material. Rainfall, changes in temperature, wind, and sun accelerate the breakdown of rocks and minerals, the release of chemicals, and other processes that affect the development of the soils. The amount of water that percolates through the soil depends on rainfall, relative humidity, soil permeability, and physiographic position. Temperature influences the kinds of organisms in the soil, the growth of the organisms, and the speed of physical and chemical reactions in the soil.

Escambia County has a warm, humid climate characterized by long, hot summers and short, mild winters. The soils generally have a low content of bases because most of the rainfall percolates downward through the soil. Because the rainfall generally is well distributed, most of the soils retain moisture throughout the year. The climate is uniform throughout the county; therefore, the climate has had about the same effect on soil development in all parts

of the county. The mineral soils in the county mostly are highly weathered, are leached, are strongly acid, have low natural fertility, and have a low content of organic matter.

Plants and Animals

Plants, animals, and other organisms have a significant role in soil development. Plant and animal life can increase the content of organic matter and nitrogen, increase or decrease plant nutrients, and change the structure and porosity of the soils.

Plants recycle nutrients, accumulate organic matter, and provide food and cover for animal life. They stabilize the surface layer so that soil-forming processes can continue. Plants also stabilize the environment for soil-forming processes by protecting the soil from extremes in temperature.

The soils in the county formed under a succession of plants. This succession is still evident in the smooth cordgrass and blackrush in the marshes; the big cordgrass and giant cutgrass in the brackish water areas; the hardwood trees and cypress in the very poorly drained depressions; the pine trees in the well drained to poorly drained upland areas; and the oak, pine, holly, and magnolia in the moderately well drained to excessively drained positions on uplands and in bottomlands.

Animals rearrange soil material by roughening the soil surface, forming and filling channels, and shaping the peds and voids. The soil is mixed by the channeling of ants, wasps, worms, and spiders and by the burrowing of turtles, other reptiles, and crustacea, such as crabs and crawfish. Bacteria, fungi, and other microorganisms hasten decomposition of organic matter and increase the release of minerals for additional plant growth. Humans affect the soil-forming process by tilling, removing natural vegetation, establishing other plants, and changing the fertility of the soil.

The net gains and losses caused by plants and animals in the soil-forming process are important in the county. Plant residue provides most of the organic matter for the formation of the umbric epipedon in the Allanton and Pickney soils.

Relief

Relief, or lay of the land, affects soil formation by influencing runoff, erosion, and water relationships. As slope increases, runoff increases in intensity, less water is absorbed by the soil, and erosion accelerates. Relief also affects drainage, soil fertility, and vegetation.

The relief in Escambia County varies considerably. Nearly level to gently sloping areas are dominant in the southern, central, and north-central parts of the county. Sloping to steep areas are dominant in the northeastern and northwestern parts. Elevation in the county ranges from sea level, where the Escambia River meets Escambia Bay, to 280 feet above sea level, near the Alabama State line north of the town of Bratt.

Relief has a significant effect on the soils. The soils are sandy and loamy where the parent material consists of sandy and loamy marine deposits. Because sandy soils have low available water capacity and easily become droughty, most of the water available to plants in sandy soils comes from the water table. Because loamy soils have moderate to high available water capacity, most of the water available to plants in loamy soils comes from the soil. The depth to the water table and the available water capacity, therefore, affect the type of vegetation that grows on a particular soil.

The depth to the water table also affects internal drainage. On the sand ridges, where the water table is deep and the soils are highly leached, soluble plant nutrients and colloidal clays and organic matter are carried rapidly downward through the sandy soils. This downward movement of materials occurs at a slower rate in loamy soils.

In areas of the flatwoods, the water table is commonly at or near the surface and rarely drops below a depth of 5 feet. Organic matter is translocated down a short distance and forms a humus-rich spodic horizon, or Bh horizon. Locally, this horizon is referred to as a hardpan.

In low areas or depressions, where the water table is generally above the surface, muck accumulates under the marsh or swamp vegetation. As the plants die, the residue accumulates and slowly decays in the water where oxygen is excluded. The amount of muck that accumulates depends mainly on the depth and duration of standing water. In some wet areas, such as flats, organic matter has accumulated to form a thick, black topsoil of mineral soil instead of a surface layer of muck.

Time

Time is an important factor affecting soil formation. The physical and chemical changes brought about by climate, plants and animals, and relief are low. The length of time needed to convert raw, geologic material into soil varies according to the nature of the geologic material and the interaction of the other factors. Some of the basic minerals from which soils are formed weather fairly rapidly, while other minerals

are chemically inert and show little change over long periods. The translocation of fine particles to form horizons in the soil varies under different conditions, but the processes always take a relatively long time.

In Escambia County, the dominant geologic materials are inert. The sand is almost pure quartz and is highly resistant to weathering. The finer textured silt and clay are the products of earlier weathering.

Relatively little geologic time has elapsed since the material in which the soils in the county developed was laid down or emerged from the sea. The loamy and clayey horizons formed in place through processes of clay translocation. If the degree of development is considered, the soils range from fairly old (well developed horizonation) to very young (little or no horizonation).

Processes of Horizon Differentiation

The five factors of soil formation result in horizon differentiation through four general processes. These processes are additions, losses, translocations, and transformations.

In Escambia County, additions are dominated by the accumulation of plant debris on the surface. This accumulation contributes to the content of organic matter in the topsoil. Some soils, especially the Newhan and Corolla soils near coastal beaches, receive additions of windblown sands, which accumulate on the surface.

Carbonates and other soluble minerals are lost from the soils in the county as rainwater percolates down through and out of the soils. Erosion is the loss of soil material from the surface layer because of the force of water and wind. It is most prominent where surface-stabilizing natural vegetation has been removed or destroyed by human activities. It results in a thin A horizon and the exposure of the subsoil at the surface.

The common types of translocations in the county are the downward movement of clay particles and organic matter and their subsequent accumulation in the subsoil. The argillic horizon in the Bama soil is an example of the effect of the translocation of clay. The spodic horizon in the Leon soil is an example of the effect of the translocation of organic matter. Animals, especially ants and other insects, translocate soil material from the lower horizons to the surface layer. This type of activity commonly results in an indistinct boundary between the surface and subsurface layers.

The reduction and oxidation of iron are common transformations in the county. The zone in the soil where the water table fluctuates is mottled in shades of yellow, olive, brown, and gray. These colors are indicative of reduced and oxidized forms of iron and manganese.

Geology

Frank R. Rupert, geologist, Florida Geological Survey, prepared this section.

Geomorphology

Escambia County is at the western end of the Northern or proximal geomorphic zone described by White (1970). This zone includes the northernmost part of the Florida peninsula and all of the panhandle. Locally, the Northern Zone is subdivided into two geomorphic provinces: the Western Highlands and the Gulf Coastal Lowlands (fig. 18).

The Western Highlands comprise the northern three-quarters of Escambia County. They are the western extension of a series of topographic highlands that span northern Florida. These highlands are thought to be the stream-dissected remnants of an extensive delta plain that covered southern Alabama, southern Georgia, and northern Florida. The terrain is characteristically comprised of gently rolling, clayey-sand hills and ridges punctuated by a series of deeply-incised, dendritic streams. The land surface in Escambia County ranges from 280 feet above mean sea level (MSL) in the northern part of the county near the Alabama State line to about 100 feet above MSL at the southern edge of the highlands.

Large bodies of surface water are rare in the Western Highlands. A number of small ponds are perched on layers of low-permeability materials within the clayey-sand sediments that comprise the highlands.

As with most of Florida, the Western Highlands have been modified by marine erosion. Healy (1975) identified three marine terrace elevation zones in the Western Highlands: the Sunderland/Okeefenokee Terrace, which extends from the southern edge of the zone (about 100 to 170 feet above MSL); the Coharie Terrace (170 to 215 feet above MSL); and the Hazelhurst Terrace (215 to 320 feet above MSL). The highest elevations in Escambia County are on the Hazelhurst Terrace.

The Gulf Coastal Lowlands cover the southern quarter of Escambia County. They extend from the base of the Western Highlands southward to the present coastline. They include the Escambia River Valley and the modern coastal barrier islands. The boundary between the Gulf Coastal Lowlands in the

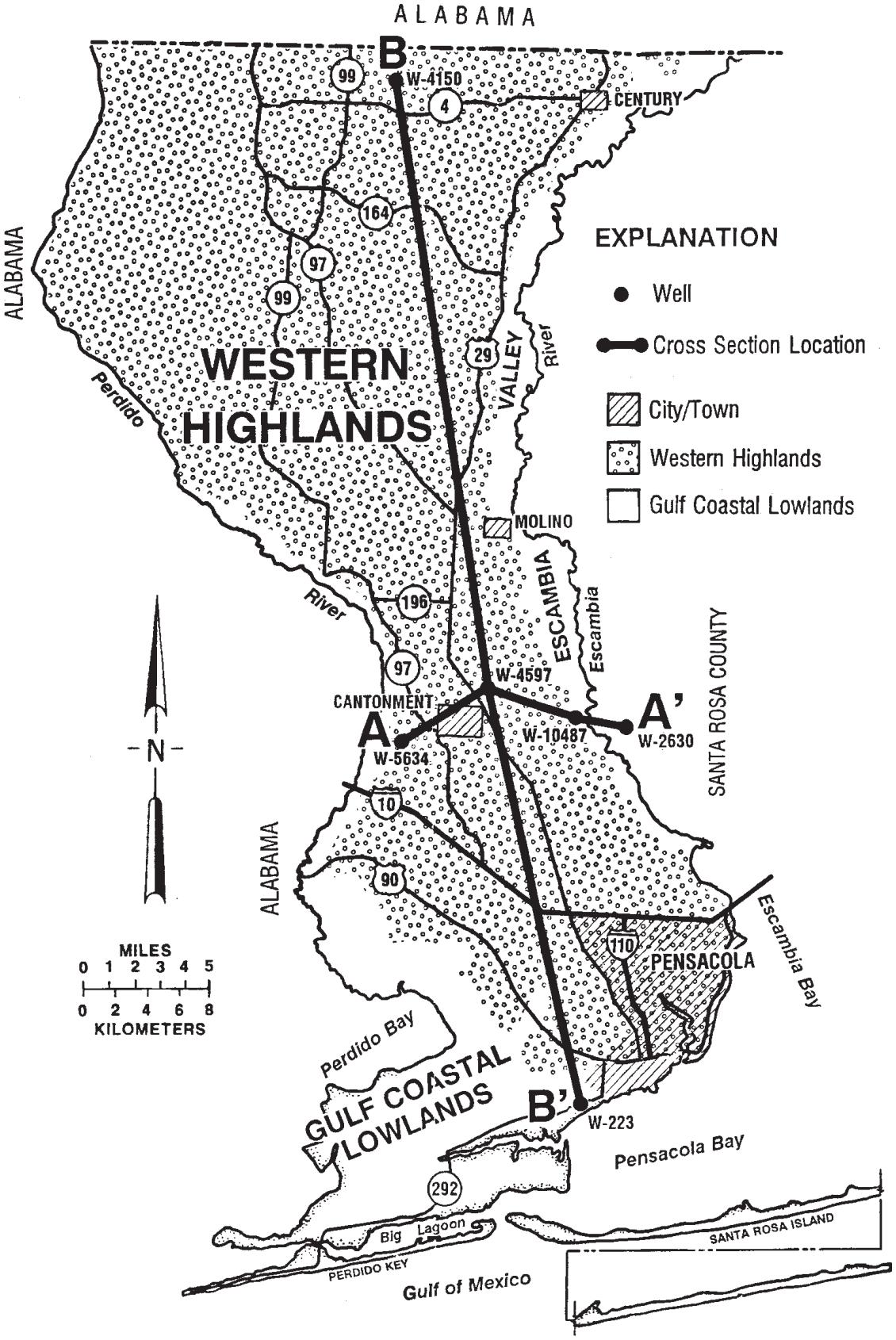

Figure 18.—Geomorphology of Escambia County and location of cross sections.

south and the uplands in the north is marked by a relict marine escarpment at an elevation of about 100 to 120 feet above MSL.

The terrain in the Gulf Coastal Lowlands is generally flat and sandy, reflecting erosion and subsequent deposition by high-standing Pleistocene seas. Healy (1975) recognized five marine terrace elevation zones comprising portions of the Gulf Coastal Lowlands. They are the Silver Bluff Terrace (0 to 10 feet above MSL), the Pamlico Terrace (10 to 25 feet above MSL), the Talbot Terrace (25 to 42 feet above MSL), the Penholoway Terrace (42 to 70 feet above MSL), and the Wicomico Terrace (70 to 100 feet above MSL).

The land surface in the Gulf Coastal Lowlands slopes gently from an elevation of about 100 feet above MSL at the northern edge to sea level near the coast. Much of the land adjacent to Perdido Bay and landward of the Gulf coastal barrier islands is swampy and is drained by small, sluggish creeks. Relict Pleistocene sand beach ridges and dunes are situated on the mainland and the landward edge of Perdido Key, just west of Big Lagoon.

Perdido Key and Santa Rosa Island are Holocene barrier islands, are comprised of quartz sand and shell beds, and support a series of sand dune and beach ridge systems that parallel the coast. The largest of these dunes have elevations of up to 45 feet above MSL but are continually vulnerable to erosion by storm surges. Low swales positioned between the dunes may contain standing fresh water and commonly accumulate organic matter.

The valley of the Escambia River forms a broad extension of the Gulf Coastal Lowlands. The extension straddles the river northward to the Alabama State line (White, Puri, and Vernon, 1964). It begins at sea level where the river enters the northwestern edge of Escambia Bay through a 4-mile-wide swampy delta. From the delta, the extension stretches northward to the Alabama State line, following the flood plain of the river. The flood plain is 1 1/2 to 2 miles wide. The elevation in the valley gradually rises to about 50 feet above MSL at the point where it enters Alabama.

Stratigraphy

Escambia County is underlain by thousands of feet of Mesozoic and Cenozoic sedimentary rocks. The oldest known sediments encountered by drilling were penetrated at a depth of 17,950 feet in an oil test well in the north-central part of the county. They consist of Jurassic quartzite sandstone and gray shale and are part of the Smackover Formation, which yields petroleum in wells in Santa Rosa County. The youngest sediments are Pleistocene and Holocene undifferentiated sands, clayey sands, and alluvium. Figure 18 shows the locations of the shallow geologic cross sections illustrated in figures 19 and 20.

The rock strata underlying Escambia County dip and thicken gently to the southwest in a homoclinal structure. This structure is produced by the thickening and downwarping of sediments as they dip into the large sedimentary basins of the Gulf of Mexico and the Mississippi Embayment, which are situated south and west of the county, respectively (Marsh, 1966). The majority of the vast thickness of Tertiary sediments underlying the county is continental siliciclastics and marginal marine units.

Locally, the thick sequence of Miocene and younger siliciclastic rock units function as freshwater aquifer systems and are a source of nonpetroleum economic mineral commodities. The following description of the geology of Escambia County is therefore restricted to strata of the Middle Miocene age and younger. All stratigraphic nomenclature follows Braunstein et al. (1988), and the areal extent of units is taken from Scott (1963).

Middle and Upper Miocene Series

The Pensacola Clay (Marsh, 1966) is a dark or light gray to brownish-gray, silty, variably sandy clay and quartz sand unit underlying central and southern Escambia County. This formation characteristically contains a prolific benthic foraminifera assemblage as well as marine mollusks and ostracods. The Pensacola Clay consists of three members in this area: a lower clay member, a thin sand member named the Escambia Sand, and an upper clay member. The formation ranges from about 380 feet thick in the east-central part of the county to over 1,000 feet thick just north of Pensacola and under Perdido Bay. It unconformably overlies Oligocene carbonates of the Chickasawhay Formation.

The Pensacola Clay is generally absent in the northern portion of the county where it grades into the Coarse Clastics or is truncated by the overlying Citronelle Formation. The top of the formation varies in depth from about 250 feet below land surface (BLS) near Cantonment to nearly 800 feet BLS under Perdido Bay in the southwestern part of the county.

Miocene-Pliocene Series

Marsh (1966) coined the name “Miocene Coarse Clastics” for the extensive beds of light-brown to light-gray, poorly sorted, fine to very coarse sand, granules, and small quartz pebbles and mollusk shells underlying the western-most part of the Florida

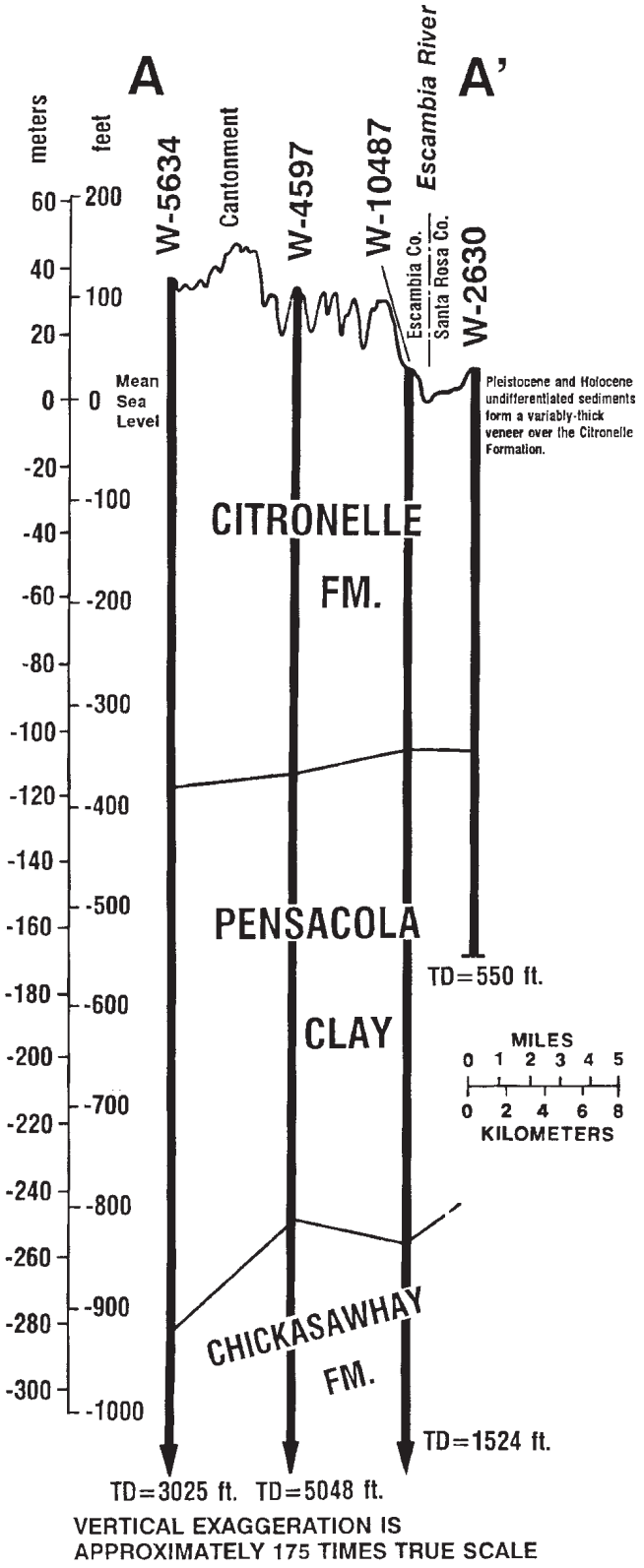

Figure 19.—Cross section of geologic materials from east to west through Escambia County, Florida.

panhandle. These beds most likely transgress the Miocene-Pliocene age boundary, and the general name "Coarse Clastics" has been adopted (Braunstein, Huddlestun, and Biel, 1988). The mineral muscovite is common as an accessory throughout the unit. Perhaps the most distinctive feature of the Coarse Clastics is the presence of abundant small marine mollusks. This feature differentiates the Coarse Clastics from the overlying Citronelle Formation. In some well samples, these fossils comprise 5 to 50 percent of the sample.

The Coarse Clastics vary in thickness. They are about 70 feet thick in the north-central part of the county. They generally thicken to the southeast and southwest, attaining a maximum thickness of nearly 500 feet directly southeast of Cantonment. The depth to the top of the unit varies from about 280 feet BLS beneath Pensacola Bay to nearly 650 feet BLS in the northwestern part of the county near the Alabama State line.

The Coarse Clastics interfinger with the Pensacola Clay in the south-central part of the county and are in turn unconformably overlain by the Pleistocene-age Citronelle Formation and undifferentiated terrace deposits.

Pleistocene Series

The Citronelle Formation (Matson, 1916) is predominantly a light yellowish-brown, reddish-brown, light gray, and white, quartz sand unit containing lenses and beds of clay and chert and quartz gravel. It forms the stream-incised hills of the Western Highlands Zone and forms a distinct bluff at Bay Bluff, along the western shore of Escambia Bay. Analyses by Coe (1979) suggest that the Citronelle Formation sediments are largely deltaic in origin. Clay beds within the Citronelle Formation may reach 60 feet in thickness. A few of the beds, such as one at Molino, are of suitable economic grade for brick making (Marsh, 1966). Fossils are generally rare, but scattered mollusks, foraminifera, shrimp burrows, fossil pollen, and remnants of wood have been reported from Citronelle sediments in various parts of Escambia County (Marsh, 1966).

The abundant iron oxide in the Citronelle Formation provides a reddish color to many of the sediments. The iron oxide may concentrate in sand beds, forming iron-cemented (hardpan) layers. These hardpan layers vary from less than an inch to several feet in thickness. Because of the resistant nature and very slow permeability of the hardpan layers, small ponds may form over the hardpan layers as well as over clay beds. Ground water percolating downward through the

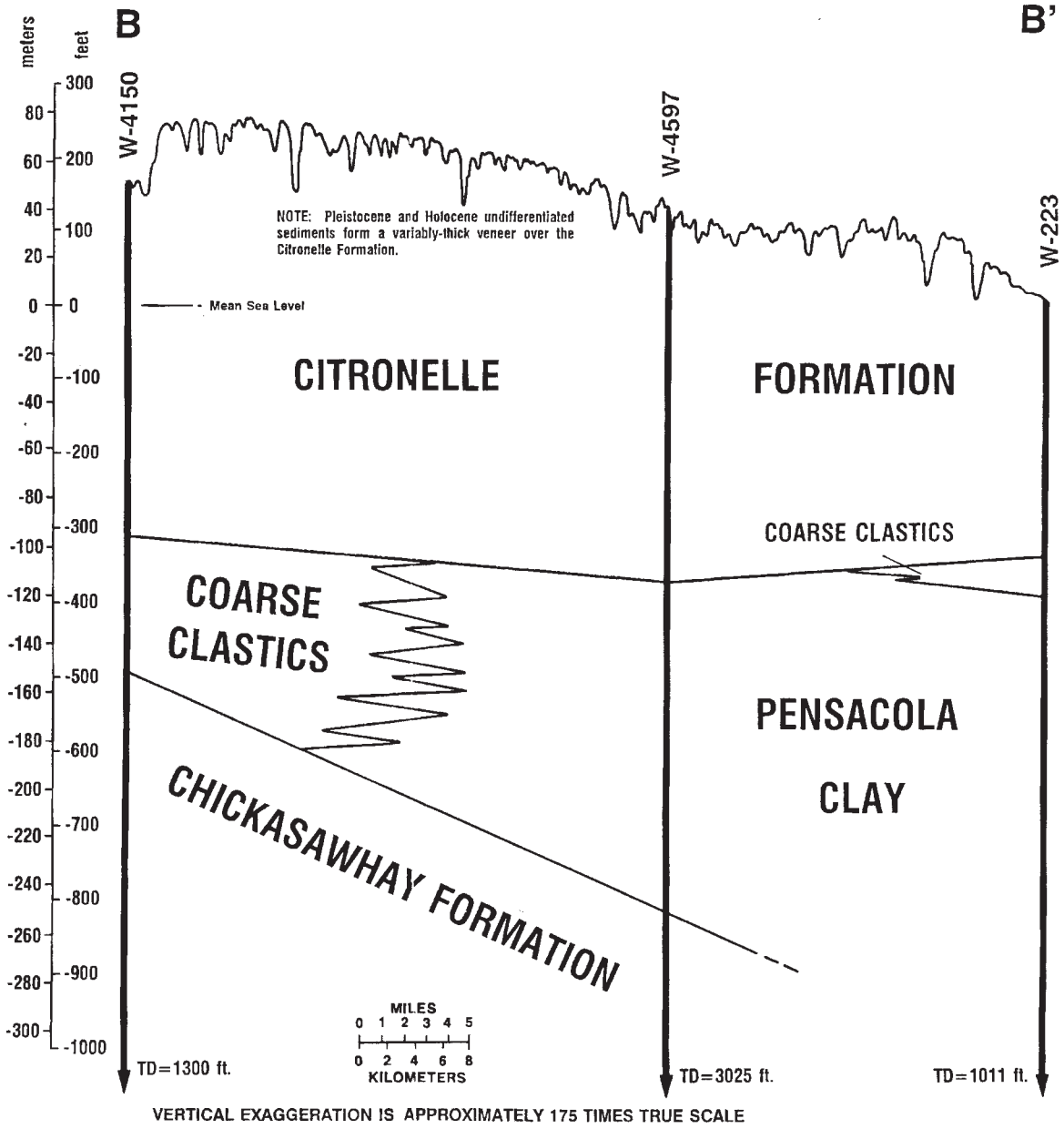

Figure 20.—Cross section of geologic materials from north to south through Escambia County, Florida.

sediments commonly reaches a hardpan layer and is diverted laterally. Where this lateral flow intersects a surface stream, gully, bluff, or hillside, the exiting flow may undermine the overlying sediments, causing a semicircular collapse feature named a “steephead.” As erosion continues, the steephead migrates away from the seepage point, forming a gully as it progresses. Steepheads are most common in the deeply incised terrain of the Western Highlands.

The thickness of the Citronelle Formation varies considerably. Because of the difficulty in differentiating Citronelle sediments from the overlying terrace deposits, the overall range in thickness is somewhat uncertain. However, the Citronelle Formation generally varies from about 200 feet thick at the southern edge of the county to almost 800 feet thick in the northwestern corner of the county (Marsh, 1966).

Pleistocene and Holocene Series

A series of undifferentiated, commonly unconsolidated, quartz sands and clays overlie the Citronelle Formation in much of Escambia County.

These sediments are deposited in a series of elevational marine terraces. The younger terraces near the modern coast contain still-discernable relict shoreline features, such as sand dunes and beach ridges consisting of clean, quartz sand. In many areas, particularly in the central and northern parts of the county, these sediments are difficult to differentiate from the underlying Citronelle Formation. They cap the hills of the Western Highlands, and they accumulate as alluvium in stream channels. These sediments consist primarily of clean to slightly clayey, quartz sands, generally containing less clay and fewer quartz pebbles than the older Citronelle sediments.

The unconsolidated sediments, along with Holocene alluvium and shoreline sands, are grouped into the undifferentiated sand and clay unit. Because of the difficulty in differentiating them from the underlying Citronelle Formation sediments, the undifferentiated sediments are not depicted on the geologic cross sections in figures 19 and 20.

Ground Water

Ground water, or water that fills the pore spaces in subsurface rocks and sediments, is the principal source of potable water in Escambia County. It is derived primarily from precipitation within the county and neighboring counties.

The primary aquifer systems under Escambia County are the surficial aquifer, also called the Sand and Gravel Aquifer, and the Floridan aquifer system, which is deeper. These units are separated by an aquiclude, commonly containing water-bearing units, named the intermediate aquifer/confining unit. Data on the extent and thickness of each aquifer system are from Musgrove, Marsh, and Scott (Marsh, 1966; Musgrove, Barraclough, and Marsh, 1961; Musgrove, Barraclough, and Grantham, 1965; Florida Geological Survey, 1991).

The majority of the water wells in Escambia County draw from the Sand and Gravel Aquifer. This aquifer is formed in the porous siliciclastic sediments of the Coarse Clastics, the Citronelle Formation, and the surficial undifferentiated sand and clay units. It extends under the entire county, overlying Oligocene carbonates in the northern part of the county and the Pensacola Clay in the southern part of the county. It varies in thickness, ranging from the surface down to 200 to 500 feet BLS. Unlike the water from the carbonate aquifer system in much of Florida, water from the Sand and Gravel Aquifer has a low content of minerals. The water has a low content of minerals because the water-bearing sediments are predominantly insoluble quartz sand and gravel. The Sand and Gravel Aquifer, therefore, makes an economical source of industrial water for manufacturing processes that require water with a low content of minerals.

Locally, the Sand and Gravel Aquifer is separated from the underlying Floridan aquifer system by an intermediate confining unit comprised of the Pensacola Clay. This low-permeability unit varies in thickness, generally ranging from 380 to 1,000 feet. It acts as an aquiclude and effectively isolates the two aquifer systems. The Escambia Sand member, which is situated within the Pensacola Clay, may contain freshwater but is not utilized as a water source in Escambia County.

The Floridan aquifer system is composed of porous carbonate rocks of Miocene and Eocene age. Under Escambia County, the top of the unit generally lies at depths in excess of 600 feet. Water within the Floridan aquifer system is harder, with a higher dissolved mineral content, than water within the overlying Sand and Gravel Aquifer. The content of chloride increases substantially downdip under the Perdido Bay area in the southwestern part of the county.

Although the Floridan aquifer system is the primary freshwater source in much of Florida, it is not used extensively in the western panhandle. The availability of high-quality water at shallower depths in the Sand and Gravel Aquifer precludes the need to drill deeper wells to reach the Floridan aquifer system.

Mineral Resources

The principal near-surface, non-energy mineral resources in Escambia County are quartz sand, gravel, and clay. These commodities are mined from open pits in the shallow undifferentiated sediments and the Citronelle Formation. The following paragraphs summarize the current mining status and potential for each commodity in the county.

Three companies mine quartz sand and gravel in the county. One company operates a mine in section 4 of Township 5 North, Range 30 West, near Century. Sand and gravel in a range of sizes are the primary products from this operation. They are used for masonry and concrete mixes. Another company produces masonry sand from a mine in multiple sections of Township 2 South, Range 30 West. A third company operates a pit in section 39 of Township 1 South, Range 30 West. It provides local fill material.

Several other small commercial operations and numerous private pits are worked for various mixtures of sand and clay. This material is used locally for fill.

Sand is an abundant resource throughout the county. Future exploitation will be largely dependent upon local demand.

Refractory clay, which is used for making brick products, has been mined in the county for many years. Three large pits are located between the towns of Molino and Barth. Although currently inactive, these pits were mined for brick clay from a 50-foot thick bed in the Citronelle Formation.

In the central and northern parts of the county, the Citronelle Formation contains clay beds ranging from a few inches to tens of feet in thickness. These beds extend from a few feet to several miles in length (Musgrove, Barraclough, and Marsh, 1961). The presence of these deposits suggests that economic quantities of clay are readily available in the county. Resumption of the mining at Molino or development of other clay mines within the county, however, will be largely dependent upon local demand for clay products.

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Glossary

ABC soil. A soil having an A, a B, and a C horizon.

AC soil. A soil having only an A and a C horizon. Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Alpha,alpha-dipyridyl. A dye that when dissolved in 1N ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction indicates a type of redoximorphic feature.

Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Area reclaim (in tables). An area difficult to reclaim after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Aspect. The direction in which a slope faces.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 40-inch profile or to a limiting layer is expressed as:

Very low	0 to 0.5
Low	0.05 to 0.10
Moderate	0.10 to 0.15
High	0.15 to 0.20
Very high	more than 0.20

Backslope. The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, backslopes are commonly bounded by a convex shoulder above and a concave footslope below.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Base slope. A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).

Bedding system. A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.

Bisequum. Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.

Bottom land. The normal flood plain of a stream, subject to flooding.

Boulders. Rock fragments larger than 2 feet (60 centimeters) in diameter.

Breast height. An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.

California bearing ratio (CBR). The load-supporting capacity of a soil as compared to that of standard crushed limestone, expressed as a ratio. This ratio was first standardized in California. A soil having a CBR of 16 supports 16 percent of the load that would be supported by standard crushed limestone, per unit area, with the same degree of distortion.

Canopy. The leafy crown of trees or shrubs. (See Crown.)

Capillary water. Water held as a film around soil particles and in tiny spaces between particles.

Surface tension is the adhesive force that holds capillary water in the soil.

Cation. An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.

Cation-exchange capacity. The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

Channery soil material. Soil material that is, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.

Chemical treatment. Control of unwanted vegetation through the use of chemicals.

Chiseling. Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay depletions. Low-chroma zones having a low content of iron, manganese, and clay because of the chemical reduction of iron and manganese and the removal of iron, manganese, and clay. A type of redoximorphic depletion.

Clay film. A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.

Claypan. A slowly permeable soil horizon that contains much more clay than the horizons above it. A claypan is commonly hard when dry and plastic or stiff when wet.

Climax plant community. The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.

Coarse textured soil. Sand or loamy sand.

COLE (coefficient of linear extensibility). See Linear extensibility.

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the “Soil Survey Manual.”

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Corrosion. Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of

regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cross-slope farming. Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Culmination of the mean annual increment (CMAI). The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Decreasers. The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Depressions. Landforms that are typically sunken, lower parts of the earth's surface, have concave relief, and do not have natural outlets for surface drainage.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Divided-slope farming. A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to those under which the soil formed. Alterations of the water regime by human activities, either through drainage or irrigation, are not a consideration unless they have significantly changed the morphology of the soil. Seven classes of natural soil drainage are recognized—*excessively drained, somewhat excessively drained, well drained, moderately well drained, somewhat poorly drained, poorly drained,* and *very poorly drained*. These classes are defined in the "Soil Survey Manual."

Drainage, surface. Runoff, or surface flow of water, from an area.

Ecological site. An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Eolian soil material. Earthy parent material accumulated through wind action; commonly refers to sandy material in dunes or to loess in blankets on the surface.

Ephemeral stream. A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation. A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human

or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Synonym: scarp.

Evapotranspiration. The combined loss of water from a given area, and during a specific period of time, by evaporation from the soil surface and transpiration from plants.

Excess fines (in tables). Excess silt and clay in the soil. The soil does not provide a source of gravel or sand for construction purposes.

Excess salt (in tables). Excess water-soluble salts in the soil that restrict the growth of most plants.

Excess sulfur (in tables). Excessive amount of sulfur in the soil. The sulfur causes extreme acidity if the soil is drained, and the growth of most plants is restricted.

Fallow. Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.

Fast intake (in tables). The rapid movement of water into the soil.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

Fill slope. A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

Fine textured soil. Sandy clay, silty clay, or clay.

Firebreak. Area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

First bottom. The normal flood plain of a stream, subject to frequent or occasional flooding.

Flats. Nearly level landforms that are smooth and lack any significant curvature, slope, and little change in elevation.

Flatwoods (colloquial). Broad linear relief landforms with slightly convex relief bordering flats, depressions, and flood plains.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

Fluvial. Of or pertaining to rivers; produced by river action, as a fluvial plain.

Footslope. The position that forms the inner, gently inclined surface at the base of a hillslope. In profile, footslopes are commonly concave. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).

Forb. Any herbaceous plant not a grass or a sedge.

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type. A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Graded stripcropping. Growing crops in strips that grade toward a protected waterway.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water. Water filling all the unblocked pores of the material below the water table.

Gully. A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.

Hardpan. A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Head slope. A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill. A natural elevation of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline; hillsides generally have slopes of more than 15 percent. The distinction between a hill and a mountain is arbitrary and is dependent on local usage.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

O horizon.—An organic layer of fresh and decaying plant residue.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Increasers. Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasers commonly are the shorter plants and the less palatable to livestock.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be

limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Interfluve. An elevated area between two drainageways that sheds water to those drainageways.

Intermittent stream. A stream, or reach of a stream, that flows for prolonged periods only when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Invaders. On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.

Iron depletions. Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are:

Border.—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation.—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow.—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation.—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Knoll. A small, low, rounded hill rising above adjacent landforms.

K_{sat}. Saturated hydraulic conductivity. (See Permeability.)

Landform. Any recognizable physical feature on the Earth's surface, having a characteristic shape and range in composition and is produced by natural causes.

Landscape. Collection of related natural landforms, usually the land surface, which the eye can comprehend in a single view.

Leaching. The removal of soluble material from soil or other material by percolating water.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at $^1/_3$- or $^1/_{10}$-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Low strength. The soil is not strong enough to support loads.

Masses. Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.

Mechanical treatment. Use of mechanical equipment

for seeding, brush management, and other management practices.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. An area that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common,* and *many;* size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse,* more than 15 millimeters (about 0.6 inch).

Mountain. A natural elevation of the land surface, rising more than 1,000 feet above surrounding lowlands, commonly of restricted summit area (relative to a plateau) and generally having steep sides. A mountain can occur as a single, isolated mass or in a group forming a chain or range.

Muck. Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Natric horizon. A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules. Cemented bodies lacking visible internal structure. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up nodules. If formed in place, nodules of iron oxide or manganese oxide are considered types of redoximorphic concentrations.

Nose slope. A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent.

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low	0.5 to 1.0 percent
Moderately low	1.0 to 2.0 percent
Moderate	2.0 to 4.0 percent
High	4.0 to 8.0 percent
Very high	more than 8.0 percent

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan, fragipan, claypan, plowpan,* and *traffic pan*.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Peat. Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedisediment. A thin layer of alluvial material that mantles an erosion surface and has been transported to its present position from higher lying areas of the erosion surface.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The movement of water through the soil.

Percs slowly (in tables). The slow movement of water through the soil adversely affects the specified use.

Permeability. The quality of the soil that enables

water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Extremely slow	0.0 to 0.01 inch
Very slow	0.01 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plinthite. The sesquioxide-rich, humus-poor, highly weathered mixture of clay with quartz and other diluents. It commonly appears as red mottles, usually in platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to an ironstone hardpan or to irregular aggregates on repeated wetting and drying, especially if it is exposed also to heat from the sun. In a moist soil, plinthite can be cut with a spade. It is a form of laterite.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poor filter (in tables). Because of rapid or very rapid permeability, the soil may not adequately filter effluent from a waste disposal system.

Poorly graded. Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Potential native plant community. See Climax plant community.

Potential rooting depth (effective rooting depth). Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Redoximorphic concentrations. Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

Redoximorphic depletions. Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the

chemical reduction of iron resulting from saturation.

Redoximorphic features. Redoximorphic concentrations and accumulations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

Reduced matrix. A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

Relief. The elevations or inequalities of a land surface, considered collectively.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

Rill. A steep-sided channel resulting from accelerated erosion. A rill generally is a few inches deep and not wide enough to be an obstacle to farm machinery.

Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Rooting depth (in tables). Shallow root zone. The soil is shallow over a layer that greatly restricts roots.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Salty water (in tables). Water that is too salty for consumption by livestock.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sapric soil material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Second bottom. The first terrace above the normal flood plain (or first bottom) of a river.

Sedimentary rock. Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.

Seepage (in tables). The movement of water through the soil. Seepage adversely affects the specified use.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shoulder. The position that forms the uppermost inclined surface near the top of a hillslope. It is a transition from backslope to summit. The surface is dominantly convex in profile and erosional in origin.

Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Side slope. The slope bounding a drainageway and lying between the drainageway and the adjacent interfluve. It is generally linear along the slope width and overland flow is parallel down the slope.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

Silica-sesquioxide ratio. The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil

that is 80 percent or more silt and less than 12 percent clay.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Sinkhole. A depression in the landscape where limestone has been dissolved.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides. Polished and grooved surfaces produced by one mass sliding past another. In soils, slickensides may occur at the bases of slip surfaces on the steeper slopes; on faces of blocks, prisms, and columns; and in swelling clayey soils, where there is marked change in moisture content.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance. In this survey, classes for simple slopes are as follows:

Nearly level	0 to 2 percent
Gently sloping	2 to 5 percent
Moderately sloping	5 to 8 percent
Strongly sloping	8 to 12 percent
Moderately steep	12 to 20 percent
Steep	20 to 35 percent

Classes for complex slopes are as follows:

Nearly level	0 to 2 percent
Gently undulating	0 to 5 percent
Undulating	2 to 8 percent
Rolling	8 to 12 percent
Hilly	12 to 35 percent

Slope (in tables). Slope is great enough that special practices are required to ensure satisfactory performance of the soil for a specific use.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Small stones (in tables). Rock fragments less than 3 inches (7.6 centimeters) in diameter. Small stones adversely affect the specified use of the soil.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

Stripcropping. Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.

Structure, soil. The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum. The part of the soil below the solum.

Subsurface layer. Technically, the E horizon. Generally refers to a leached horizon lighter in color and lower in content of organic matter than the overlying surface layer.

Summit. The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.

Surface layer. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters).

Frequently designated as the “plow layer,” or the “Ap horizon.”

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

Taxadjuncts. Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.

Terrace. An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.

Terrace (geologic). An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying “coarse,” “fine,” or “very fine.”

Thin layer (in tables). Otherwise suitable soil material that is too thin for the specified use.

Tilth, soil. The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.

Toeslope. The position that forms the gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.

Topsoil. The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Upland. Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Water bars. Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

Weathering. All physical and chemical changes produced in rocks or other deposits at or near the earth’s surface by atmospheric agents. These changes result in disintegration and decomposition of the material.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Tables

Table 1.--Temperature and Precipitation

(Recorded in the period 1961-1990 at Pensacola, Florida)

Month	Temperature			Precipitation				
					30% chance to have--		Average	
	Average daily maximum	Average daily minimum	Average daily	Average	Less than--	More than--	number of days with 0.10 inch or more	Average snowfall
	°F	°F	°F	In	In	In		In
January-----	59.7	41.4	50.6	4.65	2.89	5.62	6	0.1
February----	63.1	44.3	53.7	5.36	3.59	6.41	6	.1
March-------	69.4	51.4	60.4	5.66	3.65	6.82	6	.0
April-------	76.4	58.1	67.3	3.41	1.99	4.14	4	.0
May---------	83.2	65.7	74.5	4.20	2.09	5.13	4	.0
June--------	88.7	71.9	80.3	6.40	3.83	7.76	7	.0
July--------	89.9	74.2	82.0	7.42	4.75	8.94	9	.0
August------	89.2	73.8	81.5	7.33	5.27	8.65	9	.0
September---	86.4	70.3	78.3	5.42	2.99	6.61	6	.0
October-----	79.2	59.6	69.4	4.14	2.19	5.64	3	.0
November----	70.1	51.0	60.5	3.54	2.08	4.30	5	.0
December----	62.9	44.4	53.7	4.30	2.89	5.14	6	.0
Yearly:								
Average----	76.5	58.8	67.7	---	---	---	---	---
Total------	---	---	---	61.81	53.14	66.92	71	.2

Table 2.--Freeze Dates in Spring and Fall

(Recorded in the period 1961-1990 at the Milton Experiment Station)

Probability	Temperature		
	24 °F or lower	28 °F or lower	32 °F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	February 29	March 16	March 30
2 years in 10 later than--	February 20	March 9	March 23
5 years in 10 later than--	February 3	February 25	March 10
First freezing temperature in fall:			
1 year in 10 earlier than--	November 20	November 10	October 31
2 years in 10 earlier than--	December 2	November 18	November 6
5 years in 10 earlier than--	December 24	December 2	November 17

Table 3.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
2	Duckston sand, frequently flooded	91	*
3	Corolla-Duckston sands, gently undulating, flooded	3,171	0.7
4	Pickney sand	7,392	1.5
5	Croatan and Pickney soils, depressional	8,437	1.8
6	Direго muck, tidal	1,493	0.3
7	Kureb sand, 0 to 8 percent slopes	723	0.2
8	Newhan-Corolla complex, rolling, rarely flooded	3,433	0.7
9	Leon sand	4,452	0.9
10	Beaches	766	0.2
11	Hurricane sand, 0 to 5 percent slopes	5,850	1.2
12	Croatan muck, depressional	1,138	0.2
13	Lakeland sand, 0 to 5 percent slopes	16,808	3.5
14	Allanton-Pottsburg complex	912	0.2
15	Resota sand, 0 to 5 percent slopes	1,152	0.2
16	Arents-Urban land complex	5,247	1.1
17	Kureb sand, 8 to 12 percent slopes	68	*
18	Pits	1,634	0.3
19	Foxworth sand, 0 to 5 percent slopes	2,424	0.5
20	Lakeland sand, 5 to 8 percent slopes	1,189	0.2
21	Lakeland sand, 8 to 12 percent slopes	1,466	0.3
22	Urban land	3,332	0.7
24	Poarch sandy loam, 0 to 2 percent slopes	7,092	1.5
25	Poarch sandy loam, 2 to 5 percent slopes	11,231	2.3
26	Poarch sandy loam, 5 to 8 percent slopes	1,817	0.4
27	Escambia fine sandy loam, 0 to 2 percent slopes	4,224	0.9
28	Grady loam	764	0.2
29	Perdido sandy loam, 0 to 2 percent slopes	2,551	0.5
30	Perdido sandy loam, 2 to 5 percent slopes	7,857	1.6
31	Perdido sandy loam, 5 to 8 percent slopes	948	0.2
32	Troup sand, 0 to 5 percent slopes	43,693	9.1
33	Troup sand, 5 to 8 percent slopes	8,370	1.7
34	Troup sand, 8 to 12 percent slopes	4,383	0.9
35	Lucy loamy sand, 0 to 2 percent slopes	934	0.2
36	Lucy loamy sand, 2 to 5 percent slopes	2,508	0.5
38	Bonifay loamy sand, 0 to 5 percent slopes	27,172	5.6
39	Bonifay loamy sand, 5 to 8 percent slopes	4,253	0.9
40	Eunola fine sandy loam, 0 to 2 percent slopes, occasionally flooded	988	0.2
41	Malbis sandy loam, 0 to 2 percent slopes	1,475	0.3
42	Malbis sandy loam, 2 to 5 percent slopes	490	0.1
43	Albany sand, 0 to 5 percent slopes	1,353	0.3
44	Corolla-Urban land complex, 0 to 5 percent slopes, rarely flooded	530	0.1
45	Troup and Perdido soils, 8 to 35 percent slopes, severely eroded	1,448	0.3
46	Garcon-Bigbee-Yemassee complex, 0 to 5 percent slopes, occasionally flooded	976	0.2
47	Hurricane and Albany soils, 0 to 5 percent slopes, occasionally flooded	4,528	0.9
48	Pelham-Yemassee complex, occasionally flooded	8,170	1.7
49	Dorovan muck and Fluvaquents, frequently flooded	48,176	10.0
50	Bigbee-Garcon-Fluvaquents complex, flooded	10,145	2.1
51	Pelham loamy sand, 0 to 2 percent slopes	5,527	1.1
52	Robertsdale sandy loam, 0 to 2 percent slopes	1,924	0.4
54	Troup-Poarch complex, 8 to 12 percent slopes	48,471	10.1
55	Troup-Poarch complex, 2 to 5 percent slopes	2,958	0.6
56	Troup-Poarch complex, 5 to 8 percent slopes	7,321	1.5
57	Cowarts-Troup complex, 12 to 18 percent slopes	1,445	0.3
58	Eunola fine sandy loam, 2 to 5 percent slopes, occasionally flooded	1,110	0.2
59	Notcher fine sandy loam, 0 to 2 percent slopes	18,143	3.8
60	Notcher fine sandy loam, 2 to 5 percent slopes	17,384	3.6
61	Notcher fine sandy loam, 5 to 8 percent slopes	2,232	0.5
62	Bama fine sandy loam, 0 to 2 percent slopes	1,465	0.3
63	Bama fine sandy loam, 2 to 5 percent slopes	636	0.1
64	Red Bay fine sandy loam, 0 to 2 percent slopes	7,710	1.6

* Less than 0.1 percent.

Table 3.--Acreage and Proportionate Extent of the Soils--Continued

Map symbol	Soil name	Acres	Percent
65	Red Bay fine sandy loam, 2 to 5 percent slopes	2,286	0.5
66	Red Bay fine sandy loam, 5 to 8 percent slopes	275	*
67	Notcher-Maubila complex, 2 to 5 percent slopes	1,153	0.2
68	Notcher-Maubila complex, 5 to 8 percent slopes	894	0.2
69	Notcher-Maubila complex, 8 to 12 percent slopes	5,961	1.2
70	Izagora fine sandy loam, 0 to 2 percent slopes, occasionally flooded	1,015	0.2
71	Iuka fine sandy loam, frequently flooded	898	0.2
72	Yemassee fine sandy loam, 0 to 2 percent slopes, occasionally flooded	437	*
73	Grady loam, drained	1,783	0.4
74	Lucy loamy sand, 5 to 8 percent slopes	889	0.2
75	Weston fine sandy loam, 0 to 2 percent slopes	2,947	0.6
76	Mantachie-Fluvaquents-Bigbee complex, frequently flooded	8,889	1.8
77	Arents-Water complex, undulating	1,068	0.2
78	Emory fine sandy loam, ponded	622	0.1
	Areas of water more than 40 acres in size	58,900	12.2
	Total	481,600	100.0

* Less than 0.1 percent.

Table 4.--Land Capability Classes and Yields per Acre of Crops and Pasture

(Yields are those that can be expected under a high level of management. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil.)

Soil name and map symbol	Land capability	Cotton lint	Corn	Bahiagrass	Improved bermuda-grass	Soybeans	Winter Wheat
		Lbs	Bu	AUM*	AUM*	Bu	Bu
2---------- Duckston	VIIw	---	---	---	---	---	---
3---------- Corolla- Duckston	VIIs VIIw	--- ---	--- ---	--- ---	--- ---	--- ---	--- ---
4---------- Pickney	VIw	---	---	---	---	---	---
5---------- Croatan and Pickney	VIIw	---	---	---	---	---	---
6---------- Direго	VIIIw	---	---	---	---	---	---
7---------- Kureb	VIIs	---	---	---	---	---	---
8---------- Newhan- Corolla	VIIIs	---	---	---	---	---	---
9---------- Leon	IVw	---	50	7.5	9.0	---	25
10---------- Beaches	VIIIw	---	---	---	---	---	---
11---------- Hurricane	IIIw	400	80	7.0	8.0	---	28
12---------- Croatan	VIIw	---	---	---	---	---	---
13---------- Lakeland	IVs	450	---	7.0	7.0	---	25
14---------- Allanton- Pottsburg	VIw IVw	---	---	---	---	---	---
15---------- Resota	VIs	---	---	5.0	5.0	---	---
16. Arents- Urban land							
17---------- Kureb	VIIs	---	---	---	---	---	---
18---------- Pits	VIIIs	---	---	---	---	---	---

See footnote at end of table

Table 4.--Land Capability Classes and Yields per Acre of Crops and Pasture--Continued

Soil name and map symbol	Land capability	Cotton lint	Corn	Bahiagrass	Improved bermuda-grass	Soybeans	Winter Wheat
		Lbs	Bu	AUM*	AUM*	Bu	Bu
19--- Foxworth	IIIs	450	---	7.5	7.5	25	25
20, 21--- Lakeland	VIs	---	---	6.5	6.5	---	---
22--- Urban land	VIIIs	---	---	---	---	---	---
24--- Poarch	I	900	120	9.5	10.5	40	50
25--- Poarch	IIe	900	120	9.5	10.5	40	50
26--- Poarch	IIIe	800	100	8.5	8.5	37	45
27--- Escambia	IIw	750	100	9.0	9.0	30	35
28--- Grady	VIIw	---	---	---	---	---	---
29--- Perdido	I	900	120	9.0	10.5	40	50
30--- Perdido	IIe	900	120	8.5	10.5	40	50
31--- Perdido	IIIe	800	100	8.0	9.5	37	45
32--- Troup	IIIs	450	80	7.2	7.5	28	30
33--- Troup	IVs	450	---	7.0	7.3	25	25
34--- Troup	VIs	---	---	5.0	6.5	---	---
35, 36--- Lucy	IIs	800	80	8.5	8.0	38	50
38--- Bonifay	IIIs	650	75	7.2	7.5	34	40
39--- Bonifay	IVs	450	---	7.2	7.5	25	25
40--- Eunola	IIw	750	100	6.0	8.0	30	35
41--- Malbis	I	900	120	9.0	10.0	40	50

See footnote at end of table.

Table 4.--Land Capability Classes and Yields per Acre of Crops and Pasture--Continued

Soil name and map symbol	Land capability	Cotton lint	Corn	Bahiagrass	Improved bermuda-grass	Soybeans	Winter Wheat
		Lbs	Bu	AUM*	AUM*	Bu	Bu
42---------- Malbis	IIe	900	120	8.5	9.5	40	50
43---------- Albany	IIIw	800	100	6.5	7.0	37	45
44. Corolla- Urban land							
45---------- Troup and Perdido	VIIe	---	---	5.9	7.1	---	---
46----------							
Garcon-	IIw	750	100	9.5	10.5	30	35
Bigbee-	IIIs	450	70	7.5	7.5	28	32
Yemmassee	IIw	750	100	9.5	10.5	30	35
47---------- Hurricane and Albany	IIIw	600	80	7.0	7.5	30	35
48----------							
Pelham-	IIIw	---	---	---	---	---	---
Yemassee	IIw	750	100	7.5	7.5	30	35
49---------- Dorovan and Fluvaquents	VIIw	---	---	---	---	---	---
50----------							
Bigbee-	IIIs	450	70	7.5	7.5	30	32
Garcon-	IIIw	750	100	9.5	10.5	30	35
Fluvaquents	VIIw	---	---	---	---	---	---
51---------- Pelham	IIIw	---	---	---	---	---	---
52---------- Robertsdale	IIIw	400	80	8.0	9.0	28	30
54----------							
Troup-	VIs	---	---	5.0	5.7	---	---
Poarch	IVe	450	---	9.5	4.5	25	25
55----------							
Troup-	IIIs	450	70	8.2	6.6	30	32
Poarch	IIe	900	120	9.5	5.5	40	40
56----------							
Troup-	IVs	---	---	---	6.3	---	---
Poarch	IIIe	800	100	8.5	4.5	37	45
57----------							
Cowarts-	VIe	---	---	4.8	6.2	---	---
Troup	VIIe	---	---	---	---	---	---

See footnote at end of table.

Table 4.--Land Capability Classes and Yields per Acre of Crops and Pasture--Continued

Soil name and map symbol	Land capability	Cotton lint	Corn	Bahiagrass	Improved bermuda-grass	Soybeans	Winter Wheat
		Lbs	Bu	AUM*	AUM*	Bu	Bu
58--- Eunola	IIe	900	120	9.0	10.0	40	50
59--- Notcher	I	900	120	8.5	10.0	40	50
60--- Notcher	IIe	900	120	8.5	10.0	40	50
61--- Notcher	IIIe	800	100	8.0	9.0	37	45
62--- Bama	I	900	120	10.0	10.0	40	50
63--- Bama	IIe	900	120	9.5	9.5	40	50
64--- Red Bay	I	900	120	10.0	10.0	40	50
65--- Red Bay	IIe	900	120	9.5	9.5	40	50
66--- Red Bay	IIIe	800	100	9.0	9.0	37	45
67---							
Notcher-	IIe	900	120	9.5	9.5	40	50
Maubila	IIIe	800	100	9.5	9.0	37	45
68---							
Notcher-	IIIe	800	100	8.5	9.0	37	45
Maubila	IVe	450	80	8.0	8.0	25	25
69---							
Notcher-	IVe	450	---	8.0	8.0	25	25
Maubila	VIe	---	---	6.0	5.2	---	---
70--- Izagora	IIw	750	100	9.0	10.0	30	35
71--- Iuka	Vw	---	---	7.0	8.0	---	---
72--- Yemassee	IIw	750	100	11.0	12.0	30	35
73--- Grady	IVw	450	65	6.0	---	30	25
74--- Lucy	IIIs	450	70	8.5	7.5	30	20
75--- Weston	IVw	---	---	7.5	8.0	---	---

See footnote at end of table.

Table 4.--Land Capability Classes and Yields per Acre of Crops and Pasture--Continued

Soil name and map symbol	Land capability	Cotton lint	Corn	Bahiagrass	Improved bermuda-grass	Soybeans	Winter Wheat
		Lbs	Bu	AUM*	AUM*	Bu	Bu
76----------							
Mantachie-	Vw	---	---	---	---	---	---
Fluvaquents-	VIIw	---	---	---	---	---	---
Bigbee	Vw	---	---	7.5	7.5	28	30
77----------							
Arents-	VIIs	---	---	---	---	---	---
Water	---	---	---	---	---	---	---
78----------	IIw	700	100	9.0	10.0	30	35
Emory							

* Animal-unit-month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for 30 days.

Table 5.--Woodland Management and Productivity

(Only the soils suitable for production of commercial trees are listed. Absence of an entry indicates that information was not available.)

Soil name and map symbol	Ordination symbol	Management concerns				Potential productivity			Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Plant competition	Common trees	Site index	Volume*	
7---------- Kureb	4S	Slight	Moderate	Severe	Slight	Slash pine------	45	4.1	Sand pine,
						Sand pine-------	60	2.9	slash pine,
						Longleaf pine---	55	2.9	longleaf pine.
9---------- Leon	8W	Slight	Moderate	Moderate	Moderate	Slash pine------	70	8.4	Slash pine,
						Loblolly pine---	70	8.4	loblolly pine,
						Longleaf pine---	65	4.7	longleaf pine.
11---------- Hurricane	11W	Slight	Moderate	Moderate	Moderate	Slash pine------	90	11.4	Slash pine,
						Loblolly pine---	90	11.4	loblolly pine,
						Longleaf pine---	75	6.3	longleaf pine.
13---------- Lakeland	5S	Slight	Moderate	Moderate	Slight	Slash pine------	55	4.7	Slash pine,
						Longleaf pine---	55	3.1	longleaf pine,
						Sand pine-------	80	4.9	sand pine.
14:									
Allanton----------	10W	Slight	Severe	Severe	Severe	Slash pine------	80	10.0	Slash pine,
						Loblolly pine---	80	10.0	loblolly pine,
						Longleaf pine---	70	5.5	longleaf pine.
Pottsburg---------	10W	Slight	Moderate	Moderate	Moderate	Slash pine------	80	10.0	Slash pine,
						Loblolly pine---	80	10.0	loblolly pine
						Longleaf pine---	65	4.7	longleaf pine.
15---------- Resota	8S	Slight	Moderate	Severe	Moderate	Slash pine------	65	7.5	Slash pine,
						Longleaf pine---	55	3.1	longleaf pine,
						Sand pine-------	60	2.5	sand pine.
17---------- Kureb	4S	Slight	Moderate	Severe	Slight	Slash pine------	45	4.1	Slash pine,
						Sand pine-------	60	2.9	sand pine,
						Longleaf pine---	50	2.5	longleaf pine.
19---------- Foxworth	10S	Slight	Moderate	Moderate	Moderate	Slash pine------	80	10.0	Slash pine,
						Longleaf pine---	65	4.7	longleaf pine.
20, 21---------- Lakeland	5S	Slight	Moderate	Moderate	Slight	Slash pine------	55	4.7	Slash pine,
						Longleaf pine---	55	3.1	longleaf pine,
						Sand pine-------	80	4.9	sand pine.

See footnote at end of table.

Table 5.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ordination symbol	Management concerns				Potential productivity			Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Plant competition	Common trees	Site index	Volume*	
24, 25, 26--------- Poarch	11A	Slight	Slight	Slight	Moderate	Slash pine------ Loblolly pine--- Longleaf pine---	90 90 75	11.4 11.4 6.0	Slash pine, loblolly pine, longleaf pine.
27---------- Escambia	11W	Slight	Moderate	Slight	Slight	Slash pine------ Loblolly pine--- Longleaf pine---	90 90 80	11.4 11.4 7.0	Slash pine, loblolly pine, longleaf pine.
29, 30, 31--------- Perdido	11A	Slight	Slight	Slight	Moderate	Slash pine------ Loblolly pine--- Longleaf pine---	90 90 80	11.4 11.4 7.0	Slash pine, loblolly pine, longleaf pine.
32, 33, 34--------- Troup	11S	Slight	Moderate	Moderate	Moderate	Slash pine------ Loblolly pine--- Longleaf pine---	80 80 70	10.0 10.0 5.5	Slash pine, loblolly pine, longleaf pine.
35, 36---------- Lucy	11S	Slight	Moderate	Moderate	Moderate	Slash pine------ Loblolly pine--- Longleaf pine---	85 80 70	10.7 10.0 5.5	Slash pine, loblolly pine, longleaf pine.
38, 39---------- Bonifay	10S	Slight	Moderate	Moderate	Moderate	Slash pine------ Loblolly pine--- Longleaf pine---	80 80 70	10.0 10.0 5.5	Slash pine, loblolly pine, longleaf pine.
40---------- Eunola	12W	Slight	Moderate	Slight	Moderate	Slash pine------ Loblolly pine---	95 95	12.0 12.0	Slash pine, loblolly pine.
41, 42---------- Malbis	11A	Slight	Slight	Slight	Moderate	Slash pine------ Loblolly pine--- Longleaf pine---	90 90 80	11.4 11.4 7.0	Slash pine, loblolly pine.
43---------- Albany	11W	Slight	Moderate	Moderate	Moderate	Slash pine------ Loblolly pine--- Longleaf pine---	85 85 80	10.7 10.7 7.0	Slash pine, loblolly pine.
45: Troup----------	11R	Moderate	Moderate	Moderate	Moderate	Slash pine------ Loblolly pine--- Longleaf pine---	80 80 70	10.0 10.0 5.5	Slash pine, loblolly pine, longleaf pine.
Perdido----------	11R	Slight	Slight	Slight	Moderate	Slash pine------ Loblolly pine--- Longleaf pine---	90 90 80	11.4 11.4 7.0	Slash pine, loblolly pine, longleaf pine.

See footnote at end of table.

Table 5.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ordination symbol	Management concerns				Potential productivity			Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Plant competition	Common trees	Site index	Volume*	
46:									
Garcon	10W	Slight	Slight	Moderate	Moderate	Slash pine Longleaf pine	80 70	10.0 5.5	Slash pine, longleaf pine.
Bigbee	11S	Slight	Slight	Moderate	Slight	Slash pine Loblolly pine	85 85	10.7 10.7	Slash pine, loblolly pine.
Yemassee	11W	Slight	Moderate	Slight	Moderate	Slash pine Loblolly pine	90 90	11.4 11.4	Slash pine, loblolly pine.
47:									
Hurricane	11W	Slight	Moderate	Moderate	Moderate	Slash pine Loblolly pine Longleaf pine	90 85 70	11.4 10.7 5.5	Slash pine, loblolly pine, longleaf pine.
Albany	11W	Slight	Moderate	Moderate	Moderate	Slash pine Loblolly pine Longleaf pine	90 85 80	11.4 10.7 7.0	Slash pine, loblolly pine, longleaf pine.
48:									
Pelham	11W	Slight	Severe	Severe	Moderate	Slash pine Loblolly pine Longleaf pine	90 90 80	11.4 11.4 7.0	Slash pine, loblolly pine, longleaf pine.
Yemassee	11W	Slight	Moderate	Slight	Moderate	Slash pine Loblolly pine	90 90	11.4 11.4	Slash pine, loblolly pine.
50:									
Bigbee	11S	Slight	Slight	Moderate	Slight	Slash pine Loblolly pine	85 80	10.7 10.0	Slash pine, loblolly pine.
Garcon	10W	Slight	Slight	Moderate	Moderate	Slash pine Longleaf pine	80 70	10.0 5.5	Slash pine, longleaf pine.
Fluvaquents.									
51 Pelham	11W	Slight	Severe	Severe	Moderate	Slash pine Loblolly pine Longleaf pine	90 90 80	11.4 11.4 7.0	Slash pine, loblolly pine, longleaf pine.
52 Robertsdale	11W	Slight	Moderate	Moderate	Severe	Slash pine Loblolly pine	90 90	11.4 11.4	Slash pine, loblolly pine.

See footnote at end of table.

Table 5.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ordination symbol	Management concerns				Potential productivity			Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Plant competition	Common trees	Site index	Volume*	
54, 55, 56:									
Troup	11S	Slight	Moderate	Moderate	Moderate	Slash pine	85	10.7	Slash pine,
						Loblolly pine	80	10.6	loblolly pine,
						Longleaf pine	70	5.5	longleaf pine.
Poarch	11A	Slight	Slight	Slight	Moderate	Slash pine	90	11.4	Slash pine,
						Loblolly pine	90	11.4	loblolly pine,
						Longleaf pine	73	6.0	longleaf pine.
57:									
Cowarts	11R	Slight	Moderate	Slight	Moderate	Slash pine	85	10.8	Slash pine,
						Loblolly pine	85	10.8	loblolly pine,
						Longleaf pine	65	5.0	longleaf pine.
Troup	10R	Moderate	Moderate	Moderate	Moderate	Slash pine	80	10.0	Slash pine,
						Loblolly pine	80	10.0	loblolly pine,
						Longleaf pine	70	5.5	longleaf pine.
58---------- Eunola	12W	Slight	Moderate	Slight	Moderate	Slash pine	95	12.0	Loblolly pine,
						Loblolly pine	95	12.0	slash pine.
						Sweetgum	---	---	
59, 60, 61---------- Notcher	11A	Slight	Slight	Slight	Moderate	Slash pine	90	11.4	Slash pine,
						Loblolly pine	90	11.4	loblolly pine,
						Longleaf pine	80	7.0	longleaf pine.
62, 63---------- Bama	11A	Slight	Slight	Slight	Moderate	Slash pine	90	11.4	Slash pine,
						Loblolly pine	90	11.4	loblolly pine,
						Longleaf pine	75	6.6	longleaf pine.
64, 65, 66---------- Red Bay	11A	Slight	Slight	Slight	Moderate	Slash pine	90	11.4	Slash pine,
						Loblolly pine	90	11.4	loblolly pine,
						Longleaf pine	75	6.6	longleaf pine.
67, 68, 69:									
Notcher	11A	Slight	Slight	Slight	Moderate	Slash pine	90	11.4	Slash pine,
						Loblolly pine	90	11.4	loblolly pine,
						Longleaf pine	80	7.0	longleaf pine.
Maubila	10C	Slight	Moderate	Slight	Moderate	Slash pine	85	10.7	Slash pine,
						Loblolly pine	85	10.7	loblolly pine,
						Longleaf pine	70	5.5	longleaf pine.

See footnote at end of table.

Table 5.--Woodland Management and Productivity--Continued

Soil name and map symbol	Ordination symbol	Management concerns				Potential productivity			Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Plant competition	Common trees	Site index	Volume*	
70---------- Izagora	11W	Slight	Moderate	Slight	Severe	Slash pine------ Loblolly pine---	90 90	11.4 11.4	Slash pine, loblolly pine.
71---------- Iuka	13W	Slight	Moderate	Moderate	Severe	Slash pine------ Loblolly pine---	100 100	12.8 12.8	Slash pine, loblolly pine.
72---------- Yemassee	11W	Slight	Moderate	Slight	Moderate	Slash pine------ Loblolly pine--- Longleaf pine---	90 90 80	11.4 11.4 7.0	Slash pine, loblolly pine.
73---------- Grady	11W	Slight	Moderate	Moderate	Moderate	Slash pine------ Loblolly pine---	90 90	11.4 11.4	Slash pine, loblolly pine.
74---------- Lucy	11S	Slight	Moderate	Moderate	Moderate	Slash pine------ Loblolly pine--- Longleaf pine---	85 80 70	10.7 10.0 5.5	Slash pine, loblolly pine, longleaf pine.
75---------- Weston	11W	Slight	Moderate	Severe	Severe	Slash pine------ Loblolly pine---	90 90	11.4 11.4	Slash pine loblolly pine.
76: Mantachie--------- Fluvaquents.	13W	Moderate	Severe	Severe	Severe	Slash pine------ Loblolly pine---	100 100	12.8 12.8	Slash pine, loblolly pine.
Bigbee------------	11S	Slight	Slight	Moderate	Slight	Slash pine------ Loblolly pine---	85 85	10.7 10.7	Slash pine, loblolly pine.
78---------- Emory	11W	Slight	Moderate	Slight	Moderate	Slash pine------ Loblolly pine--- Longleaf pine---	85 85 75	10.7 10.7 6.3	Slash pine, loblolly pine, longleaf pine.

* Volume is the yield in cubic meters per hectare per year calculated at the age of culmination of mean annual increment for fully stocked natural stands.

Table 6.--Recreational Development

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not rated.)

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
2---------- Ducksto	Severe: flooding, wetness, too sandy.	Severe: wetness, too sandy, excess salt.	Severe: too sandy, wetness, flooding.	Severe: wetness, too sandy.	Severe: excess salt, wetness.
3:					
Corolla----------	Severe: flooding, too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: droughty.
Ducksto----------	Severe: flooding, wetness, too sandy.	Severe: wetness, too sandy, excess salt.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: excess salt, wetness.
4---------- Pickney	Severe: ponding, too sandy.	Severe: ponding, too sandy.	Severe: too sandy, ponding.	Severe: too sandy, ponding.	Severe: ponding.
5:					
Croatan----------	Severe: flooding, ponding, excess humus.	Severe: ponding, excess humus.	Severe: excess humus, ponding.	Severe: ponding, excess humus.	Severe: ponding, excess humus.
Pickney----------	Severe: ponding, too sandy.	Severe: ponding, too sandy.	Severe: too sandy, ponding.	Severe: too sandy, ponding.	Severe: ponding.
6---------- Direg	Severe: flooding, wetness, excess humus.	Severe: wetness, excess humus, excess salt.	Severe: excess humus, wetness, flooding.	Severe: wetness, excess humus.	Severe: excess salt, excess sulfur, wetness.
7---------- Kureb	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: droughty.
8:					
Newhan----------	Severe: flooding, too sandy.	Severe: too sandy, excess salt.	Severe: too sandy, excess salt.	Severe: too sandy.	Severe: excess salt, droughty.
Corolla----------	Severe: flooding, too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: droughty.
9---------- Leon	Severe: wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness.
10---------- Beaches	Severe: flooding, wetness, too sandy.	Severe: wetness, too sandy, excess salt.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: excess salt, wetness, droughty.
11---------- Hurricane	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: droughty.

Table 6.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
12---------- Croatan	Severe: flooding, ponding, excess humus.	Severe: ponding, excess humus.	Severe: excess humus, ponding.	Severe: ponding, excess humus.	Severe: ponding, excess humus.
13---------- Lakeland	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Moderate: droughty, too sandy.
14:					
Allanton----------	Severe: wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness, droughty.
Pottsburg---------	Severe: wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness, droughty.
15---------- Resota	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: droughty.
16:					
Arents----------	Severe: too sandy.	Severe: too sandy.	Moderate: wetness.	Severe: too sandy.	Severe: droughty.
Urban land--------	Variable--------	Variable--------	Variable--------	Variable--------	Variable.
17---------- Kureb	Severe: too sandy.	Severe: too sandy.	Severe: slope, too sandy.	Severe: too sandy.	Severe: droughty.
18---------- Pits	Variable--------	Variable--------	Variable--------	Variable--------	Variable.
19---------- Foxworth	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Moderate: droughty, too sandy.
20---------- Lakeland	Severe: too sandy.	Severe: too sandy.	Severe: slope, too sandy.	Severe: too sandy.	Moderate: droughty, too sandy.
21---------- Lakeland	Severe: too sandy.	Severe: too sandy.	Severe: slope, too sandy.	Severe: too sandy.	Moderate: droughty, slope, too sandy.
22---------- Urban land	Variable--------	Variable--------	Variable--------	Variable--------	Variable.
24---------- Poarch	Slight----------	Slight----------	Slight----------	Slight----------	Slight.
25---------- Poarch	Slight----------	Slight----------	Moderate: slope.	Slight----------	Slight.
26---------- Poarch	Slight----------	Slight----------	Severe: slope.	Slight----------	Slight.

Table 6.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
27--Escambia	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: wetness, percs slowly.	Moderate: wetness.	Moderate: wetness.
28--Grady	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.
29--Perdido	Slight	Slight	Slight	Slight	Slight.
30--Perdido	Slight	Slight	Moderate: slope.	Slight	Slight.
31--Perdido	Slight	Slight	Severe: slope.	Slight	Slight.
32--Troup	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Moderate: droughty.
33--Troup	Severe: too sandy.	Severe: too sandy.	Severe: slope, too sandy.	Severe: too sandy.	Moderate: droughty.
34--Troup	Severe: too sandy.	Severe: too sandy.	Severe: slope, too sandy.	Severe: too sandy.	Moderate: droughty, slope.
35--Lucy	Slight	Slight	Slight	Slight	Moderate: droughty.
36--Lucy	Slight	Slight	Moderate: slope.	Slight	Moderate: droughty.
38--Bonifay	Moderate: too sandy.	Moderate: too sandy.	Moderate: slope, too sandy.	Moderate: too sandy.	Moderate: droughty.
39--Bonifay	Moderate: too sandy.	Moderate: too sandy.	Severe: slope.	Moderate: too sandy.	Moderate: droughty.
40--Eunola	Severe: flooding.	Moderate: wetness.	Moderate: wetness, flooding.	Moderate: wetness.	Moderate: wetness, flooding.
41--Malbis	Slight	Slight	Slight	Slight	Slight.
42--Malbis	Slight	Slight	Moderate: slope.	Slight	Slight.
43--Albany	Severe: wetness, too sandy.	Severe: too sandy.	Severe: too sandy, wetness.	Severe: too sandy.	Severe: droughty.
44:					
Corolla	Severe: flooding, too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: droughty.
Urban land	Variable	Variable	Variable	Variable	Variable.

Table 6.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
45:					
Troup	Severe: slope, too sandy.	Severe: slope, too sandy.	Severe: slope, too sandy.	Severe: too sandy.	Severe: slope.
Perdido	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope.
46:					
Garcon	Severe: flooding.	Moderate: wetness, too sandy.	Moderate: too sandy, wetness.	Moderate: wetness, too sandy.	Moderate: wetness, droughty, flooding.
Bigbee	Severe: flooding, too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Moderate: droughty, flooding, too sandy.
Yemassee	Severe: flooding, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness, droughty, flooding.
47:					
Hurricane	Severe: flooding, too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: droughty.
Albany	Severe: flooding, wetness, too sandy.	Severe: too sandy.	Severe: too sandy, wetness.	Severe: too sandy.	Severe: droughty.
48:					
Pelham	Severe: flooding, wetness, too sandy.	Severe: wetness, too sandy.	Severe: too sandy, wetness.	Severe: wetness, too sandy.	Severe: wetness.
Yemassee	Severe: flooding, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness, droughty, flooding.
49:					
Dorovan	Severe: flooding, ponding, excess humus.	Severe: ponding, excess humus.	Severe: excess humus, ponding, flooding.	Severe: ponding, excess humus.	Severe: ponding, flooding, excess humus.
Fluvaquents	Severe: flooding, wetness, percs slowly.	Severe: wetness, percs slowly.	Severe: wetness, flooding.	Severe: wetness.	Severe: wetness, flooding.
50:					
Bigbee	Severe: flooding, too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Moderate: droughty, flooding, too sandy.

Table 6.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
50:					
Garcon	Severe: flooding.	Moderate: wetness, too sandy.	Moderate: too sandy, wetness.	Moderate: wetness, too sandy.	Moderate: wetness, droughty, flooding.
Fluvaquents	Severe: flooding, wetness, percs slowly.	Severe: wetness, percs slowly.	Severe: wetness, flooding.	Severe: wetness.	Severe: wetness, flooding.
51 Pelham	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
52 Robertsdale	Severe: wetness.	Moderate: wetness, percs slowly.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.
54:					
Troup	Severe: too sandy.	Severe: too sandy.	Severe: slope, too sandy.	Severe: too sandy.	Moderate: droughty, slope.
Poarch	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight	Moderate: slope.
55:					
Troup	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Severe: too sandy.	Moderate: droughty.
Poarch	Slight	Slight	Moderate: slope.	Slight	Slight.
56:					
Troup	Severe: too sandy.	Severe: too sandy.	Severe: slope, too sandy.	Severe: too sandy.	Moderate: droughty.
Poarch	Slight	Slight	Severe: slope.	Slight	Slight.
57:					
Cowarts	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
Troup	Severe: slope, too sandy.	Severe: slope, too sandy.	Severe: slope, too sandy.	Severe: too sandy.	Severe: slope.
58 Eunola	Severe: flooding.	Moderate: wetness.	Moderate: slope, wetness, flooding.	Moderate: wetness.	Moderate: wetness, flooding.
59 Notcher	Slight	Slight	Moderate: small stones.	Slight	Slight.
60 Notcher	Slight	Slight	Moderate: slope, small stones.	Slight	Slight.

Table 6.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
61--Notcher	Slight	Slight	Severe: slope.	Slight	Slight.
62--Bama	Slight	Slight	Slight	Slight	Slight.
63--Bama	Slight	Slight	Moderate: slope.	Slight	Slight.
64--Red Bay	Slight	Slight	Slight	Slight	Slight.
65--Red Bay	Slight	Slight	Moderate: slope.	Slight	Slight.
66--Red Bay	Slight	Slight	Severe: slope.	Slight	Slight.
67:					
Notcher	Slight	Slight	Moderate: slope, small stones.	Slight	Slight.
Maubila	Moderate: percs slowly.	Moderate: percs slowly.	Moderate: slope, small stones, percs slowly.	Slight	Slight.
68:					
Notcher	Slight	Slight	Severe: slope.	Slight	Slight.
Maubila	Moderate: percs slowly.	Moderate: percs slowly.	Severe: slope.	Slight	Slight.
69:					
Notcher	Slight	Slight	Severe: slope.	Slight	Slight.
Maubila	Moderate: slope, percs slowly.	Moderate: slope, percs slowly.	Severe: slope.	Slight	Moderate: slope.
70--Izagora	Severe: flooding.	Moderate: wetness.	Moderate: wetness, flooding.	Slight	Moderate: flooding.
71--Iuka	Severe: flooding, wetness.	Moderate: flooding, wetness.	Severe: wetness, flooding.	Moderate: wetness, flooding.	Severe: flooding.
72--Yemassee	Severe: flooding, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness, flooding.
73--Grady	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
74--Lucy	Slight	Slight	Severe: slope.	Slight	Moderate: droughty.

Table 6.--Recreational Development--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
75---------- Weston	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
76:					
Mantachie---------	Severe: flooding, wetness.	Moderate: flooding, wetness.	Severe: wetness, flooding.	Moderate: wetness, flooding.	Severe: flooding.
Fluvaquents-------	Severe: flooding, wetness, percs slowly.	Severe: wetness, percs slowly.	Severe: wetness, flooding.	Severe: wetness.	Severe: wetness, flooding.
Bigbee----------	Severe: flooding.	Moderate: too sandy.	Moderate: too sandy.	Moderate: too sandy.	Moderate: droughty.
77:					
Arents----------	Severe: too sandy.	Severe: too sandy.	Moderate: slope, wetness.	Severe: too sandy.	Severe: droughty.
Water.					
78---------- Emory	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Moderate: ponding.

Table 7.--Wildlife Habitat

(See text for definitions of "good," "fair," "poor," and "very poor." Absence of an entry indicates that the soil was not rated.)

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
2---- Duckston	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Poor	Very poor.	Very poor.	Poor
3:										
Corolla----	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Very poor.
Duckston----	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Poor	Very poor.	Very poor.	Poor
4---- Pickney	Very poor.	Very poor.	Very poor.	Poor	Poor	Good	Good	Very poor.	Poor	Good
5:										
Croatan----	Very poor.	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good
Pickney----	Very poor.	Very poor.	Very poor.	Poor	Poor	Good	Good	Very poor.	Poor	Good
6---- Direго	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Fair	Good	Very poor.	Very poor.	Fair
7---- Kureb	Very poor.	Poor	Poor	Very poor.	Poor	Very poor.	Very poor.	Poor	Very poor.	Very poor.
8:										
Newhan----	Very poor.	Poor	Poor	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Very poor.
Corolla----	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Very poor.
9---- Leon	Poor	Fair	Fair	Poor	Fair	Poor	Fair	Fair	Fair	Poor
10---- Beaches	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.
11---- Hurricane	Poor	Poor	Fair	Fair	Fair	Poor	Very poor.	Poor	Fair	Very poor.
12---- Croatan	Very poor.	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good
13---- Lakeland	Poor	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
14:										
Allanton----	Poor	Poor	Poor	Fair	Fair	Good	Good	Poor	Fair	Good
Pottsburg----	Poor	Fair	Fair	Poor	Fair	Poor	Fair	Fair	Fair	Poor
15---- Resota	Poor	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.

Table 7.--Wildlife Habitat--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba-ceous plants	Hard-wood trees	Conif-erous plants	Wetland plants	Shallow water areas	Open-land wild-life	Wood-land wild-life	Wetland wild-life
16: Arents	Very poor.	Poor	Poor	Very poor.	Poor	Very poor.	Very poor.	Poor	Very poor.	Very poor.
Urban land.										
17--Kureb	Very poor.	Poor	Poor	Very poor.	Poor	Very poor.	Very poor.	Poor	Very poor.	Very poor.
18--Pits	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.
19--Foxworth	Fair	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
20, 21--Lakeland	Poor	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
22. Urban land										
24, 25, 26--Poarch	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
27--Escambia	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
28--Grady	Very poor.	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good
29, 30--Perdido	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
31--Perdido	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
32, 33, 34--Troup	Poor	Fair	Fair	Poor	Poor	Very poor.	Very poor.	Fair	Poor	Very poor.
35, 36--Lucy	Poor	Fair	Good	Good	Good	Poor	Very poor.	Fair	Good	Very poor.
38, 39--Bonifay	Poor	Fair	Fair	Poor	Fair	Very poor.	Very poor.	Poor	Fair	Very poor.
40--Eunola	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
41--Malbis	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
42--Malbis	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
43--Albany	Fair	Fair	Fair	Fair	Fair	Fair	Poor	Fair	Fair	Poor
44: Corolla	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Poor	Very poor.	Very poor.	Very poor.	Very poor.

Table 7.--Wildlife Habitat--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba-ceous plants	Hard-wood trees	Conif-erous plants	Wetland plants	Shallow water areas	Open-land wild-life	Wood-land wild-life	Wetland wild-life
44: Urban land.										
45:										
Troup	Poor	Fair	Fair	Poor	Poor	Very poor.	Very poor.	Fair	Poor	Very poor.
Perdido	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
46:										
Garcon	Poor	Fair	Good	Poor	Fair	Poor	Poor	Fair	Fair	Poor
Bigbee	Poor	Fair	Fair	Poor	Fair	Very poor.	Very poor.	Fair	Poor	Very poor.
Yemassee	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
47:										
Hurricane	Poor	Poor	Fair	Poor	Fair	Poor	Very poor.	Poor	Fair	Very poor.
Albany	Fair	Fair	Fair	Fair	Fair	Fair	Poor	Fair	Fair	Poor
48:										
Pelham	Poor	Poor	Fair	Fair	Fair	Fair	Fair	Poor	Fair	Fair
Yemassee	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
49:										
Dorovan	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Good	Good	Very poor.	Very poor.	Good
Fluvaquents	Poor	Poor	Fair	Fair	Poor	Fair	Fair	Poor	Fair	Fair
50:										
Bigbee	Poor	Fair	Fair	Poor	Fair	Very poor.	Very poor.	Fair	Poor	Very poor.
Garcon	Poor	Fair	Good	Poor	Fair	Poor	Poor	Fair	Fair	Poor
Fluvaquents	Poor	Poor	Fair	Fair	Poor	Fair	Fair	Poor	Fair	Fair
51--Pelham	Poor	Poor	Fair	Fair	Fair	Fair	Fair	Poor	Fair	Fair
52--Robertsdale	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
54, 55, 56:										
Troup	Poor	Fair	Fair	Poor	Poor	Very poor.	Very poor.	Fair	Poor	Very poor.
Poarch	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
57:										
Cowarts	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.

Table 7.--Wildlife Habitat--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba-ceous plants	Hard-wood trees	Conif-erous plants	Wetland plants	Shallow water areas	Open-land wild-life	Wood-land wild-life	Wetland wild-life
57: Troup	Poor	Fair	Fair	Poor	Poor	Very poor.	Very poor.	Fair	Poor	Very poor.
58 Eunola	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
59 Notcher	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
60 Notcher	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
61 Notcher	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
62 Bama	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
63 Bama	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
64 Red Bay	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
65 Red Bay	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
66 Red Bay	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
67: Notcher	Good	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Maubila	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
68, 69: Notcher	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
Maubila	Fair	Fair	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
70 Izagora	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor
71 Iuka	Poor	Fair	Fair	Good	Good	Poor	Poor	Fair	Good	Poor
72 Yemassee	Fair	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
73 Grady	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good
74 Lucy	Poor	Fair	Good	Good	Good	Poor	Very poor.	Fair	Good	Very poor.

Table 7.--Wildlife Habitat--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
75---------- Weston	Poor	Fair	Fair	Fair	Fair	Good	Fair	Fair	Fair	Fair
76:										
Mantachie---------	Poor	Fair	Fair	Good	Good	Fair	Fair	Fair	Good	Fair
Fluvaquents-------	Poor	Poor	Fair	Fair	Poor	Fair	Fair	Poor	Fair	Fair
Bigbee------------	Poor	Fair	Fair	Poor	Fair	Very poor.	Very poor.	Fair	Poor	Very poor.
77:										
Arents------------	Very poor.	Poor	Poor	Very poor.	Poor	Very poor.	Very poor.	Poor	Very poor.	Very poor.
Water.										
78---------- Emory	Good	Good	Good	Good	Good	Poor	Fair	Good	Good	Poor

Table 8.--Building Site Development

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not rated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation.)

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
2---------- Ducksto	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: excess salt, wetness.
3: Corolla------	Severe: cutbanks cave, wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Moderate: wetness, flooding.	Severe: droughty.
Ducksto-----	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: excess salt, wetness.
4---------- Pickney	Severe: cutbanks cave, ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.
5: Croatan------	Severe: excess humus, ponding.	Severe: subsides, flooding, ponding.	Severe: subsides, flooding, ponding.	Severe: subsides, flooding, ponding.	Severe: subsides, ponding.	Severe: ponding, excess humus.
Pickney------	Severe: cutbanks cave, ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.
6---------- Direго	Severe: cutbanks cave, excess humus, wetness.	Severe: subsides, flooding, wetness.	Severe: subsides, flooding, wetness.	Severe: subsides, flooding, wetness.	Severe: subsides, wetness, flooding.	Severe: excess salt, excess sulfur, wetness.
7---------- Kureb	Severe: cutbanks cave.	Slight--------	Slight--------	Moderate: slope.	Slight--------	Severe: droughty.
8: Newhan-------	Severe: cutbanks cave.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Moderate: flooding.	Severe: excess salt, droughty.
Corolla------	Severe: cutbanks cave, wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Moderate: wetness, flooding.	Severe: droughty.
9---------- Leon	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
10---------- Beaches	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: excess salt, wetness, droughty.

Table 8.--Building Site Development--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
11---------- Hurricane	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Severe: droughty.
12---------- Croatan	Severe: excess humus, ponding.	Severe: subsides, flooding, ponding.	Severe: subsides, flooding, ponding.	Severe: subsides, flooding, ponding.	Severe: subsides, ponding.	Severe: ponding, excess humus.
13---------- Lakeland	Severe: cutbanks cave.	Slight--------	Slight--------	Slight--------	Slight--------	Moderate: droughty, too sandy.
14:						
Allanton-----	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, droughty.
Pottsburg----	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness, droughty.
15---------- Resota	Severe: cutbanks cave.	Slight--------	Moderate: wetness.	Slight--------	Slight--------	Severe: droughty.
16:						
Arents-------	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Severe: droughty.
Urban land---	Variable-------	Variable------	Variable------	Variable------	Variable------	Variable.
17---------- Kureb	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Severe: droughty.
18---------- Pits	Variable-------	Variable------	Variable------	Variable------	Variable------	Variable.
19---------- Foxworth	Severe: cutbanks cave.	Slight--------	Moderate: wetness.	Slight--------	Slight--------	Moderate: droughty, too sandy.
20---------- Lakeland	Severe: cutbanks cave.	Slight--------	Slight--------	Moderate: slope.	Slight--------	Moderate: droughty, too sandy.
21---------- Lakeland	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: droughty, slope, too sandy.
22---------- Urban land	Variable-------	Variable------	Variable------	Variable------	Variable------	Variable.
24, 25-------- Poarch	Moderate: wetness.	Slight--------	Moderate: wetness.	Slight--------	Slight--------	Slight.
26---------- Poarch	Moderate: wetness.	Slight--------	Moderate: wetness.	Moderate: slope.	Slight--------	Slight.

Table 8.--Building Site Development--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
27--Escambia	Severe: wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Moderate: wetness.
28--Grady	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.
29, 30--Perdido	Moderate: wetness.	Slight	Moderate: wetness.	Slight	Slight	Slight.
31--Perdido	Moderate: wetness.	Slight	Moderate: wetness.	Moderate: slope.	Slight	Slight.
32--Troup	Severe: cutbanks cave.	Slight	Slight	Slight	Slight	Moderate: droughty.
33--Troup	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Slight	Moderate: droughty.
34--Troup	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: droughty, slope.
35, 36--Lucy	Moderate: cutbanks cave.	Slight	Slight	Slight	Slight	Moderate: droughty.
38--Bonifay	Severe: cutbanks cave.	Slight	Moderate: wetness.	Slight	Slight	Moderate: droughty.
39--Bonifay	Severe: cutbanks cave.	Slight	Moderate: wetness.	Moderate: slope.	Slight	Moderate: droughty.
40--Eunola	Severe: cutbanks cave, wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Severe: flooding.	Moderate: wetness, flooding.
41, 42--Malbis	Moderate: wetness.	Slight	Moderate: wetness.	Slight	Slight	Slight.
43--Albany	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Moderate: wetness.	Severe: droughty.
44:						
Corolla	Severe: cutbanks cave, wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Moderate: wetness, flooding.	Severe: droughty.
Urban land	Variable	Variable	Variable	Variable	Variable	Variable.
45:						
Troup	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Perdido	Moderate: wetness, slope.	Moderate: slope.	Moderate: wetness, slope.	Severe: slope.	Moderate: slope.	Moderate: slope.

Table 8.--Building Site Development--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
46:						
Garcon-------	Severe: cutbanks cave, wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Severe: flooding.	Moderate: wetness, droughty, flooding.
Bigbee-------	Severe: cutbanks cave.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Moderate: droughty, flooding, too sandy.
Yemassee-----	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding.	Moderate: wetness, droughty, flooding.
47:						
Hurricane----	Severe: cutbanks cave, wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Severe: flooding.	Severe: droughty.
Albany-------	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Moderate: wetness, flooding.	Severe: droughty.
48:						
Pelham-------	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: wetness.
Yemassee-----	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding.	Moderate: wetness, droughty, flooding.
49:						
Dorovan------	Severe: excess humus, ponding.	Severe: subsides, flooding, ponding.	Severe: subsides, flooding, ponding.	Severe: subsides, flooding, ponding.	Severe: subsides, ponding, flooding.	Severe: ponding, flooding, excess humus.
Fluvaquents--	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: wetness, flooding.
50:						
Bigbee-------	Severe: cutbanks cave.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Moderate: droughty, flooding, too sandy.
Garcon-------	Severe: cutbanks cave, wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Severe: flooding.	Moderate: wetness, droughty, flooding.
Fluvaquents--	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: wetness, flooding.

Table 8.--Building Site Development--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
51--Pelham	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness.	Severe: wetness.
52--Robertsdale	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.
54:						
Troup	Severe: cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: droughty, slope.
Poarch	Moderate: wetness, slope.	Moderate: slope.	Moderate: wetness, slope.	Severe: slope.	Moderate: slope.	Moderate: slope.
55:						
Troup	Severe: cutbanks cave.	Slight	Slight	Slight	Slight	Moderate: droughty.
Poarch	Moderate: wetness.	Slight	Moderate: wetness.	Slight	Slight	Slight.
56:						
Troup	Severe: cutbanks cave.	Slight	Slight	Moderate: slope.	Slight	Moderate: droughty.
Poarch	Moderate: wetness.	Slight	Moderate: wetness.	Moderate: slope.	Slight	Slight.
57:						
Cowarts	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Troup	Severe: cutbanks cave, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
58--Eunola	Severe: cutbanks cave, wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Severe: flooding.	Moderate: wetness, flooding.
59, 60--Notcher	Moderate: wetness.	Slight	Moderate: wetness.	Slight	Slight	Slight.
61--Notcher	Moderate: wetness.	Slight	Moderate: wetness.	Moderate: slope.	Slight	Slight.
62, 63--Bama	Slight	Slight	Slight	Slight	Slight	Slight.
64, 65--Red Bay	Slight	Slight	Slight	Slight	Slight	Slight.
66--Red Bay	Slight	Slight	Slight	Moderate: slope.	Slight	Slight.
67:						
Notcher	Moderate: wetness.	Slight	Moderate: wetness.	Slight	Slight	Slight.

Table 8.--Building Site Development--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
67:						
Maubila	Moderate: too clayey.	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell.	Severe: low strength.	Slight.
68:						
Notcher	Moderate: wetness.	Slight	Moderate: wetness.	Moderate: slope.	Slight	Slight.
Maubila	Moderate: too clayey.	Moderate: shrink-swell.	Moderate: shrink-swell.	Moderate: shrink-swell, slope.	Severe: low strength.	Slight.
69:						
Notcher	Moderate: wetness.	Slight	Moderate: wetness.	Moderate: slope.	Slight	Slight.
Maubila	Moderate: too clayey, slope.	Moderate: shrink-swell, slope.	Moderate: shrink-swell, slope.	Severe: slope.	Severe: low strength.	Moderate: slope.
70--- Izagora	Severe: wetness.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding.	Severe: low strength, flooding.	Moderate: flooding.
71--- Iuka	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding.	Severe: flooding.
72--- Yemassee	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding.	Moderate: wetness, flooding.
73--- Grady	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
74--- Lucy	Moderate: cutbanks cave.	Slight	Slight	Moderate: slope.	Slight	Moderate: droughty.
75--- Weston	Severe: cutbanks cave, wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
76:						
Mantachie	Severe: wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding.	Severe: flooding.
Fluvaquents	Severe: cutbanks cave, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: wetness, flooding.	Severe: wetness, flooding.
Bigbee	Severe: cutbanks cave.	Severe: flooding.	Severe: flooding.	Severe: flooding.	Moderate: flooding.	Moderate: droughty.

Table 8.--Building Site Development--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
77:						
Arents-------	Severe: cutbanks cave, wetness.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: wetness.	Severe: droughty.
Water.						
78---------- Emory	Severe: ponding.	Moderate: ponding.	Severe: ponding.	Moderate: ponding.	Severe: low strength, ponding.	Moderate: ponding.

Table 9.--Sanitary Facilities

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "good," and other terms. Absence of an entry indicates that the soil was not rated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation.)

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
2---------- Duckston	Severe: flooding, wetness, poor filter.	Severe: seepage, flooding, wetness.	Severe: flooding, seepage, wetness.	Severe: flooding, seepage, wetness.	Poor: seepage, too sandy, wetness.
3:					
Corolla---------	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: seepage, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy.
Duckston--------	Severe: flooding, wetness, poor filter.	Severe: seepage, flooding, wetness.	Severe: flooding, seepage, wetness.	Severe: flooding, seepage, wetness.	Poor: seepage, too sandy, wetness.
4---------- Pickney	Severe: ponding, poor filter.	Severe: ponding, seepage.	Severe: seepage, ponding, too sandy.	Severe: ponding, seepage.	Poor: seepage, too sandy, ponding.
5:					
Croatan---------	Severe: ponding, percs slowly.	Severe: seepage, excess humus, ponding.	Severe: ponding.	Severe: seepage, ponding.	Poor: ponding.
Pickney---------	Severe: ponding, poor filter.	Severe: ponding, seepage.	Severe: seepage, ponding, too sandy.	Severe: ponding, seepage.	Poor: seepage, too sandy, ponding.
6---------- Direго	Severe: flooding, wetness, poor filter.	Severe: seepage, flooding, excess humus.	Severe: flooding, seepage, wetness.	Severe: flooding, seepage, wetness.	Poor: seepage, too sandy, wetness.
7---------- Kureb	Severe: poor filter.	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: seepage, too sandy.
8:					
Newhan----------	Severe: poor filter.	Severe: seepage, flooding.	Severe: seepage, too sandy.	Severe: seepage.	Poor: seepage, too sandy.
Corolla---------	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: seepage, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy.
9---------- Leon	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.

Table 9.--Sanitary Facilities--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
10--Beaches	Severe: flooding, wetness, poor filter.	Severe: seepage, flooding.	Severe: flooding, seepage, wetness.	Severe: flooding, seepage, wetness.	Poor: seepage, too sandy, wetness.
11--Hurricane	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: seepage, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy.
12--Croatan	Severe: ponding, percs slowly.	Severe: seepage, excess humus, ponding.	Severe: ponding.	Severe: seepage, ponding.	Poor: ponding.
13--Lakeland	Slight	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: seepage, too sandy.
14:					
Allanton	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: seepage, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.
Pottsburg	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy, wetness.
15--Resota	Moderate: wetness.	Severe: seepage.	Severe: seepage, wetness.	Severe: seepage.	Poor: seepage, too sandy.
16:					
Arents	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: seepage, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy.
Urban land	Variable	Variable	Variable	Variable	Variable.
17--Kureb	Severe: poor filter.	Severe: seepage, slope.	Severe: seepage, too sandy.	Severe: seepage.	Poor: seepage, too sandy.
18--Pits	Variable	Variable	Variable	Variable	Variable.
19--Foxworth	Moderate: wetness.	Severe: seepage.	Severe: seepage, wetness.	Severe: seepage.	Poor: seepage, too sandy.
20--Lakeland	Slight	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: seepage, too sandy.
21--Lakeland	Moderate: slope.	Severe: seepage, slope.	Severe: seepage, too sandy.	Severe: seepage.	Poor: seepage, too sandy.

Table 9.--Sanitary Facilities--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
22--- Urban land	Variable---	Variable---	Variable---	Variable---	Variable.
24--- Poarch	Severe: wetness, percs slowly.	Moderate: seepage.	Severe: wetness.	Moderate: wetness.	Fair: wetness.
25, 26--- Poarch	Severe: wetness, percs slowly.	Moderate: slope, seepage.	Severe: wetness.	Moderate: wetness.	Fair: wetness.
27--- Escambia	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Fair: wetness.
28--- Grady	Severe: ponding, percs slowly.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Poor: ponding.
29--- Perdido	Severe: percs slowly.	Moderate: seepage, wetness.	Slight---	Slight---	Poor: thin layer.
30, 31--- Perdido	Severe: percs slowly.	Moderate: seepage, slope, wetness.	Slight---	Slight---	Poor: thin layer.
32, 33--- Troup	Slight---	Severe: seepage.	Severe: too sandy.	Severe: seepage.	Poor: seepage, too sandy.
34--- Troup	Moderate: slope.	Severe: seepage, slope.	Severe: too sandy.	Severe: seepage.	Poor: seepage, too sandy.
35, 36--- Lucy	Slight---	Severe: seepage.	Slight---	Severe: seepage.	Fair: too clayey.
38, 39--- Bonifay	Moderate: wetness, percs slowly.	Severe: seepage.	Moderate: too sandy.	Severe: seepage.	Fair: too sandy.
40--- Eunola	Severe: flooding, wetness.	Severe: seepage, flooding, wetness.	Severe: flooding, seepage, wetness.	Severe: flooding, wetness.	Fair: too clayey, wetness, thin layer.
41--- Malbis	Severe: wetness, percs slowly.	Moderate: seepage.	Moderate: wetness.	Moderate: wetness.	Fair: wetness.
42--- Malbis	Severe: wetness, percs slowly.	Moderate: seepage, slope.	Moderate: wetness.	Moderate: wetness.	Fair: wetness.
43--- Albany	Severe: wetness.	Severe: seepage, wetness.	Severe: wetness, too sandy.	Severe: seepage, wetness.	Poor: too sandy, wetness.

Table 9.--Sanitary Facilities--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
44:					
Corolla	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: seepage, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy.
Urban land	Variable	Variable	Variable	Variable	Variable.
45:					
Troup	Severe: slope.	Severe: seepage, slope.	Severe: slope, too sandy.	Severe: seepage, slope.	Poor: seepage, too sandy, slope.
Perdido	Severe: percs slowly.	Severe: slope.	Moderate: slope.	Moderate: slope.	Poor: thin layer.
46:					
Garcon	Severe: flooding, wetness, poor filter.	Severe: seepage, flooding, wetness.	Severe: flooding, seepage, wetness.	Severe: flooding, seepage, wetness.	Poor: thin layer.
Bigbee	Severe: flooding, wetness, poor filter.	Severe: seepage, flooding.	Severe: flooding, seepage, wetness.	Severe: flooding, seepage.	Poor: seepage, too sandy.
Yemassee	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, seepage, wetness.	Poor: wetness.
47:					
Hurricane	Severe: flooding, wetness, poor filter.	Severe: seepage, flooding, wetness.	Severe: flooding, seepage, wetness.	Severe: flooding, seepage, wetness.	Poor: seepage, too sandy.
Albany	Severe: wetness.	Severe: seepage, wetness.	Severe: wetness, too sandy.	Severe: seepage, wetness.	Poor: too sandy, wetness.
48:					
Pelham	Severe: flooding, wetness.	Severe: seepage, flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, seepage, wetness.	Poor: wetness.
Yemassee	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, seepage, wetness.	Poor: wetness.
49:					
Dorovan	Severe: subsides, flooding, ponding.	Severe: flooding, excess humus, ponding.	Severe: flooding, seepage, ponding.	Severe: flooding, ponding.	Poor: ponding, excess humus.

Table 9.--Sanitary Facilities--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
49:					
Fluvaquents	Severe: flooding, wetness, percs slowly.	Severe: seepage, flooding, wetness.	Severe: flooding, seepage, wetness.	Severe: flooding, seepage, wetness.	Poor: seepage, too sandy, wetness.
50:					
Bigbee	Severe: flooding, wetness, poor filter.	Severe: seepage, flooding.	Severe: flooding, seepage, wetness.	Severe: flooding, seepage.	Poor: seepage, too sandy.
Garcon	Severe: flooding, wetness, poor filter.	Severe: seepage, flooding, wetness.	Severe: flooding, seepage, wetness.	Severe: flooding, seepage, wetness.	Poor: thin layer.
Fluvaquents	Severe: flooding, wetness, percs slowly.	Severe: seepage, flooding, wetness.	Severe: flooding, seepage, wetness.	Severe: flooding, seepage, wetness.	Poor: seepage, too sandy, wetness.
51--- Pelham	Severe: wetness.	Severe: seepage, wetness.	Severe: wetness.	Severe: seepage, wetness.	Poor: wetness.
52--- Robertsdale	Severe: wetness, percs slowly.	Slight	Severe: wetness.	Severe: wetness.	Poor: wetness.
54:					
Troup	Moderate: slope.	Severe: seepage, slope.	Severe: too sandy.	Severe: seepage.	Poor: seepage, too sandy.
Poarch	Severe: wetness, percs slowly.	Severe: slope.	Severe: wetness.	Moderate: wetness, slope.	Fair: slope, wetness.
55, 56:					
Troup	Slight	Severe: seepage.	Severe: too sandy.	Severe: seepage.	Poor: seepage, too sandy.
Poarch	Severe: wetness, percs slowly.	Moderate: slope, seepage.	Severe: wetness.	Moderate: wetness.	Fair: wetness.
57:					
Cowarts	Severe: percs slowly, slope.	Severe: slope.	Severe: slope.	Severe: slope.	Poor: slope.
Troup	Severe: slope.	Severe: seepage, slope.	Severe: slope, too sandy.	Severe: seepage, slope.	Poor: seepage, too sandy, slope.
58--- Eunola	Severe: flooding, wetness.	Severe: seepage, flooding, wetness.	Severe: flooding, seepage, wetness.	Severe: flooding, wetness.	Fair: too clayey, wetness, thin layer.

Table 9.--Sanitary Facilities--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
59, 60, 61--- Notcher	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Fair: too clayey, small stones, wetness.
62--- Bama	Slight---	Moderate: seepage.	Slight---	Slight---	Good.
63--- Bama	Slight---	Moderate: seepage, slope.	Slight---	Slight---	Good.
64--- Red Bay	Slight---	Moderate: seepage.	Slight---	Slight---	Good.
65, 66--- Red Bay	Slight---	Moderate: seepage, slope.	Slight---	Slight---	Good.
67, 68:					
Notcher---	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Fair: too clayey, small stones, wetness.
Maubila---	Severe: percs slowly.	Moderate: slope.	Severe: too clayey.	Slight---	Poor: too clayey, hard to pack.
69:					
Notcher---	Severe: wetness, percs slowly.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Fair: too clayey, small stones, wetness.
Maubila---	Severe: percs slowly.	Severe: slope.	Severe: too clayey.	Moderate: slope.	Poor: too clayey, hard to pack.
70--- Izagora	Severe: flooding, wetness, percs slowly.	Severe: flooding.	Severe: flooding, wetness.	Severe: flooding, wetness.	Fair: too clayey, wetness, thin layer.
71--- Iuka	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Fair: wetness.
72--- Yemassee	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, seepage, wetness.	Poor: wetness.
73--- Grady	Severe: wetness, percs slowly.	Slight---	Severe: wetness.	Severe: wetness.	Poor: wetness.
74--- Lucy	Slight---	Severe: seepage.	Slight---	Severe: seepage.	Fair: too clayey.

Table 9.--Sanitary Facilities--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
75--- Weston	Severe: wetness, percs slowly.	Severe: seepage, wetness.	Severe: seepage, wetness.	Severe: wetness.	Poor: wetness, thin layer.
76:					
Mantachie---	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Severe: flooding, wetness.	Poor: wetness.
Fluvaquents---	Severe: flooding, wetness, percs slowly.	Severe: seepage, flooding, wetness.	Severe: flooding, seepage, wetness.	Severe: flooding, seepage, wetness.	Poor: seepage, too sandy, wetness.
Bigbee---	Severe: wetness, poor filter.	Severe: seepage.	Severe: seepage, wetness.	Severe: seepage.	Poor: seepage, too sandy.
77:					
Arents---	Severe: wetness, poor filter.	Severe: seepage, wetness.	Severe: seepage, wetness, too sandy.	Severe: seepage, wetness.	Poor: seepage, too sandy.
Water.					
78--- Emory	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.	Severe: ponding.

Table 10.--Construction Materials

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "good," "fair," and other terms. Absence of an entry indicates that the soil was not rated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation.)

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
2--Duckston	Poor: wetness.	Probable	Improbable: too sandy.	Poor: too sandy, wetness.
3:				
Corolla	Fair: wetness.	Probable	Improbable: too sandy.	Poor: too sandy.
Duckston	Poor: wetness.	Probable	Improbable: too sandy.	Poor: too sandy, wetness.
4--Pickney	Poor: wetness.	Probable	Improbable: too sandy.	Poor: too sandy, wetness.
5:				
Croatan	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: excess humus, wetness.
Pickney	Poor: wetness.	Probable	Improbable: too sandy.	Poor: too sandy, wetness.
6--Direго	Poor: wetness.	Probable	Improbable: too sandy.	Poor: excess humus, excess salt, wetness.
7--Kureb	Good	Probable	Improbable: too sandy.	Poor: too sandy.
8:				
Newhan	Good	Probable	Improbable: too sandy.	Poor: too sandy, excess salt.
Corolla	Fair: wetness.	Probable	Improbable: too sandy.	Poor: too sandy.
9--Leon	Poor: wetness.	Probable	Improbable: too sandy.	Poor: too sandy, wetness.
10--Beaches	Poor: wetness.	Probable	Improbable: too sandy.	Poor: area reclaim, too sandy, excess salt.
11--Hurricane	Fair: wetness.	Probable	Improbable: too sandy.	Poor: too sandy.
12--Croatan	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: excess humus, wetness.

Table 10.--Construction Materials--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
13--Lakeland	Good	Probable	Improbable: too sandy.	Poor: too sandy.
14:				
Allanton	Poor: wetness.	Probable	Improbable: too sandy.	Poor: too sandy, wetness.
Pottsburg	Poor: wetness.	Probable	Improbable: too sandy.	Poor: too sandy, wetness.
15--Resota	Good	Probable	Improbable: too sandy.	Poor: too sandy.
16:				
Arents	Fair: wetness.	Probable	Improbable: too sandy.	Poor: too sandy.
Urban land	Variable	Variable	Variable	Variable.
17--Kureb	Good	Probable	Improbable: too sandy.	Poor: too sandy.
18--Pits	Variable	Variable	Variable	Variable
19--Foxworth	Good	Probable	Improbable: too sandy.	Poor: too sandy.
20, 21--Lakeland	Good	Probable	Improbable: too sandy.	Poor: too sandy.
22--Urban land	Variable	Variable	Variable	Variable.
24, 25, 26--Poarch	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Good.
27--Escambia	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Good.
28--Grady	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, wetness.
29, 30, 31--Perdido	Poor: thin layer.	Improbable: excess fines.	Improbable: excess fines.	Poor: thin layer.
32, 33, 34--Troup	Good	Probable	Improbable: too sandy.	Poor: too sandy.
35, 36--Lucy	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: too sandy.
38, 39--Bonifay	Good	Probable	Improbable: too sandy.	Fair: too sandy.
40--Eunola	Fair: wetness.	Probable	Improbable: too sandy.	Fair: too clayey, thin layer.

Table 10.--Construction Materials--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
41, 42--- Malbis	Fair: low strength, wetness.	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey.
43--- Albany	Fair: wetness.	Probable---	Improbable: too sandy.	Poor: too sandy.
44:				
Corolla---	Fair: wetness.	Probable---	Improbable: too sandy.	Poor: too sandy.
Urban land---	Variable---	Variable---	Variable---	Variable.
45:				
Troup---	Fair: slope.	Probable---	Improbable: too sandy.	Poor: too sandy, slope.
Perdido---	Poor: thin layer.	Improbable: excess fines.	Improbable: excess fines.	Poor: thin layer.
46:				
Garcon---	Fair: wetness.	Probable---	Improbable: too sandy.	Fair: too sandy.
Bigbee---	Good---	Probable---	Improbable: too sandy.	Poor: too sandy.
Yemassee---	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Fair: too sandy.
47:				
Hurricane---	Fair: wetness.	Probable---	Improbable: too sandy.	Poor: too sandy.
Albany---	Fair: wetness.	Probable---	Improbable: too sandy.	Poor: too sandy.
48:				
Pelham---	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: too sandy, wetness.
Yemassee---	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Fair: too sandy.
49:				
Dorovan---	Poor: wetness.	Probable---	Improbable: too sandy.	Poor: excess humus, wetness.
Fluvaquents---	Poor: wetness.	Probable---	Improbable: too sandy.	Poor: wetness.
50:				
Bigbee---	Good---	Probable---	Improbable: too sandy.	Poor: too sandy.

Table 10.--Construction Materials--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
50:				
Garcon	Fair: wetness.	Probable	Improbable: too sandy.	Fair: too sandy.
Fluvaquents	Poor: wetness.	Probable	Improbable: too sandy.	Poor: wetness.
51--Pelham	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.
52--Robertsdale	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Fair: small stones.
54:				
Troup	Good	Probable	Improbable: too sandy.	Poor: too sandy.
Poarch	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Fair: slope.
55, 56:				
Troup	Good	Probable	Improbable: too sandy.	Poor: too sandy.
Poarch	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Good.
57:				
Cowarts	Fair: slope.	Improbable: excess fines.	Improbable: excess fines.	Poor: thin layer, slope.
Troup	Fair: slope.	Probable	Improbable: too sandy.	Poor: too sandy, slope.
58--Eunola	Fair: wetness.	Probable	Improbable: too sandy.	Fair: too clayey, thin layer.
59, 60, 61--Notcher	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
62, 63--Bama	Good	Improbable: excess fines.	Improbable: excess fines.	Good.
64, 65, 66--Red Bay	Good	Improbable: excess fines.	Improbable: excess fines.	Good.
67, 68, 69:				
Notcher	Good	Improbable: excess fines.	Improbable: excess fines.	Poor: small stones.
Maubila	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Poor: thin layer.
70--Izagora	Poor: low strength.	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey.
71--Iuka	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Good.

Table 10.--Construction Materials--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
72--Yemassee	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Good.
73--Grady	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: too clayey, wetness.
74--Lucy	Good	Improbable: excess fines.	Improbable: excess fines.	Fair: too sandy.
75--Weston	Poor: wetness.	Improbable: excess fines.	Improbable: excess fines.	Poor: wetness.
76:				
Mantachie	Fair: wetness.	Improbable: excess fines.	Improbable: excess fines.	Fair: too clayey.
Fluvaquents	Poor: wetness.	Probable	Improbable: too sandy.	Poor: wetness.
Bigbee	Good	Probable	Improbable: too sandy.	Poor: too sandy.
77:				
Arents	Fair: wetness.	Probable	Improbable: too sandy.	Poor: too sandy.
Water.				
78--Emory	Good	Improbable: excess fines.	Improbable: excess fines.	Good.

Table 11.--Water Management

(Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not evaluated. The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation.)

Soil name and map symbol	Limitations for--			Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Irrigation	Terraces and diversions	Grassed waterways
2---------- Duckston	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Flooding, cutbanks cave, excess salt.	Wetness, droughty, fast intake.	Wetness, too sandy, soil blowing.	Wetness, excess salt, droughty.
3: Corolla----------	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Slope, cutbanks cave.	Slope, wetness, droughty.	Wetness, too sandy.	Droughty.
Duckston---------	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Flooding, cutbanks cave, excess salt.	Wetness, droughty, fast intake.	Wetness, too sandy, soil blowing.	Wetness, excess salt, droughty.
4---------- Pickney	Severe: seepage.	Severe: seepage, piping, ponding.	Severe: cutbanks cave.	Cutbanks cave, ponding.	Droughty, fast intake, ponding.	Ponding, too sandy, soil blowing.	Wetness, droughty.
5: Croatan----------	Severe: seepage.	Severe: piping, ponding.	Severe: slow refill.	Ponding, percs slowly, subsides.	Ponding, soil blowing, percs slowly.	Ponding, soil blowing.	Wetness, percs slowly.
Pickney----------	Severe: seepage.	Severe: seepage, piping, ponding.	Severe: cutbanks cave.	Cutbanks cave, ponding.	Droughty, fast intake, ponding.	Ponding, too sandy, soil blowing.	Wetness, droughty.
6---------- Direго	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: salty water, cutbanks cave.	Flooding, subsides, cutbanks cave.	Wetness, droughty, soil blowing.	Wetness, too sandy, soil blowing.	Wetness, excess salt, droughty.
7---------- Kureb	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Deep to water	Droughty, fast intake, slope.	Too sandy, soil blowing.	Droughty.

Table 11.--Water Management--Continued

Soil name and map symbol	Limitations for--			Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Irrigation	Terraces and diversions	Grassed waterways
8:							
Newhan	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Deep to water	Slope, droughty, fast intake.	Too sandy, soil blowing.	Droughty.
Corolla	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Cutbanks cave	Wetness, droughty, fast intake.	Wetness, too sandy.	Droughty.
9 Leon	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: slow refill, cutbanks cave.	Cutbanks cave, too acid.	Wetness, droughty.	Wetness, too sandy, soil blowing.	Wetness, droughty.
10 Beaches	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: salty water, cutbanks cave.	Flooding, slope, cutbanks cave.	Slope, wetness, droughty.	Wetness, too sandy.	Wetness, excess salt.
11 Hurricane	Severe: seepage.	Severe: seepage, piping.	Severe: cutbanks cave.	Cutbanks cave	Wetness, droughty.	Wetness, too sandy, soil blowing.	Droughty.
12 Croatan	Severe: seepage.	Severe: piping, ponding.	Severe: slow refill.	Ponding, percs slowly, subsides.	Ponding, soil blowing, percs slowly.	Ponding, soil blowing.	Wetness, percs slowly.
13 Lakeland	Severe: seepage.	Severe: seepage.	Severe: no water.	Deep to water	Droughty, fast intake.	Too sandy, soil blowing.	Droughty.
14:							
Allanton	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Cutbanks cave	Wetness, droughty, fast intake.	Wetness, too sandy, soil blowing.	Wetness, droughty.
Pottsburg	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Cutbanks cave	Wetness, droughty, fast intake.	Wetness, too sandy, soil blowing.	Wetness, droughty.

Table 11.--Water Management--Continued

Soil name and map symbol	Limitations for--			Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Irrigation	Terraces and diversions	Grassed waterways
15---------- Resota	Severe: seepage.	Severe: seepage, piping.	Severe: cutbanks cave.	Deep to water	Droughty, fast intake.	Too sandy, soil blowing.	Droughty.
16: Arents----------	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Cutbanks cave	Wetness, droughty.	Wetness, too sandy, soil blowing.	Droughty.
Urban land-------	Variable-------	Variable-------	Variable-------	Variable-------	Variable-------	Variable---	Variable.
17---------- Kureb	Severe: seepage, slope.	Severe: seepage, piping.	Severe: no water.	Deep to water	Droughty, fast intake, slope.	Slope, too sandy, soil blowing.	Slope, droughty.
18---------- Pits	Variable-------	Variable-------	Variable-------	Variable-------	Variable-------	Variable---	Variable.
19---------- Foxworth	Severe: seepage.	Severe: seepage.	Severe: cutbanks cave.	Deep to water	Droughty, fast intake.	Too sandy, soil blowing.	Droughty.
20---------- Lakeland	Severe: seepage.	Severe: seepage.	Severe: no water.	Deep to water	Slope, droughty, fast intake.	Too sandy, soil blowing.	Droughty.
21---------- Lakeland	Severe: seepage, slope.	Severe: seepage.	Severe: no water.	Deep to water	Slope, droughty, fast intake.	Slope, too sandy, soil blowing.	Slope, droughty.
22---------- Urban land	Variable-------	Variable-------	Variable-------	Variable-------	Variable-------	Variable---	Variable.
24---------- Poarch	Moderate: seepage.	Severe: piping.	Severe: slow refill.	Favorable------	Favorable------	Favorable--	Favorable.
25, 26------- Poarch	Moderate: seepage.	Severe: piping.	Severe: slow refill.	Slope----------	Slope----------	Favorable--	Favorable.
27---------- Escambia	Moderate: seepage.	Severe: wetness.	Severe: slow refill.	Percs slowly---	Wetness, percs slowly.	Wetness, percs slowly.	Percs slowly.

Table 11.--Water Management--Continued

Soil name and map symbol	Limitations for--			Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Irrigation	Terraces and diversions	Grassed waterways
28---------- Grady	Slight---------	Severe: ponding.	Severe: slow refill.	Ponding, percs slowly.	Ponding, percs slowly.	Ponding, percs slowly.	Wetness, percs slowly.
29---------- Perdido	Moderate: seepage.	Severe: thin layer.	Severe: no water.	Deep to water	Favorable------	Favorable--	Favorable.
30, 31---------- Perdido	Moderate: seepage, slope.	Severe: thin layer.	Severe: no water.	Deep to water	Slope----------	Favorable--	Favorable.
32---------- Troup	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Deep to water	Droughty, fast intake.	Too sandy, soil blowing.	Droughty.
33---------- Troup	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Deep to water	Droughty, fast intake, slope.	Too sandy, soil blowing.	Droughty.
34---------- Troup	Severe: seepage, slope.	Severe: seepage, piping.	Severe: no water.	Deep to water	Droughty, fast intake, slope.	Slope, too sandy, soil blowing.	Slope, droughty.
35---------- Lucy	Severe: seepage.	Severe: piping.	Severe: no water.	Deep to water	Droughty, fast intake.	Too sandy, soil blowing.	Droughty.
36---------- Lucy	Severe: seepage.	Severe: piping.	Severe: no water.	Deep to water	Droughty, fast intake, slope.	Too sandy, soil blowing.	Droughty.
38---------- Bonifay	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Deep to water	Droughty, fast intake.	Too sandy, soil blowing.	Droughty.
39---------- Bonifay	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Deep to water	Slope, droughty, fast intake.	Too sandy, soil blowing.	Droughty.
40---------- Eunola	Severe: seepage.	Severe: piping, wetness.	Severe: cutbanks cave.	Flooding-------	Wetness--------	Wetness----	Favorable.

Table 11.--Water Management--Continued

Soil name and map symbol	Limitations for--			Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Irrigation	Terraces and diversions	Grassed waterways
41---------- Malbis	Moderate: seepage.	Severe: piping.	Severe: no water.	Deep to water	Favorable------	Favorable--	Favorable.
42---------- Malbis	Moderate: seepage, slope.	Severe: piping.	Severe: no water.	Deep to water	Slope----------	Favorable--	Favorable.
43---------- Albany	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: slow refill, cutbanks cave.	Severe: slow refill, cutbanks cave.	Wetness, droughty.	Wetness, too sandy, soil blowing.	Wetness, droughty.
44: Corolla----------	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Cutbanks cave	Wetness, droughty, fast intake.	Wetness, too sandy.	Droughty.
Urban land-------	Variable-------	Variable-------	Variable-------	Variable-------	Variable-------	Variable---	Variable.
45: Troup----------	Severe: seepage, slope.	Severe: seepage, piping.	Severe: no water.	Deep to water	Droughty, fast intake, slope.	Slope, too sandy, soil blowing.	Slope, droughty.
Perdido----------	Severe: slope.	Severe: thin layer.	Severe: no water.	Deep to water	Slope----------	Slope------	Slope.
46: Garcon----------	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Flooding-------	Wetness, droughty.	Wetness, soil blowing.	Droughty.
Bigbee----------	Severe: seepage.	Severe: seepage, piping.	Severe: cutbanks cave.	Deep to water	Droughty, fast intake.	Too sandy--	Droughty.
Yemassee---------	Moderate: seepage.	Severe: piping, wetness.	Severe: cutbanks cave.	Flooding-------	Wetness, droughty, fast intake.	Wetness----	Wetness, droughty.

Table 11.--Water Management--Continued

Soil name and map symbol	Limitations for--			Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Irrigation	Terraces and diversions	Grassed waterways
47:							
Hurricane--------	Severe: seepage.	Severe: seepage, piping.	Severe: cutbanks cave.	Flooding, cutbanks cave.	Wetness, droughty, fast intake.	Wetness, too sandy, soil blowing.	Droughty.
Albany-----------	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: slow refill, cutbanks cave.	Severe: slow refill, cutbanks cave.	Wetness, droughty.	Wetness, too sandy, soil blowing.	Wetness, droughty.
48:							
Pelham-----------	Severe: seepage.	Severe: piping, wetness.	Severe: cutbanks cave.	Flooding-------	Wetness, fast intake, flooding.	Wetness, soil blowing.	Wetness.
Yemassee---------	Moderate: seepage.	Severe: piping, wetness.	Severe: cutbanks cave.	Flooding-------	Wetness, droughty, fast intake.	Wetness----	Wetness, droughty.
49:							
Dorovan----------	Moderate: seepage.	Severe: excess humus, ponding.	Severe: cutbanks cave.	Ponding, flooding, subsides.	Ponding, soil blowing, flooding.	Ponding, soil blowing.	Wetness.
Fluvaquents------	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: slow refill, cutbanks cave.	Percs slowly, flooding, cutbanks cave.	Wetness, droughty, fast intake.	Wetness, too sandy.	Wetness, droughty.
50:							
Bigbee-----------	Severe: seepage.	Severe: seepage, piping.	Severe: cutbanks cave.	Deep to water	Droughty, fast intake.	Too sandy--	Droughty.
Garcon-----------	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Flooding-------	Wetness, droughty.	Wetness, soil blowing.	Droughty.
Fluvaquents------	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: slow refill, cutbanks cave.	Percs slowly, flooding, cutbanks cave.	Wetness, droughty, fast intake.	Wetness, too sandy.	Wetness, droughty.

Table 11.--Water Management--Continued

Soil name and map symbol	Limitations for--			Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Irrigation	Terraces and diversions	Grassed waterways
51---------- Pelham	Severe: seepage.	Severe: piping, wetness.	Severe: cutbanks cave.	Favorable------	Fast intake, wetness.	Wetness, soil blowing.	Wetness.
52---------- Robertsdale	Slight---------	Moderate: piping, wetness.	Severe: no water.	Percs slowly---	Wetness, percs slowly.	Wetness, percs slowly.	Wetness, percs slowly.
54:							
Troup----------	Severe: seepage, slope.	Severe: seepage, piping.	Severe: no water.	Deep to water	Droughty, fast intake, slope.	Slope, too sandy, soil blowing.	Slope, droughty.
Poarch----------	Moderate: seepage.	Severe: piping.	Severe: slow refill.	Slope----------	Slope----------	Slope-----	Slope.
55, 56:							
Troup----------	Severe: seepage.	Severe: seepage, piping.	Severe: no water.	Deep to water	Droughty, fast intake, slope.	Too sandy, soil blowing.	Droughty.
Poarch----------	Moderate: seepage.	Severe: piping.	Severe: slow refill.	Slope----------	Slope----------	Favorable--	Favorable.
57:							
Cowarts----------	Severe: slope.	Severe: piping.	Severe: no water.	Deep to water	Slope, droughty.	Slope, percs slowly.	Slope, droughty, rooting depth.
Troup----------	Severe: seepage, slope.	Severe: seepage, piping.	Severe: no water.	Deep to water	Droughty, fast intake, slope.	Slope, too sandy, soil blowing.	Slope, droughty.
58---------- Eunola	Severe: seepage.	Severe: piping, wetness.	Severe: cutbanks cave.	Flooding, slope.	Slope, wetness.	Wetness----	Favorable.
59---------- Notcher	Moderate: seepage.	Moderate: thin layer, piping, wetness.	Severe: slow refill.	Deep to water	Favorable------	Favorable--	Favorable.

Table 11.--Water Management--Continued

Soil name and map symbol	Limitations for--			Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Irrigation	Terraces and diversions	Grassed waterways
60, 61---------- Notcher	Moderate: seepage, slope.	Moderate: thin layer, piping, wetness.	Severe: slow refill.	Deep to water	Slope----------	Favorable--	Favorable.
62---------- Bama	Moderate: seepage.	Moderate: piping.	Severe: no water.	Deep to water	Favorable------	Favorable--	Favorable.
63---------- Bama	Moderate: seepage, slope.	Moderate: piping.	Severe: no water.	Deep to water	Slope----------	Favorable--	Favorable.
64---------- Red Bay	Moderate: seepage.	Slight---------	Severe: no water.	Deep to water	Favorable------	Favorable--	Favorable.
65, 66---------- Red Bay	Moderate: seepage, slope.	Slight---------	Severe: no water.	Deep to water	Slope----------	Favorable--	Favorable.
67, 68:							
Notcher----------	Moderate: seepage, slope.	Moderate: thin layer, piping, wetness.	Severe: slow refill.	Deep to water	Slope----------	Favorable--	Favorable.
Maubila----------	Moderate: slope.	Severe: hard to pack.	Severe: no water.	Deep to water	Percs slowly, slope.	Percs slowly.	Percs slowly.
69:							
Notcher----------	Moderate: seepage, slope.	Moderate: thin layer, piping, wetness.	Severe: slow refill.	Deep to water	Slope----------	Favorable--	Favorable.
Maubila----------	Severe: slope.	Severe: hard to pack.	Severe: no water.	Deep to water	Percs slowly, slope.	Slope, percs slowly.	Slope, percs slowly.
70---------- Izagora	Moderate: seepage.	Moderate: piping, wetness.	Severe: slow refill.	Flooding-------	Wetness--------	Wetness----	Favorable.
71---------- Iuka	Moderate: seepage.	Severe: piping, wetness.	Moderate: slow refill.	Flooding-------	Wetness, flooding.	Wetness----	Wetness.

Table 11.--Water Management--Continued

Soil name and map symbol	Limitations for--			Features affecting--			
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Irrigation	Terraces and diversions	Grassed waterways
72---------- Yemassee	Moderate: seepage.	Severe: piping, wetness.	Moderate: slow refill.	Flooding-------	Wetness--------	Wetness, soil blowing.	Wetness.
73---------- Grady	Slight---------	Severe: wetness.	Severe: slow refill.	Percs slowly---	Wetness, percs slowly.	Wetness, percs slowly.	Wetness, percs slowly.
74---------- Lucy	Severe: seepage.	Severe: piping.	Severe: no water.	Deep to water	Droughty, fast intake, slope.	Too sandy, soil blowing.	Droughty.
75---------- Weston	Severe: seepage.	Severe: piping, wetness.	Severe: no water.	Favorable------	Wetness--------	Wetness----	Wetness.
76:							
Mantachie--------	Moderate: seepage.	Severe: piping, wetness.	Moderate: slow refill.	Flooding-------	Wetness, flooding.	Wetness----	Wetness.
Fluvaquents------	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: slow refill, cutbanks cave.	Percs slowly, flooding, cutbanks cave.	Wetness, droughty, fast intake.	Wetness, too sandy.	Wetness, droughty.
Bigbee-----------	Severe: seepage.	Severe: seepage, piping.	Severe: cutbanks cave.	Deep to water	Slope, droughty, fast intake.	Too sandy--	Droughty.
77:							
Arents-----------	Severe: seepage.	Severe: seepage, piping, wetness.	Severe: cutbanks cave.	Slope, cutbanks cave.	Slope, wetness, droughty.	Wetness, too sandy, soil blowing.	Droughty.
Water.							
78---------- Emory	Moderate: seepage.	Severe: piping, ponding.	Severe: no water.	Ponding--------	Ponding--------	Ponding----	Favorable.

Table 12.--Engineering Index Properties

(Absence of an entry indicates that data were not estimated.)

Soil name and map symbol	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
2---------- Duckston	0-4	Sand----------	SP-SM, SP	A-2, A-3	100	95-100	60-75	3-12	10-15	NP
	4-80	Sand, fine sand--	SP-SM, SP	A-2, A-3	100	95-100	60-75	3-12	10-15	NP
3:										
Corolla-------	0-5	Sand----------	SW, SP-SM, SP	A-2, A-3	80-100	75-100	60-95	1-12	0-14	NP
	5-80	Sand, fine sand--	SW, SP-SM, SP	A-2, A-3	80-100	75-100	60-95	1-12	0-14	NP
Ducksston------	0-4	Sand----------	SP-SM, SP	A-2, A-3	100	95-100	60-75	3-12	10-15	NP
	4-80	Sand, fine sand--	SP-SM, SP	A-2, A-3	100	95-100	60-75	3-12	10-15	NP
4---------- Pickney	0-10	Sand----------	SM, SP-SM	A-2, A-3	100	100	50-80	5-25	10-14	NP
	10-80	Sand, coarse sand	SP, SP-SM,	A-2, A-3	100	100	50-90	3-25	10-14	NP
5:										
Croatan-------	0-25	Muck----------	PT	---	---	---	---	---	---	---
	25-33	Loam, mucky sandy loam, sandy loam.	CL, CL-ML, SC, SC-SM	A-4, A-6	100	100	75-100	36-95	18-45	4-15
	33-80	Variable---------	---	---	---	---	---	---	---	---
Pickney-------	0-10	Sand----------	SM, SP-SM	A-2, A-3	100	100	50-80	5-25	10-14	NP
	10-80	Sand, coarse sand	SP, SP-SM,	A-2, A-3	100	100	50-90	3-25	10-14	NP
6---------- Direго	0-35	Muck----------	PT	A-8	---	---	---	---	---	---
	35-80	Fine sand, loamy fine sand, mucky fine sand.	SM, SP-SM	A-3, A-2-4	100	100	80-100	6-13	0-14	NP
7---------- Kureb	0-3	Sand----------	SP, SP-SM	A-3	100	100	60-100	0-7	10-14	NP
	3-80	Sand, fine sand--	SP, SP-SM	A-3	100	100	60-100	0-7	10-14	NP
8:										
Newhan--------	0-3	Sand----------	SP, SP-SM	A-3	95-100	95-100	60-75	0-5	10-14	NP
	3-80	Sand, fine sand--	SP, SP-SM	A-3	95-100	95-100	60-75	0-5	10-14	NP
Corolla-------	0-5	Sand----------	SW, SP-SM, SP	A-2, A-3	80-100	75-100	60-95	1-12	0-14	NP
	5-80	Sand, fine sand								
9---------- Leon	0-5	Sand----------	SP, SP-SM	A-3, A-2-4	100	100	80-100	2-12	0-14	NP
	5-18	Sand, fine sand	SP, SP-SM	A-3, A-2-4	100	100	80-100	2-12	0-14	NP
	18-26	Sand, fine sand, loamy sand.	SM, SP-SM, SP	A-3, A-2-4	100	100	80-100	3-20	0-14	NP
	26-65	Sand, fine sand--	SP, SP-SM	A-3, A-2-4	100	100	80-100	2-12	0-14	NP
	65-80	Sand, fine sand, loamy sand.	SM, SP-SM SP	A-3, A-2-4	100	100	80-100	3-20	0-14	NP
10---------- Beaches	0-80	Sand, fine sand--	SP	A-1, A-3	100	75-100	5-85	0-5	0-14	NP

Table 12.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
11---------- Hurricane	0-5	Sand----------	SP, SP-SM	A-3	100	100	78-100	4-8	0-14	NP
	5-58	Sand, fine sand--	SP, SP-SM	A-3	100	100	78-100	4-8	0-14	NP
	58-80	Sand, fine sand, loamy sand.	SP-SM, SM	A-3, A-2-4	100	100	80-100	5-15	0-14	NP
12---------- Croatan	0-25	Muck----------	PT	---	---	---	---	---	---	---
	25-33	Loam, mucky sandy loam, sandy loam.	CL, CL-ML, SC, SC-SM	A-4, A-6	100	100	75-100	36-95	18-45	4-15
	33-80	Variable----------	---	---	---	---	---	---	---	---
13---------- Lakeland	0-5	Sand----------	SP-SM	A-3, A-2-4	90-100	90-100	60-100	5-12	0-14	NP
	5-80	Sand, fine sand--	SP, SP-SM	A-3, A-2-4	90-100	90-100	50-100	1-12	0-14	NP
14:										
Allanton------	0-10	Sand----------	SP, SP-SM	A-3	100	100	80-100	2-5	0-14	NP
	10-53	Sand, fine sand, loamy sand.	SP, SP-SM	A-3, A-2-4	100	100	80-100	2-12	0-14	NP
	53-80	Sand, fine sand, loamy sand.	SP-SM, SM	A-3, A-2-4	100	100	80-100	5-20	0-14	NP
Pottsburg-----	0-7	Sand----------	SP, SP-SM	A-3	100	100	80-100	2-10	0-14	NP
	7-53	Sand, fine sand--	SP, SP-SM	A-3	100	100	80-100	1-8	0-14	NP
	53-80	Sand, fine sand, loamy sand.	SP-SM, SP-SM, SP, SM	A-3, A-2-4	100	100	80-100	4-18	0-14	NP
15---------- Resota	0-3	Sand----------	SP, SM, SP-SM	A-3, A-2-4	100	100	85-99	1-15	0-14	NP
	3-80	Sand, fine sand--	SP, SM, SP-SM	A-3, A-2-4	100	100	85-99	1-15	0-14	NP
16:										
Arents-------- Urban land.	0-80	Variable----------	---	---	---	---	---	---	---	---
17---------- Kureb	0-3	Sand----------	SP, SP-SM	A-3	100	100	60-100	0-7	0-14	NP
	3-80	Sand, fine sand--	SP, SP-SM	A-3	100	100	60-100	0-7	0-14	NP
18. Pits										
19---------- Foxworth	0-6	Sand----------	SP-SM	A-3, A-2-4	100	100	60-100	5-12	0-14	NP
	6-45	Sand, fine sand--	SP-SM	A-3, A-2-4	100	100	60-100	5-12	0-14	NP
	45-80	Sand, fine sand--	SP, SP-SM	A-3, A-2-4	100	100	50-100	1-12	0-14	NP
20, 21--------- Lakeland	0-5	Sand----------	SP-SM	A-3, A-2-4	90-100	90-100	60-100	5-12	0-14	NP
	5-80	Sand, fine sand--	SP, SP-SM	A-3, A-2-4	90-100	90-100	50-100	1-12	0-14	NP

Table 12.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
22. Urban land										
24, 25, 26----- Poarch	0-5	Sandy loam-------	SM, SC-SM	A-4, A-2-4	95-100	95-100	70-95	30-50	15-25	NP-5
	5-31	Loam, sandy loam	ML, CL-ML, CL	A-4	95-100	95-100	85-95	51-75	20-30	NP-10
	31-80	Loam, sandy loam	ML, CL, CL-ML	A-4	85-100	85-100	85-95	51-75	20-30	2-10
27---------- Escambia	0-10	Fine sandy loam	SM, SC-SM, SP, SP-SM	A-4	95-100	95-100	70-90	40-65	<25	NP-7
	10-24	Fine sandy loam, loam, sandy loam.	SC, SC-SM, CL, CL-ML	A-4, A-6	95-100	95-100	70-95	40-75	16-30	4-15
	24-80	Fine sandy loam, loam, sandy loam.	SC, CL, SC-SM, CL-ML	A-4, A-6	87-95	87-95	60-95	35-80	20-40	4-20
28---------- Grady	0-5	Loam----------	ML, CL-ML, CL	A-4, A-6	100	99-100	85-100	50-75	<30	NP-15
	5-11	Clay loam, sandy clay loam.	CL	A-6	100	100	90-100	51-80	25-40	11-20
	11-80	Clay, sandy clay	CL, CH, MH	A-6, A-7	100	100	90-100	55-90	30-51	12-24
29, 30, 31----- Perdido	0-8	Sandy loam-------	SM, ML, CL-ML	A-2, A-4	95-100	92-100	65-95	25-55	<25	NP-7
	8-48	Sandy loam, fine sandy loam.	SC, CL, CL-ML	A-2, A-4 A-6	95-100	92-100	65-95	25-55	15-30	5-15
	48-57	Sandy loam, sandy clay loam.	SM, ML	A-4, A-5 A-7	5-100	92-100	70-98	45-75	30-49	4-15
	57-80	Sandy loam, sandy clay loam.	SM, ML	A-4, A-5 A-7	5-100	92-100	70-98	45-75	30-49	4-15
32, 33, 34----- Troup	0-5	Sand----------	SM, SP-SM	A-2	5-100	90-100	50-75	10-30	0-14	NP
	5-58	Sand, fine sand, loamy sand, loamy fine sand.	SM, SP-SM	A-2	5-100	90-100	50-75	10-30	0-14	NP
	58-68	Sandy loam, fine sandy loam, sandy clay loam.	SM, SC, SC-SM	A-2, A-4, A-6	7-100	95-100	55-95	15-50	10-30	NP-15
	68-80	Sandy clay loam, sandy loam, fine sandy loam.	SC, SC-SM, CL-ML, CL	A-4, A-2, A-6	5-100	90-100	60-90	24-55	19-40	4-20
35, 36--------- Lucy	0-6	Loamy sand-------	SM, SP-SM	A-2, A-4	89-100	95-100	50-90	10-40	0-14	NP
	6-26	Loamy sand, sand	SM, SP-SM	A-2, A-4	89-100	95-100	50-90	10-40	0-14	NP
	26-38	Sandy loam, fine sandy loam, sandy clay loam.	SM, SC, SC-SM	A-2, A-4, A-6	7-100	95-100	55-95	15-50	10-30	NP-15
	38-65	Sandy clay loam, clay loam, sandy clay.	SC, SC-SM, SM	A-2, A-6, A-4	100	95-100	60-95	20-50	20-40	3-20
	65-80	Sandy loam, fine sandy loam, sandy clay loam.	SM, SC, SC-SM	A-2, A-4, A-6	97-100	95-100	55-95	15-50	10-30	NP-15

Table 12.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
38, 39---	0-54	Loamy sand---	SM	A-2-4	98-100	98-100	65-95	13-20	0-14	NP
Bonifay	54-80	Sandy loam, sandy clay loam, fine sandy loam.	SC-SM, SC, SM	A-2-4, A-4, A-2-6, A-6	95-100	90-100	63-95	23-50	<30	NP-12
40---	0-10	Fine sandy loam	SM	A-2, A-4	100	98-100	60-85	30-50	<30	NP
Eunola	10-28	Sandy clay loam, clay loam, fine sandy loam.	SM, SC, SC-SM, CL	A-4, A-2, A-6	100	90-100	75-95	30-60	<36	NP-15
	28-38	Sandy clay loam, sandy clay, clay loam.	SM, SC, ML, CL	A-4, A-6, A-7	100	98-100	80-95	36-60	22-50	3-26
	38-55	Sandy loam, sandy clay loam.	SM, SC, SC-SM	A-2, A-4	100	98-100	60-70	30-40	<30	NP-10
	55-80	Sand, loamy sand, fine sand.	SM, SP-SM	A-2, A-3	100	98-100	50-75	5-30	<20	NP
41, 42---	0-7	Sandy loam---	SM, ML	A-4	100	97-100	91-97	40-62	<30	NP-5
Malbis	7-22	Loam, sandy clay loam, fine sandy loam.	CL-ML, CL	A-4, A-6	99-100	95-100	80-100	55-70	21-35	5-11
	22-72	Sandy clay loam, clay loam, loam.	ML, CL	A-4, A-6, A-7	98-100	96-100	90-100	56-80	29-49	4-15
	72-80	Sandy clay loam, clay loam.	ML, CL	A-4, A-5, A-6, A-7	98-100	96-100	90-100	56-80	30-49	4-15
43---	0-5	Sand---	SM, SP-SM	A-2	100	100	75-90	10-20	0-14	NP
Albany	5-57	Sand, fine sand, loamy sand, loamy fine sand.	SM, SP-SM	A-2	5-100	90-100	50-75	10-30	0-14	NP
	57-72	Sandy loam---	SM	A-2	100	100	75-92	22-30	<30	NP
	72-80	Sandy clay loam, sandy loam, fine sandy loam.	SC, SM, SC-SM	A-2, A-4, A-6	97-100	95-100	70-100	20-50	<40	NP-17
44:										
Corolla---	0-80	Sand---	SW, SP-SM, SP	A-2, A-3	80-100	75-100	60-95	1-12	0-14	NP
Urban land.										
45:										
Troup---	0-5	Sand---	SM, SP-SM	A-2	95-100	90-100	50-75	10-30	0-14	NP
	5-58	Sand, loamy fine sand, loamy sand, fine sand.	SP-SM, SM	A-2-4, A-3	100	95-100	80-95	8-20	0-14	NP
	58-68	Sandy loam, fine sandy loam, sandy clay loam.	SM, SC, SC-SM	A-2, A-4, A-6	7-100	95-100	55-95	15-50	10-30	NP-15
	68-80	Sandy clay loam, sandy loam, fine sandy loam.	SC, SC-SM, CL-ML, CL	A-4, A-2, A-6	5-100	90-100	60-90	24-55	19-40	4-20

Table 12.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
45:										
Perdido-------	0-8	Sandy loam-------	SM, ML, CL-ML	A-2, A-4	95-100	92-100	65-95	25-55	<25	NP-7
	8-48	Sandy loam, fine sandy loam.	SC, CL, CL-ML	A-2, A-4 A-6	95-100	92-100	65-95	25-55	15-30	5-15
	48-57	Sandy loam, sandy clay loam.	SM, ML	A-4, A-5 A-7	95-100	92-100	70-98	45-75	30-49	4-15
	57-80	Sandy loam, sandy clay loam.	SM, ML	A-4, A-5 A-7	95-100	92-100	70-98	45-75	30-49	4-15
46:										
Garcon--------	0-5	Loamy fine sand--	SP-SM, SM	A-3, A-2-4	100	95-100	80-95	8-20	<20	NP
	5-27	Loamy fine sand, loamy sand, fine sand.	SP-SM, SM	A-2-4, A-3	100	95-100	80-95	8-20	0-14	NP
	27-57	Sandy loam, fine sandy loam, sandy clay loam.	SM, SC-SM	A-2-4	100	85-100	80-95	18-35	<25	NP-7
	57-80	Fine sand, sand, loamy sand.	SP-SM, SP	A-3 A-2-4	100	95-100	50-75	5-30	<20	NP
Bigbee--------	0-7	Fine sand--------	SM, SP-SM	A-2-4, A-3	85-100	85-100	80-95	8-20	0-14	NP
	7-80	Sand, fine sand, loamy sand, loamy fine sand.	SM, SP-SM	A-2 A-3	85-100	85-100	80-95	8-20	0-14	NP
Yemassee------	0-12	Fine sandy loam--	SM	A-2	100	100	75-100	22-55	<30	NP-7
	12-48	Sandy clay loam, clay loam, fine sandy loam.	CL, SC, CL-ML, SC-SM	A-2, A-4, A-6	100	100	75-100	30-70	16-38	4-18
	48-74	Sandy clay loam, fine sandy loam, sandy clay.	SC, SM, CL-ML, SC-SM	A-2, A-4, A-6	100	100	75-100	25-55	<35	NP-15
	74-80	Variable---------	---	---	---	---	---	---	---	---
47:										
Hurricane-----	0-5	Sand-------------	SP, SP-SM	A-3	100	100	78-100	4-8	0-14	NP
	5-58	Sand, fine sand--	SP, SP-SM	A-3	100	100	78-100	4-8	0-14	NP
	58-70	Sand, fine sand, loamy sand.	SP-SM, SM	A-3, A-2-4	100	100	80-100	5-15	0-14	NP
	70-80	Sand, fine sand--	SP, SP-SM, SM	A-3, A-2-4	100	100	90-100	4-15	0-14	NP
Albany--------	0-7	Sand-------------	SM, SP-SM	A-2	100	100	75-90	10-20	0-14	NP
	7-57	Sand, fine sand, loamy sand, loamy fine sand.	SM, SP-SM	A-2	5-100	90-100	50-75	10-30	0-14	NP
	57-72	Sandy loam-------	SM	A-2	100	100	75-92	22-30	<20	NP
	72-80	Sandy clay loam, sandy loam.	SC, SM, SC-SM	A-2, A-4, A-6	97-100	95-100	70-100	20-50	<40	NP-17

Table 12.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
48:										
Pelham--------	0-5	Loamy sand-------	SM, SP-SM	A-2	100	95-100	75-90	10-25	0-14	NP
	5-35	Loamy fine sand, loamy sand, fine sand.	SP-SM, SM	A-2-4, A-3	100	98-100	50-75	5-30	<20	NP
	35-58	Sandy clay loam, sandy loam, fine sandy loam.	SM, SC, SC-SM	A-2, A-4, A-6	100	95-100	65-90	27-50	15-30	2-12
	58-80	Sandy clay loam, sandy loam, sandy clay.	SC, SM, ML, CL	A-2, A-4, A-6, A-7	100	95-100	65-90	27-65	20-45	3-20
Yemassee------	0-12	Fine sandy loam--	SM	A-2	100	100	75-100	25-50	<30	NP-7
	12-48	Sandy clay loam, clay loam, fine sandy loam.	CL, SC, CL-ML, SC-SM	A-2, A-4, A-6	100	100	75-100	30-70	16-38	4-18
	48-74	Sandy clay loam, fine sandy loam, sandy clay.	SC, SM, CL-ML, SC-SM	A-2, A-4, A-6	100	100	75-100	25-55	<35	NP-15
	74-80	Variable---------	---	---	---	---	---	---	---	---
49:										
Dorovan-------	0-8	Muck-------------	PT	---	---	---	---	---	---	---
	8-80	Muck-------------	PT	---	---	---	---	---	---	---
Fluvaquents---	0-4	Mucky fine sand--	SM, SP, SP-SM	A-2-4, A-3	100	100	80-100	4-15	10-14	NP
	4-25	Loamy sand, sandy loam.	SM	A-2-4	100	100	50-70	15-35	<35	NP-7
	25-40	Loamy sand, sandy loam, sandy clay loam.	SM, SC-SM, SC	A-2-4, A-2-6	100	100	50-70	15-35	<35	NP-13
	40-80	Sand, fine sand--	SP, SP-SM	A-3	100	100	90-100	2-6	0-14	NP
50:										
Bigbee--------	0-7	Fine sand--------	SM, SP-SM	A-2-4, A-3	100	85-100	80-95	8-20	0-14	NP
	7-80	Sand, fine sand, loamy sand.	SP-SM, SM	A-2-4, A-3	100	85-100	80-95	8-30	0-14	NP
Garcon--------	0-5	Loamy fine sand--	SP-SM, SM	A-3, A-2-4	100	95-100	80-95	8-20	0-14	NP
	5-27	Loamy fine sand, loamy sand, fine sand.	SP-SM, SM	A-2-4, A-3	100	95-100	80-95	8-20	0-14	NP
	27-57	Sandy loam, fine sandy loam, sandy clay loam.	SM, SC-SM	A-2-4	100	85-100	80-95	18-35	<25	NP-7
	57-80	Fine sand, sand, loamy sand.	SP-SM, SM	A-3 A-2-4	100	95-100	80-95	8-10	0-14	NP
Fluvaquents---	0-4	Mucky fine sand--	SM, SP, SP-SM	A-2-4, A-3	100	100	80-100	4-15	10-14	NP
	4-25	Loamy sand, sandy loam.	SM	A-2-4	100	100	50-70	15-35	<35	NP-7
	25-40	Loamy sand, sandy loam, sandy clay loam.	SM, SC-SM, SC	A-2-4, A-2-6	100	100	50-70	15-35	<35	NP-13
	40-80	Sand, fine sand--	SP, SP-SM	A-3	100	100	90-100	2-6	0-14	NP

Table 12.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
51---------- Pelham	0-5	Loamy sand-------	SM	A-2	100	95-100	75-100	15-30	0-14	NP
	5-35	Loamy fine sand, loamy sand, fine sand.	SP-SM, SM	A-2-4, A-3	100	95-100	80-95	8-30	<20	NP
	35-58	Sandy clay loam, sandy loam, fine sandy loam.	SM, SC, SC-SM	A-2, A-4, A-6	100	95-100	65-100	27-50	15-30	2-12
	58-80	Sandy clay loam, sandy loam, sandy clay.	SC, SM, ML, CL	A-2, A-4, A-6, A-7	100	95-100	65-100	27-65	20-45	3-20
52---------- Robertsdale	0-12	Sandy loam-------	SC-SM, CL-ML, SM, ML	A-4	90-100	75-100	70-100	40-60	<25	NP-7
	12-24	Clay loam, sandy clay loam, loam.	CL-ML, CL, SC, SC-SM	A-4	80-100	70-100	65-95	40-60	20-30	4-10
	24-80	Sandy clay loam, clay loam, loam.	SC, CL, CL-ML, SC-SM	A-4, A-6	90-100	80-100	70-95	40-60	25-35	4-12
54, 55, 56:										
Troup---------	0-5	Sand----------	SM, SP-SM	A-2	95-100	90-100	50-75	10-30	0-14	NP
	5-58	Sand, loamy fine sand, loamy sand, fine sand.	SP-SM, SM	A-2-4, A-3	100	95-100	80-95	8-20	0-14	NP
	58-68	Sandy loam, fine sandy loam, sandy clay loam.	SM, SC, SC-SM	A-2, A-4, A-6	7-100	95-100	55-95	15-50	10-30	NP-15
	68-80	Sandy clay loam, sandy loam, fine sandy loam.	SC, SC-SM, CL-ML, CL	A-4, A-2, A-6	5-100	90-100	60-90	24-55	19-40	4-20
Poarch--------	0-5	Sandy loam-------	SM, SC-SM	A-4, A-2-4	95-100	95-100	70-95	30-50	15-25	NP-5
	5-31	Loam, fine sandy loam, sandy loam.	ML, CL-ML, CL	A-4	95-100	95-100	85-95	51-75	20-30	NP-10
	31-80	Loam, fine sandy loam, sandy loam.	ML, CL, CL-ML	A-4	85-100	85-100	85-95	51-75	20-30	2-10
57:										
Cowarts-------	0-9	Sandy loam-------	SM, SC-SM	A-2, A-4	95-100	90-100	75-90	20-40	<20	NP-5
	9-32	Fine sandy loam, sandy loam, sandy clay loam.	SC-SM, SC, SM	A-2, A-4, A-6	95-100	90-100	60-95	23-45	20-40	NP-15
	32-80	Sandy loam, sandy clay loam.	SC-SM, SC, CL-ML, CL	A-2, A-4, A-6	85-100	80-100	60-95	25-58	25-53	5-20
Troup---------	0-5	Sand----------	SM, SP-SM	A-2	95-100	90-100	50-75	10-30	0-14	NP
	5-58	Sand, loamy fine sand, loamy sand, fine sand.	SP-SM, SM	A-2-4, A-3	100	95-100	80-95	8-20	0-14	NP
	58-68	Sandy loam, fine sandy loam, sandy clay loam.	SM, SC, SC-SM	A-2, A-4, A-6	7-100	95-100	55-95	15-50	10-30	NP-15
	68-80	Sandy clay loam, sandy loam, fine sandy loam.	SC, SC-SM, CL-ML, CL	A-4, A-2, A-6	5-100	90-100	60-90	24-55	19-40	4-20

Table 12.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
58---------- Eunola	0-10	Fine sandy loam--	SM	A-2, A-4	100	98-100	60-85	30-50	<20	NP
	10-28	Sandy loam, sandy clay loam, fine sandy loam.	SM, SC, SC-SM, CL	A-4, A-2, A-6	100	90-100	75-95	30-60	<36	NP-15
	28-50	Sandy clay loam, sandy clay, clay loam.	SM, SC, ML, CL	A-4, A-6, A-7	100	98-100	80-95	36-60	22-50	3-26
	50-80	Sand, loamy sand, sandy loam.	SM, SP-SM	A-2, A-3	100	98-100	50-75	5-30	0-14	NP
59, 60, 61----- Notcher	0-12	Fine sandy loam--	SM	A-2, A-4	80-95	78-95	70-90	20-50	<20	NP
	12-48	Sandy clay loam, clay loam, gravelly sandy clay loam.	SC, CL	A-4, A-6	75-95	70-95	60-80	36-60	20-35	7-20
	48-80	Sandy clay loam, clay loam.	CH, CL, SC, SM	A-6, A-7	85-100	85-100	70-98	36-75	30-55	11-23
62, 63--------- Bama	0-6	Fine sandy loam--	SM, SC, SC-SM, CL-ML	A-4	0	85-100	70-95	40-70	<30	NP-10
	6-56	Loam, sandy clay loam, fine sandy loam.	SM, SC, SC-SM, CL-ML	A-4, A-6	0	85-100	80-95	36-70	15-35	2-15
	56-80	Loam, sandy clay loam, clay loam.	SC, CL	A-4, A-6	0	80-100	80-95	40-70	20-40	8-18
64, 65, 66----- Red Bay	0-6	Fine sandy loam--	SM, SC-SM	A-2, A-4	0	95-100	60-85	15-45	<20	NP-4
	6-80	Sandy loam, sandy clay loam.	SM, SC, SC-SM	A-2, A-4	0	95-100	60-85	15-50	<35	NP-10
67:										
Notcher-------	0-12	Fine sandy loam--	SM	A-2, A-4	80-95	78-95	70-90	20-50	<20	NP
	12-48	Sandy clay loam, clay loam, gravelly sandy clay loam.	SC, CL	A-4, A-6	75-95	70-95	60-80	36-60	20-35	7-20
	48-80	Sandy clay loam, clay loam.	CH, CL, SC, SM	A-6, A-7	85-100	85-100	70-98	36-75	30-55	11-23
Maubila-------	0-4	Gravelly fine sandy loam.	SM, SC-SM, SP-SM	A-2	90-100	85-100	60-95	10-35	<25	NP-6
	4-9	Loamy fine sand, fine sandy loam, loam.	SM SP-SM	A-2	0-100	85-100	61-95	10-35	15-25	NP-6
	9-80	Sandy clay loam, clay loam, clay.	SC, CL	A-6, A-7	95-100	90-100	80-95	45-90	35-50	12-25
68:										
Notcher-------	0-12	Fine sandy loam--	SM	A-2, A-4	80-95	78-95	70-90	20-50	<20	NP
	12-48	Sandy clay loam, clay loam, gravelly sandy clay loam.	SC, CL	A-4, A-6	75-95	70-95	60-80	36-60	20-35	7-20
	48-80	Sandy clay loam, clay loam.	CH, CL, SC, SM	A-6, A-7	85-100	85-100	70-98	36-75	30-55	11-23

Table 12.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
68:										
Maubila-------	0-4	Gravelly fine sandy loam.	SM, SC-SM, SP-SM	A-2	90-100	85-100	60-95	10-35	<25	NP-6
	4-9	Loamy fine sand, fine sandy loam, loam.	SM SP-SM	A-2	90-100	85-100	61-95	10-35	15-25	NP-6
	9-80	Sandy clay loam, clay loam, clay.	SC, CL	A-6, A-7	95-100	90-100	80-95	45-90	35-50	12-25
69:										
Notcher-------	0-12	Fine sandy loam--	SM	A-2, A-4	80-95	78-95	70-90	20-50	<20	NP
	12-48	Sandy clay loam, clay loam, gravelly sandy clay loam.	SC, CL	A-4, A-6	75-95	70-95	60-80	36-60	20-35	7-20
	48-80	Sandy clay loam, clay loam.	CH, CL, SC, SM	A-6, A-7	85-100	85-100	70-98	36-75	30-55	11-23
Maubila-------	0-4	Gravelly fine sandy loam.	SM, SC-SM, SP-SM	A-2	90-100	85-100	60-95	10-35	<25	NP-6
	4-9	Loamy fine sand, fine sandy loam, loam.	SM SP-SM	A-2	90-100	85-100	61-95	10-35	15-25	NP-6
	9-80	Sandy clay loam, clay, clay loam.	SC, CL	A-6, A-7	95-100	90-100	80-95	45-90	35-50	12-25
70---------- Izagora	0-10	Fine sandy loam--	SM, SC-SM, ML, CL-ML	A-4	95-100	95-100	70-95	40-65	<25	NP-5
	10-28	Fine sandy loam, sandy loam, loamy sand.	SM, SC-SM, ML, CL-ML	A-4	95-100	85-100	65-100	36-75	<30	NP-7
	28-80	Clay loam, clay, loam.	CL, CH	A-6, A-7	95-100	95-100	90-100	70-95	35-60	20-40
71---------- Iuka	0-9	Fine sandy loam--	SM, SC-SM, ML, CL-ML	A-4, A-2	95-100	90-100	70-100	30-60	<20	NP-7
	9-20	Fine sandy loam, loam.	SM, SC-SM, ML, CL-ML	A-4	95-100	85-100	65-100	36-75	<30	NP-7
	20-80	Sandy loam, fine sandy loam, loamy sand.	SM, ML	A-2, A-4	95-100	90-100	70-100	25-60	<30	NP-7
72---------- Yemassee	0-12	Fine sandy loam--	SM	A-2, A-4	100	100	75-100	25-50	<30	NP-7
	12-48	Sandy clay loam, clay loam, fine sandy loam.	CL, SC, CL-ML, SC-SM	A-2, A-4, A-6	100	100	75-100	30-70	16-38	4-18
	48-74	Sandy clay loam, fine sandy loam, sandy clay.	SC, SM, CL-ML, SC-SM	A-2, A-4, A-6	100	100	75-100	25-55	<35	NP-15
	74-80	Variable---------	---	---	---	---	---	---	---	---
73---------- Grady	0-5	Loam----------	ML, CL-ML, CL	A-4, A-6	100	99-100	85-100	50-75	<30	NP-15
	5-11	Clay loam, sandy clay loam.	CL	A-6	100	100	90-100	51-80	25-40	11-20
	11-80	Clay, sandy clay	CL, ML, CH	A-6, A-7	100	100	90-100	55-90	36-51	12-25

Table 12.--Engineering Index Properties--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	4	10	40	200		
	In								Pct	
74---------- Lucy	0-26	Loamy sand-------	SM, SP-SM	A-2, A-4	98-100	95-100	50-90	10-40	0-14	NP
	26-38	Sandy loam, fine sandy loam, sandy clay loam.	SM, SC, SC-SM	A-2, A-4, A-6	97-100	95-100	55-95	15-50	10-30	NP-15
	38-65	Sandy clay loam, clay loam, sandy clay.	SC, SC-SM, SM	A-2, A-6, A-4	100	95-100	60-95	20-50	20-40	3-20
	65-80	Sandy loam, fine sandy loam, sandy clay loam.	SM, SC, SC-SM	A-2, A-4, A-6	97-100	95-100	55-95	15-50	10-30	NP-15
75---------- Weston	0-4	Fine sandy loam--	SM, SC-SM, SP, SP-SM	A-4, A-2, A-3	100	98-100	60-85	3-50	<20	NP-5
	4-68	Sandy loam, loam, fine sandy loam.	SM, SC-SM, ML, CL-ML	A-4, A-2	100	98-100	60-95	30-70	<25	NP-7
	68-80	Variable---------	---	---	---	---	---	---	---	
76:										
Mantachie-----	0-6	Loam-------------	CL-ML, SC-SM, SM, ML	A-4	95-100	90-100	60-85	40-60	<20	NP-5
	6-80	Loam, clay loam, sandy clay loam.	CL, SC, SC-SM, CL-ML	A-4, A-6	95-100	90-100	80-95	45-80	20-40	5-15
Fluvaquents---	0-4	Mucky fine sand--	SM, SP, SP-SM	A-2-4, A-3	100	100	80-100	4-15	0-14	NP
	4-25	Loamy sand, sandy loam.	SM	A-2-4	100	100	50-70	15-35	<35	NP-7
	25-40	Loamy sand, sandy loam, sandy clay loam.	SM, SC-SM, SC	A-2-4, A-2-6	100	100	50-70	15-35	<35	NP-13
	40-80	Sand, fine sand--	SP, SP-SM	A-3	100	100	90-100	2-6	0-14	NP
Bigbee--------	0-7	Fine sand--------	SM, SP-SM	A-2-4, A-3	100	95-100	50-75	5-20	0-14	NP
	7-80	Sand, fine sand--	SP-SM, SM	A-2-4, A-3	85-100	85-100	50-75	5-20	0-14	NP
77:										
Arents--------	0-80	Variable---------	---	---	---	---	---	---	---	---
Water.										
78---------- Emory	0-10	Fine sandy loam--	SM, SC-SM	A-2, A-4	100	95-100	60-85	15-45	<20	NP-4
	10-80	Sandy loam, sandy clay loam.	SM, SC, SC-SM	A-2, A-4	100	95-100	60-85	15-50	<35	NP-10

Table 13.--Physical and Chemical Properties of the Soils

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Organic matter" apply only to the surface layer. Absence of an entry indicates that data were not available or were not estimated.)

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Salinity	Shrink-swell potential	Erosion factors		Wind erodibility group	Organic matter
									K	T		
	In	Pct	g/cc	In/hr	In/in	pH	mmhos/cm					Pct
2----------	0-4	0-4	1.60-1.70	>20	0.35-0.45	3.5-8.4	8-16	Low-------	0.10	5	1	.5-3
Duckston	4-80	0-4	1.60-1.70	>20	0.02-0.05	3.5-8.4	4-8	Low-------	0.10			
3:												
Corolla---------	0-80	0-3	1.60-1.70	>20	0.01-0.03	5.6-7.8	<2	Low-------	0.10	5	1	0-.5
Duckston--------	0-4	0-4	1.60-1.70	>20	0.02-0.08	3.5-8.4	8-16	Low-------	0.10	5	1	.5-3
	4-80	0-4	1.60-1.70	>20	0.02-0.05	3.5-8.4	4-8	Low-------	0.10			
4----------	0-52	1-10	1.20-1.40	6.0-20	0.10-0.15	3.5-6.0	<2	Low-------	0.10	5	1	3-15
Pickney	52-80	1-10	1.40-1.60	6.0-20	0.03-0.11	3.5-6.0	<2	Low-------	0.10			
5:												
Croatan---------	0-25	---	0.40-0.65	0.06-6.0	0.35-0.45	<4.5	<2	Low-------	----	2	2	25-60
	25-33	10-35	1.40-1.60	0.2-2.0	0.12-0.20	3.5-6.5	<2	Low-------	0.24			
	33-80	2-35	1.40-1.60	2.0-20	0.12-0.20	3.5-6.5	<2	Low-------	0.15			
Pickney---------	0-52	1-10	1.20-1.40	6.0-20	0.10-0.15	3.5-6.0	<2	Low-------	0.10	5	1	3-15
	52-80	1-10	1.40-1.60	6.0-20	0.03-0.11	3.5-6.0	<2	Low-------	0.10			
6----------	0-35	---	0.10-0.35	6.0-20	0.35-0.45	6.1-6.5	>16	Low-------	----	2	2	25-60
Diregо	35-80	2-12	1.50-1.60	6.0-20	0.01-0.03	5.6-6.5	2-16	Low-------	----			
7----------	0-80	0-3	1.60-1.80	6.0-20	<0.05	3.5-6.5	<2	Low-------	0.10	5	1	0-2
Kureb												
8:												
Newhan----------	0-80	0-3	1.60-1.75	>20	<0.05	3.5-7.8	4-16	Low-------	0.10	5	1	0-.5
Corolla---------	0-80	0-3	1.60-1.70	>20	0.01-0.03	5.6-7.8	<2	Low-------	0.10	5	1	0-.5
9----------	0-5	1-5	1.30-1.45	6.0-20	0.05-0.15	3.5-6.5	0-2	Low-------	0.10	5	1	.5-4
Leon	5-18	0-3	1.40-1.60	6.0-20	0.02-0.05	3.5-6.5	0-2	Low-------	0.10			
	18-26	2-8	1.25-1.65	0.6-6.0	0.15-0.30	3.5-6.5	0-2	Low-------	0.15			
	26-65	1-4	1.50-1.65	2.0-20	0.05-0.10	3.5-6.5	0-2	Low-------	0.10			
	65-80	2-8	1.25-1.65	0.2-2.0	0.15-0.30	3.5-6.5	0-2	Low-------	0.15			
10----------	0-80	0-1	1.35-1.85	6.0-20	0.03-0.05	5.1-7.8	4-32	Low-------	0.05	5	1	0-.5
Beaches												

Table 13.--Physical and Chemical Properties of the Soils--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Salinity	Shrink-swell potential	Erosion factors		Wind erodibility group	Organic matter
									K	T		
	In	Pct	g/cc	In/hr	In/in	pH	mmhos/cm					Pct
11----------	0-5	1-4	1.40-1.60	6.0-20	0.03-0.07	3.5-6.0	<2	Low--------	0.10	5	2	.5-2
Hurricane	5-58	1-4	1.40-1.60	6.0-20	0.03-0.07	3.5-6.0	<2	Low--------	0.10			
	58-70	2-8	1.55-1.65	2.0-6.0	0.10-0.15	3.5-6.0	<2	Low--------	0.15			
	70-80	1-4	1.40-1.60	2.0-20	0.03-0.10	3.5-6.0	<2	Low--------	0.10			
12----------	0-25	---	0.40-0.65	0.06-6.0	0.35-0.45	<4.5	<2	Low--------	----	2	2	25-60
Croatan	25-33	10-35	1.40-1.60	0.2-2.0	0.12-0.20	3.5-6.5	<2	Low--------	0.24			
	33-80	2-35	1.40-1.60	2.0-20	0.12-0.20	3.5-6.5	<2	Low--------	0.15			
13----------	0-5	2-8	1.35-1.65	6.0-20	0.05-0.09	4.5-6.0	<2	Low--------	0.10	5	1	.5-1
Lakeland	5-80	1-6	1.50-1.60	6.0-20	0.02-0.08	4.5-6.0	<2	Low--------	0.10			
14:												
Allanton--------	0-10	3-8	1.35-1.45	2.0-6.0	0.05-0.15	4.5-5.5	<2	Low--------	0.10	5	1	2-5
	10-53	3-12	1.40-1.60	6.0-20	0.04-0.08	4.5-5.5	<2	Low--------	0.10			
	53-80	3-12	1.50-1.65	0.6-6.0	0.10-0.15	3.5-5.5	<2	Low--------	0.15			
Pottsburg-------	0-7	1-4	1.20-1.45	6.0-20	0.05-0.15	3.5-6.5	<2	Low--------	0.10	5	1	.5-3
	7-53	0-4	1.40-1.70	6.0-20	0.03-0.10	3.5-6.5	<2	Low--------	0.10			
	53-80	1-6	1.55-1.70	0.6-2.0	0.10-0.25	3.5-6.0	<2	Low--------	0.15			
15----------	0-80	0-3	1.30-1.60	>20	0.02-0.05	3.5-6.5	<2	Low--------	0.10	5	1	<1
Resota												
16.												
Arents												
Urban land												
17----------	0-80	0-3	1.60-1.80	6.0-20	<0.05	3.5-7.3	<2	Low--------	0.10	5	1	0-2
Kureb												
18.												
Pits												
19----------	0-6	1-8	1.25-1.45	>6.0	0.05-0.10	4.5-6.5	<2	Low--------	0.10	5	1	.5-2
Foxworth	6-45	1-8	1.40-1.55	>6.0	0.05-0.10	4.5-6.5	<2	Low--------	0.10			
	45-80	1-6	1.45-1.65	>6.0	0.02-0.08	4.5-6.5	<2	Low--------	0.10			
20, 21----------	0-5	2-8	1.35-1.65	6.0-20	0.05-0.09	4.5-6.0	<2	Low--------	0.10	5	1	.5-1
Lakeland	5-80	1-6	1.50-1.60	6.0-20	0.02-0.08	4.5-6.0	<2	Low--------	0.10			
22.												
Urban land												

Table 13.--Physical and Chemical Properties of the Soils--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Salinity	Shrink-swell potential	Erosion factors		Wind erodibility group	Organic matter
									K	T		
	In	Pct	g/cc	In/hr	In/in	pH	mmhos/cm					Pct
24, 25, 26-------	0-5	5-15	1.35-1.55	2.0-6.0	0.10-0.15	4.5-5.5	<2	Low-------	0.20	5	3	.5-1
Poarch	5-30	8-18	1.35-1.55	0.6-2.0	0.10-0.20	4.5-5.5	<2	Low-------	0.24			
	30-80	10-25	1.45-1.65	0.2-0.6	0.10-0.20	4.5-5.5	<2	Low-------	0.24			
27----------	0-10	5-14	1.35-1.55	2.0-6.0	0.11-0.15	3.5-5.5	<2	Low-------	0.24	5	3	.5-2
Escambia	10-24	8-18	1.35-1.55	0.6-2.0	0.15-0.20	3.5-5.5	<2	Low-------	0.24			
	24-80	8-35	1.45-1.65	0.06-0.6	0.10-0.18	3.5-5.5	<2	Low-------	0.28			
28----------	0-5	20-30	1.20-1.45	0.6-2.0	0.10-0.18	3.5-5.5	<2	Low-------	0.24	5	6	1-4
Grady	5-11	20-35	1.40-1.55	0.2-0.6	0.10-0.15	3.5-5.5	<2	Low-------	0.10			
	11-80	45-65	1.50-1.60	0.06-0.2	0.12-0.16	3.5-5.5	<2	Moderate	0.10			
29, 30, 31-------	0-8	7-14	1.40-1.60	2.0-6.0	0.10-0.15	4.5-5.5	<2	Low-------	0.20	5	3	<2
Perdido	8-45	10-18	1.40-1.60	0.6-2.0	0.12-0.18	4.5-5.5	<2	Low-------	0.20			
	45-57	14-28	1.40-1.55	0.2-0.6	0.10-0.15	4.5-5.5	<2	Low-------	0.24			
	57-80	14-28	1.45-1.55	0.2-0.6	0.10-0.15	4.5-5.5	<2	Low-------	0.24			
32, 33, 34-------	0-58	1-10	1.30-1.70	6.0-20	0.05-0.10	4.5-6.0	<2	Low-------	0.10	5	1	<1
Troup	58-80	15-35	1.40-1.60	0.6-2.0	0.10-0.13	4.5-5.5	<2	Low-------	0.20			
35, 36----------	0-26	1-12	1.30-1.70	6.0-20	0.08-0.12	4.5-6.0	<2	Low-------	0.10	5	2	.5-1
Lucy	26-38	10-30	1.40-1.60	2.0-6.0	0.10-0.12	4.5-5.5	<2	Low-------	0.24			
	38-65	20-45	1.40-1.60	0.6-2.0	0.12-0.14	4.5-5.5	<2	Low-------	0.28			
	65-80	10-30	1.40-1.60	2.0-6.0	0.10-0.12	4.5-5.5	<2	Low-------	0.24			
38, 39----------	0-54	6-12	1.50-1.60	6.0-20	0.05-0.10	4.5-5.5	<2	Low-------	0.10	5	2	.5-3
Bonifay	54-80	15-35	1.60-1.70	0.2-0.6	0.10-0.15	4.5-5.5	<2	Low-------	0.24			
40----------	0-10	10-20	1.35-1.65	2.0-6.0	0.10-0.14	4.5-5.5	<2	Low-------	0.20	5	3	.5-2
Eunola	10-28	18-35	1.35-1.65	0.6-2.0	0.12-0.17	4.5-5.5	<2	Low-------	0.28			
	28-38	18-45	1.30-1.60	0.6-2.0	0.12-0.16	4.5-5.5	<2	Low-------	0.32			
	38-55	8-25	1.35-1.65	2.0-6.0	0.10-0.16	4.5-5.5	<2	Low-------	0.24			
	55-80	2-11	1.45-1.75	6.0-20	0.02-0.06	4.5-5.5	<2	Low-------	0.20			
41, 42----------	0-7	10-25	1.30-1.60	0.6-2.0	0.10-0.15	4.5-6.0	<2	Low-------	0.24	5	3	.5-1
Malbis	7-22	18-33	1.30-1.70	0.6-2.0	0.12-0.20	4.5-5.5	<2	Low-------	0.28			
	22-62	20-35	1.40-1.60	0.6-2.0	0.12-0.17	4.5-5.5	<2	Low-------	0.28			
	62-80	20-35	1.45-1.70	0.2-0.6	0.06-0.12	4.5-5.5	<2	Low-------	0.28			
43----------	0-57	1-10	1.40-1.55	6.0-20	0.02-0.04	3.5-6.5	<2	Low-------	0.10	5	1	1-2
Albany	57-72	1-20	1.50-1.70	2.0-6.0	0.08-0.10	3.5-6.0	<2	Low-------	0.20			
	72-80	13-35	1.55-1.65	0.2-2.0	0.10-0.16	3.5-6.0	<2	Low-------	0.24			

Table 13.--Physical and Chemical Properties of the Soils--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Salinity	Shrink-swell potential	Erosion factors		Wind erodibility group	Organic matter
									K	T		
	In	Pct	g/cc	In/hr	In/in	pH	mmhos/cm					Pct
44:												
Corolla---------	0-80	0-3	1.60-1.70	>20	0.01-0.03	5.6-7.8	<2	Low-------	0.10	5	1	0-.5
Urban land.												
45:												
Troup-----------	0-58	1-12	1.30-1.70	6.0-20	0.05-0.10	4.5-6.0	<2	Low-------	0.10	5	1	<1
	58-80	13-35	1.40-1.60	0.6-2.0	0.10-0.13	4.5-5.5	<2	Low-------	0.20			
Perdido---------	0-8	7-14	1.40-1.60	2.0-6.0	0.10-0.15	4.5-5.5	<2	Low-------	0.20	5	3	<2
	8-45	10-18	1.40-1.60	0.6-2.0	0.12-0.18	4.5-5.5	<2	Low-------	0.20			
	45-57	14-28	1.40-1.55	0.2-0.6	0.10-0.15	4.5-5.5	<2	Low-------	0.24			
	57-80	14-28	1.45-1.55	0.2-0.6	0.10-0.15	4.5-5.5	<2	Low-------	0.24			
46:												
Garcon----------	0-5	3-8	1.25-1.50	6.0-20	0.10-0.15	4.5-5.5	<2	Low-------	0.10	5	2	1-3
	5-27	3-8	1.40-1.65	6.0-20	0.05-0.10	4.5-5.5	<2	Low-------	0.10			
	27-57	12-30	1.55-1.70	0.6-2.0	0.10-0.15	4.5-5.5	<2	Low-------	0.24			
	57-80	3-6	1.50-1.70	6.0-20	0.05-0.08	4.5-5.5	<2	Low-------	0.10			
Bigbee----------	0-7	1-10	1.40-1.50	6.0-20	0.05-0.10	4.5-6.0	<2	Low-------	0.10	5	1	.5-2
	7-80	1-10	1.40-1.50	6.0-20	0.05-0.08	4.5-6.0	<2	Low-------	0.17			
Yemassee--------	0-12	5-15	1.40-1.60	6.0-20	0.06-0.11	3.5-6.0	<2	Low-------	0.15	5	2	.5-4
	12-48	18-35	1.30-1.50	0.6-2.0	0.11-0.18	3.5-5.5	<2	Low-------	0.20			
	48-74	12-40	1.30-1.50	0.6-2.0	0.11-0.17	3.5-5.5	<2	Low-------	0.20			
	74-80	---	---	---	---	---	---	----------	----			
47:												
Hurricane-------	0-5	1-4	1.40-1.60	>6.0	0.03-0.07	3.5-6.0	<2	Low-------	0.10	5	2	<2
	5-58	1-4	1.40-1.60	>6.0	0.03-0.07	3.5-6.0	<2	Low-------	0.10			
	58-70	2-8	1.55-1.65	2.0-6.0	0.10-0.15	4.5-6.0	<2	Low-------	0.15			
	70-80	1-4	1.40-1.60	2.0-20	0.03-0.10	4.5-6.0	<2	Low-------	0.10			
Albany----------	0-57	1-10	1.40-1.55	6.0-20	0.02-0.04	3.5-6.5	<2	Low-------	0.10	5	1	1-2
	57-72	1-20	1.50-1.70	2.0-6.0	0.08-0.10	3.5-6.0	<2	Low-------	0.20			
	72-80	13-35	1.55-1.65	0.2-2.0	0.10-0.16	3.5-6.0	<2	Low-------	0.24			
48:												
Pelham----------	0-5	3-10	1.25-1.50	6.0-20	0.05-0.10	3.5-5.5	<2	Low-------	0.10	5	1	1-2
	5-35	1-8	1.50-1.70	6.0-20	0.04-0.07	3.5-5.5	<2	Low-------	0.10			
	35-58	15-30	1.30-1.60	0.6-2.0	0.10-0.13	3.5-5.5	<2	Low-------	0.24			
	58-80	15-40	1.30-1.60	0.2-2.0	0.10-0.16	3.5-5.5	<2	Low-------	0.24			

Table 13.--Physical and Chemical Properties of the Soils--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Salinity	Shrink-swell potential	Erosion factors		Wind erodibility group	Organic matter
									K	T		
	In	Pct	g/cc	In/hr	In/in	pH	mmhos/cm					Pct
48:												
Yemassee--------	0-12	5-15	1.40-1.60	6.0-20	0.06-0.11	3.5-6.0	<2	Low-------	0.15	5	2	.5-4
	12-48	18-35	1.30-1.50	0.6-2.0	0.11-0.18	3.5-5.5	<2	Low-------	0.20			
	48-74	12-40	1.30-1.50	0.6-2.0	0.11-0.17	3.5-5.5	<2	Low-------	0.20			
	74-80	---	---	---	---	---	---	----------	----			
49:												
Dorovan---------	0-8	---	0.25-0.40	0.6-2.0	0.20-0.25	3.5-5.0	<2	----------	----	3	2	20-80
	8-80	---	0.35-0.55	0.6-2.0	0.20-0.25	3.5-5.0	<2	----------	----			
Fluvaquents-----	0-4	2-5	1.10-1.35	6.0-20	0.15-0.20	5.6-7.8	<2	Low-------	0.10	5	1	1-3
	4-25	8-18	1.35-1.55	0.6-2.0	0.06-0.14	6.6-7.8	<2	Low-------	0.24			
	25-40	8-30	1.35-1.55	0.6-0.6	0.06-0.14	5.6-7.8	<2	Low-------	0.24			
	40-80	1-4	1.45-1.65	6.0-20	0.02-0.10	5.6-7.8	<2	Low-------	0.17			
50:												
Bigbee----------	0-7	1-10	1.40-1.50	6.0-20	0.05-0.10	4.5-6.0	<2	Low-------	0.10	5	1	.5-2
	7-80	1-10	1.40-1.50	6.0-20	0.05-0.08	4.5-6.0	<2	Low-------	0.17			
Garcon----------	0-5	3-8	1.25-1.50	6.0-20	0.10-0.15	4.5-5.5	<2	Low-------	0.10	5	2	1-3
	5-27	3-8	1.40-1.65	6.0-20	0.05-0.10	4.5-5.5	<2	Low-------	0.10			
	27-57	12-30	1.55-1.70	0.6-2.0	0.10-0.15	4.5-5.5	<2	Low-------	0.24			
	57-80	3-6	1.50-1.70	6.0-20	0.05-0.08	4.5-5.5	<2	Low-------	0.10			
Fluvaquents-----	0-4	2-5	1.10-1.35	6.0-20	0.15-0.20	5.6-7.8	<2	Low-------	0.10	5	1	1-3
	4-25	8-18	1.35-1.55	0.6-2.0	0.06-0.14	6.6-7.8	<2	Low-------	0.24			
	25-40	8-30	1.35-1.55	0.6-0.6	0.06-0.14	5.6-7.8	<2	Low-------	0.24			
	40-80	1-4	1.45-1.65	6.0-20	0.02-0.10	5.6-7.8	<2	Low-------	0.17			
51----------	0-5	3-10	1.25-1.50	6.0-20	0.05-0.10	3.5-5.5	<2	Low-------	0.10	5	1	1-2
Pelham	5-35	1-8	1.50-1.70	6.0-20	0.04-0.07	3.5-5.5	<2	Low-------	0.10			
	58-80	15-40	1.30-1.60	0.2-2.0	0.10-0.16	3.5-5.5	<2	Low-------	0.24			
52----------	0-12	7-20	1.30-1.60	0.6-2.0	0.10-0.15	4.5-5.5	<2	Low-------	0.24	5	3	<1
Robertsdale	12-24	14-35	1.30-1.60	0.6-2.0	0.12-0.16	4.5-5.5	<2	Low-------	0.28			
	24-80	18-35	1.40-1.70	0.06-0.2	0.12-0.16	4.5-5.5	<2	Low-------	0.28			
54, 55, 56:												
Troup-----------	0-58	1-12	1.30-1.70	6.0-20	0.05-0.10	4.5-6.0	<2	Low-------	0.10	5	1	<1
	58-80	13-35	1.40-1.60	0.6-2.0	0.10-0.13	4.5-5.5	<2	Low-------	0.20			
Poarch----------	0-5	5-15	1.35-1.55	2.0-6.0	0.10-0.15	4.5-5.5	<2	Low-------	0.20	5	3	.5-1
	5-31	8-18	1.35-1.55	0.6-2.0	0.10-0.20	4.5-5.5	<2	Low-------	0.24			
	31-80	10-25	1.45-1.65	0.2-0.6	0.10-0.20	4.5-5.5	<2	Low-------	0.24			

Table 13.--Physical and Chemical Properties of the Soils--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Salinity	Shrink-swell potential	Erosion factors		Wind erodibility group	Organic matter
									K	T		
	In	Pct	g/cc	In/hr	In/in	pH	mmhos/cm					Pct
57:												
Cowarts	0-9	5-20	1.30-1.65	2.0-6.0	0.08-0.13	4.5-5.5	<2	Low	0.24	4	3	1-3
	9-32	10-30	1.30-1.50	0.6-2.0	0.10-0.16	4.5-5.5	<2	Low	0.28			
	32-80	18-35	1.65-1.80	0.06-0.6	0.10-0.14	4.5-5.5	<2	Low	0.24			
Troup	0-58	1-12	1.30-1.70	6.0-20	0.05-0.10	4.5-6.0	<2	Low	0.10	5	1	<1
	58-80	13-35	1.40-1.60	0.6-2.0	0.10-0.13	4.5-5.5	<2	Low	0.20			
58	0-10	10-20	1.35-1.65	2.0-6.0	0.10-0.14	4.5-5.5	<2	Low	0.20	5	3	.5-2
Eunola	10-28	18-35	1.35-1.65	0.6-2.0	0.12-0.17	4.5-5.5	<2	Low	0.28			
	28-50	18-45	1.30-1.60	0.6-2.0	0.12-0.16	4.5-5.5	<2	Low	0.32			
	50-80	2-11	1.45-1.75	6.0-20	0.02-0.06	4.5-5.5	<2	Low	0.20			
59, 60, 61	0-12	6-16	1.30-1.70	0.6-2.0	0.11-0.18	5.1-7.3	<2	Low	0.24	5	3	.5-2
Notcher	12-48	18-35	1.40-1.60	0.6-2.0	0.12-0.17	4.5-5.5	<2	Low	0.28			
	48-80	20-40	1.45-1.65	0.2-0.6	0.12-0.16	4.5-5.5	<2	Low	0.28			
62, 63	0-6	7-22	1.30-1.60	0.6-6.0	0.08-0.15	4.5-6.5	<2	Low	0.24	5	3	.5-1
Bama	6-56	18-32	1.40-1.55	0.6-2.0	0.12-0.18	4.5-6.5	<2	Low	0.32			
	56-80	20-35	1.40-1.60	0.6-2.0	0.12-0.18	4.5-6.5	<2	Low	0.32			
64, 65, 66	0-6	7-20	1.40-1.55	2.0-6.0	0.07-0.14	4.5-6.0	<2	Low	0.20	5	3	<2
Red Bay	6-15	10-25	1.30-1.60	0.6-6.0	0.10-0.14	4.5-6.0	<2	Low	0.15			
	15-72	18-35	1.30-1.50	0.6-2.0	0.12-0.17	4.5-5.5	<2	Low	0.17			
	72-80	20-45	1.40-1.60	0.6-2.0	0.11-0.14	4.5-5.5	<2	Low	0.24			
67:												
Notcher	0-12	6-16	1.30-1.70	0.6-2.0	0.11-0.18	5.1-7.3	<2	Low	0.24	5	3	.5-2
	12-48	18-35	1.40-1.60	0.6-2.0	0.12-0.17	4.5-5.5	<2	Low	0.28			
	48-80	20-40	1.45-1.65	0.2-0.6	0.12-0.16	4.5-5.5	<2	Low	0.28			
Maubila	0-9	8-18	1.45-1.65	2.0-6.0	0.08-0.12	3.5-5.5	<2	Low	0.24	4	3	.5-1
	9-16	20-35	1.40-1.60	0.2-0.6	0.10-0.15	3.5-5.5	<2	Moderate	0.28			
	16-80	35-55	1.40-1.65	0.06-0.2	0.12-0.18	3.5-5.5	<2	Moderate	0.32			
68:												
Notcher	0-12	6-16	1.30-1.70	0.6-2.0	0.11-0.18	5.1-7.3	<2	Low	0.24	5	3	.5-2
	12-48	18-35	1.40-1.60	0.6-2.0	0.12-0.17	4.5-5.5	<2	Low	0.28			
	48-80	20-40	1.45-1.65	0.2-0.6	0.12-0.16	4.5-5.5	<2	Low	0.28			
Maubila	0-9	8-18	1.45-1.65	2.0-6.0	0.08-0.12	3.5-5.5	<2	Low	0.24	4	3	.5-1
	9-16	20-35	1.40-1.60	0.2-0.6	0.10-0.15	3.5-5.5	<2	Moderate	0.28			
	16-80	35-55	1.40-1.65	0.06-0.2	0.12-0.18	3.5-5.5	<2	Moderate	0.32			

Table 13.--Physical and Chemical Properties of the Soils--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Salinity	Shrink-swell potential	Erosion factors		Wind erodibility group	Organic matter
									K	T		
	In	Pct	g/cc	In/hr	In/in	pH	mmhos/cm					Pct
69:												
Notcher---------	0-12	6-16	1.30-1.70	0.6-2.0	0.11-0.18	5.1-7.3	<2	Low-------	0.24	5	3	.5-2
	12-48	18-35	1.40-1.60	0.6-2.0	0.12-0.17	4.5-5.5	<2	Low-------	0.28			
	48-80	20-40	1.45-1.65	0.2-0.6	0.12-0.16	4.5-5.5	<2	Low-------	0.28			
Maubila---------	0-9	8-18	1.45-1.65	2.0-6.0	0.08-0.12	3.5-5.5	<2	Low-------	0.24	4	3	.5-1
	9-16	20-35	1.40-1.60	0.2-0.6	0.10-0.15	3.5-5.5	<2	Moderate	0.28			
	16-80	35-55	1.40-1.65	0.06-0.2	0.12-0.18	3.5-5.5	<2	Moderate	0.32			
70----------	0-10	8-20	1.40-1.65	2.0-6.0	0.11-0.20	3.5-6.0	<2	Low-------	0.28	5	3	.5-1
Izagora	10-28	18-30	1.40-1.60	0.6-2.0	0.12-0.20	3.5-5.5	<2	Low-------	0.32			
	28-80	35-55	1.30-1.60	0.06-0.2	0.16-0.20	3.5-5.5	<2	Moderate	0.32			
71----------	0-9	6-15	1.30-1.50	2.0-6.0	0.10-0.15	4.5-5.5	<2	Low-------	0.24	5	3	.5-2
Iuka	9-20	8-18	1.35-1.55	0.6-2.0	0.10-0.20	3.5-5.5	<2	Low-------	0.28			
	20-80	5-15	1.35-1.55	0.6-2.0	0.10-0.20	3.5-5.5	<2	Low-------	0.20			
72----------	0-12	10-20	1.30-1.60	2.0-6.0	0.10-0.15	3.5-6.0	<2	Low-------	0.20	5	3	.5-4
Yemassee	12-48	18-35	1.30-1.50	0.6-2.0	0.11-0.18	3.5-5.5	<2	Low-------	0.20			
	48-74	12-40	1.30-1.50	0.6-2.0	0.11-0.17	3.5-5.5	<2	Low-------	0.20			
	74-80	---	---	---	---	---	---	----------	----			
73----------	0-5	20-30	1.20-1.45	0.6-2.0	0.10-0.18	3.5-5.5	<2	Low-------	0.24	5	6	1-3
Grady	5-11	20-35	1.40-1.55	0.2-0.6	0.10-0.15	3.5-5.5	<2	Low-------	0.10			
	11-80	45-65	1.50-1.60	0.06-0.2	0.12-0.16	3.5-5.5	<2	Moderate	0.10			
74----------	0-26	1-12	1.30-1.70	6.0-20	0.08-0.12	5.1-6.0	<2	Low-------	0.10	5	2	.5-1
Lucy	26-38	10-30	1.40-1.60	2.0-6.0	0.10-0.12	4.5-5.5	<2	Low-------	0.24			
	38-65	20-45	1.40-1.60	0.6-2.0	0.12-0.14	4.5-5.5	<2	Low-------	0.28			
	65-80	10-30	1.40-1.60	2.0-6.0	0.10-0.12	4.5-5.5	<2	Low-------	0.24			
75----------	0-4	5-15	1.30-1.50	0.6-2.0	0.10-0.15	4.5-6.0	<2	Low-------	0.24	5	3	1-3
Weston	4-40	5-18	1.30-1.50	0.2-0.6	0.10-0.20	4.5-5.0	<2	Low-------	0.24			
	40-80	5-45	1.30-1.50	0.06-6.0	0.10-0.18	4.5-5.0	<2	Low-------	0.32			
76:												
Mantachie-------	0-6	8-20	1.50-1.60	0.6-2.0	0.16-0.20	4.5-5.5	<2	Low-------	0.28	5	3	1-3
	6-80	18-34	1.50-1.60	0.6-2.0	0.14-0.20	4.5-5.5	<2	Low-------	0.28			
Fluvaquents-----	0-4	2-5	1.10-1.35	6.0-20	0.15-0.20	5.6-7.8	<2	Low-------	0.10	5	1	1-3
	4-25	8-18	1.35-1.55	0.6-2.0	0.06-0.14	6.6-7.8	<2	Low-------	0.24			
	25-40	8-30	1.35-1.55	0.6-0.6	0.06-0.14	5.6-7.8	<2	Low-------	0.24			
	40-80	1-4	1.45-1.65	6.0-20	0.02-0.10	5.6-7.8	<2	Low-------	0.17			

Table 13.--Physical and Chemical Properties of the Soils--Continued

Soil name and map symbol	Depth	Clay	Moist bulk density	Permeability	Available water capacity	Soil reaction	Salinity	Shrink-swell potential	Erosion factors		Wind erodibility group	Organic matter
									K	T		
	In	Pct	g/cc	In/hr	In/in	pH	mmhos/cm					Pct
76:												
Bigbee----------	0-7	4-10	1.40-1.50	6.0-20	0.05-0.10	4.5-6.0	<2	Low-------	0.10	5	1	.5-2
	7-80	1-10	1.40-1.50	6.0-20	0.05-0.08	4.5-6.0	<2	Low-------	0.17			
77. Arents Water												
78----------	0-10	7-20	1.40-1.55	0.2-6.0	0.07-0.14	3.5-6.0	<2	Low-------	0.20	3	3	<2
Emory	10-24	10-25	1.30-1.60	0.6-2.0	0.10-0.14	3.5-5.5	<2	Low-------	0.15			
	24-80	18-45	1.30-1.60	0.6-2.0	0.12-0.15	3.5-5.5	<2	Low-------	0.17			

Table 14.--Soil and Water Features

("Flooding" and "water table" and terms such as "rare," "brief," "apparent," and "perched" are explained in the text. The symbol < means less than; > means more than. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Soil name and map symbol	Hydrologic group	Flooding			High water table			Subsidence		Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Initial	Total	Uncoated steel	Concrete
					Ft			In	In		
2---------- Duckston	A/D	Frequent----	Brief-----	Jan-Dec	0-0.5	Apparent	Jan-Dec	---	---	Low------	Low.
3:											
Corolla----------	D	Rare--------	---	---	1.5-3.0	Apparent	Jan-Dec	---	---	Low------	Low.
Duckston---------	A/D	Occasional--	Brief-----	Jan-Dec	0-0.5	Apparent	Jan-Dec	---	---	Low------	Low.
4---------- Pickney	A/D	None--------	---	---	0-0.5	Apparent	Dec-Jul	---	---	High-----	High.
5:											
Croatan----------	D	None--------	---	---	+1-0.5	Apparent	Dec-Jul	4-10	18-24	High-----	High.
Pickney----------	A/D	None--------	---	---	+1-0.5	Apparent	Dec-Jul	---	---	High-----	High.
6---------- Diregо	D	Very frequent.	Very brief	Jan-Dec	0-0.5	Apparent	Jan-Dec	16-20	16-40	High-----	High.
7---------- Kureb	A	None--------	---	---	>6.0	---	---	---	---	Low------	Low.
8:											
Newhan-----------	A	Rare--------	---	---	>6.0	---	---	---	---	High-----	Low.
Corolla----------	D	Rare--------	---	---	1.5-3.0	Apparent	Jan-Dec	---	---	Low------	Low.
9---------- Leon	D	None--------	---	---	0.5-1.5	Apparent	Dec-Apr	---	---	High-----	High.
10---------- Beaches	D	Very frequent.	Very brief	Jan-Dec	0-0.5	Apparent	Jan-Dec	---	---	High-----	High.
11---------- Hurricane	C	None--------	---	---	1.5-3.5	Apparent	Dec-Apr	---	---	Low------	Moderate.
12---------- Croatan	D	None--------	---	---	+1-0.5	Apparent	Dec-Jul	4-10	18-24	High-----	High.

Table 14.--Soil and Water Features--Continued

Soil name and map symbol	Hydrologic group	Flooding			High water table			Subsidence		Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Initial	Total	Uncoated steel	Concrete
					Ft			In	In		
13---------- Lakeland	A	None--------	---	---	>6.0	---	---	---	---	Low------	Moderate.
14:											
Allanton---------	B/D	None--------	---	---	0-0.5	Apparent	Dec-Apr	---	---	High-----	High.
Pottsburg--------	B/D	None--------	---	---	0.5-1.0	Apparent	Dec-Apr	---	---	High-----	High.
15---------- Resota	A	None--------	---	---	3.5-6.0	Apparent	Dec-Apr	---	---	Low------	High.
16:											
Arents-----------	C	None--------	---	---	Var.	---	Dec-Apr	---	---	High-----	Moderate.
Urban land-------	---	None--------	---	---	>6.0	---	---	---	---	Variable-	Variable
17---------- Kureb	A	None--------	---	---	>6.0	---	---	---	---	Low------	Low.
18---------- Pits	---	None--------	---	---	>6.0	---	---	---	---	Variable	Variable.
19---------- Foxworth	A	None--------	---	---	3.5-6.0	Apparent	Dec-Apr	---	---	Low------	Moderate.
20, 21---------- Lakeland	A	None--------	---	---	>6.0	---	---	---	---	Low------	Moderate.
22---------- Urban land	---	None--------	---	---	>6.0	---	---	---	---	Variable-	Variable.
24, 25, 26-------- Poarch	B	None--------	---	---	2.5-5.0	Perched	Dec-Apr	---	---	Low------	High.
27---------- Escambia	C	None--------	---	---	1.5-2.5	Apparent	Dec-Apr	---	---	Moderate	High.
28---------- Grady	D	None--------	---	---	+2-1.0	Apparent	Dec-Jul	---	---	High-----	High.
29, 30, 31-------- Perdido	B	None--------	---	---	4.0-6.0	Perched	Dec-Apr	---	---	Moderate	High.

Table 14.--Soil and Water Features--Continued

Soil name and map symbol	Hydrologic group	Flooding			High water table			Subsidence		Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Initial	Total	Uncoated steel	Concrete
					Ft			In	In		
32, 33, 34-------- Troup	A	None---------	---	---	>6.0	---	---	---	---	Low------	Moderate.
35, 36------------ Lucy	A	None---------	---	---	>6.0	---	---	---	---	Low------	High.
38, 39------------ Bonifay	A	None---------	---	---	3.5-5.0	Perched	Dec-Apr	---	---	Low------	High.
40---------------- Eunola	C	Occasional--	Brief-----	Jan-Sep	1.5-2.5	Apparent	Dec-Apr	---	---	Low------	High.
41, 42------------ Malbis	B	None---------	---	---	2.5-4.0	Perched	Dec-Apr	---	---	Moderate-	Moderate.
43---------------- Albany	C	None---------	---	---	1.0-2.5	Apparent	Dec-Apr	---	---	High-----	High.
44:											
Corolla-----------	D	Rare---------	---	---	1.5-3.0	Apparent	Jan-Dec	---	---	Low------	Low.
Urban land-------	---	Rare---------	---	---	>6.0	---	---	---	---	Variable	Variable
45:											
Troup------------	A	None---------	---	---	>6.0	---	---	---	---	Low------	Moderate.
Perdido-----------	B	None---------	---	---	4.0-6.0	Perched	Dec-Apr	---	---	Moderate	High.
46:											
Garcon------------	C	Occasional--	Brief-----	Jan-Sep	1.5-3.0	Apparent	Dec-Apr	---	---	High-----	High.
Bigbee------------	A	Occasional--	Brief-----	Jan-Sep	3.5-6.0	Apparent	Dec-Apr	---	---	Low------	Moderate.
Yemassee----------	C	Occasional--	Brief-----	Jan-Sep	1.0-1.5	Apparent	Dec-Apr	---	---	High-----	High.
47:											
Hurricane---------	C	Occasional--	Brief-----	Jan-Sep	1.5-3.5	Apparent	Dec-Apr	---	---	Low------	Moderate.
Albany------------	C	Occasional--	Brief-----	Jan-Sep	1.0-2.5	Apparent	Dec-Apr	---	---	High-----	High.
48:											
Pelham------------	B/D	Occasional--	Brief-----	Jan-Sep	0-0.5	Apparent	Dec-Apr	---	---	High-----	High.
Yemassee----------	C	Occasional--	Brief-----	Jan-Sep	1.0-1.5	Apparent	Dec-Apr	---	---	High-----	High.

Table 14.--Soil and Water Features--Continued

Soil name and map symbol	Hydrologic group	Flooding			High water table			Subsidence		Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Initial	Total	Uncoated steel	Concrete
					Ft			In	In		
49:											
Dorovan	D	Frequent	Very long	Jan-Sep	+2-0.5	Apparent	Dec-Jul	6-12	51-80	High	High.
Fluvaquents	D	Frequent	Very long	Jan-Sep	0-0.5	Apparent	Dec-Jul	---	---	High	Moderate.
50:											
Bigbee	A	Occasional	Brief	Jan-Sep	3.5-6.0	Apparent	Dec-Apr	---	---	Low	Moderate.
Garcon	C	Occasional	Brief	Jan-Sep	1.5-3.0	Apparent	Dec-Apr	---	---	High	High.
Fluvaquents	D	Occasional	Brief	Jan-Sep	+1-0.5	Apparent	Dec-Jul	---	---	High	Moderate.
51--Pelham	B/D	None	---	---	0-0.5	Apparent	Dec-Apr	---	---	High	High.
52--Robertsdale	C	None	---	---	1.0-2.5	Perched	Dec-Apr	---	---	High	Moderate.
54, 55, 56:											
Troup	A	None	---	---	>6.0	---	---	---	---	Low	Moderate.
Poarch	B	None	---	---	2.5-5.0	Perched	Dec-Apr	---	---	Low	High.
57:											
Cowarts	C	None	---	---	>6.0	---	---	---	---	Moderate	Moderate.
Troup	A	None	---	---	>6.0	---	---	---	---	Low	Moderate.
58--Eunola	C	Occasional	Brief	Jan-Sep	1.5-2.5	Apparent	Dec-Apr	---	---	Low	High.
59, 60, 61--Notcher	B	None	---	---	3.0-4.0	Perched	Dec-Apr	---	---	Moderate	High.
62, 63--Bama	B	None	---	---	>6.0	---	---	---	---	Low	Moderate.
64, 65, 66--Red Bay	B	None	---	---	>6.0	---	---	---	---	Moderate	Moderate.
67, 68, 69:											
Notcher	B	None	---	---	3.0-4.0	Perched	Dec-Apr	---	---	Moderate	High.
Maubila	C	None	---	---	2.0-3.5	Perched	Dec-Apr	---	---	High	High.

Table 14.--Soil and Water Features--Continued

Soil name and map symbol	Hydro-logic group	Flooding			High water table			Subsidence		Risk of corrosion	
		Frequency	Duration	Months	Depth	Kind	Months	Ini-tial	Total	Uncoated steel	Concrete
					Ft			In	In		
70---------- Izagora	C	Occasional--	Brief-----	Jan-Sep	2.0-3.0	Perched	Dec-Apr	---	---	Moderate	High.
71---------- Iuka	C	Frequent----	Brief-----	Jan-Sep	1.0-3.0	Apparent	Dec-Apr	---	---	Moderate	High.
72---------- Yemassee	C	Occasional--	Brief-----	Jan-Sep	1.0-1.5	Apparent	Dec-Apr	---	---	High-----	High.
73---------- Grady	D	None--------	---	---	1.0-2.0	Apparent	Dec-Apr	---	---	High-----	High.
74---------- Lucy	A	None--------	---	---	>6.0	---	---	---	---	Low------	High.
75---------- Weston	D	None--------	---	---	0-0.5	Apparent	Dec-Apr	---	---	High-----	High.
76:											
Mantachie--------	C	Frequent----	Brief-----	Jan-Sep	1.0-1.5	Apparent	Dec-Apr	---	---	High-----	High.
Fluvaquents------	D	Frequent----	Brief-----	Jan-Sep	0-0.5	Apparent	Dec-Jul	---	---	High-----	Moderate.
Bigbee-----------	A	Frequent----	Brief-----	Jan-Sep	3.5-6.0	Apparent	Dec-Apr	---	---	Low------	Moderate.
77:											
Arents-----------	C	None--------	---	---	Varies	---	Dec-Apr	---	---	High-----	Moderate.
Water.											
78---------- Emory	B	None--------	---	---	>6	---	---	---	---	Moderate-	Moderate.

Table 15.--Classification of the Soils

(An asterisk in the first column indicates that the soil is a taxadjunct to the series. See text for a description of those characteristics of the soil that are outside the range of the series.)

Soil name	Family or higher taxonomic class
Albany	Loamy, siliceous, subactive, thermic Grossarenic Paleudults
Allanton	Sandy, siliceous, thermic Grossarenic Alaquods
Arents	Arents
Bama	Fine-loamy, siliceous, subactive, thermic Typic Paleudults
Bigbee	Thermic, coated Typic Quartzipsamments
Bonifay	Loamy, siliceous, subactive, thermic Grossarenic Plinthic Paleudults
Corolla	Thermic, uncoated Aquic Quartzipsamments
Cowarts	Fine-loamy, kaolinitic, thermic Typic Kanhapludults
Croatan	Loamy, siliceous, dysic, thermic Terric Medisaprists
Direго	Sandy or sandy-skeletal, siliceous, euic, thermic Terric Sulfisaprists
Dorovan	Dysic, thermic Typic Medisaprists
Duckston	Siliceous, thermic Typic Psammaquents
*Emory	Fine-silty, siliceous, active, thermic Fluventic Umbric Dystrochrepts
Escambia	Coarse-loamy, siliceous, semiactive, thermic Plinthaquic Paleudults
Eunola	Fine-loamy, siliceous, semiactive, thermic Aquic Hapludults
Fluvaquents	Typic Fluvaquents
Foxworth	Thermic, coated Typic Quartzipsamments
Garcon	Loamy, siliceous, semiactive, thermic Aquic Arenic Hapludults
Grady	Fine, kaolinitic, thermic Typic Paleaquults
Hurricane	Sandy, siliceous, thermic Oxyaquic Alorthods
Iuka	Coarse-loamy, siliceous, active, acid, thermic Aquic Udifluvents
Izagora	Fine-loamy, siliceous, semiactive, thermic Aquic Paleudults
Kureb	Thermic, uncoated Spodic Quartzipsamments
Lakeland	Thermic, coated Typic Quartzipsamments
Leon	Sandy, siliceous, thermic Aeric Alaquods
Lucy	Loamy, kaolinitic, thermic Arenic Kandiudults
Malbis	Fine-loamy, siliceous, subactive, thermic Plinthic Paleudults
Mantachie	Fine-loamy, siliceous, active, acid, thermic Aeric Endoaquepts
Maubila	Fine, mixed, subactive, thermic Aquic Hapludults
Newhan	Thermic, uncoated Typic Quartzipsamments
Notcher	Fine-loamy, siliceous, subactive, thermic Plinthic Paleudults
Pelham	Loamy, siliceous, subactive, thermic Arenic Paleaquults
Perdido	Coarse-loamy, siliceous, subactive, thermic, Plinthic Paleudults
Pickney	Sandy, siliceous, thermic Cumulic Humaquepts
Poarch	Coarse-loamy, siliceous, semiactive, thermic Plinthic Paleudults
Pottsburg	Sandy, siliceous, thermic Grossarenic Alaquods
Red Bay	Fine-loamy, kaolinitic, thermic Rhodic Kandiudults
Resota	Thermic, uncoated Spodic Quartzipsamments
Robertsdale	Fine-loamy, siliceous, semiactive, thermic Plinthaquic Paleudults
Troup	Loamy, kaolinitic, thermic Grossarenic Kandiudults
Weston	Coarse-loamy, siliceous, semiactive, thermic Typic Endoaquults
Yemassee	Fine-loamy, siliceous, semiactive, thermic Aeric Endoaquults

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