United States Department of Agriculture
Natural Resources Conservation Service

In cooperation with Louisiana Agricultural Experiment Station and the Louisiana Soil and Water Conservation Committee

Soil Survey of Acadia Parish, Louisiana

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.

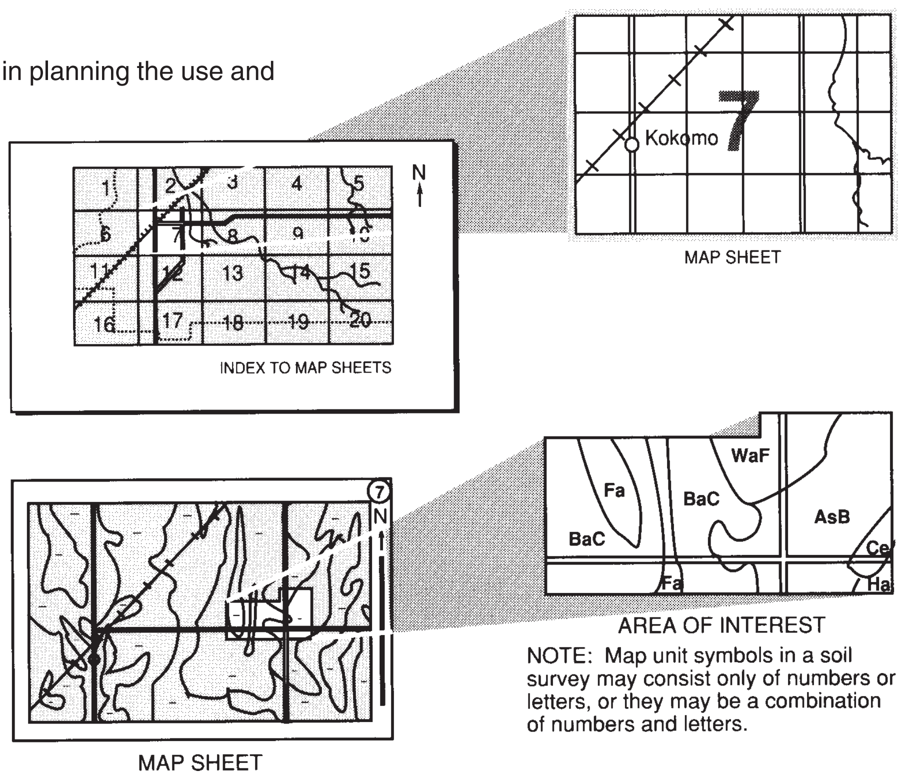
Detailed Soil Maps

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.



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 Station, and local agencies. The Natural Resources Conservation Service has leadership for the Federal part of the National Cooperative Soil Survey.

Major fieldwork for this soil survey was completed in 1996. Soil names and descriptions were approved in 2000. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 1996. This survey was made cooperatively by the Natural Resources Conservation Service and the Louisiana Agricultural Experiment Station and the Louisiana Soil and Water Conservation Committee. The survey is part of the technical assistance furnished to the Acadia Soil and Water Conservation District.

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

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410, or call (800) 795-3272 (voice) or (202) 795-6382 (TDD). USDA is an equal opportunity provider and employer.

Cover: Harvesting crawfish in a field of rice stubble in an area of Midland silty clay loam, 0 to 1 percent slopes.

Additional information about the Nation's natural resources is available on the Natural Resources Conservation Service homepage on the World Wide Web. The address is http://www.nrcs.usda.gov

Contents

Foreword

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

This soil survey is designed for many different users. Farmers, 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.

Donald W. Gohmert
State Conservationist
Natural Resources Conservation Service

Soil Survey of Acadia Parish, Louisiana

By Donald R. McDaniel, Gerald J. Trahan, Curtis L. Godfrey,
Natural Resources Conservation Service

United States Department of Agriculture, Natural Resources Conservation Service,
in cooperation with
the Louisiana Agricultural Experiment Station and Louisiana Soil and Water Conservation Committee

Acadia Parish, in southwestern Louisiana (fig. 1), has a total area of 420,400 acres. This parish is bordered on the north by Evangeline and St. Landry Parishes; on the west by Jefferson Davis Parish; on the south by Vermilion Parish; and on the east by Lafayette and St. Landry Parishes. According to the 1990 census, the parish population was 55,882. About 51 percent of the population is in rural areas. Land use is mainly agriculture. Approximately 65 percent of the land area is cropland, 9 percent is pastureland, and 16 percent is forestland.

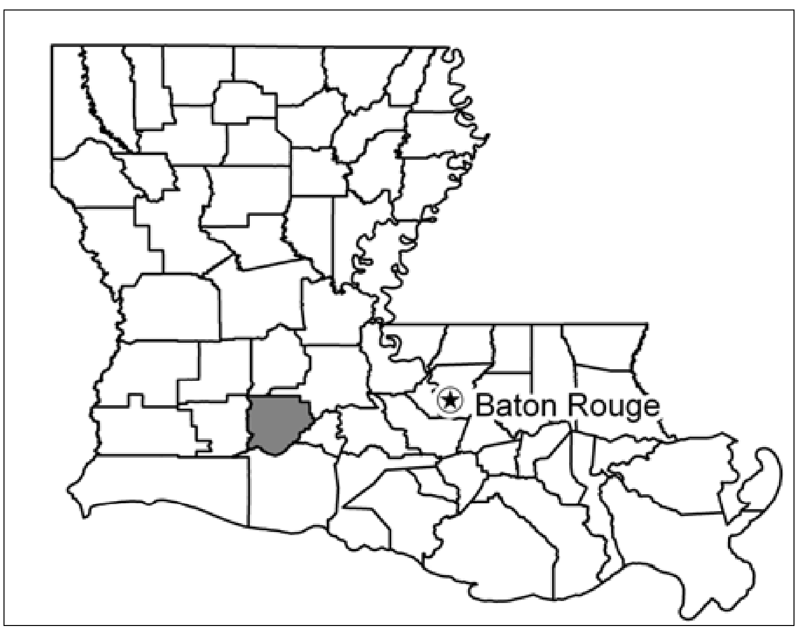


Figure 1.—Location of Acadia Parish, Louisiana.

The parish is made up of two Major Land Resource Areas (MLRAs). The Gulf Coast Prairie is used mainly as cropland and pastureland. The Southern Mississippi Valley Silty Uplands is also used mainly for cropland and pastureland. The soils of the Gulf Coast Prairie ranges from loamy to clayey and are dominantly poorly drained or somewhat poorly drained. The soils of the Southern Mississippi Valley Silty Uplands are loamy and dominantly poorly drained or somewhat poorly drained. Elevation ranges from about 55 feet above sea level in the northern part of the parish to less than 5 feet in the southern part.

This soil survey updates the survey of Acadia Parish published in 1962 (USDA, 1962). It provides additional information and has larger maps, which show the soils in greater detail.

General Nature of the Survey Area

This section gives general information concerning the survey area. It discusses climate, agriculture, history, transportation, and water resources.

Climate

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

Climate tables are created from climate station Crowley 2 NE, Louisiana. Thunderstorm days, relative humidity, percent sunshine, and wind information are estimated from First Order station Lake Charles, Louisiana.

Temperature and precipitation data for the survey area as recorded at the climate station Crowley 2 NE, LA cover the period 1931 to 2005. Table 1 shows data on temperature and precipitation for the survey area as recorded at Crowley 2 NE, LA, in the period 1971 to 2000. Table 2 shows probable dates of the first freeze in fall and the last freeze in spring. Table 3 shows data on length of the growing season.

In winter, the average temperature is 52 degrees F and the average daily minimum temperature is 42 degrees. The lowest temperature on record, which occurred on December 23, 1989, is 9 degrees. In summer, the average temperature is 81 degrees and the average daily maximum temperature is 90 degrees. The highest recorded temperature, which occurred at Crowley 2 NE on September 1, 2000, is 106 degrees.

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

The average annual total precipitation is about 60 inches. Of this, 49 inches, or 82 percent, usually falls in February through November. The growing season for most crops falls within this period. The heaviest 1-day rainfall during the period of record was 9.8 inches on August 9, 1940. Thunderstorms occur on about 76 days each year, and most occur in July.

The average seasonal snowfall is about 0.1 inches. The greatest snow depth at any one time during the period of record was 2 inches recorded on January 22, 1935.

The average relative humidity in mid-afternoon is about 71 percent. Humidity is higher at night, and the average at dawn is about 91 percent. The sun shines 79 percent of the time in summer and 57 percent in winter. The prevailing wind is from the south. Average wind speed is highest, 10.5 miles per hour, in March.

History

The earliest known inhabitants of the survey area were the Attakapas Indians. Twenty percent of the colonial landowners were Acadian exiles. Other nationalities represented among the early landowners were English, French, German, Irish, Italian, and Swiss. Five landowners were free Black men. Original land titles were acquired by purchase from the Attakapas Indians, by grant from the Spanish government, by request and order of survey, and by occupation and settlement.

Acadia became Louisiana's 59th parish on October 11, 1886, by official proclamation of S. D. McEnery, governor of Louisiana. It was carved out of a vast district designated as St. Landry, which is now occupied by eight parishes. On March 1, 1887, voters of the new parish selected Crowley, a new town not yet two months old, for the parish seat of government.

Branch, Acadia's oldest settlement, was known as Plaquemine Brulee for almost 100 years. Other early towns include Rayne, which was the only incorporated town at the time Acadia was carved out of St. Landry, Church Point, Prudhomme, and Pitreville.

On September 21, 1901, the first oil field in Louisiana was established in Acadia Parish and is currently known as the Jennings Oil and Gas Field. Agriculture has always been a major enterprise in Acadia parish. The number of parish residents employed in other industries, however, has increased dramatically in recent years.

Agriculture

Agriculture is important to the economy of Acadia Parish. According to the 1992 Census of Agriculture (USDA-NASS, 1992), 754 farms were in Acadia Parish. The value of the average farm, including land and buildings, was 325,986 dollars. The average size of a farm in 1987 was about 341 acres and by 1992 it had increased to about 355 acres. The average market value of agricultural products sold per farm in 1992 was 59,824 dollars.

The estimated gross value of all agricultural products in 1993 was approximately 57 million dollars. All crops, including forestry products, produced over 46 million dollars. Animal products made up about 5.6 million dollars of the gross agricultural value.

The beef industry is an important agricultural revenue-producing enterprise. In 1993, beef production was valued at 3.6 million dollars in Acadia Parish.

Fisheries and wildlife production produced about 4.6 million dollars, of which crayfish farming generated approximately 3.7 million dollars on 12,000 acres.

In 1992, according to the Census of Agriculture, 239,179 acres were used for cropland, of which 176,189 acres were harvested. The major crops are rice and soybeans, and other crops of limited extent grown are grain sorghum, wheat, sweet potatoes, cotton, corn, and sugarcane.

Transportation

Interstate 10, U.S. Highway 90 and many hard-surfaced state and parish highways serve Acadia Parish. Interstate 10 and U.S. Highway 90 cross the parish in an east-west direction. Louisiana Highway 13 crosses the central portion of the parish in a north-south direction.

The parish is served by Missouri Pacific and Southern Pacific railroads. Amtrak also provides east-west passenger rail service. An airport near the town of Estherwood serves small private and commercial aircraft.

Water Resources

Dan Tomaszewski and Josh Gilbert, U.S. Geological Survey, Baton Rouge, Louisiana, prepared this section.

Ground Water

Fresh ground water in Acadia Parish is contained in the Chicot Aquifer. The base of the Chicot aquifer ranges in depth from about 400 feet below sea level in extreme northwest Acadia Parish to about 1,000 feet below sea level in southern parts of the parish. Fresh water is contained to depths of 400 feet below sea level in extreme northwest Acadia Parish to a maximum depth of about 900 feet below sea level in central areas of the parish.

In 1990 about 125 Mgal/d (million gallons per day) of ground water were withdrawn from the Chicot aquifer in Acadia Parish. Major water use included about 81 Mgal/d for rice irrigation and 36 Mgal/d for aquaculture. About 4 Mgal/d were used for public supply. Water levels in the Chicot aquifer ranges from about 20 feet below sea level in southern parts of the parish to about 35 feet below sea level in northeastern parts. At present no major declines in water levels are occurring in response to ground-water withdrawals.

The Chicot aquifer has been subdivided into three aquifer units in Acadia Parish; the undifferentiated, the lower sand, and the upper sand. The three units are hydrologically similar; however, the upper sand unit and the undifferentiated sand unit generally contain fresh water throughout the parish (the upper sand unit contains salt water at the extreme southwestern border of Acadia and Vermilion Parishes). Although the lower sand unit of the Chicot aquifer extends to 1,000 feet or more below sea level in southern Acadia Parish, the lower unit contains salt water at the base of the sand.

In Acadia Parish the Chicot aquifer is capable of supplying large quantities of water. Wells commonly yield 500 to 2,500 gallons per minute; however, a few large capacity wells yield 4,000 gallons per minute. Fresh water from these wells is a calcium bicarbonate type. Fresh ground water in the Chicot aquifer is hard and suitable for industrial and public supply uses, although it may need treatment for various minerals including iron and manganese.

Surface Water

The major streams in the parish are the Mermentau River, and Bayous Nezpique, Plaquemine Brule, Des Cannes, and Que de Tortue. The parish has low topographic relief and is bordered by the Mermentau River and Bayou Nezpique on the west and by Bayou Que de Tortue to the south and east. The general direction of flow is southerly for stream reaches in the northern part of the parish, while streams in the southern part of the parish generally exhibit bi-directional flow patterns. The occurrence of bi-directional flow is commonly observed in Bayou Que de Tortue.

The headwaters of Bayou Des Cannes are near Eunice, in the northern part of the parish. Since 1938, the maximum observed discharge was 11,900 cubic feet per second, which occurred in May of 1953 as the result of historic record rainfall.

The Mermentau River at Mermentau represents the combined flow from Bayous Des Cannes, Nezpique, and Plaquemine Brule, which includes the drainage of about 75 percent of the parish. During 1994 the maximum discharge was 10,500 cubic feet per second.

Flooding problems in the parish are closely related to tropical storm and hurricane events. Flooding in the southern part of the parish is generally the result of hurricane tidal surges. The low topographic relief of the northern parts of the parish makes many areas prone to flooding from the intense rainfall that generally accompanies storms from the Gulf of Mexico.

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

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

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

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

General Soil Map Units

The general soil map 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.

Soils on Terrace Uplands

The five map units in this group consist mainly of poorly drained or somewhat poorly drained loamy and clayey soils. These soils are mainly on broad slightly convex ridges, on side slopes, in broad depressional areas, and along small drainageways. Slope ranges from 0 to 3 percent.

The map units make up about 91.9 percent of the land area. Most of the acreage is in crops, forestland, and pasture. A small percentage of acreage is in urban and built-up areas. Wetness is the main limitation for most uses. Wetness, low strength, high shrink-swell potential, very slow permeability, and the hazard of flooding are limitations for most urban uses.

1—Crowley-Mowata-Midland

Level to gently sloping, poorly drained or somewhat poorly drained soils that have a loamy surface layer and a clayey subsoil

Setting

Landform: Stream terrace
Position on landform: The Crowley soil (fig. 2) is on broad, slightly convex ridges and side slopes; the Mowata and Midland soils are on low, broad, slightly concave flats and along drainageways
Slope: 0 to 3 percent

Typical Profile

Crowley

Surface layer: Dark grayish brown silt loam
Subsurface layer: Light brownish gray silt loam

Figure 2.—Soil leveling for irrigation water management in an area of Crowley silt loam, 0 to 1 percent slopes. This is a common cultural practice for rice production.

Subsoil layer: Grayish brown silty clay in the upper part; light brownish gray and light olive gray silty clay loam in the middle part; gray and light brownish gray silty clay in the lower part

Soil Properties and Qualities

Mowata

Surface layer: Dark grayish brown silt loam
Subsurface layer: Grayish brown silt loam
Subsoil layer: Dark grayish brown silty clay loam and grayish brown silt loam in the upper part; grayish brown silty clay in the middle part; gray silty clay in the lower part

Midland

Surface layer: Dark grayish brown silty clay loam
Subsoil layer: Dark gray silty clay in the upper part and gray silty clay in the middle and lower parts

Crowley

Depth class: Very deep
Drainage class: Somewhat poorly drained
Water table: Perched at a depth of 0.5 to 1.5 feet, mostly from December to April
Flooding: None
Permeability class: Very slow
Available water capacity: Very high
Natural soil fertility: Medium
Shrink-swell potential: High
Slope: Nearly level to gently sloping

Mowata

Depth class: Very deep
Drainage class: Poorly drained
Water table: Apparent at the surface to a depth of 2 feet, mostly from December to April
Flooding: Rare or occasional
Permeability class: Very slow
Available water capacity: High
Natural soil fertility: Medium
Shrink-swell potential: High
Slope: Level and nearly level

Midland soil:

Depth class: Very deep
Drainage class: Poorly drained
Water table: Apparent at a depth of 0.5 to 2 feet, mostly from December to April
Flooding: Rare or occasional
Permeability class: Very slow
Available water capacity: High
Natural soil fertility: Medium
Shrink-swell potential: High
Slope: Level and nearly level

Composition

Percent of the survey area: 33.8 percent
Crowley soils: 79.2 percent
Mowata soils: 7.5 percent
Midland soils: 6.0 percent
Minor soils: 7.3 percent

Minor Soils

Acadiana, Basile, Frost, Kaplan, Kinder, Patoutville, and Vidrine

The moderately well drained Acadiana soils are on side slopes along drainageways. The poorly drained Basile soils are on flood plains of drainageways. The poorly drained Frost soils are on similar positions to the Midland and Mowata soils. The somewhat poorly drained Kaplan soils are on similar positions to the Crowley soils. The poorly drained Kinder and the moderately well to somewhat poorly drained Vidrine soils are at lower elevations. The Vidrine soils are on circular mounds. The Kinder soils are on broad flats between mounds. The Patoutville soils are on higher positions than the Crowley soils and are loamy throughout.

Land Use

Dominant uses: Cropland
Other uses: Pasture; crayfish farming

Cropland

Suitability: Well suited to rice; moderately well suited to soybeans and other crops
Management concerns: Wetness, medium fertility, flooding, and the hazard of erosion

Pasture and hayland

Suitability: Well suited.
Management concerns: Wetness, medium fertility, flooding, and the hazard of erosion

Forestland

Suitability: Moderately well suited
Management concerns: Equipment use limitations and plant competition because of wetness and flooding

Wildlife habitat

Suitability for wetland wildlife: Good
Suitability for forestland wildlife: Fair
Adapted species: Waterfowl, doves, quail, rabbits, and other small furbearers

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Wetness, percs slowly, flooding

Dwellings without basements

Limitation rating: Severe
Limitations: Wetness, shrink-swell, flooding

Local roads and streets

Limitation rating: Severe
Limitations: Shrink-swell, low strength, wetness, flooding

Lawns, landscaping, and golf fairways

Limitation rating: Severe
Limitations: Wetness

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Flooding, wetness, percs slowly

Playgrounds

Limitation rating: Severe
Limitations: Wetness, percs slowly

2—Patoutville-Jeanerette-Crowley

Level to gently sloping, somewhat poorly drained soils that have a loamy surface layer and a loamy or clayey subsoil

Setting

Landform: Stream terrace
Position on landform: The Patoutville soil is on broad slightly convex ridges and side slopes; the Jeanerette soil is on broad flats and along small drainageways; and the Crowley soil is on broad slightly convex ridges, on side slopes, and in slightly lower positions with Patoutville soils in a complex
Slope: 0 to 3 percent

Typical Profile

Patoutville

Surface layer: Grayish brown silt
Subsoil layer: Dark grayish brown and brown silt loam and silty clay loam in the upper part; light brownish gray and grayish brown silt loam in the middle part; variegated yellowish brown, brownish yellow, and gray silt loam in the lower part

Jeanerette

Surface layer: Very dark grayish brown silt loam
Subsoil layer: Very dark gray silt loam and silty clay loam in the upper part; gray silty clay loam in the middle part; light brownish gray silty clay loam in the lower part

Crowley

Surface layer: Dark grayish brown silt loam
Subsurface layer: Light brownish gray silt loam
Subsoil layer: Grayish brown silty clay in the upper part; light brownish gray and light olive gray silty clay loam in the middle part; gray and light brownish gray silty clay in the lower part

Soil Properties and Qualities

Patoutville

Depth class: Very deep
Drainage class: Somewhat poorly drained
Water table: Perched at a depth of 0.5 to 3 feet, mostly from December to May
Flooding: None
Permeability class: Slow
Available water capacity: Very high
Natural soil fertility: Medium
Shrink-swell potential: Moderate
Slope: Level to gently sloping

Jeanerette

Depth class: Very deep
Drainage class: Somewhat poorly drained
Water table: Apparent at a depth of 1 to 2.5 feet, mostly from December to April
Flooding: Rarely flooded
Permeability class: Moderately slow
Available water capacity: High
Natural soil fertility: High
Shrink-swell potential: Moderate
Slope: Level and nearly level

Crowley

Depth class: Very deep
Drainage class: Somewhat poorly drained
Water table: Perched at a depth of 0.5 to 1.5 feet, mostly from December to April
Flooding: None
Permeability class: Very slow
Available water capacity: Very high
Natural soil fertility: Medium
Shrink-swell potential: High
Slope: Level to gently sloping

Composition

Percent of the survey area: 28.3 percent
Patoutville soils: 49.2 percent
Jeanerette soils: 22.9 percent
Crowley soils: 11.7 percent
Minor soils: 16.2 percent

Minor Soils

Duson, Frost, Judice, Midland, and Mowata

The somewhat poorly drained Duson soils are on convex ridges and side slopes along drainageways. The poorly drained Frost, Judice, Midland, and Mowata soils are on broad flats and along drainageways. The Frost and Mowata soils have a glossic subsurface layer that extends into the subsoil. The Judice and Midland soils have a loamy surface layer and clayey subsoil.

Land Use

Dominant uses: Cropland
Other uses: Pasture; crayfish farming

Cropland

Suitability: Well suited to rice and moderately well suited to soybeans and other crops
Management concerns: Wetness, medium fertility, the hazard of erosion

Pasture and hayland

Suitability: Well suited
Management concerns: Wetness, medium fertility, the hazard of erosion

Forestland

Suitability: Moderately well suited
Management concerns: Equipment use limitations and plant competition because of wetness

Wildlife habitat

Suitability for wetland wildlife: Fair
Suitability for forestland wildlife: Good
Adapted species: Waterfowl, doves, quail, rabbits, and other small furbearers

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Wetness, percs slowly

Dwellings without basements

Limitation rating: Severe
Limitations: Wetness, flooding, shrink-swell

Local roads and streets

Limitation rating: Severe
Limitations: Low strength, wetness, shrink-swell

Lawns, landscaping, and golf fairways

Limitation rating: Severe
Limitations: Wetness

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Flooding, wetness, percs slowly

Playgrounds

Limitation rating: Severe
Limitations: Wetness, percs slowly

3—Kinder-Acadiana-Vidrine

Level to gently sloping, poorly drained to moderately well drained soils that have a loamy surface layer and a loamy or clayey subsoil

Setting

Landform: Stream terrace
Position on landform: The Kinder soil is on broad flats and depressions; the Acadiana soil is on convex side slopes; and the Vidrine soil is on convex circular mounds
Slope: 0 to 3 percent

Typical Profile

Kinder

Surface layer: Dark grayish brown silt loam
Subsurface layer: Light brownish gray silt loam
Subsoil layer: Grayish brown silty clay loam and light brownish gray silt loam in the upper part; grayish brown and light olive gray silty clay loam and grayish brown clay loam in the middle part; variegated olive gray, reddish brown, and light brownish gray silty clay in the lower part

Acadiana

Surface layer: Dark grayish brown silt loam
Subsurface layer: Light yellowish brown silt loam
Subsoil layer: Yellowish brown loam, yellowish brown clay and pale brown silt loam in the upper part; variegated brown, red, and light brownish gray clay in the middle part; dark brown, red, and light olive gray clay in the lower part

Vidrine

Surface layer: Dark grayish brown silt loam
Subsoil layer: Light yellowish brown silt loam in the upper part; pale brown silty clay loam and light brownish gray silty clay in the middle part; light gray silty clay loam and clay loam in the lower part

Soil Properties and Qualities

Kinder

Depth class: Very deep
Drainage class: Poorly drained
Water table: Perched at the surface to a depth of 2 feet, mostly from December to April
Flooding: Rarely flooded

Permeability class: Slow
Available water capacity: High
Natural soil fertility: Low
Shrink-swell potential: Moderate
Slope: Level and nearly level

Acadiana

Depth class: Very deep
Drainage class: Moderately well drained
Water table: Perched at a depth of 1 to 3 feet, mostly from December to April
Flooding: None
Permeability class: Very slow
Available water capacity: High
Natural soil fertility: Low
Shrink-swell potential: High
Slope: Gently sloping

Vidrine

Depth class: Very deep
Drainage class: Somewhat poorly drained and moderately well drained
Water table: Perched at a depth of 1 to 3 feet, mostly from December to April,
Flooding: None
Permeability class: Slow
Available water capacity: Very high
Natural soil fertility: Medium
Shrink-swell potential: High
Slope: Nearly level to gently sloping

Composition

Percent of the survey area: 20.5 percent
Kinder soils: 47.4 percent
Acadiana soils: 21.7 percent
Vidrine soils: 11.9 percent
Minor soils: 19 percent

Minor Soils

Barbary, Brule, Crowley, Iota, and Kaplan; also included are a few areas of Acadiana soils on slopes up to 5 percent

The very poorly drained Barbary soils are in backswamps at lower elevations and are fluid mineral soils. The poorly drained Basile and the moderately well drained Brule soils are on flood plains of drainageways. The somewhat poorly drained Crowley soils are on convex ridges at slightly higher elevations. The well drained Iota soils are on side slopes. The somewhat poorly drained Kaplan soils are on side slopes.

Land Use

Dominant uses: Forestland
Other uses: Pasture; cropland

Cropland

Suitability: Well suited to rice; moderately well suited to soybeans and other crops
Management concerns: Wetness, low fertility, the hazard of erosion

Pasture and hayland

Suitability: Moderately well suited
Management concerns: Wetness, low fertility, the hazard of erosion

Forestland

Suitability: Moderately well suited
Management concerns: Equipment use limitations and plant competition because of wetness

Wildlife habitat

Suitability for wetland wildlife: good for the Kinder soil; fair for the Acadiana soil; and fair for the Vidrine soil
Suitability for forestland wildlife: Good
Adapted species: Deer, ducks, squirrels, rabbits, and other small furbearers

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Wetness, percs slowly

Dwellings without basements

Limitation rating: Severe
Limitations: Wetness for the Kinder soil; wetness, shrink-swell for the Acadiana and Vidrine soils

Local roads and streets

Limitation rating: Severe
Limitations: Low strength, wetness, shrink-swell

Lawns, landscaping, and golf fairways

Limitation rating: Severe for the Kinder and Acadiana soils; moderate for the Vidrine soil.
Limitations: Wetness

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Wetness, percs slowly

Playgrounds

Limitation rating: Severe
Limitations: Wetness, percs slowly

4—Midland-Crowley

Level to gently sloping, poorly drained and somewhat poorly drained soils that have a loamy surface layer and a clayey subsoil

Setting

Landform: Stream terrace
Position on landform: The Midland soil is on low, broad, slightly concave flats and along drainageways; the Crowley soil is on broad, slightly convex ridges and side slopes
Slope: 0 to 3 percent

Typical Profile

Midland

Surface layer: Dark grayish brown silty clay loam
Subsoil layer: Dark gray silty clay in the upper part and gray silty clay in the middle and lower parts

Crowley

Surface layer: Dark grayish brown silt loam
Subsurface layer: Light brownish gray silt loam
Subsoil layer: Grayish brown silty clay in the upper part; light brownish gray and light olive gray silty clay loam in the middle part; gray and light brownish gray silty clay in the lower part

Soil Properties and Qualities

Midland

Depth class: Very deep
Drainage class: Poorly drained
Water table: Apparent at a depth of 0.5 to 2 feet, mostly from December to April
Flooding: Rare or occasional
Permeability class: Very slow
Available water capacity: High
Natural soil fertility: Medium
Shrink-swell potential: High
Slope: Level and nearly level

Crowley

Depth class: Very deep
Drainage class: Somewhat poorly drained
Water table: Perched at a depth of 0.5 to 1.5 feet, mostly from December to April
Flooding: None
Permeability class: Very slow
Available water capacity: Very high
Natural soil fertility: Medium
Shrink-swell potential: High
Slope: Level to gently sloping

Composition

Percent of the survey area: 8.7 percent
Midland soils: 62.1 percent
Crowley soils: 25.9 percent
Minor soils: 12 percent

Minor Soils

Acadiana, Basile, Kaplan, Kinder, and Mowata

The moderately well drained Acadiana and the somewhat poorly drained Kaplan soils are on side slopes along drainageways. The poorly drained Basile soils are on flood plains of drainageways. The poorly drained Kinder soils are on broad flats at lower elevations and are loamy throughout. The poorly drained Mowata soils are on similar positions to the Midland soils.

Land Use

Dominant uses: Cropland
Other uses: Pasture; crayfish farming

Cropland

Suitability: Well suited to rice, and moderately well suited to soybeans and other crops
Management concerns: Wetness, medium fertility, flooding, the hazard of erosion

Pasture and hayland

Suitability: Moderately well suited
Management concerns: Wetness, medium fertility, the hazard of erosion

Forestland

Suitability: Moderately well suited
Management concerns: Equipment use limitations and plant competition because of wetness and flooding.

Wildlife habitat

Suitability for wetland wildlife: Good
Suitability for forestland wildlife: Fair
Adapted species: Waterfowl, doves, quail, rabbits, and other small furbearers

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Flooding, wetness, percs slowly

Dwellings without basements

Limitation rating: Severe
Limitations: Flooding, wetness, shrink-swell

Local roads and streets

Limitation rating: Severe
Limitations: Shrink-swell, low strength, flooding, and wetness

Lawns, landscaping, and golf fairways

Limitation rating: Severe
Limitations: Wetness

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Flooding, wetness, percs slowly

Playgrounds

Limitation rating: Severe
Limitations: Wetness, percs slowly

5—Kaplan

Level to gently sloping, somewhat poorly drained soils that have a loamy surface layer and a clayey subsoil

Setting

Landform: Stream terrace
Position on landform: Broad, slightly convex ridges
Slope: 0 to 3 percent

Typical Profile

Kaplan

Surface layer: Dark grayish brown silt loam
Subsoil layer: Dark grayish brown silty clay and silty clay loam in the upper part; yellowish brown silty clay and light brownish gray silty clay loam in the middle part; gray and light olive gray silty clay in the lower part

Soil Properties and Qualities

Kaplan

Depth class: Very deep
Drainage class: Somewhat poorly drained
Water table: Apparent at a depth of 1.5 to 2.5 feet, mostly from December to April
Flooding: None
Permeability class: Slow
Available water capacity: High
Natural soil fertility: Medium
Shrink-swell potential: High
Slope: Level to gently sloping

Composition

Percent of the survey area: 0.6 percent
Kaplan soils: 86 percent
Minor soils: 14 percent

Minor soils

Basile, Crowley, Midland, and Mowata soils

The poorly drained Basile soils are on flood plains of drainageways. The somewhat poorly drained Crowley soils are in positions similar to the Kaplan soils. The poorly drained Midland and Mowata soils are on lower positions than the Kaplan soils.

Land Use

Dominant uses: Cropland
Other uses: Pasture; crayfish farming

Cropland

Suitability: Well suited to rice; moderately well suited to soybeans and other crops
Management concerns: Wetness, medium fertility

Pasture and hayland

Suitability: Well suited
Management concerns: Wetness, medium fertility

Forestland

Suitability: Moderately well suited
Management concerns: Equipment use limitations and plant competition because of wetness

Wildlife habitat

Suitability for wetland wildlife: Good
Suitability for forestland wildlife: Fair
Adapted species: Waterfowl, doves, quail, rabbits, and other small furbearers

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Wetness, percs slowly

Dwellings without basements

Limitation rating: Severe
Limitations: Shrink-swell

Local roads and streets

Limitation rating: Severe
Limitations: Shrink-swell, low strength

Lawns, landscaping, and golf fairways

Limitation rating: Moderate
Limitations: Wetness

Recreational Use

Camp and picnic areas

Limitation rating: Moderate
Limitations: Wetness, percs slowly

Playgrounds

Limitation rating: Moderate
Limitations: Wetness, percs slowly

Soils on Flood Plains and in Swamps that are Frequently Flooded or Ponded

These are mainly level to gently sloping, poorly drained to moderately well drained loamy soils on flood plains and level, very poorly drained, very fluid, clayey soils in swamps. These soils are frequently flooded or ponded most of the time. Slope ranges from 0 to 3 percent.

These soils make up about 8.1 percent of the land area. Most of the acreage supports native vegetation and is used as forestland, recreation areas, or as habitat for wetland and forestland wildlife. A small percentage of acreage is used as pasture. The soils are generally not suited or poorly suited to cropland, pasture, urban uses, or intensive recreation uses. Wetness, flooding, and ponding are the main limitations for most uses

6—Basile-Brule

Level to gently sloping, poorly drained to moderately well drained soils that have a loamy surface layer and a loamy subsoil

Setting

Landform: Flood plain
Position on landform: The Basile soils are in swales; and the Brule soils are on low convex ridges
Slope: 0 to 2 percent

Typical Profile

Basile

Surface layer: Dark grayish brown silt loam
Subsurface layer: Grayish brown silt loam
Subsoil layer: Light brownish gray silty clay loam in the upper part; olive gray silty clay loam in the middle part; light brownish gray silt loam in the lower part

Brule

Surface layer: Dark gray silty clay loam
Subsurface layer: Dark grayish brown silty clay loam
Subsoil layer: Brown, dark yellowish brown, and yellowish brown silt loam and silty clay loam in the upper part; light yellowish brown, yellowish brown, light brownish gray, and light gray silt in the middle part; light brownish gray and light gray silt loam in the lower part

Soil Properties and Qualities

Basile

Depth class: Very deep
Drainage class: Poorly drained
Water table: Apparent at the surface to a depth of 1.5 feet, mostly from December to April
Flooding: Frequent
Permeability class: Slow
Available water capacity: High
Natural soil fertility: Medium
Shrink-swell potential: Moderate
Slope: Level and nearly level

Brule

Depth class: Very deep
Drainage class: Moderately well drained
Water table: Apparent at a depth of 2.5 to 4.0 feet, mostly from December to April
Flooding: Frequent
Permeability class: Moderate
Available water capacity: High
Natural soil fertility: Low
Shrink-swell potential: Low
Slope: Nearly Level to very gently sloping

Composition

Percent of the survey area: 4.9 percent
Basile soils: 61.7 percent

Brule soils: 15.4 percent
Minor soils: 22.9 percent, which includes 3.6 percent water areas

Minor Soils

Acadiana, Barbary, Iota, Kinder, and Vidrine soils

The Barbary soils are in swamps at lower elevations and are fluid, mineral soils. The Acadia, Iota, Kinder, and Vidrine soils are at higher elevations and do not flood.

Land Use

Dominant uses: Forestland
Other uses: Wildlife; pasture

Cropland

Suitability: Not suited
Management concerns: Flooding

Pasture and hayland

Suitability: Poorly suited
Management concerns: Wetness, flooding, low fertility

Forestland

Suitability: Moderately well suited
Management concerns: Seedling mortality, equipment limitations, and plant competition because of wetness and flooding

Wildlife habitat

Suitability for wetland wildlife: good for the Basile soil; very poor for the Brule soil
Suitability for forestland wildlife: fair for the Basile soil; good for the Brule soil
Adapted species: Deer, squirrel, rabbits, wood ducks, and other small furbearers

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Flooding, wetness, percs slowly

Dwellings without basements

Limitation rating: Severe
Limitations: Flooding, wetness

Local roads and streets

Limitation rating: Severe
Limitations: Low strength, wetness, flooding

Lawns, landscaping, and golf fairways

Limitation rating: Severe
Limitations: Wetness, flooding

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Flooding, wetness

Playgrounds

Limitation rating: Severe
Limitations: Wetness, flooding

7—Barbary-Basile

Level and nearly level, very poorly drained and poorly drained soils that have a clayey or loamy surface layer and a very fluid, clayey underlying material or a loamy subsoil

Setting

Landform: Flood plain
Position on landform: The Barbary soil is on low, broad, ponded backswamps; the Basile soil is along drainageways
Slope: 0 to 1 percent

Typical Profile

Barbary

Surface layer: Very dark grayish brown mucky clay, very fluid
Underlying material layer: Dark gray, very fluid clay

Basile

Surface layer: Dark grayish brown silt loam
Subsurface layer: Grayish brown silt loam
Subsoil layer: Light brownish gray silty clay loam in the upper part; olive gray silty clay loam in the middle part; light brownish gray silt loam in the lower part

Soil Properties and Qualities

Barbary

Depth class: Very deep
Drainage class: Very poorly drained
Water table: Apparent at the surface to greater than 6 feet, January to December
Ponding: From 3 feet above the surface to the surface, January to December
Flooding: Frequent
Permeability class: Very slow
Available water capacity: High
Natural soil fertility: High
Shrink-swell potential: Low
Slope: Level and nearly level

Basile

Depth class: Very deep
Drainage class: Poorly drained
Water table: Apparent at the surface to a depth of 1.5 feet, mostly from December to May
Flooding: Frequent
Permeability class: Slow
Available water capacity: High
Natural soil fertility: medium
Shrink-swell potential: moderate
Slope: Level and nearly level

Composition

Percent of the survey area: 3.2 percent

Barbary soils: 62 percent
Basile soils: 8.2 percent
Minor soils: 29.8 percent, which includes 7 percent water areas

Minor Soils

Aquents, Crowley, Iota, Kaplan, Kinder, and Vidrine soils

Aquents soils are formed in spoil material dredged during the maintenance of waterways, are level to gently sloping, are poorly drained, and subject to frequent flooding. The other soils are on higher elevations and do not flood.

Land Use

Dominant uses: Forestland
Other uses: Wildlife, recreation

Cropland

Suitability: Not suited
Management concerns: Flooding, ponding

Pasture and hayland

Suitability: Not suited
Management concerns: Flooding, ponding

Forestland

Suitability: Poorly suited
Management concerns: Flooding, ponding, low strength

Wildlife habitat

Suitability for wetland wildlife: Fair
Suitability for forestland wildlife: very poor for Barbary soil; fair for Basile soil
Adapted species: Deer, squirrel, rabbit, wood ducks, and other small furbearers

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Flooding, ponding, percs slowly

Dwellings without basements

Limitation rating: Severe
Limitations: Flooding, ponding, low strength

Local roads and streets

Limitation rating: Severe
Limitations: Low strength, ponding, flooding

Lawns, landscaping, and golf fairways

Limitation rating: Severe
Limitations: Ponding, flooding, too clayey

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Flooding, too clayey, ponding, percs slowly

Playgrounds

Limitation rating: Severe
Limitations: Too clayey, ponding, flooding

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 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 "included" areas that belong to other taxonomic classes.

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

The presence of included areas in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. 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, flooding, 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, Duson silt loam, 1 to 3 percent slopes is a phase of the Duson series.

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

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. Patoutville-Crowley silt loams, 0 to 1 percent slopes is an example.

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

Table 4 shows 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.

AdB—Acadiana silt loam, 1 to 3 percent slopes

Setting

Landform: Stream terrace
Position on landform: Convex side slope
Distinctive landform features: None
Shape of areas: Irregular
Size of areas: 10 to several hundred acres
Slope: Gently sloping

Typical Profile

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

Subsurface layer:
5 to 9 inches—Light yellowish brown silt loam

Subsoil layer:
9 to 19 inches—Yellowish brown loam
19 to 24 inches—Yellowish brown clay and pale brown silt loam
24 to 43 inches—Variegated yellowish brown, red, and light brownish gray clay and silty clay
43 to 66 inches—Dark brown and red clay
66 to 80 inches—Light olive gray clay

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Moderately well drained
Water table: Perched at a depth of 1.0 to 3.0, from December to April in most years
Flooding: Does not flood
Runoff: Medium
Permeability class: Very slow
Available water capacity: High
Natural soil fertility: Low
Shrink-swell potential: High

Composition

Acadiana soil and similar components: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils: Basile, Brule, Crowley, Iota, Kaplan, Kinder, and Vidrine soils. The Basile and Brule soils are on flood plains and contain less clay in the subsoil. The Crowley and Kaplan soils are on convex ridges and side slopes at slightly higher elevations. The Crowley soils have an abrupt change in texture between the subsurface layer and the subsoil. The Iota soils are on steeper slopes and are well drained. The Kaplan soils are more alkaline throughout than the Acadiana soils. The Kinder soils are on broad flats at higher elevations. The Vidrine soils are on circular mounds on broad flats. Also included are a few small areas of Acadiana soils on slopes of 3 to 5 percent.

Land Use

Dominant uses: Forestland and pasture
Other uses: Cropland, homesites, and recreation

Cropland

Land capability subclass: 3e
Suitability: Moderately well suited
Adapted crops: Soybeans and rice, but small grains, sweet potatoes, and corn are suitable crops.
Management concerns: Low fertility, hazard of erosion, wetness, and potentially toxic levels of exchangeable aluminum
Management measures: Proper row arrangement, field ditches, and vegetated outlets can help remove excess water. Land grading and smoothing will improve surface drainage, allow more uniform application of irrigation water, and permit more efficient use of farm equipment. Proper irrigation systems are needed for the production of rice. Installing pipe or other drop structures in drainage ditches helps to control the water level in rice fields and prevent the excessive erosion of ditches. The hazard of erosion can be reduced if fall grain is seeded early, stubble-mulch tillage is used, or tillage and seeding are on the contour or across the slope. Waterways can be shaped and seeded to perennial grasses. The soil is friable and can be easily kept in good tilth. Traffic pans form easily, but they can be broken up by deep plowing or chiseling. Returning all crop residue to the soil and using a cropping system that includes grasses, legumes, or grass-legume mixtures help to maintain fertility and tilth. Crops respond well to lime and fertilizer.

Pasture and hayland

Suitability: Well suited
Adapted plants: Common bermudagrass, improved bermudagrass, bahiagrass, ryegrass, and white clover
Management concerns: Low fertility, wetness, and hazard of erosion
Management measures: Grazing when the soil is wet results in compaction of the surface layer and damage to the plant community. Use of proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture and the soil in good condition. Excessive water on the surface can be removed by field ditches and vegetated outlets. Preparing seedbeds on the contour or across the slope, if possible, helps to control runoff. Fertilizer and lime are needed for optimum growth of grasses and legumes.

Forestland

Site index and ordinating species: 103 for loblolly pine
Adapted trees: Slash pine, loblolly pine, sweetgum, longleaf pine, and water oak
Suitability: Moderately well suited

Management concerns: Wetness and low strength
Management measures: Conventional methods of harvesting timber cannot be used during wet periods, mainly from December to April. Using standard wheeled and tracked equipment when the soil is moist causes the formation of ruts and compaction. Harvesting during only the drier periods can reduce rutting and soil compaction. Using low-pressure ground equipment minimizes damage to the soil and helps to maintain productivity. After the trees are harvested, carefully managed reforestation can control competition from undesirable understory plants. Special site preparation, such as harrowing, or planting stock that is larger than is normally used, or containerized planting stock can reduce seedling mortality. Competing vegetation can be controlled by proper site preparation and by spraying, cutting, or girdling, which can eliminate unwanted weeds, brush, or trees. Suitable trees to plant are loblolly pine and slash pine.

Wildlife habitat

Suitability for wetland wildlife: Fair
Suitability for forestland wildlife: Good
Adapted species: Deer, squirrel, rabbits, dove, and other small furbearers
Management measures: Wildlife habitat can be improved by planting the appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Habitat for waterfowl and furbearers can be improved by constructing shallow ponds.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Wetness and percs slowly
Corrective measures: Onsite sewage treatment plant or sewage lagoon generally is needed to dispose of wastewater properly.

Dwellings without basements

Limitation rating: Severe
Limitations: Wetness and shrink-swell
Corrective measures: Using suitable soil materials as backfill and a reinforced foundation design can help to reduce the hazard of foundation cracking because of shrink-swell. Surface and subsurface drainage are needed around the foundations of buildings.

Local roads and streets

Limitation rating: Severe
Limitations: Shrink-swell, low strength, and wetness
Corrective measures: Using suitable soil materials as backfill and a special roadbase design generally are needed to prevent damage to roads and streets because of low strength and shrink-swell in the subsoil. Roadside ditches are needed to remove excess water quickly.

Lawns, landscaping, and golf fairways

Limitation rating: Severe
Limitations: Wetness
Corrective measures: Lawn and landscaping plants that are tolerant of wetness should be used. Surface and subsurface drains can be installed to remove excess water more quickly. Traffic should be restricted during periods when the topsoil is saturated. Use of most types of lawn maintenance equipment is restricted when the topsoil is saturated.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Wetness and percs slowly
Corrective measures: Surface drains and landscaping are needed to remove excess water quickly. Addition of some fill material may be necessary. Use of areas should be restricted during wet periods.

Playgrounds

Limitation rating: Severe
Limitations: Wetness and percs slowly
Corrective measures: Surface drains and landscaping are needed to remove excess water quickly. Addition of some fill material may be necessary. Use of areas should be restricted during wet periods.

ATB—Aquents, dredged, 0 to 3 percent slopes, frequently flooded

Setting

Landform: Dredged spoilbank
Position on landform: Dredged spoilbank along major streams
Distinctive landform features: None
Shape of areas: Long and narrow
Size of areas: 5 to 7 acres
Slope: Level to gently sloping

Typical Profile

0 to 80 inches—Stratified throughout with mucky, clayey loamy, and sandy layers

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Very poorly drained or poorly drained
Water table: Apparent at 1 foot above the soil surface to a depth of 1.5 feet, mostly from December to April
Flooding: Frequently flooded
Runoff: Medium
Permeability class: Slow
Available water capacity: Variable
Natural soil fertility: Medium
Shrink-swell potential: Variable

Composition

Aquents soil and similar components: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils: Barbary, Basile, and Brule soils. The included soils are in areas that have not been covered by fill material.

Land Use

Dominant uses: Forestland
Other uses: Campsites and extensive recreation

Cropland

Land capability subclass: 7w
Suitability: Not suited
Adapted crops: None
Management concerns: Flooding

Pasture and hayland

Suitability: Poorly suited
Adapted plants: Mainly common bermudagrass
Management concerns: Wetness, flooding, and inaccessibility
Management measures: Wetness limits the choice of plants and the periods of grazing. It also can limit the use of equipment. Proper stocking rates, pasture rotation, and restrictive grazing during wet periods help to keep the pasture in good condition. Fertilizer and lime are needed for optimum growth of grasses and legumes.

Forestland

Site index and ordinating species: None assigned
Adapted trees: Loblolly pine, water oak, nuttal oak, sweetgum, and baldcypress
Suitability: Poorly suited
Management concerns: Wetness, flooding, and inaccessibility
Management measures: Only trees that can tolerate seasonal wetness can be planted. Conventional methods of harvesting timber generally can be used, but their use may be limited during rainy periods, usually December to May. Harvesting only during dry periods helps prevent soil compaction. Trees suitable for planting include green ash, eastern cottonwood, overcup oak, American sycamore, and sweetgum.

Wildlife habitat

Suitability for wetland wildlife: Good
Suitability for forestland wildlife: Good
Adapted species: Migratory ducks, deer, squirrels, alligators, nongame birds, and other small furbearers, such as raccoons and nutria
Management measures: Wildlife habitat can be improved by planting the appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Constructing shallow ponds can improve habitat for waterfowl.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Flooding and ponding
Corrective measures: These soils are generally not suited to this use unless protected from flooding. If protected, Onsite sewage treatment plant or a sewage lagoon is needed.

Dwellings without basements

Limitation rating: Severe
Limitations: Flooding, ponding, and shrink-swell
Corrective measures: Flood control structures are needed, otherwise, buildings should be constructed on elevated pilings or mounds to elevate the foundation above the level of flooding. Using suitable soil materials as backfill and a reinforced foundation design can help reduce the hazard of foundation cracking because of shrink-swell.

Local roads and streets

Limitation rating: Severe
Limitations: Shrink-swell, ponding, and flooding
Corrective measures: Roads generally need to be constructed on elevated pilings above the level of flooding and ponding. Using suitable soil materials as backfill can help reduce the effects of shrink-swell.

Lawns, landscaping, and golf fairways

Limitation rating: Severe
Limitations: Ponding and flooding
Corrective measures: Areas of these soils generally are not suited to this use. Flood control and drainage structures, and the addition of large amounts of fill material would be required.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Flooding and ponding
Corrective measures: Areas of these soils generally are not suited to this use. Flood control and drainage structures, and the addition of large amounts of fill material would be required.

Playgrounds

Limitation rating: Severe
Limitations: Ponding
Corrective measures: Areas of these soils generally are not suited to this use. Flood control and drainage structures, and the addition of large amounts of fill material would be required.

BAA—Barbary mucky clay, 0 to 1 percent slopes

Setting

Landform: Backswamp (fig. 3)
Position on landform: Low, broad, ponded backswamp
Distinctive landform features: Areas are ponded for very long periods during the year
Shape of areas: Irregular
Size of areas: 10 to 5,000 acres
Slope: Level and nearly level

Typical Profile

Surface layer:
0 to 8 inches—Very dark grayish brown very fluid mucky clay

Underlying material:
8 to 80 inches—Dark gray very fluid clay

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Very poorly drained
Water table: Apparent at the surface to greater than 6 feet, January to December
Ponding: Frequently ponded; 3 feet above the surface to the surface, January to December
Flooding: Frequently flooded

Figure 3.—Baldcypress in an area of Barbary mucky clay, 0 to 1 percent slopes. This soil provides habitat for many species of wetland wildlife.

Runoff: Negligible
Permeability class: Very slow
Available water capacity: High
Natural soil fertility: High
Shrink-swell potential: Low

Composition

Barbary soil and similar components: 79 to 91 percent
Dissimilar Soils: 9 to 21 percent

Minor Components

Dissimilar soils: Basile and Brule soils. These soils are on higher positions and are nonfluid mineral soils.

Land Use

Dominant uses: Forestland
Other uses: Wetland wildlife and recreation

Cropland

Land capability subclass: 8w
Suitability: Not suited
Adapted crops: None
Management concerns: Flooding and ponding
Management measures: None

Pasture and hayland

Suitability: Not suited
Adapted plants: None
Management concerns: Flooding and ponding
Management measures: None

Forestland

Site index and ordinating species: 80 for baldcypress
Adapted trees: Baldcypress, water tupelo, and black willow
Suitability: Poorly suited
Management concerns: Wetness, flooding, too clayey, and low strength
Management measures: Timber can be harvested only if special equipment is used. The soil does not support most types of harvesting equipment. Natural regeneration of baldcypress and water tupelo is very slow, and it occurs mainly on rotting logs, stumps, and root mats. Suitable trees to plant are baldcypress.

Wildlife habitat

Suitability for wetland wildlife: Fair
Suitability for forestland wildlife: Very poor
Adapted species: Migratory ducks, squirrels, alligators, nongame birds, and other small furbearers, such as raccoons and nutria
Management measures: Constructing shallow ponds can improve habitat for waterfowl

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Flooding, ponding, and percs slowly
Corrective measures: These soils generally are not suited to this use unless they are drained and protected from ponding and flooding. If drained and protected, an onsite sewage treatment plant or a sewage lagoon is needed.

Dwellings without basements

Limitation rating: Severe
Limitations: Flooding, ponding, and low strength
Corrective measures: These soils generally are not suited to this use unless they are drained and protected from ponding and flooding. If drained and protected, Using suitable soil materials as backfill and a reinforced foundation design are needed to reduce the hazard of foundation cracking because of high shrink-swell after draining.

Local roads and streets

Limitation rating: Severe
Limitations: Low strength, ponding, and flooding
Corrective measures: Roads generally need to be constructed on elevated pilings above the level of flooding and ponding.

Lawns, landscaping, and golf fairways

Limitation rating: Severe
Limitations: Ponding, flooding, and too clayey
Corrective measures: Areas of these soils generally are not suited to this use. Flood control and drainage structures, and the addition of large amounts of fill material would be required.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Flooding, too clayey, ponding, and percs slowly
Corrective measures: Areas of these soils generally are not suited to this use. Flood control and drainage structures, and the addition of large amounts of fill material would be required.

Playgrounds

Limitation rating: Severe
Limitations: Too clayey, ponding, and flooding
Corrective measures: Areas of these soils generally are not suited to this use. Flood control and drainage structures, and the addition of large amounts of fill material would be required.

BSA—Basile and Brule soils, 0 to 3 percent slopes, frequently flooded

Setting

Landform: Flood plain
Position on landform: The Basile soil is in swales; and the Brule soil is on low convex ridges
Distinctive landform features: None
Shape of areas: Irregular
Size of areas: 20 to several thousand acres. Most mapped areas contain both soils, but some areas contain only one soil.
Slope: The Basile soils are on Level and nearly level slopes; the Brule soils are on nearly Level and very gently sloping

Typical Profile

Basile

Surface layer:
0 to 8 inches—Dark grayish brown silt loam

Subsurface layer:
8 to 23 inches—Grayish brown silt loam

Subsoil layer:
23 to 35 inches—Light brownish gray silty clay loam
35 to 69 inches—Olive gray silty clay loam
69 to 80 inches—Light brownish gray silt loam

Brule

Surface layer:
0 to 6 inches—Dark gray silty clay loam

Subsurface layer:
6 to 10 inches—Dark grayish brown silty clay loam

Subsoil layer:
10 to 18 inches—Brown silt loam
18 to 30 inches—Dark yellowish brown silt loam
30 to 37 inches—Yellowish brown silt loam

37 to 41 inches—Light yellowish brown and light gray silt loam
41 to 54 inches—Light brownish gray silt loam and yellowish brown silty clay loam
54 to 59 inches—Light brownish gray silty clay loam and light gray silt loam
59 to 69 inches—Light brownish gray silt loam
69 to 80 inches—light gray silt loam

Soil Properties and Qualities

Basile

Depth class: Very deep
Drainage class: Poorly drained
Water table: Apparent at the surface to a depth of 1.5 feet, mostly from December to April
Flooding: Frequently flooded
Runoff: Very low or ponded
Permeability class: Slow
Available water capacity: High
Natural soil fertility: Medium
Shrink-swell potential: Moderate

Brule

Depth class: Very deep
Drainage class: Moderately well drained
Water table: Apparent at a depth of 2.5 to 4 feet, mostly from December to April
Flooding: Frequently flooded
Runoff: Negligible to low
Permeability class: Moderate
Available water capacity: High
Natural soil fertility: Low
Shrink-swell potential: Low

Composition

Basile soil and similar components: 62 to 78 percent
Brule soil and similar components: 13 to 27 percent
Dissimilar soils: 5 to 15 percent

Minor Components

Dissimilar soils: Acadiana, Barbary, Crowley, Iota, and Kaplan soils. The Acadiana, Crowley, Iota, and Kaplan soils are on side slopes along drainageways and contain more clay in the subsoil. The Barbary soils are on lower positions and have very fluid underlying layers.

Land Use

Dominant uses: Forestland
Other uses: Wildlife and pasture

Cropland

Land capability subclass: 5w
Suitability: Not suited
Adapted crops: None
Management concerns: Flooding
Management measures: None

Pasture and hayland

Suitability: Poorly suited

Adapted plants: Mainly common bermudagrass
Management concerns: Wetness, hazard of flooding, and low fertility
Management measures: Wetness limits the choice of plants and the period of grazing. It also can limit the use of equipment. Proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture in good condition. Fertilizer and lime are needed for optimum growth of grasses and legumes.

Forestland

Site index and ordinating species: 90 for water oak in the Basile soil; 104 for water oak on the Brule soil
Adapted trees: Sweetgum, overcup oak, baldcypress, laurel oak, water oak, on the Basile soil; loblolly pine, eastern cottonwood, water oak, cherrybark oak, nuttall oak, and sweetgum on the Brule soil
Suitability: Moderately well suited
Management concerns: Wetness, flooding, and low strength.
Management measures: Only trees that can tolerate seasonal wetness can be planted. Conventional methods of harvesting timber generally can be used, but their use may be limited during rainy periods, usually December to May. Harvesting only during dry periods helps prevent soil compaction. Trees suitable for planting include eastern cottonwood, loblolly pine, overcup oak, American sycamore, and sweetgum.

Wildlife habitat

Suitability for wetland wildlife: good in the Basile soil: very poor in the Brule soil
Suitability for forestland wildlife: fair in the Basile soil; good in the Brule soil
Adapted species: Deer, squirrel, migratory ducks, rabbits, and other small furbearers
Management measures: Wildlife habitat can be improved by planting the appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Constructing shallow ponds can improve habitat for waterfowl.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Flooding, wetness, and percs slowly in the Basile soil; flooding in the Brule soil
Corrective measures: These soils generally are not suited to this use unless they are drained and protected from flooding. Onsite sewage treatment plant or a sewage lagoon is needed.

Dwellings without basements

Limitation rating: Severe
Limitations: Flooding and wetness in the Basile soil; flooding in the Brule soil.
Corrective measures: Flood control structures are needed. Otherwise, buildings should be constructed on elevated pilings or mounds to elevate the foundation above the level of flooding.

Local roads and streets

Limitation rating: Severe
Limitations: Low strength, wetness, and flooding in the Basile soil; low strength and flooding in the Brule soil
Corrective measures: Filling with suitable soil materials to build an elevated roadbase above the level of flooding, and installing culverts of adequate size and spacing are needed to keep roads from being inundated and damaged during flood episodes.

Lawns, landscaping, and golf fairways

Limitation rating: Severe
Limitations: Wetness and flooding in the Basile soil; flooding in the Brule soil
Corrective measures: Lawn and landscaping plants that are tolerant of wetness and flooding should be used. Traffic should be restricted during periods when the topsoil is saturated. Use of most types of lawn maintenance equipment is restricted when the topsoil is saturated.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Flooding and wetness in the Basile soil; flooding in the Brule soil
Corrective measures: Areas of these soils generally are not suited to this use. Flood control and drainage structures, and the addition of large amounts of fill material would be required.

Playgrounds

Limitation rating: Severe
Limitations: Wetness and flooding in the Basile soil; flooding in the Brule soil
Corrective measures: Areas of these soils generally are not suited to this use. Flood control and drainage structures, and the addition of large amounts of fill material would be required.

CrA—Crowley silt loam, 0 to 1 percent slopes

Setting

Landform: Stream terrace
Position on landform: Broad, slightly convex ridges
Distinctive landform features: None
Shape of areas: Irregular
Size of areas: 15 to several thousand acres
Slope: Level and nearly level

Typical Profile

Surface layer:
0 to 7 inches—Dark grayish brown silt loam

Subsurface layer:
7 to 14 inches—Light brownish gray silt loam

Subsoil layer:
14 to 33 inches—Grayish brown silty clay
33 to 40 inches—Light brownish gray silty clay loam
40 to 50 inches—Light olive gray silty clay loam
50 to 57 inches—Gray silty clay loam
57 to 69 inches—Gray silty clay
69 to 80 inches—Light brownish gray silty clay

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Water table: Perched at a depth of 0.5 to 1.5 feet, mostly from December to April
Flooding: Does not flood

Runoff: Very low to medium
Permeability class: Very slow
Available water capacity: Very high
Natural soil fertility: Medium
Shrink-swell potential: High

Composition

Crowley soil and similar components: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils: Kaplan, Midland, Mowata, and Patoutville soils. The Kaplan soils are on similar positions to those of the Crowley soil. The Midland and Mowata soils are on lower positions than the Crowley soils. The Midland soils are clayey throughout. The Mowata soils have streaks and pockets of silt loam that extend into the subsoil. The Patoutville soils are on higher positions and are loamy throughout.

Land Use

Dominant uses: Cropland (fig. 4)
Other uses: Pasture and crayfish farming

Figure 4.—Rice growing in an area of Crowley silt loam, 0 to 1 percent slopes for seed rice certification. Acadia Parish is the center of rice culture development in southwest Louisiana.

Cropland

Land capability subclass: 3w
Suitability: Moderately well suited
Adapted crops: Rice and soybeans are the main crops grown, but corn, small grains, and sweet potatoes are suitable crops. Crayfish are commonly raised on this soil between cropping seasons.
Management concerns: Wetness and medium fertility
Management measures: Proper row arrangement, field ditches, and vegetated outlets can help remove excess water. Land grading and smoothing will improve surface

drainage, allow more uniform application of irrigation water, and permit more efficient use of farm equipment. Proper irrigation systems are needed for the production of rice. Installing pipe or other drop structures in drainage ditches helps to control the water level in rice fields and prevent the excessive erosion of ditches. The soil is friable and can be easily kept in good tilth. Traffic pans form easily, but they can be broken up by deep plowing or chiseling. Returning all crop residue to the soil and using a cropping system that includes grasses, legumes, or grass-legume mixtures help to maintain fertility and tilth. Crops respond well to lime and fertilizer.

Pasture and hayland

Suitability: Well suited
Adapted plants: Common bermudagrass, improved bermudagrass, bahiagrass, ryegrass, and white clover
Management concerns: Wetness and medium fertility
Management measures: Grazing when the soil is wet results in compaction of the surface layer and damage to the plant community. Use of proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture and the soil in good condition. Excessive water on the surface can be removed by field ditches and vegetated outlets. Fertilizer and lime are needed for optimum growth of grasses and legumes.

Forestland

Site index and ordinating species: 90 for loblolly pine and slash pine
Adapted trees: Loblolly pine, slash pine, and water oak
Suitability: Moderately well suited
Management concerns: Wetness and low strength
Management measures: Conventional methods of harvesting timber cannot be used during wet periods, mainly from December to April. Using standard wheeled and tracked equipment when the soil is moist causes the formation of ruts and compaction. Harvesting during only the drier periods can reduce rutting and soil compaction. Using low-pressure ground equipment minimizes damage to the soil and helps to maintain productivity. After the trees are harvested, carefully managed reforestation can control competition from undesirable understory plants. Special site preparation, such as bedding and harrowing, or planting stock that is larger than is normally used, or containerized planting stock can reduce seedling mortality. Competing vegetation can be controlled by proper site preparation and by spraying, cutting, or girdling, which can eliminate unwanted weeds, brush, or trees. Suitable trees to plant are slash pine and loblolly pine.

Wildlife habitat

Suitability for wetland wildlife: Good
Suitability for forestland wildlife: Fair
Adapted species: Ducks, geese, rabbits, quail, doves, and other small furbearers
Management measures: Wildlife habitat can be improved by planting the appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Habitat for waterfowl and furbearers can be improved by constructing shallow ponds.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Wetness and percs slowly

Corrective measures: Onsite sewage treatment plant or sewage lagoon generally is needed to dispose of wastewater properly.

Dwellings without basements

Limitation rating: Severe
Limitations: Wetness and shrink-swell
Corrective measures: Using suitable soil materials as backfill and a reinforced foundation design can help to reduce the hazard of foundation cracking because of shrink-swell. Surface and subsurface drainage is needed around the foundations of buildings.

Local roads and streets

Limitation rating: Severe
Limitations: Shrink-swell, low strength, and wetness
Corrective measures: Using suitable soil materials as backfill and a special roadbase design generally are needed to prevent damage to roads and streets because of low strength and shrink-swell in the subsoil. Roadside ditches are needed to remove excess water quickly.

Lawns, landscaping, and golf fairways

Limitation rating: Severe
Limitations: Wetness
Corrective measures: Lawn and landscaping plants that are tolerant of wetness should be used. Surface and subsurface drains can be installed to remove excess water more quickly. Traffic should be restricted during periods when the topsoil is saturated. Use of most types of lawn maintenance equipment is restricted when the topsoil is saturated.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Wetness and percs slowly
Corrective measures: Surface drains and landscaping are needed to remove excess water quickly. Addition of some fill material may be necessary. Use of areas should be restricted during wet periods.

Playgrounds

Limitation rating: Severe
Limitations: Wetness and percs slowly
Corrective measures: Surface drains and landscaping are needed to remove excess water quickly. Addition of some fill material may be necessary. Use of areas should be restricted during wet periods.

CrB—Crowley silt loam, 1 to 3 percent slopes

Setting

Landform: Stream terrace
Position on landform: Convex ridge or side slope
Distinctive landform features: Slopes generally are short and smooth
Shape of areas: Irregular
Size of areas: 5 to 200 acres
Slope: Gently sloping

Typical Profile

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

Subsurface layer:
5 to 10 inches—Grayish brown silt loam
10 to 15 inches—Light brownish gray silt loam

Subsoil layer:
15 to 44 inches—Dark grayish brown silty clay
44 to 80 inches—Grayish brown silty clay loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Water table: Perched at a depth of 0.5 to 1.5 feet, mostly from December to April
Flooding: Does not flood
Runoff: Medium
Permeability class: Very slow
Available water capacity: Very high
Natural soil fertility: Medium
Shrink-swell potential: High

Composition

Crowley soil and similar components: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils: Acadiana and Kaplan soils. The Acadiana soils are on side slopes along drainageways. The Kaplan soils are on similar positions to those of the Crowley soil and do not have an abrupt textural change.

Land Use

Dominant uses: Cropland
Other uses: Pasture

Cropland

Land capability subclass: 3e
Suitability: Moderately well suited
Adapted crops: Rice and soybeans are the main crops grown, but corn, small grains, and sweet potatoes are suitable crops.
Management concerns: Wetness, medium fertility, and the hazard of erosion
Management measures: Proper row arrangement, field ditches, and vegetated outlets can help remove excess water. Land grading and smoothing will improve surface drainage, allow more uniform application of irrigation water, and permit more efficient use of farm equipment. Proper irrigation systems are needed for the production of rice. Installing pipe or other drop structures in drainage ditches helps to control the water level in rice fields and prevent the excessive erosion of ditches. The hazard of erosion can be reduced if fall grain is seeded early, stubble-mulch tillage is used, or tillage and seeding are on the contour or across the slope. Waterways can be shaped and seeded to perennial grasses. The soil is friable and can be easily kept in good tilth. Traffic pans form easily, but they can be broken up by deep plowing or chiseling. Returning all crop residue to the soil and using a cropping system that includes

grasses, legumes, or grass-legume mixtures help to maintain fertility and tilth. Crops respond well to lime and fertilizer.

Pasture and hayland

Suitability: Well suited
Adapted plants: Common bermudagrass, improved bermudagrass, bahiagrass, ryegrass, and white clover
Management concerns: Wetness, medium fertility, and the hazard of erosion
Management measures: Grazing when the soil is wet results in compaction of the surface layer and damage to the plant community. Use of proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture and the soil in good condition. Excessive water on the surface can be removed by field ditches and vegetated outlets. Preparing seedbeds on the contour or across the slope, if possible, helps to control runoff. Fertilizer and lime are needed for optimum growth of grasses and legumes.

Forestland

Site index and ordinating species: 90 for loblolly pine and slash pine
Adapted trees: Slash pine, water oak, and loblolly pine
Suitability: Moderately well suited
Management concerns: Wetness and low strength
Management measures: Conventional methods of harvesting timber cannot be used during wet periods, mainly from December to April. Using standard wheeled and tracked equipment when the soil is moist causes the formation of ruts and compaction. Harvesting during only the drier periods can reduce rutting and soil compaction. Using low-pressure ground equipment minimizes damage to the soil and helps to maintain productivity. After the trees are harvested, carefully managed reforestation can control competition from undesirable understory plants. Special site preparation, such as bedding and harrowing, or planting stock that is larger than is normally used, or containerized planting stock can reduce seedling mortality. Competing vegetation can be controlled by proper site preparation and by spraying, cutting, or girdling, which can eliminate unwanted weeds, brush, or trees. Suitable trees to plant are loblolly pine and slash pine.

Wildlife habitat

Suitability for wetland wildlife: Fair
Suitability for forestland wildlife: Fair
Adapted species: Ducks, geese, rabbits, quail, doves, and other small furbearers
Management measures: Wildlife habitat can be improved by planting the appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Habitat for waterfowl and furbearers can be improved by constructing shallow ponds.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Wetness and percs slowly
Corrective measures: Onsite sewage treatment plant or sewage lagoon generally is needed to dispose of wastewater properly.

Dwellings without basements

Limitation rating: Severe
Limitations: Wetness and shrink-swell

Corrective measures: Using suitable soil materials as backfill and a reinforced foundation design can help to reduce the hazard of foundation cracking because of shrink-swell. Surface and subsurface drainage is needed around the foundations of buildings.

Local roads and streets

Limitation rating: Severe
Limitations: Shrink-swell, low strength, and wetness
Corrective measures: Using suitable soil materials as backfill and a special roadbase design generally are needed to prevent damage to roads and streets because of low strength and shrink-swell in the subsoil. Roadside ditches are needed to remove excess water quickly.

Lawns, landscaping, and golf fairways

Limitation rating: Severe
Limitations: Wetness
Corrective measures: Lawn and landscaping plants that are tolerant of wetness should be used. Surface and subsurface drains can be installed to remove excess water more quickly. Traffic should be restricted during periods when the topsoil is saturated. Use of most types of lawn maintenance equipment is restricted when the topsoil is saturated.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Wetness and percs slowly
Corrective measures: Surface drains and landscaping are needed to remove excess water quickly. Addition of some fill material may be necessary. Use of areas should be restricted during wet periods.

Playgrounds

Limitation rating: Severe
Limitations: Wetness and percs slowly
Corrective measures: Surface drains and landscaping are needed to remove excess water quickly. Addition of some fill material may be necessary. Use of areas should be restricted during wet periods.

CwA—Crowley-Midland complex, 0 to 1 percent slopes

Setting

Landform: Stream terrace
Position on landform: The Crowley soil is on low convex ridges; the Midland soil is on flats between ridges.
Distinctive landform features: Most areas have been land leveled for rice production.
Shape of areas: Irregular
Size of areas: 5 to 2,500 acres
Slope: The Crowley soils are level to gently sloping; and the Midland soils are level and nearly level.

Typical Profile

Crowley

Surface layer:
0 to 7 inches—Dark grayish brown silt loam

Subsurface layer:
7 to 18 inches—Grayish brown silt loam

Subsoil layer:
18 to 30 inches—Dark gray silty clay
30 to 43 inches—Gray silty clay
43 to 64 inches—Grayish brown silty clay
64 to 80 inches—Yellowish brown silty clay

Midland

Surface layer:
0 to 10 inches—Dark grayish brown silty clay loam

Subsoil layer:
10 to 22 inches—Dark grayish brown silty clay
22 to 42 inches—Gray silty clay
42 to 80 inches—Gray clay

Soil Properties and Qualities

Crowley

Depth class: Very deep
Drainage class: Somewhat poorly drained
Water table: Perched at a depth of 0.5 to 1.5 feet, mostly from December to April
Flooding: Does not flood
Runoff: Very low
Permeability class: Very slow
Available water capacity: Very high
Natural soil fertility: Medium
Shrink-swell potential: High

Midland

Depth class: Very deep
Drainage class: Poorly drained
Water table: Apparent at a depth of 0.5 to 2 feet, mostly from January to December
Flooding: Rarely flooded
Runoff: Negligible
Permeability class: Very slow
Available water capacity: High
Natural soil fertility: Medium
Shrink-swell potential: High

Composition

Crowley soil and similar components: 47 to 63 percent
Midland soil and similar components: 27 to 43 percent
Dissimilar soils: 5 to 15 percent

Minor Components

Dissimilar soils: Kaplan and Mowata soils. The Kaplan soils are on positions similar to Crowley soils. The Mowata soils are on positions similar to the Midland soils and have streaks and pockets of silt loam that extend into the subsoil. Also included are some areas of Midland soils that have a silt loam surface layer because of leveling and water management.

Land Use

Dominant uses: Cropland
Other uses: Pasture and crayfish farming

Cropland

Land capability subclass: 3w
Suitability: Moderately well suited
Adapted crops: Rice and soybeans are the main crops grown, but corn and small grains are suitable crops. Crayfish are commonly raised on this soil between cropping seasons.
Management concerns: Wetness, medium fertility, and poor tilth on the Midland soil
Management measures: Proper row arrangement, field ditches, and vegetated outlets can help remove excess water. Land grading and smoothing will improve surface drainage, allow more uniform application of irrigation water, and permit more efficient use of farm equipment. Proper irrigation systems are needed for the production of rice. Installing pipe or other drop structures in drainage ditches helps to control the water level in rice fields and prevent the excessive erosion of ditches. Traffic pans form easily, but they can be broken up by deep plowing or chiseling. Returning all crop residue to the soil and using a cropping system that includes grasses, legumes, or grass-legume mixtures help to maintain fertility and tilth. Crops respond well to lime and fertilizer.

Pasture and hayland

Suitability: Moderately well suited
Adapted plants: Bahiagrass, common and improved bermudagrass, ryegrass, dallisgrass, tall fescue, and white clover
Management concerns: Wetness and medium fertility
Management measures: Grazing when the soil is wet results in compaction of the surface layer and damage to the plant community. Use of proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture and the soil in good condition. Excessive water on the surface can be removed by field ditches and vegetated outlets. Fertilizer and lime are needed for optimum growth of grasses and legumes.

Forestland

Site index and ordinating species: 90 for slash pine and loblolly pine in the Crowley soil; 90 for water oak in the Midland soil
Adapted trees: Slash pine, loblolly pine, and water oak in the Crowley soil; green ash, water oak, sweetgum, cherrybark oak, in the Midland soil
Suitability: Moderately well suited
Management concerns: Wetness, low strength, and stickiness
Management measures: Conventional methods of harvesting timber cannot be used during wet periods, mainly from December to April. Using standard wheeled and tracked equipment when the soil is moist causes the formation of ruts and compaction. Harvesting during only the drier periods can reduce rutting and soil compaction. Using low-pressure ground equipment minimizes damage to the soil and

helps to maintain productivity. After the trees are harvested, carefully managed reforestation can control competition from undesirable understory plants. Special site preparation, such as bedding and harrowing, or planting stock that is larger than is normally used, or containerized planting stock can reduce seedling mortality. Competing vegetation can be controlled by proper site preparation and by spraying, cutting, or girdling, which can eliminate unwanted weeds, brush, or trees. Suitable trees to plant are loblolly pine, slash pine, green ash, water oak, and nuttall oak.

Wildlife habitat

Suitability for wetland wildlife: Good
Suitability for forestland wildlife: Fair
Adapted species: Ducks, geese, rabbits, quail, doves, and other small furbearers.
Management measures: Wildlife habitat can be improved by planting the appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Habitat for waterfowl and furbearers can be improved by constructing shallow ponds (fig. 5).

Figure 5.—Coastal prairie soils, such as this area of Crowley-Midland complex, 0 to 1 percent slopes, provide excellent habitat for migratory gamebirds.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Wetness and percs slowly
Corrective measures: Onsite sewage treatment plant or sewage lagoon generally is needed to dispose of wastewater properly.

Dwellings without basements

Limitation rating: Severe
Limitations: Wetness and shrink-swell in the Crowley soil; flooding, wetness, and shrink-swell in the Midland soil
Corrective measures: Using suitable soil materials as backfill and a reinforced foundation design can help to reduce the hazard of foundation cracking because of shrink-swell. Surface and subsurface drainage is needed around the foundations of buildings.

Local roads and streets

Limitation rating: Severe
Limitations: Shrink-swell, low strength, and wetness
Corrective measures: Using suitable soil materials as backfill and a special roadbase design generally are needed to prevent damage to roads and streets because of low strength and shrink-swell in the subsoil. Roadside ditches are needed to remove excess water quickly.

Lawns, landscaping, and golf fairways

Limitation rating: Severe
Limitations: Wetness
Corrective measures: Lawn and landscaping plants that are tolerant of wetness should be used. Surface and subsurface drains can be installed to remove excess water more quickly. Traffic should be restricted during periods when the topsoil is saturated. Use of most types of lawn maintenance equipment is restricted when the topsoil is saturated.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Wetness and percs slowly in the Crowley soil; flooding, wetness, and percs slowly in the Midland soil
Corrective measures: Surface drains and landscaping are needed to remove excess water quickly. Addition of some fill material may be necessary. Use of areas should be restricted during wet periods. Campsites cannot be used during periods of flooding on the Midland soil.

Playgrounds

Limitation rating: Severe
Limitations: Wetness and percs slowly
Corrective measures: Surface drains and landscaping are needed to remove excess water quickly. Addition of some fill material may be necessary. Use of areas should be restricted during wet periods.

DuB—Duson silt loam, 1 to 3 percent slopes

Setting

Landform: Stream terrace
Position on landform: Convex ridges and side slopes
Distinctive landform features: Slopes are generally short and smooth
Shape of areas: Irregular
Size of areas: 5 to more than 500 acres
Slope: Gently sloping

Typical Profile

Surface layer:
0 to 6 inches—Dark grayish brown silt loam

Subsurface layer:
6 to 9 inches—Light yellowish brown silt loam

Subsoil layer:
9 to 21 inches—Yellowish brown silty clay loam
21 to 27 inches—Yellowish brown silt loam
27 to 45 inches—Grayish brown silt loam
45 to 80 inches—Gray silty clay loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Water table: Perched at a depth of 1.5 to 3 feet, mostly from December to April
Flooding: Does not flood
Runoff: Low and medium
Permeability class: Slow
Available water capacity: Very high
Natural soil fertility: Medium
Shrink-swell potential: Moderate

Composition

Duson soil and similar components: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils: Frost, Jeanerette, and Patoutville soils. The poorly drained Frost soils are in depressional areas and along drainageways, and have streaks and pockets of silt loam that extend into the subsoil. The somewhat poorly drained Jeanerette soils are also in depressional areas and along drainageways, and have a darker surface layer. The Patoutville soils are on slightly higher positions and have a gray subsoil.

Land Use

Dominant uses: Pasture and cultivated row crops
Other uses: Homesites

Cropland

Land capability subclass: 2e
Suitability: Well suited
Adapted crops: Soybeans, mainly, but grain sorghum, corn, wheat, cotton, and sweet potatoes are suitable crops
Management concerns: Moderately low fertility, seasonal droughtiness, and the hazard of erosion
Management measures: The soil is friable and easy to keep in good tilth. It can be worked over a wide range of moisture content. Plowpans develop easily but can be broken up by deep plowing or chiseling. All tillage should be on the contour or across the slope. Limiting tillage for seedbed preparation and weed control reduces runoff and erosion. Installing drop structures in grassed waterways helps to control formation of gullies. Crusting of the surface and compaction of the soil can be reduced by returning the crop residue to the soil and by using minimum tillage. Most crops respond well to fertilizer and lime.

Pasture and hayland

Suitability: Well suited
Adapted plants: Bahiagrass, common and improved bermudagrass, ryegrass, vetch, and wheat
Management concerns: Medium fertility
Management measures: Proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture in good condition. Fertilizer and lime are needed for the optimum growth of grasses and legumes.

Forestland

Site index and ordinating species: 100 for loblolly pine
Adapted trees: Loblolly pine, slash pine, water oak, and cherrybark oak
Suitability: Well suited
Management concerns: Low strength
Management measures: Carefully managing reforestation after harvesting helps to control competition from undesirable understory plants. Preparing sites and harvesting during drier seasons help to minimize compaction. Suitable trees to plant are loblolly pine and slash pine

Wildlife habitat

Suitability for wetland wildlife: Fair
Suitability for forestland wildlife: Good
Adapted species: Deer, squirrel, rabbits, quail, doves, and other small furbearers
Management measures: Wildlife habitat can be improved by planting the appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Wetness and percs slowly
Corrective measures: Onsite sewage treatment plant or sewage lagoon generally is needed to dispose of wastewater properly.

Dwellings without basements

Limitation rating: Moderate
Limitations: Wetness and shrink-swell
Corrective measures: Using suitable soil materials as backfill and a reinforced foundation design can help to minimize the hazard of foundation cracking because of shrink-swell. Drainage may be needed around the foundations of buildings.

Local roads and streets

Limitation rating: Severe
Limitations: Low strength
Corrective measures: Special roadbase design and construction techniques generally are needed to compensate for low strength in the subsoil.

Lawns, landscaping, and golf fairways

Limitation rating: Moderate
Limitations: Wetness

Corrective measures: Lawn and landscaping plants that are tolerant of occasional wetness should be used. Surface and subsurface drains can be installed to remove excess water more quickly.

Recreational Use

Camp and picnic areas

Limitation rating: Moderate
Limitations: Wetness and percs slowly
Corrective measures: Surface drains and landscaping are needed to remove excess water quickly. Addition of some fill material may be necessary.

Playgrounds

Limitation rating: Moderate
Limitations: Slope, wetness, and percs slowly
Corrective measures: Playgrounds should be constructed on the nearly level parts of the areas. Surface drains and landscaping are needed to remove excess water quickly.

FoA—Frost silt loam, 0 to 1 percent slopes

Setting

Landform: Stream terrace
Position on landform: Broad flats and along drainageways
Distinctive landform features: None
Shape of areas: Irregular
Size of areas: 5 to 225 acres
Slope: Level and nearly level

Typical Profile

Surface layer:
0 to 10 inches—Grayish brown silt loam

Subsurface layer:
10 to 22 inches—Light brownish gray and light gray silt loam

Subsoil layer:
22 to 36 inches—Grayish brown silty clay loam and light gray silt loam
36 to 50 inches—Light brownish gray silty clay loam
50 to 79 inches—Light brownish gray silt loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained
Water table: Apparent at a depth of 0 to 1.5 feet, mostly from December to April
Flooding: Rarely flooded
Runoff: Negligible
Permeability class: Slow
Available water capacity: Very high
Natural soil fertility: Medium
Shrink-swell potential: Moderate

Composition

Frost soil and similar components: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils: Crowley, Jeanerette, Mowata, and Patoutville soils. The Crowley and Patoutville soils are on higher positions. The Crowley soils contain more clay in the subsoil. The Patoutville soils do not have streaks and pockets of silt loam that extend into the subsoil. The Jeanerette and Mowata soils are on similar positions. The Jeanerette soils have a thick dark colored surface layer. The Mowata soils have a clayey subsoil.

Land Use

Dominant uses: Cropland
Other uses: Pasture

Cropland

Land capability subclass: 3w
Suitability: Moderately well suited
Adapted crops: Rice and soybeans are the main crops grown, but corn, small grains, cotton, and vegetables are also suitable crops. Crayfish are commonly raised on this soil between cropping seasons.
Management concerns: Wetness and medium fertility
Management measures: Proper row arrangement, field ditches, and vegetated outlets can help remove excess water. Land grading and smoothing will improve surface drainage, allow more uniform application of irrigation water, and permit more efficient use of farm equipment. Proper irrigation systems are needed for the production of rice. Installing pipe or other drop structures in drainage ditches helps to control the water level in rice fields and prevent the excessive erosion of ditches. The soil is friable and can be easily kept in good tilth. Traffic pans form easily, but they can be broken up by deep plowing or chiseling. Returning all crop residue to the soil and using a cropping system that includes grasses, legumes, or grass-legume mixtures help to maintain fertility and tilth. Crops respond well to lime and fertilizer.

Pasture and hayland

Suitability: Well suited
Adapted plants: Common bermudagrass, improved bermudagrass, bahiagrass, ryegrass, vetch, tall fescue, and white clover
Management concerns: Wetness and medium fertility
Management measures: Grazing when the soil is wet results in compaction of the surface layer and damage to the plant community. Use of proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture and the soil in good condition. Excessive water on the surface can be removed by field ditches and vegetated outlets. Fertilizer and lime are needed for optimum growth of grasses and legumes.

Forestland

Site index and ordinating species: 90 for loblolly pine
Adapted trees: Loblolly pine, slash pine, cherrybark oak, water oak, and sweetgum
Suitability: Moderately well suited
Management concerns: Wetness and low strength
Management measures: Conventional methods of harvesting timber cannot be used during wet periods, mainly from December to April. Using standard wheeled and tracked equipment when the soil is moist causes the formation of ruts and compaction. Harvesting during only the drier periods can reduce rutting and soil compaction. Using low-pressure ground equipment minimizes damage to the soil and helps to maintain productivity. After the trees are harvested, carefully managed

reforestation can control competition from undesirable understory plants. Special site preparation, such as bedding and harrowing, or planting stock that is larger than is normally used, or containerized planting stock can reduce seedling mortality. Competing vegetation can be controlled by proper site preparation and by spraying, cutting, or girdling, which can eliminate unwanted weeds, brush, or trees. Suitable trees to plant are loblolly pine, slash pine, water oak, and green ash.

Wildlife habitat

Suitability for wetland wildlife: Good
Suitability for forestland wildlife: Good
Adapted species: Ducks, geese, rabbits, quail, doves, and other small furbearers
Management measures: Wildlife habitat can be improved by planting the appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Habitat for waterfowl and furbearers can be improved by constructing shallow ponds.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Wetness and percs slowly
Corrective measures: Onsite sewage treatment plant or sewage lagoon generally is needed to dispose of wastewater properly

Dwellings without basements

Limitation rating: Severe
Limitations: Flooding and wetness
Corrective measures: Flood control structures are needed. Otherwise, buildings should be constructed on elevated pilings or mounds to elevate the foundation above the level of flooding.

Local roads and streets

Limitation rating: Severe
Limitations: Low strength and wetness
Corrective measures: Special roadbase design and construction techniques generally are needed to compensate for low strength in the subsoil. Roadside ditches are needed to remove excess water quickly.

Lawns, landscaping, and golf fairways

Limitation rating: Severe
Limitations: Wetness
Corrective measures: Lawn and landscaping plants that are tolerant of wetness should be used. Surface and subsurface drains can be installed to remove excess water more quickly. Traffic should be restricted during periods when the topsoil is saturated. Use of most types of lawn maintenance equipment is restricted when the topsoil is saturated.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Flooding and wetness
Corrective measures: Surface drains and landscaping are needed to remove excess water quickly. Addition of some fill material may be necessary. Use of areas should

be restricted during wet periods. Use of campsites may be restricted during rare episodes of flooding, and equipment would have to be installed that will not be damaged by periods of inundation.

Playgrounds

Limitation rating: Severe
Limitations: Wetness
Corrective measures: Surface drains and landscaping are needed to remove excess water quickly. Addition of some fill material may be necessary. Use of areas should be restricted during wet periods. Use of playgrounds may be restricted during rare episodes of flooding, and equipment would have to be installed that will not be damaged by periods of inundation.

FrA—Frost silt loam, 0 to 1 percent slopes, occasionally flooded

Setting

Landform: Stream terrace
Position on landform: Along drainageways
Distinctive landform features: None
Shape of areas: Irregular
Size of areas: 25 to 425 acres
Slope: Level and nearly level

Typical Profile

Surface layer:
0 to 6 inches—Dark grayish brown silt loam

Subsurface layer:
6 to 15 inches—Light brownish gray silt loam

Subsoil layer:
15 to 20 inches—Light brownish gray silty clay loam and silt loam
20 to 43 inches—Gray silty clay loam
43 to 80 inches—Grayish brown silty clay loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained
Water table: Apparent at a depth of 0 to 1.5 feet, mostly from December to April
Flooding: Occasionally flooded
Runoff: Negligible
Permeability class: Slow
Available water capacity: Very high
Natural soil fertility: Medium
Shrink-swell potential: Moderate

Composition

Frost soil and similar components: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils: Jeanerette, Mowata, and Patoutville soils. The Jeanerette soils are on higher positions and have a dark colored surface layer. The Mowata soils are on similar positions and have a clayey subsoil. The Patoutville soils are on higher positions and are somewhat poorly drained.

Land Use

Dominant uses: Cropland
Other uses: Pasture and crayfish farming

Cropland

Land capability subclass: 4w
Suitability: Poorly suited to most cultivated crops, but well suited to rice
Adapted crops: Rice and soybeans are the main crops. Crayfish are commonly raised on this soil between cropping seasons.
Management concerns: Wetness, flooding, and medium fertility
Management measures: If this soil is protected from flooding in late spring and early summer, most climatically adapted crops can be grown. Proper row arrangement, field ditches, and vegetated outlets can help remove excess water. Land grading and smoothing will improve surface drainage, allow more uniform application of irrigation water, and permit more efficient use of farm equipment. Proper irrigation systems are needed for the production of rice. Installing pipe or other drop structures in drainage ditches helps to control the water level in rice fields and prevent the excessive erosion of ditches. The soil is friable and can be easily kept in good tilth. Traffic pans form easily, but they can be broken up by deep plowing or chiseling. Returning all crop residue to the soil and using a cropping system that includes grasses, legumes, or grass-legume mixtures help to maintain fertility and tilth. Crops respond well to lime and fertilizer.

Pasture and hayland

Suitability: Moderately well suited
Adapted plants: Common bermudagrass, bahiagrass, vetch, and tall fescue
Management concerns: Wetness, flooding, and medium fertility
Management measures: Excessive water on the surface can be removed by field ditches and vegetated outlets. The use of equipment is limited by wetness and flooding. Grazing when the soil is wet results in compaction of the surface layer and damage to the plant community. Use of proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture and the soil in good condition. During flood periods, cattle need to be moved to adjacent protected areas or to pastures at higher elevations. Fertilizer and lime are needed for optimum growth of grasses and legumes.

Forestland

Site index and ordinating species: 90 for loblolly pine
Adapted trees: Loblolly pine, slash pine, sweetgum, cherrybark oak, and water oak
Suitability: Moderately well suited
Management concerns: Wetness and low strength
Management measures: Conventional methods of harvesting timber cannot be used during wet periods, mainly from December to April. Using standard wheeled and tracked equipment when the soil is moist causes the formation of ruts and compaction. Harvesting during only the drier periods can reduce rutting and soil compaction. Using low-pressure ground equipment minimizes damage to the soil and helps to maintain productivity. After the trees are harvested, carefully managed

reforestation can control competition from undesirable understory plants. Special site preparation, such as bedding and harrowing, or planting stock that is larger than is normally used, or containerized planting stock can reduce seedling mortality. Competing vegetation can be controlled by proper site preparation and by spraying, cutting, or girdling, which can eliminate unwanted weeds, brush, or trees. Suitable trees to plant are loblolly pine, slash pine, water oak, and green ash.

Wildlife habitat

Suitability for wetland wildlife: Good
Suitability for forestland wildlife: Good
Adapted species: Ducks, geese, rabbits, quail, doves, and other small furbearers
Management measures: Wildlife habitat can be improved by planting the appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Habitat for waterfowl and furbearers can be improved by constructing shallow ponds.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Flooding, wetness, and percs slowly
Corrective measures: These soils generally are not suited to this use unless they are drained and protected from flooding. Onsite sewage treatment plant or a sewage lagoon is needed.

Dwellings without basements

Limitation rating: Severe
Limitations: Flooding and wetness
Corrective measures: Flood control structures are needed. Otherwise, buildings should be constructed on elevated pilings or mounds to elevate the foundation above the level of flooding.

Local roads and streets

Limitation rating: Severe
Limitations: Low strength, wetness, and flooding
Corrective measures: Filling with suitable soil materials to build an elevated roadbase above the level of flooding, and installing culverts of adequate size and spacing are needed to keep roads from being inundated and damaged during flood episodes.

Lawns, landscaping, and golf fairways

Limitation rating: Severe
Limitations: Wetness
Corrective measures: Lawn and landscaping plants that are tolerant of wetness should be used. Surface and subsurface drains can be installed to remove excess water more quickly. Traffic should be restricted during periods when the topsoil is saturated. Use of most types of lawn maintenance equipment is restricted when the topsoil is saturated.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Flooding and wetness

Corrective measures: These soils generally are not suitable for this use. Surface drains and landscaping are needed to remove excess water quickly. Campsites cannot be used during periods of flooding.

Playgrounds

Limitation rating: Severe
Limitations: Wetness
Corrective measures: These soils generally are not suitable for this use unless the areas are drained and filled.

IoD—Iota silt loam, 3 to 8 percent slopes

Setting

Landform: Escarpment
Position on landform: Side slope along drainageways
Distinctive landform features: Slopes are generally short and smooth
Shape of areas: Irregular
Size of areas: 10 to 120 acres
Slope: Gently sloping and moderately sloping

Typical Profile

Surface layer:
0 to 3 inches—Brown silt loam

Subsurface layer:
3 to 7 inches—Pale brown silt loam

Subsoil layer:
7 to 16 inches—Red silty clay
16 to 28 inches—Yellowish red silty clay
28 to 43 inches—Mixed reddish brown and yellowish red silty clay loam

Underlying material:
43 to 60 inches—Pale brown silty clay loam
60 to 80 inches—Pale brown silt loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Water table: None within 6 feet
Flooding: Does not flood
Runoff: Very high
Permeability class: Very slow
Available water capacity: High
Natural soil fertility: Low
Shrink-swell potential: High

Composition

Iota soil and similar components: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils: Acadiana and Kaplan soils. The Acadiana soils have a subsoil that is brownish in the upper part. The Kaplan soils have a grayish subsoil. In addition Acadiana and Kaplan soils are on gentler side slopes.

Land Use

Dominant uses: Forestland
Other uses: Pasture

Cropland

Land capability subclass: 4e
Suitability: Poorly suited
Adapted crops: Soybeans
Management concerns: Low fertility, hazard of erosion, and potentially toxic levels of exchangeable aluminum
Management measures: Practices that can be used to control erosion include early fall seeding, conservation tillage, and constructing terraces, diversions, and grassed waterways. All tillage should be on the contour or across the slope. Returning all crop residue to the soil and using a cropping system that includes grasses, legumes, or grass-legume mixtures help to maintain fertility and tilth. Fertilizer and lime can be added to overcome the low fertility and the high level of aluminum in the root zone.

Pasture and hayland

Suitability: Moderately well suited
Adapted plants: Common bermudagrass, improved bermudagrass, bahiagrass, ryegrass, and white clover
Management concerns: Low fertility and the hazard of erosion
Management measures: Use of proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture and the soil in good condition. Preparing seedbeds on the contour or across the slope, if possible, helps to control runoff. Fertilizer and lime are needed for optimum growth of grasses and legumes.

Forestland

Site index and ordinating species: 98 for loblolly pine
Adapted trees: Slash pine, loblolly pine, southern red oak, and sweetgum
Suitability: Well suited
Management concerns: Low strength and slope
Management measures: Conventional methods of harvesting timber cannot be used during wet periods, mainly from December to April. Using standard wheeled and tracked equipment when the soil is moist causes the formation of ruts and compaction. Harvesting during only the drier periods can reduce rutting and soil compaction. Using low-pressure ground equipment minimizes damage to the soil and helps to maintain productivity. After the trees are harvested, carefully managed reforestation can control competition from undesirable understory plants. Competing vegetation can be controlled by proper site preparation and by spraying, cutting, or girdling, which can eliminate unwanted weeds, brush, or trees. Suitable trees to plant are loblolly pine and slash pine.

Wildlife habitat

Suitability for wetland wildlife: Very poor
Suitability for forestland wildlife: Good
Adapted species: Deer, squirrel, rabbits, dove, quail, and other small furbearers
Management measures: Wildlife habitat can be improved by planting the appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Percs slowly
Corrective measures: Onsite sewage treatment plant, sewage lagoon, or an oversize drainfield design generally is needed to prevent the system from malfunctioning during rainy periods.

Dwellings without basements

Limitation rating: Severe
Limitations: Shrink-swell
Corrective measures: Using suitable soil materials as backfill and a reinforced foundation design are needed to reduce the hazard of foundation cracking because of shrink-swell.

Local roads and streets

Limitation rating: Severe
Limitations: Shrink-swell and low strength
Corrective measures: Using suitable soil materials as backfill and a special roadbase design generally are needed to prevent damage to roads and streets because of low strength and shrink-swell in the subsoil.

Lawns, landscaping, and golf fairways

Limitation rating: Slight
Limitations: None
Corrective measures: None

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Percs slowly
Corrective measures: Surface drains and landscaping are needed to remove rain water quickly. Proper fertilizing, seeding, mulching, and shaping of slopes and gullies help to establish and maintain plant cover.

Playgrounds

Limitation rating: Severe
Limitations: Slope and percs slowly
Corrective measures: These soils are generally not suitable for this use because of slope.

JeA—Jeanerette silt loam, 0 to 1 percent slopes

Setting

Landform: Stream terrace
Position on landform: Broad flats
Distinctive landform features: None
Shape of areas: Irregular
Size of areas: 10 to several thousand acres
Slope: Level and nearly level

Typical Profile

Surface layer:
0 to 7 inches—Very dark grayish brown silt loam

Subsoil layer:
7 to 15 inches—Very dark gray silt loam
15 to 24 inches—Very dark gray silty clay loam
24 to 63 inches—Gray silty clay loam
63 to 88 inches—Light brownish gray silty clay loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Water table: Apparent at a depth of 1 to 2.5 feet, mostly from December to April
Flooding: Rarely flooded
Runoff: Low
Permeability class: Moderately slow
Available water capacity: High
Natural soil fertility: High
Shrink-swell potential: Moderate

Composition

Jeanerette soil and similar components: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils: Frost and Patoutville soils. These soils have a lighter colored surface layer. The Frost soils are on lower positions; the Patoutville soils are on higher positions.

Land Use

Dominant uses: Cropland
Other uses: Pasture and crayfish farming

Cropland

Land capability subclass: 2w
Suitability: Well suited
Adapted crops: Rice and soybeans are the main crops grown, but sugarcane, corn, grain sorghum, small grains, cotton, and vegetables are also suitable crops. Crayfish are commonly raised on this soil between cropping seasons.
Management concerns: Wetness
Management measures: Proper row arrangement, field ditches, and vegetated outlets can help remove excess water. Land grading and smoothing will improve surface drainage, allow more uniform application of irrigation water, and permit more efficient use of farm equipment. Proper irrigation systems are needed for the production of rice. Installing pipe or other drop structures in drainage ditches helps to control the water level in rice fields and prevent the excessive erosion of ditches. The soil is friable and can be easily kept in good tilth. Traffic pans form easily, but they can be broken up by deep plowing or chiseling. Returning all crop residue to the soil and using a cropping system that includes grasses, legumes, or grass-legume mixtures help to maintain fertility and tilth. Crops respond well to fertilizer. Lime is generally not needed.

Pasture and hayland

Suitability: Well suited
Adapted plants: Common bermudagrass, improved bermudagrass, bahiagrass, ryegrass, small grains, vetch, and white clover
Management concerns: Wetness
Management measures: Grazing when the soil is wet results in compaction of the surface layer and damage to the plant community. Use of proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture and the soil in good condition. Excessive water on the surface can be removed by field ditches and vegetated outlets.

Forestland

Site index and ordinating species: 120 for eastern cottonwood
Adapted trees: Green ash, eastern cottonwood, water oak, pecan, American sycamore, and cherrybark oak
Suitability: Well suited
Management concerns: Wetness and low strength
Management measures: Conventional methods of harvesting timber cannot be used during wet periods, mainly from December to April. Using standard wheeled and tracked equipment when the soil is moist causes the formation of ruts and compaction. Harvesting during only the drier periods can reduce rutting and soil compaction. Using low-pressure ground equipment minimizes damage to the soil and helps to maintain productivity. After the trees are harvested, carefully managed reforestation can control competition from undesirable understory plants. Special site preparation, such as bedding and harrowing, or planting stock that is larger than is normally used, or containerized planting stock can reduce seedling mortality. Competing vegetation can be controlled by proper site preparation and by spraying, cutting, or girdling, which can eliminate unwanted weeds, brush, or trees. Suitable trees to plant are green ash, nuttall oak, eastern cottonwood, American sycamore, and water oak.

Wildlife habitat

Suitability for wetland wildlife: Fair
Suitability for forestland wildlife: Good
Adapted species: Ducks, geese, rabbits, quail, doves, and other small furbearers
Management measures: Wildlife habitat can be improved by planting the appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Habitat for waterfowl and furbearers can be improved by constructing shallow ponds.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Wetness and percs slowly
Corrective measures: Onsite sewage treatment plant or sewage lagoon generally is needed to dispose of wastewater properly.

Dwellings without basements

Limitation rating: Severe
Limitations: Flooding and wetness

Corrective measures: Flood control structures are needed. Otherwise, buildings should be constructed on elevated pilings or mounds to elevate the foundation above the level of flooding.

Local roads and streets

Limitation rating: Severe
Limitations: Low strength
Corrective measures: Using suitable soil materials as backfill and a special roadbase design generally are needed to prevent damage to roads and streets because of low strength and shrink-swell.

Lawns, landscaping, and golf fairways

Limitation rating: Moderate
Limitations: Wetness
Corrective measures: Lawn and landscaping plants that are tolerant of occasional wetness should be used. Surface and subsurface drains can be installed to remove excess water more quickly.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Flooding and wetness
Corrective measures: Surface drains and landscaping are needed to remove excess water quickly. Addition of some fill material may be necessary. Use of areas should be restricted during wet periods. Use of campsites may be restricted during rare episodes of flooding, and equipment would have to be installed that will not be damaged by periods of inundation.

Playgrounds

Limitation rating: Severe
Limitations: Wetness
Corrective measures: Surface drains and landscaping are needed to remove excess water quickly. Addition of some fill material may be necessary. Use of areas should be restricted during wet periods. Use of playgrounds may be restricted during rare episodes of flooding, and equipment would have to be installed that will not be damaged by periods of inundation.

JuA—Judice silty clay loam, 0 to 1 percent slopes

Setting

Landform: Depression on stream terrace
Position on landform: Broad depressions
Distinctive landform features: None
Shape of areas: Irregular
Size of areas: There is only one delineation of 510 acres.
Slope: Level and nearly level

Typical Profile

Surface layer:
0 to 5 inches—Very dark gray silty clay loam

Subsoil layer:
5 to 23 inches—Very dark gray silty clay

23 to 33 inches—Dark gray silty clay
33 to 80 inches—Gray silty clay

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained
Water table: Apparent at the surface to a depth of 1.5 feet, mostly from December to April
Flooding: Rarely flooded
Runoff: Negligible
Permeability class: Very slow
Available water capacity: High
Natural soil fertility: Medium
Shrink-swell potential: High

Composition

Judice soil and similar components: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils: Jeanerette and Patoutville soils. These soils are on higher positions. The Jeanerette and Patoutville soils are loamy throughout. The Patoutville soils have a lighter colored surface layer.

Land Use

Dominant uses: Cropland
Other uses: Pasture and crayfish farming

Cropland

Land capability subclass: 3w
Suitability: Moderately well suited
Adapted crops: Rice and soybeans mainly, but grain sorghum is also suitable. Crayfish are commonly raised on this soil between cropping seasons.
Management concerns: Wetness, poor tilth, and medium fertility
Management measures: Proper row arrangement, field ditches, and vegetated outlets can help remove excess water. Land grading and smoothing will improve surface drainage, allow more uniform application of irrigation water, and permit more efficient use of farm equipment. Proper irrigation systems are needed for the production of rice. Installing pipe or other drop structures in drainage ditches helps to control the water level in rice fields and prevent the excessive erosion of ditches. The soil is difficult to keep in good tilth. It can be worked only within a narrow range of moisture content, and becomes cloddy if tilled when too wet or too dry. Wetness may delay the planting and harvesting of crops. Returning all crop residue to the soil and using a cropping system that includes grasses, legumes, or grass-legume mixtures help to maintain fertility and tilth. Crops respond well to fertilizer.

Pasture and hayland

Suitability: Well suited
Adapted plants: Common and improved bermudagrass, ryegrass, dallisgrass, tall fescue, and white clover
Management concerns: Wetness
Management measures: Grazing when the soil is wet results in compaction of the surface layer and damage to the plant community. Wetness limits the choice of plants and the period of grazing. Use of proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture and the soil in good condition.

Excessive water on the surface can be removed by field ditches and vegetated outlets. Fertilizer is needed for optimum growth of grasses and legumes.

Forestland

Site index and ordinating species: 85 for cherrybark oak
Adapted trees: Water oak, sweetgum, cherrybark oak, and eastern cottonwood
Suitability: Poorly suited
Management concerns: Wetness, low strength, and stickiness
Management measures: Conventional methods of harvesting timber cannot be used during wet periods, mainly from December to April. Using standard wheeled and tracked equipment when the soil is moist causes the formation of ruts and compaction. Harvesting during only the drier periods can reduce rutting and soil compaction. Using low-pressure ground equipment minimizes damage to the soil and helps to maintain productivity. After the trees are harvested, carefully managed reforestation can control competition from undesirable understory plants. Special site preparation, such as bedding and harrowing, or planting stock that is larger than is normally used, or containerized planting stock can reduce seedling mortality. Competing vegetation can be controlled by proper site preparation and by spraying, cutting, or girdling, which can eliminate unwanted weeds, brush, or trees. Suitable trees to plant are green ash, cherrybark oak, sweetgum, and water oak.

Wildlife habitat

Suitability for wetland wildlife: Good
Suitability for forestland wildlife: Good
Adapted species: Ducks, geese, rabbits, quail, doves, and other small furbearers
Management measures: Wildlife habitat can be improved by planting the appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Habitat for waterfowl and furbearers can be improved by constructing shallow ponds.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Wetness and percs slowly
Corrective measures: Onsite sewage treatment plant or sewage lagoon generally is needed to dispose of wastewater properly.

Dwellings without basements

Limitation rating: Severe
Limitations: Flooding, wetness, and shrink-swell
Corrective measures: Flood control structures are needed. Otherwise, buildings should be constructed on elevated pilings or mounds to elevate the foundation above the level of flooding.

Local roads and streets

Limitation rating: Severe
Limitations: Shrink-swell, low strength, and wetness
Corrective measures: Using suitable soil materials as backfill and a special roadbase design generally are needed to prevent damage to roads and streets because of low strength and shrink-swell in the subsoil. Roadside ditches are needed to remove excess water quickly.

Lawns, landscaping, and golf fairways

Limitation rating: Severe
Limitations: Wetness
Corrective measures: Lawn and landscaping plants that are tolerant of wetness should be used. Surface and subsurface drains can be installed to remove excess water more quickly. Traffic should be restricted during periods when the topsoil is saturated. Use of most types of lawn maintenance equipment is restricted when the topsoil is saturated.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Flooding, wetness, and percs slowly
Corrective measures: These soils generally are not suitable for this use unless the areas are drained and filled.

Playgrounds

Limitation rating: Severe
Limitations: Wetness and percs slowly
Corrective measures: These soils generally are not suitable for this use unless the areas are drained and filled.

KpA—Kaplan silt loam, 0 to 1 percent slopes

Setting

Landform: Stream terrace
Position on landform: Broad convex ridges
Distinctive landform features: None
Shape of areas: Irregular
Size of areas: 300 to 630 acres
Slope: Level and nearly level

Typical Profile

Surface layer:
0 to 10 inches—Dark grayish brown silt loam

Subsoil layer:
10 to 15 inches—Dark grayish brown silty clay loam
15 to 20 inches—Dark grayish brown silty clay
20 to 33 inches—Yellowish brown silty clay
33 to 43 inches—Light brownish gray silty clay loam
43 to 63 inches—Light olive gray silty clay
63 to 80 inches—Gray silty clay

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Water table: Apparent at a depth of 1.5 to 2.5 feet, mostly from December to April
Flooding: Does not flood
Runoff: Medium
Permeability class: Slow
Available water capacity: High
Natural soil fertility: Medium

Shrink-swell potential: High

Composition

Kaplan soil and similar components: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils: Crowley, Midland, and Mowata soils. The Crowley soils are on similar positions. The Midland and Mowata soils are on lower positions. The Midland soils have a clayey surface layer. The Mowata soils have streaks and pockets of silt loam that extend into the subsoil.

Land Use

Dominant uses: Cropland
Other uses: Pasture and crayfish farming

Cropland

Land capability subclass: 3w
Suitability: Moderately well suited
Adapted crops: Rice and soybeans are the main crops grown, but corn and small grains are suitable crops. Crayfish are commonly raised on this soil between cropping seasons.
Management concerns: Wetness and medium fertility
Management measures: Proper row arrangement, field ditches, and vegetated outlets can help remove excess water. Land grading and smoothing will improve surface drainage, allow more uniform application of irrigation water, and permit more efficient use of farm equipment. Proper irrigation systems are needed for the production of rice. Installing pipe or other drop structures in drainage ditches helps to control the water level in rice fields and prevent the excessive erosion of ditches. The soil is friable and can be easily kept in good tilth. Traffic pans form easily, but they can be broken up by deep plowing or chiseling. Returning all crop residue to the soil and using a cropping system that includes grasses, legumes, or grass-legume mixtures help to maintain fertility and tilth. Crops respond well to lime and fertilizer.

Pasture and hayland

Suitability: Well suited
Adapted plants: Common bermudagrass, improved bermudagrass, bahiagrass, ryegrass, and white clover
Management concerns: Wetness and medium fertility
Management measures: Grazing when the soil is wet results in compaction of the surface layer and damage to the plant community. Use of proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture and the soil in good condition. Excessive water on the surface can be removed by field ditches and vegetated outlets. Fertilizer and lime are needed for optimum growth of grasses and legumes.

Forestland

Site index and ordinating species: 90 for water oak
Adapted trees: Water oak, sweetgum, and green ash
Suitability: Moderately well suited
Management concerns: Low strength and stickiness
Management measures: Conventional methods of harvesting timber cannot be used during wet periods, mainly from December to April. Using standard wheeled and tracked equipment when the soil is moist causes the formation of ruts and

compaction. Harvesting during only the drier periods can reduce rutting and soil compaction. Using low-pressure ground equipment minimizes damage to the soil and helps to maintain productivity. After the trees are harvested, carefully managed reforestation can control competition from undesirable understory plants. Special site preparation, such as bedding and harrowing, or planting stock that is larger than is normally used, or containerized planting stock can reduce seedling mortality. Competing vegetation can be controlled by proper site preparation and by spraying, cutting, or girdling, which can eliminate unwanted weeds, brush, or trees. Suitable trees to plant are green ash, water oak, and sweetgum.

Wildlife habitat

Suitability for wetland wildlife: Good
Suitability for forestland wildlife: Fair
Adapted species: Ducks, geese, rabbits, quail, doves, and other small furbearers
Management measures: Wildlife habitat can be improved by planting the appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Habitat for waterfowl and furbearers can be improved by constructing shallow ponds.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Wetness and percs slowly
Corrective measures: Onsite sewage treatment plant or sewage lagoon generally is needed to dispose of wastewater properly.

Dwellings without basements

Limitation rating: Severe
Limitations: Shrink-swell
Corrective measures: Using suitable soil materials as backfill and a reinforced foundation design are needed to reduce the hazard of foundation cracking because of shrink-swell.

Local roads and streets

Limitation rating: Severe
Limitations: Shrink-swell and low strength
Corrective measures: Using suitable soil materials as backfill and a special roadbase design generally are needed to prevent damage to roads and streets because of low strength and shrink-swell in the subsoil.

Lawns, landscaping, and golf fairways

Limitation rating: Moderate
Limitations: Wetness
Corrective measures: Lawn and landscaping plants that are tolerant of occasional wetness should be used. Surface and subsurface drains can be installed to remove excess water more quickly.

Recreational Use

Camp and picnic areas

Limitation rating: Moderate
Limitations: Wetness and percs slowly

Corrective measures: Surface drains and landscaping are needed to remove excess water quickly. Addition of some fill material may be necessary.

Playgrounds

Limitation rating: Moderate
Limitations: Wetness and percs slowly
Corrective measures: Surface drains and landscaping may be needed to remove rain water quickly.

KpB—Kaplan silt loam, 1 to 3 percent slopes

Setting

Landform: Stream terrace
Position on landform: Convex ridge or side slope
Distinctive landform features: Slopes are generally short and smooth
Shape of areas: Irregular
Size of areas: 300 to 1,000 acres
Slope: Gently sloping

Typical Profile

Surface layer:
0 to 4 inches—Dark brown silt loam
4 to 9 inches—Dark grayish brown silt loam

Subsoil layer:
9 to 16 inches—Dark grayish brown silty clay loam
16 to 22 inches—Dark grayish brown silty clay
22 to 36 inches—Light olive brown silty clay
36 to 53 inches—Grayish brown silty clay

Underlying material:
53 to 85 inches—Gray silty clay

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Water table: Apparent at a depth of 1.5 to 2.5 feet, mostly from December to April
Flooding: Does not flood
Runoff: High
Permeability class: Slow
Available water capacity: High
Natural soil fertility: Medium
Shrink-swell potential: High

Composition

Kaplan soil and similar components: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils: Acadiana, Crowley, Midland, and Mowata soils. The Acadiana soils are on side slopes along drainageways and are browner throughout. The Crowley soils are on similar positions. The Mowata and Midland soils are on lower positions. The Mowata soils have streaks and pockets of silt loam that extend into the subsoil. The Midland soils have a clayey surface layer.

Land Use

Dominant uses: Cropland
Other uses: Pasture

Cropland

Land capability subclass: 3e
Suitability: Moderately well suited
Adapted crops: Rice and soybeans are the main crops grown, but corn, small grains, and sweet potatoes are suitable crops.
Management concerns: Wetness, medium fertility, and the hazard of erosion
Management measures: Proper row arrangement, field ditches, and vegetated outlets can help remove excess water. Land grading and smoothing will improve surface drainage, allow more uniform application of irrigation water, and permit more efficient use of farm equipment. Proper irrigation systems are needed for the production of rice. Installing pipe or other drop structures in drainage ditches helps to control the water level in rice fields and prevent the excessive erosion of ditches. The hazard of erosion can be reduced if fall grain is seeded early, stubble-mulch tillage is used, or tillage and seeding are on the contour or across the slope. Waterways can be shaped and seeded to perennial grasses. The soil is friable and can be easily kept in good tilth. Traffic pans form easily, but they can be broken up by deep plowing or chiseling. Returning all crop residue to the soil and using a cropping system that includes grasses, legumes, or grass-legume mixtures help to maintain fertility and tilth. Crops respond well to lime and fertilizer.

Pasture and hayland

Suitability: Well suited
Adapted plants: Common bermudagrass, improved bermudagrass, bahiagrass, ryegrass, vetch, and white clover
Management concerns: Wetness, medium fertility, and the hazard of erosion
Management measures: Grazing when the soil is wet results in compaction of the surface layer and damage to the plant community. Use of proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture and the soil in good condition. Excessive water on the surface can be removed by field ditches and vegetated outlets. Preparing seedbeds on the contour or across the slope, if possible, helps to control runoff. Fertilizer and lime are needed for optimum growth of grasses and legumes.

Forestland

Site index and ordinating species: 90 for water oak
Adapted trees: Water oak, sweetgum, and green ash
Suitability: Moderately well suited
Management concerns: Low strength and stickiness
Management measures: Conventional methods of harvesting timber cannot be used during wet periods, mainly from December to April. Using standard wheeled and tracked equipment when the soil is moist causes the formation of ruts and compaction. Harvesting during only the drier periods can reduce rutting and soil compaction. Using low-pressure ground equipment minimizes damage to the soil and helps to maintain productivity. After the trees are harvested, carefully managed reforestation can control competition from undesirable understory plants. Special site preparation, such as bedding and harrowing, or planting stock that is larger than is normally used, or containerized planting stock can reduce seedling mortality. Competing vegetation can be controlled by proper site preparation and by spraying,

cutting, or girdling, which can eliminate unwanted weeds, brush, or trees. Suitable trees to plant are green ash, water oak, and sweetgum.

Wildlife habitat

Suitability for wetland wildlife: Fair
Suitability for forestland wildlife: Fair
Adapted species: Ducks, geese, rabbits, quail, doves, and other small furbearers
Management measures: Wildlife habitat can be improved by planting the appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Habitat for waterfowl and furbearers can be improved by constructing shallow ponds.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Wetness and percs slowly
Corrective measures: Onsite sewage treatment plant or sewage lagoon generally is needed to dispose of wastewater properly.

Dwellings without basements

Limitation rating: Severe
Limitations: Shrink-swell
Corrective measures: Using suitable soil materials as backfill and a reinforced foundation design are needed to reduce the hazard of foundation cracking because of shrink-swell.

Local roads and streets

Limitation rating: Severe
Limitations: Shrink-swell and low strength
Corrective measures: Using suitable soil materials as backfill and a special roadbase design generally are needed to prevent damage to roads and streets because of low strength and shrink-swell in the subsoil.

Lawns, landscaping, and golf fairways

Limitation rating: Moderate
Limitations: Wetness
Corrective measures: Lawn and landscaping plants that are tolerant of occasional wetness should be used. Surface and subsurface drains can be installed to remove excess water more quickly.

Recreational Use

Camp and picnic areas

Limitation rating: Moderate
Limitations: Wetness and percs slowly
Corrective measures: Surface drains and landscaping are needed to remove excess water quickly. Addition of some fill material may be necessary.

Playgrounds

Limitation rating: Moderate
Limitations: Slope, wetness, and percs slowly
Corrective measures: Playgrounds should be constructed on the nearly level parts of the areas. Surface drains and landscaping are needed to remove excess water quickly.

KvA—Kinder-Vidrine silt loams, 0 to 1 percent slopes

Setting

Landform: Stream terrace
Position on landform: The Kinder soil is on broad flats and depressions on terraces; and the Vidrine soil is on convex, circular mounds
Distinctive landform features: Undisturbed areas are broad flats with many small circular mounds about 30 to 50 feet in diameter and about 1 to 2 feet in height
Shape of areas: Irregular
Size of areas: 5 to several thousand acres
Slope: The Kinder soils are level and nearly level; and the Vidrine soils are nearly level to gently sloping

Typical Profile

Kinder

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

Subsurface layer:
5 to 14 inches—Light brownish gray silt loam

Subsoil layer:
14 to 22 inches—Grayish brown silty clay loam and light brownish gray silt loam
22 to 59 inches—Grayish brown silty clay loam
59 to 67 inches—Grayish brown clay loam
67 to 77 inches—Light olive gray silty clay loam
77 to 85 inches—Variegated olive gray, reddish brown, and light brownish gray silty clay

Vidrine

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

Subsoil layer:
5 to 23 inches—Light yellowish brown silt loam
23 to 27 inches—Pale brown silty clay loam and light gray silt loam
27 to 36 inches—Light brownish gray silty clay
36 to 44 inches—Gray silty clay
44 to 60 inches—Light gray silty clay loam
60 to 80 inches—Light gray clay loam

Soil Properties and Qualities

Kinder

Depth class: Very deep
Drainage class: Poorly drained
Water table: Perched at the surface to a depth of 2 feet, mostly from December to April
Flooding: Does not flood
Runoff: Low
Permeability class: Slow
Available water capacity: High
Natural soil fertility: Low
Shrink-swell potential: Moderate

Vidrine

Depth class: Very deep

Drainage class: Somewhat poorly drained or moderately well drained
Water table: Perched at a depth of 1 to 2 feet, mostly from December to April
Flooding: Does not flood
Runoff: Medium
Permeability class: Slow
Available water capacity: Very high
Natural soil fertility: Medium
Shrink-swell potential: High

Composition

Kinder soil and similar components: 62 to 78 percent
Vidrine soil and similar components: 13 to 27 percent
Dissimilar soils: 5 to 15 percent

Minor Components

Dissimilar soils: Acadiana and Crowley soils. The Acadiana soils are on side slopes along drainageways, are better drained than the Kinder soils, and contain more clay in the upper part of the subsoil than the Vidrine soils. The Crowley soils are on ridges at higher elevations, and have an abrupt textural change between the subsurface layer and the subsoil.

Land Use

Dominant uses: Forestland
Other uses: Cropland, pasture, and crayfish farming

Cropland

Land capability subclass: 3w in the Kinder soil; 2e in the Vidrine soil
Suitability: Moderately well suited
Adapted crops: Rice and soybeans are the main crops grown, but corn, small grains, and vegetables are also suitable crops. Crayfish are commonly raised on these soils between cropping seasons.
Management concerns: Wetness, low fertility, and potentially toxic levels of exchangeable aluminum
Management measures: Proper row arrangement, field ditches, and vegetated outlets can help remove excess water. Land grading and smoothing will improve surface drainage, allow more uniform application of irrigation water, and permit more efficient use of farm equipment. Proper irrigation systems are needed for the production of rice. Installing pipe or other drop structures in drainage ditches helps to control the water level in rice fields and prevent the excessive erosion of ditches. The soil is friable and can be easily kept in good tilth. Traffic pans form easily, but they can be broken up by deep plowing or chiseling. Returning all crop residue to the soil and using a cropping system that includes grasses, legumes, or grass-legume mixtures help to maintain fertility and tilth. Most crops respond to fertilizer and liming programs designed to overcome the low fertility and moderately high to high levels of aluminum.

Pasture and hayland

Suitability: Moderately well suited
Adapted plants: Common bermudagrass, improved bermudagrass, bahiagrass, ryegrass, vetch, and white clover
Management concerns: Wetness and low fertility
Management measures: Grazing when the soil is wet results in compaction of the surface layer and damage to the plant community. Use of proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture and the soil in good condition. Excessive water on the surface can be removed by field

ditches and vegetated outlets. Fertilizer and lime are needed for optimum growth of grasses and legumes.

Forestland

Site index and ordinating species: 104 for loblolly pine in the Kinder soil; 90 for loblolly pine in the Vidrine soil.
Adapted trees: Loblolly pine, slash pine, and sweetgum
Suitability: Moderately well suited
Management concerns: Wetness and low strength
Management measures: Conventional methods of harvesting timber cannot be used during wet periods, mainly from December to April. Using standard wheeled and tracked equipment when the soil is moist causes the formation of ruts and compaction. Harvesting during only the drier periods can reduce rutting and soil compaction. Using low-pressure ground equipment minimizes damage to the soil and helps to maintain productivity. After the trees are harvested, carefully managed reforestation can control competition from undesirable understory plants. Special site preparation, such as bedding and harrowing, or planting stock that is larger than is normally used, or containerized planting stock can reduce seedling mortality. Competing vegetation can be controlled by proper site preparation and by spraying, cutting, or girdling, which can eliminate unwanted weeds, brush, or trees. Suitable trees to plant are loblolly pine, slash pine, water oak, and cherrybark oak

Wildlife habitat

Suitability for wetland wildlife: good in the Kinder soil; fair in the Vidrine soil
Suitability for forestland wildlife: Good
Adapted species: Ducks, geese, deer, squirrel, rabbits, quail, doves, and other small furbearers
Management measures: Wildlife habitat can be improved by planting the appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Habitat for waterfowl and furbearers can be improved by constructing shallow ponds.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Wetness and percs slowly
Corrective measures: Onsite sewage treatment plant or sewage lagoon generally is needed to dispose of wastewater properly.

Dwellings without basements

Limitation rating: Severe
Limitations: Wetness in the Kinder soil; wetness and shrink-swell in the Vidrine soil
Corrective measures: Surface and subsurface drainage is needed around the foundations of buildings. Using suitable soil materials as backfill can help prevent the effects of shrink-swell.

Local roads and streets

Limitation rating: Severe
Limitations: Low strength and wetness in the Kinder soil; low strength and shrink-swell in the Vidrine soil
Corrective measures: Special roadbase design and construction techniques generally are needed to compensate for low strength in the subsoil. Roadside ditches are needed to remove excess water quickly.

Lawns, landscaping, and golf fairways

Limitation rating: Severe in the Kinder soil; moderate in the Vidrine soil
Limitations: Wetness
Corrective measures: Lawn and landscaping plants that are tolerant of wetness should be used. Surface and subsurface drains can be installed to remove excess water more quickly. Traffic should be restricted during periods when the topsoil is saturated. Use of most types of lawn maintenance equipment is restricted when the topsoil is saturated.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Wetness and percs slowly
Corrective measures: Surface drains and landscaping are needed to remove excess water quickly. Addition of some fill material may be necessary. Use of areas should be restricted during wet periods.

Playgrounds

Limitation rating: Severe
Limitations: Wetness
Corrective measures: Surface drains and landscaping are needed to remove excess water quickly. Addition of some fill material may be necessary. Use of areas should be restricted during wet periods.

MaB—Mamou silt loam, 1 to 3 percent slopes

Setting

Landform: Elongated deltaic natural levees
Position on landform: Natural levees of old stream channels
Distinctive landform features: Short and smooth slopes
Shape of areas: Irregular
Size of areas: 5 to 65 acres
Slope: Gently sloping

Typical Profile

Surface layer:
0 to 7 inches—Dark grayish brown silt loam

Subsurface layer:
7 to 14 inches—Yellowish brown silt loam

Subsoil layer:
14 to 25 inches—Dark yellowish brown silty clay loam
25 to 47 inches—Yellowish brown silty clay loam

Underlying material:
47 to 61 inches—Brown loam
61 to 80 inches—Variegated light brownish gray, yellowish brown, and red stratified loam and clay

Soil Properties and Qualities

Depth class: Deep
Drainage class: Somewhat poorly drained
Water table: Perched at a depth of 0.5 to 1 feet, mostly from December to April

Flooding: Does not flood
Runoff: Low and medium
Permeability class: Slow
Available water capacity: Very high
Natural soil fertility: Medium
Shrink-swell potential: Moderate

Composition

Mamou soil and similar components: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils: Crowley and Mowata soils. The Crowley soils are on higher positions and are more clayey in the subsoil. The Mowata soils are on lower positions and are poorly drained.

Land Use

Dominant uses: Cropland
Other uses: Pasture and homesites

Cropland

Land capability subclass: 2e
Suitability: Well suited
Adapted crops: Rice and soybeans are the main crops grown, but corn, small grains, and sweet potatoes are suitable crops.
Management concerns: Wetness, medium fertility, and the hazard of erosion
Management measures: Proper row arrangement, field ditches, and vegetated outlets can help remove excess water. Land grading and smoothing will improve surface drainage, allow more uniform application of irrigation water, and permit more efficient use of farm equipment. Proper irrigation systems are needed for the production of rice. Installing pipe or other drop structures in drainage ditches helps to control the water level in rice fields and prevent the excessive erosion of ditches. The hazard of erosion can be reduced if fall grain is seeded early, stubble-mulch tillage is used, or tillage and seeding are on the contour or across the slope. Waterways can be shaped and seeded to perennial grasses. The soil is friable and can be easily kept in good tilth. Traffic pans form easily, but they can be broken up by deep plowing or chiseling. Returning all crop residue to the soil and using a cropping system that includes grasses, legumes, or grass-legume mixtures help to maintain fertility and tilth. Crops respond well to lime and fertilizer.

Pasture and hayland

Suitability: Well suited
Adapted plants: Common bermudagrass, improved bermudagrass, bahiagrass, ryegrass, and white clover
Management concerns: Wetness, medium fertility, and the hazard of erosion
Management measures: Grazing when the soil is wet results in compaction of the surface layer and damage to the plant community. Use of proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture and the soil in good condition. Excessive water on the surface can be removed by field ditches and vegetated outlets. Preparing seedbeds on the contour or across the slope, if possible, helps to control runoff. Fertilizer and lime are needed for optimum growth of grasses and legumes.

Forestland

Site index and ordinating species: 90 for loblolly pine and slash pine
Adapted trees: Slash pine, loblolly pine, water oak, cherrybark oak, and sweetgum
Suitability: Moderately well suited
Management concerns: Low strength and wetness
Management measures: Conventional methods of harvesting timber cannot be used during wet periods, mainly from December to April. Using standard wheeled and tracked equipment when the soil is moist causes the formation of ruts and compaction. Harvesting during only the drier periods can reduce rutting and soil compaction. Using low-pressure ground equipment minimizes damage to the soil and helps to maintain productivity. After the trees are harvested, carefully managed reforestation can control competition from undesirable understory plants. Special site preparation, such as bedding and harrowing, or planting stock that is larger than is normally used, or containerized planting stock can reduce seedling mortality. Competing vegetation can be controlled by proper site preparation and by spraying, cutting, or girdling, which can eliminate unwanted weeds, brush, or trees. Suitable trees to plant are slash pine and loblolly pine.

Wildlife habitat

Suitability for wetland wildlife: Fair
Suitability for forestland wildlife: Good
Adapted species: Ducks, geese, rabbits, quail, doves, and other small furbearers
Management measures: Wildlife habitat can be improved by planting the appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Habitat for waterfowl and furbearers can be improved by constructing shallow ponds.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Wetness and percs slowly
Corrective measures: Onsite sewage treatment plant or sewage lagoon generally is needed to dispose of wastewater properly.

Dwellings without basements

Limitation rating: Severe
Limitations: Wetness
Corrective measures: Surface and subsurface drainage is needed around the foundations of buildings.

Local roads and streets

Limitation rating: Severe
Limitations: Low strength and wetness
Corrective measures: Special roadbase design and construction techniques generally are needed to compensate for low strength in the subsoil. Roadside ditches are needed to remove excess water quickly.

Lawns, landscaping, and golf fairways

Limitation rating: Severe
Limitations: Wetness
Corrective measures: Lawn and landscaping plants that are tolerant of wetness should be used. Surface and subsurface drains can be installed to remove excess water more quickly. Traffic should be restricted during periods when the topsoil is saturated.

Use of most types of lawn maintenance equipment is restricted when the topsoil is saturated.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Wetness
Corrective measures: Surface drains and landscaping are needed to remove excess water quickly. Addition of some fill material may be necessary. Use of areas should be restricted during wet periods.

Playgrounds

Limitation rating: Severe
Limitations: Wetness
Corrective measures: Surface drains and landscaping are needed to remove excess water quickly. Addition of some fill material may be necessary. Use of areas should be restricted during wet periods.

MbC—Memphis silt loam, 1 to 5 percent slopes

Setting

Landform: Stream terrace
Position on landform: Convex ridges and side slopes
Distinctive landform features: Short and smooth slopes
Shape of areas: Irregular
Size of areas: A 6-acre delineation was cut out to match St. Landry Parish
Slope: Gently sloping and moderately sloping

Typical Profile

Surface layer:
0 to 6 inches—Dark brown silt loam

Subsoil layer:
6 to 40 inches—Dark brown silty clay loam
40 to 54 inches—Dark brown silt loam

Underlying material:
54 to 84 inches—Dark yellowish brown silt loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Well drained
Water table: None within a depth of 6 feet
Flooding: Does not flood
Runoff: Low
Permeability class: Moderate
Available water capacity: Very high
Natural soil fertility: Medium
Shrink-swell potential: Low

Composition

Memphis soil and similar components: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils: Duson and Patoutville soils. The somewhat poorly drained Duson and Patoutville soils are on lower positions and are gray throughout.

Land Use

Dominant uses: Cropland
Other uses: Pasture and homesites

Cropland

Land capability subclass: 2e
Suitability: Well suited
Adapted crops: Soybeans, mainly, but grain sorghum, corn, wheat, cotton, and sweet potatoes are suitable crops.
Management concerns: Medium fertility, droughtiness, and the hazard of erosion
Management measures: The soil is friable and easy to keep in good tilth. It can be worked over a wide range of moisture content. Plowpans develop easily but can be broken up by deep plowing or chiseling. All tillage should be on the contour or across the slope. Limiting tillage for seedbed preparation and weed control reduces runoff and erosion. Installing drop structures in grassed waterways helps to control formation of gullies. Crusting of the surface and compaction of the soil can be reduced by returning the crop residue to the soil and by using minimum tillage. Most crops respond well to fertilizer and lime.

Pasture and hayland

Suitability: Well suited
Adapted plants: Bahiagrass, common and improved bermudagrass, ryegrass, vetch, and wheat
Management concerns: Medium fertility and the hazard of erosion
Management measures: Proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture in good condition. Erosion can be controlled by maintaining a good plant cover. Seedbeds should be prepared on the contour or across the slope. Fertilizer and lime are needed for the optimum growth of grasses and legumes.

Forestland

Site index and ordinating species: 105 for loblolly pine
Adapted trees: Loblolly pine, sweetgum, and cherrybark oak
Suitability: Well suited
Management concerns: Low strength
Management measures: Competing vegetation can be controlled by proper site preparation and by spraying, cutting, or girdling, which can eliminate unwanted weeds, brush, and trees. Planting trees on the contour helps to control erosion. The trees suitable for planting are cherrybark oak, sweetgum, loblolly pine, and slash pine.

Wildlife habitat

Suitability for wetland wildlife: Very poor
Suitability for forestland wildlife: Good
Adapted species: Doves, quail, rabbits, squirrel, deer, and other small furbearers
Management measures: Wildlife habitat can be improved by planting the appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants.

Urban Use

Septic tank absorption fields

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: A standard septic tank and drainfield design generally are adequate to dispose of wastewater properly.

Dwellings without basements

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: Standard construction and landscaping techniques generally are adequate.

Local roads and streets

Limitation rating: Severe
Limitations: Low strength
Corrective measures: Special roadbase design and construction techniques generally are needed to compensate for low strength in the subsoil.

Lawns, landscaping, and golf fairways

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: A wide variety of lawn and landscaping plants generally can be used. Standard techniques for establishing and maintaining lawns generally are adequate.

Recreational Use

Camp and picnic areas

Limitation rating: Slight
Limitations: No significant limitations
Corrective measures: These soils are well suited to this use with normal maintenance.

Playgrounds

Limitation rating: Moderate
Limitations: Slope
Corrective measures: Playgrounds should be constructed on the nearly level parts of the areas.

MdA—Midland silty clay loam, 0 to 1 percent slopes

Setting

Landform: Slightly concave depressional areas on stream terraces
Position on landform: Low, broad flats and in slightly concave areas of the Gulf Coast Prairie
Distinctive landform features: None
Shape of areas: Irregular
Size of areas: 15 to 2,500 acres
Slope: Level and nearly level

Typical Profile

Surface layer:
0 to 9 inches—Dark grayish brown silty clay loam

Subsoil layer:
9 to 19 inches—Dark gray silty clay
19 to 80 inches—Gray silty clay

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained
Water table: Apparent at a depth of 0.5 to 2 feet, mostly from December to April
Flooding: Rarely flooded
Runoff: Negligible
Permeability class: Very slow
Available water capacity: High
Natural soil fertility: Medium
Shrink-swell potential: High

Composition

Midland soil and similar components: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils: Crowley and Mowata soils. The Crowley soils are on higher positions. The Mowata soils are on similar positions and have streaks and pockets of silt loam that extend into the subsoil.

Land Use

Dominant uses: Cropland
Other uses: Pasture and crayfish farming

Cropland

Land capability subclass: 3w
Suitability: Moderately well suited
Adapted crops: Rice and soybeans mainly, but grain sorghum is also suitable. Crayfish are commonly raised on this soil between cropping seasons (fig. 6).
Management concerns: Wetness, poor tilth, and medium fertility
Management measures: Proper row arrangement, field ditches, and vegetated outlets can help remove excess water. Land grading and smoothing will improve surface drainage, allow more uniform application of irrigation water, and permit more efficient use of farm equipment. Proper irrigation systems are needed for the production of rice. Installing pipe or other drop structures in drainage ditches helps to control the water level in rice fields and prevent the excessive erosion of ditches. The soil is difficult to keep in good tilth. It can be worked only within a narrow range of moisture content. It becomes cloddy if tilled when it is too wet or too dry. Wetness may delay the planting and harvesting of crops. Returning all crop residue to the soil and using a cropping system that includes grasses, legumes, or grass-legume mixtures help to maintain fertility and tilth. Crops respond well to lime and fertilizer.

Figure 6.—Crawfish production is often used in rotation with rice, such as this field in an area of Midland silty clay loam, 0 to 1 percent slopes.

Pasture and hayland

Suitability: Well suited
Adapted plants: Bahiagrass, common and improved bermudagrass, ryegrass, dallisgrass, tall fescue, and white clover
Management concerns: Wetness and medium fertility
Management measures: Grazing when the soil is wet results in compaction of the surface layer and damage to the plant community. Wetness limits the choice of plants and the period of grazing. Use of proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture and the soil in good condition. Excessive water on the surface can be removed by field ditches and vegetated outlets. Fertilizer and lime are needed for optimum growth of grasses and legumes.

Forestland

Site index and ordinating species: 90 for water oak
Adapted trees: Water oak, green ash, sweetgum, and cherrybark oak
Suitability: Moderately well suited
Management concerns: Wetness, stickiness, and low strength
Management measures: Conventional methods of harvesting timber cannot be used during wet periods, mainly from December to April. Using standard wheeled and tracked equipment when the soil is moist causes the formation of ruts and compaction. Harvesting during only the drier periods can reduce rutting and soil compaction. Using low-pressure ground equipment minimizes damage to the soil and helps to maintain productivity. After the trees are harvested, carefully managed reforestation can control competition from undesirable understory plants. Special site preparation, such as bedding and harrowing, or planting stock that is larger than is normally used, or containerized planting stock can reduce seedling mortality. Competing vegetation can be controlled by proper site preparation and by spraying,

cutting, or girdling, which can eliminate unwanted weeds, brush, or trees. Suitable trees to plant are green ash, water oak, and nuttall oak.

Wildlife habitat

Suitability for wetland wildlife: Good
Suitability for forestland wildlife: Fair
Adapted species: Ducks, geese, rabbits, quail, doves, and other small furbearers
Management measures: Wildlife habitat can be improved by planting the appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Habitat for waterfowl and furbearers can be improved by constructing shallow ponds.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Wetness and percs slowly
Corrective measures: Onsite sewage treatment plant or sewage lagoon generally is needed to dispose of wastewater properly.

Dwellings without basements

Limitation rating: Severe
Limitations: Flooding, wetness, and shrink-swell
Corrective measures: Flood control structures are needed. Otherwise, buildings should be constructed on elevated pilings or mounds to elevate the foundation above the level of flooding. Using suitable soil materials as backfill and a reinforced foundation design can help prevent damage to foundations because of shrink-swell.

Local roads and streets

Limitation rating: Severe
Limitations: Shrink-swell, low strength, and wetness
Corrective measures: Using suitable soil materials as backfill and a special roadbase design generally are needed to prevent damage to roads and streets because of low strength and shrink-swell in the subsoil. Roadside ditches are needed to remove excess water quickly.

Lawns, landscaping, and golf fairways

Limitation rating: Severe
Limitations: Wetness
Corrective measures: Lawn and landscaping plants that are tolerant of wetness should be used. Surface and subsurface drains can be installed to remove excess water more quickly. Traffic should be restricted during periods when the topsoil is saturated. Use of most types of lawn maintenance equipment is restricted when the topsoil is saturated.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Flooding, wetness, and percs slowly
Corrective measures: Surface drains and landscaping are needed to remove excess water quickly. Addition of some fill material may be necessary. Use of areas should be restricted during wet periods. Use of campsites may be restricted during rare

episodes of flooding, and equipment would have to be installed that will not be damaged by periods of inundation.

Playgrounds

Limitation rating: Severe
Limitations: Wetness and percs slowly
Corrective measures: Surface drains and landscaping are needed to remove excess water quickly. Addition of some fill material may be necessary. Use of playgrounds may be restricted during rare episodes of flooding, and equipment would have to be installed that will not be damaged by periods of inundation.

MnA—Midland silty clay loam, 0 to 1 percent slopes, occasionally flooded

Setting

Landform: Slightly concave depressional areas on stream terraces
Position on landform: Along and near drainageways
Distinctive landform features: None
Shape of areas: Irregular
Size of areas: 10 to 160 acres
Slope: Level and nearly level

Typical Profile

Surface layer:
0 to 7 inches—Dark grayish brown silty clay loam

Subsoil layer:
7 to 31 inches—Dark gray silty clay
31 to 41 inches—Dark grayish brown silty clay
41 to 61 inches—Olive gray silty clay
61 to 80 inches—Gray silty clay

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained
Water table: Apparent at a depth of 0.5 to 2 feet, mostly from December to April
Flooding: Occasionally flooded
Runoff: Negligible
Permeability class: Very slow
Available water capacity: High
Natural soil fertility: Medium
Shrink-swell potential: High

Composition

Midland soil and similar components: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils: Crowley and Mowata soils. The Crowley soils are on higher positions and have a subsurface layer. The Mowata soils are on similar positions and have streaks and pockets of silt loam that extend into the subsoil.

Land Use

Dominant uses: Cropland
Other uses: Pasture and crayfish farming

Cropland

Land capability subclass: 4w
Suitability: Poorly suited to most cultivated crops, but well suited to rice.
Adapted crops: Rice and soybeans are the main crops. Crayfish are commonly raised on this soil between cropping seasons.
Management concerns: Poor tilth, wetness, medium fertility, and flooding
Management measures: If this soil is protected from flooding in late spring and early summer, most climatically adapted crops can be grown. Proper row arrangement, field ditches, and vegetated outlets can help remove excess water. Land grading and smoothing will improve surface drainage, allow more uniform application of irrigation water, and permit more efficient use of farm equipment. Proper irrigation systems are needed for the production of rice. Installing pipe or other drop structures in drainage ditches helps to control the water level in rice fields and prevent the excessive erosion of ditches. The soil is difficult to keep in good tilth. It can be worked only within a narrow range of moisture content. It becomes cloddy if tilled when it is too wet or too dry. Wetness may delay the planting and harvesting of crops. Returning all crop residue to the soil and using a cropping system that includes grasses, legumes, or grass-legume mixtures help to maintain fertility and tilth. Crops respond well to lime and fertilizer.

Pasture and hayland

Suitability: Moderately well suited
Adapted plants: Common and improved bermudagrass, dallisgrass, tall fescue, ryegrass, and white clover
Management concerns: Wetness, flooding, and medium fertility
Management measures: Grazing when the soil is wet results in compaction of the surface layer and damage to the plant community. Excessive water on the surface can be removed by field ditches and vegetated outlets. The use of equipment is limited by wetness and flooding. Use of proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture and the soil in good condition. During flood periods, cattle need to be moved to adjacent protected areas or to pastures at higher elevations. Fertilizer and lime are needed for optimum growth of grasses and legumes.

Forestland

Site index and ordinating species: 90 for water oak
Adapted trees: Water oak, green ash, sweetgum, and cherrybark oak
Suitability: Moderately well suited
Management concerns: Wetness, stickiness, and low strength
Management measures: Conventional methods of harvesting timber cannot be used during wet periods, mainly from December to April. Using standard wheeled and tracked equipment when the soil is moist causes the formation of ruts and compaction. Harvesting during only the drier periods can reduce rutting and soil compaction. Using low-pressure ground equipment minimizes damage to the soil and helps to maintain productivity. After the trees are harvested, carefully managed reforestation can control competition from undesirable understory plants. Special site preparation, such as bedding and harrowing, or planting stock that is larger than is normally used, or containerized planting stock can reduce seedling mortality. Competing vegetation can be controlled by proper site preparation and by spraying,

cutting, or girdling, which can eliminate unwanted weeds, brush, or trees. Suitable trees to plant are green ash, water oak, and nuttall oak.

Wildlife habitat

Suitability for wetland wildlife: Good
Suitability for forestland wildlife: Fair
Adapted species: Ducks, geese, rabbits, quail, doves, and other small furbearers
Management measures: Wildlife habitat can be improved by planting the appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Habitat for waterfowl and furbearers can be improved by constructing shallow ponds.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Flooding, wetness, and percs slowly
Corrective measures: These soils generally are not suited to this use unless they are drained and protected from flooding. Onsite sewage treatment plant or a sewage lagoon is needed.

Dwellings without basements

Limitation rating: Severe
Limitations: Flooding, wetness, and shrink-swell
Corrective measures: Flood control structures are needed. Otherwise, buildings should be constructed on elevated pilings or mounds to elevate the foundation above the level of flooding. Using suitable soil materials as backfill anda reinforced foundation design can help prevent damage to foundations because of shrink-swell.

Local roads and streets

Limitation rating: Severe
Limitations: Shrink-swell, low strength, and wetness
Corrective measures: Using suitable soil materials as backfill and a special roadbase design generally are needed to prevent damage to roads and streets because of low strength and shrink-swell in the subsoil. Roadside ditches are needed to remove excess water quickly.

Lawns, landscaping, and golf fairways

Limitation rating: Severe
Limitations: Wetness
Corrective measures: Lawn and landscaping plants that are tolerant of wetness should be used. Surface and subsurface drains can be installed to remove excess water more quickly. Traffic should be restricted during periods when the topsoil is saturated. Use of most types of lawn maintenance equipment is restricted when the topsoil is saturated.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Flooding, wetness, and percs slowly
Corrective measures: These soils generally are not suitable for this use. Surface drains and landscaping are needed to remove excess water quickly. Campsites cannot be used during periods of flooding.

Playgrounds

Limitation rating: Severe
Limitations: Wetness and percs slowly
Corrective measures: These soils generally are not suitable for this use unless the areas are drained and filled.

MtA—Mowata silt loam, 0 to 1 percent slopes

Setting

Landform: Low depressional areas on stream terraces
Position on landform: Low, broad, slightly concave flats and along drainageways
Distinctive landform features: None
Shape of areas: Irregular
Size of areas: 10 to 650 acres
Slope: Level and nearly level

Typical Profile

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

Subsurface layer:
5 to 14 inches—Grayish brown silt loam

Subsoil layer:
14 to 22 inches—Dark grayish brown silty clay loam and grayish brown silt loam
22 to 34 inches—Grayish brown silty clay
34 to 62 inches—Gray silty clay

Underlying material:
62 to 90 inches—Gray silty clay

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained
Water table: Apparent at the surface to a depth 2 feet, mostly from December to April
Flooding: Rarely flooded
Runoff: Negligible
Permeability class: Very slow
Available water capacity: High
Natural soil fertility: Medium
Shrink-swell potential: High

Composition

Mowata soil and similar components: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils: Crowley, Frost, and Midland soils. The somewhat poorly drained Crowley soils are on convex ridges at higher elevations and have an abrupt textural change between the subsurface layer and the subsoil. The Frost and Midland soils are on similar positions. The Frost soils are loamy throughout. The Midland soils are clayey throughout.

Land Use

Dominant uses: Cropland
Other uses: Pasture and crayfish farming

Cropland

Land capability subclass: 3w
Suitability: Moderately well suited
Adapted crops: Rice and soybeans are the main crops grown, but corn, small grains, cotton, and vegetables are also suitable crops. Crayfish are commonly raised on this soil between cropping seasons.
Management concerns: Wetness and medium fertility
Management measures: Proper row arrangement, field ditches, and vegetated outlets can help remove excess water. Land grading and smoothing will improve surface drainage, allow more uniform application of irrigation water, and permit more efficient use of farm equipment. Proper irrigation systems are needed for the production of rice (fig. 7). Installing pipe or other drop structures in drainage ditches helps to control the water level in rice fields and prevent the excessive erosion of ditches. The soil is friable and can be easily kept in good tilth. Traffic pans form easily, but they can be broken up by deep plowing or chiseling. Returning all crop residue to the soil and using a cropping system that includes grasses, legumes, or grass-legume mixtures help to maintain fertility and tilth. Crops respond well to lime and fertilizer.

Figure 7.—Surface irrigation in a rice field in an area of Mowata silt loam, 0 to 1 percent slopes.

Pasture and hayland

Suitability: Well suited
Adapted plants: Common bermudagrass, improved bermudagrass, bahiagrass, ryegrass, vetch, tall fescue, and white clover
Management concerns: Wetness and medium fertility
Management measures: Grazing when the soil is wet results in compaction of the surface layer and damage to the plant community. Use of proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture and the soil in good condition. Excessive water on the surface can be removed by field ditches and vegetated outlets. Fertilizer and lime are needed for optimum growth of grasses and legumes.

Forestland

Site index and ordinating species: 90 for loblolly pine and slash pine
Adapted trees: Loblolly pine, slash pine, and sweetgum
Suitability: Moderately well suited
Management concerns: Wetness and low strength
Management measures: Conventional methods of harvesting timber cannot be used during wet periods, mainly from December to April. Using standard wheeled and tracked equipment when the soil is moist causes the formation of ruts and compaction. Harvesting during only the drier periods can reduce rutting and soil compaction. Using low-pressure ground equipment minimizes damage to the soil and helps to maintain productivity. After the trees are harvested, carefully managed reforestation can control competition from undesirable understory plants. Special site preparation, such as bedding and harrowing, or planting stock that is larger than is normally used, or containerized planting stock can reduce seedling mortality. Competing vegetation can be controlled by proper site preparation and by spraying, cutting, or girdling, which can eliminate unwanted weeds, brush, or trees. Suitable trees to plant are loblolly pine, slash pine, water oak, and green ash.

Wildlife habitat

Suitability for wetland wildlife: Good
Suitability for forestland wildlife: Fair
Adapted species: Ducks, geese, rabbits, quail, doves, and other small furbearers
Management measures: Wildlife habitat can be improved by planting the appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Habitat for waterfowl and furbearers can be improved by constructing shallow ponds.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Wetness and percs slowly
Corrective measures: Onsite sewage treatment plant or sewage lagoon generally is needed to dispose of wastewater properly.

Dwellings without basements

Limitation rating: Severe
Limitations: Flooding, wetness, and shrink-swell
Corrective measures: Flood control structures are needed. Otherwise, buildings should be constructed on elevated pilings or mounds to elevate the foundation above the level of flooding. Using suitable soil materials as backfill and a reinforced foundation design can help prevent damage to foundations because of shrink-swell.

Local roads and streets

Limitation rating: Severe
Limitations: Low strength, wetness, and shrink-swell
Corrective measures: Using suitable soil materials as backfill and a special roadbase design generally are needed to prevent damage to roads and streets because of low strength and shrink-swell in the subsoil. Roadside ditches are needed to remove excess water quickly.

Lawns, landscaping, and golf fairways

Limitation rating: Severe
Limitations: Wetness
Corrective measures: Lawn and landscaping plants that are tolerant of wetness should be used. Surface and subsurface drains can be installed to remove excess water more quickly. Traffic should be restricted during periods when the topsoil is saturated. Use of most types of lawn maintenance equipment is restricted when the topsoil is saturated.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Flooding, wetness, and percs slowly
Corrective measures: Surface drains and landscaping are needed to remove excess water quickly. Addition of some fill material may be necessary. Use of areas should be restricted during wet periods. Use of campsites may be restricted during rare episodes of flooding, and equipment would have to be installed that will not be damaged by periods of inundation.

Playgrounds

Limitation rating: Severe
Limitations: Wetness and percs slowly
Corrective measures: Surface drains and landscaping are needed to remove excess water quickly. Addition of some fill material may be necessary. Use of areas should be restricted during wet periods. Use of playgrounds may be restricted during rare episodes of flooding, and equipment would have to be installed that will not be damaged by periods of inundation.

MwA—Mowata silt loam, 0 to 1 percent slopes, occasionally flooded

Setting

Landform: Low depressional areas on stream terraces
Position on landform: Along and near drainageways
Distinctive landform features: None
Shape of areas: Irregular
Size of areas: 15 to 175 acres
Slope: Level and nearly level

Typical Profile

Surface layer:
0 to 6 inches—Dark grayish brown silt loam

Subsurface layer:
6 to 17 inches—Grayish brown silt loam

Subsoil layer:
17 to 26 inches—Dark grayish brown silty clay and grayish brown silt loam
26 to 40 inches—Grayish brown silty clay
40 to 48 inches—Gray silty clay
48 to 62 inches—Light olive gray silty clay

Underlying material:
62 to 80 inches—Light olive gray silty clay

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained
Water table: Apparent at the surface to a depth of 2 feet, mostly from December to April
Flooding: Occasionally flooded
Runoff: Negligible
Permeability class: Very slow
Available water capacity: High
Natural soil fertility: Medium
Shrink-swell potential: High

Composition

Mowata soil and similar components: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils: Crowley, Frost, and Midland soils. The somewhat poorly drained Crowley soils are on convex ridges at higher elevations and have an abrupt textural change between the subsurface layer and the subsoil. The Frost and Midland soils are on similar positions. The Frost soils are loamy throughout. The Midland soils are clayey throughout.

Land Use

Dominant uses: Cropland
Other uses: Pasture and crayfish farming

Cropland

Land capability subclass: 4w
Suitability: Poorly suited to most cultivated crops, but well suited to rice.
Adapted crops: Rice and soybeans are the main crops. Crayfish are commonly raised on this soil between cropping seasons.
Management concerns: Wetness, flooding, and medium fertility
Management measures: Proper row arrangement, field ditches, and vegetated outlets can help remove excess water. Land grading and smoothing will improve surface drainage, allow more uniform application of irrigation water, and permit more efficient use of farm equipment. Proper irrigation systems are needed for the production of rice. Installing pipe or other drop structures in drainage ditches helps to control the water level in rice fields and prevent the excessive erosion of ditches. The soil is friable and can be easily kept in good tilth. Traffic pans form easily, but they can be broken up by deep plowing or chiseling. Returning all crop residue to the soil and using a cropping system that includes grasses, legumes, or grass-legume mixtures help to maintain fertility and tilth. Crops respond well to lime and fertilizer.

Pasture and hayland

Suitability: Moderately well suited

Adapted plants: Common and improved bermudagrass, bahiagrass, ryegrass, and white clover
Management concerns: Wetness, flooding, and medium fertility
Management measures: If this soil is protected from flooding in late spring and early summer, most climatically adapted crops can be grown. Grazing when the soil is wet results in compaction of the surface layer and damage to the plant community. Excessive water on the surface can be removed by field ditches and vegetated outlets. The use of equipment is limited by wetness and flooding. Use of proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture and the soil in good condition. During flood periods, cattle need to be moved to adjacent protected areas or to pastures at higher elevations. Fertilizer and lime are needed for optimum growth of grasses and legumes.

Forestland

Site index and ordinating species: 90 for loblolly pine and slash pine
Adapted trees: Loblolly pine, slash pine, and sweetgum
Suitability: Moderately well suited
Management concerns: Wetness and low strength
Management measures: Conventional methods of harvesting timber cannot be used during wet periods, mainly from December to April. Using standard wheeled and tracked equipment when the soil is moist causes the formation of ruts and compaction. Harvesting during only the drier periods can reduce rutting and soil compaction. Using low-pressure ground equipment minimizes damage to the soil and helps to maintain productivity. After the trees are harvested, carefully managed reforestation can control competition from undesirable understory plants. Special site preparation, such as bedding and harrowing, or planting stock that is larger than is normally used, or containerized planting stock can reduce seedling mortality. Competing vegetation can be controlled by proper site preparation and by spraying, cutting, or girdling, which can eliminate unwanted weeds, brush, or trees. Suitable trees to plant are water oak, green ash, loblolly pine, and slash pine.

Wildlife habitat

Suitability for wetland wildlife: Good
Suitability for forestland wildlife: Fair
Adapted species: Ducks, geese, rabbits, quail, doves, and other small furbearers
Management measures: Wildlife habitat can be improved by planting the appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Habitat for waterfowl and furbearers can be improved by constructing shallow ponds.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Flooding, wetness, and percs slowly
Corrective measures: These soils generally are not suited to this use unless they are drained and protected from flooding. Onsite sewage treatment plant or a sewage lagoon is generally needed.

Dwellings without basements

Limitation rating: Severe
Limitations: Flooding, wetness, and shrink-swell
Corrective measures: Flood control structures are needed. Otherwise, buildings should be constructed on elevated pilings or mounds to elevate the foundation above the

level of flooding. Using suitable soil materials as backfill and a reinforced foundation design can help prevent damage to foundations because of shrink-swell.

Local roads and streets

Limitation rating: Severe
Limitations: Low strength, wetness, and shrink-swell
Corrective measures: Using suitable soil materials as backfill and a special roadbase design generally are needed to prevent damage to roads and streets because of low strength and shrink-swell in the subsoil. Roadside ditches are needed to remove excess water quickly.

Lawns, landscaping, and golf fairways

Limitation rating: Severe
Limitations: Wetness
Corrective measures: Lawn and landscaping plants that are tolerant of wetness should be used. Surface and subsurface drains can be installed to remove excess water more quickly. Traffic should be restricted during periods when the topsoil is saturated. Use of most types of lawn maintenance equipment is restricted when the topsoil is saturated.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Flooding, wetness, and percs slowly
Corrective measures: These soils generally are not suitable for this use. Surface drains and landscaping are needed to remove excess water quickly. Campsites cannot be used during periods of flooding.

Playgrounds

Limitation rating: Severe
Limitations: Wetness and percs slowly
Corrective measures: These soils generally are not suitable for this use unless the areas are drained and filled.

Ow—Oil-waste land

Setting

Landform: Stream terrace and flood plain
Position on landform: Ridgetops, side slopes, and drainageways
Distinctive landform features: Most areas do not have a vegetative cover because of addition of oil derivatives and byproducts, such as brine, drilling mud, and sludge.
Shape of areas: Irregular
Size of areas: 30 to 250 acres
Slope: Nearly level and gently sloping

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Very poorly drained to well drained
Water table: Variable
Flooding: Variable
Runoff: Negligible to medium
Permeability class: Very slow and slow
Available water capacity: Variable

Natural soil fertility: Toxic to plants
Shrink-swell potential: Moderate or high
Other: Concentrations of soluble salts in the upper 6 inches ranges from 6 to 40,000 ppm

Composition

Oil-waste land and similar components: 100 percent
Dissimilar soils: 0 percent

Minor Components

Dissimilar soils: None

Land Use

Dominant uses: Oil and gas production
Other uses: None

Cropland

Land capability subclass: 8s
Suitability: Not suited
Adapted crops: None
Management concerns: High levels of toxic material
Management measures: None

Pasture and hayland

Suitability: Not suited
Adapted plants: None
Management concerns: High levels of toxic material
Management measures: None

Forestland

Site index and ordinating species: None
Adapted trees: None
Suitability: Not suited
Management concerns: High levels of toxic waste
Management measures: None

Wildlife habitat

Suitability for wetland wildlife: Very poor
Suitability for forestland wildlife: Very poor
Adapted species: None
Management concerns: High levels of toxic material
Management measures: None

Urban Use

Septic tank absorption fields

Limitation rating: Variable
Limitations: Variable
Corrective measures: Variable

Dwellings without basements

Limitation rating: Variable
Limitations: Variable
Corrective measures: Variable

Local roads and streets

Limitation rating: Variable
Limitations: Variable
Corrective measures: Variable

Lawns, landscaping, and golf fairways

Limitation rating: Severe
Limitations: Flooding and excess salts
Corrective measures: Variable

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Flooding and excess salts
Corrective measures: Variable

Playgrounds

Limitation rating: Severe
Limitations: Flooding and excess salts
Corrective measures: Variable

PaA—Patoutville silt, 0 to 1 percent slopes

Setting

Landform: Stream terrace
Position on landform: Broad, slightly convex ridges
Distinctive landform features: None
Shape of areas: Irregular
Size of areas: 5 to 1,350 acres
Slope: Level and nearly level

Typical Profile

Surface layer:
0 to 8 inches—Grayish brown silt
8 to 11 inches—Grayish brown silt loam

Subsoil layer:
11 to 15 inches—Dark grayish brown silt loam
15 to 22 inches—Dark grayish brown silty clay loam
22 to 28 inches—Brown silty clay loam
28 to 38 inches—Light brownish gray silt loam
38 to 51 inches—Grayish brown silt loam
51 to 68 inches—Variegated yellowish brown, brownish yellow, and light brownish gray silt loam
68 to 83 inches—Variegated gray, brownish yellow, and yellowish brown silt loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Water table: Perched at a depth of 0.5 to 3 feet, mostly from December to May
Flooding: Does not flood
Runoff: Low
Permeability class: Slow

Available water capacity: Very high
Natural soil fertility: Medium
Shrink-swell potential: Moderate

Composition

Patoutville soil and similar components: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils: Crowley, Frost, and Jeanerette soils. The Crowley soils are on similar positions and have a clayey subsoil. The poorly drained Frost soils are in depressional areas and along small drainageways. The Jeanerette soils are in lower positions and have a darker surface layer.

Land Use

Dominant uses: Cropland
Other uses: Pasture, crayfish farming, and homesites

Cropland

Land capability subclass: 2w
Suitability: Well suited
Adapted crops: Soybeans and rice are the main crops grown, but corn, sugarcane, cotton, small grains, and sweet potatoes are suitable crops. Crayfish are commonly raised on this soil between cropping seasons.
Management concerns: Wetness and medium fertility
Management measures: Proper row arrangement, field ditches, and vegetated outlets can help remove excess water. Land grading and smoothing will improve surface drainage, allow more uniform application of irrigation water, and permit more efficient use of farm equipment. Proper irrigation systems are needed for the production of rice. Installing pipe or other drop structures in drainage ditches helps to control the water level in rice fields and prevent the excessive erosion of ditches. The soil is friable and can be easily kept in good tilth. Traffic pans form easily, but they can be broken up by deep plowing or chiseling. Returning all crop residue to the soil and using a cropping system that includes grasses, legumes, or grass-legume mixtures help to maintain fertility and tilth. Crops respond well to lime and fertilizer.

Pasture and hayland

Suitability: Well suited (fig. 8)
Adapted plants: Common bermudagrass, improved bermudagrass, bahiagrass, ryegrass, vetch, and white clover
Management concerns: Wetness and medium fertility
Management measures: Grazing when the soil is wet results in compaction of the surface layer and damage to the plant community. Use of proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture and the soil in good condition. Excessive water on the surface can be removed by field ditches and vegetated outlets. Fertilizer and lime are needed for optimum growth of grasses and legumes.

Forestland

Site index and ordinating species: 95 for loblolly pine and slash pine
Adapted trees: Loblolly pine, slash pine, sweetgum, water oak, and cherrybark oak

Figure 8.—Bahiagrass in an area of Patoutville silt loam, 0 to 1 percent slopes. This soil is well suited to hay production.

Suitability: Moderately well suited
Management concerns: Wetness and low strength
Management measures: Conventional methods of harvesting timber cannot be used during wet periods, mainly from December to April. Using standard wheeled and tracked equipment when the soil is moist causes the formation of ruts and compaction. Harvesting during only the drier periods can reduce rutting and soil compaction. Using low-pressure ground equipment minimizes damage to the soil and helps to maintain productivity. After the trees are harvested, carefully managed reforestation can control competition from undesirable understory plants. Special site preparation, such as bedding and harrowing, or planting stock that is larger than is normally used, or containerized planting stock can reduce seedling mortality. Competing vegetation can be controlled by proper site preparation and by spraying, cutting, or girdling, which can eliminate unwanted weeds, brush, or trees. Suitable trees to plant are slash pine and loblolly pine.

Wildlife habitat

Suitability for wetland wildlife: Fair
Suitability for forestland wildlife: Good
Adapted species: Ducks, geese, rabbits, quail, doves, and other small furbearers
Management measures: Wildlife habitat can be improved by planting the appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Habitat for waterfowl and furbearers can be improved by constructing shallow ponds.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Wetness and percs slowly

Corrective measures: Onsite sewage treatment plant or sewage lagoon generally is needed to dispose of wastewater properly.

Dwellings without basements

Limitation rating: Severe
Limitations: Wetness
Corrective measures: Surface and subsurface drainage is needed around the foundations of buildings.

Local roads and streets

Limitation rating: Severe
Limitations: Low strength and wetness
Corrective measures: Special roadbase design and construction techniques generally are needed to compensate for low strength in the subsoil. Roadside ditches are needed to remove excess water quickly.

Lawns, landscaping, and golf fairways

Limitation rating: Severe
Limitations: Wetness
Corrective measures: Lawn and landscaping plants that are tolerant of wetness should be used. Surface and subsurface drains can be installed to remove excess water more quickly. Traffic should be restricted during periods when the topsoil is saturated. Use of most types of lawn maintenance equipment is restricted when the topsoil is saturated.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Wetness
Corrective measures: Surface drains and landscaping are needed to remove excess water quickly. Addition of some fill material may be necessary. Use of areas should be restricted during wet periods.

Playgrounds

Limitation rating: Severe
Limitations: Wetness
Corrective measures: Surface drains and landscaping are needed to remove excess water quickly. Addition of some fill material may be necessary. Use of areas should be restricted during wet periods.

PaB—Patoutville silt, 1 to 3 percent slopes

Setting

Landform: Stream terrace
Position on landform: Convex ridges and side slopes
Distinctive landform features: Slopes are generally short and smooth
Shape of areas: Irregular
Size of areas: 5 to 60 acres
Slope: Gently sloping

Typical Profile

Surface layer:
0 to 6 inches—Dark grayish brown silt

Subsurface layer:
6 to 11 inches—Grayish brown silt loam

Subsoil layer:
11 to 60 inches—Grayish brown silty clay loam and light brownish gray silt loam

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Somewhat poorly drained
Water table: Perched at a depth of 0.5 to 3 feet, mostly from December to May
Flooding: Does not flood
Runoff: Medium
Permeability class: Slow
Available water capacity: Very high
Natural soil fertility: Medium
Shrink-swell potential: Moderate

Composition

Patoutville soil and similar components: 79 to 91 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils: Duson soils. The somewhat poorly drained Duson soils are on similar positions and are browner throughout.

Land Use

Dominant uses: Cropland
Other uses: Pasture and homesites

Cropland

Land capability subclass: 2e
Suitability: Well suited
Adapted crops: Soybeans and rice are the main crops grown, but corn, small grains, cotton, and sweet potatoes are suitable crops.
Management concerns: Wetness, medium fertility, and the hazard of erosion
Management measures: Proper row arrangement, field ditches, and vegetated outlets can help remove excess water. Land grading and smoothing will improve surface drainage, allow more uniform application of irrigation water, and permit more efficient use of farm equipment. Proper irrigation systems are needed for the production of rice. Installing pipe or other drop structures in drainage ditches helps to control the water level in rice fields and prevent the excessive erosion of ditches. The hazard of erosion can be reduced if fall grain is seeded early, stubble-mulch tillage is used, or tillage and seeding are on the contour or across the slope. Waterways can be shaped and seeded to perennial grasses. The soil is friable and can be easily kept in good tilth. Traffic pans form easily, but they can be broken up by deep plowing or chiseling. Returning all crop residue to the soil and using a cropping system that includes grasses, legumes, or grass-legume mixtures help to maintain fertility and tilth. Crops respond well to lime and fertilizer.

Pasture and hayland

Suitability: Well suited
Adapted plants: Common bermudagrass, improved bermudagrass, bahiagrass, ryegrass, vetch, and white clover
Management concerns: Wetness, medium fertility, and the hazard of erosion
Management measures: Grazing when the soil is wet results in compaction of the surface layer and damage to the plant community. Use of proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture and the soil in good condition. Excessive water on the surface can be removed by field ditches and vegetated outlets. Preparing seedbeds on the contour or across the slope, if possible, helps to control runoff. Fertilizer and lime are needed for optimum growth of grasses and legumes.

Forestland

Site index and ordinating species: 95 for loblolly pine and slash pine
Adapted trees: Loblolly pine, slash pine, sweetgum, water oak, and cherrybark oak
Suitability: Moderately well suited
Management concerns: Wetness and low strength
Management measures: Conventional methods of harvesting timber cannot be used during wet periods, mainly from December to April. Using standard wheeled and tracked equipment when the soil is moist causes the formation of ruts and compaction. Harvesting during only the drier periods can reduce rutting and soil compaction. Using low-pressure ground equipment minimizes damage to the soil and helps to maintain productivity. After the trees are harvested, carefully managed reforestation can control competition from undesirable understory plants. Special site preparation, such as harrowing, or planting stock that is larger than is normally used, or containerized planting stock can reduce seedling mortality. Competing vegetation can be controlled by proper site preparation and by spraying, cutting, or girdling, which can eliminate unwanted weeds, brush, or trees. Suitable trees to plant are slash pine and loblolly pine.

Wildlife habitat

Suitability for wetland wildlife: Fair
Suitability for forestland wildlife: Good
Adapted species: Rabbits, quail, doves, and other small furbearers
Management measures: Wildlife habitat can be improved by planting the appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Wetness and percs slowly
Corrective measures: Onsite sewage treatment plant or sewage lagoon generally is needed to dispose of wastewater properly.

Dwellings without basements

Limitation rating: Severe
Limitations: Wetness
Corrective measures: Surface and subsurface drainage is needed around the foundations of buildings.

Local roads and streets

Limitation rating: Severe
Limitations: Low strength and wetness
Corrective measures: Special roadbase design and construction techniques generally are needed to compensate for low strength in the subsoil. Roadside ditches are needed to remove excess water quickly.

Lawns, landscaping, and golf fairways

Limitation rating: Severe
Limitations: Wetness
Corrective measures: Lawn and landscaping plants that are tolerant of wetness should be used. Surface and subsurface drains can be installed to remove excess water more quickly. Traffic should be restricted during periods when the topsoil is saturated. Use of most types of lawn maintenance equipment is restricted when the topsoil is saturated.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Wetness
Corrective measures: Surface drains and landscaping are needed to remove excess water quickly. Use of areas should be restricted during wet periods.

Playgrounds

Limitation rating: Severe
Limitations: Wetness
Corrective measures: Surface drains and landscaping are needed to remove excess water quickly. Use of areas should be restricted during wet periods.

PcA—Patoutville-Crowley silt loams, 0 to 1 percent slopes

Setting

Landform: Stream terrace
Position on landform: The Patoutville soil is on low convex ridges; and the Crowley soil is in swales between ridges
Distinctive landform features: Most areas have been land leveled
Shape of areas: Irregular
Size of areas: 15 to several thousand acres
Slope: Level and nearly level

Typical Profile

Patoutville

Surface layer:
0 to 8 inches—Brown silt loam

Subsurface layer:
8 to 14 inches—Grayish brown silt loam

Subsoil layer:
14 to 23 inches—Grayish brown silty clay loam
23 to 35 inches—Gray silty clay loam
35 to 60 inches—Light olive brown silty clay loam
60 to 80 inches—Gray silty clay loam

Crowley

Surface layer:
0 to 6 inches—Dark grayish brown silt loam

Subsurface layer:
6 to 16 inches—Grayish brown silt loam

Subsoil layer:
16 to 37 inches—Grayish brown silty clay
37 to 80 inches—Gray silty clay loam

Soil Properties and Qualities

Patoutville

Depth class: Very deep
Drainage class: Somewhat poorly drained
Water table: Perched at a depth of 0.5 to 3 feet, mostly from December to May
Flooding: Does not flood
Runoff: Low
Permeability class: Slow
Available water capacity: Very high
Natural soil fertility: Medium
Shrink-swell potential: Moderate

Crowley

Depth class: Very deep
Drainage class: Somewhat poorly drained
Water table: Perched at a depth of 0.5 to 1.5 feet, mostly from December to April
Flooding: Does not flood
Runoff: Low
Permeability class: Very slow
Available water capacity: Very high
Natural soil fertility: Medium
Shrink-swell potential: High

Composition

Patoutville soil and similar components: 52 to 68 percent
Crowley soil and similar components: 18 to 32 percent
Dissimilar soils: 9 to 21 percent

Minor Components

Dissimilar soils: Frost, Jeanerette, and Mowata soils. The Frost and Mowata soils are in depressional areas and along drainageways. They have streaks and pockets of silt loam that extend into the subsoil. The Jeanerette soils are on slightly lower positions and have a darker surface layer.

Land Use

Dominant uses: Cropland
Other uses: Pasture and crayfish farming

Cropland

Land capability subclass: 2w in the Patoutville soil; 3w in the Crowley soil.
Suitability: Well suited

Adapted crops: Soybeans and rice are the main crops grown, but corn, sugarcane, cotton, small grains, and sweet potatoes are suitable crops (fig. 9). Crayfish are commonly raised on these soils between cropping seasons.

Management concerns: Wetness and medium fertility

Management measures: Proper row arrangement, field ditches, and vegetated outlets can help remove excess water. Land grading and smoothing will improve surface drainage, allow more uniform application of irrigation water, and permit more efficient use of farm equipment. Proper irrigation systems are needed for the production of rice. Installing pipe or other drop structures in drainage ditches helps to control the water level in rice fields and prevent the excessive erosion of ditches. The soil is friable and can be easily kept in good tilth. Traffic pans form easily, but they can be broken up by deep plowing or chiseling. Returning all crop residue to the soil and using a cropping system that includes grasses, legumes, or grass-legume mixtures help to maintain fertility and tilth. Crops respond well to lime and fertilizer.

Figure 9.—Soybeans are a major crop grown in an area of Patoutville-Crowley silt loams, 0 to 1 percent slopes.

Pasture and hayland

Suitability: Well suited

Adapted plants: Common bermudagrass, improved bermudagrass, bahiagrass, ryegrass, vetch, and white clover

Management concerns: Wetness and medium fertility

Management measures: Grazing when the soil is wet results in compaction of the surface layer and damage to the plant community. Use of proper stocking rates, pasture rotation, and restricted grazing during wet periods help to keep the pasture and the soil in good condition. Excessive water on the surface can be removed by field ditches and vegetated outlets. Fertilizer and lime are needed for optimum growth of grasses and legumes.

Forestland

Site index and ordinating species: 95 for loblolly pine in the Patoutville soil; 90 for loblolly pine in the Crowley soil
Adapted trees: Loblolly pine, slash pine, sweetgum, water oak, and cherrybark oak
Suitability: Moderately well suited
Management concerns: Wetness and low strength
Management measures: Conventional methods of harvesting timber cannot be used during wet periods, mainly from December to April. Using standard wheeled and tracked equipment when the soil is moist causes the formation of ruts and compaction. Harvesting during only the drier periods can reduce rutting and soil compaction. Using low-pressure ground equipment minimizes damage to the soil and helps to maintain productivity. After the trees are harvested, carefully managed reforestation can control competition from undesirable understory plants. Special site preparation, such as bedding and harrowing, or planting stock that is larger than is normally used, or containerized planting stock can reduce seedling mortality. Competing vegetation can be controlled by proper site preparation and by spraying, cutting, or girdling, which can eliminate unwanted weeds, brush, or trees. Suitable trees to plant are slash pine and loblolly pine.

Wildlife habitat

Suitability for wetland wildlife: fair in the Patoutville soil; good in the Crowley soil
Suitability for forestland wildlife: good in the Patoutville soil; fair in the Crowley soil
Adapted species: Ducks, geese, rabbits, quail, doves, and other small furbearers
Management measures: Wildlife habitat can be improved by planting the appropriate vegetation, maintaining the existing plant cover, or promoting the natural establishment of desirable plants. Habitat for waterfowl and furbearers can be improved by constructing shallow ponds.

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Wetness and percs slowly
Corrective measures: Onsite sewage treatment plant or sewage lagoon generally is needed to dispose of wastewater properly.

Dwellings without basements

Limitation rating: Severe
Limitations: Wetness for the Patoutville soil; wetness and shrink-swell for the Crowley soil
Corrective measures: Surface and subsurface drainage is needed around the foundations of buildings. Using suitable soil materials as backfill and a reinforced foundation design can help to reduce the hazard of foundation cracking because of shrink-swell.

Local roads and streets

Limitation rating: Severe
Limitations: Low strength and wetness in the Patoutville soil; shrink-swell, low strength, and wetness in the Crowley soil.
Corrective measures: Using suitable soil materials as backfill and a special roadbase design generally are needed to prevent damage to roads and streets because of low strength and shrink-swell in the subsoil. Roadside ditches are needed to remove excess water quickly.

Lawns, landscaping, and golf fairways

Limitation rating: Severe
Limitations: Wetness
Corrective measures: Lawn and landscaping plants that are tolerant of wetness should be used. Surface and subsurface drains can be installed to remove excess water more quickly. Traffic should be restricted during periods when the topsoil is saturated. Use of most types of lawn maintenance equipment is restricted when the topsoil is saturated.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Wetness and percs slowly
Corrective measures: Surface drains and landscaping are needed to remove excess water quickly. Addition of some fill material may be necessary. Use of areas should be restricted during wet periods.

Playgrounds

Limitation rating: Severe
Limitations: Wetness and percs slowly
Corrective measures: Surface drains and landscaping are needed to remove excess water quickly. Addition of some fill material may be necessary. Use of areas should be restricted during wet periods.

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 rangeland and forestland; 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.

Crops and pasture

Larry Trahan, conservation agronomist, Natural Resources Conservation Service, helped prepare this section.

General management needed for crops and pasture is suggested in this section. The crops or pasture plants best suited to the soils, including some not commonly grown in the survey area, are identified; the system of land capability classification used by the Natural Resources Conservation Service is explained; and the estimated yields of the main crops, and hay and pasture plants are listed for each soil.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under "Detailed Soil Map Units." Specific information can be obtained from the local office of the Natural Resources Conservation Service or the Cooperative Extension Service.

About 200,000 acres in Acadia Parish were used for crops or pasture in 1992. About 186,000 acres were used for crops, mainly rice and soybeans, and about 14,000 acres were used as pasture (fig. 10).

Crops suitability and management needs are based on soil characteristics, such as fertility level, erodibility, organic matter content, availability of water for plants, drainage, and flooding hazard. Each farm has a unique soil pattern; therefore, each has unique management problems. Some principles of farm management, however, apply to specific

Figure 10.—Improved pasture in an area of Acadiana silt loam, 1 to 3 percent slopes. This soil is well suited to pastureland.

soils and certain crops. This section presents the general principles of management that can be widely applied to the soils of Acadia Parish.

Yields per Acre

The average yields per acre that can be expected of the principal crops and pasture grasses under a high level of management are shown in table 5. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of map units in the survey area 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 parishes and results of field trials and demonstrations also are considered.

The management needed to obtain the indicated yields of the various crops and grasses 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 and grasses other than those shown in table 5 are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, for forestland, or 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 1 through 8. The numerals indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have few limitations that restrict their use.

Class 2 soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.

Class 3 soils have severe limitations that reduce the choice of plants or that require special conservation practices, or both.

Class 4 soils have very severe limitations that reduce the choice of plants or that require very careful management, or both.

Class 5 soils are not likely to erode but have other limitations, impractical to remove, that limit their use.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation.

Class 7 soils have very severe limitations that make them unsuitable for cultivation.

Class 8 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, 2e. 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 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclasses indicated by *w, s,* or *c* because the soils in class 5 are subject to little or no erosion. They have other limitations that restrict their use to pasture, rangeland, forestland, wildlife habitat, or recreation.

The capability classification of map units in this survey area is given in the section "Detailed Soil Map Units" and in table 5.

Prime Farmland

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

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forest land, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 5 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

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 in table 6. 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 4. 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."

Pasture and hayland

Perennial grasses or legumes, or mixtures of these, are grown for pasture and hay. The mixtures generally consist of either a summer or a winter perennial grass and a suitable legume. In addition, many farmers seed small grain or ryegrass in the fall for winter and spring forage. Excess grass in summer is harvested as hay for the winter.

Common and improved bermudagrass and Pensacola bahiagrass are the summer perennials most commonly grown. Improved bermudagrass and Pensacola bahiagrass produce good quality forage. Tall fescue, the chief winter perennial grass, grows well only on soils that have a favorable moisture content. All of these grasses respond well to fertilizer, particularly nitrogen.

White clover is the most commonly grown legume, which responds well to lime, particularly where grown on acid soils.

Proper grazing, brush and weed control, fertilizer, lime, and pasture renovation are essential for high quality forage, stand survival, and erosion control (fig. 11).

Fertilization and Liming

The soils of Acadia Parish ranges from very strongly acid to moderately alkaline in the surface layer. Most soils that are used for crops are low in organic matter content and in available nitrogen. Exceptions are the Judice and Jeanerette soils that are medium in organic matter content and in available nitrogen. Most of the soils need lime and a complete fertilizer for crops and pasture plants. The amount of fertilizer needed depends on the crop to be grown, on past cropping history, the level of yield desired, and the kind

Figure 11.—Cattle in an area of Patoutville-Crowley silt loams, 0 to 1 percent slopes. Beef production is an important agricultural revenue-producing enterprise in the parish.

of soil. Amounts should be determined on the basis of soil test results. Information and instructions on collecting and testing soil samples can be obtained from the Cooperative Extension Service.

Organic Matter Content

Organic matter is an important source of nitrogen and micronutrients required for plant growth. It also increases the rate of water intake, reduces surface crusting, and improves soil tilth. Most soils of Acadia Parish that are used for crops are low in organic matter content. The level of organic matter can be maintained by growing crops that produce an extensive root system and an abundance of foliage, by leaving plant residue on the surface, by growing perennial grasses and legumes in rotation with other crops, and by adding barnyard manure. In Acadia Parish, residue from rice straw helps to maintain the organic matter content of the soils.

Soil Tillage

Soil should be tilled only enough to prepare a seedbed and to control weeds. Excessive tillage destroys soil structure. The clayey soils in the parish become cloddy if cultivated when they are too wet. A compacted layer, generally known as a traffic pan or plowpan, sometimes develops just below the plow layer in loamy soils. This problem can be avoided by plowing when the soil is dry or by varying the depth of plowing. If the compacted layer does develop, it can be broken up by subsoiling or chiseling. Where rice is grown, farmers intentionally create a plowpan in the soil to prevent ponded irrigation water from infiltrating into the soil (fig. 12). However, for crops other than rice, a plowpan is undesirable because it limits rooting depth and the amount of moisture available to the crops. Tillage implements that stir the surface and leave crop residue in place protect the soil from beating rains, thereby helping to control erosion, reduce runoff, increase infiltration, reduce surface crusting, and ensure good seed germination.

Figure 12.—**Harvesting rice in an area of Crowley silt loam, 0 to 1 percent slopes. Rice is the main crop grown in Acadia Parish.**

Drainage

Most of the soils in Acadia Parish need surface drainage to make them more suitable for crops. Soils are drained by gravity drainage system consisting of a series of mains, laterals, and smaller drains that branch out from them. The success of the systems depends on the availability of adequate outlets. Drainage is also improved by land grading, water leveling, or precisely leveling the fields to a uniform grade. Land grading improves surface drainage, eliminates cross ditches, and creates larger and more uniformly shaped fields that are more suited to the use of modern, multi-row farm machinery. However, deep cutting of soils that have unfavorable subsoil characteristics should be avoided.

Water for Plant Growth

The available water capacity of the soils in the parish ranges from moderate to very high, but in some years, sufficient water is not available at the critical time for optimum growth unless irrigation water is provided. Large amounts of rainfall occur in winter and spring. Sufficient rain generally occurs in summer and fall of most years. However, on most soils, plants lack water during dry periods in summer and fall.

Cropping Systems

A good cropping system includes a legume for nitrogen, a cultivated crop to aid in weed control, a deep-rooted crop to utilize subsoil fertility and maintain subsoil permeability, and a close-growing crop to help maintain organic matter content. The crop sequence should cover the soil as much of the year as possible.

In Acadia Parish, a variety of cropping systems are used, depending upon the main crop grown. Rice is commonly rotated with soybeans, small grains, or pasture. Grass or legume cover crops are commonly grown during the fall and winter.

Control of Erosion

Soil erosion generally is not a serious problem on most of the soils in Acadia Parish, mainly because most of the topography is level and nearly level. Nevertheless, sheet and rill erosion can occur in fallow-plowed fields, in newly constructed drainage ditches, and on ridges and mounds in undulating areas. Some gullies tend to form at outfalls into drainage areas. New drainage ditches should be seeded immediately after construction.

Erosion is a hazard on some of the sloping soils left without plant cover for extended periods. If the surface layer is lost through erosion, most of the available plant nutrients and organic matter are also lost. Soil erosion also results in sedimentation of drainage systems, and streams are polluted by sediment, nutrients, and pesticides.

Cropping systems that maintain a plant cover on the soil for extended periods reduce soil erosion. Use of legume or grass cover crops reduces erosion, increases the content of organic matter and nitrogen in the soils, and improves tilth. Constructing terraces, diversions, and grassed waterways, using minimum tillage, farming on the contour; and using cropping systems that rotate grass or close-growing crops with row crops help to control erosion in cropland and pasture. Constructing pipe drop structures in drainageways to convey water to lower levels can help prevent formation of gullies.

Additional information on erosion control, cropping systems, and drainage practices can be obtained from the local office of the Natural Resources Conservation Service and the Cooperative Extension Service, or from the Louisiana Agricultural Experiment Station.

Forestland Productivity and Management

Nancy Young, forester, Natural Resources Conservation Service, helped prepare this section.

This section provides information on the kind, amount, and condition of forestland resources in Acadia Parish, as well as soil interpretations that can be used in planting.

Soil directly influences the growth, management, harvesting, and multiple uses of forests. It is the medium in which a tree is anchored and from which it draws its nutrients and moisture. Tree growth, seedling survival, species suitability, and equipment usage are all factors involved in forestland management which are affected by characteristics of the soil. These characteristics include chemical composition, texture, structure, depth, and slope position.

Forestland Resources

Acadia Parish contains approximately 76,000 acres of commercial forestland. This acreage is 18 percent of the total area of the parish. The amount of commercial forestland has remained relatively stable during the last 30 years. It has decreased by 4,400 acres since 1964. Most of the cleared land was converted to pasture. Other uses include urban land, transmission and transportation corridors, and cropland. Ownership of the forestland in the parish is 88 percent private non-industrial land holders, 6 percent forest industry, and 6 percent Local government. (Vissage and others, 1992)

The parish is composed of two major land resource areas (MLRAs). These are the Gulf Coast Prairies and the Mississippi Valley Silty Upland. The dominant tree species in the Gulf Coast Prairies MLRA are loblolly pine, water oak, sweetgum, Southern red oak, and magnolia on the better drained soils in higher positions with water oak, willow oak, overcup oak, swamp chestnut oak, green ash, and baldcypress on poorly drained soils in lower positions. The Mississippi Valley Silty Upland MLRA has been cleared of forest cover for crop and pasture lands. It contains very little tree cover.

The commercial forests of Acadia Parish may be divided into forest types based on tree species, tree age, and site quality (fig. 13). For the purpose of this survey, forest types are stands of trees of similar species and characteristics which grow under the same ecological conditions. These forest types are named for the trees that are predominant in the forestland.

The oak-gum-cypress forest type is the largest type in Acadia Parish. It covers approximately 53 percent of the parish's forestland area. These stands are composed of bottomland forests of water tupelo, sweetgum, water oak, willow oak, and baldcypress. The tree species may occur singly or in combination. Trees which grow in association with this forest type include cottonwood, black willow, green ash, sugarberry, red maple, and elm.

Figure 13.—A stand of pine trees in an area of Kinder-Vidrine silt loams, 0 to 1 percent slopes. Timber production is a significant agricultural commodity in Acadia Parish.

The oak-hickory forest type covers 18 percent of the parish's forestland area. These forests are composed of upland oaks and hickories. Common associates include elms and maples.

The loblolly pine forest type covers approximately 12 percent of the forestland area. These stands generally occur naturally with a very limited number of pine plantations present in the parish. Associated trees include oaks, hickories, and gums. These associates are mixed with the pines in the overstory of the forest stand.

The oak-pine forest type covers 6 percent of the forestland. This forest type is made up of predominately oaks (50 to 70 percent) mixed with at least 25 percent pines. Trees commonly associated with this forest type are gums and hickories.

The elm-ash-cottonwood forest type makes up 6 percent of the parish forestland area. These three tree species are typically found in association with black willow, sycamore, and red maple.

The remaining forestland acreage in Acadia Parish is currently non-stocked. These areas are cutover with no regeneration at the current time.

The marketable timber volume is composed of approximately 63 percent hardwood, 28 percent pine, and 9 percent cypress. The forest acreage is 71 percent sawtimber, 17 percent poletimber, and 6 percent seedlings and saplings. Six percent of the timberland is classified as non-stocked areas.

Productivity of forestland can be measured by the cubic feet of wood produced per acre per year. Most of the more productive sites are in cropland or pastureland. However, the forestland in Acadia Parish is moderately productive. Approximately 12 percent produces 165 or more cubic feet of wood per acre per year; 6 percent produces 120 to 165 cubic feet; 47 percent produces 85 to 120 cubic feet; and 35 percent produces 50 to 85 cubic feet.

Most of the forest areas are privately owned. These areas would benefit if stands were improved by thinning the mature trees and the undesirable species. Tree planting, timber stand improvement, and protection from fire, insects, disease, and grazing would benefit the stands.

The USDA Natural Resources Conservation Service, Louisiana Department of Agriculture and Forestry, and the Louisiana Cooperative Extension Service can provide assistance with forestland management needs.

Environmental Impact

The values associated with forestland include wildlife habitat, recreation, natural beauty, and conservation of soil and water. The forestland in Acadia Parish provides food and shelter for wildlife and offers many opportunities for recreation. Hunting and fishing clubs lease or otherwise use the forestland. The forestland provides watershed protection, helps to control erosion and sedimentation, and enhances the quality and value of water resources.

Trees can be planted to screen distracting views of unsightly areas, muffle the sound of traffic, reduce the velocity of winds, and enhance the beauty of the landscape. Trees and forests help to filter airborne dust and other impurities, convert carbon dioxide into life-giving oxygen, and provide shade.

Production of Forage on Forestland

The kind and amount of understory vegetation that can be produced in an area are related to the soils, the climate, and the extent of the overstory. Grazing is not recommended in areas of hardwoods. In many areas of pine forestland, however, grazing by cattle can be a compatible secondary use. Grasses, legumes, forbs, and many woody browse species in the understory can be grazed, but the grazing should be managed so that it supplements the forestland enterprise without damaging the wood crop and other related products of the forest. In most areas of pine forestland, grazing is beneficial to the forestland program because it reduces the extent of heavy "rough," thus reducing the hazard of wildfires. Also, grazing helps to remove undesirable woody plants.

The success of a combined livestock program depends primarily on the intensity and time of grazing. The proper intensity of grazing helps to maintain a protective plant cover and maintains or improves the quantity and quality of trees and forage vegetation.

Forage production varies depending on the type of forestland and the density of the forest stand. Soils that have about the same potential for producing trees also have similar potential for producing about the same kind and amount of understory vegetation. The plant community on these soils can reproduce itself as long as the environment does not change.

Research has established that there is a close correlation between the total potential yield of grasses, legumes, and forbs and the amount of sunlight reaching the ground at midday in the forest. Herbage production declines as the forest canopy becomes denser.

One of the main management objectives is to keep the forestland forage in excellent or good condition. If this objective is met, water is conserved, yields are improved and the soils are protected.

The tables in this section can help forest owners or managers plan the use of soils for wood crops. They show the potential productivity of the soils for wood crops and rate the soils according to the limitations that affect various aspects of forest management.

Forestland Productivity

In table 7, the potential productivity of merchantable or common trees on a soil is expressed as a site index and as a volume number. The site index is the average height, in feet, that dominant and codominant trees of a given species attain in a specified number of years. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forest managers generally favor in intermediate or improvement cuttings. They are selected on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the "National Forestry Manual," which is available on the internet at http://soils.usda.gov/technical/nfhandbook.

The volume of wood fiber, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand.

Trees to manage are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest.

Forestland Management

In table 8, table 9, table 10, table 11, and table 12, interpretive ratings are given for various aspects of forest management.

Some rating class terms indicate the degree to which the soils are suited to a specified forest management practice. Well suited indicates that the soil has features that are favorable for the specified practice and has no limitations. Good performance can be expected, and little or no maintenance is needed. Moderately well suited indicates that the soil has features that are moderately favorable for the specified practice. One or more soil properties are less than desirable, and fair performance can be expected. Some maintenance is needed. Poorly suited indicates that the soil has one or more properties that are unfavorable for the specified practice. Overcoming the unfavorable properties requires special design, extra maintenance, and costly alteration. Unsuited indicates that the expected performance of the soil is unacceptable for the specified practice or that extreme measures are needed to overcome the undesirable soil properties.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.00 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the specified forest management practice (1.00) and the point at which the soil feature is not a limitation (0.00).

Rating class terms for fire damage and seedling mortality are expressed as low, moderate, and high. Where these terms are used, the numerical ratings indicate gradations between the point at which the potential for fire damage or seedling mortality is highest (1.00) and the point at which the potential is lowest (0.00).

The paragraphs that follow indicate the soil properties considered in rating the soils for forest management practices. More detailed information about the criteria used in the ratings is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet.

In table 8, ratings in the column, *limitations affecting construction of haul roads and log landings*, are based on slope, flooding, permafrost, plasticity index, the hazard of soil slippage, content of sand, the Unified classification, rock fragments on or below the surface, depth to a restrictive layer that is indurated, depth to a water table, and ponding. The limitations are described as slight, moderate, or severe. A rating of *slight* indicates that no significant limitations affect construction activities, *moderate* indicates that one or more limitations can cause some difficulty in construction, and *severe* indicates that one or more limitations can make construction very difficult or very costly.

In table 8, ratings in the column, *suitability for log landings,* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The soils are described as well suited, moderately suited, or poorly suited to use as log landings.

In table 8, ratings in the column, *soil rutting hazard,* are based on depth to a water table, rock fragments on or below the surface, the Unified classification, depth to a restrictive layer, and slope. Ruts form as a result of the operation of forest equipment. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that the soil is subject to little or no rutting, *moderate* indicates that rutting is likely, and *severe* indicates that ruts form readily.

In table 9, ratings in the column, *hazard of off-road or off-trail erosion,* are based on slope and on soil erodibility factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbances. The hazard is described as slight, moderate, severe, or very severe. A rating of *slight* indicates that erosion is unlikely under ordinary climatic conditions; *moderate* indicates that some erosion is likely and that erosion-control measures may be needed; *severe* indicates that erosion is very likely and that erosion-control measures, including revegetation of bare areas, are advised; and *very severe* indicates that significant erosion is expected, loss of soil productivity and off-site damage are likely, and erosion-control measures are costly and generally impractical.

In table 9, ratings in the column, *hazard of erosion on roads and trails,* are based on the soil erodibility factor K, slope, and content of rock fragments. The ratings apply to unsurfaced roads and trails. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that little or no erosion is likely; *moderate* indicates that some erosion is likely, that the roads or trails may require occasional maintenance; and that simple erosion-control measures are needed; and *severe* indicates that significant erosion is expected, that the roads or trails require frequent maintenance, and that costly erosion-control measures are needed.

In table 9, ratings in the column, *suitability for roads (natural surface)*, are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The ratings indicate the suitability for using the natural surface of the soil for roads. The soils are described as well suited, moderately well suited, or poorly suited to this use.

In table 10, ratings in the column, *suitability for hand planting and suitability for mechanical planting,* are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, moderately well suited, poorly suited, or unsuited to these methods of planting. It is assumed that necessary site preparation is completed before seedlings are planted.

In table 10, ratings in the column, *suitability for use of harvesting equipment,* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, and ponding. The soils are described as well suited, moderately well suited, or poorly suited to this use.

In table 11, ratings in the column, *suitability for mechanical site preparation (surface),* are based on slope, depth to a restrictive layer, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsuited to this management activity. The part of the soil from the surface to a depth of about 1 foot is considered in the ratings.

In table 11, ratings in the column, *suitability for mechanical site preparation (deep),* are based on slope, depth to a restrictive layer, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsuited to this management activity. The part of the soil from the surface to a depth of about 3 feet is considered in the ratings.

In table 12, ratings in the column, *potential for damage to soil by fire,* are based on texture of the surface layer, content of rock fragments and organic matter in the surface layer, thickness of the surface layer, and slope. The soils are described as having a low, moderate, or high potential for this kind of damage. The ratings indicate an evaluation of the potential impact of prescribed fires or wildfires that are intense enough to remove the duff layer and consume organic matter in the surface layer.

In table 12, ratings in the column, *potential for seedling mortality,* are based on flooding, ponding, depth to a water table, content of lime, reaction, salinity, available water capacity, soil moisture regime, soil temperature regime, aspect, and slope. The soils are described as having a low, moderate, or high potential for seedling mortality.

Recreation

Nancy Young, Forester, Natural Resources Conservation Service, helped prepare this section.

The soils of the survey area are rated in table 13 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. Location and accessibility of the area, the size and shape of the area, scenic quality of the area, vegetation, access to water, potential water impoundment sites, and access to public sewer lines are factors not considered in the ratings but which are important in evaluating a site. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation are also important.

Susceptibility to flooding is considered. Soils subject to flooding are limited for recreational use by the duration, intensity, and season of flooding. Essential considerations in planning recreation facilities include onsite assessment of the height, duration, intensity, and frequency of flooding.

In table 13, 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 by a combination of these measures.

The information in table 13 can be supplemented by other information in this survey. Examples of this information are interpretations for septic tank absorption fields in table 16 and interpretations for dwellings without basements and for local roads and streets in table 15.

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 gentle slopes, are not wet, and are not 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 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, stones, or boulders that increase the cost of shaping sites or of building access roads and parking areas.

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

Michael D. Nichols, wildlife biologist, Natural Resources Conservation Service, helped prepare this section

Wildlife habitat in Acadia Parish consists primarily of open land (cropland/pastureland) and forestland. Riceland makes up the largest percentage of the agricultural land. "Rice ponds" provide habitat for many different species of wetland-dependent wildlife. Other common types of cropland, such as soybean and wheat, provide habitat for upland small mammals, carnivores, and numerous bird species. Most of the forestland in Acadia Parish is found along major bayous and drainage channels. Forestland areas support a host of wildlife species that are adapted to arboreal habitats. The dense woody and herbaceous vegetation growing alongside drainage and irrigation canals provides high quality cover for wildlife. These areas are very important since cover is one of the main limiting factors affecting wildlife productivity on agricultural lands.

Agricultural habitats dominate the landscape in Acadia Parish. Rice fields, especially if flooded during the winter months, are utilized heavily by ducks, wading birds, and migrating shorebirds. Neotropical migrants "drop in" for food and rest during their migration to and from the tropics. In the Parish, soybean and small grain farms rank second and third, respectively, behind rice farms. These openland habitats are inhabited by several species of rodents such as mice and rats. The rodents are an important source of food for birds of prey like hawks and owls. It is not uncommon to observe birds of prey searching out and capturing mice and rats alongside farm roads. Other animals likely to be encountered in agricultural habitats include the following: raccoon, opossum, fox, armadillo, coyote, white-tailed deer, and a host of bird species like the bobwhite quail, killdeer, blackbird, and purple martin.

The largest tracts of forestland in Acadia Parish are found along major bayous such as Bayou des Cannes, Bayou Queue de Tortue, and Plaquemine Bayou. Smaller strips of forestland are found along drainage channels throughout the Parish. The two major types of forestland are bottomland hardwood and wooded swamp. Forestland habitats support various species of wildlife depending upon the successional stage of the forest. Some mature mast-producing trees must be present to maximize the value of the site to wildlife. However, small clearcuts, about 1 to 3 acres in size, located within hardwood patches are actually beneficial to wildlife populations because of the diversity they add to the landscape. Wildlife species typically associated with forestland areas include white-tailed deer, wild turkey, squirrel, raccoon, opossum, fox, bobcat, and skunk. Several species of hawks and owls also utilize forestland areas. Many different kinds of snakes, turtles, and frogs live in and near the bayous that traverse the forestland habitats.

Landowners and land managers should be encouraged to retain bottomland hardwood habitats for timber and wildlife production, and water quality improvement. Also, small game populations can be significantly increased by providing more diversified habitats. Habitat diversity is accomplished by providing vegetative strips along streams, ditches, fence rows, field borders, and other locations where large fields are currently devoted to a monoculture cropping system.

The most productive fish habitat in the Parish is found along the Mermentau River. Fish commonly taken by anglers include largemouth bass, bluegill, and catfish. The river also provides aquatic habitats that support abundant populations of non-game fish, frogs, turtles, and snakes.

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 14, 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 flood hazard. Soil temperature and soil moisture are also considerations. Examples of grain and seed crops are corn, wheat, oats, and rice.

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, flood hazard, and slope. Soil temperature and soil moisture are also considerations. Examples of grasses and legumes are fescue, bahiagrass, bermudagrass, clover, and winter peas.

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 flood hazard. Soil temperature and soil moisture are also considerations. Examples of wild herbaceous plants are bluestem, goldenrod, beggarweed, paspalum, and uniola.

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, the available water capacity, and wetness. Examples of these plants are oak, poplar, sugarberry, sweetgum, persimmon, hawthorn, dogwood, hickory, blackberry, and huckleberry. Examples of fruit-producing shrubs that are suitable for planting on soils rated good are tree-huckleberry and redbay.

Coniferous plants furnish browse and seeds. Soil properties and features that affect the growth of coniferous trees, shrubs, and ground cover are depth of the root zone, available water capacity, and wetness. Examples of coniferous plants are pine, cedar, and bald cypress.

Shrubs are bushy woody plants that produce fruit, buds, twigs, bark, and foliage. Soil properties and features that affect the growth of shrubs are depth of the root zone, available water capacity, salinity, and soil moisture. Examples of shrubs are American beautyberry, waxmyrtle, marsh elder, and sumac.

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, wildrice, saltgrass, 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, waterfowl feeding areas, and ponds.

The habitat for various kinds of wildlife is described in the following paragraphs.

Habitat for open land 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. The wildlife attracted to these areas include bobwhite quail, meadowlark, field sparrow, cottontail rabbit, and red fox.

Habitat for forestland wildlife consists of areas dominated by either deciduous or coniferous trees or both. The understory may contain associated grasses, legumes, and wild herbaceous plants. Wildlife attracted to these areas include wild turkey, woodcock, thrushes, woodpeckers, squirrels, gray fox, raccoon, deer, and coyotes.

Habitat for wetland wildlife consists of open, marshy or swampy shallow water areas. Some of the wildlife attracted to such areas include ducks, geese, herons, shore birds, muskrat, nutria, mink, otters, and beaver.

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; U.S. Army Corps of Engineers, 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 ecological 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, 1999) and "Keys to Soil Taxonomy" (USDA, 1998) and in the "Soil Survey Manual" (USDA, 1993).

If soils are wet enough for a long enough period of time 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" (Hurt and others, 1996).

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; Hurt and others, 1996).

ATB Aquents dredged, 0 to 3 percent slopes, frequently flooded
BAA Barbary mucky clay, 0 to 1 percent slopes
BSA Basile and Brule soils, 0 to 3 percent slopes, frequently flooded
FrA Frost silt loam, 0 to 1 percent slopes, occasionally flooded
JuA Judice silty clay, 0 to 1 percent slopes
KvA Kinder-Vidrine silt loams, 0 to 1 percent slopes
MdA Midland silty clay, 0 to 1 percent slopes
MnA Midland silty clay loam, 0 to 1 percent slopes, occasionally flooded
MtA Mowata silt loam, 0 to 1 percent slopes
MwA Mowata silt loam, 0 to 1 percent slopes, occasionally flooded

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 unit, in general, does not meet the definition of a hydric soil because it does not have one of the hydric soil indicators. A portion of this map unit, however, may include hydric soils. Onsite investigation is recommended to determine whether hydric soils occur and the location of the included hydric soils.

CwA Crowley-Midland complex, 0 to 1 percent slopes

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development, sanitary facilities, construction materials, and water management. The ratings are based on observed performance of the soils and on the estimated data and test data in the "Soil Properties" section.

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil within a depth of 5 or 6 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about grain-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 or 6 feet of the surface, soil wetness, depth to a seasonal high water table, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals, mineralogy of the sand and silt fractions, and the kinds of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for sanitary landfills, septic tank absorption fields, and sewage lagoons; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, earthfill, and topsoil; plan drainage systems, irrigation systems, ponds, terraces, and other structures for soil and water conservation; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the Glossary.

Building Site Development

Table 15 shows the degree and kind of soil limitations that affect shallow excavations, dwellings with and without basements, small commercial buildings, local roads and streets, and lawns and landscaping. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required. Special feasibility studies may be required where the soil limitations are severe.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for basements, graves, utility lines, open ditches, or other purposes. The ratings are based on soil properties, site features, and observed performance of the soils. The ease of digging, filling, and compacting is affected by the depth to bedrock, 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 bedrock or 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 bedrock or to a cemented pan, a high water table, flooding, large stones, and slope affect the ease of excavating and grading. Soil strength (as inferred from the engineering classification of the soil), shrink-swell potential, frost action potential, and depth to a high water table affect the traffic-supporting capacity.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. The ratings are based on soil properties, site features, and observed performance of the soils. Soil reaction, a high water table, depth to bedrock or 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, stoniness, and the amount of sand, clay, or organic matter in the surface layer affect trafficability after vegetation is established.

Sanitary Facilities

Table 16 shows the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, and sanitary landfills. The limitations are considered *slight* if soil properties and site features are generally favorable for the indicated use and limitations are minor and easily overcome; *moderate* if soil properties or site features are not favorable for the indicated use and special planning, design, or maintenance is needed to overcome or minimize the limitations; and *severe* if soil properties or site features are so unfavorable or so difficult to overcome that special design, significant increases in construction costs, and possibly increased maintenance are required.

The table also shows the suitability of the soils for use as daily cover for landfill. A rating of *slight* indicates that soil properties and site features are favorable for the use and good performance and low maintenance can be expected; *moderate* 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 slight; and *severe* 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 bedrock or 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, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor.

Sanitary landfills are areas where solid waste is disposed of by burying it in soil. There are two types of landfill—trench and area. In a trench landfill, the waste is placed in a trench. It is spread, compacted, and covered daily with a thin layer of soil excavated at the site. In an area landfill, the waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site.

Both types of landfill must be able to bear heavy vehicular traffic. Both types involve a risk of ground-water pollution. Ease of excavation and revegetation should be considered.

The ratings in the table are based on soil properties, site features, and observed performance of the soils. Permeability, depth to bedrock or to a cemented pan, a high water table, slope, and flooding affect both types of landfill. Texture, stones and boulders, 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 large stones or excess gravel are the best cover for a landfill. Clayey soils are sticky or cloddy and are difficult to spread; sandy soils are subject to wind erosion.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, 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 17 shows 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 large stones, 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 18 shows 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 the restrictive features that affect each soil for drainage, irrigation, terraces and diversions, and grassed waterways.

Pond reservoir areas hold water behind a dam or embankment (fig 14). Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Figure 14.—Narrow drainageways between the side slopes of Acadiana silt loam, 1 to 3 percent slopes, are favorable sites for construction of pond reservoirs.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

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. Depth to bedrock and the content of large stones affect the ease of excavation.

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; subsidence of organic layers; and the potential for frost action. Excavating and grading and the stability of ditchbanks are affected by depth to bedrock or to a cemented pan, large stones, 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, sodium, 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 bedrock or to a cemented pan. The performance of a system is affected by the depth of the root zone, the amount of salts or sodium, and soil reaction.

Terraces and diversions are embankments or a combination of channels and ridges constructed across a slope to control erosion and conserve moisture by intercepting runoff. Slope, 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 bedrock or 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 sodium, 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, soil reaction, and salinity

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 19 shows 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 ranges from 0 for the best subgrade material to 20 or higher for the poorest.

Rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage.

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 20 and table 21 show 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.

Depth to the upper and lower boundaries of each layer is indicated.

In table 20, *Clay* as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In the 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 the soil is dried at 105 degrees C. 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 retention of water and 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.

Linear extensibility (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 the basis of measurements of similar soils.

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

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

Organic matter is the plant and animal residue in the soil at various stages of decomposition. 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.

Erosion factor Kw 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 ranges 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 Kf indicates the erodibility of the fine-earth fraction, or the material less than 2 millimeters in size.

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.

Wind erodibility index is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion. There is a close correlation between wind erosion and the texture of the surface layer, the size and durability of surface clods, rock fragments, organic matter, and a calcareous reaction. Soil moisture and frozen soil layers also influence wind erosion.

In table 21, *cation-exchange capacity* is 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. Soils having a low cation-exchange capacity hold fewer cations and may require more frequent applications of fertilizer than soils having a high cation-exchange capacity. Soils having a high cation-exchange capacity can retain cations. The ability to retain cations helps to prevent the pollution of ground water.

Effective cation-exchange capacity refers to the sum of extractable bases plus aluminum expressed in terms of milliequivalents per 100 grams of soil. It is determined for soils that have pH of less than 5.5.

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.

Calcium carbonate equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

Gypsum is expressed as a percent, by weight, of hydrated calcium sulfates in the fraction of the soil less than 20 millimeters in size. Gypsum is partially soluble in water and can be dissolved and removed by water. Soils that have a high content of gypsum may collapse if the gypsum is removed by percolating water.

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.

Sodium adsorption ratio (SAR) is a measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration. Soils that have SAR values of 13 or more may be characterized by an increased dispersion of organic matter and clay particles, reduced permeability and aeration, and a general degradation of soil structure.

Soil and Water Features

Table 22 and table 23 show estimates of various soil and water features. The estimates are used in land use planning that involves engineering considerations.

In table 22, *hydrologic soil groups* are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

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

The table gives the frequency and duration of flooding and the time of year when flooding is most likely.

Frequency, duration, and probable dates of occurrence are estimated. Frequency is expressed as none, rare, occasional, and frequent. *None* means that flooding is not probable; *rare* means 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* means 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* means that it occurs, on the average, more than once in 2 years (the chance of flooding is more than 50 percent in any year). Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 days to 1 month, and *very long* if more than 1 month. Probable dates are expressed in months. About two-thirds to three-fourths of all flooding occurs during the stated period.

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

High water table (seasonal) is the highest level of a saturated zone in the soil in most years. The estimates are based mainly on observations of the water table at selected sites and on the evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. Indicated in the table are depth to the seasonal high water table, the kind of water table, 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.

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.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. Ponding duration classes are the same as those for flooding. Maximum ponding depth refers to the depth of the water above the surface of the soil.

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 also is expressed as *low, moderate*, or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

Soil Fertility Levels

This section contains information on both the environmental factors and the physical and chemical properties of the soils that affect their potential for crop production. It also lists the analytical methods that were used to determine the chemical properties of the sampled soils.

Factors Affecting Crop Production

Crop composition and yield are a function of many environmental, plant, and soil factors. These factors are interdependent. The magnitude of the factors and the interactions among them control crop response. The relative importance of each factor changes from soil to soil, crop to crop, and environment to environment. The soil factors are only part of the overall system, and are as follows.

Environmental factors: Light (intensity and duration), temperature (air and soil), precipitation (distribution and amount), and atmospheric carbon dioxide concentration are the main environmental factors.

Plant factors: These factors are species- and hybrid-specific. They include the rates of nutrient and water uptake and the rates of growth and related plant functions.

Soil factors: These factors include both physical and chemical properties of the soils.

Physical properties: These factors are distribution-texture, structure, surface area, bulk density, water retention and flow, and aeration.

Chemical properties (soil fertility factors): The effect that the chemical properties of soils have on crop growth can be better understood by discussing the quantity of a chemical element, its intensity, the relationship of quantity and intensity, and the rate of replenishment of the elements to the soils.

Quantity factor: This describes the concentration of a nutrient ion absorbed or held in exchangeable form on the solid phase of the soil. This form of nutrient ion also is available for plant intake.

Intensity factor: This describes the concentration of a nutrient ion in soil solution. Since plant roots absorb nutrients directly from soil solution, this factor quantifies the amount of a nutrient element immediately available for uptake.

Quantity/intensity relationship factor: This describes the relationship between the quantity and intensity factors and is sometimes called the buffer power. As the plant root absorbs nutrients from soil solution, the concentration in solution is replenished by ions from the solid phase. If two soils have identical intensity factors, the soil with the greater quantity factor will provide more nutrients during the growing season, since it will be able to maintain the intensity factor level for a longer period.

Replenishment factor: Rate of replenishment of the available supply of nutrients in the solid and solution phases by weathering reactions, fertilizer additions, and transport by mass flow and diffusion.

The goal of soil testing is to provide information for a soil and crop management program that establishes and maintains optimum levels and balance of the essential elements in soil for crop and animal nutrition, and that protects the environment against the buildup of potentially toxic levels of essential and nonessential elements.

Current soil tests attempt to measure the available supply of one or more nutrients in the plow layer. The available supply consists of nutrients characterized by both the intensity and quantity factors. Where crop production is clearly limited by available supply of one or more nutrients, existing soil tests generally can diagnose the problem and reliable recommendations to correct the problem can be made. Soil management systems generally are based on physical and chemical alteration of the plow layer. Characteristics of this layer can vary from one location to another, depending upon management practices and soil use.

Subsurface horizons are less subject to change or change very slowly as a result of alteration of the plow layer. These horizons reflect the soil's inherent ability to supply nutrients to plant roots and to provide a favorable environment for root growth. If soil fertility recommendations based on current soil tests are followed, major fertility problems in the plow layer normally are corrected. Crop production is then limited by crop and environmental factors, physical properties of the plow layer, and physical and chemical properties of the subsoil.

Chemical Analysis Methods

Information on the available nutrient supply in the subsoil allows evaluation of the natural fertility levels of the soil. Soil profiles were sampled during the soil survey and analyzed for soil reaction; organic matter content; extractable phosphorus; exchangeable cations of calcium, magnesium, potassium, sodium, aluminum, and hydrogen; total acidity; and cation-exchange capacity. The results are summarized in table 24. The methods used in obtaining the data are indicated in the list that follows. The codes in parentheses refer to published methods (USDA, 1984 and 1985).

Organic matter—acid-dichromate oxidation (6A1a)

pH—1:1 soil/water solution (8C1a)

Extractable phosphorus—Bray 2 extractant (0.03 molar ammonium fluoride—0.1 molar hydrochloric acid)
Exchangeable cations—pH 7, 1 molar ammonium acetate-calcium (6N2), magnesium (602), potassium (6Q2), sodium (6P2)
Exchangeable aluminum and hydrogen—1 molar potassium chloride (6G2)
Total acidity—pH 8.2, barium chloride-triethanolamine (6H1a)
Sum cation-exchange capacity—sum of bases plus total acidity (5A3a)
Base saturation—sum of cations/sum cation-exchange capacity (5C3)
Sum cation-exchange capacity with aluminum—exchangeable aluminum/effective cation exchange capacity.
Effective cation-exchange capacity saturated with sodium—exchangeable sodium/sum cation exchange capacity.
Ca/Mg—ratio of exchangeable calcium to magnesium.

Characteristics of Soil Fertility

In general, four major types of nutrient distribution in soils of Louisiana can be identified. The first type includes soils that have relatively high levels of available nutrients throughout the profile. This type reflects the relatively high fertility status of the parent material from which soils developed at a relatively young age or a less intense degree of weathering of the soil profile.

The second type includes soils that have relatively low levels of available nutrients in the surface layer, but generally have increasing levels with depth through the soil profile. These soils have relatively fertile parent material, but are older soils that have been subjected either to weathering over a longer period of time or to more intense weathering. If the levels of available nutrients in the surface layer are low, crops may exhibit deficiency symptoms early in the growing season. Deficiency symptoms often disappear if crop roots are able to penetrate to the more fertile subsoil as the growing season progresses.

The third type includes soils that have adequate or relatively high levels of available nutrients in the surface layer but have relatively low levels in the subsoil. Such soils developed from low fertility parent material, or they are older soils that have been subjected to more intense weathering over a longer period of time. The higher nutrient levels in the surface layer generally are a result of fertilization in agricultural soils or biocycling in undisturbed soils.

The fourth type includes soils that have relatively low levels of available nutrients throughout the soil profile. These soils developed from low fertility parent material, or they are older soils that have been subjected to intense weathering over a long period of time. Neither fertilization nor biocycling has contributed to nutrient levels in the surface layer of these soils.

Soil reaction and acidity, organic matter content, sodium content, and cation-exchange capacity also can provide evidence of the general nutrient distribution patterns in soils. Distribution patterns are the result of the interactions of parent material; weathering (climate); time; and, to a lesser extent, organisms and topography.

More than 90 percent of nitrogen in the surface layer is in the form of organic nitrogen. Most of the nitrogen in the subsoil is in the form of fixed ammonium nitrogen. These forms of nitrogen are unavailable for plant uptake, but they can be converted to readily available ammonium and nitrate species.

Nitrogen generally is the most limiting nutrient element in crop production, because of high plant demand. In most cases nitrogen fertilizer recommendations are based on the nitrogen requirement of the crop, rather than on the nitrogen soil test levels, because no reliable nitrogen soil tests have been developed for Louisiana soils.

Information on the nitrogen fertility status of a soil can be obtained by measuring several soil nitrogen parameters. These include the amount of readily available ammonium and nitrate nitrogen in the soil, the amount of organic nitrogen, the rate of mineralization of organic nitrogen to available forms of inorganic nitrogen, and the rate of conversion of fixed ammonium nitrogen to available forms of nitrogen. Unfortunately, since the amounts and rates of transformation of the various forms of nitrogen in the soils of Acadia Parish have not been determined, no assessment of the nitrogen fertility status for these soils can be given; however, fertilizer nitrogen recommendations obtained from the Louisiana Cooperative Extension Service may be used to determine application rates.

Phosphorus exists in soils as inorganic phosphorus in soil solution; as discrete minerals, such as hydroxyapatite, variscite, and strengite; as occluded or coprecipitated phosphorus in other minerals; as phosphorus retained on the surfaces of minerals, such as carbonates, metal oxides, and layer silicates; and in organic compounds. Soil solution concentrations of phosphorus generally are low. Since plant roots obtain almost all phosphorus from the soil solution, phosphorous uptake depends on the ability of the soil solid phase phosphorus to maintain phosphorus concentration in soil solution. Soil test procedures generally attempt to measure soil solution phosphorus, plus the readily available solid phase phosphorus that buffers the solution phase concentration.

The Bray 2 (Bray, 1945) extractant tends to extract more phosphorus than the commonly used Bray 1, Mehlich 1 (Mehlich, 1953), and Olsen (Olsen, 1954) extractants. The Bray 2 extractable phosphorus content is low throughout most of the soils on the Gulf Coast Prairies and in the uplands in Acadia Parish. Some of these soils, such as Duson, Frost, and Jeanerette soils, have medium levels of extractable phosphorus in the lower part. A few of the soils, such as Midland soils, have medium levels of phosphorus in plow layer and low levels in the rest of the profile. The medium levels of phosphorus in the plow layer generally are the result of recent additions of fertilizer phosphorus. Additions of fertilizer phosphorus are required for optimum crop production on these soils.

Potassium exists in four major forms in soils. These are soil solution potassium, exchangeable potassium associated with negatively charged sites on clay mineral surfaces, nonexchangeable potassium trapped between clay mineral interlayers, and structural potassium within the crystal lattice of minerals. Exchangeable potassium in soils can be replaced by other cations and is generally readily available for plant uptake. To become available to plants, nonexchangeable potassium and structural potassium must be converted to exchangeable potassium through weathering reactions.

The content of exchangeable potassium in soils is an estimate of the supply of potassium available to plants. The content of available potassium in soils on the Gulf Coast Prairies and on uplands in Acadia Parish generally is very low or low, according to soil test interpretation guidelines. As depth increases, the content of exchangeable potassium increases in some soils, such as Acadiana, Crowley, and Judice soils; decreases in some soils, such as Duson soils; and remains about the same in other soils, such as Frost and Midland soils.

Crops respond to fertilizer potassium if exchangeable potassium levels are very low to low. Low levels can be built up gradually by adding fertilizer potassium to soils that contain a sufficient amount of clay to hold the potassium. Exchangeable potassium levels can be maintained by adding enough fertilizer potassium to account for crop removal, fixation of exchangeable potassium to nonexchangeable potassium, and leaching losses.

Magnesium exists in soil solution as exchangeable magnesium associated with negatively charged sites on clay mineral surfaces and as structural magnesium in mineral crystal lattices. Solution and exchangeable magnesium generally are readily available for plant uptake, whereas structural magnesium must be converted to exchangeable magnesium during mineral weathering reactions.

The content of exchangeable magnesium in the soils on the Gulf Coast prairies and in the uplands generally is high and increases with increasing depth. In most of the soils in Acadia Parish, the content is more than adequate for crop production. As a result, magnesium fertilizer generally is not needed.

Calcium exists in soil solution, as exchangeable calcium associated with negatively charged sites on clay mineral surfaces, and as structural calcium in mineral crystal lattices. Exchangeable calcium generally is available for plant intake while structural calcium is not.

Calcium deficiencies in plants are extremely rare. Calcium normally is added to soils from liming materials used to correct problems associated with soil acidity.

Calcium generally is the most abundant exchangeable cation in the soils in Acadia Parish. In most soils of the parish, the content of exchangeable calcium is higher than or about the same as the content of exchangeable magnesium. As depth increases, the content of exchangeable calcium increases in some soils, such as Acadiana, Crowley, Duson, Frost, Judice, ,Mowata, and Patoutville soils, and remains about the same in other soils, such as Kinder soils. A content of exchangeable calcium that is higher in the subsoil than in the surface layer generally is associated with a high content of clay in the subsoil or with free carbonates.

The *organic matter content of* a soil greatly influences other soil properties. High organic matter content in mineral soils is desirable, while low organic matter content can lead to many problems. Increasing the organic matter content can greatly improve the soil structure, drainage, and other physical properties. It can also increase the moisture-holding capacity, cation-exchange capacity, and nitrogen content.

Increasing the organic matter content is very difficult, because organic matter is continually subject to microbial degradation. This is especially true in Louisiana where higher soil temperatures and water content increase microbial activity. The rate of organic matter degradation in native plant communities is balanced by the rate of input of fresh material. Disruption of this natural process can lead to a decline in the organic matter content of the soil. Unsound management practices lead to a further decrease in organic matter content.

If no degradation of organic matter occurs, 10 tons of organic matter addition will raise the organic matter content in the upper 6 inches of soil by just 1 percent. Since breakdown of organic matter does occur in the soil, the addition of large amounts of organic matter to the soil are needed over a period of several decades to produce a small increase in the organic matter content. Conservation tillage and use of cover crops slowly increase the organic matter content over time, or at least prevent further declines.

Except for the Jeanerette and Judice soils, the content of organic matter in the soils on the Gulf Coast Prairies and in the uplands in Acadia Parish generally is low. The low content of organic matter reflects a high rate of organic matter degradation, erosion, and cultural practices that make maintenance of a higher content of organic matter difficult.

Sodium exists in soil solution as exchangeable sodium associated with negatively charged sites on clay mineral surfaces, and as structural sodium in mineral crystal lattices. Because sodium is readily soluble and generally is not strongly retained by soils, well drained soils subjected to moderate or high rainfall normally do not have significant amounts of sodium. Soils in low rainfall environments, soils that have restricted drainage in the subsoil, and soils of the coastal marsh may have significant amounts of sodium. High levels of exchangeable sodium in soils are associated with undesirable physical properties such as poor structure, slow permeability, and restricted drainage.

Most of the soils in Acadia Parish have more exchangeable sodium than exchangeable potassium. Where the content of exchangeable sodium is more than about 6 percent of the cation-exchange capacity within the rooting depth of crops, production can be limited. The soils of the Gulf Coast Prairies and uplands that are used for agricultural purposes have a high content of exchangeable sodium. This high content is below the surface layer. Nevertheless, it helps to restrict the drainage of these soils.

Exchangeable aluminum and hydrogen, pH, and exchangeable and total acidity are factors of soil properties. The pH of the soil solution in contact with the soil affects other soil properties. Soil pH is an intensity factor rather than a quantity factor. The lower the pH, the more acidic the soil. Soil pH controls the availability of essential and nonessential elements by controlling mineral solubility, ion exchange, and absorption-desorption reactions at the surfaces of the soil minerals and organic matter. The pH also affects microbial activity.

Aluminum exists in soils as exchangeable polymeric hydrolysis species, aluminum oxides, and aluminosilicate minerals. Exchangeable aluminum in soils is determined by extraction with neutral salts, such as potassium chloride or barium chloride. The exchangeable aluminum in soils is directly related to pH. If the pH is less than 5.5, the soils have significant amounts of exchangeable aluminum that has a charge of plus 3. The species of aluminum is toxic to plants. The toxic effects of aluminum on plant growth can be alleviated by adding lime to the soil to convert exchangeable aluminum to nonexchangeable polymeric hydrolysis species. High levels of organic matter also can alleviate aluminum toxicity. In Acadia Parish, the Acadiana, Brule, and Kinder soils have high levels of aluminum in the surface and subsurface layers, due principally to soil development under forest vegetation.

Sources of exchangeable hydrogen in soils include hydrolysis of exchangeable and nonexchangeable aluminum and pH-dependent exchange sites on metal oxides, certain layer silicates, and organic matter. Exchangeable hydrogen, as determined by extraction with such neutral salts as potassium chloride, normally is not a major component of soil acidity. Exchangeable hydrogen is not readily replaced by other cations unless accompanied by a neutralization reaction. Most of the neutral salt exchangeable hydrogen in soils apparently comes from aluminum hydrolysis.

Acidity from hydrolysis of neutral salt exchangeable aluminum plus neutral salt exchangeable hydrogen from pH-dependent exchange sites makes up the exchangeable acidity in soils. Exchangeable acidity is determined by the pH of the soil. Titratable acidity is the amount of acidity neutralized to a selected pH, generally, pH 7 or 8.2, and constitutes the total potential acidity of a soil. All sources of soil acidity, including hydrolysis of monomeric and polymeric aluminum species and hydrogen from pH-dependent exchange sites on metal oxides, layer silicates, and organic matter, contribute to the total potential acidity. Total potential acidity in soils is determined by titration with base or incubation with lime; extraction with a buffered extractant followed by titration of the buffered extractant (pH 8.2, barium chloride-triethanolamine method); or equilibration with buffers followed by estimation of acidity from changes in buffer pH.

Most of the soils of the Gulf Coast Prairies and uplands in the parish have a low pH and a high level of total acidity in the upper horizons, but pH generally increases with increasing depth. Midland and Kaplan soils have an alkaline or high pH level in the subsoil and an acid surface layer. The total acidity, however, may not change much with increasing depth.

Cation-exchange capacity is a measure of the amount of nutrient and non-nutrient cations a soil can hold in an exchangeable form. The cation-exchange capacity depends on the number of negatively charged sites, both permanent and pH-dependent, present in the soil. Permanent charge cation-exchange sites occur because a net negative charge develops on a mineral surface from substitution of ions within the crystal lattice. A negative charge developed from ionization of surface hydroxyl groups on minerals and organic matter produces pH-dependent cation-exchange sites.

Methods for determining cation-exchange capacity are available and can be classified as one of two types. These include methods that use unbuffered salts to measure the cation-exchange capacity at the pH of the soil, and methods that use buffered salts to measure the cation-exchange capacity at a specified pH. These methods produce different results since buffered salt methods include only a part of the pH-dependent cation-exchange capacity up to the pH of the buffer, pH 7 and 8.2. Errors in the saturation, washing, and replacement steps also can cause different results.

The effective cation-exchange capacity is the sum of exchangeable bases, which includes calcium, magnesium, potassium, and sodium. Effective cation-exchange capacity is determined by extraction with 1 molar ammonium acetate at pH 7, plus the sum of neutral salt-exchangeable aluminum and hydrogen (exchangeable acidity). The sum cation-exchange capacity is the sum of exchangeable bases, plus the total acidity determined by extraction with pH 8.2, barium chloride-triethanolamine. The effective-cation exchange capacity generally is less than the sum cation-exchange capacity, and includes only that part of the pH-dependent cation-exchange capacity that is determined by exchange of hydrogen with a neutral salt. The sum cation-exchange capacity includes all of the pH-dependent cation-exchange capacity up to pH 8.2. If a soil contains no pH-dependent exchange sites, or if the pH of the soil is about 8.2, the effective and sum cation-exchange capacity will be about the same. The larger the cation-exchange capacity, the larger the capacity to store nutrient cations.

Most of the cation-exchange capacity of the soils in Acadia Parish is permanent-charge cation-exchange capacity from the clays in the soils. The pH-dependent charge is a significant source of the cation-exchange capacity in many of the soils.

Physical and Chemical Analyses and Clay Mineralogy of Selected Soils

The results of physical analysis of several typical pedons in the survey area are shown in table 25 and the results of chemical analysis in table 26. The clay mineralogy of selected soils is shown in table 27. The data are for soils sampled at carefully selected sites. Unless otherwise indicated, the pedons are typical of the series. They are described in the section "Soil Series and Their Morphology." Soil samples were analyzed by the National Soil Survey Laboratory, Lincoln, Nebraska. Most determinations, except those for grain-size analysis and bulk density, were made on soil material smaller than 2 millimeters in diameter. Measurements reported as percent or quantity of unit weight were calculated on an ovendry basis. The methods used in obtaining the data are indicated in the list that follows. The codes in parentheses refer to published methods. (USDA, 1984 and 1985).

Sand—(0.05-2.0 mm fraction) weight percentages of material less than 2 mm (3A1)
Silt—(0.002-0.05 mm fraction) pipette extraction, weight percentages of all material less than 2 mm (3A1)
Clay—(fraction less than 0.002 mm) pipette extraction, weight percentages of material less than 2 mm (3A1)
Water content—pressure extraction, percentage of ovendry weight of less than 2 mm material; 1/3 or 1/10 bar (4B1), 15 bars (4B2)
Water-retention—between 1/3 bar (4B1c) and 15 bars (4B2a) for whole soil (4C1)
Bulk density—of less than 2 mm material, cores, 1/3 bar (4A1d), air-dry (4A1b), oven-dry (4A1h)
Linear extensibility—change in clod dimension based on whole soil (4D1) coefficient of linear extensibility. (3D4)
Extractable bases—ammonium acetate pH 7.0, uncorrected; calcium (6N2e), magnesium (6O2d), potassium (6Q2b), sodium (6P2b)
Extractable acidity—barium chloride-triethanolamine 1 (6H5a)
Cation-exchange capacity—ammonium acetate, pH 7.0, steam distillation (5A8b)
Base saturation—sum of cations, TEA, pH 8.2 (5C3)
Organic carbon—dichromate, ferric sulfate titration (6A1c)
Reaction (pH)—calcium chloride (8C1f)
Reaction (pH)—1:1 water dilution (8C1f)
Extractable aluminum—potassium chloride extraction (6G9b) and (6G7a)
Total nitrogen—combustion technique, LECO nitrogen analyzer (6B4a), or Kjeldahl technique (6B3a)
Extractable Iron—dithionate-citrate extract (6C2b)
Extractable manganese—dithionite-citrate extraction (6D2a)
Clay mineralogy—X-Ray Diffraction; thin film on glass, resin pretreatment 2 (7A21)

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (USDA, 1998 and 1999). 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 28 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 Alfisol.

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 Udalf (Ud, meaning humid, plus alf, from Alfisol).

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 Hapludalfs (Hapl, meaning minimal horizonation, plus udalf, the suborder of the Alfisols 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 Hapludalfs.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle size, mineral content, soil temperature regime, soil depth, and reaction. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-loamy, mixed, nonacid, mesic Typic Hapludalfs.

SERIES. The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. An example is the Memphis series, a member of the fine-silty, mixed, active, thermic Typic Hapludalfs.

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" (USDA, 1993). Many of the technical terms used in the descriptions are defined in "Soil Taxonomy" (USDA, 1999) and in "Keys to Soil Taxonomy" (USDA, 1998). 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."

Acadiana Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability class: Very slow
Landscape: Upland
Landform: Stream terrace
Parent material: Loamy and clayey alluvium of late Pleistocene age
Slope range: 1 to 3 percent

Taxonomic Classification

Fine, mixed, active, thermic Oxyaquic Glossudalfs

Associated Soils

Basile, Brule, Crowley, Iota, Kaplan, Kinder, and Vidrine soils: Basile and Brule soils are on flood plains. The somewhat poorly drained Crowley and Kaplan soils are on convex ridges and side slopes at higher elevations. The well drained Iota soils are on steeper side slopes. The poorly drained Kinder soils are on broad stream divides at higher elevations. The somewhat poorly to moderately well drained Vidrine soils are on circular mounds at higher elevations.

Typical Pedon

Acadiana silt loam, 1 to 3 percent slopes; in pasture; about 2/3 mile south from junction of U.S. Highway. 190 and parish road P7-1 in Basile, 375 feet northwest of pasture gate; 650 feet south and 625 feet east of the center of sec. 6, T. 7 S., R. 2 W.; 30^{o}28'17" N. Latitude, 92^{o}36'35" W. Longitude, Basile Quadrangle, Louisiana.

Ap—0 to 5 inches; dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; soft, very friable; many fine roots; few fine black concretions of iron-manganese; few dark yellowish brown (10YR 3/4) stains around roots; slightly acid; clear smooth boundary.

E—5 to 9 inches; light yellowish brown (10YR 6/4) silt loam; weak fine subangular blocky structure; slightly hard, friable; many fine roots; common fine and medium concretions of iron-manganese; few medium distinct yellowish brown (10YR 5/6) masses of iron accumulation; moderately acid; clear smooth boundary.

Bt1—9 to 14 inches; yellowish brown (10YR 5/8) loam; weak medium subangular blocky structure; slightly hard, friable; many fine roots; few fine pores; few faint clay films on faces of peds; few fine and medium concretions of iron-manganese; common medium prominent yellowish red (5YR 5/6) masses of iron accumulation; few medium distinct pale brown (10YR 6/3) iron depletions; very strongly acid; clear wavy boundary.

Bt2—14 to 19 inches; yellowish brown (10YR 5/8) loam; moderate medium subangular blocky structure; slightly hard, friable; common fine roots; few fine pores; few faint clay films on faces of peds; few fine and medium concretions of iron-manganese; common fine prominent red (2.5YR 4/6) masses of iron accumulation; common medium distinct pale brown (10YR 6/3) iron depletions; very strongly acid; clear wavy boundary.

Bt/E—19 to 24 inches; 70 percent yellowish brown (10YR 5/6) clay (Bt part) and 30 percent pale brown (10YR 6/3) silt loam (E part); strong medium subangular blocky structure; clay is moderately hard, firm; silt loam is slightly hard, friable; common fine roots; few fine and medium pores; common distinct clay films on faces of peds; pale brown (10YR 6/3) clay depletions (E part) makes up 30 percent of this horizon; the E part consists of 2- to 4-inch wide bands between peds; few fine and medium concretions of iron-manganese; many medium prominent red (2.5YR 4/6) masses of iron accumulation; strongly acid; clear smooth boundary.

B't—24 to 32 inches; 35 percent yellowish brown (10YR 5/6), 35 percent red (2.5YR 4/6), and 30 percent light brownish gray (10YR 6/2) clay; weak coarse prismatic structure parting to moderate medium subangular blocky; moderately hard, firm; common fine roots; few fine and medium pores; many distinct clay films on faces of peds; few fine and medium concretions of iron-manganese; areas in the matrix with red and yellowish brown colors are iron accumulation and the areas of gray are iron depletions; strongly acid; gradual wavy boundary.

2Btss—32 to 43 inches; 35 percent yellowish brown (10YR 5/6), 35 percent red (2.5YR 4/6), and 30 percent light brownish gray (10YR 6/2) silty clay; weak medium prismatic structure parting to moderate medium subangular blocky; moderately hard, firm; common distinct slickensides 30 to 90 degrees from horizontal; many distinct clay films on faces of peds; few fine and medium concretions of iron-manganese; areas with red and yellowish brown colors are iron accumulation and the areas of light brownish gray are iron depletions; strongly acid; gradual wavy boundary.

2Bss1—43 to 54 inches; dark brown (7.5YR 4/4) clay; weak medium prismatic structure parting to moderate medium subangular blocky; moderately hard, firm; few fine roots; few fine and medium pores; few distinct slickensides 30 to 90 degrees from horizontal; common distinct pressure faces; few medium prominent red (2.5YR 4/6) masses and streaks of iron accumulation; few fine and medium prominent light olive gray (5Y 6/2) iron depletions; moderately acid; gradual wavy boundary.

2Bss2—54 to 66 inches; red (2.5YR 4/6) clay; weak medium prismatic structure parting to moderate medium subangular blocky; moderately hard, firm; few fine roots; few fine and medium pores; few distinct slickensides 30 to 90 degrees from horizontal; common fine and medium concretions of iron-manganese; few medium prominent light brownish gray (2.5Y 6/2) iron depletions; neutral; gradual wavy boundary.

3Bssg1—66 to 75 inches; light olive gray (5Y 6/2) clay; weak coarse prismatic structure; moderately hard, firm; few fine roots; few very fine and fine random discontinuous tubular pores; many prominent slickensides 30 to 90 degrees from horizontal; many fine and medium black and brownish concretions of iron-manganese; common medium prominent light olive brown (2.5Y 5/6) and many coarse prominent red (2.5YR 4/6) masses of iron accumulation; slightly alkaline; gradual wavy boundary.

3Bssg2—75 to 80 inches; light olive gray (5Y 6/2) clay; weak coarse prismatic structure; moderately hard, firm; few very fine and fine random discontinuous tubular pores; many prominent slickensides 30 to 90 degrees from horizontal; many fine and medium black and brownish concretions of iron-manganese; common coarse prominent light olive brown (2.5Y 5/6) masses of iron accumulation; slightly alkaline.

Range in Characteristics

Solum thickness: More than 80 inches
Clay content in the control section: 35 to 45 percent

Redoximorphic features: Iron-manganese concretions and iron depletions in shades of gray. Iron accumulation throughout

A or Ap horizon:
Color—Hue of 10YR, value of 3 to 5, and chroma of 1 to 3. Where value is 3, the A or Ap horizon is less than 6 inches thick
Redoximorphic features—Concretions of iron-manganese ranges from none to common
Texture—Silt loam
Reaction—Very strongly acid to slightly acid
Thickness—3 to 8 inches

E horizon: *(present in most pedons)*
Color—Hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 2 to 4
Redoximorphic features—Masses of iron accumulation in shades of brown and concretions of iron-manganese ranges from none to common
Texture—Silt loam or very fine sandy loam
Reaction—Very strongly acid to moderately acid
Thickness—2 to 12 inches

BE horizon: *(present in some pedons)*
Color—Hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 4 to 8
Redoximorphic features—Masses of iron accumulation in shades of brown ranges from few to many
Texture—Loam, silt loam, or silty clay loam
Reaction—Very strongly acid to moderately acid

Bt horizon:
Color—Hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 3 to 8
Redoximorphic features—Masses of iron accumulation in shades of red or brown ranges from few to many. Iron depletions in shades of gray ranges from none to common
Texture—Silt loam, loam, clay loam, or silty clay loam
Reaction—Very strongly acid to moderately acid
Thickness—6 to 12 inches

Bt/E horizon:
Color—(Bt part) same color range as the Bt horizon; (E part) hue of 10YR, value of 5 to 7, and chroma of 1 to 3
Redoximorphic features—Masses of iron accumulation in shades of red or brown and iron depletions in shades of gray ranges from few to many
Texture—(Bt part) silty clay or clay; (E part) silt loam or loam; weighted average clay content of the Bt/E ranges from 40 to 60 percent
Other features—(E part) occurs as 2- to 4-inch wide bands between peds
Reaction—Very strongly acid to moderately acid
Thickness—3 to 13 inches

B't horizon: (present in most pedons)
Color—Variegated in shades of brown, red, and gray
Redoximorphic features—Masses of iron accumulation in shades of red and brown and iron depletions in shades of gray are common and many
Texture—Silty clay or clay with clay content ranging from 40 to 60 percent
Reaction—Strongly acid to moderately acid
Thickness—0 to 12 inches

2Btss horizon: (present in most pedons)
Color—Variegated in shades of brown, red, and gray
Redoximorphic features—Masses of iron accumulation in shades of red and brown and iron depletions in shades of gray are common and many

Texture—Silty clay or clay with clay content ranging from 45 to 60 percent
Other features—Slickensides
Reaction—Strongly acid to neutral
Thickness—0 to 20 inches

2Bss horizon:
Color—Hue of 2.5YR to 10YR, value of 4 to 6, and chroma of 3 to 6
Redoximorphic features—Masses of iron accumulation in shades of red and brown ranges from none to common. Iron depletions in shades of gray ranges from none to common
Texture—Clay; with clay content ranging from 45 to 60 percent
Other features—Slickensides
Reaction—Slightly acid to slightly alkaline
Thickness—0 to more than 40 inches

3Bssg horizon: *(where present)*
Color—Hue of 10YR to 5Y, value of 5 or 6, and chroma of 1 or 2
Redoximorphic features—Masses of iron accumulation in shades of red and brown ranges from few to many
Texture—Clay; with clay content ranging from 55 to 75 percent
Other features—Slickensides
Reaction—Neutral to moderately alkaline
Thickness—0 to more than 40 inches

Barbary Series

Depth class: Very deep
Drainage class: Very poorly drained
Permeability class: Very slow
Landscape: Delta plain
Landform: Backswamp
Parent material: Recent, slightly fluid to very fluid clayey sediments
Slope range: 0 to 1 percent

Taxonomic Classification

Very-fine, smectitic, nonacid, hyperthermic Typic Hydraquents

Associated Soils

Acadiana, Basile, Brule, Kaplan, and Iota soils: The moderately well drained Acadiana soils are on side slopes at higher elevations and have a fine-textured control section. The poorly drained Basile and Brule are on flood plains. The somewhat poorly drained Kaplan soils are on higher convex ridges and side slopes. The well drained Iota soils are on steeper side slopes. These soils are all nonfluid.

Typical Pedon

Barbary mucky clay, 0 to 1 percent slopes; in forestland and wildlife habitat; about 1.7 miles southwest of Morse; 2,200 feet south and 1,550 feet east of the northwest corner of sec. 12, T. 11 S., R. 2 W.; 30°06'20" N. Latitude, 92°31'38" W. Longitude, Gueydan Quadrangle, Louisiana.

A—0 to 8 inches; very dark grayish brown (10YR 3/2) mucky clay; massive; nonsticky; very fluid (flows easily between the fingers when squeezed, leaving a small amount of residue in the hand); many fragments of partially decomposed wood; about 20 percent organic matter; slightly acid; clear smooth boundary.

Cg1—8 to 36 inches; dark gray (10YR 4/1) clay; massive; nonsticky; very fluid, flows easily between the fingers when squeezed, leaving hand empty; about 5 percent organic matter; neutral; clear smooth boundary.

Cg2—36 to 80 inches; dark gray (10YR 4/1) clay; massive; nonsticky; very fluid, flows easily between the fingers when squeezed, leaving hand empty; underlain at 40 inches by a layer of undecomposed logs and fragments of wood; slightly alkaline.

Range in Characteristics

Clay content in the control section: 60 to 95 percent
Redoximorphic features: Reduced matrix throughout
Other distinctive soil features: The N-values are greater than 0.7 in all horizons to a depth of 40 inches or more; buried logs in the Cg horizons
Reaction: Moderately acid to slightly alkaline in the A horizon and neutral to moderately alkaline in the Cg horizons

A horizon:
Color—Hue of 10YR to 5Y, value of 3 to 5, and chroma of 1 to 3
Redoximorphic features—Reduced matrix throughout
Texture—Slightly fluid to very fluid mucky clay
Thickness—0 to 10 inches

Cg horizon:
Color—Hue of 10YR to 5Y, 5GY, 5G, or 5BG, value of 4 or 5, and chroma of 1; or it is neutral with value of 4 to 6
Redoximorphic features—Reduced matrix. Masses of iron accumulation in shades of brown or olive ranges from none to common in the upper part
Texture—Slightly fluid to very fluid clay or mucky clay
Other features—Thin layers of peat or muck and/or layers of wood, logs, and stumps are present in some pedons

Basile Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability class: Slow
Landscape: River valley
Landform: Flood plain
Parent material: Alluvium
Slope range: 0 to 1 percent

Taxonomic Classification

Fine-silty, mixed, superactive, thermic Typic Glossaqualfs

Associated Soils

Acadiana, Barbary, Brule, Crowley, Iota, Kaplan, Kinder, and Vidrine soils: The Acadiana, Iota, and Kaplan soils are on side slopes at higher elevations and have a fine-textured control section. The Barbary soils are on lower positions and have n-values greater than 0.7 in the 10- to 40-inch control section. The moderately well drained Brule soils are on convex ridges. The Crowley, Kinder, and Vidrine soils are on higher positions. The Crowley soils have a fine-textured control section. The Kinder soils have siliceous mineralogy. The Vidrine soils are on low mounds or smoothed mound areas.

Typical Pedon

Basile silt loam, 0 to 3 percent slopes, frequently flooded; in forestland and wildlife habitat; about 3.2 miles northwest of Rayne on parish road P6-5, 125 feet north of Bayou

Wikoff bridge and 425 feet east; 200 feet north and 450 feet east of the southwest corner of sec. 41, T. 9 S., R. 1E.; 30°15'55" N. Latitude, 92°19'16" W. Longitude, Branch Quadrangle, Louisiana.

A—0 to 8 inches; dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; friable; many fine, medium, and coarse roots; few medium and coarse faint very dark grayish brown oxidation stains in root channels; many distinct light gray (10YR 7/1) silt coats; very strongly acid; clear wavy boundary.

Eg1—8 to 14 inches; grayish brown (10YR 5/2) silt loam; weak fine granular structure; friable; many fine, medium, and coarse roots; many very fine and fine discontinuous tubular pores; few medium prominent light olive brown (2.5Y 5/4) and many medium distinct dark yellowish brown (10YR 4/4) masses of iron accumulation; very strongly acid; gradual wavy boundary.

Eg2—14 to 23 inches; grayish brown (10YR 5/2) silt loam; weak medium subangular blocky structure; friable; many fine, medium, and coarse roots; many fine and medium tubular pores; common medium faint dark brown (10YR 4/3) and common fine and medium prominent yellowish brown (10YR 5/8) masses of iron accumulation; very strongly acid; clear wavy boundary.

Btg/Eg1—23 to 29 inches; 80 percent light brownish gray (2.5Y 6/2) silty clay loam; strong medium and coarse subangular blocky structure; firm; common fine, medium, and coarse roots; many faint clay films on faces of peds; common fine and medium prominent dark yellowish brown (10YR 4/4) masses of iron accumulation; many white prominent (10YR 8/1) silt coats on faces of peds; about 20 percent streaks and pockets of grayish brown (10YR 5/2) silt loam (E part) ranges from 1 to 3 inches wide and are lined with silty clay loam krotovinas; very strongly acid; clear broken boundary.

Btg/Eg2—29 to 35 inches; 80 percent light brownish gray (2.5Y 6/2) silty clay loam; strong medium and coarse subangular blocky structure; firm; common fine and medium roots; many prominent clay films on faces of peds; common medium distinct light yellowish brown (2.5Y 6/4) masses of iron accumulation; many discontinuous prominent white (10YR 8/1) silt coats on faces of peds; about 20 percent streaks and pockets of grayish brown (10YR 5/2) silt loam (E part) ranges from 1 to 3 inches wide and are lined with silty clay loam krotovinas; strongly acid; clear smooth boundary.

Btcg1—35 to 39 inches; olive gray (5Y 5/2) silty clay loam; strong medium and coarse subangular blocky structure; firm; few fine and medium roots; many prominent clay films on faces of peds; many medium and coarse black (N 2/0) moderately cemented concretions of iron-manganese make up 70 percent of the horizon; common medium distinct light yellowish brown (2.5Y 6/4) masses of iron accumulation; slightly acid; clear smooth boundary.

Btcg2—39 to 47 inches; olive gray (5Y 5/2) silty clay loam; strong medium and coarse subangular blocky structure; firm; few fine and medium roots; many prominent dark gray (10YR 4/1) clay films on faces of peds; many fine and medium moderately cemented concretions of iron-manganese; many discontinuous prominent very dark gray (10YR 3/1) coatings on faces of peds; common medium prominent light yellowish brown (2.5Y 6/4) masses of iron accumulation; slightly alkaline; gradual wavy boundary.

Btcg3—47 to 56 inches; olive gray (5Y 5/2) silty clay loam; strong medium and coarse subangular blocky structure; firm; few fine and medium roots; many prominent clay films on faces of peds; many fine and medium moderately cemented concretions of iron-manganese; common medium prominent light yellowish brown (2.5Y 6/4) masses of iron accumulation; slightly alkaline; clear wavy boundary.

Btkg1—56 to 69 inches; olive gray (5Y 5/2) silty clay loam; moderate coarse prismatic structure parting to moderate medium subangular blocky; firm; few fine and medium roots; common very fine and fine tubular pores; many prominent clay films on faces of peds; common fine and medium moderately cemented concretions of iron-manganese; common medium prominent light yellowish brown (2.5Y 6/4) masses of iron accumulation; few coarse concretions of calcium carbonate make up about 5 percent of the horizon; moderately alkaline; gradual wavy boundary.

Btkg2—69 to 80 inches; light brownish gray (2.5Y 6/2) silt loam; weak coarse prismatic structure parting to weak medium subangular blocky; firm; common very fine and fine random tubular pores; many clay films on faces of peds; common fine and medium black and brownish moderately cemented concretions of iron-manganese; common medium prominent dark yellowish brown (10YR 4/4) and common medium distinct light yellowish brown (2.5Y 6/4) masses of iron accumulation; common medium concretions of calcium carbonate; moderately alkaline.

Range in Characteristics

Solum thickness: More than 80 inches
Clay content in the control section: 28 to 35 percent

A horizon:
Color—Hue of 10YR, value of 4 to 6, and chroma of 1or 2
Redoximorphic features—Masses of iron-manganese ranges from 0 to 5 percent
Texture—Silt loam
Reaction—Very strongly acid to neutral
Thickness—3 to 6 inches

Eg horizon:
Color—Hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 1 or 2
Redoximorphic features—Masses of iron accumulation in shades of brown ranges from none to common. Concretions of iron-manganese ranges from 1 to 5 percent
Texture—Silt loam
Reaction—Very strongly acid to slightly acid
Thickness—12 to 25 inches

Btg/Eg horizon:
Color—(Bt part) hue of 10YR to 5Y, value of 5 or 6, and chroma of 1 or 2; (E part) same colors as Eg horizon
Redoximorphic features—Masses of iron accumulation in shades of brown ranges from few to common. Concretions of iron-manganese ranges from few to many
Texture—(Bt part) silty clay loam; (E part) silt loam
Other features—(Eg part) occurs as albic material that penetrates the Bt to a depth of 6 to 12 inches and makes up 15 to 45 percent of the horizon
Reaction—Moderately acid to slightly alkaline
Thickness—6 to 12 inches

Btg and Btcg horizons: (Btng horizons where present)
Color—Hue of 10YR to 5Y, value of 5 or 6, and chroma of 1 or 2
Redoximorphic features—Masses of iron accumulation in shades of brown ranges from few to common. Concretions of iron-manganese ranges from few to many
Texture—Silt loam, clay loam, or silty clay loam
Other features—Concretions of calcium carbonate below a depth of 30 inches ranges from none to common
Reaction—Moderately acid to moderately alkaline
Thickness—18 to 60 inches

Bkg horizon:
Color—Hue of 10YR to 5Y, value of 5 or 6, and chroma of 1 or 2
Redoximorphic features—Masses of iron accumulation in shades of brown ranges from few to common. Masses of iron-manganese ranges from few to many

Texture—Typically is silt loam, but some pedons have strata ranging from silty clay loam to clay
Other features—Concretions of calcium carbonate ranges from few to common
Reaction—Slightly alkaline or moderately alkaline

Brule Series

Depth class: Very deep
Drainage class: Moderately well drained
Permeability class: Moderate
Landscape: River valley
Landform: Flood plain
Parent material: Silty alluvium of Holocene age
Slope range: 0 to 2 percent

Taxonomic Classification

Fine-silty, mixed, active, thermic Oxyaquic Paleudults

Associated Soils

Acadiana, Barbary, Basile, Crowley, Duson, Iota, Kaplan, Kinder, and, Vidrine soils: The Acadiana, Crowley, Duson, Iota, and Kaplan soils are on side slopes along drainageways at higher elevations. The Barbary and Basile soils are at lower elevations on flood plains. The Kinder soils are on broad, nearly level stream divides at higher elevations. The Vidrine soils are on circular mounds.

Typical Pedon

Brule silt loam, 0 to 3 percent slopes, frequently flooded; in bottomland hardwoods; 4.5 miles north-northwest of Rayne; 1,080 feet west and 2,200 feet north of the southeast corner of sec. 39, T. 8 S., R. 2 E.; 30°18'37" N. Latitude, 92°18'14" W. Longitude, Branch Quadrangle, Louisiana.

A—0 to 6 inches; dark gray (10YR 4/1) silt loam; moderate medium subangular blocky structure; firm; many very fine to coarse roots; few fine pores; extremely acid; clear smooth boundary.
AB—6 to 10 inches; dark grayish brown (10YR 4/2) silty clay loam; moderate fine and medium subangular blocky structure; friable; many very fine to coarse roots; few fine pores; extremely acid; clear smooth boundary.
Bw1—10 to 18 inches; brown (10YR 4/3) silt loam; moderate fine and medium subangular blocky structure; friable; many very fine to coarse roots; common very fine and fine pores; common fine and medium rounded black (10YR 2/1) concretions of iron-manganese; extremely acid; clear smooth boundary.
Bw2—18 to 24 inches; dark yellowish brown (10YR 4/4) silt loam; weak fine and medium subangular blocky structure; friable; common very fine to medium roots; common very fine and fine pores; common fine and medium irregular dark brown (10YR 3/3) masses of iron-manganese; extremely acid; clear smooth boundary.
Bw3—24 to 30 inches; dark yellowish brown (10YR 4/4) silt loam; weak fine and medium subangular blocky structure; friable; common very fine and fine roots between peds; common very fine and fine pores; common fine irregular very dark gray (10YR 3/1) masses of iron-manganese; very strongly acid; gradual wavy boundary.
Bw4—30 to 37 inches; yellowish brown (10YR 5/4) silt loam; weak fine and medium subangular blocky structure; friable; few very fine and fine roots between peds; common very fine and fine tubular pores; common fine irregular black (10YR 2/1) masses of iron-manganese; common medium irregular dark yellowish brown (10YR 4/4) masses of iron accumulation with sharp boundaries; common medium irregular

light olive brown (2.5Y 5/3) iron depletions; very strongly acid; gradual wavy boundary.

2Bt/E—37 to 41 inches; 75 percent light yellowish brown (10YR 6/4) (Bt part), and 25 percent light gray (10YR 7/1) (E part), silt loam; moderate medium subangular blocky structure; friable; few very fine and fine roots between peds; few very fine and fine tubular pores; few distinct light gray (2.5Y 7/1) silt coats on faces of peds; very few faint clay films on faces of peds; common fine irregular black (10YR 2/1) masses of iron-manganese; common medium irregular dark yellowish brown (10YR 4/4) and many medium irregular yellowish brown (10YR 5/6) masses of iron accumulation with sharp boundaries; very strongly acid; gradual wavy boundary.

2Eg/Bt—41 to 54 inches; 70 percent light brownish gray (10YR 6/2) (E part) silt loam, and 30 percent yellowish brown (10YR 5/4) (Bt part) silty clay loam; moderate medium subangular blocky structure; friable; few very fine and fine roots between peds; few very fine and fine tubular pores; few distinct light gray (2.5Y 7/1) silt coats on faces of peds; very few faint clay films on faces of peds; common fine irregular black (10YR 2/1) masses of iron-manganese; very strongly acid; common medium and coarse irregular yellowish brown (10YR 5/6) and many medium and coarse irregular dark yellowish brown (10YR 4/4) masses of iron accumulation with sharp boundaries; gradual wavy boundary.

2Btg/E—54 to 59 inches; 70 percent light brownish gray (2.5Y 6/2) (Bt part) silty clay loam, and 30 percent light gray (2.5Y 7/1) (E part) silt loam; weak coarse prismatic structure parting to moderate medium subangular blocky; firm; few very fine and fine roots between peds; few very fine to medium tubular pores; many distinct clay films on faces of peds; common medium irregular yellowish brown (10YR 5/6) and many medium and coarse irregular dark yellowish brown (10YR 4/6) masses of iron accumulation with sharp boundaries; very strongly acid; gradual wavy boundary.

2Btg1—59 to 69 inches; light brownish gray (2.5Y 6/2) silt loam; weak coarse prismatic structure parting to moderate medium subangular blocky; firm; few fine roots between peds; few very fine to medium tubular pores; few distinct light gray (2.5Y 7/1) silt coats on vertical faces of peds; many distinct clay films on faces of peds; common medium irregular dark yellowish brown (10YR 4/6) and many coarse irregular yellowish brown (10YR 5/6) masses of iron accumulation with sharp boundaries; very strongly acid; gradual wavy boundary.

2Btg2—69 to 80 inches; light gray (2.5Y 7/2) silt loam; weak coarse prismatic structure parting to moderate medium subangular blocky; firm; few fine roots between peds; few very fine tubular pores; few faint light gray (2.5Y 7/1) silt coats on vertical faces of peds; few distinct clay films on vertical and horizontal faces of peds; many coarse irregular yellowish brown (10YR 5/6) masses of iron accumulation with sharp boundaries; very strongly acid.

Range in Characteristics

Solum thickness: More than 80 inches

Clay content in the control section: 18 to 30 percent clay

Redoximorphic features: Masses of iron accumulation, iron-manganese concretions, and iron depletions throughout the subsoil

Other distinctive soil features: Depth to episaturation: 20 to 40 inches for 1 month or more in normal years

Reaction: Extremely acid to strongly acid throughout

A or Ap horizon:

Color—Hue of 7.5YR or 10YR, value of 3 to 5, value of 3, and chroma of 1 to 4. Where value is 3, the A or Ap horizon is less than 7 inches thick

Texture—Silt loam or silty clay loam

Thickness—3 to 12 inches

AB horizon:
Color—Hue of 7.5YR or 10YR, value of 3 to 5, and chroma of 1 to 4. Where value is 3, the A or Ap horizon is less than 7 inches thick
Texture—Silt loam or silty clay loam
Thickness—0 to 8 inches

Bw horizon:
Color—Hue of 7.5YR or 10YR, value of 3 to 6, and chroma of 3 to 8
Redoximorphic features—Masses of iron accumulations in shades of red, yellow, or brown ranges from few to many with clear to sharp boundaries. Concretions of iron-manganese ranges from few to many. Masses of iron depletions in shades of brown or gray with chroma 2 or less below 30 inches ranges from few to common with clear to sharp boundaries
Texture—Silt loam or silty clay loam
Other features—Base saturation ranges from 5 to 25 percent
Thickness—20 to 40 inches

2E horizon: *(where present)*
Color—Hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 1 or 2
Redoximorphic features—Masses of iron accumulation in shades of brown ranges from few to many with clear to sharp boundaries. Concretions of iron-manganese in shades of brown or black ranges from few to many
Texture—Silt loam
Other features—Clay content ranges from 15 to 27 percent and base saturation ranges from 5 to 25 percent

2Bt/E horizon: *(where present)*
Color—(Bt part) Hue of 10YR, value of 5 or 6, and chroma of 3 or 4; (E part) Hue of 10YR, value of 6 or 7, and chroma of 1 or 2
Redoximorphic features—Masses of iron accumulation in shades of brown are common and many with clear to sharp boundaries. Masses of Iron-manganese in shades of brown are common and many. Iron or clay depletions in shades of gray are common and many with clear boundaries
Texture—Silt loam or silty clay loam
Other features—(Bt part) makes up 70 to 85 percent of the horizon; (E part) makes up 15 to 30 percent. Clay content averages 18 to 30 percent. Faint or distinct clay films on faces of peds ranges from few to common. Base saturation ranges from 5 to 25 percent
Thickness—0 to 10 inches

2Eg/Bt and 2Btg/E horizons: (*where present)*
Color—(Bt part) Hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 2 to 4; (E part) Hue of 10YR or 2.5Y, value of 6 or 7, and chroma of 1 or 2
Redoximorphic features—Masses of iron accumulation in shades of brown are common and many with clear to sharp boundaries. Masses of iron-manganese in shades of brown are common and many. Iron or clay depletions in shades of gray are common and many with clear boundaries
Texture—Silt loam or silty clay loam
Other features—Clay content averages 18 to 30 percent. Distinct clay films on faces of peds and in pore linings are few and common. Base saturation ranges from 5 to 25 percent
Thickness—(2Eg/Bt) 0 to 20 inches; (2Btg/E) 0 to 15 inches

2Btg horizon
Color—Hue of 10YR or 2.5Y, value of 5 to 7, and chroma of 1 or 2

Redoximorphic features—Masses of iron accumulation in shades of brown are common and many with clear to sharp boundaries. Masses of iron-manganese in shades of brown or black are few and common. Iron or clay depletions in shades of gray are common and many with clear boundaries

Texture—Silt loam, clay loam, or silty clay loam

Other features—Clay content averages 20 to 35 percent. Distinct clay films on faces of peds and in pore linings ranges from few to common. Base saturation ranges from 15 to 35 percent

Thickness—15 to 40 inches

Crowley Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability class: Very slow
Landscape: Upland
Landform: Stream terrace
Parent material: Loamy and clayey alluvium of late Pleistocene age
Slope range: 0 to 3 percent

Taxonomic Classification

Fine, smectitic, thermic Typic Albaqualfs

Associated Soils

Acadiana, Basile, Kaplan, Kinder, Mamou, Midland, Mowata, Patoutville, and Vidrine soils: The Acadiana, Mamou, and Vidrine soils have chroma of 3 or more in the upper part of the B horizon. The Acadiana and Mamou soils are on side slopes along drainageways. The Vidrine soils are on circular mounds. The Basile, Kinder, and Mowata soils are on lower positions, are poorly drained, and have glossic horizons. The Basile soils are on flood plains of major drainageways. The Kaplan soils are on similar positions and do not have an abrupt textural change. The Midland soils are on lower positions, have a finer textured A horizon, and do not have an albic horizon. The Patoutville soils are on higher positions and are fine-silty.

Typical Pedon

Crowley silt loam, 0 to 1 percent slopes; in cropland; about 1.8 miles east-southeast of Iota, about 0.7 mile east of State Highway 1120; 3,850 feet east and 75 feet south of the northwest corner of sec. 3, T. 9 S., R. 1 W.; 30°18'15" N. Latitude, 92°27'40" W. Longitude, Iota Quadrangle, Louisiana.

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; friable; many very fine and fine, few coarse roots; few fine rounded black and brown concretions of iron-manganese; common fine distinct yellowish brown (10YR 5/6) and common fine prominent yellowish red (5YR 5/6) oxidation stains around root channels; moderately acid; clear wavy boundary.

Eg—7 to 14 inches; light brownish gray (10YR 6/2) silt loam; weak fine subangular blocky structure; friable; many very fine and fine roots; few very fine and fine tubular pores; few fine and medium rounded black and brown concretions of iron-manganese; common fine distinct dark brown (7.5YR 4/4) oxidation stains around root channels; moderately acid; abrupt wavy boundary.

Btg1—14 to 25 inches; grayish brown (10YR 5/2) silty clay; moderate medium subangular blocky structure; firm; common very fine and fine roots; common very fine and fine tubular pores; many distinct clay films on faces of peds; few fine rounded black and brown concretions of iron-manganese; many medium prominent red (2.5YR

4/6) masses of iron accumulation; many dark gray (10YR 4/1) ped coatings; moderately acid; clear wavy boundary.

Btg2—25 to 33 inches; grayish brown (2.5Y 5/2) silty clay; moderate coarse prismatic structure parting to moderate medium subangular blocky; firm; common very fine and fine roots; many very fine tubular pores; many distinct clay films on faces of peds; many fine, medium, and coarse rounded black and brown concretions of iron-manganese; common medium prominent strong brown (7.5YR 5/8) and many fine and medium prominent red (2.5YR 4/6) masses of iron accumulation; many dark gray (10YR 4/1) ped coatings; common dark gray (10YR 4/1) silt loam krotovina about 1/2 inch wide; moderately acid; clear wavy boundary.

Btg3—33 to 40 inches; light brownish gray (2.5Y 6/2) silty clay loam; weak coarse prismatic structure parting to moderate medium subangular blocky; firm; common very fine roots; common very fine and fine tubular pores; many distinct clay films on faces of peds; many fine, medium, and coarse rounded black and brown concretions of iron-manganese; common fine prominent yellowish red (5YR 4/6) and many medium prominent yellowish brown (10YR 5/6) masses of iron accumulation; neutral; gradual wavy boundary.

Btg4—40 to 50 inches; light olive gray (5Y 6/2) silty clay loam; weak coarse prismatic structure parting to moderate medium subangular blocky; firm; common very fine and fine roots; common very fine and fine tubular pores; many distinct clay films on faces of peds; many fine, medium, and coarse rounded black and brown concretions of iron-manganese; many coarse prominent yellowish brown (10YR 5/6) masses of iron accumulation; slightly alkaline; gradual wavy boundary.

Btssg—50 to 57 inches; gray (5Y 6/1) silty clay loam; weak coarse prismatic structure parting to moderate medium subangular blocky; firm; common very fine and fine roots; many very fine and fine tubular pores; few distinct slickensides about 5 to 10 centimeters long that are at angles of 20 to 60 degrees; common distinct clay films on faces of peds; few coarse irregular black concretions of iron-manganese; many coarse prominent yellowish brown (10YR 5/6) masses of iron accumulation; slightly alkaline; gradual wavy boundary.

Bssg—57 to 69 inches; gray (5Y 6/1) silty clay; weak coarse prismatic structure parting to moderate medium subangular blocky; firm; common very fine and fine roots; common very fine and fine tubular pores; few distinct slickensides about 5 to 10 centimeters long that are at angles of 20 to 60 degrees; few coarse irregular black concretions of iron-manganese; many coarse prominent yellowish brown (10YR 5/6) masses of iron accumulation; moderately alkaline; gradual wavy boundary.

Bkssg—69 to 80 inches; light brownish gray (2.5Y 6/2) silty clay; many coarse prominent reddish brown (5YR 5/4) mottles; weak coarse prismatic structure parting to moderate medium subangular blocky; firm; common very fine tubular pores; many distinct slickensides greater than 10 centimeters long that are at angles of 20 to 60 degrees; common medium irregular black concretions of iron-manganese; many medium and coarse prominent yellowish brown (10YR 5/6) masses of iron accumulation; common coarse concretions of calcium carbonate; moderately alkaline.

Range in Characteristics

Solum thickness: More than 80 inches

Clay content in the control section: 35 to 50 percent

Redoximorphic features: Iron-manganese concretions throughout and masses of iron accumulation ranges from 14 to 81 inches

Other distinctive soil features: An abrupt textural change at the contact of the Eg and Btg horizon

Reaction: Typically very strongly acid to moderately acid in the A and E horizons, but can range to moderately alkaline because of addition of irrigation water, strongly acid to slightly alkaline in the Btg horizon, slightly acid to moderately alkaline in the Btssg horizon, and slightly acid to moderately alkaline in the Bg, Bssg, and Bkssg horizons, where present

Ap horizon:

Color—Hue of 10YR, value of 3 to 5, and chroma of 1 or 2. Where value is 3, the Ap horizon is less than 6 inches thick
Redoximorphic features—Masses of oxidation in shades of red or brown are few to common and are located along root channels. Concretions of iron-manganese are none to few
Texture—Silt loam
Thickness—3 to 13 inches

Eg horizon:

Color—Hue of 10YR, value of 5 or 6, and chroma of 1 or 2
Redoximorphic features—Iron depleted matrix. Masses of oxidation in shades of brown are few to common and are located along root channels. Concretions of iron-manganese are none to few
Texture—Silt loam
Thickness—4 to 15 inches

Btg horizon:

Color—Hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 or 2
Redoximorphic features—Iron depleted matrix. Masses of iron accumulation in shades of red are common and many. Concretions of iron-manganese in shades of brown and black ranges from few to many; size ranges from fine to coarse
Texture—Silty clay, silty clay loam, or clay loam
Thickness—35 to 60 inches

Btssg horizon:

Color—Hue of 10YR, 2.5Y, or 5Y, value of 4 to 6, and chroma of 1 or 2
Redoximorphic features—Iron depleted matrix. Masses of iron accumulation in shades of brown ranges from few to many; size ranges from fine to coarse. Concretions of iron-manganese in shades of brown and black ranges from few to many; size ranges from fine to coarse
Texture—Silty clay, silty clay loam, or clay loam
Thickness—0 to 20 inches

Bg, Bssg, or Bkssg horizon: *(where present)*

Color—Hue of 10YR to 5Y, value of 5 or 6, and chroma of 1or 2
Redoximorphic features—Iron depleted matrix. Masses of iron accumulation in shades of brown ranges from few to many; size are medium and coarse. Concretions of iron-manganese in shades of brown or black ranges from few to many; size ranges from fine to coarse
Texture—Silty clay, silty clay loam, or clay loam
Other features—Concretions of calcium carbonate ranges from none to common

Duson Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability class: Slow
Landscape: Upland
Landform: Stream terrace
Parent material: Loess over loamy and clayey alluvium of late Pleistocene age
Slope range: 1 to 3 percent

Taxonomic Classification

Fine-silty, mixed, superactive, thermic Aquic Paleudalfs

Associated Soils

Basile, Crowley, Frost, Jeanerette, and Patoutville soils: The Basile and Frost soils are poorly drained, have a glossic horizon, and are on depressional areas or along flood plains of drainageways. The Crowley soils are on broad stream divides, have an abrupt textural change, and have a fine-textured control section. The Jeanerette soils are on broad flats and have a mollic epipedon. The Patoutville soils are on convex ridges at slightly higher elevations and have lower chromas in the upper B horizons.

Typical Pedon

Duson silt loam, 1 to 3 percent slopes; in pasture; about 2.3 miles southwest of Mire; 1,500 feet north and 2,100 feet east of the southwest corner of sec. 12, T. 9 S., R. 2 E.; 30°15'46" N. Latitude, 92°14'02" W. Longitude, Mire Quadrangle, Louisiana.

Ap—0 to 6 inches; dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; friable; many very fine and fine roots; strongly acid; clear smooth boundary.

E—6 to 9 inches; light yellowish brown (10YR 6/4) silt loam; weak fine subangular blocky structure; friable; many very fine and fine roots; strongly acid; clear wavy boundary.

Bt1—9 to 21 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; firm; many very fine and fine roots; common distinct clay films on faces of peds; few fine very dark brown or black, moderately cemented concretions of iron-manganese; many fine and medium prominent yellowish red (5YR 5/6) masses of iron accumulation; few fine distinct grayish brown (10YR 5/2) iron depletions; moderately acid; clear wavy boundary.

Bt2—21 to 27 inches; yellowish brown (10YR 5/4) silt loam; moderate medium subangular blocky structure; firm; many very fine and fine roots; common distinct clay films on faces of peds; common medium and coarse very dark brown or black, moderately cemented concretions of iron-manganese; many medium prominent strong brown (7.5YR 5/6) masses of iron accumulation; common fine distinct grayish brown (10YR 5/2) iron depletions; neutral; gradual wavy boundary.

Btg—27 to 45 inches; grayish brown (10YR 5/2) silt loam; moderate medium subangular blocky structure; firm; common distinct clay films on faces of peds; many medium and coarse prominent strong brown (7.5YR 5/6) masses of iron accumulation; neutral; gradual wavy boundary.

2BCg—45 to 80 inches; gray (10YR 5/1) silty clay loam; common coarse prominent yellowish red (5YR 4/6) lithochromic mottles; weak coarse subangular blocky structure; firm; many coarse prominent dark yellowish brown (10YR 4/6) and yellowish brown (10YR 5/6) masses of iron accumulation; neutral.

Range in Characteristics

Solum thickness: 60 to more than 80 inches
Clay content in the control section: 18 to 35 percent
Redoximorphic features: Iron depletions in shades of gray and iron accumulation at 9 to 80 inches deep
Reaction: Very strongly acid to slightly acid in the A and E horizons, except in areas where lime has been applied; from very strongly acid to neutral in the Bt and Btg horizons; and from moderately acid to neutral in the horizons below the discontinuity

A or Ap horizon:
Color—Hue of 10YR, value of 3 to 5, and chroma of 1 to 3
Texture—Silt loam
Thickness—3 to 10 inches

E horizon:
Color—Hue of 10YR, value of 4 to 6, and chroma of 2 to 4
Redoximorphic features—Masses of iron accumulation in shades of brown ranges from none to common
Texture—Silt or silt loam
Thickness—3 to 12 inches

Bt horizon:
Color—Hue of 7.5YR or 10YR, value of 4 to 6, and chroma of 3 to 6
Redoximorphic features—Masses of iron accumulation in shades of red or brown ranges from few to common; sizes are fine and medium Concretions of iron-manganese in shades of brown and black are few to common and sizes ranges from fine to coarse. Iron depletions in shades of gray are few to common and sizes are fine
Texture—Silt loam or silty clay loam
Thickness—10 to 30 inches

Btg horizon:
Color—Hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 1 or 2
Redoximorphic features—Iron depleted matrix. Masses of iron accumulation in shades of red or brown ranges from few to many; sizes ranges from fine to coarse. Concretions of iron-manganese in shades of brown or black ranges from few to common
Texture—Silt loam or silty clay loam
Thickness—10 to 30 inches

2BCg horizon:
Color—Hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 1 or 2
Redoximorphic features—Iron depleted matrix. Masses of iron accumulation in shades of red or brown ranges from few to many. Concretions of iron-manganese in shades of brown and black are few to common
Texture—Silty clay loam, silty clay, or clay

2Btg or 2Cg horizon: *(where present)*
Color—Hue of 10YR or 2.5Y, value of 5 or 6, and chroma of 1 or 2
Redoximorphic features—Iron depleted matrix. Masses of iron accumulation in shades of red or brown ranges from few to many. Concretions of iron-manganese in shades of brown and black are few to common
Texture—Clay loam, silty clay loam, silty clay, or clay

2C horizon: *(where present)*
Color—Variegated in shades of red, brown, or gray
Redoximorphic features—Masses of iron accumulation in shades of brown and iron depletions in shades of gray ranges from few to many
Texture—Clay loam, silty clay loam, silty clay, or clay

Frost Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability class: Slow
Landscape: Upland
Landform: Stream terrace
Parent material: Loess or silty alluvium of late Pleistocene age
Slope range: 0 to 1 percent

Taxonomic Classification

Fine-silty, mixed, active, thermic Typic Glossaqualfs

Associated Soils

Crowley, Duson, Jeanerette, Mowata, and Patoutville soils: The somewhat poorly drained Crowley and Patoutville soils are on higher positions. The Crowley soils have a fine-textured control section. The somewhat poorly drained Duson soils are on side slopes and have a brown subsoil. The somewhat poorly drained Jeanerette soils have a mollic epipedon, and on slightly higher positions. The Mowata soils are on similar positions and have a fine-textured control section.

Typical Pedon

Frost silt loam, 0 to 1 percent slopes; in cropland, about 4 miles northwest of Church Point; 100 feet west of State Highway 751; 1,800 feet north and 350 west of the southeast corner of sec. 3, T. 7 S., R. 2 E.; 30°28'14" N. Latitude, 92°14'42" W. Longitude, Church Point Quadrangle, Louisiana.

Ap1—0 to 6 inches; grayish brown (10YR 5/2) silt loam; weak medium granular structure; very friable; many fine and medium roots; very strongly acid; clear smooth boundary.

Ap2—6 to 10 inches; grayish brown (10YR 5/2) silt loam; weak medium granular structure; friable; many fine and medium roots; common coarse rounded concretions of iron-manganese; few fine and medium prominent yellowish brown (10YR 5/6) masses of iron accumulation; slightly acid; clear wavy boundary.

Eg—10 to 22 inches; light brownish gray (10YR 6/2) and light gray (10YR 6/1) silt loam; weak medium subangular blocky structure; friable; many fine and medium roots; common medium rounded concretions of iron-manganese; neutral; gradual irregular boundary.

Btg/E—22 to 36 inches; 80 percent grayish brown (10YR 5/2) silty clay loam (Bt part); weak coarse prismatic structure parting to moderate medium subangular blocky; very firm; common fine and medium roots; faint clay films on faces of peds; common medium rounded concretions of iron-manganese; few fine distinct dark yellowish brown (10YR 4/4) masses of iron accumulation; many fine and medium faint light brownish gray (10YR 6/2) iron depletions; about 20 percent vertical intrusions of light gray (10YR 7/2) silt loam albic material (E part); strongly acid; gradual wavy boundary.

Btg1—36 to 50 inches; light brownish gray (10YR 6/2) silty clay loam; weak coarse prismatic structure parting to moderate medium subangular blocky; firm; many fine and medium tubular pores; common prominent dark gray (10YR 4/1) clay films on faces of peds; common medium rounded concretions of iron-manganese; few medium distinct yellowish brown (10YR 5/6) and few coarse faint brown (10YR 4/3) masses of iron accumulation; common distinct white (10YR 8/1) clay depletions on faces of peds; moderately acid; gradual wavy boundary.

Btg2—50 to 63 inches; light brownish gray (10YR 6/2) silt loam; weak coarse prismatic structure parting to moderate medium subangular blocky; friable; many fine and medium tubular pores; common distinct dark gray (10YR 4/1) clay films on faces of peds; common medium rounded concretions of iron-manganese; many medium distinct light yellowish brown (10YR 6/4) and yellowish brown (10YR 5/6) masses of iron accumulation; strongly acid; clear smooth boundary.

Btg3—63 to 79 inches; light brownish gray (10YR 6/2) silt loam; weak coarse prismatic structure parting to moderate medium subangular blocky; friable; many fine and very fine pores; distinct clay films on faces of peds and along pores; common medium very dark brown or black rounded concretions of iron-manganese; many medium distinct light yellowish brown (10YR 6/4) and many medium prominent yellowish brown (10YR 5/6) masses of iron accumulation; slightly acid.

2Btg—79 to 107 inches; light brownish gray (2.5Y 6/2) clay loam; moderate coarse prismatic structure parting to moderate medium subangular blocky; firm; many distinct patchy pressure faces on faces of peds; common coarse rounded concretions of iron-manganese; few fine and medium prominent red (2.5YR 4/8) and many coarse prominent yellowish brown (10YR 5/6) masses of iron accumulation; neutral; gradual wavy boundary.

Range in Characteristics

Solum thickness: 48 to more than 80 inches
Clay content in the control section: 18 to 35 percent
Redoximorphic features: Concretions of iron-manganese and iron accumulation ranges from 6 to 80 inches
Reaction: Very strongly acid to neutral in the A and Eg horizons, except in areas where lime has been applied; very strongly acid to slightly acid in the Btg/E and the Btg horizons; and strongly acid to neutral in the lower 2Btg and 2BCg horizons

A or Ap horizon:
Color—Hue of 10YR, value of 3 to 5, and chroma of 1 or 2. Where value is 3, the A or Ap horizon is less than 6 inches thick
Redoximorphic features—Masses of iron accumulation in shades of brown are none to few; sizes ranges from fine to medium. Concretions of iron-manganese in shades of brown or black ranges from none to common
Texture—Silt loam
Thickness—2 to 12 inches

Eg horizon:
Color—Hue of 10YR, value of 4 to 6, and chroma of 1 or 2
Redoximorphic features—Iron depleted matrix. Masses of iron accumulation in shades of brown ranges from none to many. Concretions of iron-manganese in shades of brown or black ranges from few to many
Texture—Silt loam
Thickness—6 to 25 inches

Btg/E horizon:
Color—Hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 or 2
Redoximorphic features—Masses of iron accumulation in shades of brown are few to common. Concretions of iron-manganese in shades of brown or black ranges from none to common. Iron depletions in shades of gray ranges from few to many; sizes are fine to medium
Texture—Silt loam or silty clay loam
Other features—(E part) consists of vertical intrusions of silt, 1 to 6 inches wide that have hue of 10YR to 5Y, value of 5 to 7, and chroma of 1 or 2 and makes up 15 to 50 percent of the horizon

Btg horizon:
Color—Hue of 10YR to 5Y, value of 5 or 6, and chroma of 1 or 2
Redoximorphic features—Masses of iron accumulation in shades of brown ranges from few to many; sizes are medium and coarse. Concretions of iron-manganese in shades of brown or black ranges from none to common. Iron depletions in shades of gray ranges from none to common are present in most pedons
Texture—Silty clay loam or silt loam
Thickness—20 to more than 40 inches

2Btg horizon: *(where present)*
Color—Hue of 10YR to 5Y, value of 5 or 6, and chroma of 1 or 2
Redoximorphic features—Masses of iron accumulation in shades of red or brown ranges from few to many; sizes are medium to coarse. Concretions of iron-manganese in shades of brown or black ranges from none to common. Iron depletions in shades of gray are present in most pedons

Texture—Silty clay loam, clay loam, silt loam, or silty clay

2BCg or 2C horizon: *(where present)*
Color—Variegated in shades of red, brown, or gray
Texture—Loam, silty loam, silty clay loam, or silty clay

Iota Series

Depth class: Very deep
Drainage class: Well drained
Permeability class: Very slow
Landscape: Upland
Landform: Escarpment
Parent material: Loamy and clayey sediments of late Pleistocene age
Slope range: 3 to 8 percent

Taxonomic Classification

Fine, smectitic, thermic Vertic Hapludalfs

Associated Soils

Acadiana, Barbary, Basile, Brule, Kinder, and Vidrine soils: The moderately well drained Acadiana soils are on less sloping areas along drainageways. The Vidrine soils are on circular mounds. The Basile and Brule soils are on flood plains of drainageways. The Kinder soils are on broad stream divides and occupy areas between the Vidrine mounds. The very poorly drained, very fluid, clayey Barbary soils are in swamps at lower elevations.

Typical Pedon

Iota silt loam, 3 to 8 percent slopes; in forestland; about 3 miles north-northeast of Iota; 1.4 miles east of Bayou Des Cannes, 150 feet east of access road; 1,550 feet north and 2,800 feet west of the southeast corner of sec. 12, T. 8 S., R. 2 W.; 30^{o}22'02" N. Latitude, 92^{o}32'02" W. Longitude, Evangeline, LA., topographic quadrangle, NAD 83.

A—0 to 3 inches; brown (10YR 4/3) silt loam; weak fine granular structure; slightly hard, friable; many fine and medium roots; strongly acid; abrupt smooth boundary.
E—3 to 7 inches; pale brown (10YR 6/3) silt loam; weak medium platy structure parting to weak fine granular; slightly hard, friable; many fine and medium roots; very strongly acid; abrupt smooth boundary.
Bt—7 to 16 inches; red (2.5YR 4/8) silty clay; moderate medium subangular blocky structure; slightly hard, firm; common fine and medium roots; common very fine and fine tubular pores; few distinct clay films on faces of peds and in pores; very strongly acid; clear wavy boundary.
Btss—16 to 28 inches; yellowish red (5YR 4/6) silty clay; moderate medium subangular blocky structure; hard, firm; few fine and medium roots; common very fine and fine tubular pores; common distinct slickensides with wedge-shaped aggregates; common distinct clay films on faces of peds and in pores; common coarse prominent strong brown (7.5YR 5/6) masses of iron accumulation; common medium prominent pale brown (10YR 6/3) iron depletions; very strongly acid; gradual wavy boundary.
BC—28 to 43 inches; mixed reddish brown (5YR 5/4) and yellowish red (5YR 5/8) silty clay loam; moderate medium subangular blocky structure; hard, firm; few medium distinct yellowish red (5YR 4/6) masses of iron accumulation; stratified pockets of pale brown (10YR 6/3) silt loam; very strongly acid; gradual wavy boundary.
C1—43 to 60 inches; pale brown (10YR 6/3) silty clay loam; massive; firm; many fine and medium rounded concretions of iron-manganese; slightly acid; gradual wavy boundary.

C2—60 to 80 inches; pale brown (10YR 6/3) silt loam; massive; friable; neutral.

Range in Characteristics

Solum thickness: 40 to 60 inches
Clay content in the control section: 40 to 60 percent
Redoximorphic features: Masses of iron accumulation and iron depletions throughout the subsoil

A or Ap horizon:
Color—Hue of 10YR, value of 3 to 5, and chroma of 1 to 3. Where value is 3, the A or Ap horizon is less than 6 inches thick
Texture—Silt loam
Reaction—Very strongly acid to moderately acid
Thickness—3 to 6 inches

E horizon: *(where present)*
Color—Hue of 10YR, value of 5 to 7, and chroma of 1 to 3
Texture—Silt loam or very fine sandy loam
Reaction—Very strongly acid to moderately acid
Thickness—0 to 5 inches

Bt and Btss horizons:
Color—Hue of 2.5YR or 5YR, value of 3 to 5, and chroma of 4 to 8
Redoximorphic features—Masses of iron accumulation in shades of red or brown and iron depletions in shades of gray ranges from none to many
Texture—Clay or silty clay
Other features—Slickensides
Reaction—Very strongly acid to neutral
Thickness—16 to 47 inches

BC horizon:
Color—Variegated in shades of red, brown, or gray
Texture—Silty clay loam, silty clay, or clay
Other features—Concretions of calcium carbonate ranges from none to few
Reaction—Very strongly acid to neutral
Thickness—0 to 24 inches

C or Ck horizon: *(where present)*
Color—Variegated in shades of red, brown, or gray
Texture—Silt loam, very fine sandy loam, silty clay loam, clay loam, or it is stratified with these textures
Other features—Concretions of calcium carbonate ranges from none to common
Reaction—The upper part ranges from slightly acid to slightly alkaline; neutral to moderately alkaline in the lower part

Jeanerette Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability class: Moderately slow
Landscape: Upland
Landform: Stream terrace
Parent material: Loess or silty alluvium of late Pleistocene age
Slope range: 0 to 1 percent

Taxonomic Classification

Fine-silty, mixed, superactive, thermic Typic Argiaquolls

Associated Soils

Crowley, Duson, Frost, and Patoutville soils: The Crowley and Patoutville soils are on higher positions and have ochric epipedons. The Duson soils are on side slopes, have a lithological discontinuity, and have an ochric epipedon. The Frost soils are on lower positions, have a glossic horizon, and have an ochric epipedon.

Typical Pedon

Jeanerette silt loam, 0 to 1 percent slopes; in cropland; about 2.8 miles northeast of Richard; 1,000 feet east of State Highway 95 on parish road P3-26 and 100 feet north in cultivated field; 2,450 feet north and 1,000 feet east of the southwest corner of sec. 8, T. 7 S., R. 2 E.; 30°27'32" N. Latitude, 92°17'31" W. Longitude, Richard Quadrangle, Louisiana.

Ap—0 to 7 inches; very dark grayish brown (10YR 3/2) silt loam; weak fine granular structure; very friable; many very fine and fine roots; slightly acid; clear smooth boundary.

Btg1—7 to 15 inches; very dark gray (10YR 3/1) silt loam; moderate medium subangular blocky structure; friable; many very fine and fine roots; 10 percent krotovinas; many distinct clay films on faces of peds; few medium, moderately cemented concretions of iron-manganese; slightly alkaline; clear wavy boundary.

Btg2—15 to 24 inches; very dark gray (10YR 3/1) silty clay loam; moderate medium subangular blocky structure; firm; few very fine and fine roots; 10 percent krotovinas; many distinct clay films on faces of peds; few medium, moderately cemented concretions of iron-manganese; slightly alkaline; clear wavy boundary.

Btkg1—24 to 35 inches; gray (10YR 5/1) paragravelly silty clay loam; weak coarse prismatic structure parting to moderate medium subangular blocky; firm; few fine and very fine roots; 10 percent krotovinas; many distinct dark gray (10YR 4/1) clay films on faces of peds; many weakly to moderately cemented, medium to very coarse concretions of calcium carbonate; common fine and medium, moderately cemented concretions of iron-manganese; many fine prominent yellowish brown (10YR 5/6) and light olive brown (2.5Y 5/4) masses of iron accumulation; slightly effervescent; moderately alkaline; gradual wavy boundary.

Btkg2—35 to 52 inches; gray (10YR 5/1) silty clay loam; weak coarse prismatic structure parting to moderate medium subangular blocky; firm; few very fine and fine roots; 10 percent krotovinas; many distinct dark gray (10YR 4/1) clay films on faces of peds; common weakly to moderately cemented, coarse and very coarse concretions of calcium carbonate; common fine and medium, moderately cemented concretions of iron-manganese; common faint light gray (10YR 7/1) calcium carbonate coatings; many medium prominent yellowish brown (10YR 5/8) masses of iron accumulation; moderately alkaline; gradual wavy boundary.

B'tg1—52 to 63 inches; gray (10YR 5/1) silty clay loam; moderate medium subangular blocky structure; firm; few very fine and fine roots; many distinct dark gray (10YR 4/1) clay films on faces of peds; few medium, moderately cemented concretions of iron-manganese; many medium prominent yellowish brown (10YR 5/8) masses of iron accumulation; slightly alkaline; gradual wavy boundary.

B'tg2—63 to 76 inches; light brownish gray (2.5Y 6/2) silty clay loam; weak medium subangular blocky structure; firm; few very fine and fine roots; many distinct very dark gray (10YR 3/1) clay films on faces of peds and in pores; few medium very dark brown or black moderately cemented concretions of iron-manganese; common medium prominent yellowish brown (10YR 5/8) masses of iron accumulation; slightly alkaline; gradual wavy boundary.

Btg3—76 to 88 inches; light brownish gray (2.5Y 6/2) silty clay loam; weak medium subangular blocky structure; firm; few very fine and fine roots; many distinct very dark gray (10YR 3/1) clay films on faces of peds; few medium very dark brown or black moderately cemented concretions of iron-manganese; common medium prominent yellowish brown (10YR 5/6) masses of iron accumulation; slightly alkaline.

Range in Characteristics

Solum thickness: 60 to more than 80 inches
Clay content in the control section: 18 to 35 percent
Redoximorphic features: Masses of iron accumulation and concretions of iron-manganese throughout the subsoil
Reaction: Moderately acid to slightly alkaline in the A or Ap horizon; neutral to moderately alkaline in the subsoil and underlying layers

A or Ap horizon:
Color—Hue of 10YR, value of 2 or 3, and chroma of 1 or 2; or hue of 2.5Y, value of 3, and chroma of 2; or neutral with a value of 3
Texture—Silt loam
Thickness—4 to 10 inches

Btg1 and Btg2 horizons:
Color—Hue of 10YR, value of 2 or 3, and chroma of 1 or 2; or neutral with a value of 3
Redoximorphic features—Masses of iron accumulation in shades of brown, gray, or olive are none to few. Concretions of iron-manganese in shades of brown and black are none to few
Texture—Silt loam or silty clay loam
Thickness—6 to 20 inches

Btkg horizon:
Color—Hue of 10YR to 5Y, value of 4 to 6, and chroma of 1; or hue of 2.5Y, value of 4 to 6, and chroma of 1 or 2; or hue of 5Y, value of 4 to 6, and chroma of 1 to 3
Redoximorphic features—Masses of iron accumulation in shades of brown, gray, or olive ranges from few to many. Concretions of iron-manganese in shades of brown and black are few and common
Texture—Silt loam or silty clay loam
Other features—Very weakly to moderately cemented concretions of calcium carbonate, 2 to 75 millimeters in diameter, make up 3 to 25 percent of the horizon by volume. Calcium carbonate equivalent ranges up to 5 percent
Thickness—5 to 30 inches

B'tg and Btg3 horizon:
Color—Hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 or 2
Redoximorphic features—Masses of iron accumulation in shades of brown, gray, or olive are common and many and sizes are medium. Concretions of iron-manganese in shades of brown and black are none to few
Texture—Silt loam or silty clay loam

BC or C horizon: *(where present)*
Color—Hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 or 2
*Redoximorphic features—M*asses of iron accumulation in shades of brown, gray, or olive, are common and many; sizes are medium. Concretions of iron-manganese in shades of brown and black are none to few
Texture—Silt loam, loam, very fine sandy loam, or silty clay loam

Judice Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability class: Very slow
Landscape: Upland
Landform: Depression on stream terrace
Parent material: Thick clayey sediments of late Pleistocene age
Slope range: 0 to 1 percent

Taxonomic Classification

Fine, smectitic, thermic Typic Epiaquerts

Associated Soils

Jeanerette and Patoutville soils: The Jeanerette and Patoutville soils are on higher positions and are fine-silty. The Patoutville soils have an ochric epipedon.

Typical Pedon

Judice silty clay loam, 0 to 1 percent slopes; in cropland; about 1.0 mile northeast of Mire; 3,300 feet east of State Highway 95 and 160 feet south of parish road P2-30; 3,550 feet north and 2,200 feet west of the southeast corner of sec. 32, T. 5 S., R. 3 E.; 30^{o}18'35" N. Latitude, 92^{o}10'54" W. Longitude, Mire Quadrangle, Louisiana.

Ap—0 to 5 inches; very dark gray (10YR 3/1) silty clay loam; moderate medium granular structure; firm; many fine and medium roots; moderately acid; clear smooth boundary.

Bw—5 to 23 inches; very dark gray (10YR 3/1) silty clay; moderate weak fine angular blocky structure; firm; many fine and medium roots; common fine prominent dark yellowish brown (10YR 4/6) masses of iron accumulation; moderately acid; gradual wavy boundary.

Bssg1—23 to 33 inches; dark gray (10YR 4/1) silty clay; weak medium prismatic structure parting to moderate medium angular blocky; firm; few fine roots; few prominent slickensides 5 to 10 centimeters long; common medium prominent dark yellowish brown (10YR 4/6) masses of iron accumulation; neutral; gradual wavy boundary.

Bssg2—33 to 80 inches; gray (10YR 5/1) silty clay; weak medium prismatic structure parting to moderate medium angular blocky; firm; few prominent slickensides 5 to 10 centimeters long; many medium prominent yellowish brown (10YR 5/6) masses of iron accumulation; neutral.

Range in Characteristics

Solum thickness: More than 80 inches
Clay content in the control section: 35 to 55 percent
Redoximorphic features: Masses of iron accumulation throughout the subsoil

A or Ap horizon:
Color—Hue of 10YR, value of 2 or 3, and chroma of 1 or 2
Texture—Silty clay loam
*Reaction—M*oderately acid to neutral
Thickness—3 to 10 inches

Bw horizon:
Color—Hue of 10YR, value of 3 or 4, and chroma of 1
*Redoximorphic features—M*asses of iron accumulation in shades of brown ranges from few to many
Texture—Silty clay loam, clay, or silty clay

Other features—Concretions of calcium carbonate ranges from none to common
Reaction—Slightly acid to slightly alkaline
Thickness—5 to 14 inches

Bssg horizon:
Color—Hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 or 2
Redoximorphic features—Iron depleted matrix. Masses of iron accumulation in shades of brown ranges from few to many. Concretions of iron-manganese in shades of brown or black ranges from few to many
Texture—Silty clay loam, clay loam, silty clay, or clay
Other features—Concretions of calcium carbonate ranges from none to common; slickensides
Reaction—Neutral to moderately alkaline
Thickness—40 to 65 inches

BC and BCg horizon: *(present in some pedons)*
Color—Hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 or 2
Redoximorphic features—Iron depleted matrix. Masses of iron accumulation in shades of brown ranges from few to many. Concretions of iron-manganese in shades of brown or black ranges from few to many
Texture—Silty clay loam or clay loam
Other features—Concretions of calcium carbonate ranges from none to common
Reaction—Neutral to moderately alkaline

Kaplan Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability class: Slow
Landscape: Upland
Landform: Stream terrace
Parent material: Loamy and clayey alluvium of late Pleistocene age
Slope range: 0 to 3 percent

Taxonomic Classification

Fine, smectitic, thermic Aeric Chromic Vertic Epiaqualfs

Associated Soils

Crowley, Midland, and Mowata soils: The somewhat poorly drained Crowley soils are in similar positions similar to those of the Kaplan soil and have an albic horizon. The poorly drained Midland and Mowata soils are on lower positions. The Midland soils have a clayey surface layer and do not have red masses of iron accumulation in the upper part of the subsoil. The Mowata soils have streaks and pockets of silt loam that extend into the subsoil.

Typical Pedon

Kaplan silt loam, 1 to 3 percent slopes; in cropland; about 1.2 miles west-southwest of Morse; 2,050 feet north and 900 feet west of the southeast corner of sec. 1, T. 11 S., R. 2 W.; 30°07'03" N. Latitude, 92°31'24" W. Longitude, Gueydan Quadrangle, Louisiana.

Ap1—0 to 4 inches; dark brown (10YR 4/3) silt loam; weak fine granular structure; very friable; many very fine and fine roots; slightly acid; clear smooth boundary.
Ap2—4 to 9 inches; dark grayish brown (10YR 4/2) silt loam; weak medium granular structure; friable; many very fine and fine roots; common fine distinct yellowish brown (10YR 5/6) oxidation stains along root channels; slightly acid; clear smooth boundary.

Btg1—9 to 16 inches; dark grayish brown (10YR 4/2) silty clay loam; moderate medium subangular blocky structure; firm; many fine and very fine roots; few faint dark gray clay films on faces of peds; many very dark gray (10YR 3/1) ped coats; few fine round black and brown concretions of iron-manganese; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation; slightly acid; clear wavy boundary.

Btg2—16 to 22 inches; dark grayish brown (10YR 4/2) silty clay; moderate medium subangular blocky structure; common very fine and fine roots; common distinct nonintersecting slickensides with wedge shaped aggregates; common distinct clay films on faces of peds; many distinct very dark gray (10YR 3/1) ped coats; few fine round black and brown concretions of iron-manganese; many medium prominent red (2.5YR 4/6) masses of iron accumulation; neutral; gradual wavy boundary.

Btkg—22 to 36 inches; light olive brown (2.5Y 5/4) silty clay ped interiors with grayish brown (2.5Y 5/2) ped faces; moderate medium subangular blocky structure; firm; common very fine roots; common distinct clay films on faces of peds; common fine round black and brown concretions of iron-manganese; many medium distinct light olive brown (2.5Y 5/6) masses of iron accumulation; common fine to coarse concretions of calcium carbonate; slightly alkaline; gradual wavy boundary.

Btkssg1—36 to 46 inches; grayish brown (2.5Y 5/2) silty clay; moderate coarse prismatic structure parting to moderate medium subangular blocky; firm; few distinct nonintersecting slickensides; common distinct clay films on faces of peds; common fine round black and brown concretions of iron-manganese; many medium distinct light olive brown (2.5Y5/6) masses of iron accumulation; common fine to coarse concretions of calcium carbonate; moderately alkaline; gradual wavy boundary.

Btkssg2—46 to 53 inches; grayish brown (2.5Y 5/2) silty clay; moderate coarse prismatic structure parting to moderate medium subangular blocky; firm; few distinct nonintersecting slickensides; few distinct clay films on faces of peds; many fine and medium black and brown concretions of iron-manganese; many medium distinct light olive brown (2.5Y 5/6) masses of iron accumulation; common fine to coarse concretions of calcium carbonate; slightly alkaline; clear wavy boundary.

Btkssg3—53 to 85 inches; gray (5Y 6/1) silty clay; common coarse prominent reddish brown (5YR 5/4) mottles; weak coarse prismatic structure parting to moderate medium subangular blocky; firm; few distinct nonintersecting slickensides; few distinct clay films on faces of peds; many medium and coarse black and brown concretions of iron-manganese; many coarse prominent yellowish brown (10YR 5/6) masses of iron accumulation; common strata of light reddish brown (5YR 6/3) very fine sandy loam; slightly alkaline.

Range in Characteristics

Solum thickness: More than 80 inches

Clay content in the control section: 27 to 50 percent

Redoximorphic features: Iron-manganese concretions, masses of iron accumulation, and iron depletions throughout the subsoil

Other distinctive soil features: Linear extensibility ranges from 6.0 to 7.5 centimeters in the upper 40 inches; Slickensides from 22 to 53 inches

Concentrated minerals: High calcium carbonate

A or Ap horizon:

Color—Hue of 10YR, value of 4, and chroma of 1 to 3. Where value is 3, the A or Ap horizon is less than 7 inches thick

Redoximorphic features—Redox features are in shades of brown

Texture—Silt loam

Reaction—Slightly acid or neutral, but ranges to moderately alkaline

Thickness—4 to 15 inches

Btg horizon:

Color—Hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 1 or 2
Redoximorphic features—Iron depleted matrix. Masses of iron accumulation in shades of red or brown ranges from few to many. Concretions of iron-manganese ranges from few to many
Texture—Silty clay loam or silty clay
Reaction—Neutral to moderately alkaline
Thickness—0 to 26 inches

Btkg and Btkssg horizon:

Color—Hue of 10YR to 5Y, value of 5 or 6, and chroma of 1 or 2. Subhorizons of the Btk horizon have ped interiors with chroma 2 to 4
Redoximorphic features—Iron depleted matrix. Masses of iron accumulation in shades of red and brown ranges from few to many. Concretions of iron-manganese ranges from few to many
Texture—Silty clay loam or silty clay
Other features—Concretions of calcium carbonate ranges from few to many
Reaction—Slightly alkaline or moderately alkaline
Thickness—20 to more than 40 inches

Kinder Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability class: Slow
Landscape: Upland
Landform: Stream terrace
Parent material: Loamy alluvium of late Pleistocene age
Slope range: 0 to 1 percent

Taxonomic Classification

Fine-silty, siliceous, active, thermic Typic Glossaqualfs

Associated Soils

Acadiana, Basile, Crowley, Frost, Iota, and Vidrine soils: The moderately well drained Acadiana soils are on the side slopes of erosional stream channels and do not have a glossic horizon. The Basile soils are on flood plains and have mixed mineralogy. The Crowley soils are on higher positions and do not have a glossic horizon. The Frost soils have mixed mineralogy. The Iota soils are on side slopes, are well drained, and have a fine-textured control section. The Vidrine soils are on mounds and are moderately well to somewhat poorly drained.

Typical Pedon

Kinder silt loam in an area of Kinder-Vidrine silt loams, 0 to 1 percent slopes; in forestland; about 2.5 miles east of Tepetate; 575 feet south of State Highway 368 and 35 feet east of logging road; 2,100 feet north and 2,300 feet east of the southwest corner of sec. 30, T. 7 S., R. 2 W.; 30°24'47" N. Latitude, 92°30'36" W. Longitude, Basile Quadrangle, Louisiana.

A—0 to 5 inches; dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; friable; common fine, medium, and coarse roots; extremely acid; clear smooth boundary.
Eg1—5 to 10 inches; light brownish gray (10YR 6/2) silt loam; weak fine subangular blocky structure; friable; common fine, medium, and coarse roots; few fine tubular

pores; common medium distinct dark yellowish brown (10YR 4/4) masses of iron accumulation; very strongly acid; clear wavy boundary.

Eg2—10 to 14 inches; light brownish gray (10YR 6/2) silt loam; weak fine subangular blocky structure; friable; common fine and medium roots; few fine discontinuous tubular pores; many fine and medium, moderately cemented concretions of iron-manganese; common medium and fine distinct yellowish brown (10YR 5/6) and dark yellowish brown (10YR 4/4) masses of iron accumulation; very strongly acid; gradual irregular boundary.

Btg/Eg—14 to 22 inches; 75 percent grayish brown (10YR 5/2) silty clay loam (Bt part); moderate medium prismatic structure parting to weak medium subangular blocky; firm; common fine roots; common fine discontinuous tubular pores; many distinct clay films on faces of peds; common fine and medium, moderately cemented concretions of iron-manganese; common medium distinct yellowish brown (10YR 5/6) and common medium prominent yellowish red (5YR 5/6) masses of iron accumulation; 25 percent strippings of light brownish gray (10YR 6/2) silt loam 0.5 to 3 inches wide; strongly acid; gradual wavy boundary.

Btg1—22 to 36 inches; grayish brown (2.5Y 5/2) silty clay loam; moderate coarse prismatic structure parting to moderate medium subangular blocky; firm; few fine roots; few fine discontinuous tubular pores; many prominent clay films on faces of peds; few fine moderately cemented concretions of iron-manganese; common medium prominent yellowish brown (10YR 5/6) masses of iron accumulation; very strongly acid; gradual wavy boundary.

Btg2—36 to 49 inches; grayish brown (10YR 5/2) silty clay loam; weak coarse prismatic structure parting to moderate medium subangular blocky; firm; few fine roots; few fine discontinuous tubular pores; many prominent clay films on faces of peds; common fine and medium, moderately cemented concretions of iron-manganese; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation; very strongly acid; gradual wavy boundary.

Btg3—49 to 59 inches; grayish brown (10YR 5/2) silty clay loam; weak coarse prismatic structure parting to moderate medium subangular blocky; firm; few fine roots; few fine discontinuous tubular pores; many prominent clay films on faces of peds; common fine and medium, moderately cemented concretions of iron-manganese; common medium distinct yellowish brown (10YR 5/6) masses of iron accumulation; strongly acid; gradual wavy boundary.

Btg4—59 to 67 inches; grayish brown (2.5Y 5/2) clay loam; weak coarse prismatic structure parting to moderate medium subangular blocky; firm; few fine roots; few fine random discontinuous tubular pores; many prominent clay films on faces of peds; common fine and medium, moderately cemented concretions of iron-manganese; common soft masses of iron-manganese; common medium prominent yellowish brown (10YR 5/6) masses of iron accumulation; strongly acid; gradual wavy boundary.

Btg5—67 to 77 inches; light olive gray (5Y 6/2) silty clay loam; many coarse prominent reddish brown (2.5YR 4/4) mottles; weak coarse prismatic structure parting to moderate medium subangular blocky; firm; few very fine roots; few very fine random discontinuous tubular pores; thick distinct discontinuous clay films on faces of peds; common fine and medium, moderately cemented, black and brownish concretions of iron-manganese; slightly acid; gradual wavy boundary.

2Bt—77 to 85 inches; variegated, 35 percent olive gray (5Y 5/2), 35 percent reddish brown (2.5YR 4/4), and 30 percent light brownish gray (10YR 6/2) silty clay; weak coarse prismatic structure parting to moderate medium subangular blocky; firm; few very fine random discontinuous tubular pores; thick distinct discontinuous clay films on faces of peds; common fine and medium, moderately cemented, black and brown concretions of iron-manganese; neutral.

Range in Characteristics

Solum thickness: More than 80 inches
Clay content in the control section: 25 to 34 percent
Redoximorphic features: Masses of iron accumulation, concretions of iron-manganese, and iron depleted matrix throughout the subsoil
Other distinctive soil features: Glossic horizon at 14 to 22 inches deep; sand content in the control section ranges from 15 to 40 percent
Reaction: Extremely acid to moderately acid in the A and E horizons, very strongly acid to slightly acid in the B/E and Btg horizons, and very strongly acid to moderately alkaline in the Bg and BCg horizons

A or Ap horizon:
Color—Hue of 10YR, value of 4 or 5, and chroma of 1 or 2
Texture—Silt loam
Thickness—0 to 10 inches

Eg horizon:
Color—Hue of 10YR, value of 5 or 6, and chroma of 1 or 2
Redoximorphic features—Iron depleted matrix. Masses of iron accumulation in shades of brown ranges from few to many. Concretions of iron-manganese ranges from few to many
Texture—Silt loam
Thickness—5 to 15 inches

B/E horizon:
Color—Hue of 10YR, 2.5Y, or 5Y, value of 4 to 6, and chroma of 1 or 2
Redoximorphic features—Iron depleted matrix. Masses of iron accumulation in shades of red or brown ranges from few to many. Concretions of iron-manganese ranges from few to many
Texture—Silt loam, loam, silty clay loam, or clay loam
Other features—(E part) occurs as streaks and pockets of albic material 0.5 to 3 inches wide
Thickness—5 to 15 inches

Btg horizon:
Color—Hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 or 2
Redoximorphic features—Iron depleted matrix. Masses of iron accumulation in shades of brown ranges from few to many. Concretions of iron-manganese ranges from few to many
Texture—Silt loam, loam, silty clay loam, or clay loam
Thickness—5 to 20 inches

Bg and BCg horizon: *(where present)*
Color—Hue of 10YR to 5Y, value of 5 or 6, and chroma of 1 or 2
Redoximorphic features—Iron depleted matrix. Masses of iron accumulation in shades of brown ranges from few to many. Concretions of iron-manganese ranges from few to many
Texture—Silt loam, silty clay loam, or loam

2Bt horizon: *(where present)*
Color—Variegated in shades of red, brown, and gray
Redoximorphic features—Iron depleted matrix. Masses of iron accumulation ranges from few to many. Concretions of iron-manganese ranges from few to many
Texture—Silty clay loam or silty clay

Mamou Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability class: Slow
Landscape: Upland
Landform: Elongated deltaic natural levees
Parent material: Loamy deposits of late Pleistocene age
Slope range: 1 to 3 percent

Taxonomic Classification

Fine-silty, siliceous, active, thermic Aeric Albaqualfs

Associated Soils

Crowley and Mowata soils: The Crowley soils are on broad convex ridges at higher elevations. The poorly drained Mowata soils are on lower positions, and have a fine-textured control section

Typical Pedon

Mamou silt loam, 1 to 3 percent slopes; in pasture; about 1.0 mile southwest of Eunice; about 1,150 feet west of State Highway 755 and 1,200 feet north of parish road P-30; 1,175 feet north and 1,750 feet east of the southwest corner of sec. 2, T. 7 S., R. 1 W.; 30°28'09" N. Latitude, 92°26'34' W. Longitude, Eunice South Quadrangle, Louisiana.

Ap—0 to 7 inches; dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; very friable; many very fine roots; very strongly acid; clear smooth boundary.

E—7 to 14 inches; yellowish brown (10YR 5/4) silt loam; weak medium subangular blocky structure; very friable; common very fine roots; common fine moderately cemented iron-manganese concretions; few fine distinct grayish brown (10YR 5/2) iron depletions; very strongly acid; abrupt smooth boundary.

Bt1—14 to 25 inches; dark yellowish brown (10YR 3/4) silty clay loam; weak coarse prismatic structure parting to strong medium subangular blocky; firm; few fine roots; many prominent clay films on faces of peds; few fine moderately cemented iron-manganese concretions; common medium prominent red (2.5YR 4/6), few medium prominent strong brown (7.5YR 5/8), and common fine distinct yellowish brown (10YR 5/8) masses of iron accumulation; many distinct very dark grayish brown (10YR 3/2) coatings on faces of peds; very strongly acid; gradual wavy boundary.

Bt2—25 to 47 inches; yellowish brown (10YR 5/4) silty clay loam; moderate medium subangular blocky structure; firm; few very fine roots; common distinct clay films on faces of peds; many fine moderately cemented iron-manganese concretions; many medium distinct yellowish brown (10YR 5/8) and common medium prominent strong brown (7.5YR 5/8) masses of iron accumulation; common medium distinct light brownish gray (10YR 6/2) iron depletions; many distinct dark grayish brown (10YR 4/2) coatings on faces of peds; moderately acid; gradual wavy boundary.

C1—47 to 61 inches; brown (10YR 5/3) loam; massive; friable; common fine moderately cemented iron-manganese concretions; many medium distinct yellowish brown (10YR 5/6) and common medium prominent strong brown (7.5YR 5/6) masses of iron accumulation; common medium distinct gray (10YR 5/1) iron depletions; slightly acid; gradual wavy boundary.

C2—61 to 80 inches; 35 percent light brownish gray (10YR 6/2), 35 percent yellowish brown (10YR 5/6), and 30 percent red (2.5YR 4/8) stratified loam and clay; massive; firm; common fine black and brown moderately cemented iron-manganese concretions; slightly acid.

Range in Characteristics

Solum thickness: 20 to 50 inches
Clay content in the control section: 25 to 35 percent
Redoximorphic features: Masses of iron accumulation in shades of red and brown. Concretions of iron-manganese and iron depletions in shades of gray throughout
Reaction: Strongly acid to slightly acid in the A, E, and Bt horizons; slightly acid to slightly alkaline in the C horizon

A or Ap horizon:
Color—Hue of 10YR, value of 4 or 5, and chroma of 1 or 2
Redoximorphic features—Masses of iron accumulation, concretions of iron-manganese, and iron depletions ranges from none to common
Texture—Silt loam
Thickness—3 to 8 inches

E horizon:
Color—Hue of 10YR, value of 4 to 6, and chroma of 3 to 6
Redoximorphic features—Masses of iron accumulation in shades of yellow or grayish brown ranges from none to common. Iron depletions, with chroma of 2 or less, ranges from few to many
Texture—Silt loam, loam, or very fine sandy loam
Thickness—3 to 10 inches

Bt horizon:
Color—Ped coatings with hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 1 or 2; ped interiors have hue of 7.5YR or 10YR, value of 3 to 6, and chroma of 4 to 8
Redoximorphic features—Masses of iron accumulation and concretions of iron-manganese in shades of red and iron depletions in shades of gray ranges from none to common
Texture—Silty clay loam
Thickness—10 to 32 inches

C horizon:
Color—Variegated in shades of red, brown, or gray
Redoximorphic features—Masses of iron accumulation, concretions of iron-manganese, and iron depletions ranges from none to common
Texture—Loam, silt loam, or silty clay loam; some pedons have thin clayey strata

Memphis Series

Depth class: Very deep
Drainage class: Well drained
Permeability class: Moderate
Landscape: Upland
Landform: Stream terrace
Parent material: Loess deposits
Slope range: 1 to 5 percent

Taxonomic Classification

Fine-silty, mixed, active thermic Typic Hapludalfs

Associated Soils

Duson, Frost, Jeanerette, and Patoutville soils: The somewhat poorly drained Duson, Jeanerette, and Patoutville soils, and the poorly drained Frost soils are on lower positions and are gray throughout.

Typical Pedon

Memphis silt loam, 1 to 5 percent slopes; in cropland; about 1.5 miles east of Grand Coteau in St. Landry Parish; 600 feet west and 3,000 feet north of the southeast corner of Spanish Land Grant sec. 88, T. 7 S., R. 4 E.; 30°25'08" N. Latitude, 92°01'24" W. Longitude, Sunset Quadrangle, Louisiana.

Ap—0 to 6 inches; brown (10YR 4/3) silt loam; weak fine granular structure; very friable; common fine roots; very strongly acid; abrupt smooth boundary.

Bt1—6 to 24 inches; dark brown (7.5YR 4/4) silty clay loam; moderate medium subangular blocky structure; firm; few fine roots; distinct clay films on faces of peds; thin silt coatings on faces of peds; very strongly acid; gradual wavy boundary.

Bt2—24 to 40 inches; dark brown (7.5YR 4/4) silty clay loam; moderate medium subangular blocky structure; firm; few fine roots; distinct discontinuous clay films on faces of peds; thin patchy silt coatings on faces of peds; moderately acid; gradual wavy boundary.

BC—40 to 54 inches; dark brown (7.5YR 4/4) silt loam; weak medium subangular blocky structure; friable; silt coatings on faces of peds; moderately acid; gradual smooth boundary.

C—54 to 84 inches; dark yellowish brown (10YR 4/4) silt loam; massive; friable; silt coatings in cracks; moderately acid.

Range in Characteristics

Solum thickness: 32 to more than 80 inches
Clay content in the control section: 20 to 35 percent
Reaction: Very strongly acid to moderately acid throughout, except in areas where lime has been applied

A or Ap horizon:
Color—Hue of 10YR, value of 4 or 5, and chroma of 1 to 4
Texture—Silt loam
Thickness—2 to 8 inches

E horizon: *(where present)*
Color—Hue of 10YR, value of 4 or 5, and chroma of 1 to 3
Texture—Silt loam
Thickness—0 to 6 inches

Bt and C horizon:
Color—Hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 to 6
Texture—Silt loam or silty clay loam

Midland Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability class: Very slow
Landscape: Upland
Landform: Slightly concave depressional areas on stream terraces
Parent material: Clayey alluvium of late Pleistocene age
Slope range: 0 to 1 percent

Taxonomic Classification

Fine, smectitic, thermic Chromic Vertic Epiaqualfs

Associated Soils

Basile, Crowley, Judice, Kaplan, and Mowata soils: The Basile soils are fine-silty, have a glossic horizon, and are on flood plains. The somewhat poorly drained Crowley and Kaplan soils are on convex ridges and side slopes at higher elevations. The Judice and Mowata soils are on similar positions. The Judice soils have a mollic epipedon. The Mowata soils have streaks and pockets of silt loam that extend into the subsoil.

Typical Pedon

Midland silty clay loam, 0 to 1 percent slopes; in cropland; about 1.6 miles northwest of Morse; 0.5 mile north of State Highway 92, 1,600 feet west of Lazy Point Canal, and 75 feet north of parish road P5-13; 2,500 feet south and 1,750 feet east of the northwest corner of sec. 57, T. 10 S., R. 2 W.; 30°08'54" N. Latitude, 92°31'37" W. Longitude; Mermentau quadrangle, Louisiana.

Ap—0 to 9 inches; dark grayish brown (10YR 4/2) silty clay loam, weak fine granular structure; friable, many very fine and fine roots; few fine prominent strong brown (7.5YR 4/6) oxidation stains around roots; moderately acid; clear smooth boundary.

Btg—9 to 19 inches; dark gray (10YR 4/1) silty clay; moderate medium angular blocky structure, firm; many very fine and fine roots; few faint clay films on faces of peds; few fine moderately cemented black and brown concretions of iron-manganese; many fine and medium prominent strong brown (7.5YR 5/8) masses of iron accumulation; moderately acid; gradual wavy boundary.

Btkg—19 to 32 inches; gray (10YR 5/1) silty clay; moderate medium angular blocky structure; firm; few fine roots; few faint clay films on faces of peds; few fine moderately cemented black and brown concretions of iron-manganese; many coarse prominent strong brown (7.5YR 4/6) masses of iron accumulation; few fine concretions of calcium carbonate; neutral; gradual wavy boundary.

Btkssg1—32 to 42 inches; gray (10YR 5/1) silty clay; moderate medium angular blocky structure; firm; few distinct slickensides 6 inches across; few faint clay films on faces of peds; few fine moderately cemented black and brown concretions of iron-manganese; many fine prominent strong brown (7.5YR 4/6) and yellowish brown (10YR 5/8) masses of iron accumulation; few fine concretions of calcium carbonate; neutral; gradual wavy boundary.

Btkssg2—42 to 80 inches; gray (10YR 6/1) silty clay; weak medium angular blocky structure; firm; few distinct slickensides 6 inches across; few faint clay films on faces of peds; many medium and coarse moderately cemented concentrations of iron-manganese; many coarse prominent yellowish brown (10YR 5/8) masses of iron accumulation; few fine concretions of calcium carbonate; slightly alkaline.

Range in Characteristics

Solum thickness: More than 80 inches
Clay content in the control section: 35 to 55 percent
Redoximorphic features: Iron depleted matrix, masses of iron accumulation, and concretions of iron-manganese throughout
Reaction: Moderately acid to neutral in the A or Ap and Btg horizons; neutral to moderately alkaline in the Btkg and Btkssg horizons

A or Ap horizon:
Color—Hue of 10YR, value of 4 or 5, and chroma of 1 or 2
Redoximorphic features—Iron depleted matrix. Masses of iron accumulation in shades of brown ranges from few to many. Concretions of iron-manganese ranges from few to many
Texture—Silty clay loam
Thickness—3 to 15 inches

Btg horizon:
Color—Hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 or 2
Redoximorphic features—Iron depleted matrix. Masses of iron accumulation in shades of brown, yellow, or olive ranges from few to many. Concretions of iron-manganese ranges from few to many
Texture—Clay, silty clay, or silty clay loam
Thickness—5 to 15 inches

Btkg and Btkssg horizons:
Color—Hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 or 2
Redoximorphic features—Iron depleted matrix. Masses of iron accumulation in shades of brown, yellow, or olive ranges from few to many. Concretions of iron-manganese ranges from few to many
Texture—Clay, silty clay, or silty clay loam
Other features—Concretions of calcium carbonate ranges from 2 to 5 percent by volume; slickensides

Mowata Series

Depth class: Very deep
Drainage class: Poorly drained
Permeability class: Very slow
Landscape: Upland
Landform: Low depressional areas on stream terraces
Parent material: Loamy and clayey alluvium of late Pleistocene age
Slope range: 0 to 1 percent

Taxonomic Classification

Fine, smectitic, thermic Typic Glossaqualfs

Associated Soils

Crowley, Frost, Kaplan, and Midland soils: The somewhat poorly drained Crowley and Kaplan soils are on convex ridges or side slopes and do not have an albic horizon. The Frost and Midland soils are on similar positions. The Frost soils are fine-silty. The Midland soils do not have a glossic horizon.

Typical Pedon

Mowata silt loam, 0 to 1 percent slopes; in cropland; about 1.7 miles northwest of Crowley; 900 feet north and 75 feet east of the southwest corner of sec. 19, T. 9 S., R. 1 E.; 30°14'52" N. Latitude, 92°24'47" W. Longitude, Crowley West Quadrangle, Louisiana.

Ap—0 to 5 inches; dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; friable; many very fine and fine roots; common dark yellowish brown (10YR 4/6) oxidation stains along root channels; strongly acid; clear smooth boundary.
Eg—5 to 14 inches; grayish brown (10YR 5/2) silt loam; weak fine subangular blocky structure; friable; many very fine and fine roots; common dark yellowish brown (10YR 4/6) oxidation stains along root channels; strongly acid; gradual irregular boundary.
Btg/Eg—14 to 22 inches; about 70 percent dark grayish brown (10YR 4/2) silty clay loam (Btg), about 30 percent tongues of grayish brown (10YR 5/2) silt loam (E part); moderate medium subangular blocky structure; firm; few very fine and fine roots; common distinct dark gray (10YR 4/1) clay films and coatings on faces of peds; common medium and coarse distinct dark yellowish brown (10YR 4/6) masses of iron accumulation; very strongly acid; gradual wavy boundary.
Btg1—22 to 34 inches; grayish brown (10YR 5/2) silty clay; moderate medium subangular blocky structure; firm; many distinct very dark grayish brown (10YR 3/2)

clay films and coatings on faces of peds; many medium and coarse distinct dark yellowish brown (10YR 4/6) masses of iron accumulation; very strongly acid; gradual wavy boundary.

Btg2—34 to 45 inches; gray (10YR 5/1) silty clay; moderate medium subangular blocky structure; firm; many faint dark gray (10YR 4/1) clay films and coatings on faces of peds; many medium and coarse prominent dark yellowish brown (10YR 4/6) and yellowish brown (10YR 5/6) masses of iron accumulation; moderately acid; gradual wavy boundary.

Btg3—45 to 51 inches; gray (2.5Y 6/1) silty clay; moderate medium subangular blocky structure; firm; few prominent dark gray (10YR 4/1) clay films and coatings on faces of peds; many medium and coarse prominent light olive brown (2.5Y 5/6) masses of iron accumulation; slightly acid; gradual wavy boundary.

BCssg—51 to 62 inches; gray (5Y 5/1) silty clay; weak medium subangular blocky structure; firm; common distinct slickensides; common medium moderately cemented black and brown concretions of iron-manganese; many medium and coarse prominent light olive brown (2.5Y 5/6) masses of iron accumulation; neutral; gradual wavy boundary.

Ckssg—62 to 90 inches; gray (5Y 6/1) silty clay; massive; firm; common distinct slickensides; many medium moderately cemented black and brownish concretions of iron-manganese; many coarse prominent yellowish brown (10YR 5/8) and brownish yellow (10YR 6/8) and few fine prominent strong brown (7.5YR 5/6) masses of iron accumulation; common fine and medium concretions of calcium carbonate; slightly alkaline.

Range in Characteristics

Solum thickness: 60 to more than 80 inches
Clay content in the control section: 35 to 50 percent
Redoximorphic features: Iron depleted matrix. Masses of iron accumulation and concretions of iron-manganese throughout the subsurface and subsoil layers

A or Ap horizon:
Color—Hue of 10YR, value of 3 to 5, and chroma of 1 or 2. Where value is 3, the A or Ap horizon is less than 6 inches thick
Texture—Silt loam
Reaction—Strongly acid to neutral
Thickness—4 to 8 inches

Eg horizon:
Color—Hue of 10YR, value of 4 to 6, and chroma of 1 or 2
Redoximorphic features—Iron depleted matrix. Masses of iron accumulation in shades of brown ranges from none to common. Concretions of iron-manganese ranges from none to common
Texture—Silt loam
Reaction—Strongly acid to neutral
Thickness—6 to 20 inches

Btg/Eg horizon:
Color—Hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 or 2
Redoximorphic features—Iron depleted matrix. Masses of iron accumulation in shades of brown ranges from few to many. Concretions of iron-manganese ranges from few to many
Texture—Silty clay, clay loam, or silty clay loam
Other features—(E part) glossic materials of silt loam ranges from 1/2 inch to 8 inches in width
Reaction—Very strongly acid to moderately acid

Thickness—6 to 20 inches

Btg horizon:
Color—Hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 or 2
Redoximorphic features—Iron depleted matrix. Masses of iron accumulation in shades of brown ranges from few to many. Concretions of iron-manganese ranges from few to many
Texture—Silty clay, clay loam, or silty clay loam
Reaction—Very strongly acid to moderately acid in the upper Btg horizons and from moderately acid to moderately alkaline in the lower Btg horizons
Thickness—30 to 50 inches

BCssg horizon:
Color—Hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 or 2
Redoximorphic features—Iron depleted matrix. Masses of iron accumulation in shades of brown ranges from few to many. Concretions of iron-manganese ranges from few to many
Texture—Silty clay, clay loam, or silty clay loam
Reaction—Moderately acid to moderately alkaline
Other features—Concretions of calcium carbonate ranges from none to many
Thickness—10 to 20 inches

Cg, Cssg, Ckg, or Ckssg horizon: *(where present)*
Color—Hue 10YR to 5Y, value of 5 to 7, and chroma of 1 to 5; or neutral
Redoximorphic features—Iron depleted matrix. Masses of iron accumulation in shades of brown ranges from few to many. Concretions of iron-manganese ranges from few to many
Texture—Silty clay, clay, clay loam, or silty clay loam
Other features—Concretions of calcium carbonate ranges from none to many; slickensides
Reaction—Slightly alkaline to moderately alkaline

Patoutville Series

Depth class: Very deep
Drainage class: Somewhat poorly drained
Permeability class: Slow
Landscape: Upland
Landform: Stream terrace
Parent material: Loess
Slope range: 0 to 3 percent

Taxonomic Classification

Fine-silty, mixed, superactive, thermic Aeric Epiaqualfs

Associated Soils

Crowley, Duson, Frost, Jeanerette, and Memphis soils: The Crowley soils are on slightly lower positions. The Duson and Memphis soils are on side slopes and convex ridges and do not have a reduced matrix in the upper 5 inches of the argillic horizon. The Frost and Jeanerette soils are in depressions and along drainageways. The Frost soils are poorly drained. The Jeanerette soils have a mollic epipedon.

Typical Pedon

Patoutville silt, 0 to 1 percent slopes; in pasture; about 2.5 miles north-northwest of Mire; 0.85 mile east of State Highway 95, 50 feet south of parish road P2-20; 30 feet south and

1,700 feet west of the northeast corner of sec. 29, T. 8 S., R 3 E.; 30°20’05” N. Latitude, 92°10'52" W. Longitude, Mire Quadrangle, Louisiana.

Ap1—0 to 8 inches; grayish brown (10YR 5/2) silt; weak fine granular structure; very friable; many fine and medium roots; many distinct dark yellowish brown (10YR 4/4) oxidation stains along root channels; strongly acid; abrupt smooth boundary.

Ap2—8 to 11 inches; grayish brown (10YR 5/2) silt loam; moderate medium granular structure; friable; many fine and medium roots; many fine and medium concretions of iron-manganese; many distinct dark yellowish brown (10YR 4/4) masses of iron accumulation; many fine faint light brownish gray (10YR 6/2) iron depletions; moderately acid; clear smooth boundary.

Btg1—11 to 15 inches; dark grayish brown (10YR 4/2) silt loam; weak medium subangular blocky structure; friable; many fine and medium roots; few faint clay films on faces of peds; few fine prominent yellowish brown (10YR 5/8) and common medium distinct dark yellowish brown (10YR 4/4) masses of iron accumulation; many medium distinct light brownish gray (10YR 6/2) iron depletions; strongly acid; clear wavy boundary.

Btg2—15 to 22 inches; dark grayish brown (10YR 4/2) silty clay loam; moderate medium prismatic structure parting to moderate medium subangular blocky; firm; few fine and medium roots; many distinct dark gray (10YR 4/1) clay films on faces of peds; many fine and medium concretions of iron-manganese; many medium prominent red (2.5YR 4/6 and 2.5YR 4/8) and brownish yellow (10YR 6/8) masses of iron accumulation; moderately acid; clear wavy boundary.

Bt—22 to 28 inches; brown (10YR 5/3) silty clay loam; moderate coarse prismatic structure parting to moderate medium subangular blocky; firm; few fine and medium roots; many distinct dark gray (10YR 4/1) clay films on faces of peds; many fine and medium moderately cemented concretions of iron-manganese; few medium prominent yellowish red (5YR 5/6), fine prominent reddish brown (2.5YR 4/4), and many medium distinct brownish yellow (10YR 6/6) masses of iron accumulation; slightly acid; clear wavy boundary.

B'tg1—28 to 38 inches; light brownish gray (2.5Y 6/2) silt loam; weak coarse prismatic structure parting to moderate medium subangular blocky; firm; few fine and medium roots; many distinct dark gray (10YR 4/1) clay films on faces of peds; many fine and medium moderately cemented concretions of iron-manganese; few fine prominent yellowish red (5YR 5/6), and many medium prominent yellowish brown (10YR 5/6 and 10YR 5/8) masses of iron accumulation; slightly acid; gradual wavy boundary.

B'tg2—38 to 51 inches; grayish brown (2.5Y 5/2) silt loam; weak coarse prismatic structure parting to moderate medium subangular blocky; firm; many very fine and fine tubular pores; many distinct dark gray (10YR 4/1) clay films on faces of peds; many distinct dark gray (10YR 4/1) silt coatings on faces of peds; many medium prominent yellowish brown (10YR 5/8) and dark yellowish brown (10YR 4/6) masses of iron accumulation; slightly acid; gradual wavy boundary.

B't—51 to 68 inches; variegated, 35 percent yellowish brown (10YR 5/6), 35 percent brownish yellow (10YR 6/6), and 30 percent light brownish gray (2.5Y 6/2) silt loam; weak coarse prismatic structure parting to moderate medium subangular blocky; firm; many distinct dark gray (10YR 4/1) clay films on faces of peds; many distinct dark gray (10YR 4/1) silt coatings on faces of peds; many medium prominent yellowish brown (10YR 5/8) and dark yellowish brown (10YR 4/6) masses of iron accumulation; slightly acid; gradual wavy boundary

2Bt—68 to 83 inches; variegated, 35 percent gray (10YR 6/1), 35 percent brownish yellow (10YR 6/6), and 30 percent yellowish brown (10YR 5/6) silt loam; weak coarse prismatic structure parting to moderate medium subangular blocky; firm; common very fine and fine tubular pores; distinct clay films on faces of peds; common medium very dark brown and black moderately cemented concretions of iron and manganese; neutral.

Range in Characteristics

Solum thickness: 50 to more than 80 inches
Clay content in the control section: 18 to 35 percent
Redoximorphic features: Masses of iron accumulation, concretions of iron-manganese, and iron depletions throughout
Reaction: Very strongly acid to slightly alkaline in the A and E horizons (in non-irrigated areas the A and E horizons are typically very strongly acid to slightly acid); strongly acid to neutral in the Btg and Bt horizons; and from slightly acid to moderately alkaline in the C horizons

A or Ap horizon:
Color—Hue of 10YR, value of 3 or 4, and chroma of 1 to 3; or value of 5 and chroma of 2 or 3. Where value is 3, the A or Ap horizon is less than 6 inches thick
Redoximorphic features—Masses of iron accumulation in shades of brown ranges from none to many. Concretions of iron-manganese and iron depletions in shades of gray ranges from none to common
Texture—Silt or silt loam
Thickness—3 to 12 inches

Eg horizon: *(where present)*
Color—Hue of 10YR, value of 4 to 6, and chroma of 1 or 2; or hue of 2.5Y, value of 4 or 5, and chroma of 2
Redoximorphic features—Iron depleted matrix. Masses of iron accumulation in shades of brown ranges from few to many. Concretions of iron-manganese ranges from few to many
Texture—Silt loam
Thickness—0 to 6 inches

Btg and B'tg horizon:
Color—Hue of 10YR, value of 4 or 6, and chroma of 1or 2; or hue of 2.5Y or 5Y, value of 5 or 6, and chroma of 1 or 2
Redoximorphic features—Masses of iron accumulation in shades of red, yellow, or brown ranges from few to many. Concretions of iron-manganese ranges from few to many
Texture—Silt loam or silty clay loam
Thickness—Combined thickness of the Btg horizon is 5 to 18 inches

Bt and B't horizon:
Color—Hue of 10YR or 2.5Y, value of 5 or 6, and chroma 3 to 6
Redoximorphic features—Masses of iron accumulation and concretions of iron-manganese in shades of brown, and iron depletions in shades of gray ranges from none to many
Texture—Silt loam or silty clay loam
Thickness—20 to 60 inches

2Bt horizon: *(where present)*
Color—Hue of 10YR to 5Y, value 5 or 6, and chroma 1 to 6; or variegated with these colors
Redoximorphic features—Masses of iron accumulation in shades of brown ranges from none to many. Iron and concretions of iron-manganese ranges from none to many. Iron depletions in shades of gray ranges from none to many
Texture—Silt loam, silty clay loam, or silty clay
Thickness—0 to 20 inches

BC and C horizon: *(where present)*

Color—Hue of 10YR to 5Y, value 5 or 6, and chroma 1 to 6; or variegated with these colors

Redoximorphic features—Masses of iron accumulation in shades of brown and iron depletions in shades of gray ranges from none to many

Texture—Silt loam, silty clay loam, or silty clay

Vidrine Series

Depth class: Very deep
Drainage class: Somewhat poorly drained or moderately well drained
Permeability class: Slow
Landscape: Uplands
Landform: Stream terrace
Parent material: Loamy and clayey alluvium of later Pleistocene age
Slope range: 0 to 3 percent

Taxonomic Classification

Fine, smectitic, thermic Aquic Glossudalfs

Associated Soils

Acadiana, Basile, Crowley, and Kinder soils: The Acadiana soils are on side slopes along drainageways. The Basile soils are on flood plains. The Crowley soils are on low ridges and have an abrupt textural change between the albic horizon and the argillic horizon. The poorly drained Kinder soils are on lower positions and have a fine-silty control section.

Typical Pedon

Vidrine silt loam in an area of Kinder-Vidrine silt loams, 0 to 1 percent slopes; in forestland; about 7.2 miles west-northwest of Iota; about 0.5 mile west of Bayou Nezpique on parish road P4-2 and 100 feet south of road; 750 feet north and 75 feet east of the southwest corner of sec. 39, T. 8 S., R. 2 W.; 30^{o}21'26" N. Latitude, 92^{o}37'06" W. Longitude, Evangeline Quadrangle, Louisiana.

A—0 to 5 inches; dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; friable; many fine to coarse roots; very strongly acid; clear smooth boundary.

BE—5 to 23 inches; light yellowish brown (10YR 6/4) silt loam; weak fine subangular blocky structure; friable; many fine to coarse roots; very strongly acid; abrupt smooth boundary.

Bt/E—23 to 27 inches; 75 percent pale brown (10YR 6/3) silty clay loam (Bt part); weak coarse prismatic structure parting to moderate medium subangular blocky; firm; common very fine and fine roots; many prominent clay films on faces of peds; common medium prominent strong brown (7.5YR 5/8) and many fine prominent red (2.5YR 4/6) masses of iron accumulation; 25 percent streaks of light gray (10YR 7/2) silt loam (E part); strongly acid; gradual wavy boundary.

Btg1—27 to 36 inches; light brownish gray (10YR 6/2) silty clay; weak coarse prismatic structure parting to moderate medium subangular blocky; firm; many prominent clay films on faces of peds; common medium prominent strong brown (7.5YR 5/8) and many fine prominent red (2.5YR 4/6) masses of iron accumulation; very strongly acid; gradual wavy boundary.

Btg2—36 to 44 inches; gray (10YR 6/1) silty clay; weak coarse prismatic structure parting to moderate medium subangular blocky; firm; many distinct clay films on faces of peds; common medium prominent red (2.5YR 4/6) and many coarse prominent strong brown (7.5YR 5/8) masses of iron accumulation; strongly acid; gradual wavy boundary.

BCg1—44 to 60 inches; light gray (10YR 7/1) silty clay loam; weak coarse subangular blocky structure; firm; common fine prominent brownish yellow (10YR 6/8) and many fine distinct light yellowish brown (10YR 6/4) masses of iron accumulation; strongly acid; gradual wavy boundary.

BCg2—60 to 80 inches; light gray (10YR 7/1) clay loam; weak coarse subangular blocky structure; firm; common fine prominent brownish yellow (10YR 6/8) and many fine distinct light yellowish brown (10YR 6/4) masses of iron accumulation; moderately acid.

Range in Characteristics

Solum thickness: More than 80 inches

Clay content in the control section: 27 to 50 percent

Redoximorphic features: Masses of iron accumulation and iron depletions throughout the subsoil

Reaction: Very strongly acid to moderately acid in the A and BE horizons and strongly acid to moderately alkaline in the Btg and BCg horizons

A or Ap horizon:

Color—Hue of 10YR, value of 3 to 6, and chroma of 2 or 3. Where value is 3, the A or Ap horizon is less than 6 inches thick

Texture—Silt loam

Thickness—5 to 12 inches

BE horizon:

Color—Hue of 10YR, value of 5 or 6, and chroma of 3 or 4

Redoximorphic features—Masses of iron accumulation in shades of brown, and iron depletions in shades of gray ranges from none to common

Texture—Silt loam or very fine sandy loam

Thickness—5 to 18 inches

Bt/E horizon:

Color—(Bt part) hue of 10YR, value of 4 to 6, and chroma of 3 or 4; (E part) hue of 10YR, value of 6 or 7, and chroma of 2 or 3

Redoximorphic features—Clay depletions makes up to 25 percent of the horizon

Texture—(E part) silt loam; (Bt part) silty clay loam or silty clay

Other features—(E part) occurs as streaks and thin coats, 1 to 5 millimeters, on faces of peds

Thickness—2 to 4 inches

Btg horizon:

Color—Hue of 10YR, value of 4 to 6, and chroma of 1 or 2 in the upper part; hue of 10YR, value of 4 or 5, and chroma of 1 to 6 in the lower part

Redoximorphic features—Iron depleted matrix. Masses of iron accumulation in shades of red or brown are common and many

Texture—Silty clay loam or silty clay

Other features—Carbonate concretions ranges from none to common in the lower part

Thickness—22 to 60 inches

BCg horizon:

Color—Hue of 10YR or 2.5Y, value of 4 to 7, and chroma of 1 or 2

Redoximorphic features—Iron depleted matrix. Masses of iron accumulation in shades of brown are common and many

Texture—Silt loam, silty clay loam, clay loam, or silty clay, or stratified in some pedons

Formation of the Soils

This section explains the processes and factors of soil formation and relates them to the soils of Acadia Parish. Landforms and surface geology in the parish are also described.

Processes of Soil Formation

The processes of soil formation influence the kind and degree of development of soil horizons. The factors of soil formation (parent material and time, climate, living organisms, and relief) determine the rate and relative effectiveness of the different processes.

Soil-forming processes are those that result in additions of organic, mineral, and gaseous materials to the soil; losses of these materials from the soil; translocation of materials from one point to another within the soil; and physical and chemical transformation of mineral and organic material within the soil.

Many processes occur simultaneously; for example, the accumulation of organic matter, the development of soil structure, and the leaching of bases from some soil horizons. The contribution of a particular process can change over a period of time. The installation of drainage and water control systems, for example, can change the length of time some soils are flooded or saturated with water. Some processes that have contributed to the formation of the soils in Acadia Parish are discussed in the following paragraphs.

Organic matter has accumulated, has partly decomposed, and has been incorporated in all the soils. Because most of the organic matter is produced in and above the surface layer, the surface layer is higher in organic matter content than the deeper horizons. Living organisms decompose, incorporate, and mix organic residue into the soil. Some of the more stable products of decomposition remain as finely divided materials that contribute to darker colors, increased water-holding and cation-exchange capacities, and granulation in the soil.

The addition of alluvium on the surface has helped to form some of the soils. Added material provides new parent material for soil formation. Consequently, soils developed under these conditions do not have prominent horizons. For example, the Brule soils formed in areas characterized by accumulation of loamy deposits of local streams. The Brule soils have essentially uniform textures throughout and have a B horizon that is neither prominent nor strongly developed.

Processes resulting in development of soil structure have occurred in most of the soils. Plant roots and other organisms contribute to the rearrangement of soil material into secondary aggregates. The decomposition products of organic residue and the secretions of organisms serve as cementing agents that help stabilize structural aggregates. Alternate wetting and drying, as well as shrinking and swelling, contribute to the development of structural aggregates and are particularly effective in soils that have appreciable amounts of clay. Consequently, soil structure is typically most pronounced in the surface horizon which contains the most organic matter and in clayey horizons that alternately undergo wetting and drying.

Most of the soils in the parish have horizons that have reduced iron and manganese compounds. Reducing conditions prevail for long periods in poorly aerated horizons. Consequently, the relatively soluble reduced forms of iron and manganese predominate over the less soluble oxidized forms. The reduced compounds of these elements result in the gray colors in the Bg horizon and Cg horizon that are characteristic of many of the soils. In the more soluble reduced form, appreciable amounts of iron and manganese can be removed from the soils or translocated within the soil by water.

The presence of iron and manganese concretions and of brown iron accumulation in predominantly gray horizons indicates segregation and local concentration of oxidizing and reducing conditions in the soil. The well drained soils do not have the gray color associated with wetness and poor aeration. Apparently they are not dominated by a reducing environment for significant periods.

Loss of elements from the soils also has been a process in their formation. Water moving through the soil has leached soluble bases and any free carbonates that may have been present initially from some horizon of most of the soils in the parish. Most of the mineral soils are less acid with depth below horizons at or near the surface. The most extensive leaching typically occurs in loamy, moderately well drained or well drained soils, such as the Brule and Memphis soils.

The formation, translocation, and accumulation of clay have also been processes that have helped to develop most of the soils in Acadia Parish. Silicon and aluminum, released as a result of weathering of such minerals as hornblende, amphiboles, and feldspars, can recombine with the components of water to form secondary clay minerals such as kaolinite. Secondary accumulation of clay result largely from translocation of clays from upper to lower horizons. As water moves downward it can carry small amounts of clay in suspension. This clay is redeposited, and it accumulates at the deepest position of water penetration or in horizons where the clay becomes flocculated or is filtered out by fine pores in the soil. Over long periods, such processes can result in distinct horizons of clay accumulation. Nearly all the soils on terraces of Acadia Parish have subsoils characterized by a secondary accumulation of clay.

Secondary accumulation of calcium carbonate in the lower soil horizons also is a process that has helped to develop some of the soils in Acadia Parish. For example, the Basile, Jeanerette, Judice, Kaplan, and Midland soils have, in some places, secondary accumulation of carbonates within a depth of 60 inches. Carbonates dissolved from overlying horizons also can be translocated to these depths by water and redeposited. Other sources and processes can contribute to carbonate accumulation, such as segregation of material within the horizon; upward translocation of materials from deeper horizons during fluctuation of water table levels; and material from readily weatherable minerals, such as plagioclase.

Factors of Soil Formation

Soil is a natural, three-dimensional body that forms on the earth's surface. It has properties resulting from the integrated effect of climate and living matter acting on parent material, as conditioned by relief over time. Considered individually, the five factors of soil formation are parent material, time, climate, living organisms, and relief.

The interaction of five main factors influences the processes of soil formation and results in differences among the soils. These factors are climate, the physical arrangement and chemical composition of the original parent material, the kinds of plants and other organisms living in and on the soil, the relief of the land and its effect on runoff and soil moisture conditions, and the length of time that has elapsed since soil formation began.

The effect of any one factor can differ from place to place, but the interaction of all the factors will determine the kind of soil that forms. Many of the differences in soils cannot be attributed to differences in only one factor. For example, the organic matter content in the soils of Acadia Parish is influenced by several of the factors, including relief, parent material, and living organisms. In the following paragraphs, the factors of soil formation are described individually as they relate to soils in the survey area.

Parent Material and Time

Parent material is the initial material from which soil forms. It affects the chemical and mineralogical composition of the soils. It also influences the degree of leaching, the reaction, texture, permeability, drainage, and the kind and color of the surface and subsoil layers. Relative percentages of sand, silt, and clay in the parent materials affect the rate that water moves into and through the soil, and also affect the soil's ability to hold humus, air, and soil nutrients in the rooting zone. In general, soils that form in loamy and sandy parent material have a lower nutrient-holding capacity than those that form in clay.

Parent material and time are independent factors of soil formation. The parent material is exposed to the processes of soil formation for periods ranging from a few years to more than a million years. The length of time influences the kinds of soil horizons and their degree of expression. Long periods are generally required for the formation of prominent horizons. The possible differences in the length of time that the processes of soil formation have been active amount to several thousand years for some of the soils in Acadia Parish.

The soils in Acadia Parish developed in various kinds of parent material ranging in age from the most recent alluvium along streams and in swamps to the late Pleistocene sediments that form the core of the Gulf Coast Prairies and the terrace uplands. The soils in the eastern part of Acadia Parish formed in a moderately thick loess mantle underlain by loamy and clayey alluvial deposits of late Pleistocene age. These loess deposits are generally less than 7 feet thick. Silt, silt loam, and silty clay loam textures underlain by finer textural classes in the Duson and Patoutville soils indicate loess deposits. The majority of the soils in the survey area developed in the loamy and clayey alluvial deposits of Pleistocene age which are exposed in the central and western portions of the parish. The Crowley and Midland series are examples of soils that developed in these deposits. The characteristics, distribution, and depositional pattern of the different kinds of parent material are described in detail under the heading "Landforms and Surface Geology."

Climate

Acadia Parish has a humid subtropical climate characteristic of areas near the Gulf of Mexico. The climate is relatively uniform throughout the parish. Local differences among the soils are not the result of great differences in climate. Warm average temperatures and large amounts of precipitation favor the rapid weathering of readily weatherable minerals in the soils. Weathering processes involving the release and reduction of iron and manganese are indicated by gray colors in the Bg and Cg horizon in many of the soils. The oxidation and segregation of these elements resulting from alternating oxidizing and reducing conditions are indicated by mottled horizons and iron and manganese concretions in most of the soils on the Gulf Coast Prairies.

Differences between soils can occur on landscapes of differing ages in part because of climatic variations over thousands of years. On landscapes of comparable ages, differences in the weathering, leaching, and translocation of clay are caused chiefly by variations in time, relief, and parent material rather than by variations in climate.

More specific information about the climate of Acadia Parish is given in the section "General Nature of the Survey Area."

Living Organisms

Living organisms include plants, bacteria, fungi, animals, and man and are important in the formation of soils. Among the chemical and physical changes they cause are gains in content of plant nutrients and changes in structure and porosity. Plant roots force openings into the soil and help to increase porosity. As plant roots grow, they break up and rearrange the soil particles. Soil nutrients move from within the soil to plant tissues above the surface layer, and when they die, these plant tissues are deposited on the surface of the soil. That organic matter slowly releases the nutrients back into the upper part of the soil. Bacteria and other micro-organisms decompose organic matter into humus compounds that help improve the physical condition of the soil. The native plants and their associated complex communities of bacteria and fungi generally have a significant influence on soil formation in Acadia Parish. Animals, such as crawfish and earthworms, also influence soil formation by mixing the soil. When animals die, they too decompose and enrich the soil with organic matter and nutrients. Man's activities, such as cultivating crops, channel construction, burning, draining, diking, flooding, paving, and land smoothing, affect the soil.

Relatively stable organic compounds in soils generally have high cation-exchange capacities and thus increase the ability of the soil to absorb and store nutrients such as calcium, magnesium, and potassium. The extent of these and other processes and the kind of organic matter produced can vary widely, depending on the kinds of organisms living in and on the soil. For example, the organic matter content of soils developed under prairie vegetation is typically higher than that of soils developed under forests.

The soils in Acadia Parish formed under four different major groups of native vegetation. Soils such as Crowley, Midland, Patoutville and Jeanerette soils developed under prairie vegetation, predominantly tall grasses such as big bluestem. Basile and Brule soils developed where the predominant native vegetation was bottomland hardwoods, such as green ash, laurel oak, overcup oak, sweetgum, and water oak. The Barbary soils developed under aquatic vegetation, as well as baldcypress and water tupelo. Other soils in the parish, such as Acadiana and Kinder soils, developed in areas of pine or pine-hardwood vegetation. For soils that have the same parent material, the reaction generally is slightly higher in soils in areas of hardwoods than in soils in areas of pine. Soils that formed under hardwoods, pines, and mixed pines and hardwoods generally have a thicker eluvial horizon than soils that formed under prairie vegetation. Soils that formed under grasses generally have a surface layer that is thicker and has more organic matter than the surface layer in soils that formed under pine or under mixed hardwoods and pines.

In Acadia Parish, the soils that formed under prairie vegetation generally have a higher organic matter content than those formed under hardwood vegetation. Soils which formed under pine forest vegetation are generally lowest in organic matter content. Except for Jeanerette and Judice soils, none of the soils on terraces have large accumulation of organic matter, and most have less than 2 percent in the surface horizon, where quantities of organic matter typically are the greatest. The organic matter content of cultivated soils is typically lower than that of similar uncultivated soils and it can vary widely depending on use and management.

The role of vegetation in the leaching of plant nutrients is apparent in nearly all the soils in the parish. The growing vegetation removes nutrients from the soil horizons and translocates many of them to the parts of the plant above ground. When the plant dies, these nutrients are released on the surface and in surface horizons where they can be absorbed again and used by growing plants. In soils that become highly leached and weathered, this process can considerably influence the quantity and distribution of bases in the soils over long periods of time.

Differences in the amount of organic matter that has accumulated in and on the soils are influenced by the kind and number of micro-organisms present. Aerobic organisms use oxygen from the air to decompose organic matter through rapid oxidation. These organisms are most abundant and prevail for long periods in better drained and aerated soils such as the Iota soils. Anaerobic organisms are dominant in the more poorly drained soils for long periods during the year. Anaerobic organisms do not require oxygen from the air, and they decompose organic residues very slowly. These different rates of decomposition can result in greater accumulation of organic matter in poorly drained soils than in soils that are better drained.

Relief

Major physiographic features of Acadia Parish are discussed in the section "Landforms and Surface Geology." Relief and other physiographic features influence soil formation by affecting soil drainage, runoff, erosion and deposition, and exposure to the sun and wind.

The influence of relief on soils in the parish is especially evident in runoff rate, soil drainage, and depth to and duration of a seasonal high water table. Relief and degree of dissection by streams generally increase along with the geological age of landforms. For example, relief is greater on land surfaces of the Prairie Formation (late Pleistocene age) than on those of swamps of Holocene age. When other factors such as parent material and time are comparable, the steeper soils are better drained, have faster runoff, are more subject to erosion, have a thinner A horizon and B horizon, are less highly leached, and have a seasonal high water table at a greater depth than those soils in areas that are less sloping. This is evident in a comparison of the gently sloping Duson soils with the level Frost soils.

Landforms and Surface Geology

Acadia Parish, in southwestern Louisiana, is in the West Gulf Coastal Plain geomorphic province. The surface sediments dip gently gulfward and are mid-Pleistocene to Holocene in age. These sediments are underlain by Tertiary age rocks to depths of thousands of feet.

Two general geomorphic surfaces occur in Acadia Parish. They are the Pleistocene age Prairie Terrace, and Holocene age alluvial valleys. The Prairie Terrace is the most extensive surface in the parish and makes up about 91 percent of the total area. Holocene alluvial valleys and swamps make up the remaining 9 percent of the parish. The Prairie Terrace can be divided by differences in soil parent material and physiographic features. Physiographic features and soil parent material characteristics and distribution in Acadia Parish have evolved since the middle of the Pleistocene Epoch.

The Prairie Terrace geologic substrate is Prairie Formation sediments. General geomorphic surfaces, geologic characteristics, and relative ages of the Pleistocene age Prairie Formation and younger Holocene sediments in Acadia Parish are discussed in the following narration.

Prairie Formation

The Prairie Formation makes up the Gulf Coast Prairies Land Resource Area and associated uplands in Acadia Parish. Surface elevations ranges from less than 5 feet above mean sea level (MSL) along the southern edge of the formation to about 55 feet above MSL near the northeastern corner of the parish. The outcrop surface generally slopes to the southwest. Currently the outcrop surface is a coast-wise terrace. However, the terrace’s sediment substrate was deposited within the delta and flood plain of the ancient Mississippi River. Most of the formation’s relict alluvial surface is analogous to the modern Mississippi River alluvial plain.

Prairie Formation sediment is the oldest parent material exposed in the parish. It may have been deposited as much as 80,000 years Before Present (BP). Soils in the Crowley-Mowata-Midland general soil map unit formed in this material. The Crowley soils are on broad, plane to slightly convex, interfluve surfaces, and are highly weathered and leached. The Mowata soils are in broad concave areas between level to slightly convex interfluve surfaces. The Midland soils are in concave depressional areas on stream terraces.

Prairie Formation wooded areas along major drains in Acadia Parish correspond to the Kinder-Acadiana-Vidrine general soil map unit. Vegetation in these areas was originally tall grass prairie. Subsequent tree and associated woody vegetation encroachment has resulted in small wooded tracts scattered throughout the areas. The Kinder and Vidrine soils are on broad, nearly level interfluves. The Kinder soils are in intermound areas and the Vidrine soils are on mounds and smoothed mound areas. The Acadiana soils are on eroding surfaces parallel to streams.

The western one-half of the Prairie Formation in Acadia Parish consists entirely of ancient Mississippi River alluvium. This area is in the Crowley-Mowata general soil map unit.

Soil Survey investigations indicate the Prairie Formation throughout the eastern one-half of the parish is mantled by uniformly textured eolian silt deposits with a very low sand content. The mantle of silt is believed by most soil scientists and geologists to be Holocene age Peorian loess less than 12,000 years old. The Trappey Mastodon, discovered in Lafayette, was located at the contact of the loess and the Prairie Formation. The fossil is dated at about 12,000 years BP. This mantled area is in the Patoutville-Jeanerette-Crowley general soil map unit. The Duson, Frost, Jeanerette, and Patoutville soils formed in the loess mantle. The Duson, Frost, and Patoutville soils are extensively weathered. The Duson and Patoutville soils are on convex landforms. The Frost soils are in flat or concave areas and in drainageways. The Jeanerette soils are in concave areas at the toe slopes of Duson and Patoutville soils.

The southern periphery of the Prairie Formation, where surface elevations in the parish are lowest, is covered by loamy and clayey marine and lacustrine sediments. These younger sediments overlay the mid-Pleistocene age Prairie Formation alluvium in the southwestern part of the parish and the Peorian loess mantle in the eastern part. This southern sector of the formation is in the Midland part of the Midland-Crowley general soil map unit. The Midland and Kaplan soils formed in these marine and lacustrine deposits. However, the Kaplan soils are of relatively minor extent.

Soil survey investigations indicate that sea level elevations raised above the present elevation after the Peorian loess was deposited. Consequently, the Jeanerette soils in the loess areas have also been influenced by marine transgression or lacustrine inundation. The Jeanerette soils are not highly weathered or leached; and in most places they have calcium carbonate in the solum.

Holocene Sediments

Headward erosion during the last ice-age lowered the base level of the bayou and river valleys in the parish. A subsequent rise in sea level inundated the lower parts of these entrenched valleys and some low-lying areas in the southwestern part of the parish. This inundation interrupted valley filling in these areas. These inundated parts of the Prairie Terrace are now swamps. The swamps correspond to the Barbary-Basile general soil map unit. Clayey, fluid mineral Barbary soils are in the tupelo gum-cypress swamps of Bayou Que de Tortue, Bayou Plaquemine Brule, Bayou Nezpique, Bayou Des Cannes, and the Mermentau River. The Basile soils are in low or depressional areas on the flood plain, and the Brule soils are on low ridges or natural levees along stream channels.

Bayou Nezpique is entrenched wholly into the Prairie Terrace. It dissects all of the delta distributary system and forms the western boundary of the parish. Bayou Mallet flows into Bayou Des Cannes in the north central part of the parish. Bayou Wikoff, in the eastern portion of the parish, flows into Bayou Plaquemine Brule. Bayou Des Cannes, Bayou Nezpique, and Bayou Plaquemine Brule merge to form the Mermentau River. Bayou Que de Tortue forms the southern boundary of the parish; it flows westerly and enters the Mermentau River in the southwestern corner of the parish. The flood plains of these streams above the swamps correspond to the Basile-Brule general soil map unit.

References

American Association of State Highway and Transportation Officials. 1986. Standard specifications for highway materials and methods of sampling and testing. 14th edition, 2 volumes.

American Society for Testing and Materials. 1993. Standard classification of soils for engineering purposes. ASTM Standard D 2487.

Bray, R.H. and L.T. Kuntz. 1945. Determination of total, organic and available forms or phosphorus in soil. Soil Science 59:39-45.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. February 24, 1995. Hydric soils of the United States.

Hurt, G.W., P.M. Whited, and R.F. Pringle, editors. 1996. Field indicators of hydric soils in the United States.

Louisiana Cooperative Extension Service, 1993. Louisiana Summary of Agriculture and Natural Resources, pp. 28-31.

Mehlich, A. 1953. Determination of P, Ca, Mg, K, Na and NH4.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Olsen, S.R., C.V. Cole, F.S. Watanake, and L.A. Dean. 1954. Estimation of available phosphorus in soils by extraction with sodium bicarbonate. U.S. Department of Agriculture Circular 939:1-19.

Schoeneberger, P.J., D.A. Wysocki,, E.C. Benham, and W.D. Broderson, editors, 2002. Field book for describing and sampling soils, Version 2.0. Natural Resources Conservation Service, National Soil Survey Center, Lincoln, NE.

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

Tomaszewski, D.J. 1991. Louisiana hydrologic atlas map no. 5: Quality of freshwater in aquifers of Louisiana, 1988. U.S. Geological Survey. W-R Inv. Report No. 90-4119.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture. 1984 (rev.). Procedures for collecting soil samples and methods of analysis for soil survey. Soil Surv. Invest. Rep.1.

United States Department of Agriculture. 1995. Soil Survey Laboratory Information Manual. Soil Surv. Invest. Rep. 45.

United States Department of Agriculture, Forest Service. 1976. Volume, yield, and stand tables for second-growth southern pines. Forest Service Miscellaneous Publication 50.

United States Department of Agriculture. National Agriculture Statistics Service. Census of Agriculture, 1992, Volume 1 Geographic Area Series, "table 1: County Summary Highlights: 1992."

United States Department of Agriculture, Natural Resources Conservation Service. National engineering handbook. (Available in the State Office of the Natural Resources Conservation Service at Alexandria, LA)

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. (Available in the State Office of the Natural Resources Conservation Service at Alexandria, LA)

United States Department of Agriculture, Natural Resources Conservation Service. 1996. National soil survey handbook, title 430-VI. Soil Survey Staff. (Available in the State Office of the Natural Resources Conservation Service at Alexandria, LA)

United States Department of Agriculture, Natural Resources Conservation Service. 1996. Soil survey laboratory methods manual. Soil Survey Investigations Report 42.

United States Department of Agriculture, Natural Resources Conservation Service. 1998. Keys to soil taxonomy. 8th edition. Soil Survey Staff.

United States Department of Agriculture, Natural Resources Conservation Service. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Soil Survey Staff. U.S. Department of Agriculture Handbook 436.

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210.

United States Department of Agriculture, Soil Conservation Service. 1962. Soil Survey of Acadia Parish, Louisiana.

United States Department of Agriculture, Soil Conservation Service. 1981. Land resource regions and major land resource areas of the United States. U.S. Department of Agriculture Handbook 296.

United States Department of Agriculture, Soil Conservation Service. 1985. Site index and yield of second growth baldcypress. Soil Conservation Service Technical Note 5.

United States Department of Agriculture, Soil Conservation Service. 1987. Basic statistics, 1982 national resources inventory. Statistical Bulletin 756.

United States Department of Agriculture, Soil Conservation Service. 1993. Soil survey manual. Soil Survey Staff, U.S. Department of Agriculture Handbook 18.

Vissage, John S., Patrick E. Miller, and Andrew J. Harstell, Forest Statistics for Louisiana Parishes—1991. USDA Forest Service Southern Forest Experiment Station, Feb 1992. Resource Bulletin SO-168, 65 pps.

Walsh, L.M., and J.D. Beaton, editors. 1973. Soil testing and plant analysis. Soil Science Society of America.

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.

Alkali (sodic) soil. A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Alluvial fan. The fanlike deposit of a stream where it issues from a gorge upon a plain or of a tributary stream near or at its junction with its main stream.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Alpha,alpha-dipyridyl. A dye that when dissolved in 1N ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction indicates a type of redoximorphic feature.

Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Apparent water table. 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.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Area reclaim (in tables). An area difficult to reclaim after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Aspect. The direction in which a slope faces.

Association, soil. A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 3
Low	3 to 6
Moderate	6 to 9
High	9 to 12
Very high	more than 12

Back slope. The position that forms the steepest and generally linear, middle portion of a hill slope. 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 planes. Fine strata, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediment.

Bedrock. The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.

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.

Breast height. An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.

Brush management. Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.

Calcareous soil. A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.

California bearing ratio (CBR). The load-supporting capacity of a soil as compared to that of standard crushed limestone, expressed as a ratio. 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.

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.

Cobble (or cobblestone). A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter.

Cobbly soil material. Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Compressible (in tables). Excessive decrease in volume of soft soil under load.

Concretions. Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

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.

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.

Delta. A body of alluvium having a surface that is nearly flat and fan shaped; deposited at or near the mouth of a river or stream where it enters a body of relatively quiet water, generally a sea or lake.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Depth to rock (in tables). Bedrock is too near the surface for the specified use.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

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.

Duff. A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Ecological site. An area of rangeland where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological range 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 range sites in kind or proportion of species or 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.

Episaturation. A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Synonym: scarp.

Excess fines (in tables). Excess silt and clay in the soil. The soil does not provide a source of gravel or sand for construction purposes.

Excess lime (in tables). Excess carbonates in the soil that restrict the growth of some plants.

Excess salts (in tables). Excess water-soluble salts in the soil that restrict the growth of most plants.

Excess sodium (in tables). Excess exchangeable sodium in the soil. The resulting poor physical properties restrict the growth of 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.

Fan terrace. A relict alluvial fan, no longer a site of active deposition, incised by younger and lower alluvial surfaces.

Fast intake (in tables). The rapid movement of water into the soil.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

Fine textured soil. Sandy clay, silty clay, or clay.

Firebreak. Area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

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 hill slope. 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.

Fragile (in tables). A soil that is easily damaged by use or disturbance.

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.

Gilgai. Commonly, a succession of microbasins and microknolls in nearly level areas or of microvalleys and microridges parallel with the slope. Typically, the microrelief of clayey soils that shrink and swell considerably with changes in moisture content.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Gravelly soil material. Material that 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.

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.

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.

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.

Holocene—Quarternary Geologic Period. A geologic time from the present to about 10,000 to 12,000 years before present.

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, O, or E horizon. The B horizon is in part a layer of transition from the overlying A horizon 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.

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.

Iron depletions. Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are:

Basin.—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Border.—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation.—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow.—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation.—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding.—Water, released at high points, is allowed to flow onto an area without controlled distribution.

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Leaching. The removal of soluble material from soil or other material by percolating water.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loess. Fine grained material, dominantly of silt-sized particles, deposited by wind.

Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Low strength. The soil is not strong enough to support loads.

Marl. An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal amounts.

Masses. Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

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—f*aint, 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).

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.

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.

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.

Perched water table. A water standing above an unsaturated zone. In places an upper, or perched, water table is separated from a lower one by a dry zone.

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.

Pleistocene—Quaternary Geologic Period. A geologic time from about 128,000 to 300,000 thousand years before present.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poor filter (in tables). Because of rapid or very rapid permeability, the soil may not adequately filter effluent from a waste disposal system.

Poorly graded. Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Poor outlets (in tables). Refers to areas where surface or subsurface drainage outlets are difficult or expensive to install.

Potential native plant community. See Climax plant community.

Potential rooting depth (effective rooting depth). Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Rangeland. Land on which the potential natural vegetation is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0
Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline	9.1 and higher

Redoximorphic concentrations. Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

Redoximorphic depletions. Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.

Redoximorphic features. Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

Reduced matrix. A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness.

The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

Relief. The elevations or inequalities of a land surface, considered collectively.

Rill. A steep-sided channel resulting from accelerated erosion. A rill generally is a few inches deep and not wide enough to be an obstacle to farm machinery.

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.

Saline soil. A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.

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.

Saprolite. Unconsolidated residual material underlying the soil and grading to hard bedrock below.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Seepage (in tables). The movement of water through the soil. Seepage adversely affects the specified use.

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Side slope. A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides. Polished and grooved surfaces produced by one mass sliding past another. In soils, slickensides may occur at the bases of slip surfaces on the steeper slopes; on faces of blocks, prisms, and columns; and in swelling clayey soils, where there is marked change in moisture content.

Slippage (in tables). Soil mass susceptible to movement downslope when loaded, excavated, or wet.

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 1 percent
Very gently sloping	1 to 3 percent
Gently sloping	3 to 5 percent
Moderately sloping	5 to 8 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 intake (in tables). The slow movement of water into the soil.

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.

Sodic (alkali) soil. A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Sodicity. The degree to which a soil is affected by exchangeable sodium. Sodicity is expressed as a sodium adsorption ratio (SAR) of a saturation extract, or the ratio of Na^{+} to Ca^{++} + Mg^{++}. The degrees of sodicity and their respective ratios are:

Slight	less than 13:1
Moderate	13 to 30:1
Strong	more than 30:1

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.

Stones. Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.

Stony. Refers to a soil containing stones in numbers that interfere with or prevent tillage.

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).

Stubble mulch. Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Subsoiling. Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.

Substratum. The part of the soil below the solum.

Subsurface layer. Any surface soil horizon (A, E, AB, or EB) below the surface layer.

Summer fallow. The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.

Summit. The topographically highest position of a hill slope. 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."

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.

Tertiary age, rocks. Tertiary Geologic Period, includes Pliocene to Paleocene epochs, ranges from about 1.6 million years before present to 65 million years before present.

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.

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.

Toxicity (in tables). Excessive amount of toxic substances, such as sodium or sulfur, that severely hinder establishment of vegetation or severely restrict plant growth.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.
Unstable fill (in tables). Risk of caving or sloughing on banks of fill material.
Upland. Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.
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.
Windthrow. The uprooting and tipping over of trees by the wind.

Tables

Table 1.—Temperature and Precipitation

(Recorded in the period 1971-2000 at Crowley 2 NE, LA)

Month	Temperature (Degrees F)					Precipitation (Inches)					
				2 years in 10 will have				2 years in 10 will have			
	average daily maximum	average daily minimum	average	maximum temperature higher than	minimum temperature lower than	average number of growth degree days*	average	less than	more than	average number of days w/.1 or more	average total snow fall
January	59.6	40.3	49.9	78	20	132	6.25	2.82	9.54	7	0.1
February	63.4	43.3	53.3	80	23	169	4.12	2.04	6.13	5	0.0
March	70.6	50.6	60.6	83	28	348	4.42	2.28	6.16	6	0.0
April	77.3	57.2	67.3	89	38	518	4.38	1.30	7.23	4	0.0
May	84.3	65.6	75.0	94	50	770	5.75	2.72	8.81	6	0.0
June	89.4	71.3	80.4	98	59	909	5.40	2.46	8.21	7	0.0
July	91.0	72.9	82.0	98	66	990	5.71	3.76	7.69	9	0.0
August	91.4	71.9	81.6	99	64	975	5.01	2.51	7.11	7	0.0
September	87.9	67.9	77.9	97	50	830	4.93	2.53	6.61	6	0.0
October	80.6	57.2	68.9	92	37	587	4.10	1.48	6.48	4	0.0
November	70.2	49.2	59.7	86	29	317	5.05	2.72	7.37	5	0.0
December	62.5	42.5	52.5	80	20	170	5.06	2.97	6.71	6	0.0
Yearly:	---	---	---	---	---	---	---	---	---	---	---
Average	77.4	57.5	67.4	---	---	---	---	---	---	---	---
Extreme	106	9	---	100	17	---	---	---	---	---	---
Total	---	---	---	---	---	6,712	60.19	51.22	69.00	72	0.1

*A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minumum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (Threshold: 50.0 degrees F)

Table 2.—Freeze Dates in Spring and Fall

(Recorded in the period 1971-2000 at Crowley 2 NE, LA)

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 22	March 4	March 20
2 years in 10 later than—	February 12	February 23	March 11
5 years in 10 later than—	January 19	February 3	February 24
First freezing temperature in fall:			
1 year in 10 earlier than—	December 7	November 27	November 8
2 years in 10 earlier than—	December 20	December 3	November 15
5 years in 10 earlier than—	January 17	December 14	November 29

Table 3.—Growing Season

(Recorded in the period 1971 to 2000 at Crowley 2 NE, LA)

Probability	Daily Minimum Temperature during growing season		
	Higher than 24°F	Higher than 28°F	Higher than 32°F
	Days	Days	Days
9 years in 10	301	281	246
8 years in 10	320	292	257
5 years in 10	364	313	277
2 years in 10	>365	334	298
1 year in 10	>365	345	309

Table 4.—Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
AdB	Acadiana silt loam, 1 to 3 percent slopes	24,690	5.9
ATB	Aquents dredged, 0 to 3 percent slopes, frequently flooded	51	*
BAA	Barbary mucky clay, 0 to 1 percent slopes	9,845	2.3
BSA	Basile and Brule soils, 0 to 3 percent slopes, frequently flooded	25,301	6.0
CrA	Crowley silt loam, 0 to 1 percent slopes	114,547	27.2
CrB	Crowley silt loam, 1 to 3 percent slopes	3,314	0.8
CwA	Crowley-Midland complex, 0 to 1 percent slopes	14,627	3.5
DuB	Duson silt loam, 1 to 3 percent slopes	6,437	1.5
FoA	Frost silt loam, 0 to 1 percent slopes	3,729	0.9
FrA	Frost silt loam, 0 to 1 percent slopes, occasionally flooded	5,866	1.4
IoD	Iota silt loam, 3 to 8 percent slopes	3,253	0.8
JeA	Jeanerette silt loam, 0 to 1 percent slopes	27,485	6.5
JuA	Judice silty clay loam, 0 to 1 percent slopes	510	0.1
KpA	Kaplan silt loam, 0 to 1 percent slopes	2,239	0.5
KpB	Kaplan silt loam, 1 to 3 percent slopes	4,125	1.0
KvA	Kinder-Vidrine silt loams, 0 to 1 percent slopes	55,125	13.1
M-W	Miscellaneous water	20	*
MaB	Mamou silt loam, 1 to 3 percent slopes	395	*
MbC	Memphis silt loam, 1 to 5 percent slopes	6	*
MdA	Midland silty clay loam, 0 to 1 percent slopes	25,441	6.1
MnA	Midland silty clay loam, 0 to 1 percent slopes, occasionally flooded	2,211	0.5
MtA	Mowata silt loam, 0 to 1 percent slopes	11,858	2.8
MwA	Mowata silt loam, 0 to 1 percent slopes, occasionally flooded	774	0.2
Ow	Oil-waste land	512	0.1
PaA	Patoutville silt, 0 to 1 percent slopes	19,906	4.7
PaB	Patoutville silt loam, 1 to 3 percent slopes	113	*
PcA	Patoutville-Crowley silt loams, 0 to 1 percent slopes	55,062	13.1
W	Water	2,958	0.7
	Total	420,400	99.7

* Less than 0.1 percent.

Table 5.—Land Capability and Yields per Acre of Crops and Pasture

(Yields are those that can be expected under a high level of management. They are for nonirrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil.)

Map symbol and soil name	Land capability	Bahiagrass	Corn	Rice	Soybeans	Sugarcane
		AUM	Bu	Bu	Bu	Tons
AdB:						
Acadiana	3e	6.50	90.00	100	27.00	—
ATB:						
Aquents	7w	—	—	—	—	—
BAA:						
Barbary	8w	—	—	—	—	—
BSA:						
Basile	5w	—	—	—	—	—
Brule	5w	—	—	—	—	—
CrA:						
Crowley	3w	7.50	85.00	130	30.00	—
CrB:						
Crowley	3e	7.50	90.00	120	25.00	—
CwA:						
Crowley	3w	—	80.00	120	30.00	—
Midland	3w	—	80.00	120	30.00	—
DuB:						
Duson	2e	8.00	85	—	32.00	27.00
FoA:						
Frost	3w	6.50	80	105	30.00	30.00
FrA:						
Frost	4w	6.00	—	105	25.00	—
IoD:						
Iota	4e	6.00	—	—	—	—
JeA:						
Jeanerette	2w	9.00	90	115	35.00	30.00
JuA:						
Judice	3w	—	—	120	—	—
KpA:						
Kaplan	3w	—	—	125	33.00	—
KpB:						
Kaplan	3e	—	—	125	30.00	—

Table 5.—Land Capability and Yields per Acre of Crops and Pasture—Continued

Map symbol and soil name	Land capability	Bahiagrass	Corn	Rice	Soybeans	Sugarcane
		AUM	Bu	Bu	Bu	Tons
KvA:						
Kinder	3w	6.50	—	115	25.00	—
Vidrine	2e	6.50	—	115	25.00	—
M-W:						
Miscellaneous Water	—	—	—	—	—	—
MaB:						
Mamou	2e	7.50	—	110	25.00	—
MbC:						
Memphis	2e	8.50	90.00	—	35.00	—
MdA:						
Midland	3w	—	80.00	120	30.00	—
MnA:						
Midland	4w	—	—	120	—	—
MtA:						
Mowata	3w	6.50	80.00	120	30.00	—
MwA:						
Mowata	4w	—	—	120	—	—
Ow:						
Oil-Waste Land	8s	—	—	—	—	—
PaA:						
Patoutville	2w	8.00	85	120	35.00	30.00
PaB:						
Patoutville	2e	8.00	83	—	30.00	—
PcA:						
Patoutville	2w	8.00	85	120	33.00	30.00
Crowley	3w	8.00	85	120	33.00	30.00
W:						
Water	—	—	—	—	—	—

Table 6.—Prime Farmland

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime farmland. If a soil is prime farmland only under certain conditions, the conditions are specified in parentheses after the soil name.)

Map Symbol	Soil name
AdB	Acadiana silt loam, 1 to 3 percent slopes
CrA	Crowley silt loam, 0 to 1 percent slopes
CrB	Crowley silt loam, 1 to 3 percent slopes
CwA	Crowley-Midland complex, 0 to 1 percent slopes
DuB	Duson silt loam, 1 to 3 percent slopes
FoA	Frost silt loam, 0 to 1 percent slopes
JeA	Jeanerette silt loam, 0 to 1 percent slopes
JuA	Judice silty clay loam, 0 to 1 percent slopes
KpA	Kaplan silt loam, 0 to 1 percent slopes
KpB	Kaplan silt loam, 1 to 3 percent slopes
KvA	Kinder-Vidrine silt loams, 0 to 1 percent slopes
MaB	Mamou silt loam, 1 to 3 percent slopes
MbC	Memphis silt loam, 1 to 5 percent slopes
MdA	Midland silty clay loam, 0 to 1 percent slopes
MtA	Mowata silt loam, 0 to 1 percent slopes
PaA	Patoutville silt, 0 to 1 percent slopes
PaB	Patoutville silt loam, 1 to 3 percent slopes
PcA	Patoutville-Crowley silt loams, 0 to 1 percent slopes

Table 7.—Forestland Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber	
			cu ft/ac	
AdB:				
Acadiana	loblolly pine	103	161	loblolly pine, slash pine
	longleaf pine	—	—	
	sweetgum	80	86	
	water oak	80	72	
ATB:				
Aquents	—	—	—	—
BAA:				
Barbary	baldcypress	80	57	baldcypress
	black willow	—	0	
	water tupelo	60	86	
BSA:				
Basile	baldcypress	—	0	overcup oak, sweetgum
	laurel oak	—	0	
	overcup oak	—	0	
	sweetgum	65	57	
	water oak	90	86	
Brule	Nuttall oak	114	0	American sycamore, Nuttall oak, cherrybark oak, eastern cottonwood, loblolly pine, sweetgum
	cherrybark oak	112	200	
	eastern cottonwood	110	157	
	loblolly pine	93	143	
	sweetgum	102	143	
	water oak	104	100	
CrA:				
Crowley	loblolly pine	90	129	loblolly pine, slash pine
	slash pine	90	157	
	water oak	—	—	
CrB:				
Crowley	loblolly pine	90	129	loblolly pine, slash pine
	slash pine	90	157	
	water oak	—	—	
CwA:				
Crowley	loblolly pine	90	129	loblolly pine, slash pine
	slash pine	90	157	
	water oak	—	—	
Midland	cherrybark oak	—	—	green ash, water oak, nuttall oak
	green ash	85	57	
	sweetgum	90	100	
	water oak	90	86	
DuB:				
Duson	cherrybark oak	90	114	loblolly pine, slash pine
	loblolly pine	100	157	
	slash pine	—	0	
	water oak	90	86	

Table 7.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
FoA:				
Frost	cherrybark oak	85	100	green ash, loblolly pine, slash pine, water oak
	loblolly pine	90	129	
	slash pine	90	157	
	sweetgum	—	0	
	water oak	—	0	
FrA:				
Frost	cherrybark oak	85	100	green ash, loblolly pine, slash pine, water oak
	loblolly pine	90	129	
	slash pine	90	157	
	sweetgum	—	0	
	water oak	—	0	
IoD:				
Iota	loblolly pine	98	149	loblolly pine, slash pine
	slash pine	—	—	
	southern red oak	—	—	
	sweetgum	—	—	
JeA:				
Jeanerette	American sycamore	—	0	American sycamore, eastern cottonwood, green ash, water oak, nuttall oak
	cherrybark oak	90	114	
	eastern cottonwood	120	186	
	green ash	80	57	
	pecan	—	0	
	water oak	—	0	
JuA:				
Judice	cherrybark oak	85	100	cherrybark oak, green ash, sweetgum, water oak
	eastern cottonwood	100	129	
	sweetgum	—	0	
	water oak	—	0	
KpA:				
Kaplan	green ash	—	0	green ash, sweetgum, water oak
	sweetgum	90	100	
	water oak	90	86	
KpB:				
Kaplan	green ash	—	0	green ash, sweetgum, water oak
	sweetgum	90	100	
	water oak	90	86	
KvA:				
Kinder	loblolly pine	104	163	loblolly pine, slash pine, sweetgum, water oak
	sweetgum	—	—	
	water oak	—	—	
Vidrine	loblolly pine	90	129	cherrybark oak, loblolly pine, slash pine, water oak
	sweetgum	—	0	
	water oak	—	—	
M-W:				
Miscellaneous Water	—	—	—	—

Table 7.—Forestland Productivity—Continued

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
MaB:				
Mamou	cherrybark oak	—	—	loblolly pine, slash pine
	loblolly pine	90	129	
	slash pine	90	157	
	sweetgum	—	—	
	water oak	—	—	
MbC:				
Memphis	cherrybark oak	100	143	cherrybark oak, loblolly pine, slash pine, sweetgum
	loblolly pine	105	172	
	sweetgum	90	100	
MdA:				
Midland	cherrybark oak	—	—	green ash, water oak, nuttall oak
	green ash	85	57	
	sweetgum	90	100	
	water oak	90	86	
MnA:				
Midland	cherrybark oak	—	—	green ash, water oak, nuttall oak
	green ash	85	57	
	sweetgum	90	100	
	water oak	90	86	
MtA:				
Mowata	loblolly pine	90	129	green ash, loblolly pine, slash pine, water oak
	slash pine	90	157	
	sweetgum	90	100	
MwA:				
Mowata	loblolly pine	90	129	green ash, loblolly pine, slash pine, water oak
	slash pine	90	157	
	sweetgum	90	100	
Ow:				
Oil-Waste Land	—	—	—	—
PaA:				
Patoutville	cherrybark oak	93	129	loblolly pine, slash pine
	loblolly pine	95	143	
	slash pine	95	172	
	sweetgum	86	100	
	water oak	—	0	
PaB:				
Patoutville	cherrybark oak	93	129	loblolly pine, slash pine
	loblolly pine	95	143	
	slash pine	95	172	
	sweetgum	86	100	
	water oak	—	0	
PcA:				
Patoutville	cherrybark oak	93	129	loblolly pine, slash pine
	loblolly pine	95	143	
	slash pine	95	172	
	sweetgum	86	100	
	water oak	—	0	
Crowley	loblolly pine	90	129	loblolly pine, slash pine
	slash pine	90	157	
	water oak	—	0	
W:				
Water	—	—	—	—

Table 8.—Forestland Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AdB:							
Acadiana	85	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
				Wetness	0.50		
ATB:							
Aquents	85	Not rated		Not rated		Not rated	
BAA:							
Barbary	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Wetness	1.00
		Wetness	1.00	Wetness	1.00	Strength	1.00
		Stickiness/slope	0.50	Stickiness	0.50		
		Strength	0.50	Strength	0.50		
BSA:							
Basile	70	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Strength	1.00
		Strength	0.50	Wetness	1.00		
				Strength	0.50		
Brule	20	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Strength	1.00
		Strength	0.50	Strength	0.50		
CrA:							
Crowley	85	Moderate		Moderately suited		Severe	
		Strength	0.50	Wetness	0.50	Strength	1.00
				Strength	0.50		
CrB:							
Crowley	85	Moderate		Moderately suited		Severe	
		Strength	0.50	Wetness	0.50	Strength	1.00
				Strength	0.50		
CwA:							
Crowley	55	Moderate		Moderately suited		Severe	
		Strength	0.50	Wetness	0.50	Strength	1.00
				Strength	0.50		
Midland	35	Moderate		Moderately suited		Severe	
		Strength	0.50	Wetness	0.50	Strength	1.00
				Strength	0.50		
DuB:							
Duson	85	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
FoA:							
Frost	85	Moderate		Poorly suited		Severe	
		Strength	0.50	Wetness	1.00	Strength	1.00
				Strength	0.50		

Table 8.—Forestland Management—Continued

Map symbol and soil name	Pct of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
FrA:							
Frost	85	Moderate		Poorly suited		Severe	
		Strength	0.50	Wetness	1.00	Strength	1.00
				Strength	0.50		
IoD:							
Iota	85	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
JeA:							
Jeanerette	85	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
				Wetness	0.50		
JuA:							
Judice	85	Moderate		Poorly suited		Severe	
		Stickiness/slope	0.50	Wetness	1.00	Strength	1.00
		Strength	0.50	Strength	0.50		
KpA:							
Kaplan	85	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
KpB:							
Kaplan	85	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
KvA:							
Kinder	70	Moderate		Moderately suited		Severe	
		Strength	0.50	Wetness	0.50	Strength	1.00
				Strength	0.50		
Vidrine	20	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
				Wetness	0.50		
M-W:							
Miscellaneous Water	100	—	—	—	—	—	—
MaB:							
Mamou	85	Moderate		Poorly suited		Severe	
		Strength	0.50	Wetness	1.00	Strength	1.00
				Strength	0.50		
MbC:							
Memphis	85	Moderate		Moderately suited		Severe	
		Strength	0.50	Strength	0.50	Strength	1.00
MdA:							
Midland	85	Moderate		Moderately suited		Severe	
		Strength	0.50	Wetness	0.50	Strength	1.00
				Strength	0.50		
MnA:							
Midland	85	Moderate		Moderately suited		Severe	
		Strength	0.50	Wetness	0.50	Strength	1.00
				Strength	0.50		

Table 8.—Forestland Management—Continued

Map symbol and soil name	Pct of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
MtA:							
Mowata	85	Moderate		Moderately suited		Severe	
		Strength	0.50	Wetness	0.50	Strength	1.00
				Strength	0.50		
MwA:							
Mowata	85	Moderate		Moderately suited		Severe	
		Strength	0.50	Wetness	0.50	Strength	1.00
				Strength	0.50		
Ow:							
Oil-Waste Land	100	Not rated		Not rated		Not rated	
PaA:							
Patoutville	85	Moderate		Moderately suited		Severe	
		Strength	0.50	Wetness	0.50	Strength	1.00
				Strength	0.50		
PaB:							
Patoutville	85	Moderate		Moderately suited		Severe	
		Strength	0.50	Wetness	0.50	Strength	1.00
				Strength	0.50		
PcA:							
Patoutville	60	Moderate		Moderately suited		Severe	
		Strength	0.50	Wetness	0.50	Strength	1.00
				Strength	0.50		
Crowley	25	Moderate		Moderately suited		Severe	
		Strength	0.50	Wetness	0.50	Strength	1.00
				Strength	0.50		
W:							
Water	100	—	—	—	—	—	—

Table 9.—Forestland Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AdB:							
Acadiana	85	Slight		Slight		Moderately suited	
		Slope/erodibility	0.05	Slope/erodibility	0.22	Strength	0.50
						Wetness	0.50
ATB:							
Aquents	85	Not rated		Not rated		Not rated	
BAA:							
Barbary	85	Slight		Slight		Poorly suited	
		Slope/erodibility	0.01	Slope/erodibility	0.06	Flooding	1.00
						Wetness	1.00
						Stickiness	0.50
						Strength	0.50
BSA:							
Basile	70	Slight		Slight		Poorly suited	
		Slope/erodibility	0.01	Slope/erodibility	0.06	Flooding	1.00
						Wetness	1.00
						Strength	0.50
Brule	20	Slight		Slight		Poorly suited	
		Slope/erodibility	0.04	Slope/erodibility	0.17	Flooding	1.00
						Strength	0.50
CrA:							
Crowley	85	Slight		Slight		Moderately suited	
		Slope/erodibility	0.01	Slope/erodibility	0.06	Wetness	0.50
						Strength	0.50
CrB:							
Crowley	85	Slight		Slight		Moderately suited	
		Slope/erodibility	0.05	Slope/erodibility	0.22	Wetness	0.50
						Strength	0.50
CwA:							
Crowley	55	Slight		Slight		Moderately suited	
		Slope/erodibility	0.01	Slope/erodibility	0.06	Wetness	0.50
						Strength	0.50
Midland	35	Slight		Slight		Moderately suited	
		Slope/erodibility	0.01	Slope/erodibility	0.06	Wetness	0.50
						Strength	0.50
DuB:							
Duson	85	Slight		Slight		Moderately suited	
		Slope/erodibility	0.05	Slope/erodibility	0.22	Strength	0.50
FoA:							
Frost	85	Slight		Slight		Poorly suited	
		Slope/erodibility	0.01	Slope/erodibility	0.06	Wetness	1.00
						Strength	0.50

Table 9.—Forestland Management—Continued

Map symbol and soil name	Pct of map unit	Hazard of off-road or off-trail erosion: Rating class and limiting features	Value	Hazard of erosion on roads and trails: Rating class and limiting features	Value	Suitability for roads (natural surface): Rating class and limiting features	Value
FrA:							
Frost	85	Slight		Slight		Poorly suited	
		Slope/erodibility	0.01	Slope/erodibility	0.06	Wetness	1.00
						Strength	0.50
IoD:							
Iota	85	Slight		Moderate		Moderately suited	
		Slope/erodibility	0.13	Slope/erodibility	0.61	Strength	0.50
JeA:							
Jeanerette	85	Slight		Slight		Moderately suited	
		Slope/erodibility	0.01	Slope/erodibility	0.06	Strength	0.50
						Wetness	0.50
JuA:							
Judice	85	Slight		Slight		Poorly suited	
		Slope/erodibility	0.01	Slope/erodibility	0.06	Wetness	1.00
						Strength	0.50
KpA:							
Kaplan	85	Slight		Slight		Moderately suited	
		Slope/erodibility	0.01	Slope/erodibility	0.06	Strength	0.50
KpB:							
Kaplan	85	Slight		Slight		Moderately suited	
		Slope/erodibility	0.04	Slope/erodibility	0.17	Strength	0.50
KvA:							
Kinder	70	Slight		Slight		Moderately suited	
		Slope/erodibility	0.01	Slope/erodibility	0.06	Wetness	0.50
						Strength	0.50
Vidrine	20	Slight		Slight		Moderately suited	
		Slope/erodibility	0.02	Slope/erodibility	0.11	Strength	0.50
						Wetness	0.50
M-W:							
Miscellaneous Water	100	Not rated		Not rated		Not rated	
MaB:							
Mamou	85	Slight		Slight		Poorly suited	
		Slope/erodibility	0.05	Slope/erodibility	0.22	Wetness	1.00
						Strength	0.50
MbC:							
Memphis	85	Slight		Moderate		Moderately suited	
		Slope/erodibility	0.07	Slope/erodibility	0.33	Strength	0.50
MdA:							
Midland	85	Slight		Slight		Moderately suited	
		Slope/erodibility	0.01	Slope/erodibility	0.06	Wetness	0.50
						Strength	0.50
MnA:							
Midland	85	Slight		Slight		Moderately suited	
		Slope/erodibility	0.01	Slope/erodibility	0.06	Wetness	0.50
						Strength	0.50
MtA:							
Mowata	85	Slight		Slight		Moderately suited	
		Slope/erodibility	0.01	Slope/erodibility	0.06	Wetness	0.50
						Strength	0.50

Table 9.—Forestland Management—Continued

Map symbol and soil name	Pct of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
MwA:							
Mowata	85	Slight		Slight		Moderately suited	
		Slope/erodibility	0.01	Slope/erodibility	0.06	Wetness	0.50
						Strength	0.50
Ow:							
Oil-Waste Land	100	Not rated		Not rated		Not rated	
PaA:							
Patoutville	85	Slight		Slight		Moderately suited	
		Slope/erodibility	0.01	Slope/erodibility	0.06	Wetness	0.50
						Strength	0.50
PaB:							
Patoutville	85	Slight		Slight		Moderately suited	
		Slope/erodibility	0.05	Slope/erodibility	0.22	Wetness	0.50
						Strength	0.50
PcA:							
Patoutville	60	Slight		Slight		Moderately suited	
		Slope/erodibility	0.01	Slope/erodibility	0.06	Wetness	0.50
						Strength	0.50
Crowley	25	Slight		Slight		Moderately suited	
		Slope/erodibility	0.01	Slope/erodibility	0.06	Wetness	0.50
						Strength	0.50
W:							
Water	100	Not rated		Not rated		Not rated	

Table 10.—Forestland Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
AdB:							
Acadiana	85	Well suited		Well suited		Moderately suited	
						Strength	0.50
ATB:							
Aquents	85	Not rated		Not rated		Not rated	
BAA:							
Barbary	85	Unsuited		Poorly suited		Poorly suited	
		Wetness	1.00	Stickiness	0.75	Wetness	1.00
		Stickiness	0.75	Wetness	0.75	Strength	0.50
						Stickiness	0.50
BSA:							
Basile	70	Well suited		Well suited		Moderately suited	
						Strength	0.50
Brule	20	Well suited		Well suited		Moderately suited	
						Strength	0.50
CrA:							
Crowley	85	Well suited		Well suited		Moderately suited	
						Strength	0.50
CrB:							
Crowley	85	Well suited		Well suited		Moderately suited	
						Strength	0.50
CwA:							
Crowley	55	Well suited		Well suited		Moderately suited	
						Strength	0.50
Midland	35	Moderately suited		Moderately suited		Moderately suited	
		Stickiness	0.50	Stickiness	0.50	Strength	0.50
DuB:							
Duson	85	Well suited		Well suited		Moderately suited	
						Strength	0.50
FoA:							
Frost	85	Well suited		Well suited		Moderately suited	
						Strength	0.50
FrA:							
Frost	85	Well suited		Well suited		Moderately suited	
						Strength	0.50
IoD:							
Iota	85	Poorly suited		Poorly suited		Moderately suited	
		Stickiness	0.75	Stickiness	0.75	Strength	0.50
				Slope	0.50		
JeA:							
Jeanerette	85	Well suited		Well suited		Moderately suited	
						Strength	0.50

Table 10.—Forestland Management—Continued

Map symbol and soil name	Pct of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
JuA:							
Judice	85	Poorly suited		Poorly suited		Moderately suited	
		Stickiness	0.75	Stickiness	0.75	Strength	0.50
KpA:							
Kaplan	85	Moderately suited		Moderately suited		Moderately suited	
		Stickiness	0.50	Stickiness	0.50	Strength	0.50
KpB:							
Kaplan	85	Moderately suited		Moderately suited		Moderately suited	
		Stickiness	0.50	Stickiness	0.50	Strength	0.50
KvA:							
Kinder	70	Well suited		Well suited		Moderately suited	
						Strength	0.50
Vidrine	20	Well suited		Well suited		Moderately suited	
						Strength	0.50
M-W:							
Miscellaneous Water	100	Not rated		Not rated		Not rated	
MaB:							
Mamou	85	Well suited		Well suited		Moderately suited	
						Strength	0.50
MbC:							
Memphis	85	Moderately suited		Moderately suited		Moderately suited	
		Stickiness	0.50	Stickiness	0.50	Strength	0.50
MdA:							
Midland	85	Moderately suited		Moderately suited		Moderately suited	
		Stickiness	0.50	Stickiness	0.50	Strength	0.50
MnA:							
Midland	85	Moderately suited		Moderately suited		Moderately suited	
		Stickiness	0.50	Stickiness	0.50	Strength	0.50
MtA:							
Mowata	85	Well suited		Well suited		Moderately suited	
						Strength	0.50
MwA:							
Mowata	85	Well suited		Well suited		Moderately suited	
						Strength	0.50
Ow:							
Oil-Waste Land	100	Not rated		Not rated		Not rated	
PaA:							
Patoutville	85	Well suited		Well suited		Moderately suited	
						Strength	0.50
PaB:							
Patoutville	85	Well suited		Well suited		Moderately suited	
						Strength	0.50

Table 10.—Forestland Management—Continued

Map symbol and soil name	Pct of map unit	Suitability for hand planting: Rating class and limiting features	Value	Suitability for mechanical planting: Rating class and limiting features	Value	Suitability for use of harvesting equipment: Rating class and limiting features	Value
PcA:							
Patoutville	60	Well suited		Well suited		Moderately suited	
						Strength	0.50
Crowley	25	Well suited		Well suited		Moderately suited	
W:							
Water	100	Not rated		Not rated		Not rated	

Table 11.—Forestland Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
AdB:					
Acadiana	85	Well suited		Well suited	
ATB:					
Aquents	85	Not rated		Not rated	
BAA:					
Barbary	85	Unsuited		Unsuited	
		Wetness	1.00	Wetness	1.00
		Stickiness	0.50		
BSA:					
Basile	70	Well suited		Well suited	
Brule	20	Well suited		Well suited	
CrA:					
Crowley	85	Well suited		Well suited	
CrB:					
Crowley	85	Well suited		Well suited	
CwA:					
Crowley	55	Well suited		Well suited	
Midland	35	Poorly suited		Well suited	
		Stickiness	0.50		
DuB:					
Duson	85	Well suited		Well suited	
FoA:					
Frost	85	Well suited		Well suited	
FrA:					
Frost	85	Well suited		Well suited	
IoD:					
Iota	85	Poorly suited		Well suited	
		Stickiness	0.50		
JeA:					
Jeanerette	85	Well suited		Well suited	
JuA:					
Judice	85	Poorly suited		Well suited	
		Stickiness	0.50		
KpA:					
Kaplan	85	Well suited		Well suited	
KpB:					
Kaplan	85	Well suited		Well suited	

Table 11.—Forestland Management—Continued

Map symbol and soil name	Pct of map unit	Suitability for mechanical site preparation (surface): Rating class and limiting features	Value	Suitability for mechanical site preparation (deep): Rating class and limiting features	Value
KvA:					
Kinder	70	Well suited		Well suited	
Vidrine	20	Well suited		Well suited	
M-W:					
Miscellaneous Water	100	Not rated		Not rated	
MaB:					
Mamou	85	Well suited		Well suited	
MbC:					
Memphis	85	Well suited		Well suited	
MdA:					
Midland	85	Poorly suited		Well suited	
		Stickiness	0.50		
MnA:					
Midland	85	Poorly suited		Well suited	
		Stickiness	0.50		
MtA:					
Mowata	85	Well suited		Well suited	
MwA:					
Mowata	85	Well suited		Well suited	
Ow:					
Oil-Waste Land	100	Not rated		Not rated	
PaA:					
Patoutville	85	Well suited		Well suited	
PaB:					
Patoutville	85	Well suited		Well suited	
PcA:					
Patoutville	60	Well suited		Well suited	
Crowley	25	Well suited		Well suited	
W:					
Water		Not rated		Not rated	

Table 12.—Forestland Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
AdB:					
Acadiana	85	Low		High	
				Wetness	1.00
ATB:					
Aquents	85	Not rated		Not rated	
BAA:					
Barbary	85	Low		High	
				Wetness	1.00
BSA:					
Basile	70	Low		High	
				Wetness	1.00
Brule	20	Low		High	
				Wetness	1.00
CrA:					
Crowley	85	Low		High	
				Wetness	1.00
CrB:					
Crowley	85	Low		High	
				Wetness	1.00
CwA:					
Crowley	55	Low		High	
				Wetness	1.00
Midland	35	Low		High	
				Wetness	1.00
DuB:					
Duson	85	Low		Low	
FoA:					
Frost	85	Low		High	
				Wetness	1.00
FrA:					
Frost	85	Low		High	
				Wetness	1.00
IoD:					
Iota	85	Low		Low	
JeA:					
Jeanerette	85	Low		Low	

Table 12.—Forestland Management—Continued

Map symbol and soil name	Pct of map unit	Potential for damage to soil by fire: Rating class and limiting features	Value	Potential for seedling mortality: Rating class and limiting features	Value
JuA:					
Judice	85	Low		High	
				Wetness	1.00
KpA:					
Kaplan	85	Low		Moderate	
				Lime	0.50
KpB:					
Kaplan	85	Low		Moderate	
				Lime	0.50
KvA:					
Kinder	70	Low		High	
				Wetness	1.00
Vidrine	20	Low		Low	
M-W:					
Miscellaneous Water	100	Not rated		Not rated	
MaB:					
Mamou	85	Low		High	
				Wetness	1.00
MbC:					
Memphis	85	Low		Low	
MdA:					
Midland	85	Low		High	
				Wetness	1.00
MnA:					
Midland	85	Low		High	
				Wetness	1.00
MtA:					
Mowata	85	Low		High	
				Wetness	1.00
MwA:					
Mowata	85	Low		High	
				Wetness	1.00
Ow:					
Oil-Waste Land	100	Not rated		Not rated	
PaA:					
Patoutville	85	Low		Low	
PaB:					
Patoutville	85	Low		Low	

Table 12.—Forestland Management—Continued

Map symbol and soil name	Pct of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
PcA:					
Patoutville	60	Low		Low	
Crowley	25	Low		High	
				Wetness	1.00
W:					
Water	100	Not rated		Not rated	

Table 13.—Recreational Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable.)

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
AdB:					
Acadiana	Severe: percs slowly wetness	Severe: percs slowly wetness	Severe: percs slowly wetness	Severe: wetness	Severe: wetness
ATB:					
Aquents	—	—	—	—	—
BAA:					
Barbary	Severe: flooding percs slowly ponding	Severe: percs slowly too clayey ponding	Severe: flooding too clayey ponding	Severe: too clayey ponding	Severe: flooding too clayey ponding
BSA:					
Basile	Severe: flooding wetness	Severe: wetness	Severe: flooding wetness	Severe: wetness	Severe: flooding wetness
Brule	Severe: flooding	Moderate: flooding	Severe: flooding	Moderate: flooding	Severe: flooding
CrA:					
Crowley	Severe: percs slowly wetness	Severe: percs slowly wetness	Severe: percs slowly wetness	Severe: wetness	Severe: wetness
CrB:					
Crowley	Severe: percs slowly wetness	Severe: percs slowly wetness	Severe: percs slowly wetness	Severe: wetness	Severe: wetness
CwA:					
Crowley	Severe: percs slowly wetness	Severe: percs slowly wetness	Severe: percs slowly wetness	Severe: wetness	Severe: wetness
Midland	Severe: flooding percs slowly wetness	Severe: percs slowly wetness	Severe: percs slowly wetness	Severe: wetness	Severe: wetness
DuB:					
Duson	Moderate: percs slowly wetness	Moderate: percs slowly wetness	Moderate: percs slowly slope wetness	Moderate: wetness	Moderate: wetness
FoA:					
Frost	Severe: flooding wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness
FrA:					
Frost	Severe: flooding wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness

Table 13.—Recreational Development—Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
IoD:					
Iota	Severe: percs slowly	Severe: percs slowly	Severe: percs slowly slope	Severe: erodes easily	Slight
JeA:					
Jeanerette	Severe: flooding wetness	Moderate: percs slowly wetness	Severe: wetness	Moderate: wetness	Moderate: wetness
JuA:					
Judice	Severe: flooding percs slowly wetness	Severe: percs slowly wetness	Severe: percs slowly wetness	Severe: wetness	Severe: wetness
KpA:					
Kaplan	Moderate: percs slowly wetness	Moderate: percs slowly wetness	Moderate: percs slowly wetness	Moderate: wetness	Moderate: wetness
KpB:					
Kaplan	Moderate: percs slowly wetness	Moderate: percs slowly wetness	Moderate: percs slowly slope wetness	Moderate: wetness	Moderate: wetness
KvA:					
Kinder	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness
Vidrine	Severe: wetness	Moderate: percs slowly wetness	Severe: wetness	Moderate: wetness	Moderate: wetness
M-W:					
Miscellaneous Water	—	—	—	—	—
MaB:					
Mamou	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness
MbC:					
Memphis	Slight	Slight	Moderate: slope	Severe: erodes easily	Slight
MdA:					
Midland	Severe: flooding percs slowly wetness	Severe: percs slowly wetness	Severe: percs slowly wetness	Severe: wetness	Severe: wetness
MnA:					
Midland	Severe: flooding percs slowly wetness	Severe: percs slowly wetness	Severe: percs slowly wetness	Severe: wetness	Severe: wetness
MtA:					
Mowata	Severe: flooding percs slowly wetness	Severe: percs slowly wetness	Severe: percs slowly wetness	Severe: wetness	Severe: wetness

Table 13.—Recreational Development—Continued

Map symbol and soil name	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
MwA:					
Mowata	Severe: flooding percs slowly wetness	Severe: percs slowly wetness	Severe: percs slowly wetness	Severe: wetness	Severe: wetness
Ow:					
Oil-Waste Land	—	—	—	—	—
PaA:					
Patoutville	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness
PaB:					
Patoutville	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness
PcA:					
Patoutville	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness
Crowley	Severe: percs slowly wetness	Severe: percs slowly wetness	Severe: percs slowly wetness	Severe: wetness	Severe: wetness
W:					
Water	—	—	—	—	—

Table 14.—Wildlife Habitat

(See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable.)

Map symbol and soil name	Potential for habitat elements								Potential as habitat for—		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
AdB:											
Acadiana	Fair	Good	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
ATB:											
Aquents	—	—	—	—	—	—	—	—	—	—	—
BAA:											
Barbary	Very poor	Very poor	Very poor	Very poor	—	Poor	Fair	Poor	Very poor	Very poor	Fair
BSA:											
Basile	Poor	Fair	Fair	Fair	Poor	Fair	Good	Good	Fair	Fair	Good
Brule	Poor	Fair	Fair	Good	Good	Good	Good	Very poor	Fair	Good	Very poor
CrA:											
Crowley	Fair	Fair	Fair	Fair	Good	Good	Good	Good	Fair	Fair	Good
CrB:											
Crowley	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Fair	Fair	Fair
CwA:											
Crowley	Fair	Fair	Fair	Fair	Good	Good	Good	Good	Fair	Fair	Good
Midland	Poor	Fair	Fair	Fair	—	Fair	Good	Good	Fair	Fair	Good
DuB:											
Duson	Fair	Good	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
FoA:											
Frost	Poor	Fair	Fair	Good	Good	Good	Good	Good	Fair	Good	Good
FrA:											
Frost	Poor	Fair	Fair	Good	Good	Good	Good	Good	Fair	Good	Good
IoD:											
Iota	Fair	Good	Good	Good	Good	Good	Poor	Very poor	Fair	Good	Very poor
JeA:											
Jeanerette	Good	Good	Good	Good	Fair	Good	Fair	Fair	Good	Good	Fair
JuA:											
Judice	Fair	Fair	Fair	Good	Fair	Good	Good	Good	Poor	Good	Good
KpA:											
Kaplan	Fair	Good	Fair	Good	—	Good	Good	Good	Fair	Fair	Good
KpB:											
Kaplan	Fair	Good	Fair	Good	—	Good	Fair	Fair	Fair	Fair	Fair

Table 14.—Wildlife Habitat—Continued

Map symbol and soil name	Potential for habitat elements								Potential as habitat for—		
	Grain and seed crops	Grasses and legumes	Wild herbaceous plants	Hardwood trees	Coniferous plants	Shrubs	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
KvA:											
Kinder	Fair	Fair	Fair	Good	Good	Good	Good	Good	Fair	Good	Good
Vidrine	Fair	Good	Good	Fair	Good	Good	Fair	Fair	Good	Good	Fair
M-W:											
Miscellaneous Water	—	—	—	—	—	—	—	—	—	—	—
MaB:											
Mamou	Fair	Good	Good	Fair	Good	Good	Fair	Fair	Good	Good	Fair
MbC:											
Memphis	Good	Good	Good	Good	Good	Good	Poor	Very poor	Good	Good	Very poor
MdA:											
Midland	Poor	Fair	Fair	Fair	—	Fair	Good	Good	Fair	Fair	Good
MnA:											
Midland	Poor	Fair	Fair	Fair	—	Fair	Good	Good	Fair	Fair	Good
MtA:											
Mowata	Poor	Fair	Good	Fair	Fair	Good	Good	Good	Fair	Fair	Good
MwA:											
Mowata	Poor	Fair	Fair	Fair	Fair	Good	Good	Good	Fair	Fair	Good
Ow:											
Oil-Waste Land	—	—	—	—	—	—	—	—	—	—	—
PaA:											
Patoutville	Good	Good	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
PaB:											
Patoutville	Good	Good	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
PcA:											
Patoutville	Good	Good	Good	Good	Good	Good	Fair	Fair	Good	Good	Fair
Crowley	Fair	Fair	Fair	Fair	Good	Good	Good	Good	Fair	Fair	Good
W:											
Water	—	—	—	—	—	—	—	—	—	—	—

Table 15.—Building Site Development

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable.)

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
AdB:						
Acadiana	Severe: wetness	Severe: shrink-swell wetness	Severe: shrink-swell wetness	Severe: shrink-swell wetness	Severe: low strength shrink-swell wetness	Severe: wetness
ATB:						
Aquents	—	—	—	—	—	—
BAA:						
Barbary	Severe: excess humus ponding	Severe: flooding low strength ponding	Severe: flooding low strength ponding	Severe: flooding low strength ponding	Severe: flooding low strength ponding	Severe: flooding too clayey ponding
BSA:						
Basile	Severe: wetness flooding	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding low strength wetness	Severe: flooding wetness
Brule	Moderate: flooding wetness	Severe: flooding	Severe: flooding	Severe: flooding	Severe: flooding low strength	Severe: flooding
CrA:						
Crowley	Severe: wetness	Severe: shrink-swell wetness	Severe: wetness	Severe: shrink-swell wetness	Severe: low strength shrink-swell wetness	Severe: wetness
CrB:						
Crowley	Severe: wetness	Severe: shrink-swell wetness	Severe: wetness	Severe: shrink-swell wetness	Severe: low strength shrink-swell wetness	Severe: wetness
CwA:						
Crowley	Severe: wetness	Severe: shrink-swell wetness	Severe: wetness	Severe: shrink-swell wetness	Severe: low strength shrink-swell wetness	Severe: wetness
Midland	Severe: wetness	Severe: flooding shrink-swell wetness	Severe: shrink-swell wetness	Severe: flooding shrink-swell wetness	Severe: low strength shrink-swell wetness	Severe: wetness
DuB:						
Duson	Severe: wetness	Moderate: shrink-swell wetness	Severe: wetness	Moderate: shrink-swell wetness	Severe: low strength	Moderate: wetness
FoA:						
Frost	Severe: wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: low strength wetness	Severe: wetness

Table 15.—Building Site Development—Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
FrA:						
Frost	Severe: wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding wetness	Severe: flooding low strength wetness	Severe: wetness
IoD:						
Iota	Moderate: too clayey	Severe: shrink-swell	Severe: shrink-swell	Severe: shrink-swell	Severe: low strength shrink-swell	Slight
JeA:						
Jeanerette	Severe: wetness	Severe: flooding wetness	Severe: wetness	Severe: flooding wetness	Severe: low strength	Moderate: wetness
JuA:						
Judice	Severe: wetness	Severe: flooding shrink-swell wetness	Severe: flooding shrink-swell wetness	Severe: flooding shrink-swell wetness	Severe: low strength shrink-swell wetness	Severe: wetness
KpA:						
Kaplan	Severe: wetness	Severe: shrink-swell	Severe: shrink-swell wetness	Severe: shrink-swell	Severe: low strength shrink-swell	Moderate: wetness
KpB:						
Kaplan	Severe: wetness	Severe: shrink-swell	Severe: shrink-swell wetness	Severe: shrink-swell	Severe: low strength shrink-swell	Moderate: wetness
KvA:						
Kinder	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: low strength wetness	Severe: wetness
Vidrine	Severe: wetness	Severe: shrink-swell wetness	Severe: shrink-swell wetness	Severe: shrink-swell wetness	Severe: low strength shrink-swell	Moderate: wetness
M-W:						
Miscellaneous Water	—	—	—	—	—	—
MaB:						
Mamou	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: low strength wetness	Severe: wetness
MbC:						
Memphis	Slight	Slight	Slight	Slight	Severe: low strength	Slight
MdA:						
Midland	Severe: wetness	Severe: flooding shrink-swell wetness	Severe: shrink-swell wetness	Severe: flooding shrink-swell wetness	Severe: low strength shrink-swell wetness	Severe: wetness
MnA:						
Midland	Severe: wetness	Severe: flooding shrink-swell wetness	Severe: shrink-swell wetness	Severe: flooding shrink-swell wetness	Severe: low strength shrink-swell wetness	Severe: wetness

Table 15.—Building Site Development—Continued

Map symbol and soil name	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
MtA:						
Mowata	Severe: wetness	Severe: flooding shrink-swell wetness	Severe: flooding shrink-swell wetness	Severe: flooding shrink-swell wetness	Severe: low strength shrink-swell wetness	Severe: wetness
MwA:						
Mowata	Severe: wetness	Severe: flooding shrink-swell wetness	Severe: flooding shrink-swell wetness	Severe: flooding shrink-swell wetness	Severe: low strength shrink-swell wetness	Severe: wetness
Ow:						
Oil-Waste Land	—	—	—	—	—	—
PaA:						
Patoutville	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: low strength wetness	Severe: wetness
PaB:						
Patoutville	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: low strength wetness	Severe: wetness
PcA:						
Patoutville	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: low strength wetness	Severe: wetness
Crowley	Severe: wetness	Severe: shrink-swell wetness	Severe: wetness	Severe: shrink-swell wetness	Severe: low strength shrink-swell wetness	Severe: wetness
W:						
Water	—	—	—	—	—	—

Table 16.—Sanitary Facilities

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable.)

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
AdB:					
Acadiana	Severe: percs slowly wetness	Moderate: slope	Severe: too clayey wetness	Severe: wetness	Severe: hard to pack too clayey wetness
ATB:					
Aquents	—	—	—	—	—
BAA:					
Barbary	Severe: flooding percs slowly ponding	Severe: flooding ponding	Severe: flooding too clayey ponding	Severe: flooding ponding	Severe: hard to pack too clayey ponding
BSA:					
Basile	Severe: flooding percs slowly wetness	Severe: flooding	Severe: flooding wetness	Severe: flooding wetness	Severe: wetness
Brule	Severe: flooding	Severe: flooding	Severe: flooding	Severe: flooding	Severe: too clayey
CrA:					
Crowley	Severe: percs slowly wetness	Slight	Severe: too clayey wetness	Severe: wetness	Severe: hard to pack too clayey wetness
CrB:					
Crowley	Severe: percs slowly wetness	Moderate: slope	Severe: too clayey wetness	Severe: wetness	Severe: hard to pack too clayey wetness
CwA:					
Crowley	Severe: percs slowly wetness	Slight	Severe: too clayey wetness	Severe: wetness	Severe: hard to pack too clayey wetness
Midland	Severe: percs slowly wetness	Slight	Severe: too clayey wetness	Severe: wetness	Severe: hard to pack too clayey wetness
DuB:					
Duson	Severe: percs slowly wetness	Severe: wetness	Severe: wetness	Moderate: wetness	Moderate: too clayey wetness
FoA:					
Frost	Severe: percs slowly wetness	Slight	Severe: wetness	Severe: wetness	Severe: wetness

Table 16.—Sanitary Facilities—Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
FrA:					
Frost	Severe: flooding percs slowly wetness	Slight	Severe: wetness	Severe: wetness	Severe: wetness
IoD:					
Iota	Severe: percs slowly	Moderate: slope	Severe: too clayey	Slight	Severe: hard to pack too clayey
JeA:					
Jeanerette	Severe: percs slowly wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness
JuA:					
Judice	Severe: percs slowly wetness	Slight	Severe: too clayey wetness	Severe: wetness	Severe: hard to pack too clayey wetness
KpA:					
Kaplan	Severe: percs slowly wetness	Slight	Severe: too clayey wetness	Severe: wetness	Severe: hard to pack too clayey
KpB:					
Kaplan	Severe: percs slowly wetness	Slight	Moderate: slope too clayey wetness	Severe: wetness	Severe: hard to pack too clayey
KvA:					
Kinder	Severe: percs slowly wetness	Slight	Severe: wetness	Severe: wetness	Severe: wetness
Vidrine	Severe: percs slowly wetness	Moderate: seepage	Severe: too clayey wetness	Severe: wetness	Severe: hard to pack too clayey wetness
M-W:					
Miscellaneous Water	—	—	—	—	—
MaB:					
Mamou	Severe: percs slowly wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness
MbC:					
Memphis	Slight	Moderate: seepage slope	Moderate: too clayey	Slight	Moderate: too clayey
MdA:					
Midland	Severe: percs slowly wetness	Slight	Severe: too clayey wetness	Severe: wetness	Severe: hard to pack too clayey wetness

Table 16.—Sanitary Facilities—Continued

Map symbol and soil name	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
MnA:					
Midland	Severe: flooding percs slowly wetness	Severe: flooding	Severe: flooding too clayey wetness	Severe: flooding wetness	Severe: hard to pack too clayey wetness
MtA:					
Mowata	Severe: percs slowly wetness	Slight	Severe: too clayey wetness	Severe: wetness	Severe: hard to pack too clayey wetness
MwA:					
Mowata	Severe: flooding percs slowly wetness	Severe: flooding	Severe: flooding too clayey wetness	Severe: flooding wetness	Severe: hard to pack too clayey wetness
Ow:					
Oil-Waste Land	—	—	—	—	—
PaA:					
Patoutville	Severe: percs slowly wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness
PaB:					
Patoutville	Severe: percs slowly wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness
PcA:					
Patoutville	Severe: percs slowly wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness
Crowley	Severe: percs slowly wetness	Slight	Severe: too clayey wetness	Severe: wetness	Severe: hard to pack too clayey wetness
W:					
Water	—	—	—	—	—

Table 17.—Construction Materials

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable.)

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
AdB:				
Acadiana	Poor: low strength shrink-swell wetness	Improbable: excess fines	Improbable: excess fines	Poor: too clayey wetness
ATB:				
Aquents	—	—	—	—
BAA:				
Barbary	Poor: low strength wetness	Improbable: excess fines	Improbable: excess fines	Poor: too clayey wetness
BSA:				
Basile	Poor: low strength wetness	Improbable: excess fines	Improbable: excess fines	Poor: wetness
Brule	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: too clayey
CrA:				
Crowley	Poor: low strength wetness	Improbable: excess fines	Improbable: excess fines	Poor: too clayey wetness
CrB:				
Crowley	Poor: low strength wetness	Improbable: excess fines	Improbable: excess fines	Poor: too clayey wetness
CwA:				
Crowley	Poor: low strength wetness	Improbable: excess fines	Improbable: excess fines	Poor: too clayey wetness
Midland	Poor: low strength shrink-swell wetness	Improbable: excess fines	Improbable: excess fines	Poor: too clayey wetness
DuB:				
Duson	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: too clayey
FoA:				
Frost	Poor: low strength wetness	Improbable: excess fines	Improbable: excess fines	Poor: wetness
FrA:				
Frost	Poor: low strength wetness	Improbable: excess fines	Improbable: excess fines	Poor: wetness
IoD:				
Iota	Poor: low strength shrink-swell	Improbable: excess fines	Improbable: excess fines	Poor: too clayey

Table 17.—Construction Materials—Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
JeA:				
Jeanerette	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: too clayey
JuA:				
Judice	Poor: low strength shrink-swell wetness	Improbable: excess fines	Improbable: excess fines	Poor: too clayey wetness
KpA:				
Kaplan	Poor: low strength shrink-swell	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
KpB:				
Kaplan	Poor: low strength shrink-swell	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
KvA:				
Kinder	Poor: low strength wetness	Improbable: excess fines	Improbable: excess fines	Poor: wetness
Vidrine	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Poor: too clayey
M-W:				
Miscellaneous Water	—	—	—	—
MaB:				
Mamou	Poor: low strength wetness	Improbable: excess fines	Improbable: excess fines	Poor: wetness
MbC:				
Memphis	Poor: low strength	Improbable: excess fines	Improbable: excess fines	Fair: too clayey
MdA:				
Midland	Poor: low strength shrink-swell wetness	Improbable: excess fines	Improbable: excess fines	Poor: too clayey wetness
MnA:				
Midland	Poor: low strength shrink-swell wetness	Improbable: excess fines	Improbable: excess fines	Poor: too clayey wetness
MtA:				
Mowata	Poor: low strength shrink-swell wetness	Improbable: excess fines	Improbable: excess fines	Poor: too clayey wetness
MwA:				
Mowata	Poor: low strength shrink-swell wetness	Improbable: excess fines	Improbable: excess fines	Poor: too clayey wetness

Table 17.—Construction Materials—Continued

Map symbol and soil name	Roadfill	Sand	Gravel	Topsoil
Ow:				
Oil-Waste Land	—	—	—	—
PaA:				
Patoutville	Poor: low strength wetness	Improbable: excess fines	Improbable: excess fines	Fair: too clayey
PaB:				
Patoutville	Poor: low strength wetness	Improbable: excess fines	Improbable: excess fines	Fair: too clayey
PcA:				
Patoutville	Poor: low strength wetness	Improbable: excess fines	Improbable: excess fines	Fair: too clayey
Crowley	Poor: low strength wetness	Improbable: excess fines	Improbable: excess fines	Poor: too clayey wetness
W:				
Water	—	—	—	—

Table 18.—Water Management

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. See text for definitions of terms used in this table. Absence of an entry indicates that no rating is applicable.)

Map symbol and soil name	Limitations for—			Features affecting—			
	Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Drainage	Irrigation	Terraces and diversions	Grassed waterways
AdB:							
Acadiana	Slight	Severe: hard to pack wetness	Severe: no water	Percs slowly	Percs slowly wetness	Erodes easily percs slowly wetness	Erodes easily percs slowly wetness
ATB:							
Aquents	—	—	—	—	—	—	—
BAA:							
Barbary	Slight	Severe: excess humus hard to pack ponding	Severe: slow refill	Flooding percs slowly ponding	Percs slowly slow intake ponding	Percs slowly ponding	Percs slowly wetness
BSA:							
Basile	Moderate: seepage	Severe: wetness	Severe: slow refill	Flooding percs slowly	Erodes easily percs slowly wetness	Erodes easily percs slowly wetness	Erodes easily percs slowly wetness
Brule	Moderate: seepage	Severe: piping	Severe: slow refill	Deep to water	Erodes easily flooding percs slowly	Erodes easily	Erodes easily
CrA:							
Crowley	Slight	Severe: wetness	Severe: no water	Percs slowly	Erodes easily percs slowly wetness	Erodes easily percs slowly wetness	Erodes easily percs slowly wetness
CrB:							
Crowley	Slight	Severe: wetness	Severe: no water	Percs slowly	Erodes easily percs slowly wetness	Erodes easily percs slowly wetness	Erodes easily percs slowly wetness
CwA:							
Crowley	Slight	Severe: wetness	Severe: no water	Percs slowly	Erodes easily percs slowly wetness	Erodes easily percs slowly wetness	Erodes easily percs slowly wetness
Midland	Slight	Severe: wetness	Severe: slow refill	Percs slowly	Erodes easily percs slowly wetness	Erodes easily percs slowly wetness	Erodes easily percs slowly wetness
DuB:							
Duson	Slight	Moderate: piping thin layer wetness	Severe: no water	Favorable	Erodes easily percs slowly wetness	Erodes easily wetness	Erodes easily
FoA:							
Frost	Slight	Severe: wetness	Severe: slow refill	Percs slowly	Erodes easily percs slowly wetness	Erodes easily percs slowly wetness	Erodes easily percs slowly wetness

Table 18.—Water Management—Continued

Map symbol and soil name	Limitations for— Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting— Drainage	Irrigation	Terraces and diversions	Grassed waterways
FrA:							
Frost	Slight	Severe: wetness	Severe: slow refill	Flooding percs slowly	Erodes easily percs slowly wetness	Erodes easily percs slowly wetness	Erodes easily percs slowly wetness
IoD:							
Iota	Moderate: seepage slope	Moderate: hard to pack	Severe: no water	Deep to water	Percs slowly slope	Erodes easily percs slowly	Erodes easily
JeA:							
Jeanerette	Slight	Severe: wetness	Severe: slow refill	Favorable	Erodes easily wetness	Erodes easily wetness	Erodes easily wetness
JuA:							
Judice	Slight	Severe: hard to pack wetness	Severe: slow refill	Percs slowly	Percs slowly wetness	Percs slowly wetness	Percs slowly wetness
KpA:							
Kaplan	Slight	Severe: wetness	Severe: slow refill	Percs slowly	Erodes easily percs slowly wetness	Erodes easily percs slowly wetness	Erodes easily percs slowly
KpB:							
Kaplan	Slight	Severe: wetness	Severe: slow refill	Percs slowly	Erodes easily percs slowly wetness	Erodes easily percs slowly wetness	Erodes easily percs slowly
KvA:							
Kinder	Slight	Severe: wetness	Severe: no water	Percs slowly	Erodes easily percs slowly wetness	Erodes easily percs slowly wetness	Erodes easily percs slowly wetness
Vidrine	Slight	Moderate: hard to pack wetness	Severe: no water	Percs slowly	Percs slowly wetness	Erodes easily percs slowly wetness	Erodes easily percs slowly wetness
M-W:							
Miscellaneous Water	—	—	—	—	—	—	—
MaB:							
Mamou	Slight	Severe: wetness	Severe: no water	Percs slowly	Erodes easily percs slowly wetness	Erodes easily wetness	Erodes easily percs slowly wetness
MbC:							
Memphis	Moderate: seepage slope	Severe: piping	Severe: no water	Deep to water	Erodes easily slope	Erodes easily	Erodes easily
MdA:							
Midland	Slight	Severe: wetness	Severe: slow refill	Percs slowly	Erodes easily percs slowly wetness	Erodes easily percs slowly wetness	Erodes easily percs slowly wetness

Table 18.—Water Management—Continued

Map symbol and soil name	Limitations for— Pond reservoir areas	Embankments, dikes, and levees	Aquifer-fed excavated ponds	Features affecting— Drainage	Irrigation	Terraces and diversions	Grassed waterways
MnA:							
Midland	Slight	Severe: wetness	Severe: slow refill	Flooding percs slowly	Erodes easily percs slowly wetness	Erodes easily percs slowly wetness	Erodes easily percs slowly wetness
MtA:							
Mowata	Slight	Severe: wetness	Severe: slow refill	Percs slowly	Erodes easily percs slowly wetness	Erodes easily percs slowly wetness	Erodes easily percs slowly wetness
MwA:							
Mowata	Slight	Severe: wetness	Severe: slow refill	Flooding percs slowly	Erodes easily percs slowly wetness	Erodes easily percs slowly wetness	Erodes easily percs slowly wetness
Ow:							
Oil-Waste Land	—	—	—	—	—	—	—
PaA:							
Patoutville	Slight	Severe: wetness	Severe: slow refill	Percs slowly	Erodes easily percs slowly wetness	Erodes easily percs slowly wetness	Erodes easily percs slowly wetness
PaB:							
Patoutville	Slight	Severe: wetness	Severe: slow refill	Percs slowly	Erodes easily percs slowly wetness	Erodes easily percs slowly wetness	Erodes easily percs slowly wetness
PcA:							
Patoutville	Slight	Severe: wetness	Severe: slow refill	Percs slowly	Erodes easily percs slowly wetness	Erodes easily percs slowly wetness	Erodes easily percs slowly wetness
Crowley	Slight	Severe: wetness	Severe: no water	Percs slowly	Erodes easily percs slowly wetness	Erodes easily percs slowly wetness	Erodes easily percs slowly wetness
W:							
Water	—	—	—	—	—	—	—

Table 19.—Engineering Index Properties

(Absence of an entry indicates that the data were not estimated.)

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number—: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
AdB:												
Acadiana	0-9	Silt loam	CL-ML, ML	A-4	0	0	100	100	95-100	85-100	15-45	NP-10
	9-19	Loam, silt loam, silty clay loam	CL	A-6	0	0	100	100	95-100	85-100	30-43	11-21
	19-43	Clay, silty clay	CH	A-7-6	0	0	100	100	95-100	90-100	56-76	33-49
	43-66	Clay, silty clay	CH	A-7-6	0	0	100	100	95-100	90-100	56-76	33-49
	66-80	Clay, silty clay, silty clay loam	CH	A-7-6	0	0	100	100	95-100	90-100	50-90	28-70
ATB:												
Aquents	---				---	---	---	---	---	---	---	---
BAA:												
Barbary	0-8	Mucky clay	MH, OH	A-7-5, A-8	0	0	100	100	100	95-100	70-90	35-45
	8-80	Mucky clay, clay	MH, OH	A-7-5, A-8	0	0	100	100	100	95-100	70-90	35-45
BSA:												
Basile	0-23	Silt loam	CL-ML, CL, ML	A-4	0	0	100	100	90-100	75-95	0-30	NP-10
	23-35	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	95-100	80-95	30-42	12-20
	35-80	Silt loam, silty clay loam, clay loam	CL	A-6, A-4, A-7-6	0	0	100	100	95-100	80-95	28-42	8-20
Brule	0-10	Silt loam loam, silt loam	CL, CL-ML, ML	A-4, A-6	0	0	100	100	95-100	80-95	16-40	NP-15
	10-37	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	28-40	9-15
	37-54	Loam, silt loam, silty clay loam	ML, CL, CL-ML	A-4, A-6	0	0	100	100	95-100	90-100	20-35	NP-15
	54-80	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6, A-7-6	0	0	100	100	95-100	95-100	20-44	9-15
CrA:												
Crowley	0-14	Silt loam	CL-ML, ML	A-4	0	0	100	100	95-100	80-100	0-30	NP-10
	14-33	Silty clay, silty clay loam, clay loam	CH, CL	A-7-6	0	0	100	100	95-100	85-100	41-60	20-35
	33-80	Silty clay loam, silty clay, clay loam	CH, CL	A-6, A-7-6	0	0	100	100	95-100	85-100	38-60	18-35
CrB:												
Crowley	0-15	Silt loam	CL-ML, ML	A-4	0	0	100	100	95-100	80-100	0-30	NP-10
	15-44	Silty clay, silty clay loam, clay loam	CH, CL	A-7-6	0	0	100	100	95-100	85-100	41-60	20-35
	44-80	Silty clay loam, silty clay, clay loam	CH, CL	A-6, A-7-6	0	0	100	100	95-100	85-100	38-60	18-35

Table 19.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments: >10 inches	Fragments: 3-10 inches	Percentage passing sieve number—: 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct					Pct	
CwA:												
Crowley	0-18	Silt loam	CL-ML, ML	A-4	0	0	100	100	95-100	80-100	0-30	NP-10
	18-43	Silty clay, silty clay loam, clay loam	CH, CL	A-7-6	0	0	100	100	95-100	85-100	41-60	20-35
	43-80	Silty clay loam, silty clay, clay loam	CH, CL	A-6, A-7-6	0	0	100	100	95-100	85-100	38-60	18-35
Midland	0-10	Silty clay loam	CH, CL	A-6, A-7-6	0	0	100	100	90-100	75-100	30-42	12-22
	10-80	Silty clay, clay, silty clay loam	CH, CL	A-7-6	0	0	100	100	100	95-100	41-65	20-40
DuB:												
Duson	0-9	Silt loam	ML	A-4	0	0	100	100	100	95-100	0-27	NP-7
	9-45	Silty clay loam, silt loam	CL	A-6, A-7-6	0	0	100	100	100	95-100	28-41	9-22
	45-80	Silty clay, clay, silty clay loam	CH, CL	A-7-6, A-6	0	0	100	100	95-100	85-100	43-70	23-44
FoA:												
Frost	0-22	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	90-100	20-30	5-15
	22-79	Silty clay loam, silt loam	CL	A-6, A-4	0	0	100	100	100	90-100	25-40	8-25
	79-80	Silty clay loam, silt loam, clay loam	CL, CH	A-6, A-4, A-7-6	0	0	100	100	95-100	85-95	25-50	8-30
FrA:												
Frost	0-15	Silt loam	CL, CL-ML	A-4, A-6	0	0	100	100	100	90-100	20-30	5-10
	15-80	Silty clay loam, silt loam	CL	A-6, A-4	0	0	100	100	100	90-100	25-40	8-25
IoD:												
Iota	0-7	Silt loam	CL-ML, ML	A-4	0	0	100	100	95-100	80-100	15-30	NP-7
	7-43	Clay, silty clay, silty clay loam	CH	A-7-6	0	0	100	100	95-100	80-100	56-76	33-49
	43-80	Silt loam, very fine sandy loam, silty clay loam	ML, CL, CL-ML	A-4, A-6	0	0	100	90-100	85-100	85-100	23-40	5-22
JeA:												
Jeanerette	0-7	Silt loam	ML, CL-ML	A-4	0	0	100	100	95-100	90-100	23-31	5-10
	7-24	Silty clay loam, silt loam	CL	A-6	0	0	100	85-100	80-95	80-95	32-48	8-20
	24-63	Silt loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	90-100	90-100	85-100	85-100	30-40	8-20
	63-80	Silt loam, silty clay loam, very fine sandy loam	CL, CL-ML	A-7-6, A-4, A-6	0	0	100	95-100	90-100	85-100	23-40	4-25

Table 19.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number— 4	10	40	200	Liquid limit	Plasticity index
	In				Pct	Pct						
JuA:												
Judice	0-5	Silty clay loam	CH, CL	A-7-6	0	0	100	100	100	95-100	47-58	22-30
	5-80	Silty clay, silty clay loam, clay loam, clay	CH, CL	A-7-6	0	0	95-100	95-100	90-100	90-100	47-80	32-48
KpA:												
Kaplan	0-10	Silt loam	CL-ML, ML	A-4	0	0	100	100	95-100	80-100	0-30	NP-10
	10-15	Silty clay loam	CL	A-6, A-7-6	0	0	90-100	90-100	85-100	85-100	30-49	18-33
	15-80	Clay, silty clay loam, silty clay	CH, CL	A-6, A-7-6	0	0	85-100	85-100	80-95	80-95	38-55	20-35
KpB:												
Kaplan	0-9	Silt loam	CL-ML, ML	A-4	0	0	100	100	95-100	80-100	0-30	NP-10
	9-16	Silty clay loam	CL	A-6, A-7-6	0	0	90-100	90-100	85-100	85-100	30-49	18-33
	16-80	Clay, silty clay loam, silty clay	CH, CL	A-6, A-7-6	0	0	85-100	85-100	80-95	80-95	38-55	20-35
KvA:												
Kinder	0-14	Silt loam	CL-ML, ML	A-4	0	0	100	100	95-100	80-100	0-28	NP-8
	14-77	Silty clay loam, loam, silt loam' clay loam, clay	CL	A-6, A-7-6	0	0	100	100	95-100	70-100	32-43	11-20
	77-80	Silt loam, loam, silty clay loam	CL, CL-ML	A-4, A-6	0	0	100	100	95-100	70-100	25-38	5-16
Vidrine	0-23	Silt loam' very fine sandy loam	CL-ML, ML	A-4	0	0	100	100	100	90-100	0-27	NP-7
	23-36	Silty clay, silty clay loam	CH, CL	A-7-6	0	0	100	100	100	90-100	41-60	19-32
	36-44	Silty clay loam, silty clay	CH, CL	A-6, A-7-6	0	0	90-100	85-100	85-100	75-100	33-55	12-28
	44-80	Silt loam, silty clay loam, silty clay, clay loam	CH, CL	A-4, A-6, A-7-6	0	0	90-100	85-100	85-100	70-100	28-55	8-28
M-W:												
Miscellaneous Water	—	—	—	—	—	—	—	—	—	—	—	—
MaB:												
Mamou	0-14	Silt loam	CL-ML, ML	A-4	0	0	100	100	100	90-100	15-27	NP-7
	14-25	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	100	90-100	34-49	13-28
	25-80	Loam, silty clay loam, silt loam	CL	A-6, A-7-6	—	0	100	100	100	90-100	32-45	11-22

Table 19.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification: Unified	Classification: AASHTO	Fragments >10 inches	Fragments 3-10 inches	Percentage passing sieve number— 4	10	40	200	Liquid limit	Plas- ticity index
	In				Pct	Pct					Pct	
MbC:												
Memphis	0-6	Silt loam	ML	A-4	0	0	100	100	100	90-100	15-30	NP-10
	6-40	Silt loam, silty clay loam	CL	A-6, A-7	0	0	100	100	100	90-100	35-48	15-25
	40-80	Silt loam, silty clay loam	CL, ML	A-6, A-4	0	0	100	100	100	90-100	30-40	6-15
MdA:												
Midland	0-9	Silty clay loam	CH, CL	A-6, A-7-6	0	0	100	100	90-100	75-100	30-42	12-22
	9-80	Silty clay, clay, silty clay loam	CH	A-7-6	0	0	100	100	100	95-100	41-65	20-40
MnA:												
Midland	0-7	Silty clay loam	CH, CL	A-6, A-7-6	0	0	100	100	90-100	75-100	30-42	12-22
	7-80	Silty clay, clay, silty clay loam	CH	A-7-6	0	0	100	100	100	95-100	41-65	20-40
MtA:												
Mowata	0-14	Silt loam	ML, CL-ML	A-4	0	0	100	100	95-100	90-100	22-30	5-10
	14-62	Silty clay loam, silty clay, clay loam	CH, CL	A-7-6	0	0	100	100	95-100	75-95	41-60	22-37
	62-80	Silty clay loam, silty clay, clay loam	CH, CL	A-6, A-7-6	0	0	100	100	95-100	75-95	37-49	18-29
MwA:												
Mowata	0-17	Silt loam	ML, CL-ML	A-4	0	0	100	100	95-100	90-100	22-30	5-10
	17-48	Silty clay loam, silty clay, clay loam	CH, CL	A-7-6	0	0	100	100	95-100	75-95	41-60	22-37
	48-80	Silty clay loam, silty clay, clay loam	CH, CL	A-6, A-7-6	0	0	100	100	95-100	75-95	37-49	18-29
Ow:												
Oil-Waste Land	—	—	—	—	—	—	—	—	—	—	—	—
PaA:												
Patoutville	0-11	Silt, silt loam	ML	A-4	0	0	100	100	100	95-100	15-28	NP-7
	11-28	Silty clay loam, silt loam	CL	A-4, A-6, A-7-6	0	0	100	100	100	95-100	28-47	8-23
	28-68	Silty clay loam, silt loam	CL	A-6, A-4, A-7-6	0	0	100	100	100	95-100	28-47	8-23
	68-80	Silty clay loam, silty clay, silt loam	CH, CL	A-6, A-7-6	0	0	100	100	95-100	85-100	32-60	13-32
PaB:												
Patoutville	0-6	Silt loam, silt	CL-ML, ML	A-4	0	0	100	100	100	95-100	15-28	NP-7
	6-11	Silty clay loam, silt loam	CL	A-4, A-7-6, A-6	0	0	100	100	100	95-100	28-47	8-23
	11-60	Silty clay loam, silt loam	CL	A-4, A-6, A-7-6	0	0	100	100	100	95-100	32-60	13-32

Table 19.—Engineering Index Properties—Continued

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number—				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
	In				Pct	Pct					Pct	
PcA:												
Patoutville	0-14	Silt loam, silt	CL-ML, ML	A-4	0	0	100	100	100	95-100	15-28	NP-7
	14-35	Silty clay loam, silt loam	CL	A-6, A-4, A-7-6	0	0	100	100	100	95-100	28-47	8-23
	35-60	Silty clay loam, silt loam	CL	A-4, A-6, A-7-6	0	0	100	100	100	95-100	28-47	8-23
	60-80	Silty clay loam, silty clay, silt loam	CH, CL	A-6, A-7-6	0	0	100	100	95-100	85-100	32-60	13-32
Crowley	0-16	Silt loam	CL-ML, ML	A-4	0	0	100	100	95-100	80-100	0-30	NP-10
	16-37	Silty clay, silty clay loam, clay loam	CH, CL	A-7-6	0	0	100	100	95-100	85-100	41-60	20-35
	37-80	Silty clay loam, silty clay, clay loam	CH, CL	A-6, A-7-6	0	0	100	100	95-100	85-100	38-60	18-35
W:												
Water	—	—	—	—	—	—	—	—	—	—	—	—

Table 20.—Physical Properties of the Soils

(Entries under "Erosion factors—T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
AdB:												
Acadiana	0-9	6-15	1.35-1.70	0.60-2.00	0.16-0.23	0.0-2.9	0.5-2.0	.49	.49	5	6	48
	9-19	20-35	1.35-1.70	0.00-0.06	0.16-0.22	0.0-2.9	0.0-0.5	.43	.43			
	19-43	40-60	1.20-1.60	0.00-0.06	0.15-0.18	6.0-8.9	0.0-0.5	.32	.32			
	43-66	40-60	1.20-1.60	0.00-0.06	0.15-0.18	6.0-8.9	0.0-0.5	.32	.32			
	66-80	35-70	1.20-1.70	0.00-0.06	0.15-0.18	8.9-12.0	0.0-0.5	.32	.32			
ATB:												
Aquents	—	—	—	—	—	—	—				—	—
BAA:												
Barbary	0-8	60-95	0.25-1.00	0.00-0.06	0.18-0.20	0.0-2.9	4.0-25	.32	.32	5	4	86
	8-80	60-95	0.25-1.00	0.00-0.06	0.18-0.20	0.0-2.9	2.0-25	.32	.32			
BSA:												
Basile	0-23	10-27	1.35-1.65	0.60-2.00	0.18-0.20	0.0-2.9	0.5-2.0	.43	.43	5	5	56
	23-35	28-35	1.35-1.65	0.06-0.20	0.20-0.22	3.0-5.9	0.0-0.5	.37	.37			
	35-80	14-35	1.35-1.70	0.06-0.20	0.18-0.20	0.0-2.9	0.0-0.5	.43	.43			
Brule	0-10	7-27	1.35-1.65	0.60-2.00	0.15-0.22	0.0-2.9	1.0-2.0	.43	.43	5	—	—
	10-37	18-32	1.35-1.65	0.60-2.00	0.15-0.22	0.0-2.9	—	.43	.43			
	37-54	7-27	1.35-1.65	0.60-2.00	0.15-0.22	0.0-2.9	—	.43	.43			
	54-80	18-35	1.35-1.65	0.06-2.00	0.18-0.22	3.0-6.0	—	.43	.43			
CrA:												
Crowley	0-14	10-27	1.30-1.65	0.20-0.60	0.20-0.23	0.0-2.9	0.5-4.0	.49	.49	5	5	56
	14-33	35-50	1.20-1.55	0.00-0.06	0.19-0.21	6.0-8.9	0.5-1.0	.32	.32			
	33-80	27-55	1.30-1.65	0.06-0.20	0.20-0.22	3.0-5.9	0.0-0.5	.32	.32			
CrB:												
Crowley	0-15	10-27	1.30-1.65	0.20-0.60	0.20-0.23	0.0-2.9	0.5-4.0	.49	.49	5	5	56
	15-44	35-50	1.20-1.55	0.00-0.06	0.19-0.21	6.0-8.9	0.5-1.0	.32	.32			
	44-80	27-55	1.30-1.65	0.06-0.20	0.20-0.22	3.0-5.9	0.0-0.5	.32	.32			
CwA:												
Crowley	0-18	10-27	1.30-1.65	0.20-0.60	0.20-0.23	0.0-2.9	0.5-4.0	.49	.49	5	5	56
	18-43	35-50	1.20-1.55	0.00-0.06	0.19-0.21	6.0-8.9	0.5-1.0	.32	.32			
	43-80	27-55	1.30-1.65	0.06-0.20	0.20-0.22	3.0-5.9	0.0-0.5	.32	.32			
Midland	0-10	27-39	1.30-1.65	0.06-0.20	0.16-0.22	3.0-5.9	0.5-4.0	.43	.43	5	7	38
	10-80	35-55	1.19-1.60	0.00-0.06	0.16-0.22	6.0-8.9	0.0-0.5	.32	.32			
DuB:												
Duson	0-9	5-18	1.35-1.65	0.20-0.60	0.21-0.23	0.0-2.9	0.5-4.0	.49	.49	5	5	56
	9-45	18-32	1.35-1.65	0.20-0.60	0.20-0.23	3.0-5.9	0.0-0.5	.32	.32			
	45-80	27-55	1.30-1.65	0.00-0.06	0.20-0.22	6.0-8.9	0.0-0.5	.32	.32			
FoA:												
Frost	0-22	8-22	1.35-1.65	0.20-0.60	0.21-0.23	0.0-2.9	0.5-4.0	.49	.49	5	5	56
	22-79	18-35	1.35-1.70	0.06-0.20	0.20-0.22	3.0-5.9	0.5-1.0	.37	.37			
	79-80	18-50	1.35-1.75	0.06-0.20	0.20-0.25	3.0-5.9	0.5-1.0	.37	.37			

Table 20.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
JeA:												
Jeanerette	0-7	10-26	1.35-1.65	0.60-2.00	0.21-0.23	0.0-2.9	0.5-4.0	.49	.49	5	5	56
	7-24	18-35	1.35-1.70	0.20-0.60	0.14-0.23	3.0-5.9	0.5-1.0	.37	.37			
	24-63	18-35	1.35-1.70	0.20-0.60	0.09-0.21	3.0-5.9	0.5-1.0	.37	.37			
	63-80	14-35	1.35-1.70	0.20-0.60	0.14-0.23	3.0-5.9	0.5-1.0	.37	.37			
JuA:												
Judice	0-5	27-50	1.20-1.70	0.06-0.20	0.17-0.22	6.0-8.9	2.0-4.0	.32	.32	5	4	—
	5-80	27-50	1.20-1.70	0.00-0.06	0.15-0.19	6.0-8.9	0.1-2.0	.32	.32			
KpA:												
Kaplan	0-10	14-26	1.30-1.60	0.20-0.60	0.18-0.24	0.0-2.9	1.0-4.0	.43	.43	5	6	48
	10-15	27-39	1.30-1.60	0.06-0.20	0.18-0.24	3.0-5.9	—	.37	.37			
	15-80	33-50	1.20-1.60	0.06-0.20	0.14-0.22	6.0-8.9	—	.37	.37			
KpB:												
Kaplan	0-9	14-26	1.30-1.60	0.20-0.60	0.18-0.24	0.0-2.9	1.0-4.0	.43	.43	5	6	48
	9-16	27-39	1.30-1.60	0.06-0.20	0.18-0.24	3.0-5.9	—	.37	.37			
	16-80	33-50	1.20-1.60	0.06-0.20	0.14-0.22	6.0-8.9	—	.37	.37			
KvA:												
Kinder	0-14	7-14	1.35-1.65	0.60-2.00	0.15-0.21	0.0-2.9	2.0-4.0	.43	.43	5	5	56
	14-77	25-34	1.35-1.70	0.06-0.20	0.15-0.20	3.0-5.9	0.0-0.5	.37	.37			
	77-80	15-32	1.35-1.65	0.20-0.60	0.15-0.20	0.0-2.9	0.0-0.5	.37	.37			
Vidrine	0-23	10-27	1.30-1.65	0.60-2.00	0.20-0.23	0.0-2.9	0.5-4.0	.49	.49	5	5	48
	23-36	27-50	1.20-1.70	0.06-0.20	0.18-0.20	6.0-8.9	0.0-0.2	.32	.32			
	36-44	27-50	1.20-1.65	0.06-0.20	0.18-0.20	6.0-8.9	0.0-0.2	.32	.32			
	44-80	20-50	1.20-1.70	0.06-0.20	0.18-0.22	3.0-5.9	0.0-0.2	.32	.32			
M-W:												
Miscellaneous Water	—	—	—	—	—	—	—	—	—	—	—	—
MaB:												
Mamou	0-14	10-27	1.35-1.70	0.20-0.60	0.18-0.23	0.0-2.9	0.5-4.0	.49	.49	5	5	56
	14-25	27-35	1.35-1.60	0.06-0.20	0.20-0.22	3.0-5.9	0.0-0.5	.37	.37			
	25-80	14-35	1.35-1.60	0.20-0.60	0.18-0.22	3.0-5.9	0.0-0.5	.37	—			
MbC:												
Memphis	0-6	8-22	1.30-1.50	0.60-2.00	0.20-0.23	0.0-2.9	1.0-2.0	.49	.49	5	—	—
	6-40	18-35	1.30-1.50	0.60-2.00	0.20-0.22	0.0-2.9	—	.49	.49			
	40-80	12-25	1.30-1.50	0.60-2.00	0.20-0.23	0.0-2.9	—	.49	.49			
MdA:												
Midland	0-9	27-39	1.30-1.65	0.06-0.20	0.16-0.22	3.0-5.9	0.5-4.0	.43	.43	5	7	38
	9-80	35-55	1.19-1.60	0.00-0.06	0.16-0.22	6.0-8.9	0.0-0.5	.32	.32			
MnA:												
Midland	0-7	27-39	1.30-1.65	0.06-0.20	0.16-0.22	3.0-5.9	0.5-4.0	.43	.43	5	7	38
	7-80	35-55	1.19-1.60	0.00-0.06	0.16-0.22	6.0-8.9	0.0-0.5	.32	.32			
MtA:												
Mowata	0-14	8-24	1.35-1.65	0.20-0.60	0.21-0.23	0.0-2.9	0.5-4.0	.49	.49	5	5	56
	14-62	35-50	1.20-1.60	0.00-0.06	0.18-0.20	6.0-8.9	0.5-1.0	.37	.37			
	62-80	30-50	1.20-1.65	0.00-0.06	0.18-0.20	6.0-8.9	0.0-0.5	.43	.43			
MwA:												
Mowata	0-17	8-24	1.35-1.65	0.20-0.60	0.21-0.23	0.0-2.9	0.5-4.0	.49	.49	5	5	56
	17-48	35-50	1.20-1.60	0.00-0.06	0.18-0.20	6.0-8.9	0.5-1.0	.37	.37			
	48-80	30-50	1.20-1.65	0.00-0.06	0.18-0.20	6.0-8.9	0.0-0.5	.43	.43			
Ow:												
Oil-Waste Land	—	—	—	—	—	—	—	—	—	—	—	—

Table 20.—Physical Properties of the Soils—Continued

Map symbol and soil name	Depth	Clay	Moist bulk density	Permea- bility (Ksat)	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodi- bility group	Wind erodi- bility index
	In	Pct	g/cc	In/hr	In/in	Pct	Pct					
PaA:												
Patoutville	0-11	8-15	1.35-1.65	0.20-0.60	0.20-0.23	0.0-2.9	0.5-4.0	.49	.49	5	5	56
	11-28	18-35	1.35-1.65	0.06-0.60	0.20-0.22	3.0-5.9	0.0-0.5	.37	.37			
	28-68	18-35	1.35-1.65	0.06-0.60	0.20-0.22	3.0-5.9	0.0-0.5	.37	.37			
	68-80	22-50	1.35-1.70	0.06-0.20	0.20-0.25	3.0-5.9	0.0-0.5	.37	.37			
PaB:												
Patoutville	0-6	8-15	1.35-1.65	0.20-0.60	0.20-0.23	0.0-2.9	0.5-4.0	.49	.49	5	5	56
	6-11	18-35	1.35-1.65	0.06-0.60	0.20-0.22	3.0-5.9	0.0-0.5	.37	.37			
	11-60	18-35	1.35-1.65	0.06-0.60	0.20-0.22	3.0-5.9	0.0-0.5	.37	.37			
PcA:												
Patoutville	0-14	8-15	1.35-1.65	0.20-0.60	0.20-0.23	0.0-2.9	0.5-4.0	.49	.49	5	5	56
	14-35	18-35	1.35-1.65	0.06-0.60	0.20-0.22	3.0-5.9	0.0-0.5	.37	.37			
	35-60	18-35	1.35-1.65	0.06-0.60	0.20-0.22	3.0-5.9	0.0-0.5	.37	.37			
	60-80	22-55	1.35-1.70	0.06-0.20	0.20-0.22	3.0-5.9	0.0-0.5	.37	.37			
Crowley	0-16	10-27	1.30-1.65	0.20-0.60	0.20-0.23	0.0-2.9	0.5-4.0	.49	.49	5	5	56
	16-37	35-50	1.20-1.55	0.00-0.06	0.19-0.21	6.0-8.9	0.5-1.0	.32	.32			
	37-80	27-55	1.30-1.65	0.06-0.20	0.20-0.22	3.0-5.9	0.0-0.5	.32	.32			
W:												
Water	—	—	—	—	—	—	—	—	—	—	—	—

Table 21.—Chemical Properties of the Soils

(Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
AdB:								
Acadiana	0-9	—	8.0-15	4.5-6.5	—	—	0.0-2.0	—
	9-19	—	10-23	4.5-6.0	—	—	0.0-2.0	—
	19-43	—	15-25	4.5-6.5	—	—	0.0-2.0	—
	43-66	—	15-25	4.5-6.5	—	—	0.0-2.0	—
	66-80	20-28	—	6.6-8.4	—	—	0.0-2.0	—
ATB:								
Aquents	—	—	—	—	—	—	—	—
BAA:								
Barbary	0-8	50-100	—	5.1-7.8	—	—	0.0-2.0	—
	8-80	50-100	—	6.6-8.4	—	—	0.0-2.0	—
BSA:								
Basile	0-23	7.0-20	—	4.5-7.3	—	—	0.0-2.0	—
	23-35	12-22	—	5.6-8.4	—	—	0.0-2.0	—
	35-80	10-25	—	6.1-8.4	—	—	0.0-2.0	—
Brule	0-10	—	—	3.5-5.5	—	—	0.0-2.0	—
	10-37	—	—	3.5-5.5	—	—	0.0-2.0	—
	37-54	—	—	3.5-5.5	—	—	0.0-2.0	—
	54-80	—	—	3.5-5.5	—	—	0.0-2.0	—
CrA:								
Crowley	0-14	4.0-10	—	4.5-6.0	—	—	0.0-2.0	—
	14-33	12-24	—	5.6-7.8	—	—	0.0-2.0	—
	33-80	12-26	—	6.1-8.4	—	—	0.0-2.0	—
CrB:								
Crowley	0-15	4.0-10	—	4.5-6.0	—	—	0.0-2.0	—
	15-44	12-24	—	5.6-7.8	—	—	0.0-2.0	—
	44-80	12-26	—	6.1-8.4	—	—	0.0-2.0	—
CwA:								
Crowley	0-18	4.0-10	—	4.5-6.0	—	—	0.0-2.0	—
	18-43	12-24	—	5.6-7.8	—	—	0.0-2.0	—
	43-80	12-26	—	6.1-8.4	—	—	0.0-2.0	—
Midland	0-10	5.0-20	—	5.1-7.3	—	—	0.0-2.0	0
	10-80	15-50	—	5.1-8.4	—	—	0.0-2.0	0-5
DuB:								
Duson	0-9	4.0-15	—	4.5-6.5	—	—	0.0-2.0	—
	9-45	10-25	—	4.5-7.3	—	—	0.0-2.0	—
	45-80	15-50	—	5.5-7.3	—	—	0.0-2.0	0-5
FoA:								
Frost	0-22	4.0-10	—	4.5-7.3	—	—	0.0-2.0	—
	22-79	4.0-25	—	4.5-6.0	0-5	—	0.0-2.0	—
	79-80	4.0-30	—	5.1-7.3	0-5	—	0.0-2.0	—
FrA:								
Frost	0-15	4.0-10	—	4.5-7.3	—	—	0.0-2.0	—
	15-80	4.0-25	—	4.5-6.0	0-5	—	0.0-2.0	—
IoD:								
Iota	0-7	5.0-15	5.0-15	4.5-6.0	—	—	0.0-2.0	—
	7-43	20-50	—	4.5-7.3	—	—	0.0-2.0	0-5
	43-80	5.0-30	—	6.6-8.4	0-2	—	0.0-2.0	—

Table 21.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
JeA:								
Jeanerette	0-7	5.0-15	—	5.6-7.8	—	—	0.0-2.0	—
	7-24	5.0-30	—	6.6-8.4	0-2	—	0.0-2.0	—
	24-63	5.0-30	—	6.6-8.4	0-2	—	0.0-2.0	—
	63-80	5.0-30	—	6.6-8.4	0-2	—	0.0-2.0	—
JuA:								
Judice	0-5	10-40	—	5.1-7.3	—	—	0.0-2.0	—
	5-80	20-40	—	5.6-8.4	0-5	0-5	0.0-2.0	—
KpA:								
Kaplan	0-10	5.0-15	—	6.1-8.4	0	—	0.0-2.0	0-1
	10-15	20-40	—	6.6-8.4	1-30	—	0.0-2.0	0-5
	15-80	20-50	—	7.4-8.4	5-70	—	0.0-2.0	1-5
KpB:								
Kaplan	0-9	5.0-15	—	6.1-8.4	0	—	0.0-2.0	0-1
	9-16	20-40	—	6.6-8.4	1-30	—	0.0-2.0	0-5
	16-80	20-50	—	7.4-8.4	5-70	—	0.0-2.0	1-5
KvA:								
Kinder	0-14	4.0-8.0	4.0-8.0	4.5-6.0	—	—	0.0-2.0	—
	14-77	12-24	—	4.5-6.5	—	—	0.0-2.0	—
	77-80	12-26	—	4.5-8.4	—	—	0.0-2.0	—
Vidrine	0-23	5.0-25	5.0-25	4.5-6.0	—	—	0.0-2.0	—
	23-36	20-40	—	4.5-8.4	—	—	0.0-2.0	—
	36-44	20-40	—	5.1-8.4	—	—	0.0-2.0	—
	44-80	10-40	—	5.1-8.4	—	—	0.0-2.0	—
M-W:								
Miscellaneous Water	—	—	—	—	—	—	—	—
MaB:								
Mamou	0-14	—	—	5.1-6.5	—	—	0.0-2.0	—
	14-25	—	—	5.1-6.5	—	—	0.0-2.0	—
	25-80	—	—	5.1-7.8	—	—	0.0-2.0	—
MbC:								
Memphis	0-6	—	—	4.5-6.0	—	—	0.0-2.0	—
	6-40	—	—	4.5-6.0	—	—	0.0-2.0	—
	40-80	—	—	4.5-6.0	—	—	0.0-2.0	—
MdA:								
Midland	0-9	5.0-20	—	5.1-7.3	—	—	0.0-2.0	0
	9-80	15-50	—	5.1-8.4	—	—	0.0-2.0	0-5
MnA:								
Midland	0-7	5.0-20	—	5.1-7.3	—	—	0.0-2.0	0
	7-80	15-50	—	5.1-8.4	—	—	0.0-2.0	0-5
MtA:								
Mowata	0-14	5.0-14	—	5.1-7.3	—	—	0.0-2.0	—
	14-62	12-26	—	4.5-8.4	—	—	0.0-2.0	—
	62-80	16-28	—	6.6-8.4	—	—	0.0-2.0	—
MwA:								
Mowata	0-17	5.0-14	—	5.1-7.3	—	—	0.0-2.0	—
	17-48	12-26	—	4.5-8.4	—	—	0.0-2.0	—
	48-80	16-28	—	6.6-8.4	—	—	0.0-2.0	—
Ow:								
Oil-Waste Land	—	—	—	—	—	—	—	—

Table 21.—Chemical Properties of the Soils—Continued

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	In	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
PaA:								
Patoutville	0-11	5.0-15	—	4.5-7.8	—	—	0.0-2.0	—
	11-28	10-30	—	5.1-7.3	—	—	0.0-2.0	—
	28-68	10-30	—	6.1-8.4	—	—	0.0-2.0	—
	68-80	12-26	—	6.1-8.4	—	—	0.0-2.0	—
PaB:								
Patoutville	0-6	5.0-15	—	4.5-7.8	—	—	0.0-2.0	—
	6-11	10-30	—	5.1-7.3	—	—	0.0-2.0	—
	11-60	10-30	—	6.1-8.4	—	—	0.0-2.0	—
PcA:								
Patoutville	0-14	5.0-15	—	4.5-7.8	—	—	0.0-2.0	—
	14-35	10-30	—	5.1-7.3	—	—	0.0-2.0	—
	35-60	10-30	—	6.1-8.4	—	—	0.0-2.0	—
	60-80	12-26	—	6.1-8.4	—	—	0.0-2.0	—
Crowley	0-16	4.0-10	—	4.5-6.0	—	—	0.0-2.0	—
	16-37	12-24	—	5.6-7.8	—	—	0.0-2.0	—
	37-80	12-26	—	6.1-8.4	—	—	0.0-2.0	—
W:								
Water	—	—	—	—	—	—	—	—

Table 22.—Water Features

(Depths of layers are in feet. See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
AdB:									
Acadiana	D								
		January	1.0-1.5	1.5-3.0	—	—	—	—	—
		February	1.0-1.5	1.5-3.0	—	—	—	—	—
		March	1.0-1.5	1.5-3.0	—	—	—	—	—
		April	1.0-1.5	1.5-3.0	—	—	—	—	—
		December	1.0-1.5	1.5-3.0	—	—	—	—	—
ATB:									
Aquents	—								
		January	—	—	—	—	—	Long	Frequent
		February	—	—	—	—	—	Long	Frequent
		March	—	—	—	—	—	Long	Frequent
		April	—	—	—	—	—	Long	Frequent
		May	—	—	—	—	—	Long	Frequent
		June	—	—	—	—	—	Long	Frequent
		July	—	—	—	—	—	Long	Frequent
		August	—	—	—	—	—	Long	Frequent
		September	—	—	—	—	—	Long	Frequent
		October	—	—	—	—	—	Long	Frequent
		November	—	—	—	—	—	Long	Frequent
		December	—	—	—	—	—	Long	Frequent
BAA:									
Barbary	D								
		January	0.0	>6.0	0.0-3.0	Very long	Frequent	Very long	Frequent
		February	0.0	>6.0	0.0-3.0	Very long	Frequent	Very long	Frequent
		March	0.0	>6.0	0.0-3.0	Very long	Frequent	Very long	Frequent
		April	0.0	>6.0	0.0-3.0	Very long	Frequent	Very long	Frequent
		May	0.0	>6.0	0.0-3.0	Very long	Frequent	Very long	Frequent
		June	0.0	>6.0	0.0-3.0	Very long	Frequent	Very long	Frequent
		July	0.0	>6.0	0.0-3.0	Very long	Frequent	Very long	Frequent
		August	0.0	>6.0	0.0-3.0	Very long	Frequent	Very long	Frequent
		September	0.0	>6.0	0.0-3.0	Very long	Frequent	Very long	Frequent
		October	0.0	>6.0	0.0-3.0	Very long	Frequent	Very long	Frequent
		November	0.0	>6.0	0.0-3.0	Very long	Frequent	Very long	Frequent
		December	0.0	>6.0	0.0-3.0	Very long	Frequent	Very long	Frequent
BSA:									
Basile	D								
		January	0.0-1.5	>6.0	—	—	—	Long	Frequent
		February	0.0-1.5	>6.0	—	—	—	Long	Frequent
		March	0.0-1.5	>6.0	—	—	—	Long	Frequent
		April	0.0-1.5	>6.0	—	—	—	Long	Frequent
		May	0.0-1.5	>6.0	—	—	—	Long	Frequent
		June	—	—	—	—	—	Long	Frequent
		July	—	—	—	—	—	Long	Frequent
		August	—	—	—	—	—	Long	Frequent
		September	—	—	—	—	—	Long	Frequent
		October	—	—	—	—	—	Long	Frequent
		November	—	—	—	—	—	Long	Frequent
		December	0.0-1.5	>6.0	—	—	—	Long	Frequent

Table 22.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Month	Water table		Ponding			Flooding	
			Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Brule	B								
		January	2.5-4.0	>6.0	—	—	—	Long	Frequent
		February	2.5-4.0	>6.0	—	—	—	Long	Frequent
		March	2.5-4.0	>6.0	—	—	—	Long	Frequent
		April	2.5-4.0	>6.0	—	—	—	Long	Frequent
		May	—	—	—	—	—	Long	Frequent
		June	—	—	—	—	—	Long	Frequent
		July	—	—	—	—	—	Long	Frequent
		August	—	—	—	—	—	Long	Frequent
		September	—	—	—	—	—	Long	Frequent
		October	—	—	—	—	—	Long	Frequent
		November	—	—	—	—	—	Long	Frequent
		December	2.5-4.0	>6.0	—	—	—	Long	Frequent
CrA:									
Crowley	D								
		January	0.5-1.5	0.8-2.0	—	—	—	—	—
		February	0.5-1.5	0.8-2.0	—	—	—	—	—
		March	0.5-1.5	0.8-2.0	—	—	—	—	—
		April	0.5-1.5	0.8-2.0	—	—	—	—	—
		December	0.5-1.5	0.8-2.0	—	—	—	—	—
CrB:									
Crowley	D								
		January	0.5-1.5	0.8-2.0	—	—	—	—	—
		February	0.5-1.5	0.8-2.0	—	—	—	—	—
		March	0.5-1.5	0.8-2.0	—	—	—	—	—
		April	0.5-1.5	0.8-2.0	—	—	—	—	—
		December	0.5-1.5	0.8-2.0	—	—	—	—	—
CwA:									
Crowley	D								
		January	0.5-1.5	0.8-2.0	—	—	—	—	—
		February	0.5-1.5	0.8-2.0	—	—	—	—	—
		March	0.5-1.5	0.8-2.0	—	—	—	—	—
		April	0.5-1.5	0.8-2.0	—	—	—	—	—
		December	0.5-1.5	0.8-2.0	—	—	—	—	—
Midland	D								
		January	0.5-2.0	>6.0	—	—	—	Brief	Rare
		February	0.5-2.0	>6.0	—	—	—	Brief	Rare
		March	0.5-2.0	>6.0	—	—	—	Brief	Rare
		April	0.5-2.0	>6.0	—	—	—	Brief	Rare
		May	—	—	—	—	—	Brief	Rare
		June	—	—	—	—	—	Brief	Rare
		July	—	—	—	—	—	Brief	Rare
		August	—	—	—	—	—	Brief	Rare
		September	—	—	—	—	—	Brief	Rare
		October	—	—	—	—	—	Brief	Rare
		November	—	—	—	—	—	Brief	Rare
		December	0.5-2.0	>6.0	—	—	—	Brief	Rare
DuB:									
Duson	C								
		January	1.5-3.0	>6.0	—	—	—	—	—
		February	1.5-3.0	>6.0	—	—	—	—	—
		March	1.5-3.0	>6.0	—	—	—	—	—
		April	1.5-3.0	>6.0	—	—	—	—	—
		December	1.5-3.0	>6.0	—	—	—	—	—

Table 22.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
FoA:									
Frost	D								
		January	0.0-1.5	>6.0	—	—	—	Brief	Rare
		February	0.0-1.5	>6.0	—	—	—	Brief	Rare
		March	0.0-1.5	>6.0	—	—	—	Brief	Rare
		April	0.0-1.5	>6.0	—	—	—	Brief	Rare
		May	—	—	—	—	—	Brief	Rare
		June	—	—	—	—	—	Brief	Rare
		July	—	—	—	—	—	Brief	Rare
		August	—	—	—	—	—	Brief	Rare
		September	—	—	—	—	—	Brief	Rare
		October	—	—	—	—	—	Brief	Rare
		November	—	—	—	—	—	Brief	Rare
		December	0.0-1.5	>6.0	—	—	—	Brief	Rare
FrA:									
Frost	D								
		January	0.0-1.5	>6.0	—	—	—	Brief	Occasional
		February	0.0-1.5	>6.0	—	—	—	Brief	Occasional
		March	0.0-1.5	>6.0	—	—	—	Brief	Occasional
		April	0.0-1.5	>6.0	—	—	—	Brief	Occasional
		May	—	—	—	—	—	Brief	Occasional
		June	—	—	—	—	—	Brief	Occasional
		July	—	—	—	—	—	Brief	Occasional
		August	—	—	—	—	—	Brief	Occasional
		September	—	—	—	—	—	Brief	Occasional
		October	—	—	—	—	—	Brief	Occasional
		November	—	—	—	—	—	Brief	Occasional
		December	0.0-1.5	>6.0	—	—	—	Brief	Occasional
IoD:									
Iota	D	All months	—	—	—	—	—	—	—
JeA:									
Jeanerette	D								
		January	1.0-2.5	>6.0	—	—	—	Brief	Rare
		February	1.0-2.5	>6.0	—	—	—	Brief	Rare
		March	1.0-2.5	>6.0	—	—	—	Brief	Rare
		April	1.0-2.5	>6.0	—	—	—	Brief	Rare
		May	—	—	—	—	—	Brief	Rare
		June	—	—	—	—	—	Brief	Rare
		July	—	—	—	—	—	Brief	Rare
		August	—	—	—	—	—	Brief	Rare
		September	—	—	—	—	—	Brief	Rare
		October	—	—	—	—	—	Brief	Rare
		November	—	—	—	—	—	Brief	Rare
		December	1.0-2.5	>6.0	—	—	—	Brief	Rare
JuA:									
Judice	D								
		January	0.0-1.5	>6.0	—	—	—	Brief	Rare
		February	0.0-1.5	>6.0	—	—	—	Brief	Rare
		March	0.0-1.5	>6.0	—	—	—	Brief	Rare
		April	0.0-1.5	>6.0	—	—	—	Brief	Rare
		May	—	—	—	—	—	Brief	Rare
		June	—	—	—	—	—	Brief	Rare
		July	—	—	—	—	—	Brief	Rare
		August	—	—	—	—	—	Brief	Rare
		September	—	—	—	—	—	Brief	Rare
		October	—	—	—	—	—	Brief	Rare
		November	—	—	—	—	—	Brief	Rare
		December	0.0-1.5	>6.0	—	—	—	Brief	Rare

Table 22.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
KpA:									
Kaplan	D								
		January	1.5-2.5	>6.0	—	—	—	—	—
		February	1.5-2.5	>6.0	—	—	—	—	—
		March	1.5-2.5	>6.0	—	—	—	—	—
		April	1.5-2.5	>6.0	—	—	—	—	—
		December	1.5-2.5	>6.0	—	—	—	—	—
KpB:									
Kaplan	D								
		January	1.5-2.5	>6.0	—	—	—	—	—
		February	1.5-2.5	>6.0	—	—	—	—	—
		March	1.5-2.5	>6.0	—	—	—	—	—
		April	1.5-2.5	>6.0	—	—	—	—	—
		December	1.5-2.5	>6.0	—	—	—	—	—
KvA:									
Kinder	C								
		January	0.0-2.0	1.0-3.0	—	—	—	—	—
		February	0.0-2.0	1.0-3.0	—	—	—	—	—
		March	0.0-2.0	1.0-3.0	—	—	—	—	—
		April	0.0-2.0	1.0-3.0	—	—	—	—	—
		December	0.0-2.0	1.0-3.0	—	—	—	—	—
Vidrine	D								
		January	1.0-2.0	1.2-3.0	—	—	—	—	—
		February	1.0-2.0	1.2-3.0	—	—	—	—	—
		March	1.0-2.0	1.2-3.0	—	—	—	—	—
		April	1.0-2.0	1.2-3.0	—	—	—	—	—
		December	1.0-2.0	1.2-3.0	—	—	—	—	—
M-W:									
Miscellaneous Water	—	All months	—	—	—	—	—	—	—
MaB:									
Mamou	C								
		January	0.5-1.0	0.7-1.5	—	—	—	—	—
		February	0.5-1.0	0.7-1.5	—	—	—	—	—
		March	0.5-1.0	0.7-1.5	—	—	—	—	—
		April	0.5-1.0	0.7-1.5	—	—	—	—	—
		December	0.5-1.0	0.7-1.5	—	—	—	—	—
MbC:									
Memphis	B	All months	—	—	—	—	—	—	—
Midland	D								
		January	0.5-2.0	>6.0	—	—	—	Brief	Rare
		February	0.5-2.0	>6.0	—	—	—	Brief	Rare
		March	0.5-2.0	>6.0	—	—	—	Brief	Rare
		April	0.5-2.0	>6.0	—	—	—	Brief	Rare
		May	—	—	—	—	—	Brief	Rare
		June	—	—	—	—	—	Brief	Rare
		July	—	—	—	—	—	Brief	Rare
		August	—	—	—	—	—	Brief	Rare
		September	—	—	—	—	—	Brief	Rare
		October	—	—	—	—	—	Brief	Rare
		November	—	—	—	—	—	Brief	Rare
		December	0.5-2.0	>6.0	—	—	—	Brief	Rare

Table 22.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
MnA:									
Midland	D								
		January	0.5-2.0	>6.0	—	—	—	Brief	Occasional
		February	0.5-2.0	>6.0	—	—	—	Brief	Occasional
		March	0.5-2.0	>6.0	—	—	—	Brief	Occasional
		April	0.5-2.0	>6.0	—	—	—	Brief	Occasional
		May	—	—	—	—	—	Brief	Occasional
		June	—	—	—	—	—	Brief	Occasional
		July	—	—	—	—	—	Brief	Occasional
		August	—	—	—	—	—	Brief	Occasional
		September	—	—	—	—	—	Brief	Occasional
		October	—	—	—	—	—	Brief	Occasional
		November	—	—	—	—	—	Brief	Occasional
		December	0.5-2.0	>6.0	—	—	—	Brief	Occasional
MtA:									
Mowata	D								
		January	0.0-2.0	>6.0	—	—	—	Brief	Rare
		February	0.0-2.0	>6.0	—	—	—	Brief	Rare
		March	0.0-2.0	>6.0	—	—	—	Brief	Rare
		April	0.0-2.0	>6.0	—	—	—	Brief	Rare
		May	—	—	—	—	—	Brief	Rare
		June	—	—	—	—	—	Brief	Rare
		July	—	—	—	—	—	Brief	Rare
		August	—	—	—	—	—	Brief	Rare
		September	—	—	—	—	—	Brief	Rare
		October	—	—	—	—	—	Brief	Rare
		November	—	—	—	—	—	Brief	Rare
		December	0.0-2.0	>6.0	—	—	—	Brief	Rare
MwA:									
Mowata	D								
		January	0.0-2.0	>6.0	—	—	—	Brief	Occasional
		February	0.0-2.0	>6.0	—	—	—	Brief	Occasional
		March	0.0-2.0	>6.0	—	—	—	Brief	Occasional
		April	0.0-2.0	>6.0	—	—	—	Brief	Occasional
		May	—	—	—	—	—	Brief	Occasional
		June	—	—	—	—	—	Brief	Occasional
		July	—	—	—	—	—	Brief	Occasional
		August	—	—	—	—	—	Brief	Occasional
		September	—	—	—	—	—	Brief	Occasional
		October	—	—	—	—	—	Brief	Occasional
		November	—	—	—	—	—	Brief	Occasional
		December	0.0-2.0	>6.0	—	—	—	Brief	Occasional
Ow:									
Oil-Waste Land	—	All months	—	—	—	—	—	—	—
PaA:									
Patoutville	C								
		January	0.5-3.0	1.0-3.5	—	—	—	—	—
		February	0.5-3.0	1.0-3.5	—	—	—	—	—
		March	0.5-3.0	1.0-3.5	—	—	—	—	—
		April	0.5-3.0	1.0-3.5	—	—	—	—	—
		May	0.5-3.0	1.0-3.5	—	—	—	—	—
		December	0.5-3.0	1.0-3.5	—	—	—	—	—

Table 22.—Water Features—Continued

Map symbol and soil name	Hydro-logic group	Month	Water table: Upper limit	Water table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
PaB:									
Patoutville	C								
		January	0.5-3.0	1.0-3.5	—	—	—	—	—
		February	0.5-3.0	1.0-3.5	—	—	—	—	—
		March	0.5-3.0	1.0-3.5	—	—	—	—	—
		April	0.5-3.0	1.0-3.5	—	—	—	—	—
		May	0.5-3.0	1.0-3.5	—	—	—	—	—
		December	0.5-3.0	1.0-3.5	—	—	—	—	—
PcA:									
Patoutville	C								
		January	0.5-3.0	1.0-3.5	—	—	—	—	—
		February	0.5-3.0	1.0-3.5	—	—	—	—	—
		March	0.5-3.0	1.0-3.5	—	—	—	—	—
		April	0.5-3.0	1.0-3.5	—	—	—	—	—
		May	0.5-3.0	1.0-3.5	—	—	—	—	—
		December	0.5-3.0	1.0-3.5	—	—	—	—	—
Crowley	D								
		January	0.5-1.5	0.8-2.0	—	—	—	—	—
		February	0.5-1.5	0.8-2.0	—	—	—	—	—
		March	0.5-1.5	0.8-2.0	—	—	—	—	—
		April	0.5-1.5	0.8-2.0	—	—	—	—	—
		December	0.5-1.5	0.8-2.0	—	—	—	—	—
W:									
Water	—	All months	—	—	—	—	—	—	—

Table 23.—Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Subsidence		Risk of corrosion	
	Initial	Total	Uncoated steel	Concrete
	In	In		
AdB:				
Acadiana	—	—	High	High
ATB:				
Aquents	—	—	—	—
BAA:				
Barbary	3-12	6-15	High	Moderate
BSA:				
Basile	—	—	High	Moderate
Brule	—	—	Moderate	Moderate
CrA:				
Crowley	—	—	High	Moderate
CrB:				
Crowley	—	—	High	Moderate
CwA:				
Crowley	—	—	High	Moderate
Midland	—	—	High	Moderate
DuB:				
Duson	—	—	High	Moderate
FoA:				
Frost	—	—	High	Moderate
FrA:				
Frost	—	—	High	Moderate
IoD:				
Iota	—	—	High	Moderate
JeA:				
Jeanerette	—	—	High	Moderate
JuA:				
Judice	—	—	High	Moderate
KpA:				
Kaplan	—	—	High	Low
KpB:				
Kaplan	—	—	High	Low
KvA:				
Kinder	—	—	High	High
Vidrine	—	—	High	High
M-W:				
Miscellaneous Water	—	—	—	—
MaB:				
Mamou	—	—	High	Moderate

Table 23.—Soil Features—Continued

Map symbol and soil name	Subsidence		Risk of corrosion	
	Initial	Total	Uncoated steel	Concrete
	In	In		
MbC:				
Memphis	—	—	Moderate	Moderate
MdA:				
Midland	—	—	High	Moderate
MnA:				
Midland	—	—	High	Moderate
MtA:				
Mowata	—	—	High	Moderate
MwA:				
Mowata	—	—	High	Moderate
Ow:				
Oil-Waste Land	—	—	—	—
PaA:				
Patoutville	—	—	High	Moderate
PaB:				
Patoutville	—	—	High	Moderate
PcA:				
Patoutville	—	—	High	Moderate
Crowley	—	—	High	Moderate
W:				
Water	—	—	—	—

Table 24.—Fertility Analyses of Selected Soils

(Dashes indicate that analyses were not made; TR = Trace)

Soil name and sample number	Horizon	Depth	Organic matter content	pH 1:1 H2O	Extractable phosphorous	Ca	Exchangeable cations: Mg	K	Na	AL	H	Total acidity	Cation-exchange capacity (sum)	Base saturation (sum)	Saturation: Sum of cation-exchange capacity Na	Effective cation-exchange capacity Al	Ca/Mg
		In	Pct		Ppm	Milliequivalents/100 grams of soil								Pct	Pct	Pct	
Barbary (1)(17)(18)	A	0-8	6.63	5.0	134	17.20	7.80	0.70	1.50	1.00	1.00	22.80	50.00	54.4%	3.0%	3.4%	2.21
S95LA-001-3	Cg1	8-36	6.92	4.8	91	14.90	8.70	0.50	1.40	1.00	1.20	22.20	47.70	53.5%	2.9%	3.6%	1.71
	Cg2	36-80	6.87	4.8	122	14.30	8.00	0.50	1.10	1.00	1.60	22.50	46.40	51.5%	2.4%	3.8%	1.79
Brule (16)(17)	A	0-8	2.26	4.6	46	2.48	1.15	0.17	0.10	4.68	0.90	16.65	20.55	19.0%	0.5%	49.4%	2.16
S96LA-001-4	Bw1	8-25	0.47	4.4	17	0.59	0.45	0.16	0.08	6.48	1.35	18.56	19.84	6.5%	0.4%	71.1%	1.31
	Bw2	25-34	0.26	4.4	12	0.46	0.54	0.15	0.10	6.39	1.44	9.18	10.43	12.0%	1.0%	70.4%	0.85
	Bw3	34-45	0.20	4.6	12	0.40	0.72	0.16	0.16	8.37	1.44	19.52	20.96	6.9%	0.8%	74.4%	0.56
	2Bt/E	45-53	0.12	4.8	8	0.28	1.11	0.21	0.30	8.64	1.44	18.24	20.14	9.4%	1.5%	72.1%	0.25
	2Btg1	53-66	0.00	4.7	8	0.34	1.52	0.22	0.42	11.34	0.72	21.44	23.94	10.4%	1.8%	77.9%	0.22
	2Btg2	66-80	0.00	4.8	10	1.20	2.43	0.19	0.56	9.18	0.54	18.56	22.94	19.1%	2.4%	65.1%	0.49
Crowley (3)(17)	Ap1	0-4	1.47	5.6	42	4.10	1.20	0.20	0.20	0.00	0.40	2.40	8.10	70.4%	2.5%	0.0%	3.42
S94LA-001-2	Ap2	4-8	0.68	6.9	8	5.60	1.60	0.10	0.40	--	--	0.60	8.30	92.8%	4.8%	0.0%	3.50
	Eg	8-16	0.64	7.1	7	5.70	2.10	0.10	0.60	--	--	1.80	10.30	82.5%	5.8%	0.0%	2.71
	Btg1	16-29	0.85	5.4	10	8.10	5.30	0.30	1.30	0.00	1.00	6.00	21.00	71.4%	6.2%	0.0%	1.53
	Btg2	29-48	0.23	6.3	9	8.00	5.40	0.30	1.20	--	--	1.80	16.70	89.2%	7.2%	0.0%	1.48
	BCg	48-60	0.07	6.4	6	6.50	4.40	0.20	1.00	--	--	0.60	12.70	95.3%	7.9%	0.0%	1.48
Crowley (4)(17)	Ap	0-5	1.66	5.6	21	3.80	1.10	0.20	0.00	0.00	0.40	4.80	9.90	51.5%	0.0%	0.0%	3.45
S94LA-001-1	Eg1	5-10	0.95	6.5	9	4.60	1.30	0.10	0.20	--	--	3.00	9.20	67.4%	2.2%	0.0%	3.54
	Eg2	10-15	0.60	6.9	6	4.00	1.40	0.10	0.30	--	--	2.40	8.20	70.7%	3.7%	0.0%	2.86
	Btg1	15-28	0.87	5.7	8	6.30	5.50	0.30	0.90	0.00	0.60	5.40	18.40	70.7%	4.9%	0.0%	1.15
	Btg2	28-44	0.29	6.0	5	4.20	3.90	0.20	0.70	--	--	3.00	12.00	75.0%	5.8%	0.0%	1.08
	BCg	44-60	0.09	6.1	6	3.40	2.60	0.10	0.60	--	--	4.80	11.50	58.3%	5.2%	0.0%	1.31
Crowley (6)(17)	AP	0-6	1.36	6.5	17	6.20	1.60	0.10	0.10	--	--	3.00	11.00	72.7%	0.9%	0.0%	3.88
S94LA-001-8	Eg	6-16	0.60	7.1	7	5.90	1.50	0.10	0.20	--	--	2.40	10.10	76.2%	2.0%	0.0%	3.93
	Btg1	16-27	0.67	6.4	11	9.30	5.90	0.30	0.80	--	--	6.00	22.30	73.1%	3.6%	0.0%	1.58
	Btg2	27-37	0.45	6.1	11	7.30	5.40	0.30	0.80	--	--	6.60	20.40	67.6%	3.9%	0.0%	1.35
	BCg	37-60	0.19	6.2	9	6.50	4.90	0.30	0.80	--	--	6.00	18.50	67.6%	4.3%	0.0%	1.33
Crowley (5)(17)	Ap	0-7	3.73	5.3	14	5.48	1.88	0.10	0.22	0.27	0.54	8.90	16.58	46.3%	1.3%	3.2%	2.91
S96LA-001-7	Eg	7-18	0.84	5.0	10	2.48	1.36	0.10	0.23	2.52	0.63	9.47	13.64	30.6%	1.7%	34.4%	1.82
	Btg1	18-30	1.97	5.8	14	8.91	6.94	0.30	1.86	1.08	0.63	13.20	31.21	57.7%	6.0%	5.5%	1.28
	Btg2	30-43	0.79	5.8	15	11.07	9.62	0.38	2.93	0.09	0.27	10.33	34.33	69.9%	8.5%	0.4%	1.15
	Btg3	43-56	0.29	7.0	15	13.04	11.19	0.30	3.79	0.00	0.18	6.03	34.35	82.4%	11.0%	0.0%	1.17
	Btg4	56-64	0.10	7.4	16	13.12	11.09	0.24	4.06	0.00	0.18	4.88	33.39	85.4%	12.2%	0.0%	1.18
	BCk	64-80	0.00	7.9	20	27.41	11.92	0.28	4.56	0.00	0.36	4.59	48.76	90.6%	9.4%	0.0%	2.30

See footnotes at end of table

Table 24.—Fertility Analyses of Selected Soils—Continued

Soil name and sample number	Horizon	Depth	Organic matter content	pH 1:1 H2O	Extractable phosphorous	Ca	Mg	K	Na	AL	H	Total acidity	Cation-exchange capacity (sum)	Base saturation (sum)	Saturation: Sum of cation-exchange capacity Na	Saturation: Effective cation-exchange capacity Al	Ca/Mg
		In	Pct		Ppm	Milliequivalents/100 grams of soil								Pct	Pct	Pct	
Crowley (2)(17)	Ap	0-7	2.76	5.1	117	3.80	0.80	0.30	0.10	0.00	0.60	6.00	11.00	45.5%	0.9%	0.0%	4.75
S95LA-001-4	Eg	7-14	1.03	5.3	10	4.10	1.30	0.20	0.10	0.00	0.60	5.40	11.10	51.4%	0.9%	0.0%	3.15
	Btg1	14-25	1.45	5.3	9	9.20	5.90	0.30	0.40	0.00	0.80	8.40	24.20	65.3%	1.7%	0.0%	1.56
	Btg2	25-33	0.67	6.0	12	10.70	7.00	0.30	0.50	0.00	0.40	5.40	23.90	77.4%	2.1%	0.0%	1.53
	Btg3	33-40	0.38	6.4	10	10.50	6.80	0.20	0.60	0.00	0.40	3.60	21.70	83.4%	2.8%	0.0%	1.54
	Btg4	40-50	0.12	6.9	10	9.00	5.60	0.10	0.70	0.00	0.20	1.80	17.20	89.5%	4.1%	0.0%	1.61
	Btssg	50-57	0.05	7.2	11	9.00	5.40	0.10	0.70	0.00	0.20	2.40	17.60	86.4%	4.0%	0.0%	1.67
	Bssg	57-69	0.09	7.3	13	13.50	7.70	0.20	1.00	0.00	0.20	3.00	25.40	88.2%	3.9%	0.0%	1.75
	Bkssg	69-80	0.12	7.5	10	13.70	7.60	0.30	0.90	0.00	0.20	1.80	24.30	92.6%	3.7%	0.0%	1.80
Duson (2)(17)	Ap	0-6	3.68	5.1	79	4.90	1.60	0.30	0.10	0.00	1.00	9.60	16.50	41.8%	0.6%	0.0%	3.06
S95LA-001-5	E	6-9	2.11	5.2	57	5.10	2.20	0.20	0.10	0.00	1.00	10.20	17.80	42.7%	0.6%	0.0%	2.32
	Bt1	9-21	1.00	5.8	15	5.40	3.90	3.00	0.40	0.60	0.60	7.20	19.90	63.8%	2.0%	4.3%	1.38
	Bt2	21-27	0.51	6.6	10	7.20	5.70	0.30	0.80	--	--	4.80	18.80	74.5%	4.3%	0.0%	1.26
	Btg	27-45	0.32	6.8	12	8.30	6.10	0.20	1.00	--	--	4.20	19.80	78.8%	5.1%	0.0%	1.36
	2BCg	45-80	0.04	6.7	9	9.80	6.30	0.20	1.30	--	--	1.20	18.80	93.6%	6.9%	0.0%	1.56
Duson (7)(17)	Ap1	0-3	2.18	5.7	24	4.20	1.70	0.50	0.10	0.00	0.60	4.80	11.30	57.5%	0.9%	0.0%	2.47
S94LA-001-5	Ap2	3-5	1.51	5.6	20	4.80	2.00	0.30	0.10	0.00	0.60	6.00	13.20	54.5%	0.8%	0.0%	2.40
	Bt	5-15	0.75	5.8	11	6.50	5.40	0.30	0.40	0.00	0.40	5.90	18.50	68.1%	2.2%	0.0%	1.20
	Btg1	15-27	0.35	6.2	10	6.20	6.30	0.30	0.70	--	--	5.90	19.40	69.6%	3.6%	0.0%	0.98
	Btg2	27-51	0.21	6.2	9	6.30	5.80	0.30	1.00	--	--	4.20	17.60	76.1%	5.7%	0.0%	1.09
	2Bt	51-65	0.11	6.2	8	5.50	4.10	0.20	1.00	--	--	2.40	13.20	81.8%	7.6%	0.0%	1.34
	2BC	65-84	0.11	6.3	11	10.10	6.00	0.30	1.30	--	--	6.60	24.30	72.8%	5.3%	0.0%	1.68
Duson (8)(17)	Ap	0-7	1.47	6.4	26	4.40	2.20	0.30	0.20	0.00	0.20	6.60	13.70	51.8%	1.5%	0.0%	2.00
S94LA-001-12	Bt1	7-17	0.68	5.3	20	9.80	6.00	0.40	0.90	0.00	1.10	9.00	26.10	65.5%	3.4%	0.0%	1.63
	Bt2	17-28	0.33	6.5	13	9.40	5.90	0.40	1.30	0.00	0.20	6.00	23.00	73.9%	5.7%	0.0%	1.59
	Btg	28-44	0.24	6.5	17	9.10	5.70	0.50	1.50	0.00	0.20	5.40	22.20	75.7%	6.8%	0.0%	1.60
	2Btg	44-65	0.53	6.6	18	9.60	6.00	0.40	1.20	0.00	0.20	6.00	23.20	74.1%	5.2%	0.0%	1.60
Frost (9)(17)	Ap	0-3	2.22	6.2	86	5.90	2.40	0.20	0.40	--	--	10.80	19.70	45.2%	2.0%	0.0%	2.46
S94LA-001-10	Eg	3-28	1.41	6.6	74	6.80	2.70	0.10	0.50	--	--	4.20	14.30	70.6%	3.5%	0.0%	2.52
	Btg/E	28-33	0.92	5.7	16	8.50	4.20	0.20	1.00	0.00	1.00	6.20	20.10	69.2%	5.0%	0.0%	2.02
	Btg	33-44	0.44	4.9	13	10.50	4.90	0.40	1.00	0.00	1.20	7.00	23.80	70.6%	4.2%	0.0%	2.14
	BCg	44-60	0.29	5.2	15	13.60	6.40	0.40	1.00	0.00	1.20	5.90	27.30	78.4%	3.7%	0.0%	2.13
Frost (10)(17)	Ap	0-6	1.87	5.7	35	5.80	1.90	0.10	0.30	0.00	0.60	7.20	15.30	52.9%	2.0%	0.0%	3.05
S94LA-001-7	Eg	6-15	0.86	5.4	9	5.00	2.00	0.10	0.50	0.00	1.00	3.60	11.20	67.9%	4.5%	0.0%	2.50
	Btg/E	15-20	0.89	5.0	9	6.30	3.20	0.20	0.70	0.00	1.00	6.00	16.40	63.4%	4.3%	0.0%	1.97
	Btg1	20-30	0.55	5.7	10	10.00	5.70	0.30	0.90	0.00	0.40	5.40	22.30	75.8%	4.0%	0.0%	1.75
	Btg2	30-43	0.52	5.2	9	10.30	5.80	0.30	1.00	0.00	0.60	5.00	22.40	77.7%	4.5%	0.0%	1.78
	BCg	43-60	0.33	6.1	11	10.10	5.80	0.30	0.80	0.00	0.40	5.40	22.40	75.9%	3.6%	0.0%	1.74

See footnotes at end of table

Table 24.—Fertility Analyses of Selected Soils—Continued

Soil name and sample number	Horizon	Depth	Organic matter content	pH 1:1 H2O	Extractable phosphorous	Exchangeable cations: Ca	Mg	K	Na	AL	H	Total acidity	Cation-exchange capacity (sum)	Base saturation (sum)	Saturation: Sum of cation-exchange capacity Na	Saturation: Effective cation-exchange capacity Al	Ca/Mg
		In	Pct		Ppm	Milliequivalents/100 grams of soil								Pct	Pct	Pct	
Iota (2)(17)	A	0-3	5.92	5.2	18	3.70	1.80	0.20	0.00	0.00	1.00	7.80	13.50	42.2%	0.0%	0.0%	2.06
S94LA-001-4	E	3-7	3.13	4.9	14	1.90	1.20	0.10	0.00	2.60	1.60	6.00	9.20	34.8%	0.0%	35.1%	1.58
	Btg1	7-16	0.45	4.5	9	3.20	5.70	0.50	0.40	13.20	4.20	10.20	20.00	49.0%	2.0%	48.5%	0.56
	Btss	16-28	0.15	4.6	10	3.10	7.30	0.50	0.80	16.40	3.00	10.60	22.30	52.5%	3.6%	52.7%	0.42
	BC	28-43	0.08	4.7	10	3.50	6.80	0.30	1.00	6.60	3.60	4.80	16.40	70.7%	6.1%	30.3%	0.51
	C1	43-60	0.10	5.3	93	9.50	14.00	0.50	2.80	0.00	1.40	3.00	29.80	89.9%	9.4%	0.0%	0.68
	C2	60-80	0.11	6.6	86	8.80	9.80	0.30	2.60	--	--	0.60	22.10	97.3%	11.8%	0.0%	0.90
Judice (1)(17)	Ap	0-5	2.86	5.7	51	16.60	6.90	0.30	0.30	0.20	0.00	12.60	36.70	65.7%	0.8%	0.8%	2.41
S94LA-001-11	Bw	5-23	1.38	6.0	33	18.00	8.10	0.40	0.40	--	--	21.00	47.90	56.2%	0.8%	0.0%	2.22
	Bssg1	23-33	0.65	6.6	30	20.30	10.10	0.40	0.50	--	--	11.40	42.70	73.3%	1.2%	0.0%	2.01
	Bssg2	33-80	0.32	6.9	36	20.60	10.60	0.30	0.50	--	--	10.40	42.40	75.5%	1.2%	0.0%	1.94
Kaplan (1)(17)	Ap1	0-4	2.54	6.2	18	5.90	2.70	0.20	0.40	0.00	0.20	6.00	15.20	60.5%	2.6%	0.0%	2.19
S95LA-001-2	Ap2	4-9	1.91	6.2	10	6.40	3.00	0.10	0.50	0.00	0.60	5.40	15.40	64.9%	3.2%	0.0%	2.13
	Btg1	9-16	1.40	6.1	4	7.40	3.80	0.20	1.40	0.00	0.40	6.60	19.40	66.0%	7.2%	0.0%	1.95
	Btg2	16-22	1.13	7.1	38	14.60	8.80	0.30	3.70	0.00	0.40	6.00	33.40	82.0%	11.1%	0.0%	1.66
	Btkg	22-36	0.24	7.6	44	16.80	10.60	0.30	4.80	0.00	0.40	3.60	36.10	90.0%	13.3%	0.0%	1.58
	Btkssg1	36-46	0.14	7.9	42	19.10	8.30	0.20	3.50	0.00	0.40	3.30	34.40	90.4%	10.2%	0.0%	2.30
	Btkssg2	46-53	0.03	7.7	33	18.60	10.90	0.40	3.70	0.00	0.20	3.00	36.60	91.8%	10.1%	0.0%	1.71
	Btkssg3	53-85	0.00	7.7	44	17.10	9.80	0.40	2.70	0.00	0.40	2.40	32.40	92.6%	8.3%	0.0%	1.74
Kaplan (11)(17)	Ap	0-10	1.14	5.6	51	4.47	2.26	0.09	0.47	0.00	0.36	4.88	12.17	59.9%	3.9%	0.0%	1.98
S96LA-001-6	Btg1	10-15	0.77	7.1	19	6.92	10.68	0.24	1.65	0.00	0.18	4.88	24.37	80.0%	6.8%	0.0%	0.65
	Btg2	15-20	0.77	6.8	18	9.90	9.95	0.30	1.98	0.00	0.27	7.18	29.31	75.5%	6.8%	0.0%	0.99
	Btkg1	20-33	0.43	7.4	16	9.44	9.92	0.26	1.73	0.00	0.18	4.30	25.65	83.2%	6.7%	0.0%	0.95
	Btkg2	33-43	0.09	7.5	15	8.40	8.74	0.22	0.97	0.00	0.18	2.58	20.91	87.7%	4.6%	0.0%	0.96
	Btkssg	43-63	0.00	7.6	16	8.35	9.02	0.20	0.83	0.00	0.18	2.30	20.70	88.9%	4.0%	0.0%	0.93
	BCkssg	63-80	0.00	7.6	20	10.12	10.62	0.23	0.96	0.00	0.18	2.30	24.23	90.5%	4.0%	0.0%	0.95
Mamou (1)(17)	Ap	0-7	1.35	5.0	32	3.30	1.10	0.20	0.10	0.00	0.60	7.20	11.90	39.5%	0.8%	0.0%	3.00
S95LA-001-1	E	7-14	0.96	4.8	34	7.10	3.90	0.20	0.60	0.80	1.00	7.80	19.60	60.2%	3.1%	5.9%	1.82
	Bt1	14-25	1.24	4.8	36	8.00	4.80	0.30	0.40	1.60	1.20	12.60	26.10	51.7%	1.5%	9.8%	1.67
	Bt2	25-47	0.29	5.9	32	7.70	4.60	0.40	0.30	0.00	0.20	3.60	16.60	78.3%	1.8%	0.0%	1.67
	C1	47-61	0.03	6.5	42	3.80	1.80	0.20	0.20	--	--	3.00	9.00	66.7%	2.2%	0.0%	2.11
	C2	61-80	0.04	6.5	46	13.00	7.10	0.40	1.20	--	--	3.60	25.30	85.8%	4.7%	0.0%	1.83
Midland (2)(17)	Ap	0-9	1.87	5.7	50	6.50	3.40	0.20	0.60	0.00	0.20	6.60	17.30	61.8%	3.5%	0.0%	1.91
S94LA-001-9	Btg	9-19	1.48	5.7	14	7.50	5.50	0.20	0.90	0.00	1.00	7.20	21.30	66.2%	4.2%	0.0%	1.36
	Btkg	19-32	0.66	6.7	12	10.50	8.40	0.30	1.60	--	--	3.60	24.40	85.2%	6.6%	0.0%	1.25
	Btkssg1	32-42	0.42	7.2	12	14.90	11.80	0.40	2.20	--	--	3.50	32.80	89.3%	6.7%	0.0%	1.26
	Btkssg2	42-80	0.22	7.4	14	14.70	11.50	0.40	2.10	--	--	3.00	31.70	90.5%	6.6%	0.0%	1.28

See footnotes at end of table

Table 24.—Fertility Analyses of Selected Soils--Continued

Soil name and sample number	Horizon	Depth	Organic matter content	pH 1:1 H2O	Extractable phosphorous	Exchangeable cations: Ca	Mg	K	Na	AL	H	Total acidity	Cation-exchange capacity (sum)	Base saturation (sum)	Saturation: Sum of cation-exchange capacity Na	Saturation: Effective cation-exchange capacity Al	Ca/Mg
		In	Pct		Ppm	Milliequivalents/100 grams of soil								Pct	Pct	Pct	
Midland (12)(17)	Ap	0-7	1.23	4.8	19	7.11	3.64	0.14	0.35	1.62	0.81	7.46	18.70	60.1%	1.9%	11.9%	1.95
S96LA-001-5	Btg1	7-22	0.87	4.8	12	7.18	4.23	0.17	0.51	4.41	0.81	18.56	30.65	39.4%	1.7%	25.5%	1.70
	Btg2	22-31	0.35	5.8	14	14.28	9.42	0.28	1.17	0.00	0.36	11.52	36.67	68.6%	3.2%	0.0%	1.52
	Btg3	31-41	0.23	6.7	16	14.89	10.45	0.26	1.18	0.00	0.18	2.87	29.65	90.3%	4.0%	0.0%	1.42
	Btg4	41-48	0.05	7.3	50	17.03	12.13	0.29	1.26	0.00	0.27	3.44	34.15	89.9%	3.7%	0.0%	1.40
	Btkssg1	48-61	0.05	7.8	86	22.32	12.57	0.30	1.17	0.00	0.27	2.30	38.66	94.1%	3.0%	0.0%	1.78
	Btkssg2	61-80	0.00	8.1	67	29.68	11.95	0.31	1.03	0.00	0.27	0.00	42.97	100.0%	2.4%	0.0%	2.48
Midland (13)(17)	Ap	0-10	1.02	5.2	21	6.62	2.66	0.17	0.36	1.35	0.63	10.33	20.14	48.7%	1.8%	11.5%	2.49
S96LA-001-8	Btg1	10-22	0.60	5.1	12	7.38	3.18	0.21	0.53	3.96	0.72	14.06	25.36	44.6%	2.1%	24.8%	2.32
	Btg2	22-33	0.70	5.1	12	11.32	4.52	0.27	0.79	1.80	0.81	12.05	28.95	58.4%	2.7%	9.2%	2.50
	Btg3	33-42	0.44	5.6	18	14.52	5.35	0.29	1.01	0.81	0.54	9.47	30.64	69.1%	3.3%	3.6%	2.71
	BCssg	42-58	0.18	5.8	15	19.42	6.80	0.32	1.24	0.18	0.36	8.90	36.68	75.7%	3.4%	0.6%	2.86
	Cssg	58-80	0.00	6.6	33	21.06	6.61	0.31	1.20	0.00	0.18	6.03	35.21	82.9%	3.4%	0.0%	3.19
Mowata (14)(17)	Ap	0-6	1.19	5.9	21	7.68	3.76	0.18	0.14	0.00	0.36	6.72	18.48	63.6%	0.8%	0.0%	2.04
S96LA-001-2	Eg	6-17	0.82	5.6	11	6.01	3.08	0.14	0.21	0.00	0.45	2.30	11.74	80.4%	1.8%	0.0%	1.95
	Btg/Eg	17-26	0.73	5.5	10	8.71	5.35	0.23	0.52	0.63	0.54	6.89	21.70	68.2%	2.4%	3.9%	1.63
	Btg1	26-40	0.50	5.6	11	11.39	7.23	0.29	0.64	0.27	0.54	10.56	30.11	64.9%	2.1%	1.3%	1.58
	Btg2	40-48	0.07	6.6	10	13.28	8.42	0.29	0.61	0.00	0.36	0.57	23.17	97.5%	2.6%	0.0%	1.58
	BCg	48-62	0.00	7.1	15	13.16	8.35	0.23	0.61	0.00	0.18	5.76	28.11	79.5%	2.2%	0.0%	1.58
	Cg	62-80	0.00	7.3	16	14.07	9.12	0.24	0.61	0.00	0.18	5.44	29.48	81.5%	2.1%	0.0%	1.54
Mowata (2)(17)	Ap	0-5	1.33	5.3	69	5.20	1.60	0.20	0.20	0.00	0.60	6.60	13.80	52.2%	1.4%	0.0%	3.25
S96LA-001-1	Eg	5-14	0.95	5.1	27	4.00	2.30	0.10	0.40	0.00	0.40	6.90	13.70	49.6%	2.9%	0.0%	1.74
	Btg/Eg	14-22	0.79	4.5	13	2.60	2.70	0.10	0.70	4.40	0.60	12.60	18.70	32.6%	3.7%	39.6%	0.96
	Btg1	22-34	0.81	4.6	16	3.60	4.60	0.20	1.00	4.40	0.40	13.80	23.20	40.5%	4.3%	31.0%	0.78
	Btg2	34-45	0.39	5.6	25	8.10	11.20	0.40	1.80	0.00	0.40	7.20	28.70	74.9%	6.3%	0.0%	0.72
	Btg3	45-51	0.19	6.4	25	9.00	12.60	0.40	1.90	0.00	0.20	5.70	29.60	80.7%	6.4%	0.0%	0.71
	BCssg	51-62	0.05	7.1	59	9.50	13.10	0.40	2.00	0.00	0.20	3.60	28.60	87.4%	7.0%	0.0%	0.73
	Ckssg	62-90	0.01	7.4	79	9.50	12.60	0.40	1.90	0.00	0.20	2.40	26.80	91.0%	7.1%	0.0%	0.75
Patoutville (15)(17)	Ap	0-8	2.66	7.2	36	14.60	2.30	0.70	0.10	--	--	1.20	18.90	93.7%	0.5%	0.0%	6.35
S94LA-001-6	Eg	8-14	0.92	7.6	31	9.50	2.80	0.90	0.10	--	--	1.00	14.30	93.0%	0.7%	0.0%	3.39
	Btg1	14-23	0.67	7.8	13	9.90	7.20	1.20	1.10	--	--	2.40	21.80	89.0%	5.0%	0.0%	1.38
	Btg2	23-35	0.47	8.1	13	9.90	8.50	0.60	2.30	--	--	3.00	24.30	87.7%	9.5%	0.0%	1.16
	Bt	35-60	0.33	8.4	13	13.60	7.10	0.20	3.70	--	--	2.40	27.00	91.1%	13.7%	0.0%	1.92

See footnotes at end of table

Table 24.—Fertility Analyses of Selected Soils--Continued

Soil name and sample number	Horizon	Depth	Organic matter content	pH 1:1 H2O	Extractable phosphorous	Ca	Mg	K	Na	AL	H	Total acidity	Cation-exchange capacity (sum)	Base saturation (sum)	Saturation: Sum of cation-exchange capacity Na	Saturation: Effective cation-exchange capacity Al	Ca/Mg
		In	Pct		Ppm	Milliequivalents/100 grams of soil								Pct	Pct	Pct	
Vidrine (1)(17)	A	0-5	3.54	4.4	8	1.70	0.60	0.10	0.00	0.00	1.80	6.60	9.00	26.7%	0.0%	0.0%	2.83
S94LA-001-3	BE	l5-23	0.44	4.8	5	0.30	0.40	0.10	0.10	2.80	1.60	4.20	5.10	17.6%	2.0%	52.8%	0.75
	Bt/E	23-27	0.20	5.1	6	0.30	1.10	0.10	0.20	8.40	1.00	8.60	10.30	16.5%	1.9%	75.7%	0.27
	Btg1	27-36	0.18	5.0	9	3.30	6.30	0.40	1.70	6.40	0.30	8.40	20.10	58.2%	8.5%	34.8%	0.52
	Btg2	36-44	0.02	5.2	9	3.90	6.20	0.20	1.60	2.80	3.40	7.80	19.70	60.4%	8.1%	15.5%	0.63
	BCg1	44-60	0.04	5.3	9	4.50	6.20	0.20	1.80	0.00	2.00	3.60	16.30	77.9%	11.0%	0.0%	0.73
	BCg2	60-80	0.10	5.6	10	7.30	9.20	0.30	3.10	0.00	1.00	4.80	24.70	80.6%	12.6%	0.0%	0.79

Footnotes:

(1) Typical pedon for the series in the survey area. For location and description of the soil, see the section "Soil Series and their Morphology."

(2) Typical pedon for official series description and for the series in Acadia Parish. For location and description of the soil, see the section "Soil Series and their Morphology."

(3) This Crowley pedon is located 150 feet northeast of the Official Series Description.

(4) This Crowley pedon is the typifying pedon for the survey area map unit CrB and is located about 1.0 mile west of LA. 13; 600 feet north and 75 feet west of the southeast corner of sec. 36, T. 7 S., R. 1 W

(5) This Crowley pedon is the typifying pedon for the survey area map unit CwA and is located about 0.25 mile west of Midland, 900 feet north and 1,400 feet west of the southeast corner of Spanish Land Grant sec. 18, T. 10 S., R. 2 W

(6) This Crowley pedon is the typifying pedon for the survey area map unit PcA and is located about 1.25 miles northwest of Richard, 1,150 feet east and 400 feet south of the northwest corner of sec. 24, T. 7 S., R. 1 E.

(7) This Duson pedon is located about 1.75 miles southwest of Pitreville, 100 feet east and 150 feet south of the northwest corner of sec. 16, T. 7 S., R. 2 E.

(8) This Duson pedon is located 2.8 miles east-southeast of Higginbotham, 2,400 feet north and 365 east of the southwest corner of sec. 2, T. 8 S., R. 3 E

(9) This Frost pedon is located 1.8 miles south of Mowata, 1,800 feet north and 100 feet west of the southeast corner of sec. 7, T. 8 S., R. 1 E

(10) This Frost pedon is the typifying pedon for the survey area map unit FrA and is located about 0.25 mile southeast of Hundley, 500 feet north and 1,400 feet east of the southwest corner of sec. 15, T. 7 S., R. 1 E

(11) This Kaplan pedon is the typifying pedon for the survey area map unit KpA and is located 1.5 miles south of Ebenezer, 25 feet south and 75 feet west of the northeast corner of sec. 36, T. 10 S., R. 1 E.

(12) This Midland pedon is the typifying pedon for the survey area map unit MnA and is located 0.75 mile southeast of Crowley, 1,900 feet north and 100 feet west of the southeast corner of sec. 10, T. 10 S., R. 1 E

(13) This Midland pedon is the typifying pedon for the survey area map unit CwA and is located about 1.75 miles southwest of Midland, 2,300 feet north and 2,500 feet east of the southwest corner of sec. 56, T. 10 S., R. 2 W.

(14) This Mowata pedon is the typifying pedon for the survey area map unit MwA and is located about 4.2 miles northeast of Iota, 2,100 feet east and 200 feet south of the northwest corner of sec. 13, T. 8 S., R. 1 W

(15) This Patoutville pedon is the typifying pedon for the survey area map unit PcA and is located about 2.1 miles west-northwest of Richard, 175 feet west and 1,800 feet north of the southeast corner of sec. 22, T. 7 S., R 1 E

(16) This Brule pedon is a satellite sample for fertility data (25 feet northeast of OSD).

(17) Analyses by the Soil Characterization Laboratory, Louisiana Agricultural Experiment Station.

(18) pH - For air-dried sample

Table 25.—Physical Analyses of Selected Soils

(Dashes indicate that analyses were not made; TR = Trace)

Soil name and sample number	Horizon	Depth	Particle-size distribution: Sand: Very coarse (2-1 mm)	Sand: Coarse (1-0.5 mm)	Sand: Medium (0.5-0.25 mm)	Sand: Fine (0.25-0.1 mm)	Sand: Very fine (0.1-0.05 mm)	Sand: Total (2.0-0.05 mm)	Silt (0.05-0.002 mm)	Clay (<.002 mm)	Water content: 1/3 bar	Water content: 15 bar	Water content: Water retention	Bulk density: 1/3 bar	Bulk density: Air-dry	Bulk density: Oven-dry	Bulk density: Field moisture	COLE
		In	-----------------						-----------------		-----	(wt)	---	g/cc	g/cc	g/cc	g/cc	
Acadiana (1)(6)	Ap	0-5	0.3	0.7	0.8	5.6	30.3	37.7	53.4	8.9	23.9	7.1	0.24	1.40	--	1.44	--	0.009
S93LA-001-18	E	5-9	0.7	1.0	0.6	5.2	31.5	39.0	50.6	10.4	15.8	5.0	0.18	1.70	--	1.71	--	0.002
	Bt1	9-14	0.9	0.9	0.6	5.7	26.5	34.6	42.9	22.5	19.3	9.9	0.15	1.56	--	1.67	--	0.023
	Bt2	14-19	0.2	0.5	0.4	4.9	25.8	31.8	43.0	25.2	20.3	11.2	0.13	1.49	--	1.62	--	0.028
	Bt/E	19-24	0.1	0.2	0.2	2.7	19.5	22.7	37.3	40.0	25.3	15.2	0.14	1.42	--	1.68	--	0.058
	B't	24-32	TR	0.1	0.1	2.1	13.6	15.9	27.5	56.6	29.5	22.3	0.10	1.36	--	1.83	--	0.104
	2Btss	32-43	TR	0.1	0.2	1.9	9.6	11.8	41.0	47.2	24.0	18.5	0.08	1.50	--	1.88	--	0.078
	2Bss1	43-54	0.1	0.1	0.2	0.9	6.5	7.8	38.5	53.7	21.7	20.2	0.02	1.53	--	2.08	--	0.108
	2Bss2	54-66	0.0	0.1	0.1	0.5	2.9	3.6	37.2	59.2	25.9	22.1	0.06	1.46	--	2.03	--	0.116
	3Bssg1	66-75	0.0	TR	TR	0.2	0.9	1.1	28.2	70.7	34.2	24.8	0.12	1.31	--	1.99	--	0.150
	3Bssg2	75-80	0.0	0.0	TR	TR	0.4	0.4	29.7	69.9	29.6	26.5	0.04	1.35	--	2.03	--	0.146
Basile (2)(6)	A	0-8	0.2	0.1	0.2	1.0	6.5	0.8	69.9	22.1	21.1	10.4	0.16	1.50	--	1.56	--	0.013
S93LA-001-17	Eg1	8-14	TR	TR	0.2	1.1	6.0	7.3	77.1	15.6	21.8	6.8	0.22	1.44	--	1.50	--	0.014
	Eg2	14-23	TR	TR	0.1	0.7	6.0	6.8	75.4	17.8	23.8	7.2	0.24	1.46	--	1.51	--	0.011
	Btg/Eg1	23-29	0.1	0.1	0.1	0.6	4.9	5.8	67.8	26.4	23.6	12.2	0.17	1.49	--	1.55	--	0.013
	Btg/Eg2	29-35	0.1	0.2	0.2	0.7	5.4	6.6	64.3	29.1	26.7	15.0	0.17	1.47	--	1.78	--	0.066
	Btcg1	35-39	0.1	0.3	0.5	1.6	5.4	7.9	61.7	30.4	25.1	15.8	0.14	1.50	--	1.82	--	0.067
	Btcg2	39-47	0.1	0.1	0.2	0.6	5.5	6.5	62.5	31.0	24.0	16.3	0.12	1.53	--	1.77	--	0.050
	Btcg3	47-56	0.0	0.1	0.2	0.8	5.9	7.0	63.5	29.5	23.4	13.4	0.15	1.53	--	1.75	--	0.046
	Btkg1	56-69	0.2	0.2	0.3	0.7	6.7	8.1	63.2	28.7	22.8	14.9	0.12	1.60	--	1.80	--	0.037
	Btkg2	69-80	0.5	0.6	0.5	1.0	6.4	9.0	64.1	26.9	22.7	14.2	0.13	0.13	--	1.75	--	0.037

See footnotes at end of table

Table 25.—Physical Analyses of Selected Soils—Continued

Soil name and sample number	Horizon	Depth	Particle-size distribution: Sand: Very coarse (2-1 mm)	Coarse (1-0.5 mm)	Medium (0.5-0.25 mm)	Fine (0.25-0.1 mm)	Very fine (0.1-0.05 mm)	Total (2.0-0.05 mm)	Silt (0.05-0.002 mm)	Clay (<.002 mm)	Water content: 1/3 bar	15 bar	Water retention	Bulk density: 1/3 bar	Air-dry	Oven-dry	Field moisture	COLE
		In	-------------------------------------								-----	(wt)---		g/cc	g/cc	g/cc	g/cc	
Brule (1)(6)	A	0-6	0.1	0.2	0.3	0.2	1.3	2.1	58.6	39.3	33.4	20.7	0.14	1.11	--	1.32	--	0.059
S98LA-001-4	AB	6-10	0.2	0.4	0.3	0.2	1.8	2.9	68.0	29.1	34.2	13.0	0.23	1.09	--	1.22	--	0.038
	Bw1	10-18	0.1	0.2	0.4	0.3	2.2	3.2	71.1	25.7	26.3	10.5	0.21	1.31	--	1.36	--	0.013
	Bw2	18-24	TR	0.2	0.6	0.9	2.1	3.8	72.3	23.9	26.5	10.3	0.20	1.26	--	1.33	--	0.018
	Bw3	24-30	0.1	0.4	0.8	1.0	2.3	4.6	74.2	21.2	27.1	10.5	0.23	1.36	--	1.41	--	0.012
	Bw4	30-37	--	0.5	1.1	1.2	3.0	5.8	74.0	20.2	25.7	10.1	0.22	1.39	--	1.44	--	0.012
	2Bt/E	37-41	TR	0.1	0.4	0.8	5.7	7.0	67.0	26.0	23.4	11.5	0.17	1.44	--	1.49	--	0.011
	2Eg/Bt	41-54	TR	0.1	0.2	0.6	8.0	8.9	65.7	25.4	21.7	10.8	0.15	1.41	--	1.48	--	0.016
	2Btg/E	54-59	--	TR	0.1	0.5	9.7	10.3	62.7	27.0	21.1	11.1	0.16	1.62	--	1.73	--	0.022
	2Btg1	59-69	TR	TR	0.1	0.5	11.1	11.7	61.9	26.4	20.7	10.9	0.16	1.59	--	1.71	--	0.025
	2Btg2	69-80	--	TR	0.2	0.5	10.2	10.9	63.6	25.5	--	11.3	--	--	--	--	--	--
Brule (3)(5)	A	0-8	0.1	0.2	0.2	0.3	1.6	2.4	66.4	31.2	--	--	--	--	--	--	--	--
S96LA-001-4	Bw1	8-25	0.2	0.5	0.5	0.5	1.6	3.3	70.9	25.8	--	--	--	--	--	--	--	--
	Bw2	25-34	0.1	0.5	0.6	0.9	2.7	4.8	71.2	24.0	--	--	--	--	--	--	--	--
	Bw3	34-45	0.03	0.24	0.32	0.6	4.7	5.9	71.1	23.0	--	--	--	--	--	--	--	--
	2Bt/E	45-53	0.03	0.2	0.26	0.7	6.8	8.0	65.5	26.5	--	--	--	--	--	--	--	--
	2Btg1	53-66	0.02	0.1	0.13	0.53	7.6	8.4	63.9	27.7	--	--	--	--	--	--	--	--
	2Btg2	66-80	0.03	0.06	0.08	0.58	8.66	9.4	64.7	25.9	--	--	--	--	--	--	--	--
Crowley (1)(5)	Ap	0-7	0.6	1.7	0.9	4.0	15.1	22.3	59.1	18.6	27.8	6.3	--	--	1.48	1.51	1.45	0.010
S95LA-001-4	Eg	7-14	3.2	3.3	1.2	5.9	7.4	21.0	52.8	26.2	27.1	8.8	--	--	1.68	1.76	1.64	0.020
	Btg1	14-25	0.3	0.2	0.0	2.2	7.9	10.6	40.6	48.8	36.1	17.5	--	--	1.65	1.74	1.55	0.040
	Btg2	25-33	0.2	0.3	0.1	2.4	7.9	10.9	45.5	43.6	33.8	17.5	--	--	1.85	1.91	1.67	0.040
	Btg3	33-40	0.2	0.2	0.1	3.4	12.5	16.4	48.4	35.2	30.1	15.9	--	--	1.89	1.95	1.76	0.040
	Btg4	40-50	0.4	0.2	0.1	4.6	17.5	22.8	48.9	28.3	27.0	13.4	--	--	1.83	1.93	1.74	0.040
	Btssg	50-57	0.2	0.1	0.0	4.3	18.7	23.3	45.7	31.0	27.1	13.3	--	--	1.93	1.98	1.82	0.030
	Bssg	57-69	0.1	0.0	0.0	4.5	17.8	22.4	41.1	36.5	31.1	16.1	--	--	1.93	1.99	1.78	0.040
	Bkssg	69-81	0.0	0.1	0.1	3.1	14.6	17.9	47.3	34.8	31.7	15.7	--	--	1.92	1.99	1.80	0.040

See footnotes at end of table

Table 25.—Physical Analyses of Selected Soils—Continued

Soil name and sample number	Horizon	Depth	Particle-size distribution: Sand: Very coarse (2-1 mm)	Sand: Coarse (1-0.5 mm)	Sand: Medium (0.5-0.25 mm)	Sand: Fine (0.25-0.1 mm)	Sand: Very fine (0.1-0.05 mm)	Sand: Total (2.0-0.05 mm)	Silt (0.05-0.002 mm)	Clay (<.002 mm)	Water content: 1/3 bar	Water content: 15 bar	Water content: Water retention	Bulk density: 1/3 bar	Bulk density: Air-dry	Bulk density: Oven-dry	Bulk density: Field moisture	COLE
		In	-------------	-------------	-------------	-------------	-------------	-------------	-------------		-----	(wt)---		g/cc	g/cc	g/cc	g/cc	
Crowley (6)(7)	Ap	0-6	0.5	1.4	0.9	0.6	3.7	7.1	75.8	17.1	24.3	8.5	0.23	1.48	--	1.59	--	0.024
S88LA-001-1	Eg	6-11	0.7	2.1	1.9	1.0	3.0	8.7	68.9	22.4	22.8	10.6	0.19	1.57	--	1.69	--	0.025
	Btg1	11-19	0.3	0.8	0.7	0.6	2.2	4.6	56.7	38.7	34.1	18.1	0.21	1.34	--	1.85	--	0.114
	Btg2	19-28	--	0.3	0.4	0.3	1.6	2.6	49.5	47.9	32.5	21.6	0.15	1.35	--	1.89	--	0.119
	Btkssg	28-36	--	0.5	0.5	0.4	1.9	3.3	53.8	42.9	32.0	19.9	0.17	1.38	--	1.93	--	0.118
	Btkg	36-53	0.4	0.4	0.3	0.4	3.5	5.0	59.9	35.1	25.5	16.1	0.14	1.51	--	1.88	--	0.076
	B'tkssg	53-73	--	0.2	0.3	0.4	5.1	6.0	52.2	41.8	24.6	17.0	0.12	1.57	--	2.02	--	0.088
	Bssg	73-93	--	0.3	0.3	0.4	6.0	7.0	47.9	45.1	24.5	17.3	0.11	1.57	--	2.03	--	0.089
Duson (1)(5)	Ap	0-6	0.5	1.0	1.0	1.2	2.4	6.1	73.3	20.6	--	--	--	--	--	--	--	--
S95LA-001-5	E	6-9	0.3	0.5	0.3	0.6	1.1	2.8	71.1	26.1	--	--	--	--	--	--	--	--
	Bt1	9-21	0.4	0.1	0.0	0.2	0.4	1.1	71.6	27.3	--	--	--	--	--	--	--	--
	Bt2	21-27	0.5	0.2	0.1	0.3	0.9	2.0	72.6	25.4	--	--	--	--	--	--	--	--
	Btg	27-45	0.4	0.2	0.1	1.0	3.6	5.3	70.3	24.4	--	--	--	--	--	--	--	--
	2BCg	45-80	0.2	0.1	0.1	1.7	12.3	14.4	48.2	37.4	--	--	--	--	--	--	--	--
Frost (1)(6)	Ap1	0-6	0.2	0.5	0.4	0.7	5.6	7.4	79.1	13.5	26.6	6.4	0.24	1.19	--	1.22	--	0.008
S93LA-001-14	Ap2	6-10	0.6	0.6	0.5	0.7	4.9	7.3	75.0	17.7	21.9	7.5	0.22	1.55	--	1.61	--	0.013
	Eg	10-22	0.8	1.2	0.6	0.8	5.0	8.4	74.0	17.6	25.8	7.7	0.25	1.40	--	1.41	--	0.002
	Btg/E	22-36	0.8	2.1	1.6	1.7	4.0	10.2	59.1	30.7	23.3	13.7	0.16	1.62	--	1.76	--	0.028
	Btg1	36-50	0.5	0.7	0.6	1.6	9.5	12.9	60.1	27.0	24.5	13.0	0.18	1.55	--	1.61	--	0.013
	Btg2	50-63	0.3	0.5	0.4	2.0	16.0	19.2	58.8	22.0	24.4	10.4	0.22	1.54	--	1.68	--	0.029
	Btg3	63-79	0.3	0.4	0.2	2.5	25.1	28.5	52.0	19.5	20.0	8.8	0.18	1.60	--	1.73	--	0.026
	2Btg	79-107	0.1	0.1	0.3	1.9	24.1	26.5	45.5	28.0	--	12.7	--	--	--	--	--	--
	2C	107-117	TR	0.1	0.2	0.6	39.2	40.1	38.7	21.2	--	10.0	--	--	--	--	--	--
Jeanerette (1)(6)	Ap	0-7	0.1	0.2	0.1	1.3	6.0	7.7	76.3	16.0	25.8	7.9	0.24	1.34	--	1.43	--	0.022
S93LA-001-15	Btg1	7-15	0.2	0.3	0.3	1.0	3.9	5.7	70.1	24.2	24.1	11.0	0.20	1.53	--	1.75	--	0.046
	Btg2	15-24	0.1	0.2	0.2	0.7	4.3	5.5	63.6	30.9	24.4	14.5	0.15	1.52	--	1.79	--	0.056
	Btkg1	24-35	0.6	0.6	0.5	0.7	3.6	6.0	60.3	33.7	22.9	15.1	0.09	1.55	--	1.86	--	0.047
	Btkg2	35-52	0.5	0.3	0.3	0.6	3.8	5.5	62.0	32.5	23.5	15.3	0.13	1.58	--	1.84	--	0.050
	B'tg1	52-63	0.6	0.3	0.2	0.8	3.7	5.6	63.1	31.3	22.6	14.7	0.12	1.58	--	1.85	--	0.054
	B'tg2	63-76	0.3	0.5	0.4	0.7	4.4	6.3	63.1	30.6	21.5	14.9	0.11	1.64	--	1.85	--	0.041
	Btg3	76-88	0.5	0.4	0.2	0.8	5.5	7.4	62.2	30.4	20.8	13.9	0.11	1.66	--	1.88	--	0.042

See footnotes at end of table

Table 25.—Physical Analyses of Selected Soils—Continued

Soil name and sample number	Horizon	Depth	Particle-size distribution: Sand: Very coarse (2-1 mm)	Coarse (1-0.5 mm)	Medium (0.5-0.25 mm)	Fine (0.25-0.1 mm)	Very fine (0.1-0.05 mm)	Total (2.0-0.05 mm)	Silt (0.05-0.002 mm)	Clay (<.002 mm)	Water content: 1/3 bar	15 bar	Water retention	Bulk density: 1/3 bar	Air-dry	Oven-dry	Field moisture	COLE
		In	------------------						----------------		-----	(wt)	---	g/cc	g/cc	g/cc	g/cc	
Kinder (2)(6)	A	0-5	0.3	0.4	0.4	5.7	18.4	25.2	66.3	8.5	17.3	6.5	0.16	1.51	--	1.53	--	0.004
S93LA-001-19	Eg1	5-10	0.8	1.1	0.8	5.6	18.7	27.0	62.3	10.7	19.0	6.9	0.19	1.62	--	1.67	--	0.010
	Eg2	10-14	1.3	0.9	1.0	5.8	16.3	25.3	62.3	12.4	18.5	6.8	0.19	1.66	--	1.70	--	0.008
	Btg/Eg	14-22	0.5	0.4	0.3	3.6	12.1	16.9	51.0	32.1	21.6	14.4	0.11	1.56	--	1.85	--	0.058
	Btg1	22-36	0.3	0.4	0.2	2.9	11.1	14.9	49.8	35.3	18.8	15.9	0.05	1.62	--	1.89	--	0.053
	Btg2	36-49	0.3	0.4	0.3	3.2	12.6	16.8	53.2	30.0	21.7	15.9	0.09	1.52	--	1.74	--	0.046
	Btg3	49-59	0.1	0.2	0.2	4.3	12.5	17.3	52.9	29.8	18.2	16.1	0.03	1.65	--	1.84	--	0.037
	Btg4	59-67	0.3	0.3	0.4	4.4	15.0	20.4	50.9	28.7	19.7	15.2	0.07	1.66	--	1.88	--	0.042
	Btg5	67-77	0.1	0.2	0.1	3.5	16.1	20.0	47.1	32.9	20.6	15.6	0.08	1.66	--	1.91	--	0.048
	2Bt	77-85	TR	0.1	0.1	2.4	9.8	12.4	41.1	46.5	26.5	20.2	0.10	1.53	--	1.95	--	0.084
Midland (4)(5)	Ap2	0-10	0.1	0.1	0.2	1.0	5.0	6.4	60.9	32.7	--	--	--	--	--	--	--	--
S96LA-001-8	Btg1	10-22	0.03	0.07	0.1	0.6	3.7	4.5	57.3	38.2	--	--	--	--	--	--	--	--
	Btg2	22-33	0.1	0.3	0.2	0.5	4.6	5.7	48.6	45.7	--	--	--	--	--	--	--	--
	Btg3	33-42	0.1	0.2	0.2	0.6	5.1	6.2	51.9	41.9	--	--	--	--	--	--	--	--
	BCssg	42-58	0.6	0.8	0.5	0.7	3.5	6.1	44.0	49.9	--	--	--	--	--	--	--	--
	Cssg	58-60	0.1	0.3	0.3	0.8	4.1	5.6	56.8	37.6	--	--	--	--	--	--	--	--
Patoutville (1)(6)	Ap1	0-8	0.4	0.8	0.7	1.1	2.1	5.1	84.4	10.5	24.8	6.6	0.26	1.45	--	1.49	--	0.009
S93LA-001-16	Ap2	8-11	0.5	1.4	0.7	0.5	1.5	4.6	81.0	14.4	22.0	7.5	0.22	1.50	--	1.55	--	0.011
	Btg1	11-15	0.1	0.9	0.8	0.4	0.7	2.9	72.8	24.3	21.3	11.1	0.16	1.54	--	1.63	--	0.019
	Btg2	15-22	TR	0.2	0.3	0.4	0.5	1.4	67.2	31.4	26.4	15.4	0.16	1.43	--	1.63	--	0.045
	Bt	22-28	0.1	0.3	0.4	0.4	0.4	1.6	68.3	30.1	25.7	14.9	0.16	1.46	--	1.64	--	0.040
	B'tg1	28-38	0.3	0.7	0.5	0.3	0.3	2.1	71.7	26.2	25.2	13.9	0.17	1.46	--	1.62	--	0.035
	B'tg2	38-51	0.8	1.3	0.9	0.7	0.7	4.4	71.9	23.7	24.4	13.6	0.16	1.45	--	1.60	--	0.033
	B't	51-68	0.4	0.6	0.5	1.1	2.9	5.5	71.9	22.6	26.7	12.3	0.22	1.50	--	1.64	--	0.030
	2Bt	68-83	0.5	0.4	0.3	3.2	10.0	14.4	60.8	24.8	--	11.6	--	--	--	--	--	--

Footnotes:

(1) Typical pedon for official series description and for the series in Acadia Parish. For a location and description of the soil, see the section "Soil Series and their Morphology."

(2) Typical pedon for the series in the survey area. For a location and description of the soil, see the section "Soil Series and their Morphology."

(3) This Brule pedon is a satellite sample for fertility data (25 feet northeast of Official Series Description).

(4) Typical pedon for the survey area map unit CwA. This pedon is located about 1.75 miles southwest of Midland, 2,300 feet north and 2,500 feet east of the southwest corner of sec. 56, T. 10 S., R. 2 W.

(5) Analyses by the Soil Characterization Laboratory, Louisiana Agricultural Experiment Station.

(6) Analyses by the National Soil Survey Laboratory, Lincoln, Nebraska.

(7) This pedon is located in Acadia Parish, LA, at the Louisiana State University Rice Research Station, 2 miles north of Crowley; Crowley, LA 15' quad; UTM zone 115m 3346380 mN, 562500 mE.

Table 26.—Chemical Analyses of Selected Soils

(Dashes indicate that analyses were not made; TR = Trace)

Soil name and sample number	Horizon	Depth	Extractable bases				Extractable acidity	Cation-exchange capacity (NH4OAc)	Base saturation (NH4OAc)	Organic carbon	pH		Extractable aluminum	Total nitrogen	Extractable iron	Extractable manganese
			Ca	Mg	K	Na					1:2 CaCl2	1:1 H2O				
		In	Milliequivalents/100 g				Ppm	Pct	Pct	Pct			Ppm	Ppm	Ppm	Ppm
Acadiana (1)(3)	Ap	0-5	9.0	0.6	0.1	0.1	3.8	10.6	92	2.04	5.6	6.3	--	0.150	--	--
S93LA-001-18	E	5-9	3.6	0.6	--	0.1	2.9	6.3	68	0.36	4.9	5.9	--	0.042	--	--
	Bt1	9-14	2.4	1.3	TR	0.2	9.2	10.8	36	0.31	4.1	5.0	--	0.048	--	--
	Bt2	14-19	1.4	1.7	TR	0.2	11.3	12.2	27	0.27	4.0	5.0	--	0.048	--	--
	Bt/E	19-24	1.9	3.0	0.2	0.5	19.8	18.3	31	0.23	4.0	5.1	--	0.050	--	--
	B't	24-32	4.2	6.2	0.3	0.9	21.8	29.0	40	0.27	4.1	5.3	--	0.070	--	--
	2Btss	32-43	7.0	8.4	0.2	1.3	12.1	26.1	65	0.16	4.3	5.3	--	0.050	--	--
	2Bss1	43-54	12.3	13.6	0.2	2.2	6.2	33.1	85	0.14	5.1	6.0	--	--	--	--
	2Bss2	54-66	15.1	15.3	0.3	3.0	1.4	35.5	95	0.10	6.8	7.2	--	--	--	--
	3Bssg1	66-75	16.1	16.5	0.5	3.5	10.4	38.1	96	0.08	7.0	7.5	--	--	--	--
	3Bssg2	75-80	18.7	18.4	0.5	4.2	1.8	44.0	95	0.04	7.2	7.7	--	--	--	--
Basile (2)(3)	A	0-8	3.6	2.3	0.1	0.2	9.4	13.5	46	1.10	4.0	4.6	--	0.137	--	--
S93LA-001-17	Eg1	8-14	1.5	1.6	--	0.2	6.5	9.5	35	0.39	3.8	4.7	--	0.061	--	--
	Eg2	14-23	1.8	2.4	0.1	0.5	6.6	10.8	44	0.37	3.8	4.9	--	0.057	--	--
	Btg/Eg1	23-29	3.6	5.7	0.1	1.6	7.1	16.1	68	0.36	3.9	5.0	--	0.055	--	--
	Btg/Eg2	29-35	5.5	9.3	--	3.0	4.7	21.4	83	0.17	4.3	5.1	--	0.039	--	--
	Btcg1	35-39	6.8	11.1	0.2	4.4	3.8	23.6	95	0.09	5.8	6.3	--	0.036	--	--
	Btcg2	39-47	7.4	12.6	--	5.3	1.8	25.4	100	0.11	7.0	7.4	--	0.037	--	--
	Btcg3	47-56	7.3	12.4	TR	5.2	1.7	24.1	100	0.05	7.3	7.8	--	0.040	--	--
	Btkg1	56-69	9.0	12.1	TR	4.9	0.8	23.2	100	0.05	7.7	8.2	--	0.029	--	--
	Btkg2	69-80	11.6	12.4	0.2	4.5	0.8	23.3	100	0.03	7.9	8.3	--	0.041	--	--

See footnotes at end of table

Table 26.—Chemical Analyses of Selected Soils—Continued

Soil name and sample number	Horizon	Depth	Extractable bases				Extractable acidity	Cation-exchange capacity (NH4OAc)	Base saturation (NH4OAc)	Organic carbon	pH		Extractable aluminum	Total nitrogen	Extractable iron	Extractable manganese
			Ca	Mg	K	Na					1:2 CaCl2	1:1 H2O				
		In	Milliequivalents/100 g				Ppm	Pct	Pct	Pct			Ppm	Ppm	Ppm	Ppm
Brule (1)(3)	A	0-6	6.0	2.4	0.4	0.3	19.7	19.2	47	2.54	4.0	4.3	--	0.301	--	--
S98LA-001-4	AB	6-10	0.9	0.5	--	0.2	17.0	13.3	12	1.32	3.8	4.3	--	0.180	--	--
	Bw1	10-18	0.4	0.3	0.2	0.2	12.0	10.0	11	0.14	3.7	4.4	--	0.088	--	--
	Bw2	18-24	0.4	0.4	0.1	0.3	13.1	9.9	12	0.28	3.6	4.4	--	0.064	--	--
	Bw3	24-30	0.4	0.5	0.4	0.3	13.0	10.8	15	0.19	3.6	4.5	--	0.061	--	--
	Bw4	30-37	0.3	0.6	0.2	0.2	12.7	10.5	12	0.11	3.6	4.6	--	0.047	--	--
	2Bt/E	37-41	0.3	0.6	0.2	0.3	14.3	12.5	11	0.11	3.6	4.7	--	0.034	--	--
	2Eg/Bt	41-54	0.2	1.1	0.2	0.5	14.1	12.4	16	0.08	3.6	4.7	--	--	--	--
	2Btg/E	54-59	0.2	1.3	0.3	0.6	14.2	12.9	19	0.05	3.5	4.9	--	--	--	--
	2Btg1	59-69	0.8	2.2	0.3	0.7	12.9	15.7	25	0.03	3.5	5.0	--	--	--	--
	2Btg2	69-80	1.7	3.2	0.2	1.0	10.9	18.8	32	0.04	3.6	4.8	--	--	--	--
Crowley(3)(4)	Ap	0-6	7.2	3.0	0.2	0.2	2.4	11.8	90	0.54	6.5	7.0	0.2	0.072	1.7	0.1
S88LA-001-1	Eg	6-11	7.0	3.8	0.1	0.6	2.7	12.8	90	0.44	6.7	7.4	0.3	0.071	2.0	0.1
	Btg1	11-19	11.0	8.0	0.3	1.6	3.3	22.4	93	0.46	6.7	7.3	0.2	0.070	1.6	0.1
	Btg2	19-28	12.8	12.2	0.4	2.5	3.0	29.1	96	0.29	6.8	7.5	0.2	0.061	1.4	Tr
	Btkssg	28-36	--	12.0	0.4	2.5	8.8	27.9	100	0.24	7.2	7.7	0.2	--	1.6	0.1
	Btkg	36-53	12.1	9.4	0.3	1.8	1.4	22.1	100	0.09	7.2	7.8	0.2	--	1.3	0.1
	B'tkssg	53-73	16.6	9.9	0.3	1.7	1.7	26.3	100	0.05	7.1	7.8	0.1	--	1.1	0.1
	Bssg	73-93	14.1	11.2	0.3	1.7	1.7	27.8	98	0.01	7.0	7.8	0.1	--	0.9	0.1

See footnotes at end of table

Table 26.—Chemical Analyses of Selected Soils—Continued

Soil name and sample number	Horizon	Depth	Extractable bases				Extractable acidity	Cation-exchange capacity NH4OAc	Base saturation NH4OAc	Organic carbon	pH		Extractable aluminum	Total nitrogen	Extractable iron	Extractable manganese
			Ca	Mg	K	Na					1:2 CaCl2	1:1 H2O				
		In	Milliequivalents/100 g				Ppm	Pct	Pct	Pct			Ppm	Ppm	Ppm	Ppm
Frost (1)(3)	Ap1	0-6	3.3	1.3	0.2	0.1	6.9	8.9	55	1.27	4.1	4.5	--	0.151	--	--
S93LA-001-14	Ap2	6-10	5.5	2.0	--	0.2	3.0	9.4	82	0.48	5.4	6.3	--	0.078	--	--
	Eg	10-22	5.0	2.4	0.1	0.2	2.6	8.8	88	0.35	6.0	6.9	--	0.070	--	--
	Btg/E	22-36	4.9	3.9	0.2	0.6	9.7	16.9	57	0.30	4.2	5.5	--	0.080	--	--
	Btg1	36-50	5.8	4.7	0.2	0.8	7.7	16.4	70	0.14	4.4	5.8	--	0.052	--	--
	Btg2	50-63	5.6	4.4	--	0.7	3.3	12.8	84	0.10	4.9	5.3	--	--	--	--
	Btg3	63-79	4.7	3.5	0.1	0.5	2.2	9.9	89	0.05	5.4	6.5	--	--	--	--
	2Btg	79-107	7.5	4.9	--	0.6	2.8	14.7	88	0.05	5.6	6.6	--	--	--	--
	2C	107-117	6.9	4.4	0.2	0.5	2.2	13.3	90	0.03	5.6	6.8	--	--	--	--
Jeanerette (1)(3)	Ap	0-7	9.9	3.2	TR	1.8	3.0	14.6	100	1.16	5.7	6.1	--	0.135	--	--
S93LA-001-15	Btg1	7-15	13.5	4.3	--	0.6	1.0	19.0	97	0.56	6.9	7.5	--	0.069	--	--
	Btg2	15-24	17.3	5.8	0.2	0.8	1.5	24.6	98	0.30	7.2	7.8	--	0.052	--	--
	Btkg1	24-35		6.4	0.2	0.9	0.9	23.8	100	0.24	7.7	8.1	--	0.055	--	--
	Btkg2	35-52	19.5	5.8	0.3	0.7	1.5	23.5	100	0.13	7.6	8.1	--	0.047	--	--
	B'tg1	52-63	15.0	5.8	TR	0.6	1.7	22.5	95	0.09	7.0	7.8	--	--	--	--
	B'tg2	63-76	13.9	5.7	0.2	0.5	1.4	19.7	100	0.06	6.9	7.5	--	--	--	--
	Btg3	76-88	12.5	5.7	0.2	0.4	1.4	20.2	93	0.05	6.7	7.6	--	--	--	--
Kinder (2)(3)	A	0-5	2.5	1.0	0.5	0.1	6.9	8.5	48	1.61	4.0	4.3	--	0.113	--	--
S93LA-001-19	Eg1	5-10	2.3	1.0	TR	TR	4.7	7.1	46	0.27	4.1	4.8	--	0.045	--	--
	Eg2	10-14	1.8	1.0	--	TR	5.6	7.6	37	0.14	3.9	4.8	--	0.035	--	--
	Btg/Eg	14-22	3.3	2.6	0.1	0.5	13.2	18.8	35	0.18	3.8	5.1	--	0.048	--	--
	Btg1	22-36	4.6	3.7	0.1	0.9	12.1	20.2	46	0.12	3.8	4.9	--	0.040	--	--
	Btg2	36-49	5.6	4.3	--	1.3	7.0	21.9	51	0.09	3.9	4.9	--	0.039	--	--
	Btg3	49-59	7.3	5.5	0.2	1.6	4.5	18.3	80	0.09	4.2	5.1	--	--	--	--
	Btg4	59-67	8.2	5.9	0.2	2.3	3.1	18.7	89	0.05	4.8	5.5	--	--	--	--
	Btg5	67-77	9.9	7.2	0.2	3.0	2.8	21.9	93	0.05	5.7	6.3	--	--	--	--
	2Bt	77-85	15.0	10.2	0.3	4.2	3.6	18.9	100	0.04	6.8	7.2	--	--	--	--

See footnotes at end of table

Table 26.—Chemical Analyses of Selected Soils—Continued

Soil name and sample number	Horizon	Depth	Extractable bases				Extractable acidity	Cation-exchange capacity (NH4OAc)	Base saturation (NH4OAc)	Organic carbon	pH		Extractable aluminum	Total nitrogen	Extractable iron	Extractable manganese
			Ca	Mg	K	Na					1:2 $CaCl_2$	1:1 H_2O				
		In	Milliequivalents/100 g				Ppm	Pct	Pct	Pct			Ppm	Ppm	Ppm	Ppm
Patoutville (1)(3)	Ap1	0-8	3.9	0.8	--	--	4.9	8.7	54	1.09	4.6	5.5	--	0.141	--	--
S93LA-001-16	Ap2	8-11	4.7	1.2	0.3	0.3	4.6	9.0	72	0.61	4.9	5.9	--	0.086	--	--
	Btg1	11-15	4.3	1.9	0.2	0.4	6.9	12.1	56	0.59	4.5	5.5	--	0.087	--	--
	Btg2	15-22	6.8	4.0	0.1	0.9	8.1	16.6	71	0.58	4.8	5.7	--	0.104	--	--
	Bt	22-28	7.4	4.7	0.2	1.1	6.2	17.5	77	0.42	5.1	6.2	--	0.084	--	--
	B'tg1	28-38	7.5	4.7	0.3	1.2	5.4	16.4	84	0.24	5.4	6.3	--	0.062	--	--
	B'tg2	38-51	8.0	4.6	0.2	1.3	4.8	16.9	83	0.15	5.2	6.4	--	0.043	--	--
	B't	51-68	8.4	4.2	0.3	1.2	4.4	16.7	84	0.09	5.1	6.3	--	--	--	--
	2Bt	68-83	8.5	3.6	0.1	1.0	2.9	15.1	87	0.03	5.4	6.7	--	--	--	--

Footnotes:

(1) Typical pedon for official series description and for the series in Acadia Parish. For a location and description of the soil, see the section "Soil Series and their Morphology."
(2) Typical pedon for the series in the survey area. For a location and description of the soil, see the section "Soil Series and their Morphology."
(3) Analyses by the National Soil Survey Laboratory, Lincoln, Nebraska.
(4) This pedon is located in Acadia Parish, LA, at The Louisiana State University Rice Research Station, 2 miles north of Crowley: Crowley, LA 15' quad; UTM zone 15, 3346380 mN, 562500 mE.

Table 27.—Clay Minerology Analyses of Selected Soils

Soil name and sample number	Horizon	Depth	Clay Mineralogy 4/ (X-ray < 2 Microns)								
			Smectite	Vermiculite	Kaolinite	Mica	Smectite-Mica	Quartz	Verm-mica	Hematite	Chlorite
		In									
Acadiana (1)(3)	Ap	0-5	2	2	2	2	--	2	--	--	--
S93LA-001-18	Bt1	9-14	1	3	3	2	--	1	--	--	--
	2Bss1	43-54	2	3	2	2	--	1	--	--	--
	3Bssg2	75-80	2	2	2	2	--	2	--	--	--
Basile (2)(3)	A	0-8	2	2	2	1	1	2	--	--	--
S93LA-001-17	Btg1/Eg1	23-29	3	--	2	1	--	1	--	--	--
	Btcg1	35-39	--	2	2	2	--	2	2	--	--
	Btkg2	69-80	2	2	1	2	--	2	--	--	--
Brule (1)(3)	A	0-6	1	2	2	2	--	2	--	--	--
S98LA-001-4	Bw1	10-18	2	2	2	2	--	1	--	--	--
	2Bt/E	37-41	3	2	2	3	--	--	--	--	--
Crowley (3)	Bt1	11-19	3	--	3	2	3	--	--	--	--
S88LA-001-1	Bt2	19-28	4	--	3	2	1	1	--	--	1
	BkssB2	108-118	3	--	3	3	1	1	--	--	1
Frost (1)(3)	Ap1	0-6	2	--	2	1	1	--	--	--	--
S93LA-001-14	Btg1	36-50	3	--	2	1	1	1	--	--	--
	Btg3	63-79	2	2	2	1	--	1	--	1	--
Jeanerette (1)(3)	Ap	0-7	3	--	2	1	1	1	--	--	--
S93LA-001-15	Btg1	7-15	3	--	3	2	2	1	--	--	--
	Btg3	76-88	3	--	2	1	1	1	--	--	--
Kinder (2)(3)	A	0-5	1	2	3	1	--	1	--	--	--
S93LA-001-19	Btg1	22-36	--	2	2	2	--	--	1	--	--
	Btg4	59-67	1	3	3	2	--	1	--	--	--
Patoutville (1)(3)	Ap1	0-8	2	2	2	1	--	2	--	--	--
S93LA-001-16	Btg2	15-22	--	2	2	1	--	1	--	--	--
	2Bt	68-83	3	2	2	1	1	1	--	--	--

Note:
The numbers for clay minerology of the clay minerals present indicate the relative height of peaks for each type of clay mineral on an X-ray defraction graph. 1 = very small (lowest X-ray defraction peaks and the lowest relative amounts of the clay minerals present in the sample); 2,3,4 = small, medium, and large (indicate intermediate X-ray defraction peaks and amounts of the clay minerals present in the sample; and, 5 = very large (highest X-ray defraction peaks and the highest relative amounts of the clay minerals present in the sample. No entry (--) means that there was not an X-ray defraction peak and there was no significant amount of that clay mineral present in the sample.

Footnotes:

(1) Typical pedon for official series description and for the series in Acadia Parish. For a location and description of the soil, see the section "Soil Series and their Morphology."

(2) Typical pedon for the series in the survey area. For a location and description of the soil, see the section "Soil Series and their Morphology."

(3) Analyses by the National Soil Survey Laboratory, Lincoln, Nebraska.

Table 28.—Classification of the Soils

(An asterisk in the first column indicates a taxadjunct to the series. See text for a description of those characteristics that are outside the range of the series.)

Soil name	Family or higher taxonomic class
Acadiana	Fine, mixed, active, thermic Oxyaquic Glossudalfs
Aquents	Aquents
Barbary	Very-fine, smectitic, nonacid, thermic Typic Hydraquents
Basile	Fine-silty, mixed, superactive, thermic Typic Glossaqualfs
Brule	Fine-silty, mixed, active, thermic Oxyaquic Paleudults
Crowley	Fine, smectitic, thermic Typic Albaqualfs
Duson	Fine-silty, mixed, superactive, thermic Aquic Paleudalfs
Frost	Fine-silty, mixed, active, thermic Typic Glossaqualfs
Iota	Fine, smectitic, thermic Vertic Hapludalfs
Jeanerette	Fine-silty, mixed, superactive, thermic Typic Argiaquolls
Judice	Fine, smectitic, thermic Typic Epiaquerts
Kaplan	Fine, smectitic, thermic Aeric Chromic Vertic Epiaqualfs
Kinder	Fine-silty, siliceous, active, thermic Typic Glossaqualfs
Mamou	Fine-silty, siliceous, active, thermic Aeric Albaqualfs
Memphis	Fine-silty, mixed, active, thermic Typic Hapludalfs
Midland	Fine, smectitic, thermic Chromic Vertic Epiaqualfs
Mowata	Fine, smectitic, thermic Typic Glossaqualfs
Patoutville	Fine-silty, mixed, superactive, thermic Aeric Epiaqualfs
Vidrine	Fine, smectitic, thermic Aquic Glossudalfs

NRCS Accessibility Statement

The Natural Resources Conservation Service (NRCS) is committed to making its information accessible to all of its customers and employees. If you are experiencing accessibility issues and need assistance, please contact our Helpdesk by phone at 1-800-457-3642 or by e-mail at helpdesk@helpdesk.itc.nrcs.usda.gov. For assistance with publications that include maps, graphs, or similar forms of information, you may also wish to contact our State or local office. You can locate the correct office and phone number at http://offices.sc.egov.usda.gov/locator/app.