United States Department of Agriculture

Natural Resources Conservation Service

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

Soil Survey of Terrebonne 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.

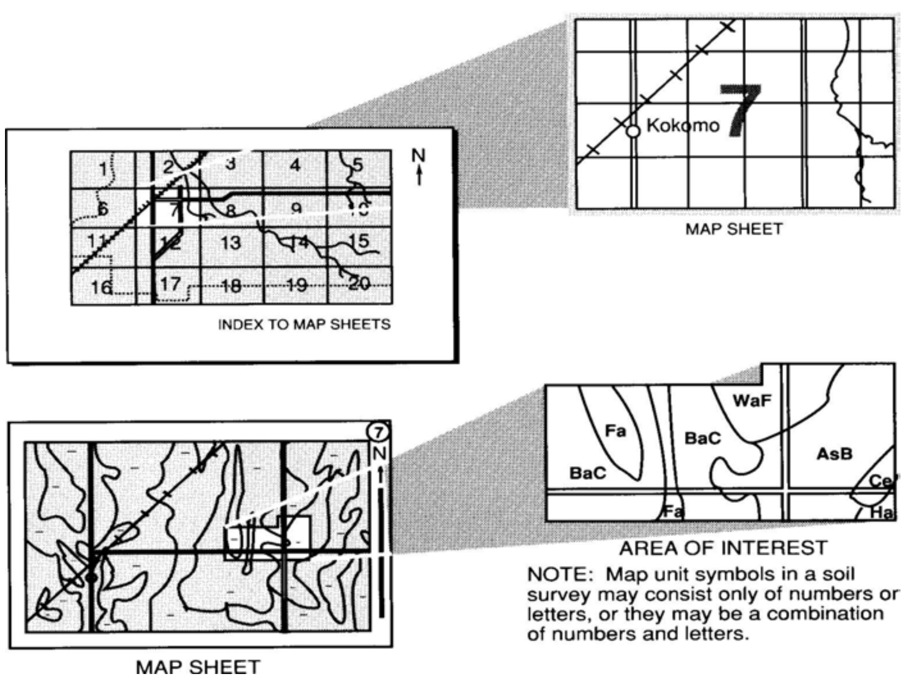
Detailed Soil Maps

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**.

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

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



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

Major fieldwork for this soil survey was completed in 2001. Soil names and descriptions were approved in 2001. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2001. This survey was made cooperatively by the Natural Resources Conservation Service, Louisiana Agricultural Experiment Station, and the Louisiana State Soil and Water Conservation Committee. The survey is part of the technical assistance furnished to the Lafourche-Terrebonne Soil and Water Conservation District.

This soil survey updates the survey of Terrebonne Parish, Louisiana published in February, 1960. This survey provides a more detailed soil survey, and contains more interpretative information.

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

Cover: Constructed navigation channels allow quick and easy access to the Gulf, but also allow salt water intrusion into brackish and freshwater marshes. Soils are Scatlake muck, tidal and Bellpass muck, tidal. Vegetation is dominantly smooth cordgrass *(Spartina alterniflora* Loisel.).

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

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June 2007

Foreword

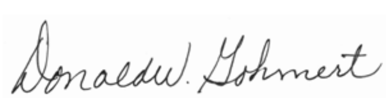
This soil survey contains information that affects land use planning in this survey area. It contains predictions of soil behavior for selected land uses. The survey also highlights soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

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 Louisiana Cooperative Extension Service.



DONALD W. GOHMERT
State Conservationist
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Soil Survey of Terrebonne Parish, Louisiana

By Donald R. McDaniel and Gerald J. Trahan

Fieldwork by Wilton Stephens and Dennis Daugereaux. Others participating in the fieldwork were Marc Bordelon, Mike Cooley, Leticia Olivera Franco, Charlie Henry, Cecil Meyers, Lyfon Morris, Burnell Muse, and Ed Scott

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

Terrebonne Parish is in the southern part of Louisiana (fig. 1). It has a total area of 1,034,100 acres of which 875,100 acres is in land and 159,000 acres is large water areas in the form of lakes, bays, and streams. The parish is bordered by Lafourche Parish on the north and east, the Gulf of Mexico on the south, and on the west by Assumption and St. Mary Parishes.

Houma is the parish seat and is located about 40 miles southeast of New Orleans. In 2000, the population of Terrebonne Parish totaled 104,503 and is mostly centered along Bayou Terrebonne and Grand Caillou Bayou. The parish is chiefly rural and extends into the broad, coastal marshes of the Gulf of Mexico. Presently, urban development is expanding and areas of the marshes and swamps are decreasing.

Terrebonne parish lies entirely within the south-central region of the Mississippi River Delta Plain. It is made up of two major land resource areas (MLRA's). MLRA 131, the Southern Mississippi Valley Alluvium, makes up about 24 percent of the area. MLRA 151, the Gulf Coast Marsh, makes up the remaining 76 percent of the parish. The soils of the natural levees formed in sediments deposited by former channels of the Mississippi River and its distributaries on the Atchafalaya and Lafourche Delta Complex. Loamy soils are dominant on the high and intermediate parts of the natural levees, and clayey soils are dominant on the lower parts of the natural levees and in backswamps. The loamy soils, and the clayey soils that rarely flood, make up about 9 percent of the total land area of the parish. They are used mainly for cropland, urban, and industrial purposes. A few areas are in pasture and woodland. The clayey soils on the lowest parts of the landscape are subject to occasional or frequent flooding and make up about 6 percent of the total land area of the parish. They are used mainly for timber production, pasture, recreation, and wildlife. Some narrow, loamy, natural levee ridges in the southeastern and east-central parts of the parish extend south into the Gulf Coast Marsh. These areas are subject to occasional flooding during tropical storms and are used mainly for camps, homesites, and activities associated with the seafood industry.

The remaining 85 percent of the land area of Terrebonne Parish consists mainly of ponded, frequently flooded, and very frequently flooded, mucky and clayey, fluid soils in marshes and swamps. They are used mainly as habitat for wetland wildlife and for recreation. Some acreage of former marshes and swamps have been protected, pumped-off, and drained and are used as pasture or for urban use.

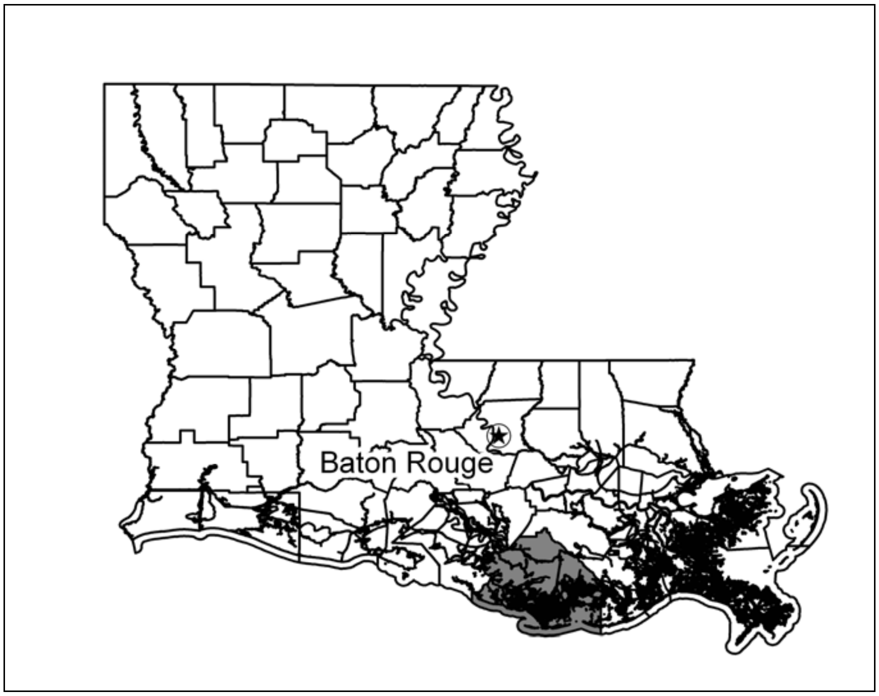

Figure 1.—Location of Terrebonne Parish, Louisiana.

Elevations range from about 14 feet above mean sea level along the natural levee of Bayou Terrebonne in the northern part of the parish, to about 5 feet below sea level in the former marshes and swamps that have been drained.

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

General Nature of the Survey Area

This section gives general information concerning history, agriculture, water resources, transportation, industry, and climate of Terrebonne Parish.

History

Terrebonne Parish is located on the Gulf of Mexico and covers an area of approximately 1,367 square miles of land and 248 square miles of water. Terrebonne is the third largest parish in Louisiana. Arriving sometime in the 18th century, the Houma tribe occupied the land. On February 4, 1765, Captain Deutrive settled some 250 Acadians exiled from Canada by way of Santa Domingo. They were assisted by Captain Deutrive in becoming established.

The Houma Indians, from which Houma got its name, were the principal group of Native Americans occupying the area, having arrived here sometime after 1776 following a conflict with the Tunica Indian tribe in what is now West Feliciana Parish. They originally formed six settlements, and present day Houma Indians are generally located south of Houma in the lower bayou country.

At the time Terrebonne was made a parish, only a few settlements dotted the fertile banks of its bayous. Abundant vegetation and virgin forests, as well as wildlife and waterfowl, were found throughout the area.

Henry Schuyler Thibodaux, then a state senator representing Lafourche Interior, sponsored the statute that created a large southwest section of Lafourche Interior Parish to be known as Terrebonne on April 2, 1822. Two other parishes were later formed from the remainder, Assumption and Lafourche. As a result, he has been called the "Father of Terrebonne Parish." Thibodaux had migrated from Albany, New York to the banks of the Mississippi River in what is now St. James Parish. He finally settled near the present-day St. Bridgette's Church near Schriever. He and his wife, Brigette Belanger, acquired a great deal of property up and down Bayou Terrebonne, including what is now Houma.

In 1824, Thibodaux was appointed acting governor of Louisiana to replace Thomas Robertson who was named judge of the U.S. District Court by the President of the United States. He died in 1827 and Halfway Cemetery, where he is buried between Houma and Thibodaux, is marked by a state historical marker.

Origin of the name Terrebonne appears to have derived from the Darbonne family, which settled in southern parts of the parish. Original government maps of the area long before Terrebonne became a parish show Bayou Terrebonne as Bayou Darbonne. Later the name evolved into Terrebonne but it appears logical that the parish was named after the bayou, which apparently was named after the family.

Terrebonne means "good earth" in French and, because of the rich alluvial soil that has produced such bountiful harvests, was a good selection for the name of the parish. Some suggest that Thibodaux named Terrebonne after a parish in Canada where his father-in-law lived. This seems unlikely since the bayou was called Darbonne and Terrebonne long before the parish was created.

In 1830, when the first census of Terrebonne Parish was taken as a part of the Fifth Census of the United States, the population consisted of 1,063 Caucasian, 25 free African-American, and 1,033 slaves, making a total of 2,121. The 2000 Census reported a parish total population of 104,503.

The first parish courthouse was located at Bayou Cane 3 miles north of present-day Houma. In 1834, the parish seat was moved to Houma where a one-story brick courthouse was built. In 1836, a one-story building for offices of the clerk, recorder, and sheriff was constructed.

A new courthouse was started in 1860 but work was interrupted by the Civil War and not completed until 1875. In 1892, the familiar red brick courthouse with the clock tower that preceded the present courthouse was completed and put in use. The structure in use today was contracted in 1937 and erected in 1938.

A series of jails have served the parish since 1822 when the first, a 12-foot square building, was put into use. A brick jail, completed in 1837, was destroyed by Federal Troops during the Civil War. Other jails were erected in 1877 and 1899 followed by the present one located atop the present courthouse.

In the early days of the parish, the numerous natural waterways were used as a principal means of communication and travel. That is why settlements and plantations were located along the bayous. Roads, highways, and bridges were built as a further aid to both commercial and social communication.

The forerunners of the present highway system in Terrebonne Parish were the old "coredelle" roads, which paralleled the bayous. They were developed from towpaths along each stream, which were used when there was not enough breeze to drive the sail-powered watercraft upstream.

In 1840, a canal was dug between Bayous Terrebonne and Black through present-day Houma, connecting the major east-west and north-south water routes of the parish. Steamboat travel was in much use in the area, offering traveler's passage to and from various parts of the parish. Steamship routes along Bayou Lafourche connected at Donaldsonville with the many steamboats that plied up and down the Mississippi River. In November of 1905, a canal connecting Bayou Terrebonne and Lafourche between Lockport and Bourg was open to navigation, providing an easy water route between Houma and New Orleans through Bayou Lafourche and the Mississippi River.

A stage line was operated in Terrebonne for passengers and freight by Price, Hine and Co., connecting Houma with several nearby points. Later on, a stage and express line running from Thibodaux through Houma, and then westward to Tigerville (now Gibson), near the extreme western boundary of Terrebonne Parish was established. From Thibodaux, this latter line connected with the New Orleans, Opelousas, and Great Western Railroad in Lafourche.

The Civil War disrupted operation of the railroad and depleted its value. On July 2, 1869, the property was sold at foreclosure to Charles Morgan, owner and operator of a steamship line from New Orleans to New York.

As a part of his plan for reviving the economic status of the railroad, Morgan built a branch line from Schriever to Houma, supplanting a stage line established by John Berger in 1855. This branch line was completed into Houma on January 8, 1872. Efforts at the time to have it laid south to the vicinity of Presque Isle failed. But 60 years later, in 1931, a spur of the Houma branch was extended to Ashland over a route similar to the one suggested earlier. This marked the end of railroad construction in Terrebonne Parish, as the highway and air routes came along to claim a healthy share of the communication and transportation load.

Agriculture

The soils of Terrebonne Parish on natural levees have always been used for farming, even during Indian habitation. Probably trappers and traders came to the region first, then farmers soon followed. Cotton, corn, maize, and sweet potatoes were grown on the loamy soils on the natural levees before Indigo was an important crop for a short time. Cotton was the main crop for many years, but gradually the acreage decreased. No cotton has been planted in recent years.

An increase in the production of sugarcane was the chief reason for the decline of the cotton crop. Production became important after sugar granulation procedures were developed successfully in 1794. A few sugarcane plantations were established in the early 1800's, but it was not until 1860 that sugarcane became the principle crop in the parish. Since then, most soils in the parish that are not subject to flooding have been used for the production of sugarcane.

The trend in agriculture is toward fewer, larger farm units. According to the 1997 Census of Agriculture, there were 137 farms in the parish. Total land in farms was 52,873 acres. Average size farm was 386 acres. The total value of agriculture products sold in 1997 in Terrebonne Parish was $14,180,000, and the average per farm unit was $103,506. A total of 17,839 acres in Terrebonne Parish was used as cropland and pasture in 1997. Sugarcane is the principle crop grown in the parish. In 1997 there were 14,592 acres planted in sugarcane. There were few or no acres planted in corn or soybeans. Other vegetable crops commercially produced are broccoli, cabbage, cucumber, greens, okra, snap beans, sweet potatoes, and tomatoes. There were less than 100 acres used for this purpose. Crops including nursery and greenhouse crops were valued at $12,131,000. Livestock is the second most important source of agriculture income. In 1997, there were 3,247 acres in pastureland. Livestock, poultry, and their products were valued at $2,049,000.

Water Resources

Ground Water—Large quantities of moderately saline to highly saline ground water are available throughout Terrebonne Parish. Fresh ground water (water containing less than 250 milligrams per liter [mg/l]) is available only locally in

Terrebonne Parish (27) Local occurrences of freshwater to depths of about 250 feet have been documented near Gibson, Waterproof, and Houma. Fresh ground water supplies may contain objectionable quantities of iron and may be hard. Throughout the parish, ground water containing chloride concentrations greater than 250 mg/l are generally available at depths of 200 feet and greater.

Surface Water—The hydrologic regime of Terrebonne Parish involves the movement of freshwater and saltwater masses through the region as a result of the interaction between the Mississippi River discharge, regional precipitation, winds, and tides (27). This current hydrologic regime is influenced by both natural and manmade factors. The basic natural hydrologic system is governed by the pattern of major abandoned distributary channels of the ancient Mississippi River Delta complex and interdistributary basin channels, which serve to drain swamps and marshes into the estuarine lakes, bays, and sounds.

Under natural conditions, the Mississippi River flowed through the wetlands to the Gulf via the distributary channels. Rainfall and Mississippi River floodwater flowed down the gentle slopes of the natural levees and slowly through the swamps and marshes as sheet flow and interdistributary basin channel flow. The wetland vegetation and the shallow, winding, interdistributary channels slowed the progress of this drainage and stored the fresh water for gradual release into the tidewaters. This situation contributed to a stable environment where water levels and salinity values changed gradually with changing tidal conditions.

During historic times, manmade factors greatly altered the natural hydrologic regime. Construction of levees on the Mississippi River halted the annual overbank flooding, and a channelized drainage network in the levee area, collected precipitation to be discharged into the wetlands at pumping stations and floodgates.

Manmade modifications of the wetlands also occurred within the recent historic period. Canals were developed as a result of logging activity, drainage, navigation improvement, and later, for oil and gas well drilling access and for pipelines. These modifications allowed surplus fresh water to pass more quickly from the point discharge sources into the estuary. Spoil banks along the canals segmented the wetlands and hindered circulation. Greater water depths in the canals provided for greater tidal fluctuation and saltwater intrusion during dry periods.

Under these manmade conditions, the hydrologic circulatory system has shifted to reflect the competition between local runoff in the wetlands coupled with discharge from diked areas and daily tides. The overall effect of these modifications has been the rapid alteration of a stable hydrologic situation into one having a greater fluctuation of water levels and salinity values.

Transportation

Roads in the parish are mostly hard-surfaced federal, state, and parish highways. U.S. Highway 90 (Interstate Highway 49) extends west and east through the northern part of the parish and northeast to New Orleans. Louisiana Highway 24 follows the bank of Bayou Terrebonne to Houma and extends south, then eastward, and terminates at Larose. In addition, four state highways extend from Houma to the southernmost part of the parish.

The parish is served by Southern Pacific Railroad on the west side of Bayou Terrebonne as far south as Houma. The east-west mainline of the Southern Pacific Railroad passes through Gibson and Schriever and continues to New Orleans.

Airports near the towns of Thibodaux and Houma serve small private and commercial aircraft. The New Orleans International Airport is about 40 miles northeast of Houma. Several major airlines provide passenger and freight service at this facility.

Figure 2.—Commercial barges are a common method of transporting goods by way of the Intracoastal Waterway.

The Intracoastal Waterway and the Houma Navigation Canal are the main navigable waterways in the parish (fig. 2). These waterways are part of a 19,000-mile water transportation system that serves much of the central United States as well as the Gulf Coastal Area. Many bayous, lakes, and bays are navigable to the Gulf of Mexico. Miles of canals have been built to carry supplies and equipment to sites of oil and gas exploration. Shrimp and fishing fleets, oyster boats, tugs, barges, and pleasure boats are common on the navigable waterways.

Industry

The oil and gas industry, mainly the exploration for and production of petroleum and natural gas, is the major industry in Terrebonne Parish. About 75 percent of the parish population in 1990 was employed in the oil and gas industry or its related industries (fig. 3). There are approximately 20 industrial parks, from which these industries operate in the parish.

The seafood industry is also a major portion of the economy of Terrebonne Parish (fig. 4). Terrebonne Parish has about 25 percent of the state's seafood industry. In 1990, total seafood sales were $77,647,302. There were also ten seafood processing plants operating in the parish. Finfish are used mainly in the manufacture of cat food, fish meal, and fertilizer. Shellfish, mainly shrimp, oysters, crawfish, and crabs, are sold commercially.

The tourism industry took in $37,840,000 in 1990. Tourist attractions include walking tours, swamp boat tours, bus, and guided automobile tours, tours of four plantation homes, tours of seafood packing plants, and a marine science research facility.

Climate

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

Table 1 provides data on temperature and precipitation for the survey area as recorded at Houma 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 provides data on the length of the growing season.

Figure 3.—Off-shore oil platform construction and repair is a major industry from Houma to Morgan City

Figure 4.—A day's harvest of crawfish (approximately 1,300 pounds live weight) headed to market.

In winter, the average temperature is 54.7 degrees F and the average daily minimum temperature is 44.6 degrees. The lowest temperature on record, which occurred at Houma on December 23, 1989, was 10 degrees. In summer, the average temperature is 81.3 degrees and the average daily maximum temperature is 90.0 degrees. The highest temperature, which occurred at Houma on August 31, 2000, was 101 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 63.70 inches. Of this, about 53.87 inches, or 85 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 11.35 inches at Houma on May 31, 1959. Thunderstorms occur on about 69 days each year, and most occur between June and September.

The average seasonal snowfall is 0.1 inch. The greatest snow depth at any one time during the period of record was 2 inches recorded on December 23, 1989. Approximately 3 inches of snow fell on that day, and this was only the third time in 70 years that snow had fallen in Houma.

The average relative humidity in mid-afternoon is about 63 percent. Humidity is higher at night, and the average at dawn is about 88 percent. The sun shines 63 percent of the time in summer and 50 percent in winter. The prevailing wind is from the south from March to June, and generally from the northeast during all other months. Average wind speed is highest, around 9 miles per hour, from January to April.

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 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.

Pickup trucks were used to gain access to most parts of the survey area. In the marshes, where accessibility was limited, helicopters and boats provided transportation to the sample sites. In swamps, boats were used to gain access to the sites.

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

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

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of organic material, distribution of plant roots, reaction, fluidity, 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 (fig. 5). 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.

Figure 5.—Soil core, showing alternate layers of organic and mineral deposits, extracted from an area of Scatlake muck, tidal.

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.

This survey area was mapped at two levels of detail. At the more detailed level, map units are narrowly defined. Map unit boundaries were plotted and verified at closely spaced intervals. At the less detailed level, map units are broadly defined. Boundaries were plotted and verified at wider intervals. In the legend for the detailed soil maps, narrowly defined units are indicated by symbols in which the first letter is a capital and the second is lowercase. For broadly defined units, the first and second letters are capitals.

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

Map Unit Composition

A map unit delineation on a soil map represents an area dominated by one major kind of soil or an area dominated by two or three kinds of soil. A map unit is identified and named according to the taxonomic classification of the dominant soil or soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural objects. In common with other natural objects, they have a characteristic variability in their properties. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of soils of other taxonomic classes. Consequently, every map unit is made up of the soil or soils for which it is named and some soils that belong to other taxonomic classes. In the detailed soil map units these latter soils are called inclusions or included soils. In the general soil map units, they are called soils of minor extent.

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

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

General Soil Map Units

The general soil map 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 Natural Levees, None to Rarely Flooded

The map units in this group consist mainly of level, somewhat poorly drained and poorly drained, loamy and clayey soils that are on natural levees along Bayou Black, Bayou Blue, Bayou du Large, Bayou Terrebonne, and Bayou Grand Caillou and its former distributary channels, Bayou Petite Caillou and Bayou Pointe au Chien. Flooding ranges from none to frequent.

This group makes up about 9.5 percent of the land area of the parish. Most areas of these soils that are non-flooded or rarely flooded are in cropland or urban use. A few areas are used for pasture. Soils that are occasionally or frequently flooded are used mainly for woodland, wildlife habitat, and recreation.

Wetness, low strength, flooding, and the shrinking and swelling of the subsoil are the main limitations for urban uses.

1—Cancienne-Gramercy

Level, somewhat poorly drained and poorly drained soils that have a loamy or clayey surface layer and a clayey subsoil or that are loamy throughout; none or rarely flooded

Setting

Landform: Natural levee
Position on landform: The Cancienne soil is on the highest positions on natural levees; Gramercy soils are on intermediate and lower positions on the natural levees.
Distinctive landform features: None
Slope: 0 to 1 percent

Typical Profiles

Cancienne

Surface layer:
0 to 4 inches—dark grayish brown silt loam
4 to 8 inches—very dark grayish brown silt loam

Subsoil layer:
8 to 15 inches—grayish brown silt loam
15 to 30 inches—dark grayish brown silty clay loam
30 to 44 inches—grayish brown silt loam
44 to 65 inches—gray silt loam

Substratum layer:
65 to 74 inches—gray stratified very fine sandy loam and silty clay loam

Gramercy

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

Subsoil layer:
4 to 15 inches—dark gray silty clay with dark yellowish brown masses of oxidized iron
15 to 29 inches—gray silty clay with dark yellowish brown iron accumulations
29 to 40 inches—gray silty clay with brown iron accumulations
40 to 70 inches—gray silt loam with brown iron accumulations

Substratum layer:
70 to 80 inches—dark gray silty clay loam

Soil Properties and Qualities

Cancienne

Depth class: Very deep
Drainage class: Somewhat poorly drained
Water table: Perched at 1.5 to 4 feet
Flooding: None
Runoff: Medium
Permeability class: Moderately slow
Available water capacity: Moderate
Natural soil fertility: High
Shrink-swell potential: Moderate
Slope: Level or nearly level

Gramercy

Depth class: Very deep
Drainage class: Poorly drained
Water table: Apparent at 0 to 2 feet
Flooding: Rarely flooded
Runoff: Low
Permeability class: Moderately slow
Available water capacity: High
Natural soil fertility: High
Shrink-swell potential: Very high
Slope: Level or nearly level

Composition

Percent of the survey area: 3.3 percent
Cancienne soils: 67 percent
Gramercy soils: 18 percent
Minor soils: 15 percent (Schriever soils)

Land Use

Dominant uses: Cropland
Other uses: Pasture, woodland, residential

Cropland

Suitability: Moderately well suited
Management concerns: Wetness and poor tilth

Pasture and hayland

Suitability: Well suited
Management concerns: Wetness

Woodland

Suitability: Moderately well suited
Management concerns: Wetness, low strength, and stickiness

Wildlife habitat

Suitability for wetland wildlife: Moderately well suited for the Cancienne soil; well suited for the Schriever and Gramercy soils.
Suitability for woodland wildlife: Well suited

Urban Use

Septic tank absorption fields

Limitation rating: Severe
Limitations: Wetness and percs slowly

Dwelling without basements

Limitation rating: Moderate for the Cancienne soil; severe for the Schriever and Gramercy soils.
Limitations: Flooding, wetness, and shrink-swell

Local roads and streets

Limitation rating: Severe
Limitations: Low strength for the Cancienne soil; low strength, wetness, and shrink-swell for the Schriever and Gramercy soils.

Lawns, landscaping, and golf course fairways

Limitation rating: Moderate for the Cancienne soil; severe for the Schriever and Gramercy soils.
Limitations: Wetness for the Cancienne and Gramercy soils; wetness and too clayey for the Schriever soil.

Recreational Use

Camp and picnic areas

Limitation rating: Moderate for the Cancienne soil; severe for the Schriever and Gramercy soils.
Limitations: Flooding, wetness, and percs slowly

Playgrounds

Limitation rating: Moderate for the Cancienne soil; severe for the Schriever and Gramercy soils.

Limitations: Wetness for the Cancienne soil; wetness, too clayey, and percs slowly for the Schriever soil; wetness and percs slowly for the Gramercy soil.

2—Schriever

Level, poorly drained soils that have a clayey surface layer and subsoil; none to rarely flooded

Setting

Landform: Natural levee
Position on landform: Intermediate and lower positions on the natural levees
Distinctive landform features: None
Slope: 0 to 1 percent

Typical Profile

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

Subsoil layer:
7 to 46 inches—dark gray clay
46 to 60 inches—dark gray clay

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained
Water table: Apparent at 0 to 2 feet
Flooding: Occasionally flooded
Runoff: Low
Permeability class: Very slow
Available water capacity: High
Natural soil fertility: High
Shrink-swell potential: Very high
Slope: Level or nearly level

Composition

Percent of the survey area: 1.9 percent
Schriever soils: 85 percent
Minor soils: 15 percent (Cancienne, Fausse, and Gramercy soils)

Land Use

Dominant uses: Woodland, residential, and campsites
Other uses: Pasture

Cropland

Suitability: Poorly suited
Management concerns: Wetness, flooding, and the long narrowness of the delineations

Pasture and hayland

Suitability: Moderately well suited
Management concerns: Wetness and flooding

Woodland

Suitability: Moderately well suited
Management concerns: Wetness, flooding, low strength, and stickiness

Wildlife habitat

Suitability for wetland wildlife: Well suited
Suitability for woodland wildlife: Well suited

Urban Use

Septic tank absorption fields

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

Dwellings without basements

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

Local roads and streets

Limitation rating: Severe
Limitations: Low strength, flooding, and shrink-swell

Lawns, landscaping, and golf course fairways

Limitation rating: Severe
Limitations: Wetness and too clayey

Recreational Use

Camp and picnic areas

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

Playgrounds

Limitation rating: Severe
Limitations: Wetness, too clayey, and percs slowly

Soils on Natural Levees, Occasionally Flooded or Frequently Flooded

The map units in this group consist mainly of level, somewhat poorly drained and poorly drained, loamy and clayey soils that transition from natural levees to backswamps along Bayou Black, Bayou Blue, Bayou du Large, Bayou Terrebonne, and Bayou Grand Caillou and its former distributary channels, Bayou Petite Caillou and Bayou Pointe au Chien. Flooding ranges from none to frequent.

This group makes up about 5.8 percent of the land area of the parish. Most areas of these soils that are occasionally flooded or frequently flooded are in bottomland hardwood forest and used for timber, wildlife habitat, and recreation. A few areas are used for pasture. Soils that do not flood or are rarely flooded are used mainly for cropland and pastureland.

Wetness, low strength, flooding, and the shrinking and swelling of the subsoil are the main limitations for urban uses.

3—Schriever

Level, poorly drained soils that have a clayey surface layer and subsoil; occasionally flooded or frequently flooded

Setting

Landform: Flood plain
Position on landform: On low positions in the natural levees
Distinctive landform features: None
Slope: 0 to 1 percent

Typical Profiles

Surface layer:
0 to 4 inches—very dark gray clay

Subsoil layer:
4 to 18 inches—dark gray clay with yellowish brown iron accumulations
18 to 39 inches—dark gray clay with strong brown iron accumulations
39 to 48 inches—dark gray clay with dark yellowish brown iron accumulations
48 to 64 inches—gray clay with dark yellowish brown iron accumulations

Substratum layer:
64 to 75 inches—greenish gray clay with dark yellowish brown iron accumulations

Soil Properties and Qualities

Depth class: Very deep
Drainage class: Poorly drained
Water table: Apparent at 0 to 2 feet
Flooding: Frequently flooded
Runoff: Low
Permeability class: Very slow
Available water capacity: High
Natural soil fertility: High
Shrink-swell potential: Very high
Slope: Level or nearly level

Composition

Percent of the survey area: 3.1 percent
Schriever soils: 74 percent
Minor soils: 26 percent (Bancker, Barbary, Cancienne, Clovelly, Fausse, and Harahan soils)

Land Use

Dominant uses: Woodland and wildlife habitat
Other uses: Pasture

Cropland

Suitability: Unsuited
Management concerns: Wetness and flooding

Pasture and hayland

Suitability: Poorly suited
Management concerns: Wetness and flooding

Woodland

Suitability: Poorly suited
Management concerns: Wetness, flooding, low strength, and stickiness

Wildlife habitat

Suitability for wetland wildlife: Moderately well suited
Suitability for woodland wildlife: Moderately well suited

Urban Use

Septic tank absorption fields

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

Dwelling without basements

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

Local roads and streets

Limitation rating: Severe
Limitations: Flooding, low strength, and shrink-swell

Lawns, landscaping, and golf course fairways

Limitation rating: Severe
Limitations: Flooding, wetness, and too clayey

Recreational Use

Camp and picnic areas

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

Playgrounds

Limitation rating: Severe
Limitations: Flooding, too clayey, and wetness

Soils in Swamps

The map unit in this group consists of level, very poorly drained, mucky and clayey soils that are in swamps. These soils are flooded or ponded most of the time.

This group makes up about 11.1 percent of the land area of the parish. Most areas of these soils are in native vegetation and are used for woodland, recreation, and as habitat for wetland wildlife.

4—Barbary-Fausse

Level, very poorly drained soils that have a mucky or clayey surface layer and a clayey subsoil

Setting

Landform: Backswamp
Position on landform: Low, backswamps adjacent to major water bodies and freshwater or intermediate marshes
Distinctive landform features: Cypress, mixed cypress, and hardwood swamps
Slope: 0 to 0.5 percent

Typical Profiles

Barbary

Surface layer:
0 to 5 inches—dark brown muck
5 to 9 inches—dark gray mucky clay

Substratum layer:
9 to 55 inches—dark gray clay with light olive brown iron accumulations
55 to 65 inches—gray mucky clay

Fausse

Surface layer:
0 to 4 inches—dark gray clay

Subsoil layer:
4 to 19 inches—gray clay with yellowish brown iron accumulations
19 to 50 inches—greenish gray clay with dark yellowish brown iron accumulations

Substratum layer:
50 to 65 inches—dark greenish gray clay

Soil Properties and Qualities

Barbary

Depth class: Very deep
Drainage class: Very poorly drained
Water table: Apparent at 1 foot above the surface to 0.5 feet
Flooding: Frequently flooded
Runoff: Negligible
Permeability class: Very slow
Available water capacity: Very high
Natural soil fertility: Very high
Shrink-swell potential: While the soil is continuously saturated, the shrink-swell potential is low. If the soil is drained, the shrink-swell potential is very high.
Subsidence: Medium
Slope: Level

Fausse

Depth class: Very deep
Drainage class: Very poorly drained
Water table: Apparent at 1 foot above the surface to 1.5 feet
Flooding: Frequently flooded
Runoff: Negligible
Permeability class: Very slow
Available water capacity: Moderate
Natural soil fertility: High
Shrink-swell potential: Very high
Slope: Level

Composition

Percent of the survey area: 6.0 percent
Barbary soils: 49 percent
Fausse soils: 33 percent
Minor soils: 18 percent (Harahan, Kenner, Larose, Maurepas, and Schriever soils)

Land Use

Dominant uses: Woodland
Other uses: Wetland wildlife habitat and extensive recreation, such as hunting and fishing

Cropland

Suitability: Unsuited
Management concerns: Flooding, ponding, and low strength

Pasture and hayland

Suitability: Unsuited
Management concerns: Flooding, ponding, and low strength

Woodland

Suitability: Unsuited
Management concerns: Wetness, flooding, ponding, low strength, and stickiness

Wildlife habitat

Suitability for wetland wildlife: Moderately well suited for the Barbary soil; and well suited for the Fausse soil.
Suitability for woodland wildlife: Unsuited for the Barbary soil; poorly suited for the Fausse soil.

Urban Use

Septic tank absorption fields

Limitation rating: Severe for the Barbary soil; and severe for the Fausse soil.
Limitations: Flooding, wetness, ponding, and percs slowly for the Barbary soil; and flooding, ponding, wetness, and percs slowly for the Fausse soil.

Dwelling without basements

Limitation rating: Severe for the Barbary soil; and severe for the Fausse soil.
Limitations: Flooding, low strength, wetness, ponding, and subsidence for the Barbary soil; and flooding, ponding, wetness, and shrink-swell for the Fausse soil.

Local roads and streets

Limitation rating: Severe for the Barbary soil; and severe for the Fausse soil.
Limitations: Low strength, subsidence, wetness, ponding, and flooding for the Barbary soil; and shrink-swell, low strength, wetness, and flooding for the Fausse soil.

Lawns, landscaping, and golf course fairways

Limitation rating: Severe for the Barbary soil; and severe for the Fausse soil.
Limitations: Ponding, flooding, wetness, and excess humus for the Barbary soil; and wetness, flooding, ponding, and too clayey for the Fausse soil.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Flooding, ponding, percs slowly, excess humus, wetness, and too clayey

Playgrounds

Limitation rating: Severe
Limitations: Too clayey, ponding, flooding, excess humus, wetness, and percs slowly

Soils of the Former Marshes and Swamps That Have Been Drained

The map unit in this group consists of level, poorly drained clayey soils in drained swamps and marshes. The soils are protected from most floods by levees and are drained by pumps. Flooding is occasional, but it can occur more often during severe storms or when protection levees fail.

This group makes up about 1.4 percent of the land area of the parish. Most areas are in woodland and pasture. Some areas are developed for urban uses or they are idle land reserved for future urban uses. Flooding, wetness, low strength, subsidence, and shrink-swell are the main limitations.

5—Rita-Harahan

Level, poorly drained soils that have a clayey or mucky surface layer and a clayey or loamy subsoil; in former swamps and marshes

Setting

Landform: Drained backswamps and marshes
Position on landform: Harahan soils are in artificially drained areas on low-lying backswamps. The Rita soils are in artificially drained marsh areas along fringes of wooded backswamps.
Distinctive landform features: None
Slope: 0 to 1 percent

Typical Profiles

Rita

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

Subsoil layer:
4 to 24 inches—dark gray clay with dark yellowish brown iron accumulations
24 to 36 inches—gray clay with dark yellowish brown iron accumulations

Substratum layer:
36 to 42 inches—gray, moderately fluid, silty clay loam
42 to 80 inches—gray, very fluid, stratified silt loam and very fine sandy loam

Harahan

Surface layer:
0 to 9 inches—very dark gray clay

Subsoil layer:
9 to 30 inches—dark gray clay with dark yellowish brown iron accumulations

Substratum layer:
30 to 35 inches—gray, slightly fluid, clay
35 to 75 inches—dark gray, very fluid, clay

Soil Properties and Qualities

Rita

Depth class: Very deep
Drainage class: Poorly drained
Water table: Apparent at 1 to 3 feet
Flooding: Occasionally flooded
Runoff: Low
Permeability class: Very slow
Available water capacity: High
Natural soil fertility: High
Shrink-swell potential: High
Subsidence: Medium
Slope: Level or nearly level

Harahan

Depth class: Very deep
Drainage class: Poorly drained
Water table: Apparent at 1 to 3 feet
Flooding: Occasionally flooded
Runoff: Low
Permeability class: Very slow
Available water capacity: Moderate
Natural soil fertility: High
Shrink-swell potential: Very high
Subsidence: Medium
Slope: Level or nearly level

Composition

Percent of the survey area: 0.8 percent
Rita soils: 69 percent
Harahan soils: 16 percent
Minor soils: 15 percent (Aquents, Barbary, Fausse, Larose, and Schriever soils)

Land Use

Dominant uses: Woodland and pasture
Other uses: Recreational areas and campsites

Cropland

Suitability: Unsuited
Management concerns: Wetness and flooding

Pasture and hayland

Suitability: Unsuited
Management concerns: Wetness and flooding

Woodland

Suitability: Unsuited
Management concerns: Wetness, flooding, low strength, and stickiness

Wildlife habitat

Suitability for wetland wildlife: Well suited
Suitability for woodland wildlife: Moderately well suited

Urban Use

Septic tank absorption fields

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

Dwelling without basements

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

Local roads and streets

Limitation rating: Severe
Limitations: Low strength, flooding, and shrink-swell

Lawns, landscaping, and golf course fairways

Limitation rating: Severe
Limitations: Too clayey for the Harahan soil; excess humus for the Rita soil.

Recreational Use

Camp and picnic areas

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

Playgrounds

Limitation rating: Severe
Limitations: Too clayey, percs slowly, and wetness for the Harahan soil; wetness, excess humus, and percs slowly for the Rita soil.

Soils in Freshwater Marshes or Intermediate Marshes

The four map units in this group consist of level, very poorly drained, mucky and clayey soils that are in marshes. These soils are flooded or ponded most of the time.

This group makes up about 37.1 percent of the land area of the parish. Most areas of these soils are in native vegetation and are used for recreation and as habitat for wetland wildlife.

6—Kenner-Allemands-Larose

Level, very poorly drained soils that have a mucky surface layer and a mucky or clayey underlying material; in freshwater marshes

Setting

Landform: Freshwater marsh
Position on landform: Freshwater areas on the landward side of the coastal marsh
Distinctive landform features: Areas are ponded and flooded by freshwater most of the time.
Slope: 0 to 0.2 percent

Typical Profiles

Kenner

Surface layer:
0 to 12 inches—very dark grayish brown muck

Subsurface layer:
12 to 19 inches—very dark grayish brown muck
19 to 23 inches—gray, very fluid, clay

Bottom tier:
23 to 42 inches—very dark gray muck
42 to 43 inches—dark gray, very fluid, clay
43 to 65 inches—black muck

Substratum layer:
65 to 84 inches—very dark gray, very fluid, clay

Allemands

Surface tier:
0 to 10 inches—dark brown muck

Subsurface tier:
10 to 30 inches—very dark gray muck

Substratrum layer:
30 to 48 inches—dark gray, very fluid, clay
48 to 72 inches—dark greenish gray, very fluid, clay

Larose

Surface layer:
0 to 8 inches—dark gray muck

Substratum layer:
8 to 96 inches—gray, very fluid, clay

Soil Properties and Qualities

Kenner

Depth class: Very deep
Drainage class: Very poorly drained
Water table: Apparent at 1 foot above the surface to 0.5 feet below the surface
Flooding: Very frequently flooded
Runoff: Negligible
Permeability class: Rapid in the organic layers; very slow in the clayey layers
Available water capacity: High
Natural soil fertility: Very high
Shrink-swell potential: Low
Subsidence: High
Slope: Level

Allemands

Depth class: Very deep
Drainage class: Very poorly drained
Water table: Apparent at 1 foot above the surface to 0.5 feet below the surface
Flooding: Very frequently flooded
Runoff: Negligible
Permeability class: Rapid in the organic layers; very slow in the underlying clayey layers
Available water capacity: High
Natural soil fertility: Very high

Shrink-swell potential: While the soil is continuously saturated, the shrink-swell potential is low. If the soil is drained, the shrink-swell potential is very high in the underlying clayey layers.
Subsidence: High
Slope: Level

Larose

Depth class: Very deep
Drainage class: Very poorly drained
Water table: Apparent at 1 foot above the surface to 0.5 feet below the surface
Flooding: Very frequently flooded
Runoff: Negligible
Permeability class: Very slow
Available water capacity: High
Natural soil fertility: High
Shrink-swell potential: Low
Subsidence: Medium
Slope: Level

Composition

Percent of the survey area: 16.7 percent
Kenner soils: 45 percent
Allemands soils: 31 percent
Larose soils: 7 percent
Minor soils: 17 percent (Barbary, Carlin, and Harahan soils)

Land Use

Dominant uses: Wetland wildlife habitat
Other uses: Extensive forms of recreation, such as hunting and fishing

Cropland

Suitability: Unsuited
Management concerns: Wetness, flooding, low strength, and poor accessibility

Pasture and hayland

Suitability: Unsuited
Management concerns: Wetness, flooding, low strength, and poor accessibility

Woodland

Suitability: Unsuited
Management concerns: Wetness, low strength, poor accessibility, and flooding

Wildlife habitat

Suitability for wetland wildlife: Well suited
Suitability for woodland wildlife: Unsuited

Urban Use

Septic tank absorption fields

Limitation rating: Severe for the Kenner soil; severe for the Allemands soil; and severe for the Larose soil.
Limitations: Wetness, ponding, subsidence, flooding, and poor filter for the Kenner soil; wetness, flooding, percs slowly, ponding, and subsidence for the Allemands soil; and wetness, percs slowly, flooding, and ponding for the Larose soil.

Dwelling without basements

Limitation rating: Severe for the Kenner soil; severe for the Allemands soil; and severe for the Larose soil.
Limitations: Wetness, low strength, flooding, subsidence, ponding for the Kenner soil; wetness, low strength, flooding, subsidence, ponding for the Allemands soil; and wetness, low strength, flooding, subsidence, ponding for the Larose soil.

Local roads and streets

Limitation rating: Severe for the Kenner soil; severe for the Allemands soil; and severe for the Larose soil.
Limitations: Wetness, low strength, flooding, subsidence, and ponding for the Kenner soil; wetness, low strength, flooding, subsidence, and ponding for the Allemands soil; and wetness, low strength, flooding, subsidence, and ponding for the Larose soil.

Lawns, landscaping, and golf course fairways

Limitation rating: Severe for the Kenner soil; severe for the Allemands soil; and severe for the Larose soil.
Limitations: Wetness, excess humus, flooding, and ponding for the Kenner soil; wetness, excess humus, flooding, and ponding for the Allemands soil; wetness, excess humus, flooding, and ponding for the Larose soil.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Flooding, ponding, excess humus, percs slowly, and wetness

Playgrounds

Limitation rating: Severe
Limitations: Ponding, flooding, excess humus, wetness, and percs slowly

7—Clovelly-Lafitte

Level, very poorly drained soils that have a mucky surface layer and a mucky or clayey underlying material; in intermediate marshes

Setting

Landform: Intermediate coastal marsh
Position on landform: Intermediate areas of the coastal marsh
Distinctive landform features: Areas are ponded and flooded by very slightly saline water most of the time.
Slope: 0 to 0.2 percent

Typical Profiles

Clovelly

Organic layer:
0 to 24 inches—very dark grayish brown muck
24 to 40 inches—very dark gray muck

Substratum layer:
40 to 54 inches—gray, very fluid, clay
54 to 80 inches—dark gray, very fluid, clay

Lafitte

Organic layer:
0 to 24 inches—very dark gray muck
24 to 48 inches—black muck
48 to 52 inches—dark gray muck

Substratum layer:
52 to 80 inches—dark gray, very fluid, clay

Soil Properties and Qualities

Clovelly

Depth class: Very deep
Drainage class: Very poorly drained
Water table: Apparent at 1 foot above the surface to 0.5 feet below the surface
Flooding: Very frequently flooded
Runoff: Negligible
Permeability class: Rapid in the organic layers; very slow in the clayey underlying material
Available water capacity: Very high
Natural soil fertility: High
Shrink-swell potential: Low
Subsidence: High
Slope: Level

Lafitte

Depth class: Very deep
Drainage class: Very poorly drained
Water table: Apparent at 1 foot above the surface to 0.5 feet below the surface
Flooding: Very frequently flooded
Runoff: Negligible
Permeability class: Rapid in the organic layers; very slow in the clayey underlying material
Available water capacity: Low
Natural soil fertility: Medium
Shrink-swell potential: Low
Subsidence: High
Slope: Level

Composition

Percent of the survey area: 3.5 percent
Lafitte soils: 36 percent
Clovelly soils: 46 percent
Minor soils: 18 percent (Allemands, Aquents, Bancker, Harahan, Kenner, and Larose soils)

Land Use

Dominant uses: Wetland wildlife habitat
Other uses: Extensive forms of recreation, such as hunting and fishing

Cropland

Suitability: Unsuited
Management concerns: Wetness, flooding, low strength, salinity, and poor accessibility

Pasture and hayland

Suitability: Unsuited
Management concerns: Wetness, flooding, low strength, salinity, and poor accessibility

Woodland

Suitability: Unsuited
Management concerns: Wetness, low strength, poor accessibility, salinity, and flooding

Wildlife habitat

Suitability for wetland wildlife: Well suited
Suitability for woodland wildlife: Unsuited

Urban Use

Septic tank absorption fields

Limitation rating: Severe for the Clovelly soil; severe for the Lafitte soil.
Limitations: Wetness, flooding, percs slowly, ponding, and subsidence for the Clovelly soil; wetness, ponding, subsidence, flooding, and poor filter for the Lafitte soil.

Dwelling without basements

Limitation rating: Severe for the Lafitte soil; severe for the Clovelly soil; and severe for the Bancker soil.
Limitations: Wetness, low strength, flooding, subsidence, ponding for the Lafitte soil; wetness, low strength, flooding, subsidence, ponding for the Clovelly soil; and wetness.

Local roads and streets

Limitation rating: Severe for the Clovelly soil; severe for the Lafitte soil.
Limitations: Wetness, low strength, flooding, subsidence, and ponding for the Clovelly soil; wetness, low strength, flooding, subsidence, and ponding for the Lafitte soil.

Lawns, landscaping, and golf course fairways

Limitation rating: Severe for the Clovelly soil; severe for the Lafitte soil.
Limitations: Wetness, excess humus, flooding, and ponding for the Clovelly soil; wetness, excess humus, flooding, and ponding for the Lafitte soil.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Flooding, ponding, excess humus, percs slowly, and wetness

Playgrounds

Limitation rating: Severe
Limitations: Ponding, flooding, excess humus, wetness, and percs slowly

Soils in Brackish Marshes or Saline Marshes

The two map units in this group consist of level, very poorly drained, mucky and clayey soils that are in marshes. These soils are flooded or ponded most of the time.

This group makes up about 31.6 percent of the land area of the parish. Most areas of these soils are in native vegetation and are used for recreation and as habitat for wetland wildlife.

8—Clovelly-Lafitte

Level, very poorly drained soils that have a mucky surface layer and a mucky or clayey underlying material; in brackish marshes

Setting

Landform: Brackish coastal marsh
Position on landform: Brackish areas of the coastal marsh
Distinctive landform features: Areas are ponded and flooded by brackish water most of the time.
Slope: 0 to 0.2 percent

Typical Profiles

Clovelly

Surface tier:
0 to 12 inches—very dark grayish brown muck

Subsurface tier:
12 to 30 inches—very dark grayish brown muck

Bottom tier:
30 to 38 inches—black muck

Substratum layer:
38 to 75 inches—gray clay

Lafitte

Surface layer:
0 to 24 inches—dark grayish brown muck

Subsurface layer:
24 to 55 inches—dark brown muck
55 to 80 inches—very dark gray muck

Soil Properties and Qualities

Clovelly

Depth class: Very deep
Drainage class: Very poorly drained
Water table: Apparent at 1 foot above the surface to 0.5 feet below the surface
Flooding: Very frequently flooded
Runoff: Negligible
Permeability class: Rapid in the organic surface layer; very slow in the clayey underlying material
Available water capacity: Very high
Natural soil fertility: High
Shrink-swell potential: Low
Subsidence: High
Slope: Level

Lafitte

Depth class: Very deep

Drainage class: Very poorly drained
Water table: Apparent at 1 foot above the surface to 0.5 feet below the surface
Flooding: Very frequently flooded
Runoff: Negligible
Permeability class: Moderately rapid in organic layers
Available water capacity: Low
Natural soil fertility: Medium
Shrink-swell potential: Low
Subsidence: High
Slope: Level

Composition

Percent of the survey area: 7.0 percent
Clovelly soils: 48 percent
Lafitte soils: 33 percent
Minor soils: 19 percent (Allemands, Bancker, Bellpass, Kenner, Larose, Scatlake, and Timbalier soils)

Land Use

Dominant uses: Wetland wildlife habitat
Other uses: Extensive forms of recreation, such as hunting and fishing

Cropland

Suitability: Unsuited
Management concerns: Wetness, flooding, low strength, salinity, and poor accessibility

Pasture and hayland

Suitability: Unsuited
Management concerns: Wetness, flooding, low strength, salinity, and poor accessibility

Woodland

Suitability: Unsuited
Management concerns: Wetness, low strength, poor accessibility, salinity, and flooding

Wildlife habitat

Suitability for wetland wildlife: Well suited
Suitability for woodland wildlife: Unsuited

Urban Use

Septic tank absorption fields

Limitation rating: Severe for the Clovelly soil; severe for the Lafitte soil.
Limitations: Wetness, flooding, percs slowly, ponding, and subsidence for the Clovelly soil; wetness, ponding, subsidence, flooding, and poor filter for the Lafitte soil.

Dwelling without basements

Limitation rating: Severe for the Clovelly soil; severe for the Lafitte soil.
Limitations: Wetness, low strength, flooding, subsidence, and ponding for the Clovelly soil; wetness, low strength, flooding, subsidence, and ponding for the Lafitte soil.

Local roads and streets

Limitation rating: Severe for the Clovelly soil; severe for the Lafitte soil.
Limitations: Wetness, low strength, flooding, subsidence, and ponding for the Clovelly soil; wetness, low strength, flooding, subsidence, and ponding for the Lafitte soil.

Lawns, landscaping, and golf course fairways

Limitation rating: Severe for the Clovelly soil; severe for the Lafitte soil.
Limitations: Wetness, excess humus, flooding, and ponding for the Clovelly soil; wetness, excess humus, flooding, and ponding for the Lafitte soil.

Recreational Use

Camp and picnic areas

Limitation rating: Severe
Limitations: Flooding, ponding, excess humus, percs slowly, and wetness

Playgrounds

Limitation rating: Severe
Limitations: Ponding, flooding, excess humus, wetness, and percs slowly

9—Timbalier-Bellpass-Scatlake

Level, very poorly drained soils that have a mucky surface layer and a mucky or clayey underlying material; in saline marshes

Setting

Landform: Saline coastal marsh
Position on landform: Saline areas on the coastal marsh
Distinctive landform features: Areas are ponded and flooded by saline water most of the time.
Slope: 0 to 0.2 percent

Typical Profiles

Timbalier

Surface layer:
0 to 24 inches—very dark grayish brown muck

Subsurface layer:
24 to 46 inches—dark brown muck
46 to 62 inches—very dark gray muck

Substratum layer:
62 to 80 inches—gray, very fluid, clay

Bellpass

Surface layer:
0 to 30 inches—dark brown muck
30 to 48 inches—dark gray mucky clay

Substratum layer:
48 to 80 inches—dark gray clay

Scatlake

Surface layer:
0 to 8 inches—dark gray muck

Substratum layer:
8 to 75 inches—gray, very fluid, clay***Soil Properties and Qualities***

Timbalier

Depth class: Very deep
Drainage class: Very poorly drained
Water table: Apparent at 1.0 feet above the surface to 0.5 feet below the soil surface
Flooding: Very frequently flooded
Runoff: Negligible
Permeability class: Rapid
Available water capacity: Low
Natural soil fertility: Very high
Shrink-swell potential: Low
Subsidence: Very high
Slope: Level or nearly level

Bellpass

Depth class: Very deep
Drainage class: Very poorly drained
Water table: Apparent at 1.0 foot above the surface to 0.5 feet below the soil surface
Flooding: Very frequently flooded
Runoff: Negligible
Permeability class: Rapid in the organic layers; very slow in the underlying clayey layers.
Available water capacity: Very high
Shrink-swell potential: Low
Subsidence: High
Slope: Level or nearly level

Scatlake

Depth class: Very deep
Drainage class: Very poorly drained
Water table: Apparent at 1.0 foot above the surface to 0.5 feet below the soil surface
Flooding: Very frequently flooded
Runoff: Negligible
Permeability class: Very slow
Available water capacity: Very high
Shrink-swell potential: Low
Subsidence: Medium
Slope: Level or nearly level

Composition

Percent of the survey area: 10.3 percent
Timbalier soils: 43 percent
Bellpass soils: 25 percent
Scatlake soils: 15 percent
Minor soils: 17 percent (Felicity and Lafitte soils)

Land Use

Dominant uses: Wetland wildlife habitat
Other uses: Extensive forms of recreation, such as hunting and fishing

Cropland

Suitability: Unsuited
Management concerns: Wetness, flooding, low strength, salinity, and poor accessibility

Pasture and hayland

Suitability: Unsuited
Management concerns: Wetness, flooding, low strength, salinity, and poor accessibility

Woodland

Suitability: Unsuited
Management concerns: Wetness, low strength, poor accessibility, salinity, and flooding

Wildlife habitat

Suitability for wetland wildlife: Well suited
Suitability for woodland wildlife: Unsuited

Urban Use

Septic tank absorption fields

Limitation rating: Severe for the Timbalier soil; severe for the Bellpass soil; and severe for the Scatlake soil.
Limitations: Wetness, ponding, subsidence, flooding, and poor filter for the Timbalier soil; wetness, flooding, percs slowly, ponding, and subsidence for the Bellpass soil; and wetness, percs slowly, flooding, and ponding for the Scatlake soil.

Dwelling without basements

Limitation rating: Severe for the Timbalier soil; severe for the Bellpass soil; and severe for the Scatlake soil.
Limitations: Wetness, low strength, flooding, subsidence, ponding for the Timbalier soil; wetness, low strength, flooding, subsidence, ponding for the Bellpass soil; and wetness, low strength, flooding, subsidence, ponding for the Scatlake soil.

Local roads and streets

Limitation rating: Severe for the Timbalier soil; severe for the Bellpass soil; and severe for the Scatlake soil.
Limitations: Wetness, low strength, flooding, subsidence, ponding for the Timbalier soil; wetness, low strength, flooding, subsidence, ponding for the Bellpass soil; and wetness, low strength, flooding, subsidence, ponding for the Scatlake soil.

Lawns, landscaping, and golf course fairways

Limitation rating: Severe for the Timbalier soil; severe for the Bellpass soil; and severe for the Scatlake soil.
Limitations: Wetness, excess salt, excess humus, flooding, ponding for the Timbalier soil; wetness, excess salt, excess humus, flooding, ponding for the Bellpass soil; wetness, excess salt, excess humus, flooding, ponding for the Scatlake soil.

Recreational Use

Camp and picnic areas

Limitation rating: Severe

Limitations: Flooding, ponding, excess humus, excess salt, percs slowly, and wetness

Playgrounds

Limitation rating: Severe
Limitations: Ponding, flooding, excess humus, wetness, and percs slowly

Soils in Spoil Areas

The map unit in this group consists mainly of level and gently sloping, poorly drained, variable-textured soils on spoil banks. The soils are subject to rare or occasional flooding.

This group makes up 3.2 percent of the land area of the parish. Most areas are used as wildlife habitat and are not suited to cropland or for growing trees. Flooding, wetness, subsidence and low bearing strength are the main limitations.

Composition

Percent of the survey area: 1.7 percent
Aquents soils: 85 percent
Minor soils: 15 percent (Bancker, Barbary, Bellpass, Clovelly, Fausse, Felicity, Kenner, Lafitte, Larose, Maurepas, Scatlake, Schriever, and Timbalier soils)

10—Aquents

Level, poorly drained soils that are stratified and have variable textures; on spoil banks

Soils in Urban Areas

This map unit in this group consists of areas where more than 85 percent of the surface is covered by asphalt, concrete, buildings, or other impervious surfaces. The soils are protected from most floods by levees and are drained by pumps. Flooding is rare, but it can occur more often during severe storms or when protection levees fail.

This group makes up about 0.3 percent of the land area of the parish. Flooding, wetness, low strength, subsidence, and shrink-swell are the main limitations.

11—Urban land

Level areas in which more than 85 percent of the surface is covered by asphalt, concrete, buildings, or other impervious surfaces; typically on natural levees

Composition

Percent of the survey area: 0.13 percent
Urban land: 93 percent
Minor soils: 7 percent (Schriever soils)

Detailed Soil Map Units

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

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

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

The presence of minor components 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, 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, Allemands muck, very frequently flooded is a phase of the Allemands series.

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

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

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

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

AEA—Allemands muck, very frequently flooded

Map Unit Composition

Major components

Allemands and similar soils: 79 to 91 percent

Contrasting inclusions

Aquents soils: 2 percent. On higher positions adjacent to streams and canals and consist of hydraulically deposited, dredged fill material.

Barbary soils: 2 percent. In swamps and are fluid, mineral soils.

Carlin soils: 3 percent. On similar to slightly lower positions and have a higher fiber content and have a water layer within the control section.

Harahan soils: 2 percent. In artificially drained swamps and have a nonfluid, clayey solum.

Kenner soils: 3 percent. On similar positions and have an organic layer more than 51 inches thick.

Larose soils: 3 percent. On areas on the landward side of the Allemands soils and are fluid, mineral soils.

Component Descriptions

MLRA 151—Gulf Coast Marsh

Landform: Landward side of the low coastal freshwater marsh on delta plain

Landform position: Linear areas

Parent material: Herbaceous organic material over fluid clayey alluvium

Slope: 0.0 to 0.2 percent

Surface fragments: None

Depth to restrictive feature: None

Drainage class: Very poorly drained

Slowest saturated hydraulic conductivity: Very slow or impermeable (about 0.01 micrometer/second)

Available water capacity: Very high (about 15.3 inches)

Shrink-swell potential: Low (about 1.5 LEP)

Flooding hazard: Very frequent

Ponding hazard: Frequent

Depth to seasonal water saturation: From the surface to a depth of 6 inches, apparent

Runoff class: High

Ecological site: Fresh Organic Marsh
Non-irrigated land capability: 8w

Typical Profile

Surface tier:
0 to 10 inches—dark brown muck

Subsurface tier:
10 to 30 inches—very dark gray muck

Substratrum layer:
30 to 48 inches—dark gray, very fluid, clay
48 to 80 inches—dark greenish gray, very fluid, clay

Use and Management Considerations

Major land uses: Wetland wildlife habitat and extensive forms of recreation, such as hunting and fishing.

Cropland

- These soils are generally not suited to cropland.
- Crops are commonly not grown because of frequent flooding.

Pastureland

- These soils are generally not suited to pasture.

Woodland

- These soils are not suitable for the production of trees.

Building sites

- When drained, the layers in this soil subside. Subsidence leads to differential rates of settlement, which may cause foundations to break. Because of the high potential for subsidence, this soil is generally not suitable for building site development.
- Because water tends to pond on this soil, the period when excavations can be made may be restricted and intensive construction site development and building maintenance may be needed. The soil is generally not suitable for building site development.

Septic tank absorption fields

- These soils are generally not suitable for septic tank absorption fields. The flooding in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Floodwaters may damage some components of septic systems.
- Because of ponding, this soil is generally not suitable for use as a site for septic tank absorption fields.

Local roads and streets

- Ponding affects the ease of excavation and grading and limits the bearing capacity of this soil.
- Subsidence of the soil layers reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.

- Special design of roads and bridges is needed to prevent the damage caused by flooding.

ARA—Allemands and Carlin soils, very frequently flooded

Map Unit Composition

Major components
Allemands and similar soils: 38 to 52 percent
Carlin and similar soils: 33 to 47 percent

Contrasting inclusions
Aquents soils: 4 percent. On higher positions adjacent to streams and canals and consist of hydraulically deposited, dredged fill material.
Barbary soils: 4 percent. In swamps at slightly higher elevations and are fluid mineral soils.
Kenner soils: 4 percent. On similar to slightly lower positions and have thin layers of mineral material within the organic material.
Larose soils: 3 percent. On similar to slightly higher positions and are also fluid mineral soils.

Component Descriptions

Allemands
MLRA 151—Gulf Coast Marsh
Landform: Marsh on delta plain
Landform position: Linear areas
Parent material: Herbaceous organic material over fluid clayey alluvium
Slope: 0.0 to 0.2 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Very slow or impermeable (about 0.01 micrometer/second)
Available water capacity: Very high (about 15.1 inches)
Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: Very frequent
Ponding hazard: Frequent
Depth to seasonal water saturation: From the surface to a depth of 6 inches, apparent
Runoff class: High
Ecological site: Fresh Organic Marsh
Non-irrigated land capability: 8w

Carlin
MLRA 151—Gulf Coast Marsh
Landform: Marsh on delta plain
Landform position: Linear areas
Parent material: Thick, undecomposed herbaceous organic material over very fluid clayey alluvium
Slope: 0.0 to 0.2 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Rapid (about 42.34 micrometers/second)
Available water capacity: Very high (about 13.8 inches)
Shrink-swell potential: Low (about 1.5 LEP)

Flooding hazard: Very frequent
Ponding hazard: Frequent
Depth to seasonal water saturation: From the surface to a depth of 6 inches, apparent
Runoff class: High
Ecological site: Fresh Organic Marsh
Non-irrigated land capability: 8w

Typical Profile

Allemands
Organic layer:
0 to 20 inches—Very dark gray muck
20 to 29 inches—Black muck

Substratum layer:
29 to 80 inches—Dark gray, very fluid, clay

Carlin
Surface layer:
0 to 8 inches—Very dark gray peat

Subsurface layer:
8 to 28 inches—Water with about 15 percent fiber (root) suspended from above

Substratum layer:
28 to 51 inches—Dark gray peat
51 to 80 inches—Very dark gray, very fluid, mucky clay

Use and Management Considerations

Major land uses: Wetland wildlife habitat and extensive forms of recreation, such as hunting and fishing.

Cropland

- These soils are generally not suited to cropland.
- Crops are commonly not grown because of frequent flooding.

Pastureland

- These soils are generally not suited to pasture.

Woodland

- These soils are not suitable for the production of trees.

Building sites

- When drained, the layers in this soil subside. Subsidence leads to differential rates of settlement, which may cause foundations to break. Because of the high potential for subsidence, this soil is generally not suitable for building site development.
- Because water tends to pond on this soil, the period when excavations can be made may be restricted and intensive construction site development and building maintenance may be needed. The soil is generally not suitable for building site development.

Septic tank absorption fields

- These soils are generally not suitable for septic tank absorption fields. The flooding in areas of this soil greatly limits the absorption and proper treatment

of the effluent from septic systems. Floodwaters may damage some components of septic systems.
- Because of ponding, this soil is generally not suitable for use as a site for septic tank absorption fields.

Local roads and streets

- Ponding affects the ease of excavation and grading and limits the bearing capacity of this soil.
- Subsidence of the soil layers reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.
- Special design of roads and bridges is needed to prevent the damage caused by flooding.

ATA—Aquents, dredged

Map Unit Composition

Major components
Aquents and similar soils: 80 to 90 percent

Contrasting inclusions
Roads and structures: 15 percent

Component Descriptions

Aquents

MLRA 151—Gulf Coast Marsh
Landform: Natural levee on delta plain
Landform position: Linear areas
Parent material: Unspecified
Slope: 0 to 1 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Unspecified
Slowest saturated hydraulic conductivity: Unspecified
Available water capacity: Unspecified
Shrink-swell potential: Unspecified
Flooding hazard: Rare
Ponding hazard: None
Depth to seasonal water saturation: Unspecified
Runoff class: Unspecified
Ecological site: Unspecified
Non-irrigated land capability: Unspecified

Typical Profile

All layers: Profiles are variable in color and texture of soil materials.

Use and Management Considerations

Major land uses: Wildlife habitat, woodland, livestock grazing, and residential.

Cropland

- These soils are generally not suited to cropland.

Pastureland

- These soils are generally not suited to pasture.

Woodland

- These soils are not suitable for the production of trees.

Building sites

- When drained, the layers in this soil subside. Subsidence leads to differential rates of settlement, which may cause foundations to break. Because of the high potential for subsidence, this soil is generally not suitable for building site development.
- Because the soil remains continuously saturated, the period when excavations can be made may be restricted and intensive construction site development and building maintenance may be needed. The soil is generally not suitable for building site development.

Septic tank absorption fields

- These soils are generally not suitable for septic tank absorption fields. The flooding in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Floodwaters may damage some components of septic systems.

Local roads and streets

- Subsidence of the soil layers reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.
- Special design of roads and bridges is needed to prevent the damage caused by flooding.

ATB—Aquents, dredged, 1 to 5 percent slopes, occasionally flooded

Map Unit Composition

Major components
Aquents and similar soils: 80 to 90 percent

Contrasting inclusions
Allemands soils: 2 percent. In adjacent marsh and swamps
Bancker soils: 1 percent. In adjacent marshes
Barbary soils: 1 percent. In adjacent swamps
Bellpass soils: 1 percent. In adjacent marshes
Clovelly soils: 1 percent. In adjacent marshes
Fausse soils: 1 percent. In adjacent swamps
Felicity soils: 1 percent. In adjacent marshes
Kenner soils: 1 percent. In adjacent marsh and swamps
Lafitte soils: 1 percent. In adjacent marsh and swamps
Larose soils: 1 percent. In adjacent marsh and swamps
Maurepas soils: 1 percent. In adjacent marsh and swamps
Scatlake soils: 1 percent. In adjacent marshes
Schriever soils: 1 percent. In adjacent marsh and swamps
Timbalier soils: 1 percent. In adjacent marshes

Component Descriptions

Aquents
MLRA 131A—Southern Mississippi River Alluvium
Landform: Marsh on delta plain; backswamp on delta plain
Landform position: Linear areas
Parent material: Unspecified
Slope: 1 to 5 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Unspecified
Slowest saturated hydraulic conductivity: Unspecified
Available water capacity: Unspecified
Shrink-swell potential: Unspecified
Flooding hazard: Occasional
Ponding hazard: None
Depth to seasonal water saturation: Unspecified
Runoff class: Unspecified
Ecological site: Unspecified
Non-irrigated land capability: Unspecified

Use and Management Considerations

Major land uses: Wildlife habitat and recreation.

Cropland

- These soils are generally not suited to cropland.

Pastureland

- These soils are generally not suited to pasture.

Woodland

- These soils are not suitable for the production of trees.

Building sites

- When drained, the layers in this soil subside. Subsidence leads to differential rates of settlement, which may cause foundations to break. Because of the high potential for subsidence, this soil is generally not suitable for building site development.
- Because the soil remains continuously saturated, the period when excavations can be made may be restricted and intensive construction site development and building maintenance may be needed. The soil is generally not suitable for building site development.

Septic tank absorption fields

- These soils are generally not suitable for septic tank absorption fields. The flooding in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Floodwaters may damage some components of septic systems.

Local roads and streets

- Subsidence of the soil layers reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.

- Special design of roads and bridges is needed to prevent the damage caused by flooding.

BNA—Bancker muck, slightly saline, tidal

Map Unit Composition

Major components
Bancker and similar soils: 79 to 91 percent

Contrasting inclusions
Aquents soils: 5 percent. On higher positions adjacent to streams and canals and consist of hydraulically deposited, dredged fill material.
Clovelly soils: 5 percent. On similar to slightly lower positions and are organic soils.
Lafitte soils: 5 percent. On similar to slightly lower positions and are organic soils.

Component Descriptions

Bancker
MLRA 151—Gulf Coast Marsh
Landform: Marsh on delta plain
Landform position: Linear areas
Parent material: Fluid clayey alluvium
Slope: 0.0 to 0.2 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Very slow or impermeable (about 0.01 micrometer/second)
Available water capacity: High (about 11.4 inches)
Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: Very frequent
Ponding hazard: Frequent
Depth to seasonal water saturation: From the surface to a depth of 6 inches, apparent
Runoff class: High
Ecological site: Brackish Fluid Marsh
Non-irrigated land capability: 8w

Typical Profile

Surface layer:
0 to 10 inches—dark gray muck
10 to 44 inches—dark gray mucky clay

Substratum layer:
44 to 60 inches—dark gray, very fluid, clay
60 to 80 inches—gray, very fluid, clay

Use and Management Considerations

Major land uses: Wetland wildlife habitat and extensive forms of recreation, such as hunting and fishing.

Cropland

- These soils are generally not suited to cropland.
- Crops are commonly not grown because of frequent flooding.

Pastureland

- These soils are generally not suited to pasture.

Woodland

- These soils are not suitable for the production of trees.

Building sites

- When drained, the layers in this soil subside. Subsidence leads to differential rates of settlement, which may cause foundations to break. Because of the high potential for subsidence, this soil is generally not suitable for building site development.
- Because water tends to pond on this soil, the period when excavations can be made may be restricted and intensive construction site development and building maintenance may be needed. The soil is generally not suitable for building site development.

Septic tank absorption fields

- These soils are generally not suitable for septic tank absorption fields. The flooding in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Floodwaters may damage some components of septic systems.
- Because of ponding, this soil is generally not suitable for use as a site for septic tank absorption fields.

Local roads and streets

- Ponding affects the ease of excavation and grading and limits the bearing capacity of this soil.
- Subsidence of the soil layers reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.
- Special design of roads and bridges is needed to prevent the damage caused by flooding.

BOA—Bancker muck, very slightly saline, tidal

Map Unit Composition

Major components
Bancker and similar soils: 79 to 91 percent

Contrasting inclusions
Allemands soils: 3 percent. On similar to slightly lower positions, and are organic soils in adjacent freshwater marshes.
Aquents soils: 3 percent. On higher positions adjacent to streams and canals and consist of hydraulically deposited, dredged fill material.
Clovelly soils: 3 percent. On similar to slightly lower positions and are organic soils.
Lafitte soils: 3 percent. On similar to slightly lower positions and are organic soils.
Larose soils: 3 percent. In adjacent freshwater marshes

Component Descriptions

Bancker
MLRA 151—Gulf Coast Marsh
Landform: Marsh on delta plain

Landform position: Linear areas
Parent material: Fluid clayey alluvium
Slope: 0.0 to 0.2 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Very slow or impermeable (about 0.01 micrometer/second)
Available water capacity: Very high (about 12.0 inches)
Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: Very frequent
Ponding hazard: Frequent
Depth to seasonal water saturation: From the surface to a depth of 6 inches, apparent
Runoff class: High
Ecological site: Brackish Fluid Marsh
Non-irrigated land capability: 8w

Typical Profile

Surface layer:
0 to 13 inches—very dark grayish brown muck

Substratum layer:
13 to 52 inches—dark gray fluid clay
52 to 60 inches—very dark gray fluid clay
60 to 76 inches—dark gray fluid clay
76 to 80 inches—greenish gray fluid clay

Use and Management Considerations

Major land uses: Wetland wildlife habitat and extensive forms of recreation, such as hunting and fishing.

Cropland

- These soils are generally not suited to cropland.
- Crops are commonly not grown because of frequent flooding.

Pastureland

- These soils are generally not suited to pasture.

Woodland

- These soils are not suitable for the production of trees.

Building sites

- When drained, the layers in this soil subside. Subsidence leads to differential rates of settlement, which may cause foundations to break. Because of the high potential for subsidence, this soil is generally not suitable for building site development.
- Because water tends to pond on this soil, the period when excavations can be made may be restricted and intensive construction site development and building maintenance may be needed. The soil is generally not suitable for building site development.

Septic tank absorption fields

- These soils are generally not suitable for septic tank absorption fields. The flooding in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Floodwaters may damage some components of septic systems.
- Because of ponding, this soil is generally not suitable for use as a site for septic tank absorption fields.

Local roads and streets

- Ponding affects the ease of excavation and grading and limits the bearing capacity of this soil.
- Subsidence of the soil layers reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.
- Special design of roads and bridges is needed to prevent the damage caused by flooding.

BRA—Barbary muck, frequently flooded

Map Unit Composition

Major components
Barbary and similar soils: 79 to 91 percent

Contrasting inclusions
Allemands soils: 3 percent. On nearby freshwater marshes, and they have thick organic layers.
Aquents soils: 2 percent. On higher positions adjacent to streams and canals and consist of hydraulically deposited, dredged fill material.
Cancienne soils: 2 percent. On natural levee positions, are silty throughout the upper 40 inches, and are better drained.
Fausse soils: 2 percent. On slightly higher backswamp positions and have a nonfluid subsoil layer.
Harahan soils: 2 percent. On artificially drained positions and have a nonfluid, clayey subsoil more than 20 inches thick.
Maurepas soils: 2 percent. On similar positions and have organic materials to depths of more than 51 inches.
Schriever soils: 2 percent. On higher backswamp positions nearer to natural levees, are better drained, and have nonfluid subsoil layers to more than 60 inches deep.

Component Descriptions

Barbary
MLRA 131A—Southern Mississippi River Alluvium
Landform: Backswamp on delta plain
Landform position: Concave areas
Parent material: Fluid clayey alluvium
Slope: 0.0 to 0.5 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Very slow or impermeable (about 0.01 micrometer/second)
Available water capacity: Very high (about 12.3 inches)

Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: Frequent
Ponding hazard: Frequent
Depth to seasonal water saturation: From the surface to a depth of 6 inches, apparent
Runoff class: Negligible
Ecological site: Unspecified
Non-irrigated land capability: 8w

Typical Profile

Surface layer:
0 to 5 inches—dark brown muck
5 to 9 inches—dark gray mucky clay

Substratum layer:
9 to 55 inches—dark gray clay with light olive brown iron accumulations
55 to 80 inches—gray mucky clay

Use and Management Considerations

Major land uses: Woodland, wetland wildlife habitat and extensive forms of recreation, such as hunting and fishing.

Cropland

- These soils are generally not suited to cropland.
- Crops are commonly not grown because of frequent flooding.

Pastureland

- These soils are generally not suited to pasture.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- Standing water can inhibit the growth of some species of seedlings by restricting root respiration (fig. 6).
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Flooding may result in damage to haul roads and increased maintenance costs.
- Soil wetness may limit the use of this soil by log trucks.
- Flooding restricts the safe use of roads by log trucks.
- Ponding restricts the safe use of roads by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- Because of the stickiness of the soil, the use of equipment for site preparation is restricted to the drier periods.

Building sites

- When drained, the layers in this soil subside. Subsidence leads to differential rates of settlement, which may cause foundations to break. Because of the

Figure 6.—Cypress-Tupelo swamp on Barbary muck, frequently flooded.

high potential for subsidence, this soil is generally not suitable for building site development.

- The frequent flooding in areas of this soil greatly increases the risk of damage associated with floodwaters. Because of the flooding, this soil is generally not suitable for building site development.
- Because water tends to pond on this soil, the period when excavations can be made may be restricted and intensive construction site development and building maintenance may be needed. The soil is generally not suitable for building site development.

Septic tank absorption fields

- These soils are generally not suitable for septic tank absorption fields. The flooding in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Floodwaters may damage some components of septic systems.
- Because of ponding, this soil is generally not suitable for use as a site for septic tank absorption fields.

Local roads and streets

- Ponding affects the ease of excavation and grading and limits the bearing capacity of this soil.
- Subsidence of the soil layers reduces the bearing capacity of this soil.

- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.
- Special design of roads and bridges is needed to prevent the damage caused by flooding.

BSA—Bellpass muck, tidal

Map Unit Composition

Major components
Bellpass and similar soils: 79 to 91 percent

Contrasting inclusions
Aquents soils: 4 percent. On higher positions adjacent to streams and canals and consist of hydraulically deposited, dredged fill material.
Felicity soils: 4 percent. On beach ridges and are nonfluid and sandy.
Scatlake soils: 4 percent. On similar to slightly higher positions and are fluid mineral soils.
Timbalier soils: 3 percent. On similar to slightly lower positions and are deep organic soils.

Component Descriptions

Bellpass
MLRA 151—Gulf Coast Marsh
Landform: Marsh on delta plain
Landform position: Linear areas
Parent material: Herbaceous organic material over very fluid clayey alluvium
Slope: 0.0 to 0.2 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Very slow or impermeable (about 0.01 micrometer/second)
Available water capacity: Very high (about 15.9 inches)
Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: Very frequent
Ponding hazard: Frequent
Depth to seasonal water saturation: From the surface to a depth of 6 inches, apparent
Runoff class: High
Ecological site: Saline Organic Marsh
Non-irrigated land capability: 7w

Typical Profile

Surface layer:
0 to 30 inches—dark brown muck
30 to 48 inches—dark gray mucky clay

Substratum layer:
48 to 80 inches—dark gray clay

Use and Management Considerations

Major land uses: Wetland wildlife habitat and extensive forms of recreation, such as hunting and fishing.

Cropland

- These soils are generally not suited to cropland.
- Crops are commonly not grown because of frequent flooding.

Pastureland

- These soils are generally not suited to pasture.

Woodland

- These soils are not suitable for the production of trees.

Building sites

- When drained, the layers in this soil subside. Subsidence leads to differential rates of settlement, which may cause foundations to break. Because of the high potential for subsidence, this soil is generally not suitable for building site development.
- Because water tends to pond on this soil, the period when excavations can be made may be restricted and intensive construction site development and building maintenance may be needed. The soil is generally not suitable for building site development.

Septic tank absorption fields

- These soils are generally not suitable for septic tank absorption fields. The flooding in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Floodwaters may damage some components of septic systems.
- Because of ponding, this soil is generally not suitable for use as a site for septic tank absorption fields.

Local roads and streets

- Ponding affects the ease of excavation and grading and limits the bearing capacity of this soil.
- Subsidence of the soil layers reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.
- Special design of roads and bridges is needed to prevent the damage caused by flooding.

CbA—Cancienne silt loam, 0 to 1 percent slopes

Map Unit Composition

Major components
Cancienne and similar soils: 79 to 91 percent

Contrasting inclusions
Cancienne silty clay loam soils: 8 percent. On lower positions on the natural levees.
Schriever soils: 7 percent. In lower backswamp positions on the natural levees and adjacent to natural levees; are clayey throughout the upper part of the subsoil and are poorly drained.

Component Descriptions

Cancienne
MLRA 131A—Southern Mississippi River Alluvium

Landform: Natural levee on delta plain
Landform position: Convex areas
Parent material: Loamy alluvium
Slope: 0 to 1 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Moderately slow (about 1.41 micrometers/second)
Available water capacity: Very high (about 12.8 inches)
Shrink-swell potential: Moderate (about 4.5 LEP)
Flooding hazard: None
Ponding hazard: None
Depth to seasonal water saturation: About 18 to 48 inches during December to April, apparent
Runoff class: Medium
Ecological site: Unspecified
Non-irrigated land capability: 3w

Typical Profile

Surface layer:
0 to 4 inches—dark grayish brown silt loam
4 to 8 inches—dark grayish brown silt loam

Subsoil layer:
8 to 15 inches—grayish brown silt loam
15 to 30 inches—dark grayish brown silt loam
30 to 44 inches—grayish brown silt loam
44 to 65 inches—gray silt loam

Substratum layer:
65 to 80 inches—gray, stratified, very fine sandy loam and silty clay loam

Use and Management Considerations

Major land uses: Cultivated crops, pasture, homesites, and urban land.

Cropland

- All areas are prime farmland.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.

Building sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.
- Moderate shrinking and swelling of the soil may crack foundations and basement walls. Foundations and other structures may require some special design and construction techniques or maintenance.

Septic tank absorption fields

- The restricted permeability of this soil limits the absorption and proper treatment of the effluent from septic systems.
- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local roads and streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.

CdA—Cancienne silty clay loam, 0 to 1 percent slopes

Map Unit Composition

Major components
Cancienne and similar soils: 79 to 91 percent

Contrasting inclusions
Cancienne silt loam soils: 8 percent. On slightly higher positions on the natural levees.
Schriever soils: 7 percent. On slightly lower positions on natural levees and are in backswamp positions adjacent to natural levees, are clayey throughout the upper part of the subsoil and are poorly drained.

Component Descriptions

Cancienne
MLRA 131A—Southern Mississippi River Alluvium
Landform: Natural levee on delta plain
Landform position: Convex areas
Parent material: Loamy alluvium
Slope: 0 to 1 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Moderately slow (about 1.41 micrometers/second)
Available water capacity: Very high (about 12.7 inches)
Shrink-swell potential: Moderate (about 4.5 LEP)
Flooding hazard: None
Ponding hazard: None

Depth to seasonal water saturation: About 18 to 48 inches during December to April, apparent
Runoff class: Medium
Ecological site: Unspecified
Non-irrigated land capability: 2w

Typical Profile

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

Subsoil layer:
7 to 14 inches—dark grayish brown silty clay loam
14 to 23 inches—dark grayish brown silty clay loam
23 to 43 inches—grayish brown silty clay loam
43 to 65 inches—gray silt loam

Substratum layer:
65 to 80 inches—gray, stratified, silt loam and silty clay loam

Use and Management Considerations

Major land uses: Cultivated crops, pasture, homesites, and urban land.

Cropland

- All areas are prime farmland.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Clods may form if the soil is tilled when wet.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building sites

- The seasonal high water table may restrict the period when excavations can be made and may require a higher degree of construction site development and building maintenance. It is poorly suited to building site development and structures may need special design to avoid damage from wetness.

Septic tank absorption fields

- The seasonal high water table in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Costly measures may be needed to lower the water table in the area of the absorption field.

Local roads and streets

- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.

CeA—Cancienne silty clay loam, 0 to 1 percent slopes, occasionally flooded

Map Unit Composition

Major components
Cancienne and similar soils: 79 to 91 percent

Contrasting inclusions
Bancker soils: 4 percent. In intermediate and brackish marshes and are fluid mineral soils.
Clovelly soils: 4 percent. In intermediate and brackish marshes and are organic soils.
Harahan soils: 3 percent. In drained marsh and swamps and are clayey soils with fluid underlying material.
Schriever soils: 4 percent. In backswamp positions adjacent to natural levees, are clayey throughout the upper part of the subsoil, and are poorly drained.

Component Descriptions

Cancienne
MLRA 131A—Southern Mississippi River Alluvium
Landform: Natural levee on delta plain
Landform position: Convex areas
Parent material: Loamy alluvium
Slope: 0 to 1 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Moderately slow (about 1.41 micrometers/second)
Available water capacity: Very high (about 12.4 inches)
Shrink-swell potential: Moderate (about 4.5 LEP)
Flooding hazard: Occasional from June to November
Ponding hazard: None
Depth to seasonal water saturation: About 18 to 48 inches during December to April, apparent
Runoff class: Medium
Ecological site: Unspecified
Non-irrigated land capability: 3w

Typical Profile

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

Subsoil layer:
7 to 16 inches—brown silty clay loam
16 to 26 inches—dark grayish brown silty clay loam
26 to 41 inches—grayish brown silt loam
41 to 52 inches—grayish brown silty clay loam
52 to 80 inches—grayish brown silt loam

Use and Management Considerations

Major land uses: Woodland, residential, campsites, and pasture.

Cropland

- All areas are prime farmland.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Clods may form if the soil is tilled when wet.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- Measures that protect the soil from scouring and minimize the loss of crop residue by floodwaters are needed.
- Small grain crops may be damaged by flooding in winter and spring.

Pastureland

- Forage production can be improved by seeding grass-legume mixtures that are tolerant of flooding.
- Sediment left on forage plants after a flood event may reduce palatability and forage intake by the grazing animal.
- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Flooding may result in damage to haul roads and increased maintenance costs.
- Flooding restricts the safe use of roads by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

Building sites

- Under normal weather conditions, this soil is subject to occasional flooding. The flooding may result in physical damage and costly repairs to buildings. These soils are generally not suitable for homesites. Special design of some structures, such as farm outbuildings, may be needed to prevent damage caused by flooding.

Septic tank absorption fields

- These soils are generally not suitable for septic tank absorption fields. The flooding in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Floodwaters may damage some components of septic systems.

Local roads and streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.
- Special design of roads and bridges is needed to prevent the damage caused by flooding.

CfA—Cancienne silt loam, 0 to 1 percent slopes, occasionally flooded

Map Unit Composition

Major components
Cancienne and similar soils: 79 to 91 percent

Contrasting inclusions
Bancker soils: 4 percent. In intermediate and brackish marshes and are fluid mineral soils.
Clovelly soils: 4 percent. In intermediate and brackish marshes and are organic soils.
Harahan soils: 4 percent. In drained swamps and are clayey soils with fluid underlying material.
Schriever soils: 3 percent. In backswamp positions adjacent to natural levees, are clayey throughout the upper part of the subsoil, and are poorly drained.

Component Descriptions

Cancienne
MLRA 131A—Southern Mississippi River Alluvium
Landform: Natural levee on delta plain
Landform position: Convex areas
Parent material: Loamy alluvium
Slope: 0 to 1 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Moderately slow (about 1.41 micrometers/second)
Available water capacity: Very high (about 12.7 inches)
Shrink-swell potential: Moderate (about 4.5 LEP)
Flooding hazard: Occasional from June to November
Ponding hazard: None
Depth to seasonal water saturation: About 18 to 48 inches December to April, apparent
Runoff class: Medium
Ecological site: Unspecified
Non-irrigated land capability: 3w

Typical Profile

Surface layer:
0 to 6 inches—very dark gray silt loam

Subsoil layer:
6 to 16 inches—dark grayish brown silty clay loam
16 to 27 inches—dark grayish brown silty clay loam
27 to 37 inches—grayish brown silt loam
37 to 51 inches—grayish brown silt loam

Substratum layer:
51 to 80 inches—dark greenish gray, stratified, very fine sandy loam and silty clay loam

Use and Management Considerations

Major land uses: Woodland, residential, campsites, and pasture.

Cropland

- All areas are prime farmland.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Controlling traffic can minimize soil compaction.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- Measures that protect the soil from scouring and minimize the loss of crop residue by floodwaters are needed.
- Small grain crops may be damaged by flooding in winter and spring.

Pastureland

- Forage production can be improved by seeding grass-legume mixtures that are tolerant of flooding.
- Sediment left on forage plants after a flood event may reduce palatability and forage intake by the grazing animal.
- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Flooding may result in damage to haul roads and increased maintenance costs.
- Flooding restricts the safe use of roads by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building sites

- Under normal weather conditions, this soil is subject to occasional flooding. The flooding may result in physical damage and costly repairs to buildings. These soils are generally not suitable for homesites. Special design of some structures, such as farm outbuildings, may be needed to prevent damage caused by flooding.

Septic tank absorption fields

- These soils are generally not suitable for septic tank absorption fields. The flooding in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Floodwaters may damage some components of septic systems.

Local roads and streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.
- Special design of roads and bridges is needed to prevent the damage caused by flooding.

CKA—Clovelly muck, slightly saline, tidal

Map Unit Composition

Major components
Clovelly and similar soils: 79 to 91 percent

Contrasting inclusions
Aquents soils: 5 percent. On higher positions adjacent to streams and canals and consist of hydraulically deposited, dredged fill material.
Bancker soils: 5 percent. On similar to slightly higher positions and are fluid mineral soils.
Lafitte soils: 5 percent. On similar to slightly lower positions and are deep organic soils.

Component Descriptions

Clovelly
MLRA 151—Gulf Coast Marsh
Landform: Brackish marsh on delta plain
Landform position: Linear areas
Parent material: Herbaceous organic material over fluid clayey alluvium
Slope: 0.0 to 0.2 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Very slow or impermeable (about 0.01 micrometer/second)
Available water capacity: Very high (about 13.9 inches)
Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: Very frequent
Ponding hazard: Frequent
Depth to seasonal water saturation: From the surface to a depth of 6 inches, apparent
Runoff class: High
Ecological site: Brackish Organic Marsh
Non-irrigated land capability: 8w

Typical Profile

Surface tier:
0 to 12 inches—very dark grayish brown muck

Subsurface tier:
12 to 30 inches—very dark grayish brown muck

Bottom tier:
30 to 38 inches—black muck

Substratum layer:
38 to 80 inches—gray clay

Use and Management Considerations

Major land uses: Wetland wildlife habitat and extensive forms of recreation, such as hunting and fishing.

Cropland

- These soils are generally not suited to cropland.
- Crops are commonly not grown because of frequent flooding.

Pastureland

- These soils are generally not suited to pasture.

Woodland

- These soils are not suitable for the production of trees.

Building sites

- When drained, the layers in this soil subside. Subsidence leads to differential rates of settlement, which may cause foundations to break. Because of the high potential for subsidence, this soil is generally not suitable for building site development.
- Because water tends to pond on this soil, the period when excavations can be made may be restricted and intensive construction site development and building maintenance may be needed. The soil is generally not suitable for building site development.

Septic tank absorption fields

- These soils are generally not suitable for septic tank absorption fields. The flooding in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Floodwaters may damage some components of septic systems.
- Because of ponding, this soil is generally not suitable for use as a site for septic tank absorption fields.

Local roads and streets

- Ponding affects the ease of excavation and grading and limits the bearing capacity of this soil.
- Subsidence of the soil layers reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.
- Special design of roads and bridges is needed to prevent the damage caused by flooding.

CLA—Clovelly muck, very slightly saline, tidal

Map Unit Composition

Major components
Clovelly and similar soils: 79 to 91 percent

Contrasting inclusions
Allemands soils: 3 percent. On similar to slightly lower positions, are organic soils and are in freshwater marshes.
Aquents soils: 3 percent. On higher positions adjacent to streams and canals and consist of hydraulically deposited, dredged fill material.
Bancker soils: 3 percent. On similar to slightly higher positions and are fluid mineral soils.
Lafitte soils: 3 percent. On similar to slightly lower positions and are organic soils.
Larose soils: 3 percent. On similar to slightly higher positions, are fluid mineral soils and are in freshwater marshes.

Component Descriptions

Clovelly
MLRA 151—Gulf Coast Marsh
Landform: Intermediate marsh on delta plain
Landform position: Linear areas
Parent material: Herbaceous organic material over fluid clayey alluvium
Slope: 0.0 to 0.2 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Very slow or impermeable (about 0.01 micrometer/second)
Available water capacity: Very high (about 14.2 inches)
Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: Very frequent
Ponding hazard: Frequent
Depth to seasonal water saturation: From the surface to a depth of 6 inches, apparent
Runoff class: High
Ecological site: Brackish Organic Marsh
Non-irrigated land capability: 8w

Typical Profile

Organic layer:
0 to 24 inches—very dark grayish brown muck
24 to 40 inches—very dark gray muck

Substratum layer:
40 to 54 inches—gray, very fluid, clay
54 to 80 inches—dark gray, very fluid, clay

Use and Management Considerations

Major land uses: Wetland wildlife habitat and extensive forms of recreation, such as hunting and fishing.

Cropland

- These soils are generally not suited to cropland.
- Crops are commonly not grown because of frequent flooding.

Pastureland

- These soils are generally not suited to pasture.

Woodland

- These soils are not suitable for the production of trees.

Building sites

- When drained, the layers in this soil subside. Subsidence leads to differential rates of settlement, which may cause foundations to break. Because of the high potential for subsidence, this soil is generally not suitable for building site development.
- Because water tends to pond on this soil, the period when excavations can be made may be restricted and intensive construction site development and building maintenance may be needed. The soil is generally not suitable for building site development.

Septic tank absorption fields

- These soils are generally not suitable for septic tank absorption fields. The flooding in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Floodwaters may damage some components of septic systems.
- Because of ponding, this soil is generally not suitable for use as a site for septic tank absorption fields.

Local roads and streets

- Ponding affects the ease of excavation and grading and limits the bearing capacity of this soil.
- Subsidence of the soil layers reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.
- Special design of roads and bridges is needed to prevent the damage caused by flooding.

FAA—Fausse clay, frequently flooded

Map Unit Composition

Major components
Fausse and similar soils: 79 to 91 percent

Contrasting inclusions
Barbary soils: 5 percent. On lower positions and are fluid mineral soils.
Maurepas soils: 5 percent. On slightly lower positions and have organic layers more than 51 inches thick.
Schriever soils: 5 percent. On slightly higher positions and they dry enough to form cracks in the upper part of the solum during normal years.

Component Descriptions

Fausse
MLRA 131A—Southern Mississippi River Alluvium
Landform: Low ponded backswamp on delta plain
Landform position: Concave areas
Parent material: Clayey alluvium

Slope: 0.0 to 0.5 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Very slow or impermeable (about 0.01 micrometer/second)
Available water capacity: High (about 11.9 inches)
Shrink-swell potential: Very high (about 17.0 LEP)
Flooding hazard: Frequent
Ponding hazard: Frequent
Depth to seasonal water saturation: From the surface to a depth of 18 inches, apparent
Runoff class: Negligible
Ecological site: Unspecified
Non-irrigated land capability: 7w

Typical Profile

Surface layer:
0 to 4 inches—dark gray clay

Subsoil layer:
4 to 19 inches—gray clay with yellowish brown iron accumulations
19 to 50 inches—greenish gray clay with dark yellowish brown iron accumulations

Substratum layer:
50 to 80 inches—dark greenish gray clay

Use and Management Considerations

Major land uses: Wildlife habitat and hardwood timber production.

Cropland

- These soils are generally not suited to cropland.
- Crops are commonly not grown because of frequent flooding.

Pastureland

- These soils are generally not suited to pasture.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- Standing water can inhibit the growth of some species of seedlings by restricting root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Flooding may result in damage to haul roads and increased maintenance costs.
- Because of the content of clay, this soil becomes sticky when wet. The stickiness increases the cost of constructing haul roads and log landings.
- Soil wetness may limit the use of this soil by log trucks.
- Flooding restricts the safe use of roads by log trucks.
- Ponding restricts the safe use of roads by log trucks.

- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- Because of the stickiness of the soil, the use of equipment for site preparation is restricted to the drier periods.

Building sites

- The frequent flooding in areas of this soil greatly increases the risk of damage associated with floodwaters. Because of the flooding, this soil is generally not suitable for building site development.
- Because water tends to pond on this soil, the period when excavations can be made may be restricted and intensive construction site development and building maintenance may be needed. The soil is generally not suitable for building site development.
- The high content of clay in the soil below the surface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- These soils are generally not suitable for septic tank absorption fields. The flooding in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Floodwaters may damage some components of septic systems.
- Because of ponding, this soil is generally not suitable for use as a site for septic tank absorption fields.

Local roads and streets

- Ponding affects the ease of excavation and grading and limits the bearing capacity of this soil.
- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.
- Special design of roads and bridges is needed to prevent the damage caused by flooding.

FCA—Felicity loamy fine sand, 1 to 3 percent slopes, frequently flooded

Map Unit Composition

Major components
Felicity and similar soils: 79 to 91 percent

Contrasting inclusions
Bellpass soils: 5 percent. In saline marshes and have organic layers more than 16 inches thick.
Scatlake soils: 5 percent. In saline marshes and are fluid mineral soils.
Timbalier soils: 5 percent. In saline marshes and have organic layers more than 51 inches thick.

Component Descriptions

Felicity
MLRA 151—Gulf Coast Marsh

Landform: Beach ridge on delta plain (fig. 7)
Landform position: None
Parent material: Sandy and silty alluvium
Slope: 1 to 3 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Very rapid (about 141.14 micrometers/second)
Available water capacity: Very low (about 3.0 inches)
Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: Frequent
Ponding hazard: None
Depth to seasonal water saturation: About 24 to 36 inches during January to December, apparent
Runoff class: Negligible
Ecological site: Saline Sandy Ridge
Non-irrigated land capability: 7w

Typical Profile

Substratum layer:
0 to 9 inches—grayish brown loamy fine sand
9 to 18 inches—dark grayish brown loamy sand
18 to 27 inches—olive gray loamy sand
27 to 60 inches—very dark gray loamy sand

Use and Management Considerations

Major land uses: Wildlife habitat and recreation.

Cropland

- These soils are generally not suited to cropland.
- Crops are commonly not grown because of frequent flooding.

Pastureland

- These soils are generally not suited to pasture.

Woodland

- These soils are not suitable for the production of trees.

Building sites

- The frequent flooding in areas of this soil greatly increases the risk of damage associated with floodwaters. Because of the flooding, this soil is generally not suitable for building site development.
- Because of the high content of sand or gravel in the soil, the resistance to sloughing is reduced in shallow excavations and cutbanks are susceptible to caving.

Septic tank absorption fields

- These soils are generally not suitable for septic tank absorption fields. The flooding in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Floodwaters may damage some components of septic systems.

Figure 7.—Construction of sand fences followed by vegetative plantings has proved effective in rebuilding eroded barrier islands. The soil is Felicity loamy fine sand, 1 to 3 percent slopes, frequently flooded.

Local roads and streets

- Special design of roads and bridges is needed to prevent the damage caused by flooding.

GaA—Gramercy silty clay loam, 0 to 1 percent slopes

Map Unit Composition

Major components
Gramercy and similar soils: 79 to 91 percent

Contrasting inclusions
Cancienne soils: 8 percent. On higher positions on the natural levees and are loamy throughout the upper 40 inches.
Schriever soils: 7 percent. In lower backswamp positions, have a clay surface layer, and have more than 60 percent clay in the subsoil layers.

Component Descriptions

Gramercy

MLRA 131A—Southern Mississippi River Alluvium
Landform: Natural levee on delta plain
Hillslope position: Linear footslope; linear toeslope
Parent material: Clayey alluvium
Slope: 0 to 1 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Poorly drained

Slowest saturated hydraulic conductivity: Very slow or impermeable (about 0.01 micrometer/second)
Available water capacity: High (about 10.3 inches)
Shrink-swell potential: Very high (about 17.0 LEP)
Flooding hazard: Rare
Ponding hazard: None
Depth to seasonal water saturation: From the surface to 24 inches below the surface during December to April, apparent
Runoff class: Very high
Ecological site: Unspecified
Non-irrigated land capability: 3w

Typical Profile

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

Subsoil layer:
7 to 14 inches—gray silty clay
14 to 26 inches—gray clay
26 to 38 inches—gray clay

Substratum layer:
38 to 80 inches—gray clay

Use and Management Considerations

Major land uses: Cropland, pasture, woodland, and residential or urban land.

Cropland

- All areas are prime farmland.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Clods may form if the soil is tilled when wet.
- Controlling traffic can minimize soil compaction.
- The rooting depth of crops may be restricted by the high clay content.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The movement of water into subsurface drains is restricted.
- Subsurface drainage helps to lower the seasonal high water table.
- Including deep-rooted cover crops in the rotation is important for improving soil structure and providing pathways in the clayey subsoil to facilitate the movement of water into subsurface drains.

Pastureland

- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.

- Soil wetness may limit the use of this soil by log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- Because of the stickiness of the soil, the use of equipment for site preparation is restricted to the drier periods.

Building sites

- Under unusual weather conditions, this soil is subject to rare flooding. The flooding may result in physical damage and costly repairs to buildings. These soils are generally not suitable for homesites. Special design of some structures, such as farm outbuildings, may be needed to prevent the damage caused by flooding.
- The high content of clay in the soil below the surface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- These soils are generally poorly suited to septic tank absorption fields. The flooding in areas of this soil on rare occasions will limit the absorption and proper treatment of the effluent from septic systems. Floodwaters may damage some components of septic systems.
- Because of the seasonal high water table, this soil is generally not suitable for use as a site for septic tank absorption fields.

Local roads and streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.
- Special design of roads and bridges is needed to prevent the damage caused by flooding.

GcA—Gramercy-Cancienne silty clay loams, 0 to 1 percent slopes

Map Unit Composition

Major components
Gramercy and similar soils: 38 to 52 percent.
Cancienne and similar soils: 33 to 47 percent.

Contrasting inclusions
Cancienne silt loam soils: 8 percent. On slightly higher positions.
Schriever soils: 7 percent. In lower backswamp positions and have a very fine subsoil that extends deeper than 40 inches.

Component Descriptions

Gramercy
MLRA 131A—Southern Mississippi River Alluvium
Landform: Natural levee on delta plain
Hillslope position: Linear footslope; linear toeslope
Parent material: Clayey alluvium
Slope: 0 to 1 percent

Surface fragments: None
Depth to restrictive feature: None
Drainage class: Poorly drained
Slowest saturated hydraulic conductivity: Very slow or impermeable (about 0.01 micrometer/second)
Available water capacity: High (about 10.3 inches)
Shrink-swell potential: Very high (about 17.0 LEP)
Flooding hazard: Rare
Ponding hazard: None
Depth to seasonal water saturation: From the surface to 24 inches below the surface from December to April, apparent
Runoff class: Very high
Ecological site: Unspecified
Non-irrigated land capability: 3w

Cancienne

MLRA 131A—Southern Mississippi River Alluvium
Landform: Natural levee on delta plain
Landform position: Convex areas
Parent material: Loamy alluvium
Slope: 0 to 1 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Somewhat poorly drained
Slowest saturated hydraulic conductivity: Moderately slow (about 1.41 micrometers/second)
Available water capacity: Very high (about 12.6 inches)
Shrink-swell potential: Moderate (about 4.5 LEP)
Flooding hazard: None
Ponding hazard: None
Depth to seasonal water saturation: About 18 to 48 inches during December to April, apparent
Runoff class: Medium
Ecological site: Unspecified
Non-irrigated land capability: 2w

Typical Profile

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

Subsoil layer:
4 to 15 inches—dark gray silty clay with dark yellowish brown masses of oxidized iron
15 to 29 inches—gray silty clay with dark yellowish brown iron accumulations
29 to 40 inches—gray silty clay with brown iron accumulations
40 to 70 inches—gray silt loam with brown iron accumulations

Substratum layer:
70 to 80 inches—dark gray silty clay loam

Cancienne
Surface layer:
0 to 8 inches—dark grayish brown silty clay loam

Subsoil layer:
8 to 14 inches—grayish brown silty clay loam with yellowish brown iron accumulations
14 to 44 inches—grayish brown silt loam with yellowish brown iron accumulations
44 to 80 inches—grayish brown silt loam

Use and Management Considerations

Major land uses: Cropland, pasture, woodland, and residential or urban land.

Cropland

- All areas are prime farmland.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Clods may form if the soil is tilled when wet.
- Controlling traffic can minimize soil compaction.
- The rooting depth of crops may be restricted by the high clay content.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The movement of water into subsurface drains is restricted.
- Subsurface drainage helps to lower the seasonal high water table.
- Including deep-rooted cover crops in the rotation is important for improving soil structure and providing pathways in the clayey subsoil to facilitate the movement of water into subsurface drains.

Pastureland

- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Soil wetness may limit the use of this soil by log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- Because of the stickiness of the soil, the use of equipment for site preparation is restricted to the drier periods.

Building sites

- Under unusual weather conditions, this soil is subject to rare flooding. The flooding may result in physical damage and costly repairs to buildings. These soils are generally not suitable for homesites. Special design of some structures, such as farm outbuildings, may be needed to prevent the damage caused by flooding.
- The high content of clay in the soil below the surface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- These soils are generally poorly suited to septic tank absorption fields. The flooding in areas of this soil on rare occasions will limit the absorption and proper treatment of the effluent from septic systems. Floodwaters may damage some components of septic systems.
- Because of the seasonal high water table, this soil is generally not suitable for use as a site for septic tank absorption fields.

Local roads and streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.
- Special design of roads and bridges is needed to prevent the damage caused by flooding.

HpA—Harahan clay, occasionally flooded

Map Unit Composition

Major components
Harahan and similar soils: 79 to 91 percent

Contrasting inclusions
Allemands soils: 3 percent. In nearby freshwater marshes and have organic materials more than 16 inches thick.
Barbary soils: 3 percent. On slightly higher, but undrained, flooded, backswamp positions and are fluid throughout.
Fausse soils: 3 percent. On slightly higher, but undrained, flooded, backswamp positions and have nonfluid layers to more than 40 inches deep.
Larose soils: 2 percent. In nearby freshwater marshes and are fluid mineral soils throughout.
Rita soils: 2 percent. In pump-off marsh areas at slightly lower elevations and have a muck surface layer.
Schriever soils: 2 percent. On slightly higher positions, are nonfluid in all layers to a depth of 60 inches or more, and dry enough to form cracks in the upper part of the solum during normal years.

Component Descriptions

Harahan
MLRA 131A—Southern Mississippi River Alluvium
Landform: Backswamp on delta plain
Landform position: Linear areas
Parent material: Nonfluid over fluid clayey alluvium
Slope: 0.0 to 0.5 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Poorly drained
Slowest saturated hydraulic conductivity: Very slow or impermeable (about 0.01 micrometer/second)
Available water capacity: High (about 10.4 inches)

Shrink-swell potential: Very high (about 17.0 LEP)
Flooding hazard: Occasional during June to November
Ponding hazard: None
Depth to seasonal water saturation: About 12 to 36 inches during January to December, apparent
Runoff class: Very high
Ecological site: Unspecified
Non-irrigated land capability: 4w

Typical Profile

Surface layer:
0 to 9 inches—very dark gray clay
Subsoil layer:
9 to 30 inches—dark gray clay with dark yellowish brown iron accumulations

Substratum layer:
30 to 35 inches—gray, slightly fluid, clay
35 to 80 inches—dark gray, very fluid, clay

Use and Management Considerations

Major land uses: Pasture, woodland, recreation, and residential.

Cropland

- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Clods may form if the soil is tilled when wet.
- Controlling traffic can minimize soil compaction.
- The rooting depth of crops is restricted by the very high clay content.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- Measures that protect the soil from scouring and minimize the loss of crop residue by floodwaters are needed.
- Small grain crops may be damaged by flooding in winter and spring.
- Control of the water table helps reduce subsidence, and reduce the hazard of wind erosion.
- The movement of water into subsurface drains is restricted.
- Subsurface drainage helps to lower the seasonal high water table.
- Including deep-rooted cover crops in the rotation is important for improving soil structure and providing pathways in the clayey subsoil to facilitate the movement of water into subsurface drains.
- The soil may be deficient in micronutrients because of the high content of organic matter.

Pastureland

- Forage production can be improved by seeding grass-legume mixtures that are tolerant of flooding.
- Sediment left on forage plants after a flood event may reduce palatability and forage intake by the grazing animal.
- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Flooding may result in damage to haul roads and increased maintenance costs.
- Because of the content of clay, this soil becomes sticky when wet. The stickiness increases the cost of constructing haul roads and log landings.
- Flooding restricts the safe use of roads by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- Because of the stickiness of the soil, the use of equipment for site preparation is restricted to the drier periods.

Building sites

- When drained, the layers in this soil subside. Subsidence leads to differential rates of settlement, which may cause foundations to break. Because of the high potential for subsidence, this soil is generally not suitable for building site development.
- Under normal weather conditions, this soil is subject to occasional flooding. The flooding may result in physical damage and costly repairs to buildings. These soils are generally not suitable for homesites. Special design of some structures, such as farm outbuildings, may be needed to prevent damage caused by flooding.

Septic tank absorption fields

- These soils are generally not suitable for septic tank absorption fields. The flooding in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Floodwaters may damage some components of septic systems.

Local roads and streets

- Subsidence of the soil layers reduces the bearing capacity of this soil.
- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally unfavorable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.
- Special design of roads and bridges is needed to prevent the damage caused by flooding.

KEA—Kenner muck, very frequently flooded

Map Unit Composition

Major components
Kenner and similar soils: 79 to 91 percent

Contrasting inclusions

Allemands soils: 4 percent. On similar to slightly higher positions and do not have thin strata of clay in the subsurface tiers.

Aquents soils: 4 percent. On higher positions adjacent to streams and canals and consist of hydraulically deposited, dredged fill material.

Carlin soils: 4 percent. On similar to slightly higher positions, do not have thin strata of clay in the subsurface tiers, and have a seasonal water layer within the upper profile.

Larose soils: 3 percent. On similar to slightly higher positions and are fluid, clayey, mineral soils.

Component Descriptions

Kenner

MLRA 151—Gulf Coast Marsh
Landform: Freshwater marsh on delta plain
Landform position: None
Parent material: Herbaceous organic material stratified with fluid clayey alluvium
Slope: 0.0 to 0.2 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Very slow or impermeable (about 0.01 micrometer/second)
Available water capacity: Very high (about 13.3 inches)
Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: Very frequent
Ponding hazard: Frequent
Depth to seasonal water saturation: From the surface to a depth of 6 inches, apparent
Runoff class: High
Ecological site: Fresh Organic Marsh
Non-irrigated land capability: 8w

Typical Profile

Surface tier:
0 to 12 inches—very dark grayish brown muck

Subsurface tier:
12 to 19 inches—very dark grayish brown muck
19 to 23 inches—gray, very fluid, clay

Bottom tier:
23 to 42 inches—very dark gray muck
42 to 43 inches—dark gray, very fluid, clay
43 to 65 inches—black muck

Substratum layer:
65 to 84 inches—very dark gray, very fluid, clay

Use and Management Considerations

Major land uses: Wetland wildlife habitat and extensive forms of recreation, such as hunting and fishing.

Cropland

- These soils are generally not suited to cropland.

- Crops are commonly not grown because of frequent flooding.

Pastureland

- These soils are generally not suited to pasture.

Woodland

- These soils are not suitable for the production of trees.

Building sites

- When drained, the layers in this soil subside. Subsidence leads to differential rates of settlement, which may cause foundations to break. Because of the high potential for subsidence, this soil is generally not suitable for building site development.
- Because water tends to pond on this soil, the period when excavations can be made may be restricted and intensive construction site development and building maintenance may be needed. The soil is generally not suitable for building site development.

Septic tank absorption fields

- These soils are generally not suitable for septic tank absorption fields. The flooding in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Floodwaters may damage some components of septic systems.
- Because of ponding, this soil is generally not suitable for use as a site for septic tank absorption fields.

Local roads and streets

- Ponding affects the ease of excavation and grading and limits the bearing capacity of this soil.
- Subsidence of the soil layers reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally not suitable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.
- Special design of roads and bridges is needed to prevent the damage caused by flooding.

LAA—Lafitte muck, slightly saline, tidal

Map Unit Composition

Major components
Lafitte and similar soils: 79 to 91 percent

Contrasting inclusions
Aquents soils: 5 percent. On higher positions adjacent to streams and canals and consist of hydraulically deposited, dredged fill material.
Bancker soils: 5 percent. On similar to slightly higher positions and are fluid and mineral throughout.
Clovelly soils: 5 percent. On similar to slightly higher positions and have organic layers 16 to 51 inches thick over fluid mineral material.

Component Descriptions

Lafitte
MLRA 151—Gulf Coast Marsh
Landform: Brackish marsh on delta plain

Landform position: Linear areas
Parent material: Herbaceous organic material
Slope: 0.0 to 0.2 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Moderately rapid (about 14.11 micrometers/second)
Available water capacity: Very high (about 19.1 inches)
Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: Very frequent
Ponding hazard: Frequent
Depth to seasonal water saturation: From the surface to a depth of 6 inches, apparent
Runoff class: High
Ecological site: Brackish Organic Marsh
Non-irrigated land capability: 8w

Typical Profile

Surface layer:
0 to 24 inches—dark grayish brown muck

Subsurface layer:
24 to 55 inches—dark brown muck
55 to 80 inches—very dark gray muck

Use and Management Considerations

Major land uses: Wetland wildlife habitat and extensive forms of recreation, such as hunting and fishing.

Cropland

- These soils are generally not suited to cropland.
- Crops are commonly not grown because of frequent flooding.

Pastureland

- These soils are generally not suited to pasture.

Woodland

- These soils are not suitable for the production of trees.

Building sites

- When drained, the layers in this soil subside. Subsidence leads to differential rates of settlement, which may cause foundations to break. Because of the high potential for subsidence, this soil is generally not suitable for building site development.
- Because water tends to pond on this soil, the period when excavations can be made may be restricted and intensive construction site development and building maintenance may be needed. The soil is generally not suitable for building site development.

Septic tank absorption fields

- These soils are generally not suitable for septic tank absorption fields. The flooding in areas of this soil greatly limits the absorption and proper treatment

of the effluent from septic systems. Floodwaters may damage some components of septic systems.
- Because of ponding, this soil is generally not suitable for use as a site for septic tank absorption fields.

Local roads and streets

- Ponding affects the ease of excavation and grading and limits the bearing capacity of this soil.
- Subsidence of the soil layers reduces the bearing capacity of this soil.
- Special design of roads and bridges is needed to prevent the damage caused by flooding.

LFA—Lafitte muck, very slightly saline, tidal

Map Unit Composition

Major components
Lafitte and similar soils: 79 to 91 percent

Contrasting inclusions
Allemands soils: 3 percent. In freshwater marshes and are in similar to slightly higher positions and have organic layers 16 to 51 inches thick over fluid mineral material.
Aquents soils: 3 percent. On higher positions adjacent to streams and canals and consist of hydraulically deposited, dredged fill material.
Bancker soils: 3 percent. On similar to slightly higher positions and are fluid and mineral throughout.
Clovelly soils: 3 percent. On similar to slightly higher positions and have organic layers 16 to 51 inches thick over fluid mineral material.
Kenner soils: 3 percent. In freshwater marshes and have thin, fluid, clayey bands in the lower tiers.

Component Descriptions

Lafitte
MLRA 151—Gulf Coast Marsh
Landform: Intermediate marsh on delta plain
Landform position: Linear areas
Parent material: Herbaceous organic material
Slope: 0.0 to 0.2 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Very slow or impermeable in mineral layers (about 0.01 micrometer/second)
Available water capacity: Very high (about 17.8 inches)
Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: Very frequent
Ponding hazard: Frequent
Depth to seasonal water saturation: From the surface to a depth of 6 inches, apparent
Runoff class: High
Ecological site: Brackish Organic Marsh
Non-irrigated land capability: 8w

Typical Profile

Organic layer:
0 to 24 inches—very dark gray muck
24 to 48 inches—black muck
48 to 52 inches—dark gray muck

Substratum layer:
52 to 80 inches—dark gray, very fluid, clay

Use and Management Considerations

Major land uses: Wetland wildlife habitat and extensive forms of recreation, such as hunting and fishing.

Cropland

- These soils are generally not suited to cropland.
- Crops are commonly not grown because of frequent flooding.

Pastureland

- These soils are generally not suited to pasture.

Woodland

- These soils are not suitable for the production of trees.

Building sites

- When drained, the layers in this soil subside. Subsidence leads to differential rates of settlement, which may cause foundations to break. Because of the high potential for subsidence, this soil is generally not suitable for building site development.
- Because water tends to pond on this soil, the period when excavations can be made may be restricted and intensive construction site development and building maintenance may be needed. The soil is generally not suitable for building site development.

Septic tank absorption fields

- These soils are generally not suitable for septic tank absorption fields. The flooding in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Floodwaters may damage some components of septic systems.
- Because of ponding, this soil is generally not suitable for use as a site for septic tank absorption fields.

Local roads and streets

- Ponding affects the ease of excavation and grading and limits the bearing capacity of this soil.
- Subsidence of the soil layers reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally not suitable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.
- Special design of roads and bridges is needed to prevent the damage caused by flooding.

LRA—Larose muck, very frequently flooded

Map Unit Composition

Major components
Larose and similar soils: 79 to 91 percent

Contrasting inclusions
Allemands soils: 3 percent. On similar positions and have organic layers more than 16 inches thick.
Aquents soils: 3 percent. On higher positions adjacent to streams and canals and consist of hydraulically deposited, dredged fill material.
Barbary soils: 3 percent. In swamps and have stumps and logs within the profile.
Carlin soils: 3 percent. On similar to slightly lower positions and have organic layers more than 16 inches thick.
Kenner soils: 3 percent. On similar positions and have organic layers more than 16 inches thick.

Component Descriptions

Larose
MLRA 151—Gulf Coast Marsh
Landform: Freshwater marsh on delta plain
Landform position: Linear areas
Parent material: Thin herbaceous organic material over fluid clayey alluvium
Slope: 0.0 to 0.2 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Very slow or impermeable (about 0.01 micrometer/second)
Available water capacity: High (about 11.1 inches)
Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: Very frequent
Ponding hazard: Frequent
Depth to seasonal water saturation: From the surface to a depth of 6 inches, apparent
Runoff class: High
Ecological site: Fresh Fluid Marsh
Non-irrigated land capability: 8w

Typical Profile

Surface layer:
0 to 8 inches—dark gray muck

Substratum layer:
8 to 96 inches—gray, very fluid, clay

Use and Management Considerations

Major land uses: Wetland wildlife habitat and extensive forms of recreation, such as hunting and fishing.

Cropland

- These soils are generally not suited to cropland.
- Crops are commonly not grown because of frequent flooding.

Pastureland

- These soils are generally not suited to pasture.

Woodland

- These soils are not suitable for the production of trees.

Building sites

- When drained, the layers in this soil subside. Subsidence leads to differential rates of settlement, which may cause foundations to break. Because of the high potential for subsidence, this soil is generally not suitable for building site development.
- Because water tends to pond on this soil, the period when excavations can be made may be restricted and intensive construction site development and building maintenance may be needed. The soil is generally not suitable for building site development.

Septic tank absorption fields

- These soils are generally not suitable for septic tank absorption fields. The flooding in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Floodwaters may damage some components of septic systems.
- Because of ponding, this soil is generally not suitable for use as a site for septic tank absorption fields.

Local roads and streets

- Ponding affects the ease of excavation and grading and limits the bearing capacity of this soil.
- Subsidence of the soil layers reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally not suitable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.
- Special design of roads and bridges is needed to prevent the damage caused by flooding.

MAA—Maurepas muck, frequently flooded

Map Unit Composition

Major components
Maurepas and similar soils: 79 to 91 percent

Contrasting inclusions
Allemands soils: 3 percent. In freshwater marshes and have organic layers less than 51 inches thick.
Aquents soils: 3 percent. On higher positions adjacent to streams and canals and consist of hydraulically deposited, dredged fill material.
Barbary soils: 3 percent. In backswamps and are clayey, fluid, mineral soils.
Kenner soils: 3 percent. In freshwater marshes and do not contain wood fragments.
Larose soils: 3 percent. In freshwater marshes and are clayey, fluid, mineral soils.

Component Descriptions

Maurepas
MLRA 131A—Southern Mississippi River Alluvium
Landform: Freshwater swamp on delta plain

Landform position: Concave areas
Parent material: Highly decomposed woody organic material over fluid clayey alluvium
Slope: 0.0 to 0.2 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Rapid (about 42.34 micrometers/second)
Available water capacity: Very high (about 20.9 inches)
Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: Frequent
Ponding hazard: Frequent
Depth to seasonal water saturation: From the surface to a depth of 6 inches, apparent
Runoff class: Negligible
Ecological site: Unspecified
Non-irrigated land capability: 8w

Typical Profile

Surface tier:
0 to 10 inches—very dark grayish brown muck

Subsurface tier:
10 to 26 inches—dark brown muck

Bottom tier:
26 to 42 inches—dark reddish brown muck
42 to 60 inches—very dark gray muck

Substratum layer:
60 to 68 inches—dark greenish gray mucky clay
68 to 96 inches—very dark gray muck

Use and Management Considerations

Major land uses: Wetland wildlife habitat and timber production.

Cropland

- These soils are generally not suited to cropland.
- Crops are commonly not grown because of frequent flooding.

Pastureland

- These soils are generally not suited to pasture.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low pH in the soil may cause a nutrient imbalance in seedlings.
- Standing water can inhibit the growth of some species of seedlings by restricting root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Flooding may result in damage to haul roads and increased maintenance costs.

- Soil wetness may limit the use of this soil by log trucks.
- Flooding restricts the safe use of roads by log trucks.
- Ponding restricts the safe use of roads by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.

Building sites

- When drained, the layers in this soil subside. Subsidence leads to differential rates of settlement, which may cause foundations to break. Because of the high potential for subsidence, this soil is generally not suitable for building site development.
- The frequent flooding in areas of this soil greatly increases the risk of damage associated with floodwaters. Because of the flooding, this soil is generally not suitable for building site development.
- Because water tends to pond on this soil, the period when excavations can be made may be restricted and intensive construction site development and building maintenance may be needed. The soil is generally not suitable for building site development.

Septic tank absorption fields

- These soils are generally not suitable for septic tank absorption fields. The flooding in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Floodwaters may damage some components of septic systems.
- Because of ponding, this soil is generally not suitable for use as a site for septic tank absorption fields.

Local roads and streets

- Ponding affects the ease of excavation and grading and limits the bearing capacity of this soil.
- Subsidence of the soil layers reduces the bearing capacity of this soil.
- Special design of roads and bridges is needed to prevent the damage caused by flooding.

RTA—Rita muck, occasionally flooded

Map Unit Composition

Major components
Rita and similar soils: 79 to 91 percent

Contrasting inclusions
Allemands soils: 3 percent. In nearby freshwater marshes and have organic materials more than 16 inches thick.
Aquents soils: 2 percent. On higher positions adjacent to streams and canals and consist of hydraulically deposited, dredged fill material.
Barbary soils: 2 percent. On slightly higher, but undrained, flooded, backswamp positions and are fluid throughout.
Fausse soils: 2 percent. On slightly higher, but undrained, flooded, backswamp positions and have nonfluid layers to more than 40 inches deep.
Harahan soils: 2 percent. In pump-off areas at slightly higher elevations and do not have a muck surface layer.
Larose soils: 2 percent. In nearby freshwater marshes and are fluid mineral soils throughout.

Schriever soils: 2 percent. On slightly higher positions, are nonfluid in all layers to a depth of 60 inches or more, and dry enough to form cracks in the upper part of the solum during normal years.

Component Descriptions

Rita
MLRA 151—Gulf Coast Marsh
Landform: Drained freshwater marsh on delta plain
Landform position: Linear areas
Parent material: Nonfluid over fluid clayey alluvium
Slope: 0 to 1 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Poorly drained
Slowest saturated hydraulic conductivity: Very slow or impermeable (about 0.01 micrometer/second)
Available water capacity: Very high (about 12.1 inches)
Shrink-swell potential: High (about 7.5 LEP)
Flooding hazard: Occasional during June to November
Ponding hazard: None
Depth to seasonal water saturation: About 12 to 36 inches during January to December, apparent
Runoff class: Very high
Ecological site: Unspecified
Non-irrigated land capability: 4w

Typical Profile

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

Subsoil layer:
4 to 24 inches—dark gray clay with dark yellowish brown iron accumulations
24 to 36 inches—gray clay with dark yellowish brown iron accumulations

Substratum layer:
36 to 42 inches—gray, moderately fluid, silty clay loam
42 to 80 inches—gray, very fluid, stratified, silt loam and very fine sandy loam

Use and Management Considerations

Major land uses: Pasture or idle land, a small acreage is developed for urban uses.

Cropland

- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- The rooting depth of crops is restricted by the very high clay content.
- Measures that protect the soil from scouring and minimize the loss of crop residue by floodwaters are needed.
- Small grain crops may be damaged by flooding in winter and spring.
- Control of the water table helps reduce subsidence.
- The movement of water into subsurface drains is restricted.
- Subsurface drainage helps to lower the seasonal high water table.
- Including deep-rooted cover crops in the rotation is important for improving soil structure and providing pathways in the clayey subsoil to facilitate the movement of water into subsurface drains.

- The soil may be deficient in micronutrients because of the high content of organic matter.

Pastureland

- Forage production can be improved by seeding grass-legume mixtures that are tolerant of flooding.
- Sediment left on forage plants after a flood event may reduce palatability and forage intake by the grazing animal.
- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.

Woodland

- These soils are not suitable for the production of trees.

Building sites

- When drained, the layers in this soil subside. Subsidence leads to differential rates of settlement, which may cause foundations to break.
- Because of the high potential for subsidence, this soil is generally not suitable for building site development.
- Under normal weather conditions, this soil is subject to occasional flooding. The flooding may result in physical damage and costly repairs to buildings. These soils are generally not suitable for homesites. Special design of some structures, such as farm outbuildings, may be needed to prevent damage caused by flooding.

Septic tank absorption fields

- These soils are generally not suitable for septic tank absorption fields. The flooding in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Floodwaters may damage some components of septic systems.

Local roads and streets

- Subsidence of the soil layers reduces the bearing capacity of this soil.
- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally not suitable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.
- Special design of roads and bridges is needed to prevent the damage caused by flooding.

SCA—Scatlake muck, tidal

Map Unit Composition

Major components
Scatlake and similar soils: 79 to 91 percent

Contrasting inclusions
Aquents soils: 4 percent. On higher positions adjacent to streams and canals and consist of hydraulically deposited, dredged fill material.
Bellpass soils: 4 percent. On similar to slightly lower positions and are organic soils.

Felicity soils: 4 percent. On coastal beach ridges and are nonfluid and sandy.
Timbalier soils: 3 percent. On similar to slightly lower positions and are organic soils.

Component Descriptions

Scatlake
MLRA 151—Gulf Coast Marsh
Landform: Saline marsh on delta plain
Landform position: Linear areas
Parent material: Thin herbaceous organic material over fluid clayey alluvium
Slope: 0.0 to 0.2 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Very slow or impermeable (about 0.01 micrometer/second)
Available water capacity: Moderate (about 7.8 inches)
Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: Very frequent
Ponding hazard: Frequent
Depth to seasonal water saturation: From the surface to a depth of 6 inches, apparent
Runoff class: High
Ecological site: Saline Mineral Marsh
Non-irrigated land capability: 8w

Typical Profile

Surface layer:
0 to 8 inches—dark gray muck

Substratum layer:
8 to 75 inches—gray, very fluid, clay

Use and Management Considerations

Major land uses: Wetland wildlife habitat and extensive forms of recreation, such as hunting and fishing.

Cropland

- These soils are generally not suited to cropland.
- Crops are commonly not grown because of frequent flooding.

Pastureland

- These soils are generally not suited to pasture.

Woodland

- These soils are not suitable for the production of trees.

Building sites

- When drained, the layers in this soil subside. Subsidence leads to differential rates of settlement, which may cause foundations to break. Because of the high potential for subsidence, this soil is generally not suitable for building site development.
- Because water tends to pond on this soil, the period when excavations can be made may be restricted and intensive construction site development and

building maintenance may be needed. The soil is generally not suitable for building site development.

Septic tank absorption fields

- These soils are generally not suitable for septic tank absorption fields. The flooding in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Floodwaters may damage some components of septic systems.
- Because of ponding, this soil is generally not suitable for use as a site for septic tank absorption fields.

Local roads and streets

- Ponding affects the ease of excavation and grading and limits the bearing capacity of this soil.
- Subsidence of the soil layers reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally not suitable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.
- Special design of roads and bridges is needed to prevent the damage caused by flooding.

ShA—Schriever clay, 0 to 1 percent slopes

Map Unit Composition

Major components
Schriever and similar soils: 79 to 91 percent

Contrasting inclusions
Cancienne soils: 5 percent. On higher positions nearer to, or on natural levees and are loamy throughout the upper 40 inches.
Fausse soils: 5 percent. In cypress swamps at lower elevations, remain wet throughout the year, and do not crack to a depth of 20 inches.
Harahan soils: 5 percent. On lower positions and have a fluid substratum within a depth of 40 inches.

Component Descriptions

Schriever
MLRA 131A—Southern Mississippi River Alluvium
Landform: Backswamp on delta plain
Landform position: Linear areas
Parent material: Clayey alluvium
Slope: 0 to 1 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Poorly drained
Slowest saturated hydraulic conductivity: Very slow or impermeable (about 0.01 micrometer/second)
Available water capacity: Moderate (about 6.8 inches)
Shrink-swell potential: Very high (about 17.0 LEP)
Flooding hazard: Rare
Ponding hazard: None
Depth to seasonal water saturation: From the surface to 24 inches below the surface during December to April, apparent
Runoff class: Very high

Ecological site: Unspecified
Non-irrigated land capability: 3w

Typical Profile

Surface layer:
0 to 5 inches—dark gray clay

Subsoil layer:
55 to 16 inches—dark gray clay
16 to 46 inches—gray clay
46 to 53 inches—gray clay
53 to 62 inches—olive gray clay
62 to 80 inches—greenish gray clay

Use and Management Considerations

Major land uses: Cropland, pasture, woodland, and residential or urban land.

Cropland

- All areas are prime farmland.
- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Clods may form if the soil is tilled when wet.
- Controlling traffic can minimize soil compaction.
- The rooting depth of crops is restricted by the very high clay content.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- The movement of water into subsurface drains is restricted.
- Subsurface drainage helps to lower the seasonal high water table.
- Including deep-rooted cover crops in the rotation is important for improving soil structure and providing pathways in the clayey subsoil to facilitate the movement of water into subsurface drains.

Pastureland

- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Because of the content of clay, this soil becomes sticky when wet. The stickiness increases the cost of constructing haul roads and log landings.
- Soil wetness may limit the use of this soil by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.

- Because of the stickiness of the soil, the use of equipment for site preparation is restricted to the drier periods.

Building sites

- Under unusual weather conditions, this soil is subject to rare flooding. The flooding may result in physical damage and costly repairs to buildings. These soils are generally not suitable for homesites. Special design of some structures, such as farm outbuildings, may be needed to prevent the damage caused by flooding.
- The high content of clay in the soil below the surface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- These soils are generally poorly suited to septic tank absorption fields. The flooding in areas of this soil on rare occasions will limit the absorption and proper treatment of the effluent from septic systems. Floodwaters may damage some components of septic systems.
- Because of the seasonal high water table, this soil is generally not suitable for use as a site for septic tank absorption fields.

Local roads and streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally not suitable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.
- Special design of roads and bridges is needed to prevent the damage caused by flooding.

SIA—Schriever clay, frequently flooded

Map Unit Composition

Major components
Schriever and similar soils: 79 to 91 percent

Contrasting inclusions
Barbary soils: 5 percent. On lower positions that are submerged throughout the year, and they are fluid in all mineral layers.
Fausse soils: 5 percent. On slightly lower positions and remain too wet to form cracks in the upper part of the subsoil during normal years.
Harahan soils: 5 percent. On lower, protected areas and have a fluid substratum within a depth of 40 inches.

Component Descriptions

Schriever
MLRA 131A—Southern Mississippi River Alluvium
Landform: Backswamp on delta plain
Landform position: Linear areas
Parent material: Clayey alluvium
Slope: 0 to 1 percent
Surface fragments: None

Depth to restrictive feature: None
Drainage class: Poorly drained
Slowest saturated hydraulic conductivity: Very slow or impermeable (about 0.01 micrometer/second)
Available water capacity: Moderate (about 6.9 inches)
Shrink-swell potential: Very high (about 17.0 LEP)
Flooding hazard: Frequent
Ponding hazard: None
Depth to seasonal water saturation: From the surface to 24 inches below the surface during December to April, apparent
Runoff class: Very high
Ecological site: Unspecified
Non-irrigated land capability: 5w

Typical Profile

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

Subsoil layer:
8 to 23 inches—dark gray clay
23 to 55 inches—gray clay
55 to 65 inches—gray silty clay

Substratum layer:
65 to 80 inches—dark grayish brown silt loam

Use and Management Considerations

Major land uses: Woodland, wildlife habitat, and pasture.

Cropland

- These soils are generally not suited to cropland.
- Crops are commonly not grown because of frequent flooding.

Pastureland

- Forage production can be improved by seeding grass-legume mixtures that are tolerant of flooding.
- Sediment left on forage plants after a flood event may reduce palatability and forage intake by the grazing animal.
- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration.
- Standing water can inhibit the growth of some species of seedlings by restricting root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Flooding may result in damage to haul roads and increased maintenance costs.

- Because of the content of clay, this soil becomes sticky when wet. The stickiness increases the cost of constructing haul roads and log landings.
- Soil wetness may limit the use of this soil by log trucks.
- Flooding restricts the safe use of roads by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- Because of the stickiness of the soil, the use of equipment for site preparation is restricted to the drier periods.

Building sites

- The frequent flooding in areas of this soil greatly increases the risk of damage associated with floodwaters. Because of the flooding, this soil is generally not suitable for building site development.
- The high content of clay in the soil below the surface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- These soils are generally not suitable for septic tank absorption fields. The flooding in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Floodwaters may damage some components of septic systems.
- Because of the seasonal high water table, this soil is generally not suitable for use as a site for septic tank absorption fields.

Local roads and streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally not suitable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.
- Special design of roads and bridges is needed to prevent the damage caused by flooding.

SrA—Schriever clay, occasionally flooded

Map Unit Composition

Major components
Schriever and similar soils: 79 to 91 percent

Contrasting inclusions
Cancienne soils: 5 percent. On slightly higher positions, are fine-silty, and are somewhat poorly drained.
Fausse soils: 5 percent. On slightly lower positions and remain too wet to form cracks in the upper part of the subsoil during normal years.
Harahan soils: 5 percent. On lower, protected areas and have a fluid substratum within a depth of 40 inches.

Component Descriptions

Schriever
MLRA 131A—Southern Mississippi River Alluvium
Landform: Backswamp on delta plain
Landform position: Linear areas
Parent material: Clayey alluvium
Slope: 0 to 1 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Poorly drained
Slowest saturated hydraulic conductivity: Very slow or impermeable (about 0.01 micrometer/second)
Available water capacity: Moderate (about 7.1 inches)
Shrink-swell potential: Very high (about 17.0 LEP)
Flooding hazard: Occasional during December to July
Ponding hazard: None
Depth to seasonal water saturation: From the surface to 24 inches below the surface during December to April, apparent
Runoff class: Very high
Ecological site: Unspecified
Non-irrigated land capability: 4w

Typical Profile

Surface layer:
0 to 4 inches—very dark gray clay

Subsoil layer:
4 to 18 inches—dark gray clay with yellowish brown iron accumulations
18 to 39 inches—dark gray clay with strong brown iron accumulations
39 to 48 inches—dark gray clay with dark yellowish brown iron accumulations
48 to 64 inches—gray clay with dark yellowish brown iron accumulations

Substratum layer:
64 to 80 inches—greenish gray clay with dark yellowish brown iron accumulations

Use and Management Considerations

Major land uses: Woodland, pasture, cropland, residential, and campsites.

Cropland

- Careful selection and application of chemicals and fertilizers help to minimize the possibility of groundwater contamination.
- Clods may form if the soil is tilled when wet.
- Controlling traffic can minimize soil compaction.
- The rooting depth of crops is restricted by the very high clay content.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.
- Measures that protect the soil from scouring and minimize the loss of crop residue by floodwaters are needed.
- Small grain crops may be damaged by flooding in winter and spring.
- The movement of water into subsurface drains is restricted.
- Subsurface drainage helps to lower the seasonal high water table.

- Including deep-rooted cover crops in the rotation is important for improving soil structure and providing pathways in the clayey subsoil to facilitate the movement of water into subsurface drains.

Pastureland

- Forage production can be improved by seeding grass-legume mixtures that are tolerant of flooding.
- Sediment left on forage plants after a flood event may reduce palatability and forage intake by the grazing animal.
- Excess water should be removed, or grass or legume species that are adapted to wet soil conditions should be planted.
- Restricting grazing during wet periods can minimize compaction.

Woodland

- A seasonal high water table can inhibit the growth of some species of seedlings by reducing root respiration (fig. 8).
- Standing water can inhibit the growth of some species of seedlings by restricting root respiration.
- The low strength of the soil may cause the formation of ruts, which can result in unsafe conditions and damage to equipment.
- The low strength of the soil increases the cost of constructing haul roads and log landings.
- Flooding may result in damage to haul roads and increased maintenance costs.
- Because of the content of clay, this soil becomes sticky when wet. The stickiness increases the cost of constructing haul roads and log landings.
- Soil wetness may limit the use of this soil by log trucks.
- Flooding restricts the safe use of roads by log trucks.
- Because of low soil strength, harvesting equipment may be difficult to operate and damage may result. The low strength of the soil may create unsafe conditions for log trucks.
- The stickiness of the soil reduces the efficiency of mechanical planting equipment.
- Because of the stickiness of the soil, the use of equipment for site preparation is restricted to the drier periods.

Building sites

- Under normal weather conditions, this soil is subject to occasional flooding. The flooding may result in physical damage and costly repairs to buildings. These soils are generally not suitable for homesites. Special design of some structures, such as farm outbuildings, may be needed to prevent damage caused by flooding.
- The high content of clay in the soil below the surface layer increases the difficulty of digging, filling, and compacting the soil material in shallow excavations.

Septic tank absorption fields

- These soils are generally not suitable for septic tank absorption fields. The flooding in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Floodwaters may damage some components of septic systems.
- Because of the seasonal high water table, this soil is generally not suitable for use as a site for septic tank absorption fields.

Figure 8.—Bottomland hardwood, mixed oak-ash-hickory overstory vegetation with dwarf palmetto [*Sabal minor* (Jacq.) Pers.] understory on an area of Schriever clay, occasionally flooded.

Local roads and streets

- Because of shrinking and swelling, this soil may not be suitable for use as base material for local roads and streets.
- The seasonal high water table affects the ease of excavation and grading and reduces the bearing capacity of this soil.
- The low bearing strength of this soil is generally not suitable for supporting heavy loads. Special design of local roads and streets is needed to prevent the structural damage caused by low soil strength.
- Special design of roads and bridges is needed to prevent the damage caused by flooding.

TUA—Timbalier muck, tidal

Map Unit Composition

Major components
Timbalier and similar soils: 79 to 91 percent

Contrasting inclusions
Aquents soils: 4 percent. On higher positions adjacent to streams and canals and consist of hydraulically deposited, dredged fill material.
Bellpass soils: 4 percent. On similar to slightly higher positions along subsiding distributary channels and large natural water bodies, and have organic layers less than 51 inches thick over very fluid clay.
Felicity soils: 4 percent. On coastal beach ridges and are nonfluid and sandy throughout.
Scatlake soils: 3 percent. On similar to slightly higher positions along subsiding distributary channels and large natural water bodies, and are fluid mineral soils.

Component Descriptions

Timbalier
MLRA 151—Gulf Coast Marsh

Landform: Saline marsh on delta plain (fig. 9)
Landform position: Linear areas
Parent material: Thick herbaceous organic material
Slope: 0.0 to 0.2 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Very poorly drained
Slowest saturated hydraulic conductivity: Moderately rapid (about 14.11 micrometers/second)
Available water capacity: Very high (about 20.9 inches)
Shrink-swell potential: Low (about 1.5 LEP)
Flooding hazard: Very frequent
Ponding hazard: Frequent
Depth to seasonal water saturation: From the surface to a depth of 6 inches, apparent
Runoff class: High
Ecological site: Saline Organic Marsh
Non-irrigated land capability: 8w

Typical Profile

Surface layer:
0 to 24 inches—very dark grayish brown muck

Subsurface layer:
24 to 46 inches—dark brown muck
46 to 62 inches—very dark gray muck

Substratum layer:
62 to 80 inches—gray, very fluid, clay

Use and Management Considerations

Major land uses: Wetland wildlife habitat and extensive forms of recreation, such as hunting and fishing.

Cropland

- These soils are generally not suited to cropland.
- Crops are commonly not grown because of frequent flooding.

Pastureland

- These soils are generally not suited to pasture.

Woodland

- These soils are not suitable for the production of trees.

Building sites

- When drained, the layers in this soil subside. Subsidence leads to differential rates of settlement, which may cause foundations to break. Because of the high potential for subsidence, this soil is generally not suitable for building site development.
- Because water tends to pond on this soil, the period when excavations can be made may be restricted and intensive construction site development and building maintenance may be needed. The soil is generally not suitable for building site development.

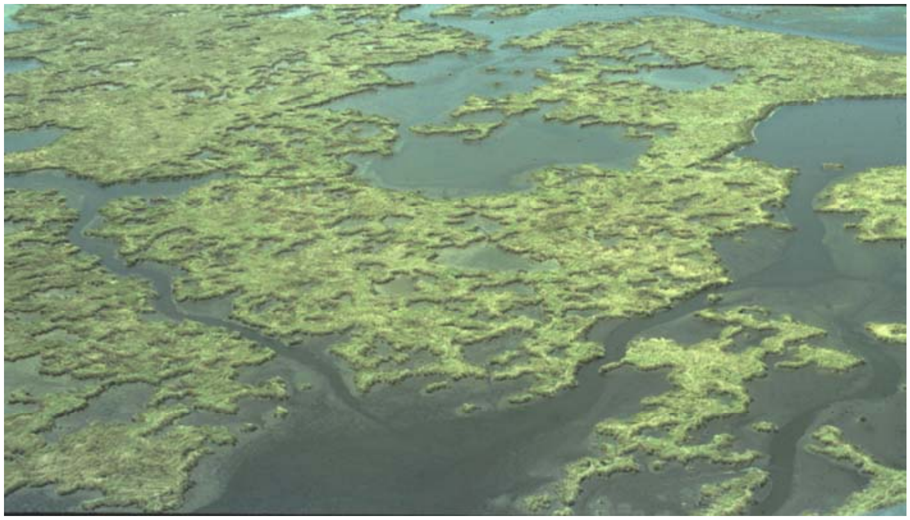

Figure 9.—Smooth cordgrass *(Spartina alterniflora* Loisel.) growing in saline marsh on Timbalier muck, tidal.

Septic tank absorption fields

- These soils are generally not suitable for septic tank absorption fields. The flooding in areas of this soil greatly limits the absorption and proper treatment of the effluent from septic systems. Floodwaters may damage some components of septic systems.
- Because of ponding, this soil is generally not suitable for use as a site for septic tank absorption fields.

Local roads and streets

- Ponding affects the ease of excavation and grading and limits the bearing capacity of this soil.
- Subsidence of the soil layers reduces the bearing capacity of this soil.
- Special design of roads and bridges is needed to prevent the damage caused by flooding.

UB—Urban land

Map Unit Composition

Major components
Urban land: 85 to 100 percent

Contrasting inclusions
Cancienne soils: 3 percent. On areas of lawns that are mostly covered with variable thickness of fill material over the original soil surface.
Gramercy soils: 1 percent. On areas of lawns that are mostly covered with variable thickness of fill material over the original soil surface.
Schriever soils: 3 percent. On areas of lawns that are mostly covered with variable thickness of fill material over the original soil surface.

Component Descriptions

Urban land
MLRA 131A—Southern Mississippi River Alluvium
Landform: Natural levee on delta plain

Landform position: Convex areas
Parent material: Unspecified
Slope: Unspecified
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Unspecified
Slowest saturated hydraulic conductivity: Unspecified
Available water capacity: Unspecified
Shrink-swell potential: Unspecified
Flooding hazard: None
Ponding hazard: None
Depth to seasonal water saturation: Unspecified
Runoff class: Unspecified
Ecological site: Unspecified
Non-irrigated land capability: Unspecified

Use and Management Considerations

Major land uses: Urban, industry, and residential

Cropland

- These areas are not suited to use as cropland because of small size of arable soil areas.

Pastureland

- These areas are not suited to use as pasture because of small size of arable soil areas.

Woodland

- These areas are not suited for woodland production because of small size of soil areas.

Building sites

- These areas are generally well suited to use as building sites because of prior filling, drainage, and stabilization activities.

Septic tank absorption fields

- Suitability for septic tank absorption fields is highly variable within these areas because of unpredictable differences in fill and the underlying soils.

Local roads and streets

- These areas are generally well suited to use as a site for local roads because of prior filling, drainage, and stabilization activities.

UD—Udorthents, 1 to 20 percent slopes

Map Unit Composition

Major components
Udorthents and similar soils: 80 to 90 percent

Contrasting inclusions
Roads and structures soils: 15 percent

Component Descriptions

Udorthents
MLRA 131A—Southern Mississippi River Alluvium
Landform: Backswamp on delta plain; marsh on delta plain
Landform position: Convex built up areas along edges of waterways
Parent material: Unspecified
Slope: 1 to 20 percent
Surface fragments: None
Depth to restrictive feature: None
Drainage class: Unspecified
Slowest saturated hydraulic conductivity: Unspecified
Available water capacity: Unspecified
Shrink-swell potential: Unspecified
Flooding hazard: None
Ponding hazard: None
Depth to seasonal water saturation: Greater than 6 feet
Runoff class: Unspecified
Ecological site: Unspecified
Non-irrigated land capability: Unspecified

Use and Management Considerations

Major land uses: Flood protection, livestock grazing, and hay production.

Cropland

- Incorporating crop residue or other organic matter into the surface layer increases the capacity of the soil to hold and retain moisture. Plants may suffer from moisture stress because of the limited available water capacity.
- Maintaining or increasing the content of organic matter in the soil helps to prevent crusting, improves tilth, and increases the rate of water infiltration.

Pastureland

- Avoiding overgrazing can reduce the hazard of erosion.
- Maintaining healthy plants and vegetative cover can reduce the hazard of erosion.
- Erosion control is needed when pastures are renovated.
- Plants may suffer moisture stress during the drier summer months because of the limited available water capacity.
- Using a system of seedbed preparation that minimizes soil disturbance when pastures are renovated conserves soil moisture.
- This soil provides poor summer pasture.

Woodland

- If the soil is disturbed, the slope increases the hazard of erosion.
- The limited available water capacity inhibits root development and increases the seedling mortality rate.
- The low pH in the soil may cause a nutrient imbalance in seedlings.
- The slope creates unsafe operating conditions and reduces the operating efficiency of log trucks.
- The slope may restrict the use of some mechanical planting equipment.

Building sites

- Under unusual weather conditions, this soil is subject to rare flooding. The flooding may result in physical damage and costly repairs to buildings. These soils are generally not suitable for homesites. Special design of some structures, such as farm outbuildings, may be needed to prevent the damage caused by flooding.
- These soils are generally poorly suited to septic tank absorption fields. The flooding in areas of this soil on rare occasions will limit the absorption and proper treatment of the effluent from septic systems. Rapidly moving floodwaters may damage some components of septic systems.

Septic tank absorption fields

- Because of the slope, this soil is generally not suitable for use as a site for septic tank absorption fields.

Local roads and streets

- Special design of roads and bridges is needed to prevent the damage caused by flooding.
- Because of the slope, designing local roads and streets is difficult.

W—Water

These areas are natural or constructed bodies of surface water.

Prime Farmland

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

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil qualities, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. It is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 1 percent. More detailed information about the criteria for prime farmland is available at the local office of the Natural Resources Conservation Service.

About 74,822 acres in the survey area, or nearly 7 percent of the total acreage, meets the soil requirements for prime farmland. Scattered areas of this land are mainly in the northern parts of the survey area. All areas of this prime farmland are used for crops. The crops grown on this land, mainly common bermudagrass, improved bermudagrass, soybeans, wheat, sugarcane, bahiagrass, and corn account for a significant amount of the county's total agricultural income each year.

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 5. 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."

Use and Management of the Soils

This soil survey is an inventory and evaluation of the soils in Terrebonne Parish. 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 woodland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; and as 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 possible sources of sand, roadfill, and topsoil. They can use it to identify areas where wetness or fluid 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, Soil 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 Louisiana Cooperative Extension Service.

About 33,000 acres in Terrebonne Parish was used for crops, pasture, or range in 1994. About 16,000 acres was used for crops, mainly sugarcane, and about 17,000 acres was used as pasture or range (fig. 10).

Crops suitability and management needs are based on soil characteristics, such as fertility level, erodibility, organic matter content, availability of water, drainage, and flooding hazard. Each farm has unique soil pattern; therefore, each has unique management problems. Some principles of farm management, however, apply to specific soils and certain crops. This section presents the general principles of management that can be widely applied to the soils of Terrebonne Parish.

Figure 10.—Mature sugarcane, ready for harvest, on Gramercy silty clay loam, 0 to 1 percent slopes.

Pasture and Hayland

Perennial grasses or legumes, or mixtures of these, are grown for pasture and hay (fig. 11). 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.

Fertilization and Liming

The soils of Terrebonne Parish range from extremely acid to moderately alkaline in the surface layer. Most soils that are used for crops are moderately low in organic matter content and in available nitrogen. Areas of drained marshes contain highly oxidized organic materials and have surface layers that range to extremely acid. Most of these marsh soils were once used for row crops but now are in pasture. Soils used for cultivated crops generally do not need lime. The amount of fertilizer needed depends on the crop to be grown, on past cropping history, the level of yield desired, and the kind 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 Louisiana Cooperativ e Extension Service.

Figure 11.—Pastureland on an area of Schriever clay, 0 to 1 percent slopes.

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 Terrebonne Parish that are used for crops are moderately 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 Terrebonne Parish, residue from sugarcane 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 trafficpan 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. 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.

Drainage

Drainage is a major consideration in managing crops and pasture (fig. 12). Management of drainage in conformance with regulations influencing wetlands may require special permits and extra planning.

Figure 12.—Mechanized planting of sugarcane into row-furrows on an area of Cancienne silt loam, 0 to 1 percent slopes.

Most of the soils in Terrebonne Parish**,** such as Cancienne, Gramercy, and Schriever, need surface drainage to make them more suitable for crops. Soils are drained by a gravity drainage system consisting of a series of main 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, multirow farm machinery. However, deep cutting of soils that have unfavorable subsoil characteristics should be avoided. The Mississippi and Atchafalaya Rivers levee system protects most cropland and pastureland from flooding. Nevertheless, some soils at the lower elevations are subject to flooding from runoff from higher areas. Flooding on many of these areas can be controlled only by constructing a ring levee system and using pumps to remove excess water.

Water for Plant Growth

The available water capacity of the soils in the parish range from moderate to 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 autumn of most years. However, on most soils, plants lack water during dry periods in summer and autumn.

Cropping Sequence

A good cropping sequence includes a legume for nitrogen, a cultivated crop to aid in weed control, a deep-rooted crop to use substratum fertility and maintain substratum 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 Terrebonne Parish, three crops of sugarcane are generally obtained from each planting. After the third crop, the field is planted to soybeans, a cover crop, or more commonly is fallowed for a year. The organic matter content of the soil can be maintained at a desirable level under this system by properly using the sugarcane residue. A suitable cropping sequence varies according to the needs of the farmer and characteristics of the soils. Livestock producers, for example, generally use a cropping sequence that has a higher percentage of pasture and annual forage than the cropping sequence used on a cash-crop farm. Grass and legumes cover crops may be grown during fall and winter. Additional information on cropping sequences can be obtained from the Natural Resources Conservation Service, the Louisiana Cooperative Extension Service, or the Louisiana Agricultural Experiment Station.

Control of Erosion

Soil erosion generally is not a serious problem on most of the soils in Terrebonne Parish, mainly because most of the topography is level or nearly level. Nevertheless, sheet and rill erosion can be moderately severe 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 most of the organic matter are also lost. Soil erosion also results in sedimentation of drainage systems, and streams are polluted by sediments, 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. The installation of pipe drop structures in drainageways to drop water to different levels can help prevent gullying.

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

Yields Per Acre

The average yields per acre that can be expected of the principal crops under a high level of management are shown in table 6. In any given year, yields may be higher or lower than those indicated in the table because of variations in rainfall and other climatic factors. The land capability classification of each map unit also is shown in the table.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby parishes and results of field trials and demonstrations are also considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green manure crops; and harvesting that ensures the smallest possible loss (fig. 13).

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.

Figure 13.—Harvesting mature sugarcane that has been burned to remove leaf liter, on an area of Cancienne silty clay loam, 0 to 1 percent slopes.

Crops other than those shown in table 6 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 Louisiana 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. (34) Only class and subclass are used in this survey.

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class 1 soils have slight limitations that restrict their use.

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

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

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

Class 5 soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 6 soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

Class 7 soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

Capability subclasses are soil groups within one class. They are designated by adding a small letter, *w* to the class numeral, for example, 2w. The letter *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).

In class 1 there are no subclasses because the soils of this class have few limitations. Class 5 contains only the subclass indicated by *w* 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.

Woodland Management and Productivity

Prepared by Donald Lawrence, State Forester, USDA Natural Resources Conservation Service

Terrebonne Parish contains approximately 71,300 acres of commercial forestland. Commercial forestland is defined as that land producing or is capable of producing crops of industrial wood and will not be withdrawn from timber use.

The ownership of forestland in the parish is as follows: 39 percent Corporate, 39 percent Individual, and 17 percent Farmer.

Corporate is defined as lands privately owned by private corporations other than forest industries and incorporated farms. **Individual** is defined as lands privately owned by individuals rather than forest industries, farmers, or miscellaneous private corporations. **Farmer** is defined as land operated as a unit of 10 acres or more and from which the sale of agricultural products totals $1,000.00 or more annually.

Commercial forests may be divided into different forest types. These types may be based on tree species, site quality, or age. In this section, forest types are stands of trees of similar character, composed of the same species, and growing under the same ecological and biological conditions. These forest types are named for the trees that dominate.

The oak-gum-cypress type in Terrebonne Parish comprises about 71,300 acres or 100 percent of the forested area. Common associates include cottonwood, willow, ash, elm, sugarberry, and maple.

The volume of growing stock in Terrebonne Parish is southern hardwood. Most of the forest acreage is in saw timber (86 percent), followed by pole timber (7 percent), and seedlings and saplings (7 percent).

Productivity of forestland can be measured by the amount of cubic feet of wood produced per acre per year. Many of the productive sites are in land uses other than forestland. Forestland in Terrebonne Parish is fairly productive with 7 percent producing 120 to 165 cubic feet per year, 86 percent producing 50 to 85 cubic feet per year, and less than 7 percent producing less than 50 cubic feet per year.

Forest Multiple Use

Other values associated with forestland include wildlife habitat, recreation, natural beauty, and soil and water conservation. A large portion of the acreage in Terrebonne Parish is subject to flooding, with numerous acres in the Atchafalaya

Basin Floodway. Some good stands of commercial trees are produced in the woodlands in this parish. The potential value of the wood products is substantial, but under present conditions, much of the area is far below its potential. Some of the forested areas are used for commercial crawfishing.

Trees can be planted to screen distracting views of dumps and other unsightly areas, muffle traffic sound, reduce wind velocity, and lend beauty to the landscape. Trees help filter out dust and other impurities from the atmosphere, convert carbon dioxide to oxygen, release moisture, and provide shade. They also produce fruits and nuts for use by people and wildlife.

Soils—Woodland Relationship

Soils directly influence the growth, management, harvesting, and multiple uses of forests.

This section identifies, defines, and discusses the major soil characteristics which foresters, woodland owners and users, agriculture workers, and others will find useful in forest establishment, management, use, and harvesting. It also provides information on the relation between trees and the soils in which they grow and soil interpretations that can be used in planning. Depth, fertility, texture, and available water capacity influence the growth. Elevation, aspect, and climate determine the kinds of trees that can grow on a site.

Forest Productivity and Management

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.

Forest 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, (29), or in the local offices of the Natural Resources Conservation Service and on the Internet.

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 (fig. 14).

Forest 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 suited* indicates that the soil has features that are moderately favorable for the specified practice. One

Figure 14.—Bottomland hardwoods in an area of Schriever clay, occasionally flooded.

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 0.01 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 (http://nsscnt.nssc.nrcs.usda.gov/nfm/).

For limitations *affecting construction of haul roads and log landings*, the ratings are based on slope, flooding, permafrost, plasticity index, the hazard of soil slippage, content of sand, the Unified classification, 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.

The ratings of suitability *for log landings* are based on slope, 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.

Ratings in the column *soil rutting hazard* are based on depth to a water table, 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.

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 disturbance. 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; s*evere* 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.

Ratings in the column *hazard of erosion on roads and trails* are based on the soil erodibility factor K, and slope. 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.

Ratings in the column *suitability for roads (natural surface)* are based on slope, 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 suited*, or *poorly suited* to this use.

Ratings in the columns *suitability for hand planting* and *suitability for mechanical planting* are based on slope, depth to a restrictive layer, content of sand, plasticity index, depth to a water table, and ponding. The soils are described as well suited, moderately suited, poorly suited, or not suitable for these methods of planting. It is assumed that necessary site preparation is completed before seedlings are planted.

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

Ratings in the column *suitability for mechanical site preparation (surface)* are based on slope, depth to a restrictive layer, plasticity index, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or not suitable for this management activity. The part of the soil from the surface to a depth of about 1 foot is considered in the ratings.

Ratings in the column *suitability for mechanical site preparation (deep)* are based on slope, depth to a restrictive layer, depth to a water table, and ponding. The soils are described as *well suited, poorly suited*, or *not suitable for* this management activity. The part of the soil from the surface to a depth of about 3 feet is considered in the ratings.

Ratings in the column *potential for damage to soil by fire* are based on texture of the surface layer, content of 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.

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.

Rangeland

by Craig A. Pate, Rangeland Management Specialist, USDA Natural Resources Conservation Service

In areas that have similar climate and topography, differences in the kind and amount of vegetation produced on rangeland are closely related to the kind of soil. Effective management is based on the relationship of the soils, vegetation, and water.

All of the marshland in Terrebonne Parish can be defined as rangeland (fig. 15); however, the percentage of marsh rangeland that can be grazed by livestock is very low. The biggest barrier to grazing by livestock is that the majority of these soils are not firm enough to support the weight of livestock. The hazards that affect grazing marsh rangeland require unique management. These hazards include insects, disease, unusually deep inundation from heavy rainfall or storm tides, a scarcity of shelter, and unstable soil conditions in areas where livestock can become bogged down.

Insects, especially mosquitoes, can be a serious hazard during summer months, particularly in areas of brackish marshes. Cattle can lose weight and even die during severe infestations. This hazard can be reduced by seasonal grazing in the winter and at other times when infestations are low.

High water levels during periods of heavy rainfall or storm tides force cattle to concentrate on higher ground, such as spoil banks and ridges. Cattle lose weight under these conditions and are more susceptible to communicable diseases.

Prolonged periods of high water can cause normally firm soils to become unstable to the extent that they will not support livestock grazing. If fences are not located, maintained, and used correctly, livestock can stray into areas of unstable soils.

Measures that can help to overcome the hazards that affect grazing marsh rangeland and allow optimum use of this resource are described in the following paragraphs.

Fencing.—Installing fences helps to distribute livestock grazing and prevent livestock from straying into areas that are boggy. Four strand barbed wire fences are generally used in the marsh. Posts need to be treated with preservatives and protected from fire. Fire can damage the galvanized coating on fence wires and increase their susceptibility to rust. Fences should be located so that they separate different ecological sites where practical.

Livestock watering facilities.—Water for livestock is needed on many ecological sites because the water in bayous, ponds, and pits can become too salty in summer for cattle to drink. Fresh water from wells is the most dependable source of water for livestock. Proper locations and spacing of watering facilities helps to distribute grazing.

Prescribed burning.—Prescribed burning is used widely in marsh rangeland. Livestock producers and trappers burn off the dense cover of mature marsh vegetation so that new, succulent growth for cattle and wildlife is stimulated and the availability of forage is increased. The natural vegetation can be severely damaged if

Figure 15.—Freshwater marsh on the Kenner-Allemands-Larose general soil group.

burned during periods of drought, when the fire can reach the crowns and roots of the plants. The marshes should be burned every other year and at a time when the surface is covered by water.

Supplemental feeding.—Supplemental feeding or access to improved pastures is needed on most of the marsh rangeland to provide an adequate supply of forage throughout the year. Maidencane, a major forage plant in the fresh marshes, produces only a small amount of green forage during cold weather. The vegetation remaining from the previous growing season weathers rapidly and quickly becomes unsatisfactory as forage. Unless the weather warms and allows new growth of vegetation, supplemental feed must be provided to cattle. Providing the supplemental feed in a timely manner helps to prevent weight loss in cattle. Calcium and phosphorus minerals should generally be available on a free choice basis throughout the year.

During severe weather, protein supplements and roughage should be provided to cattle. Some protein supplements should also be available to cattle grazing on mature vegetation. The supplements generally are not needed in accessible areas that have been controlled burned.

Insect control.—When insects, especially mosquitoes, become intolerable during the summer, cattle should be removed from the brackish marshes. The marsh rangeland should be grazed during the period mid-October to mid-April. Most summer grazing should occur on the fresh marsh rangeland or on improved pastures at the higher elevations.

Brush management.—Aerial spraying of herbicides can be done to control willow, Chinese tallow tree, rattlebox, hemp sesbania, and other undesirable vegetation. Herbicides must be handled carefully and properly applied according to directions on the label. Prescribed burning can also be used to manage some brush species. When properly applied, herbicides and prescribed burning can be safely and effectively used to control undesirable vegetation with no threat to people, livestock, wildlife, fish, desirable plants, or water quality.

Water control.—Salt water from the Gulf of Mexico periodically intrudes into the marshes in the parish through rivers, bayous, and drainage or transportation canals.

The vegetation in brackish marshes can be severely damaged by water that has high concentrations of salt. During periods of drought, when the amount of fresh water moving to the gulf is reduced, salt water can move landward in the waterways. Heavy south winds can push the salt water inland for considerable distances, allowing it to spread over the rangeland in marshes adjacent to the waterways. Where salt concentrations become high, vegetation is damaged and the habitat for various forms of aquatic wildlife may be destroyed.

Soils and vegetation in brackish marshes are generally damaged less by short-term inundation of seawater than the soils and vegetation in fresh marshes. Long-term intrusions of seawater, however, can destroy the vegetation in brackish marshes. Clayey soils, which are dry before they are flooded, absorb large amounts of salt. Accumulations of salt kill the plants that are less tolerant to salt and cause fine textured mineral and organic soils to become unstable. As a result, these accumulations of salt can reduce the productivity of the range and cause the soils to become unstable and hazardous to livestock. Gates, weirs, and levee systems are needed in some areas to protect the marsh rangeland from intrusions of salt water.

Ecological Sites

The marsh rangeland in Terrebonne Parish is assigned to one of seven ecological sites—Fresh Organic Marsh, Fresh Fluid Marsh, Brackish Organic Marsh, Brackish Fluid Marsh, Saline Organic Marsh, Saline Mineral Marsh, and Saline Sandy Ridge. An *ecological site* is a distinctive kind of marsh rangeland that produces a characteristic climax plant community that differs from climax plant communities on other ecological sites in kind, amount, or proportion of plant species. The relationship between soils and vegetation was ascertained during this survey; thus, ecological sites generally can be determined directly from the soil map. Soil properties that affect moisture supply and plant nutrients have the greatest influence on the productivity of these sites. Soil reaction, salt content, flooding, ponding, and a seasonal high water table are also important. The natural plant communities for these ecological sites found in Terrebonne Parish are specified in the following paragraphs.

***Fresh Organic Marsh.*—**The natural plant community is dominated by maidencane interspersed with colonies of bulltongue arrowhead, pickerelweed, and cattails. A variety of other freshwater wetland plants such as bur-marigold and spikerush are common throughout the community but do not dominate the site. Soils that are included in this ecological site are the Allemands, Carlin, and Kenner soils.

***Fresh Fluid Marsh.*—**The natural plant community is dominated by maidencane interspersed with colonies of bulltongue arrowhead, pickerelweed, and cattails. A variety of other freshwater wetland plants such as bur-marigold and spikerush are common throughout the community but do not dominate the site. The Larose series is included in this ecological site (fig. 16).

***Brackish Organic Marsh.*—**The natural plant community is dominated by marshhay cordgrass with lesser amounts of Olney bulrush, giant cutgrass, and leafy three-square scattered throughout. The Lafitte and Clovelly series are included in this ecological site (fig. 17).

***Brackish Fluid Marsh.*—**The natural plant community is dominated by marshhay cordgrass with lesser amounts of Olney bulrush, giant cutgrass, and leafy three-square scattered throughout. The Bancker series are included in this ecological site (fig. 18).

***Saline Organic Marsh.*—**The natural plant community is dominated by smooth cordgrass, with pockets of black needle rush in areas receiving frequent tidal inundation. Seashore saltgrass and seashore dropseed dominate areas of slightly higher relief along with scattered colonies of bushy sea-oxeye and saltwort. Marshhay cordgrass will occasionally make up a small percentage of the site. Black mangrove occurs on extreme southern sites. Because of salinity and tidal influences, this site has a plant community of little diversity. The Timbalier and Bellpass series is included in this ecological site.

Saline Mineral Marsh.—The natural plant community is dominated by smooth cordgrass, with pockets of black needle rush in areas receiving frequent tidal inundation. Seashore saltgrass and seashore dropseed dominate areas of slightly higher relief along with scattered colonies of bushy sea-oxeye and saltwort.

Figure 16.—Bulltongue arrowhead (*Sagittaria lancifolia* L.) and Indian toothcup [*Rotala indica* (Willd.) growing in fresh water marsh on Larose muck, very frequently flooded.

Figure 17.—Saltmeadow or marshhay cordgrass *[Spartina patens* (Ait.) Muhl.] growing in brackish marsh on Clovelly muck, slightly saline, tidal.

Figure 18.—Saltmeadow or marshhay cordgrass [*Spartina patens* (Ait.) Muhl.] in foreground, seashore saltgrass [*Distichlis spicata* (L.) Greene] in forward center, and black needle rush or needlegrass rush (*Juncus roemerianus* Scheele) in rear center, growing in brackish marsh on Bancker muck, slightly saline, tidal.

Marshhay cordgrass will occasionally make up a small percentage of the site. Black mangrove occurs on extreme southern sites. Because of salinity and tidal influences, this site has a plant community of little diversity. The Scatlake series is included in this ecological site.

Saline Sandy Ridge.—This ecological site is found on the beach dune areas on the barrier islands in Terrebonne Parish. The natural plant community is dominated by marshhay cordgrass, eastern baccharis, and seashore saltgrass. Torpedo grass, glasswort, and saltwort are also common on this site. Smooth cordgrass and black mangrove will be found on the backside of these islands. The Felicity series is included in this ecological site.

Marshland Management

John M. Pitre, state staff biologist, Natural Resources Conservation Service, helped prepare this section.

General management needed to control the losses of marshlands and to improve marshlands for use as habitat for wetland wildlife are suggested in this section.

Planners of management systems for individual areas should consider the detailed information given in the description of each soil under “Detailed Soil Map Units.” Specific information can be obtained from the staff at the local office of the Natural Resources Conservation Service, the Cooperative Extension Service, or the Louisiana Agricultural Experiment Station.

Marshland loss. The loss of Louisiana's coastal marshlands has reached a crisis level. Terrebonne Parish is within an area that is experiencing the highest rates of marshland losses in Louisiana. Both natural and manmade events are responsible for these losses.

Geologic subsidence of the Gulf Coastal marshes is the main natural cause of marshland loss (13). As the continental shelf and adjoining marshlands slowly subside, some of the marshlands at the lowest elevations become submerged below sea level. Little can be done about the losses caused by these natural events; however, the marshland deterioration caused by man's actions can be controlled with better management and restraint. Man's activities, such as drainage and the construction of channels for navigation, accelerate the rates of erosion, subsidence, and saltwater intrusion.

Coastal marsh erosion changes areas of marshland to open water areas. In most cases, this is a permanent land loss because the open water areas are too deep to revegetate.

The production of fish and wildlife resources in the marshes of the parish is directly related to the marsh plant community. When the plants are killed by increases in salinity or for other reasons, the other dependent resources are degraded. Each plant species and community requires a definite range of salinity and water levels for growth. The marsh plants are the basic source of energy for dependent animal populations, such as muskrat, and conditions enhancing plant growth serve to benefit the fish and wildlife resources. The fish and wildlife population density and diversity are dependent on the plants; therefore, the need for maintaining the marshland resource base is very important ecologically and economically.

The organic soils of the marshland are very sensitive to increases in salinity. Saltwater intrusions into brackish and freshwater marshes have increased in recent years. The increased salinity causes the loss of surface vegetation. When the plants die, they start decomposing and eventually are carried out of the marshes by tidal action. In a very short time, the surface soil is lost and the areas revert to open water. This loss is generally permanent along with the associated loss of sustained annual soil productivity.

Management. Many opportunities exist for improving the marshes of Terrebonne Parish for fish, wildlife, and other resources (13.). The marshland is a delicately balanced ecosystem that requires an interdisciplinary approach to planning and implementing management practices that will improve the habitat for waterfowl, furbearers, and fisheries. Following are some suggested management practices:

Weirs are low level dams placed in marsh water courses to provide better water management capability. Fixed-crest weirs are normally placed so the weir crest is about 6 inches below average marsh level. These water-control structures stabilize water levels in the marsh, reduce the turbidity levels of the water, improve plant community condition, and improve trapper and hunter access during the winter months by holding water in the bayous and canals. Weirs with fixed crests are most useful in brackish marshes.

Prescribed or controlled burning is a very useful and economical technique to improve marsh vegetative conditions. Periodic controlled burning helps maintain a good variety of marsh plants, which in turn has a positive impact on furbearers, such as muskrat, and other wildlife species.

Prescribed burning results are best in brackish marshes. Controlled burning done in the fall of the year is the best for wildlife; however, winter burning also has some positive results.

Levee impoundments can be installed if soils are suitable for construction. Almost every form of marsh wildlife uses the impoundments for feeding, roosting, or cover areas. Landowner objectives, marsh type, and other factors determine the management techniques to use on an impoundment.

Shoreline erosion control is one of the primary concerns for the parish and the entire coastal area. Numerous studies and field trials have been conducted to determine suitable techniques for shoreline erosion. Structural and vegetative approaches or combinations of these are currently being used. Individual site conditions vary and include soils, salinity, amount of boat traffic, and size of the water body.

Smooth cordgrass is one of the most promising plants to use in the tidal zone of saline and brackish areas. It is generally available locally. Smooth cordgrass is easily established in the tidal zone where a large part of the erosion is occurring. It withstands a wide salinity range, expands rapidly in the tidal zone, normally provides shoreline protection in one growing season and forms dense stands which dissipate wave energy.

Many other plants are available for alleviating shoreline erosion. Specific site information is needed to plan the proper combination of structural and vegetative measures.

Lawns and Gardens

In general, the soils in Terrebonne Parish have fertility levels that are adequate for most lawn and garden plants.

Besides fertility, other important soil properties for growing lawn and garden plants are texture, subsidence potential, wetness, reaction, and flooding hazard.

In this section, use and management of soils in the parish for lawns and gardens are discussed.

Soils on natural levees that are protected from flooding.—These soils border former channels and distributaries of the Mississippi River. They are firm mineral soils and generally are suited to grow most lawn and garden plants without major modification or treatment. The soils have high fertility, low subsidence potential, and strongly acid to moderately alkaline reaction. They are only slightly or moderately wet and are not flooded for long periods.

The loamy Cancienne soils are easily worked, but the more clayey Sharkey soils are hard when dry and sticky when wet. These soils are difficult to cultivate when used as landscape beds or gardens. Soils that have a clay surface layer can be improved for lawns and gardens by adding several inches of loamy fill material to the surface of the soil.

Soils in former marshes and swamps that are drained and protected from flooding.—These soils were formerly ponded and frequently flooded. To improve the soils for urban uses, they were drained with pumps and protected from flooding with manmade levees. Drainage resulted in loss of surface elevation (subsidence) because of consolidation, compaction, and oxidation. Because of their low elevation, these soils are wet most of the time. They have high natural fertility, but otherwise have severe limitations for landscaping and gardening. In many of these soils, the surface layer is extremely acid or very strongly acid because of the decomposition of the peat and muck.

The Harahan soils are in drained swamps. They have a firm, clayey surface layer and a firm to very fluid, organic or clayey subsoil. In most places, buried logs and stumps cause the soils to subside unevenly, but the logs and stumps are at the surface in some places.

The Rita soils that have been drained are in former marshes. The Rita soils have a muck surface layer and a clayey subsoil that has shrunk and cracked irreversibly as a result of drainage. These soils can be covered with several inches of loamy fill material to improve them for use as lawns and gardens.

Soils in marshes and swamps that are frequently flooded and ponded.—Unless these soils are protected from flooding and drained, they are generally not suited to urban uses. After they are drained, they will have continuing limitations similar to those discussed in the previous paragraphs.

Fill material is commonly used to improve the soils for lawns and gardens and to raise their surface elevation. In the following paragraphs, the kinds of fill commonly available in the Houma and surrounding areas are listed in descending order of suitability for use in lawns and gardens.

Loamy material deposited by former channels and distributaries of the Mississippi Rivers.—This material is excavated from areas of loamy soils, such as Cancienne. Fill from this material has favorable texture, reaction, and fertility. It compacts easily, but compaction can be controlled or reduced with proper management.

Clayey material deposited by former channels and distributaries of the Mississippi River.—This material is excavated from areas of Schriever soils and has favorable fertility and reaction. The clayey material is sticky when wet and hard when dry, and it becomes cloddy if tilled when too wet or too dry. Soil tilth can be improved by adding organic matter and mixing loamy or sandy material into the surface layer.

Coarse sand (builders sand or beach sand).—This material has very low water holding capability and low nutrient holding capacity. It is loose and easy to work. The suitability for lawns and gardens can be improved by mixing in peat or loamy material from another source.

Organic material.—This soil material is typically excavated from the drained swamps and marshes. It has limitations for use in landscaping. It shrinks, subsidence, and decomposes over time and becomes extremely acid as it decomposes. Mixing loamy soil material with the organic material and applying lime improves its suitability for use in lawns and gardens.

Some soil related problems cannot be eliminated by adding fill material to the soil surface. For example, continuing subsidence causes planters to fail and break away from houses. Borders of flower beds can become uneven because of differential subsidence, especially in the soils that have buried logs and stumps. Some soil related problems can be partly overcome by adding fill material. Large cracks can form on the surface during dry periods. Adding a few inches of loamy fill material to the soil surface annually, or more often as needed, improves the soil for use as lawns and gardens.

Windbreaks and Environmental Plantings

Windbreaks protect livestock, buildings, yards, fruit trees, gardens, and cropland from wind and snow; help to keep snow on fields; and provide food and cover for wildlife. Field windbreaks are narrow plantings made at right angles to the prevailing wind and at specific intervals across the field. The interval depends on the erodibility of the soil.

Environmental plantings help to beautify and screen houses and other buildings and to abate noise. The plants, mostly evergreen shrubs and trees, are closely spaced. To ensure plant survival, a healthy planting stock of suitable species should be planted properly on a well prepared site and maintained in good condition.

Table 13 shows the height that locally grown trees and shrubs are expected to reach in 20 years on soils in the survey area. The estimates in the table are based on measurements and observation of established plantings that have been given adequate care. They can be used as a guide in planning windbreaks and screens. Additional information on planning windbreaks and screens and planting and caring for trees and shrubs can be obtained from the local office of the Natural Resources Conservation Service, Louisiana Cooperative Extension, or from a commercial nursery.

Recreation

Terrebonne Parish provides excellent opportunity for hunting of waterfowl, such as ducks. However, most marsh and swamp areas that are suitable for hunting are either privately owned or in commercial hunting clubs.

The parish has two wildlife refuges. The Mandalay National Wildlife Refuge, which is 10,000 acres, permits waterfowl hunting, fishing, and other recreational activities. The state-owned Pointe-Au-Chien Wildlife Refuge, which is 3,500 acres, permits hunting of deer, quail, rabbits, and squirrel, as well as fishing and other recreational activities.

The parish provides excellent opportunities for saltwater and freshwater fishing. Charter yachts and other boats are readily available for deep-sea excursions. The many canals, bayous, and lakes provide opportunities for sport fishing. Outboard motorboats can be rented for fishing in the bayous and lakes.

In addition to hunting and fishing, other recreational activities, such as crabbing, shrimping, oystering, camping, picnicking, swimming, bird-watching, and water-skiing are available in the parish.

The soils of the survey area are rated in table 14 and table 15 according to limitations that affect their suitability for recreation. The ratings are based on restrictive soil features, such as wetness and texture of the surface layer. Susceptibility to flooding is considered. Not considered in the ratings, but important in evaluating a site, are the location and accessibility of the area, the size and shape of the area and its scenic quality, vegetation, access to water, potential water impoundment sites, and access to public sewer lines. The capacity of the soil to absorb septic tank effluent and the ability of the soil to support vegetation are also important. Soils subject to flooding are limited for recreational uses by the duration and intensity of flooding and the season when flooding occurs. In planning recreational facilities, onsite assessment of the height, duration, intensity, and frequency of flooding is essential.

In table 14 and table 15, the degree of soil limitation is expressed as slight, moderate, or severe. *Slight* means that soil properties are generally favorable and that limitations are minor and easily overcome. *Moderate* means that limitations can be overcome or alleviated by planning, design, or special maintenance. *Severe* means that soil properties are unfavorable and that limitations can be offset only by costly soil reclamation, special design, intensive maintenance, limited use, or a combination of these measures.

The information in table 14 and table 15 can be supplemented by other information in this survey, for example, interpretations for septic tank absorption fields in table 22, interpretations for dwellings without basements in table 20, and for local roads and streets in table 21.

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 are not wet or subject to flooding during the period of use. The surface absorbs rainfall readily but remains firm and is not dusty when dry.

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, and are not subject to flooding during the period of use.

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

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.

Golf course 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 course fairways are firm when wet, are not dusty when dry, and are not subject to prolonged flooding during the period of use. The suitability of the soil for tees or greens is not considered in rating the soils.

Wildlife Habitat

Michael D. Nichols, Wildlife Biologist, USDA Natural Resources Conservation Service, prepared this section.

Wildlife and fisheries habitat is very unique and diverse within the boundaries of Terrebonne Parish. Because of its proximity to the Gulf of Mexico, the Parish is home to an extremely diversified group of ecosystems. This blending zone between land

and sea supports a wide variety of habitats used by numerous species of fish and wildlife. Salient habitat types include the coastal marsh, woodland including cypress-tupelo swamp and hardwood bottomland, and openland such as cropland and pastureland.

The coastal marshes of Terrebonne Parish comprise about 499,000 acres or 37.4 percent of the total area of the parish. This vast wetland-complex is within the heart of south-central Louisiana's fishing, hunting, and trapping industries.

A large proportion of the waterfowl that use the Mississippi Flyway, either winter in the marsh or stopover for food and rest, during their migration to and from the tropics (fig. 19). About 5,500 wild alligators are harvested each year contributing an estimated 2 million dollars directly into the parish economy. High populations of furbearers, such as nutria, muskrat, and raccoon occur in the Terrebonne Parish marshes. Furbearer and alligator harvests provide a substantial seasonal boost to the local economy.

Freshwater and saltwater fisheries are vital to the economy of Terrebonne Parish. The coastal marsh provides habitat for both commercially and non-commercially important species of fish. The freshwater ponds and lakes located in the northern part of the parish support high numbers of catfish, largemouth bass, bluegill, and crappie. The brackish and salt marshes found in the southern parts of the parish serve as important nursery grounds for marine organisms. Species commonly fond in these saltier areas include shrimp, menhaden, redfish, speckled trout, blue crab, and oysters. The Terrebonne Parish fishing industry generates an estimated 66.8 million dollars annually (fig. 20).

Many different kinds of non-consumptive wildlife and fish use the coastal marsh. Songbirds, hawks, owls, shorebirds, and wading birds use the marsh either seasonally or year-round. The endangered bald eagle nests in baldcypress trees growing in swampy areas of the parish (fig. 21). A host of reptilian and amphibian species meet their habitat needs within the confines of the coastal marsh (fig. 22).

Figure 19.—An abundance of seagulls rest and nest on the off-shore barrier islands on Felicity loamy fine sand, 1 to 3 percent slopes, frequently flooded.

Figure 20.—Shrimp boat headed into dock after a day of trawling.

Figure 21.—Bald eagle soaring above an area of Allemands muck, very frequently flooded, bordered by Barbary muck, frequently flooded in center of photo and Fausse clay, frequently flooded in background (photo by US Fish and Wildlife Service).

Figure 22.—Young alligator sunning in freshwater marsh.

Four different types of coastal marsh are found in Terrebonne Parish. The marsh types are characterized according to the level of salinity and species of vegetation growing in the area. In order of increasing salinity, the four marsh types are fresh, intermediate, brackish, and saline. Since water salinity declines along a gradient moving inland from the Gulf of Mexico, the marsh types generally occur in bands parallel to the Gulf shoreline. Although some overlap does occur, wildlife and fisheries usage differs markedly among the marsh types. Furthermore, the productivity or habitat quality of each marsh type is related to the kind of soil present. The location and extent of the soils in each marsh type is shown on the General Soil Map.

Marsh plants differ in their tolerance to salt and the composition of a marsh plant community indicates the type of marsh and approximate level of salinity.

The saline marsh is adjacent to the Gulf of Mexico and extends inland for about 0.5 miles on the west side of the parish to about 5.6 miles on the east side. It covers an area about 214 square miles and comprises approximately 27.4 percent of the marshland in the Parish. The predominant soils in the saline marsh are those of the Bellpass, Felicity, Scatlake, and Timbalier series. These soils are regularly inundated by saltwater from the Gulf. Levels of salinity in the saline marsh range from about 8 to 16 millimhos per centimeter. The native plants growing in these soils are tolerant of high levels of salinity. Smooth cordgrass, seashore saltgrass, needlegrass rush, marshhay cordgrass, bushy sea-oxeye, and saltwort are the dominant plants.

The saline marsh is part of an estuary that provides a nursery for saltwater fish and crustaceans. Shrimp, blue crab, menhaden, croaker, spot, bay anchovy, as well as many other forms of marine life that spawn in the Gulf of Mexico require at least a seasonal stint in the saline marsh to complete their life cycle. The population density of ducks, nutria, American alligators, and swamp rabbits is low in the saline marsh. Moderate numbers of geese, muskrats, minks, otters and raccoons use the saline marsh. White-tailed deer seldom venture into the saline marsh.

The brackish marsh type is found in an area between the saline marsh and the fresh marsh. It is the most extensive of the marsh types covering about 145 square miles. Brackish marsh comprises approximately 18.7 percent of the marshland in the Parish. The predominant soil map units are Bancker muck, slightly saline, tidal;

Clovelly muck, slightly saline, tidal; and Lafitte muck, slightly saline, tidal. The levels of salinity in the soils of the brackish marsh range from about 4 to 8 millimhos per centimeter. The native plants growing in these soils are dwarf spikerush, marshhay cordgrass, Olney bulrush, coastal waterhysop, and widgeongrass, a highly preferred waterfowl food, is the dominant submerged aquatic plant of the brackish marsh.

Soils of the brackish marsh support habitat for large numbers of geese, wading and shore birds, muskrats, mink, otters, and raccoons. The muskrat prefers the brackish marsh over the other marsh types. One of the highest populations of mottled ducks occurs in the brackish marsh of Terrebonne Parish. The native plants in the brackish marsh provide a source of food most favored by geese. Moderate numbers of ducks, nutria, American alligators, and swamp rabbits use the brackish marshes. The brackish marsh, like the saline marsh, is important nursery grounds for many species of fish and crustaceans.

Intermediate marsh in Terrebonne Parish is a narrow transition zone between fresh and brackish marshes. It is the smallest of the marsh types. Intermediate marsh makes up only 9.4 percent of the marshland area. Major soil map units are Bancker muck, very slightly saline, tidal; Clovelly muck, very slightly saline, tidal; and Lafitte muck, very slightly saline, tidal. Salinity ranges between 1 and 12.5 millimhos per centimeter. The average salinity is 4.5 millimhos per centimeter. Plant species diversity is high in the intermediate marsh and marshhay cordgrass is the dominant plant. Other plants commonly found growing in the intermediate marsh include common reed, narrowleaf arrowhead, and coastal waterhysop. An abundance of submerged aquatics grow in the intermediate marsh. Pondweeds and naiads are two of the most commonly occurring submerged aquatics.

Intermediate marsh ranks second to fresh marsh in its value to waterfowl. Species of dabbling ducks, such as teal and gadwall, feed extensively on the aquatic vegetation found in intermediate marsh. Nutria prefer the northern fringes of the intermediate marsh while muskrat prefer the more southerly portions of the intermediate marsh. High numbers of American alligators may sometimes be found in the intermediate marsh. Many other species, including numerous fishes inhabit the intermediate marsh.

Freshwater marsh makes up 44.5 percent of the coastal marshland in Terrebonne Parish. It occurs in the northernmost part of the parish covering roughly 347 square miles. The main soils in the fresh marsh include those of the Allemands, Carlin, Kenner, and Larose series. Water salinity averages 1.5 millimhos per centimeter but may range between 1.5 to 3.4 millimhos per centimeter. Plant diversity is highest in the fresh marsh because of the abundance of freshwater.

A freshwater “hydraulic head” is maintained because of the constant input of freshwater from rivers and bayous. In other words, the volume of freshwater entering the system is enough to dilute the incoming tides of saltwater to a nominal salt content. Average salinities are reduced to levels unharmful to freshwater plants. Dominant plants are maidencane, bulltongue, alligatorweed, cattail, giant cutgrass, pickerelweed, swamp knotweed, and common rush. Many different kinds of submerged and floating-leafed aquatic plants, such as water hyacinth, form extensive floating mats that hinder boat traffic and recreational activities.

Large numbers of waterfowl, nutria, mink, otters, raccoons, swamp rabbits, white-tailed deer, and American alligators use the freshwater marsh. Waterfowl favor freshwater marsh over the other marsh types. Dabbling ducks, such as mallard and teal, spend the winter months primarily in the fresh marsh. Few muskrat are found in the fresh marsh, but nutria numbers often reach detrimental levels. Managed harvests of these animals, especially the nutria, are carried out each winter to prevent “eat-outs.” Eat-outs are areas of marsh on which nutria have almost completely denuded the vegetation. Without controlled harvests, these vermin will eat themselves out of house and home by destroying the marsh plant communities that hold the fragile marsh soils intact. Freshwater fisheries include such species as catfish, largemouth bass, bluegill, and black crappie. Species of birds commonly found in the fresh marsh include egrets, herons, and ibises.

Forestland covers approximately 191 square miles or about 16.8 percent of the land area in the Parish. The two major types of forestland occurring in the parish are cypress-tupelo swamp and bottomland hardwoods. Wooded areas provide habitat for woodland wildlife such as white-tailed deer, rabbits, mink, otters, raccoons, squirrels, wood ducks, migratory birds, and wading birds. American alligators, crawfish, and fish are usually plentiful in wooded areas that are frequently flooded.

Cypress-tupelo swamps cover approximately 11.1 percent of the land area of Terrebonne Parish. Although these areas are frequently flooded, swamps usually support trees. Baldcypress and tupelo-gum are well-adapted to wet conditions and these species are the dominant trees. Except for buttonbush and Drummond red maple, understory species are sparse mainly because of the flooded conditions. The main soils in the swamp include those of the Barbary, Fausse, and Maurepas series.

The remaining portion of forestland consists primarily of bottomland hardwood. It covers about 5.7 percent of the total land area of the parish. Bottomland hardwood forests usually occur along the flanks of bayous where elevations are slightly higher than those found in swamps. Bottomland hardwood forests are occasionally flooded and these areas typically support green ash, sugarberry, water tupelo, water oak, and sweetgum. The main soil found in bottomland hardwood forests is the Schriever series.

Openland habitat is found mainly along the higher ridges in the parish. Elevation is generally at or above 5 feet MSL. A large percentage of the area is used to produce agricultural crops, mainly sugarcane. The main soils are those of the Cancienne, Gramercy, and Schriever series. Some areas provide habitat for wildlife but most areas are of limited value because of a lack of food and cover. Bobwhite quail, cottontail rabbits, and doves are the most common game species. A small acreage is left fallow each year, and if not grazed, these areas provide good wildlife habitat.

Soils affect the kind and amount of vegetation that is available to wildlife as food and cover. 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.

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.

Table 16, table 17, table 18, and table 19 show the degree and kind of soil limitations that affect various kinds of habitat for wildlife. The tables show limitations of the soils for grain and seed crops for food and cover; domestic grasses and legumes for food and cover; upland wild herbaceous plants; upland shrubs and vines; upland deciduous trees; upland mixed deciduous-coniferous trees; riparian herbaceous plants; riparian shrubs, vines, and trees; and freshwater wetland plants. This information can be used in planning parks, wildlife refuges, nature study areas, and other developments for wildlife; in selecting areas for establishing, improving, or maintaining specific elements of wildlife habitat; and in determining the intensity of management needed for each element of the habitat.

Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the element or kind of habitat. *Not limited* indicates that the soil has features that are very favorable for the element or kind of habitat. Good performance and very low maintenance can be expected. *Slightly limited* indicates that the soil has features that are favorable for the specified use. The limitations are minor and can be easily overcome. Good performance and low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Creating, improving, or maintaining habitat is impractical or impossible.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Ratings for *grain and seed crops for food and cover* can be used in the selection of sites that have the soil properties and plant species necessary to sustain wildlife habitat. The ratings do not reflect the limitation for commercial agronomic production. The soil properties and features that affect the growth of grain and seed crops are soil texture, content of organic matter, the amount of rock fragments on or near the soil surface, available water capacity, depth to bedrock or a cemented pan, soil moisture and temperature regimes, depth to a high water table, ponding, flooding, permeability of the soil surface, slope, presence of excess salts in the soil, and susceptibility of the soil surface to water erosion and wind erosion. No commercial grain and seed crops are grown in Terrebonne Parish.

Ratings for *domestic grasses and legumes for food and cover* can be used in the selection of sites that have the soil properties and plant species necessary to sustain wildlife habitat. The ratings do not reflect the limitations for commercial agronomic production. The soil properties and features that affect the growth of grasses and legumes are soil texture, content of organic matter, the amount of rock fragments on or near the soil surface, available water capacity, depth to bedrock or a cemented pan, soil moisture and temperature regimes, depth to a high water table, ponding, flooding, permeability of the soil surface, slope, presence of excess salts in the soil, and susceptibility of the soil surface to water erosion and wind erosion. Examples of grasses are annual ryegrass (*Lolium multiflorum*), Bahiagrass (*Paspalum notatum*), Bermudagrass (*Cynodon dactylon*), dallisgrass (*Paspalum dilatatum*); examples of legumes are crimson clover (*Trifolium incarnatum*), white clover (*Trifolium repens), and* hairy vetch (*Vicia villosa*).

Ratings for *upland wild herbaceous plants* indicate the limitation of the soils as a growing medium for a diverse upland herbaceous plant community. This community is adapted to soils that are drier than the common soils in moist riparian and wetland zones but that are not as dry as the soils in upland desert areas. The soil properties and features that affect the ability of these species to thrive include soil texture, available water capacity, the presence of excess salts in the soil, soil moisture and temperature regimes, depth to a high water table, and rock fragments on the soil surface. Examples of upland wild herbaceous plants are Virginia wildrye (*Elymus virginicus*), switchgrass (*Panicum virgatum*), Illinois bundleflower (*Desmanthus illinoensis*), hoary ticktrefoil (*Desmodium canescens*), Carolina canarygrass (*Phalaris caroliniana*), browntop millet (*Panicum fasiculatum*), wooly croton (*Croton capitatus*) switchcane (*Arundinaria gigantea*), horseweed (*Conyza canadensis*) and common goldenrod (*Solidago canadensis*).

Ratings for *upland shrubs and vines* indicate the limitation of the soils as a growing medium for a diverse upland shrub and vine community. This community is adapted to soils that are drier than those common in the moist riparian and wetland zones but that are not as dry as those in upland desert areas. The soil properties and features that affect the ability of these species to thrive include soil texture, content of organic matter, available water capacity, depth to bedrock or a cemented pan, the presence of excess salts in the soil, soil moisture and temperature regimes, depth to a high water table, and rock fragments on the soil surface. Examples of upland shrubs and vines are persimmon (*Diospyros virginiana*), Elderberry (*Sambucus canadensis*), Blue beech (*Carpinus caroliniana*), yaupon *(Ilex vomitoria*), hercules' club (*Aralia spinosa*), winged sumac (*Rhus copallinium*), tie vine (*Jacquemontia tamnifolia*), Japanese honeysuckle (*Lonicera japonica*), trumpet creeper (*Campis radicans*), cross-vine (*Bignonia capreolata*) common greenbriar (*Smilax rotundifolia*), poison ivy (*Toxicodendron radicans*), Virginia creeper (*Parthenocissus quinquefolia*), and muscadine (*Vitis rotundifolia*).

Ratings for *upland deciduous trees* indicate the limitation of the soils as a growing medium for a diverse upland deciduous tree community that meets specific local habitat requirements for targeted and nontargeted wildlife species. Typically, deciduous trees require better soil conditions than geographically related conifers. The soil properties and features that affect the ability of upland deciduous trees to thrive include available water capacity, depth to a high water table, depth to bedrock or a cemented pan, and soil moisture and temperature regimes. Examples of upland deciduous trees are live oak (*Quercus virginiana*), water oak (*Quercus nigra*), pecan (*Carya illinoiensis*) sweet gum (*Liquidambar styraciflua*), small snowbell (*Styrax americanus*, honey locust (*Gleditsia triacanthos*), Chinaberry (*Melia azedarach*), Camphor tree (*Cinnamomum camphora*), Southern hackberry (*Celtis laevigata*), black locust (*Robinia pseudoacacia*), and American elm (*Ulmus americana*).

Ratings for *upland mixed deciduous-coniferous trees* indicate the limitation of the soils as a growing medium for a diverse upland deciduous-coniferous tree community that meets specific local habitat requirements for targeted and non-targeted wildlife species. A mixed deciduous-coniferous forest can subsist under a wide variety of soil conditions. Typically, better soil conditions are required to maintain the deciduous species, but many of these species adapt to harsher conditions. The soil properties and features that affect the ability of the deciduous and coniferous trees to thrive include available water capacity, depth to a high water table and its seasonal duration, depth to bedrock or a cemented pan, and soil moisture and temperature regimes.

Ratings for *riparian herbaceous plants* indicate the limitation of the soils as a growing medium for herbaceous plants that are adapted to soil conditions that are wetter than those common in the drier upland areas. The soils suitable for this habitat generally are on flood plains, in depressions, on bottomland, in drainageways adjacent to streams, or in any other area where the soil is either saturated for some period during the year or is subject to periodic overflow from ponding or flooding. The soil properties and features that affect the ability of riparian herbaceous plants to persist include soil texture, content of organic matter, depth to a high water table, the frequency and duration of ponding and flooding, the presence of excess salts in the soil, rock fragments, and the soil temperature regime. Examples of riparian herbaceous plants are Virginia wildrye (*Elymus virginicus)*, Eastern gamagrass (*Tripsacum dactyloides*), switchgrass (*Panicum virgatum*), switchcane (*Arundinaria gigantea*), and Illinois bundleflower (*Desmanthus illinoensis*).

Ratings for *riparian shrubs, vines, and trees* indicate the limitation of the soils as a growing medium for shrubs, vines, and trees that are adapted to soil conditions that are wetter than those common in the drier upland areas. The soils suitable for this habitat generally are on flood plains, in depressions, on bottomland, in drainageways adjacent to streams, in areas of springs and seeps, or in any other area where the soil is either saturated for some period during the year or is subject to periodic overflow from ponding or flooding. The soil properties and features that affect the ability of riparian shrubs, vines, and trees to persist include available water capacity, depth to a high water table, the frequency and duration of ponding and flooding, the presence of excess salts in the soil, and the soil temperature regime. Examples of riparian shrubs, vines, and trees are Eastern cottonwood (*Populus deltoides*), American sycamore (*Platanus occidentalis*) black willow (*Salix nigra*), box elder (*Acer negundo*), red maple (*Acer rubrum* var. *drummondii)*, Chinese privet (*Ligustrum sinense*) green ash *(Fraxinus pennsylvanica*) , Southern hackberry (*Celtis laevigata*), American elm (*Ulmus americana*), bald cypress *(Taxodium distichum*), red mulberry (*Morus rubra*), Southern bayberry (*Myrica cerifera*), rattan *(Berchemia scandens*), poison ivy (*Toxicodendron radicans*), trumpet creeper (*Campis radicans*), common greenbriar (*Smilax rotundifolia*), and muscadine (*Vitis rotundifolia*).

Ratings for *freshwater wetland plants* indicate the limitation of the soils as a growing medium for plants that are adapted to wet soil conditions. The soils suitable for this habitat generally are in marshes, in depressions, on bottomland, in backwater areas on flood plains, in drainageways adjacent to streams, in areas of springs and seeps, or in any other area where the soil is not directly affected by moving floodwater but may be ponded during some part of the year. The soil properties and features that affect the ability of freshwater wetland plants to persist include soil texture, content of organic matter, depth to a high water table, the frequency and duration of ponding, the presence of excess salts in the soil, and soil reaction (pH). Examples of freshwater wetland plants are dotted smartweed (*Polygonum punctatum*), marsh purslane (*Ludwigia palustris*), American lotus *(Nelumbo lutea*) barnyard grass (*Echinochloa crusgalli*), common cattail (*Typha latifolia*), annual wildrice (*Zizania aquatica*), maidencane (*Panicum hemitomon*), lizard tail (*Saururus cernuus*), rattle box, hemp sesbania *(Sesbania exaltata*), Tupelogum (*Nyssa aquatica*), bald cypress *(Taxodium distichum*), water locust (*Gleditisia aquatica*), buttonbush (*Cephalanthus occidentalis*), fragrant flatsedge (*Cyperus odoratus*), various rushes (*Juncus* spp.) and sedges (*Carex* spp).

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. (4)(15)(24)(26) Criteria for each of the characteristics must be met for areas to be identified as 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 (5). 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 (6). The criteria are used to identify a phase of a soil series that normally is also a hydric soil. The criteria used are selected estimated soil properties that are described in “Soil Taxonomy” (32) and “Keys to Soil Taxonomy” (29) and in the “Soil Survey Manual” (21).

If soils are wet enough for a long enough period to be considered hydric, they generally 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” (8).

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 required to determine the hydric soils on a specific site (8)(15).

AEA—Allemands muck, very frequently flooded
ARA—Allemands and Carlin soils, very frequently flooded
ATA—Aquents, dredged
ATB—Aquents, dredged, 1 to 5 percent slopes, occasionally flooded
BNA—Bancker muck, slightly saline, tidal
BOA—Bancker muck, very slightly saline, tidal
BRA—Barbary muck, frequently flooded
BSA—Bellpass muck, tidal
CKA—Clovelly muck, slightly saline, tidal
CLA—Clovelly muck, very slightly saline, tidal
FAA—Fausse clay, frequently flooded
GaA—Gramercy silty clay loam, 0 to 1 percent slopes
GcA—Gramercy-Cancienne silty clay loams, 0 to 1 percent slopes
HpA—Harahan clay, occasionally flooded
KEA—Kenner muck, very frequently flooded
LAA—Lafitte muck, slightly saline, tidal
LFA—Lafitte muck, very slightly saline, tidal
LRA—Larose muck, very frequently flooded
MAA—Maurepas muck, frequently flooded
RTA—Rita muck, occasionally flooded
SCA—Scatlake muck, tidal
ShA—Schriever clay, 0 to 1 percent slopes
SIA—Schriever clay, frequently flooded
SrA—Schriever clay, occasionally flooded
TUA—Timbalier muck, tidal
UB—Urban land

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.

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 data in the tables described under the heading "Soil Properties."

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 between the surface and a depth of 5 to 7 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 particle-size distribution, liquid limit, plasticity index, soil reaction, soil wetness, depth to a water table, ponding, 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 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.

Building Site Development

Table 20 shows the degree and kind of soil limitations that affect dwellings without basements and small commercial buildings. Table 21 shows the degree and kind of limitations that affect local roads and streets, shallow excavations, 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.

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 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 and flooding affect the ease of excavation and construction. Landscaping and grading that require cuts and fills of more than 5 or 6 feet are not considered.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or stabilized soil material; and a flexible or rigid surface. Cuts and fills are generally limited to less than 6 feet. The ratings are based on soil properties, site features, and observed performance of the soils. Depth to a high water table and flooding affect the ease of excavating and grading. Soil strength (as inferred from the engineering classification of the soil), shrink-swell potential, and depth to a high water table affect the traffic-supporting capacity.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, and other purposes. The ratings are based on soil properties, site features, and observed performance of the soils. The ease of digging, filling, and compacting is affected by soil texture, fluidity, organic layers, and buried stumps and logs. 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.

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, the available water capacity in the upper 40 inches, and the content of salts, sodium, and sulfidic materials affect plant growth. Flooding, wetness, and the amount of sand, clay, or organic matter in the surface layer affect trafficability after vegetation is established.

Sanitary Facilities

Table 22 and table 23 show the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

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 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in down slope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

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. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, 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. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A *trench sanitary landfill* is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid 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. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

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. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

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. It should not have excess sodium, salts, or lime and should not be too acid.

Construction Materials

Table 24 and table 25 provide information about the soils as potential sources of gravel, sand, topsoil, reclamation material, and roadfill. Normal compaction, minor processing, and other standard construction practices are assumed.

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 table 24, only the likelihood 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 Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand or gravel, the soil is considered a likely source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good, fair*, or *poor* as potential sources of sand and gravel. A rating of good or fair means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

The soils are rated *good, fair*, or *poor* as potential sources of topsoil, reclamation material, and roadfill. The features that limit the soils as sources of these materials are specified in the tables. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of topsoil, reclamation material, or roadfill. The lower the number, the greater the limitation.

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.

Reclamation material is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

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.

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. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a 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 AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

Water Management

Table 26 provides information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas and embankments. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. Not limited indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. Somewhat limited indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. Very limited indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Pond reservoir areas hold water behind a dam or embankment (fig. 23). Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. Embankments that have zoned construction (core and shell) are not considered. 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 aquifier 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 aquifier, and quality of the water is inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Figure 23.—Protection levees and pump stations are often used to prevent urban areas from flooding.

Soil Properties

Data relating to soil properties are collected during the course of the soil survey.

Soil properties are ascertained 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 particle-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties are shown in tables. They include physical and chemical properties, and clay mineralogy.

Engineering Properties

Table 27 provides the engineering classifications and the range of index properties for the layers of each soil in the survey area.

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

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 across. "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 15 percent or more, 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 (1) and the system adopted by the American Association of State Highway and Transportation Officials (2).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches across 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 across is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches across 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 particle-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 generally omitted in the table.

Physical Soil Properties

Table 28 shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the 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.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In table 28, the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In table 28, the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

The content of sand, silt, and clay affects the physical behavior of a soil. Particle size is important for engineering and agronomic interpretations, for determination of soil hydrologic qualities, and for soil classification.

The amount and kind of clay affect the fertility and physical condition of the soil and 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- or 1/10-bar (33kPa or 10kPa) moisture tension. Weight is determined after the soil is dried at 105 degrees C. In the table, the estimated moist bulk density of each 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. Depending on soil texture, a bulk density of more than 1.4 can restrict water storage and root penetration. Moist bulk density is influenced by texture, kind of clay, content of organic matter, and soil structure.

Saturated hydraulic conductivity refers to the ability of a soil to transmit water or air. The term "permeability," as used in soil surveys, indicates saturated hydraulic conductivity (K-sat). The estimates in the table indicate the rate of water movement, in micrometers per second, 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 soil layer. The capacity varies, depending on soil properties that affect retention of water. 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 refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In table 28, 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 by returning crop residue to the soil. Organic matter has a positive effect on available water capacity, water infiltration, soil organism activity, and tilth. It is a source of nitrogen and other nutrients for crops and soil organisms.

Erosion factors are shown in table 28 as the K factor (Kw and Kf) and the T factor. Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of several factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) 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 and on soil structure and permeability. Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

Erosion factor Kw indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

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 susceptibility to wind erosion in cultivated areas. 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 rock 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.

Chemical Soil Properties

Table 29 shows estimates of some chemical characteristics and features that affect soil behavior. These estimates are given for the 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.

Cation-exchange capacity is the total amount of extractable bases 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. The ability to retain cations reduces the hazard of ground-water pollution.

Soil reaction is a measure of acidity or alkalinity. The pH of each soil 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.

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 (mmhos/cm) or decisiemens per meter (dS/m) 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.

Water Features

Table 30 provides estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

Water table refers to a saturated zone in the soil (fig. 24). Table 30 indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. Table 30 indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area 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.

Duration and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30

Figure 24.—This soil pit shows the apparent water table at a depth of 26 inches. Care is needed when using these soils for urban uses.

days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

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 is 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.

Soil Features

Table 31 gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

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

Figure 25.—Foundation failure is common for structures built on organic soils with high subsidence potential.

oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years (fig. 25). 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 corrodes 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 or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete 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 physical, chemical, and mineralogical properties of the soils.

Physical properties: These factors are texture, structure, surface area, bulk density, aeration, water retention, and flow.

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 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 is available for plant uptake.

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. 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 inherent ability of the soil 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 32. The methods used in obtaining the data are indicated in the list that follows. The codes in parentheses refer to published methods.

Organic matter: acid-dichromate oxidation (6Ala)
pH: 1:1 soil/water solution (8Cla)

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 (6Hla)
*Effective cation-exchange capacit*y: sum of bases plus exchangeable aluminum and hydrogen (5A3b)
Base saturation: sum of cations/sum cation-exchange capacity (5C3)
Sum cation-exchange capacity: sum of bases plus total acidity (5A3a)
Aluminum saturation: exchangeable aluminum/effective cation-exchange capacity

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 more mature 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 mature 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 mature 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.

All of the soils in Terrebonne Parish are in the first group.

Soil reaction, organic matter content, sodium content, and cation-exchange capacity (CEC) can provide evidence of the general nutrient status of soils. Nutrient status is 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 organic form. Most of the nitrogen in the subsoil is fixed ammonium nitrogen. This form of nitrogen is unavailable for plant uptake.

Nitrogen generally is the most limiting nutrient element in crop production, because of high plant demand. For most soils, nitrogen fertilizer recommendations are based upon 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 Terrebonne 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, or as occluded or coprecipitated phosphorus in other 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 extractant tends to extract more phosphorus than the commonly used Bray 1, Mehlich 1, and Olsen extractants. The soils on the natural levees of Terrebonne Parish, such as Cancienne and Gramercy, generally have medium to high levels of phosphorus.

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 within 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.

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. Soils that have a sandier texture, such as Felicity, do not have a sufficient amount of clay to hold the potassium; therefore, they do not have a sufficiently high cation-exchange capacity to maintain adequate quantities of available potassium for sustained crop production. More frequent additions are needed to balance losses of potassium by leaching in these soils. The content of exchangeable potassium in soils is an estimate of the supply of potassium available to plants. The content of available potassium in the soils of Terrebonne Parish generally is moderate to high according to soil test interpretation guidelines.

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.

According to soil test interpretation guidelines, the exchangeable magnesium within the soils of Terrebonne Parish is low, medium, or high, depending upon soil texture. Low exchangeable magnesium levels are found throughout most of the soil profile in soils such as Felicity soils. The Cancienne soils have variable levels of magnesium throughout the profile because of variable textures. Higher levels of exchangeable magnesium are generally associated with higher clay content in the horizons of some soils, such as Gramercy and Schriever soils.

The levels of exchangeable magnesium in most of the soils in Terrebonne Parish are more than adequate for crop production, especially where the plant roots can exploit the high levels of magnesium found in the subsoil. Because magnesium deficiencies in plants are normally rare, fertilizer sources of magnesium are generally not needed for crop production.

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 of Terrebonne 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, and remains about the same in other 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.

The content of organic matter in the soils of Terrebonne Parish generally is moderately low for the soils on the natural levees that are in crop production. It decreases sharply with depth because fresh inputs of organic matter are confined to the surface layer. These moderately low levels reflect the high rate of organic matter degradation, erosion, and the use of cultural practices that make maintenance of organic matter at higher levels difficult. The soils in swamps and marshes have a high organic matter content in the surface layers or throughout the profile.

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 Terrebonne Parish have more exchangeable sodium than exchangeable potassium. Where the content of exchangeable sodium is more than about 6 percent of the CEC within the rooting depth of crops, production can be limited. Some soils in the parish that are used for agricultural purposes have a moderately high content of exchangeable sodium below the surface layer. This restricts the permeability of these soils by deflocculating the soil structural aggregates.

The *pH* of the soil solution in contact with the soil affects other soil properties. 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. This 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 can alleviate aluminum toxicity

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.

Except those soils in former marshes and swamps that have been drained, such as Rita soils, most of the soils in Terrebonne Parish have medium to high pH, contain significantly low quantities of exchangeable aluminum, and have low levels of total acidity in most of the soil horizons. In drained soils, the upper part of the soil typically becomes increasingly acid as the organic matter decomposes.

Cation-exchange capacity is a measure of the total negative charge, both permanent and pH-dependent, resulting from an array of minerals, usually clay size and can be related to the amount of nutrient and non-nutrient cations a soil can hold in an exchangeable form. 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.

Physical Analyses of Selected Soils

The results of physical analysis of several typical pedons in the survey area are given in table 33. 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 Soil Characterization Laboratory, Louisiana Agricultural Experiment Station.

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

Most determinations, except those for grain-size analysis and bulk density, were made on soil material smaller than 2 millimeters across. 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 (30).

Sand—(0.05- to 2.0-millimeter fraction) weight percentages of material less than 2 millimeters (3A1).

Silt—(0.002- to 0.05-millimeter fraction) pipette extraction, weight percentages of all material less than 2 millimeters (3A1).

Clay—(fraction less than 0.002 millimeters) pipette extraction, weight percentages of material less than 2 millimeters (3A1).

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (22)(33). 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 34 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 Inceptisol.

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 Aquept (*Aqu*, meaning water, plus *ept*, from Inceptisol).

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 Epiaquepts (*Epi*, meaning a perched water table, plus *aquept*, the suborder of the Inceptisols that has an aquic moisture regime).

SUBGROUP. Each great group has a typic subgroup. Other subgroups are intergrades or extragrades. The typic subgroup is the central concept of the great group; it is not necessarily the most extensive. Intergrades are transitions to other orders, suborders, or great groups. Extragrades have some properties that are not representative of the great group but do not indicate transitions to any other taxonomic class. Each subgroup is identified by one or more adjectives preceding the name of the great group. An example is Fluvaquentic Epiaquepts.

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 class, mineralogy class, cation-exchange activity class, soil temperature regime, soil depth, and reaction class. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is fine-silty, mixed, superactive, nonacid, hyperthermic Fluvaquentic Epiaquepts.

SERIES. The series consists of soils within a family that have horizons similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile.

Soil Series and Their Morphology

In this section, each soil series recognized in the survey area is described. Characteristics of the soil and the material in which it formed are identified for each series. A pedon, a small three-dimensional area of soil, 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" (21). Many of the technical terms used in the descriptions are defined in "Soil Taxonomy" (32) and in "Keys to Soil Taxonomy" (22). Unless otherwise indicated, colors in the descriptions are for moist soil.

Allemands Series

MLRA: Gulf Coast Marsh
Geomorphic setting: On landward side of the low coastal freshwater marsh on delta plain
Position on landform: Linear areas
Parent material: Herbaceous organic material over fluid clayey alluvium
Drainage class: Very poorly drained
Saturated hydraulic conductivity class: Very slow or impermeable
Soil depth class: Very deep
Shrink-swell potential: Low
Slope: 0.0 to 0.2 percent

Associated Soils

- Barbary soils are in swamps and are fluid mineral soils.
- Carlin soils have a water layer within the control section.
- Kenner soils have organic materials thicker than 51 inches.
- Larose soils are fluid mineral soils.

Taxonomic Classification

Clayey, smectitic, euic, hyperthermic Terric Haplosaprists

Typical Pedon

Allemands muck in an area of Allemands muck, very frequently flooded, in marshland; located 1.1 miles south of where Bayou Penchant joins Bayou Copasaw, about 700 feet east of Bayou Penchant; Sec. 31, T. 18 S., R. 15 E., Lake Penchant, Louisiana USGS 7.5 Minute Quadrangles.
Latitude: 29 degrees, 28 minutes, 0.30 seconds N. *Longitude:* 90 degrees, 57 minutes, 59.90 seconds W.

Oe—0 to 10 inches; dark brown (7.5YR 3/2) muck; 30 percent fiber, 20 percent rubbed; massive; dominantly herbaceous fiber; does not flow between fingers when squeezed; 40 percent mineral; slightly acid; clear smooth boundary.

Oa1—10 to 30 inches; very dark gray (10YR 3/1) muck; 20 percent fiber, 5 percent rubbed; massive; flow easily between fingers when squeezed leaving small residue in hand; common live roots; dominantly herbaceous fiber; 50 percent mineral; moderately acid; clear smooth boundary.

Cg1—30 to 48 inches; dark gray (5Y 4/1) clay; massive; very fluid; flows easily between fingers when squeezed leaving hand empty; strongly alkaline; abrupt smooth boundary.

Cg2—48 to 72 inches; dark greenish gray (5GY 4/1) clay; massive; very fluid; flows easily between fingers when squeezed leaving hand empty; slightly alkaline.

Range in Characteristics

Solum thickness: 16 to 51 inches
Clay content in the control section: 60 to 95 percent
Redoximorphic features: None
Other distinctive soil features: The n-value is more than 0.7 in substratum
Concentrated minerals: None
Reaction: The organic material ranges from strongly acid to slightly alkaline in the upper part and from slightly acid to moderately alkaline in the lower part; the underlying clayey materials are slightly acid to moderately alkaline. In drained

areas the reaction ranges from extremely acid to slightly alkaline in the Oa horizon, and from extremely acid to moderately alkaline in the Ag and Cg horizon.

Oe or Oa horizon: (surface tier)
Color—Hue of 7.5YR, 10YR or neutral, value of 2 to 4, and chroma of 1 to 3
Redoximorphic features—None
Texture—Muck
Other features—Less than 1 inch thick clay overwash in some areas
Thickness—16 to 51 inches

Ag horizon: (where present)
Color—Hue of 10YR, 2.5Y, or 5Y, value of 2 to 5, and chroma of 1
Redoximorphic features—None
Texture—Clay or mucky clay
Thickness—0 to 20 inches

Cg horizon:
Color—Hue of 10Y, 5Y, 5G, 5BG, or 5GY, value of 3 to 6, and chroma of 1 or 2; or it is neutral with value of 3 to 6
Redoximorphic features—None
Texture—Clay or mucky clay

Bancker Series

MLRA: Gulf Coast Marsh
Geomorphic setting: On Brackish areas along bayous and natural water bodies in the marsh on delta plain
Position on landform: Linear areas
Parent material: Fluid clayey alluvium
Drainage class: Very poorly drained
Saturated hydraulic conductivity class: Very slow or impermeable
Soil depth class: Very deep
Shrink-swell potential: Low
Slope: 0.0 to 0.2 percent

Associated Soils

- Clovelly soils are in similar positions and are organic.
- Lafitte soils are in similar positions and are organic.

Taxonomic Classification

Very-fine, smectitic, nonacid, hyperthermic Sodic Hydraquents

Typical Pedon

Bancker muck in an area of Bancker muck, slightly saline, tidal, in marshland; located about 400 feet due south of Big Carencro Bayou; 750 feet east and 550 feet north of the southwest corner of section 5; Sec. 5, T. 20 S., R. 13 E., Fourleague Bay, Louisiana USGS 7.5 Minute Quadrangles.
Latitude: 29 degrees, 21 minutes, 1.10 seconds N. *Longitude:* 91 degrees, 8 minutes, 59.70 seconds W.

Oa—0 to 10 inches; dark gray (10YR 4/1) muck; massive; about 60 percent fiber, less than 5 percent rubbed; flows easily between fingers when squeezed leaving hand empty; about 40 percent mineral; many very fine and fine roots; slightly saline; slightly alkaline; clear smooth boundary.

Ag—10 to 44 inches; dark gray (10YR 4/1) mucky clay; massive; very fluid; flows easily between fingers when squeezed leaving hand empty; few fine roots; slightly saline; slightly alkaline; clear smooth boundary.
Cg1—44 to 60 inches; dark gray (5Y 4/1) clay; massive; very fluid; flows easily between fingers when squeezed leaving hand empty; slightly saline; moderately alkaline; clear wavy boundary.
Cg2—60 to 80 inches; gray (N 5/) clay; massive; very fluid; flows easily between fingers when squeezed leaving hand empty; slightly saline; moderately alkaline.

Range in Characteristics

Solum thickness: None
Clay content in the control section: 60 to 85 percent
Redoximorphic features: Reduced matrix throughout
Salinity: The EC ranges from 4 to 8 dS/m throughout. EC values are lower during periods of excessive rainfall and higher during extended periods of drought.
Other distinctive soil features: All mineral layers above 60 inches have an n-value of 1 or more.
Concentrated minerals: None
Reaction: Strongly acid to slightly alkaline in the Oa layers; moderately acid to moderately alkaline in the Ag and Cg horizons.

Oa horizon:
Color—Hue of 7.5YR or 10YR, value of 2 or 4, and chroma of 1 or 2
Redoximorphic features—None
Texture—Muck.
Other features—None
Thickness—2 to 15 inches

Ag horizon:
Color—Hue of 10YR to 5Y, or neutral, value of 2 to 4, chroma of 2 or less
Redoximorphic features—None
Texture—clay, silty clay, or mucky clay
Other features—None
Thickness—4 to 12 inches

Cg horizon:
Color—Hue of 10YR to 5Y, 5GY, or 5BG, value of 4 to 6, and chroma of 1; or is neutral
Redoximorphic features—Masses of iron accumulation are in shades of olive or brown
Texture—Clay, silty clay, or mucky clay
Other features—Some pedons have thin organic layers
Thickness—Combined thickness of the Cg horizon is 55 to 76 inches

Barbary Series

MLRA: Southern Mississippi River Alluvium
Geomorphic setting: In backswamp on Teche Delta plain
Position on landform: Concave areas
Parent material: Fluid clayey alluvium
Drainage class: Very poorly drained
Saturated hydraulic conductivity class: Very slow or impermeable
Soil depth class: Very deep
Shrink-swell potential: Low
Slope: 0.0 to 0.5 percent

Associated Soils

- Allemands soils are freshwater, organic marsh soils.
- Cancienne soils have nonfluid subsoil layers.
- Fausse soils are nonfluid in some layer within 20 inches.
- Larose soils do not have wood fragments in the profile.
- Maurepas soils are in freshwater swamps and are organic.
- Schriever soils are nonfluid to a depth of 60 inches or more.

Taxonomic Classification

Very-fine, smectitic, nonacid, hyperthermic Typic Hydraquents

Typical Pedon

Barbary muck in an area of Barbary muck, frequently flooded, in swamp; located approximately 1.7 miles southeast of Gibson, 0.8 mile south of Highway 20, 200 feet west of Donner Canal; Spanish Land Grant Sec. 40, T. 16 S., R. 15 E., Gibson, Louisiana USGS 7.5 Minute Quadrangles. *Latitude:* 29 degrees, 40 minutes, 54.00 seconds N. *Longitude:* 90 degrees, 57 minutes, 50.00 seconds W.

Oa—0 to 5 inches; dark brown (7.5YR 3/2) muck; massive; about 40 percent fiber, 5 percent rubbed; very fluid, flows easily between fingers when squeezed leaving hand empty; about 60 percent mineral; strongly acid; clear smooth boundary.

Ag—5 to 9 inches; dark gray (10YR 4/1) mucky clay; massive; nonsticky, very fluid, flow easily between fingers when squeezed leaving small residue in hand; about 20 percent organic matter; slightly acid; clear smooth boundary.

Cg1—9 to 55 inches; dark gray (5Y 4/1) clay; few fine prominent light olive brown (2.5Y 5/4) iron accumulation throughout; massive; nonsticky, very fluid, flows easily through fingers when squeezed leaving small residue in hand; about 5 percent organic matter; few small to large fragments of wood; strongly acid.

Cg2—55 to 65 inches; gray (5Y 5/1) mucky clay; massive; nonsticky, very fluid, flows easily through fingers when squeezed leaving hand empty; about 5 percent organic matter; few small to large fragments of wood; strongly acid.

Range in Characteristics

Solum thickness: None
Clay content in the control section: 60 to 95 percent
Redoximorphic features: Depleted or gleyed matrix with masses of iron accumulation in shades of olive or brown throughout.
Other distinctive soil features: The n-value is more than 0.7 in all horizons to a depth of 40 inches or more. Buried logs are in the Cg1 and Cg2 horizons.
Concentrated minerals: None
Reaction: Strongly acid to slightly alkaline in the Oa horizon, moderately acid to slightly alkaline in the Ag horizon, and from moderately acid to moderately alkaline in the Cg horizon.

Oa horizon:
Color—Hue of 5YR to 10YR, value of 2 to 4, and chroma of 1 to 3
Redoximorphic features—None
Texture—Muck
Other features—None
Thickness—3 to 15 inches

Ag horizon: (where present)
Color—Hue of 10YR to 5Y, value of 3 to 5, and chroma of 1 or 2
Redoximorphic features—Depleted or gleyed matrix

Texture—Moderately fluid or very fluid clay, mucky silty clay, or silty clay
Other features—None
Thickness—0 to 10 inches

Cg horizon:
Color—Hue of 10YR to 5BG, value of 4 or 5, and chroma of 1; or neutral with value of 4 or 5
Redoximorphic features—Depleted or gleyed matrix with masses of iron accumulation in shades of olive or brown.
Texture—Fluid or very fluid clay or mucky clay
Other features—Thin layers of peat or muck and layers of wood, logs, and stumps are present in some pedons.

Bellpass Series

MLRA: Gulf Coast Marsh
Geomorphic setting: On saline coastal marsh on delta plain
Position on landform: Linear areas
Parent material: Herbaceous organic material over very fluid clayey alluvium
Drainage class: Very poorly drained
Saturated hydraulic conductivity class: Very slow or impermeable
Soil depth class: Very deep
Shrink-swell potential: Low
Slope: 0.0 to 0.2 percent

Associated Soils

- Felicity soils are on coastal ridges, are nonfluid and sandy.
- Scatlake soils are fluid mineral soils.
- Timbalier soils are deep organic soils.

Taxonomic Classification

Clayey, smectitic, euic, hyperthermic Terric Haplosaprists

Typical Pedon

Bellpass muck in an area of Bellpass muck, tidal, in marshland; located 1,200 feet north and 2,300 feet east of the southwest corner of sec. 35; Sec. 35, T. 21 S., R. 14 E., East Bay Junop, Louisiana USGS 7.5 Minute Quadrangles. *Latitude:* 29 degrees, 11 minutes, 27.70 seconds N.
Longitude: 91 degrees, 0 minutes, 0.30 seconds W.

Oa—0 to 30 inches; dark brown (7.5YR 3/2) muck; massive; many very fine and fine roots; flows easily between fingers when squeezed leaving hand empty; about 30 percent fiber, less than 15 percent rubbed; about 40 percent mineral; moderately saline; moderately alkaline; clear smooth boundary.
Ag—30 to 48 inches; dark gray (5Y 4/1) mucky clay; massive; very fluid; flows easily between fingers when squeezed leaving hand empty; moderately saline; moderately alkaline; clear smooth boundary.
Cg—48 to 80 inches; dark gray (5Y 4/1) clay; massive; very fluid; flows easily between fingers when squeezed leaving hand empty; moderately saline; moderately alkaline.

Range in Characteristics

Organic thickness: 16 to 51 inches
Clay content: 40 to 70 percent in the organic layers and 50 to 90 percent in the mineral layers

Redoximorphic features: Reduced matrix throughout
Other distinctive soil features: The organic layers are dominantly sapric material, but some pedons have layers, particularly surface layers, that are hemic or fibric materials, but the cumulative thickness is less than 1/2 the total thickness of the organic horizons.
Salinity: High or very high and the EC ranges from 8 to more than 16 dS/m in the upper 40 inches
Concentrated minerals: None
Reaction: Reaction of the organic layers ranges from neutral to moderately alkaline and reaction of the mineral layers ranges from slightly acid to moderately alkaline. In drained pedons, the reaction ranges from very strongly acid to neutral throughout.

Oa horizon:
Color—Hue of 10YR or 7.5YR, value of 2 to 4, and chroma of 2 or less
Redoximorphic features—None
Texture—Muck
Other features—None
Thickness—16 to 51 inches

Ag horizon: (where present)
Color—Hue of 10YR to 5Y, value of 2 to 4, and chroma of 2 or less
Redoximorphic features—None
Texture—Mucky clay or clay
Other features—None
Thickness—0 to 10 inches

Cg horizon:
Color—Hue of 10YR to 5G, or neutral, value of 4 to 6, and chroma of 1 or less
Redoximorphic features—None
Texture—Clay or silty clay
Other features—The n-value ranges from 0.7 to more than 1.0

Cancienne Series

MLRA: Southern Mississippi River Alluvium
Geomorphic setting: On natural levee on delta plain
Position on landform: Convex areas
Parent material: Loamy alluvium
Drainage class: Somewhat poorly drained
Saturated hydraulic conductivity class: Moderately slow
Soil depth class: Very deep
Shrink-swell potential: Moderate
Slope: 0 to 1 percent

Associated Soils

- Gramercy soils are clayey to 40 inches.
- Schriever soils are clayey to more than 40 inches.

Taxonomic Classification

Fine-silty, mixed, superactive, nonacid, hyperthermic Fluvaquentic Epiaquepts

Typical Pedon

Cancienne silt loam in an area of Cancienne silt loam, 0 to 1 percent slopes, in pastureland (fig. 26); located approximately 150 feet west of Bayou St. Jean Charles; northeast corner of sec. 17; Spanish Land Grant Sec. 57, T. 18 S., R. 19 E., Montegut, Louisiana USGS 7.5 Minute Quadrangles. *Latitude:* 29 degrees, 28 minutes, 49.70 seconds N. *Longitude:* 90 degrees, 32 minutes, 33.87 seconds W.

Ap1—0 to 4 inches; dark grayish brown (10YR 4/2) silt loam; weak fine granular structure; friable, nonsticky, nonplastic; common fine roots; few very fine pores; few fine prominent strong brown (7.5YR 4/6) soft masses of iron accumulation along root channels; strongly acid; clear smooth boundary.

Ap2—4 to 8 inches; dark grayish brown (10YR 4/2) silt loam; moderate medium subangular blocky structure; friable; nonsticky, nonplastic; many fine roots; few fine pores; common fine distinct dark yellowish brown (10YR 4/4) soft masses of iron accumulation on faces of peds; strongly acid; clear smooth boundary.

Bw1—8 to 15 inches; grayish brown (10YR 5/2) silt loam; moderate medium subangular blocky structure; friable; nonsticky, nonplastic; many fine roots; few fine pores; common medium prominent brown (7.5YR 4/4) soft masses of iron accumulation on faces of peds; few fine soft irregular shaped white carbonate nodules; neutral; gradual wavy boundary.

Bw2—15 to 30 inches; dark grayish brown (2.5Y 4/2) silty clay loam; moderate medium subangular blocky structure; friable nonsticky, nonplastic; few fine roots; few fine pores; common medium prominent brown (7.5YR 4/4) soft masses of iron accumulation on faces of peds; few fine soft irregular shaped white carbonate nodules; slightly alkaline; gradual wavy boundary.

Bw3—30 to 44 inches; grayish brown (2.5Y 5/2) silt loam; common medium prominent brown (7.5YR 4/4) iron accumulations on faces of peds; weak medium subangular blocky structure; very friable; slightly sticky and slightly plastic; moderately alkaline.

BCg—44 to 65 inches; gray (2.5Y 5/1) silt loam; common medium prominent brown (7.5YR 4/4) iron accumulations on faces of peds; weak fine subangular blocky structure; very friable; slightly alkaline.

Cg—65 to 74 inches; gray (2.5Y 5/1) stratified very fine sandy loam and silty clay loam; common medium prominent brown (7.5YR 4/4) iron accumulations on faces of peds; weak fine subangular blocky structure; very friable; moderately alkaline.

Range in Characteristics

Solum thickness: 40 to more than 80 inches

Clay content in the control section: 18 to 30 percent

Redoximorphic features: Iron depletions in shades of gray and iron accumulations in shades of brown or yellow throughout

Other distinctive soil features: Lenses or layers with more than 35 percent clay are below a depth of 40 inches.

Concentrated minerals: Few to common slightly hard black to brown iron-manganese concretions and white carbonate nodules in the subsoil.

Reaction: Reaction ranges from very strongly acid to moderately alkaline in the A or Ap horizons, from strongly acid to moderately alkaline in the Bw horizons, and from neutral to moderately alkaline in the Bg, BCg, and Cg horizons.

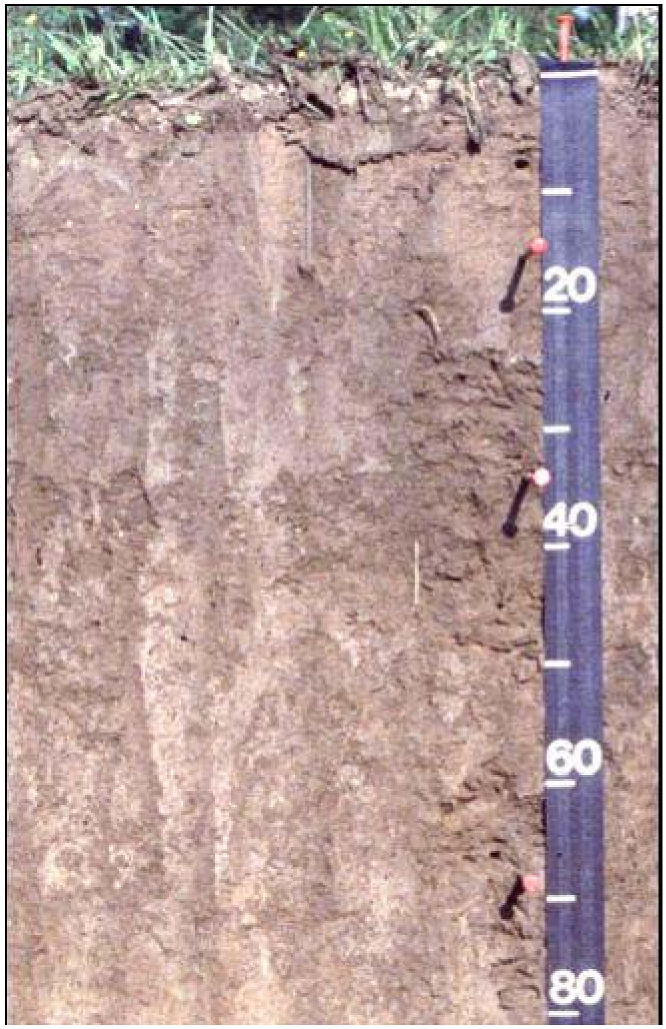

Figure 26.—Profile of Cancienne silt loam. Brown soil matrix colors and gray redoximorphic features indicate occasional saturation for short periods of time.

A or Ap horizon:

Color—Hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 1 to 3
Redoximorphic features—Few to common iron accumulations in shades of brown, and few iron depletions in shades of gray
Texture—Silt loam or silty clay loam
Other features—None
Thickness—4 to 12 inches

Bw horizon:

Color—Hue of 10YR, or 2.5Y, value of 4 to 5, and chroma of 2 or 3
Redoximorphic features—Few to common iron accumulations along root channels in shades of yellowish and reddish brown and few iron depletions in shades of gray
Texture—Silt loam, loam, and silty clay loam
Other features—None
Thickness—7 to 40 inches

Ab horizon: (where present)
Color—Hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 1 to 3
Redoximorphic features—Few to common iron accumulations in shades of brown and few iron depletions in shades of gray
Texture—Silt loam, very fine sandy loam, loam, or silty clay loam
Other features—None
Thickness—0 to 9 inches

Bg or BCg horizon:
Color—Hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 1 or 2
Redoximorphic features—Depleted matrix with few to common iron accumulations in shades of brown
Texture—Silt loam, loam, and silty clay loam with or without thin to thick strata of silty clay or heavy silty clay loam below 40 inches deep
Other features—None

Cg horizon:
Color—Hue of 10YR or 2.5Y, value of 4 or 5, and chroma of 1 or 2
Redoximorphic features—Depleted matrix with few to common iron accumulations in shades of brown
Texture—Stratified silt loam or very fine sandy loam to silty clay
Other features—None

Carlin Series

MLRA: Gulf Coast Marsh
Geomorphic setting: On landward side of the low coastal freshwater marsh on delta plain
Position on landform: Linear areas
Parent material: Thick, undecomposed herbaceous organic material over very fluid clayey alluvium
Drainage class: Very poorly drained
Saturated hydraulic conductivity class: Rapid
Soil depth class: Very deep
Shrink-swell potential: Low
Slope: 0.0 to 0.2 percent

Associated Soils

- Allemands soils have mineral layers within 51 inches.
- Barbary soils are in swamps and are fluid mineral soils.
- Kenner soils have mineral layers in the organic material.
- Larose soils are fluid mineral soils.

Taxonomic Classification

Euic, hyperthermic Hydric Haplohemists

Typical Pedon

Carlin peat in an area of Allemands and Carlin soils, very frequently flooded, in marshland; located approximately 0.6 mile west of Bayou Penchant, 0.8 mile north of Pipeline Canal; Sec. 23, T. 19 S., R. 14 E., Lake Penchant, Louisiana USGS 7.5 Minute Quadrangles. *Latitude:* 29 degrees, 29 minutes, 4.68 seconds N. *Longitude:* 90 degrees, 59 minutes, 59.54 seconds W.

Oi—0 to 8 inches; very dark gray (10YR 3/1) peat, pressed and rubbed; about 85 percent fiber, about 75 percent after rubbing; massive; many live roots;

dominantly herbaceous fiber; about 30 percent mineral material; moderately acid; clear smooth boundary.

W—8 to 28 inches; water with about 15 percent fiber (root) suspended from above layer; thickness changes with surface water or tidal stage; discontinuous when water level is low.

Oe—28 to 51 inches; dark gray (10YR 4/1) peat, press and rubbed; about 80 percent fiber, about 70 percent after rubbing; massive; many live roots; dominantly herbaceous fiber; about 30 percent mineral material; moderately acid; clear wavy boundary.

Cg—51 to 80 inches; very dark gray (10YR 3/1) mucky clay; massive; very fluid; flow easily between fingers when squeezed leaving hand empty; moderately acid.

Range in Characteristics

Organic thickness: Greater than 51 inches
Clay content in the control section: 0 percent
Redoximorphic features: None
Other distinctive soil features: Water layer at 6 to 24 inches thick.
Concentrated minerals: None
Reaction: Reaction ranges from moderately acid to moderately alkaline throughout.

Oe or Oi horizon: (surface tier)
Color—Hue of 10YR, value of 2 to 5, and chroma of 3 or less
Redoximorphic features—None
Texture—Peat
Other features—The 12-inch surface layers typically have a fiber content of more than two-thirds of the organic volume in the unrubbed state and more than four-tenths in the rubbed state.
Thickness—10 to 24 inches

Oe or Oa horizon: (subsurface tier)
Color—Hue of 10YR or 7.5YR, value of 2 to 4, and chroma of 2 or less
Redoximorphic features—None
Texture—Peat or mucky peat
Other features—The 12- to 36-inch layers have a zone of water that is very low in solids on which the above layers float. Thickness of the water zone ranges from 6 inches to about 2 feet, depending on tide influences and heavy rain events. Organic content ranges from 0 to 17 percent.
Thickness—12 to 36 inches

Cg horizon:
Color—Hue of 10YR to 5Y, or 5GY, value of 3 to 5, and chroma of 1 or less
Redoximorphic features—None
Texture—Silty clay loam, sandy clay loam, silty clay, clay, or mucky clay
Other features—None

Clovelly Series

MLRA: Gulf Coast Marsh
Geomorphic setting: On Brackish marsh on delta plain
Position on landform: Linear areas
Parent material: Herbaceous organic material over fluid clayey alluvium
Drainage class: Very poorly drained
Saturated hydraulic conductivity class: Very slow or impermeable
Soil depth class: Very deep

Shrink-swell potential: Low
Slope: 0.0 to 0.2 percent

Associated Soils

- Bancker soils in similar positions are fluid and mineral.
- Lafitte soils have more than 51 inches of organic material.

Taxonomic Classification

Clayey, smectitic, euic, hyperthermic Terric Haplosaprists

Typical Pedon

Clovelly muck in an area of Clovelly muck, slightly saline, tidal, in marshland; located approximately 1 mile north of Big Carencro Bayou; Sec. 32, T. 19 S., R. 13 E., Fourleague Bay, Louisiana USGS 7.5 Minute Quadrangles. *Latitude:* 29 degrees, 22 minutes, 0.00 seconds N. *Longitude:* 91 degrees, 8 minutes, 55.20 seconds W.

Oa1—0 to 12 inches; very dark grayish brown (10YR 3/2) muck; massive; about 30 percent fiber, 5 percent rubbed; flows easily between fingers when squeezed leaving hand empty; about 60 percent mineral; many very fine and fine roots; slightly saline; slightly alkaline; clear smooth boundary.

Oa2—12 to 30 inches; very dark grayish brown (10YR 3/2) muck; massive; about 10 percent fiber, 2 percent rubbed; about 50 percent mineral; flows easily between fingers when squeezed leaving small residue in hand; many very fine and fine roots; slightly saline; moderately alkaline; clear smooth boundary.

Oa3—30 to 38 inches; black (10YR 2/1) muck; massive; about 10 percent fiber, 2 percent rubbed; about 60 mineral; flows easily between fingers when squeezed leaving small residue in hand; few medium and fine roots; slightly saline; moderately alkaline; clear smooth boundary.

Cg—38 to 75 inches; gray (5Y 5/1) clay; massive; very fluid; flows easily between fingers when squeezed leaving hand empty; slightly saline; moderately alkaline.

Range in Characteristics

Organic thickness: 16 to 51 inches
Clay content in the control section: 50 to 90 percent clay in the mineral layers
Redoximorphic features: Reduced matrix throughout
Salinity: EC of the saturation extract ranges from 4 to 8 dS/m in at least 1 layer within a depth of 40 inches
Other distinctive soil features: The organic fraction is dominantly sapric materials, but some pedons have layers, particularly surface layers, that are hemic or fibric; but the cumulative thickness is less than half the total thickness of the organic material.
Concentrated minerals: None
Reaction: Reaction ranges from neutral to moderately alkaline throughout the profile. In drained pedons, reaction ranges from very strongly acid to neutral.

Oa horizon:
Color—Hue of 10YR or 7.5YR, value of 2 to 4, and chroma of 2 or less
Redoximorphic features—None
Texture—Muck
Other features—Mineral content ranges from 40 to 70 percent
Thickness—16 to 51 inches

Ag horizon: (where present)
Color—Hue of 10YR to 5Y, value of 2 to 4, and chroma of 2 or less

Redoximorphic features—None
Texture—mucky clay, clay, or silty clay
Other features—The n-value ranges from 0.7 to more than 1.0

Cg horizon:
Color—Hue of 10YR to 5Y, 5BG, 5GY, or 5G, value of 4 to 6, and chroma 1 or less
Redoximorphic features—None
Texture—Mucky clay, clay, or silty clay
Other features—The n-value ranges from 0.7 to more than 1.0

Fausse Series

MLRA: Southern Mississippi River Alluvium
Geomorphic setting: On Low ponded backswamp on delta plain
Position on landform: Concave areas
Parent material: Clayey alluvium
Drainage class: Very poorly drained
Saturated hydraulic conductivity class: Very slow or impermeable
Soil depth class: Very deep
Shrink-swell potential: Very high
Slope: 0.0 to 0.5 percent

Associated Soils

- Barbary soils are fluid in upper 40 inches of solum.
- Gramercy soils dry out and form cracks in the upper part.
- Schriever soils dry out and form cracks in upper part.

Taxonomic Classification

Very-fine, smectitic, nonacid, hyperthermic Vertic Endoaquepts

Typical Pedon

Fausse clay in an area of Fausse clay, frequently flooded, in swamp; located approximately 600 feet southeast of Rose Hill Church, 750 feet south of Chaqcahoula Bayou; Spanish Land Grant Sec. 3, T. 16 S., R. 14 E., Gibson, Louisiana USGS 7.5 Minute Quadrangles. *Latitude:* 29 degrees, 42 minutes, 11.00 seconds N. *Longitude:* 90 degrees, 59 minutes, 24.00 seconds W.

A—0 to 4 inches; dark gray (10YR 4/1) clay; weak coarse subangular blocky structure; firm, very sticky; common roots; moderately acid; clear wavy boundary.
Bg1—4 to 19 inches; gray (10YR 5/1) clay; common medium prominent yellowish brown (10YR 5/6) masses of iron accumulation on vertical and horizontal faces of peds; firm, very sticky common fine to coarse roots, neutral; clear wavy boundary.
Bg2—19 to 50 inches; greenish gray (5GY 5/1) clay; common medium prominent dark yellowish brown (10YR 4/4) masses of iron accumulation on faces of peds; weak coarse subangular blocky structure; firm, very sticky; neutral; clear wavy boundary.
BCg—50 to 65 inches; greenish gray (5BG 5/1) clay; massive; firm; very sticky; neutral.

Range in Characteristics

Solum thickness: 40 to more than 80 inches
Clay content in the control section: 60 to 95 percent

Redoximorphic features: Depleted matrix with none to many iron accumulations in shades of brown throughout
Other distinctive soil features: The n-value of subhorizons below 36 inches is less than 0.7.
Concentrated minerals: None
Reaction: Moderately acid to neutral in the A horizon, slightly acid to moderately alkaline in the Bg horizon, and neutral to moderately alkaline in the BCg and Cg horizons.

A horizon:
Color—Hue of 10YR to 5Y, or neutral, and value of 3 or 4, and chroma of 2 or less
Redoximorphic features—None
Texture—Clay
Other features—None
Thickness—1 to 12 inches

Bg horizon:
Color—Hue of 10YR to 5GY, value of 4 or 5, and chroma of 1 or less; or it is neutral with value of 4 or 5
Redoximorphic features—Depleted matrix with none to common iron accumulations in shades of brown
Texture—Clay
Other features—N-value is less than 0.7
Thickness—8 to 20 inches

BCg or 2Cg horizon:
Color—Hue of 5Y, 5GY or 5BG, value of 4 or 5, and chroma of 1 or less; or it is neutral with value of 4 or 5
Redoximorphic features—Depleted matrix with none to common iron accumulations in shades of brown
Texture—Clay, silty clay, or silty clay loam
Other features—The n-value ranges from 0.5 to 1.0.

Felicity Series

MLRA: Gulf Coast Marsh
Geomorphic setting: On Gulf Coast shore beach ridge on delta plain
Parent material: Sandy and silty alluvium
Drainage class: Somewhat poorly drained
Saturated hydraulic conductivity class: Very rapid
Soil depth class: Very deep
Shrink-swell potential: Low
Slope: 1 to 3 percent

Associated Soils

- Bellpass soils are organic and are in saline marshes.
- Scatlake soils are fluid mineral soils in saline marshes.
- Timbalier soils are organic and are in saline marshes.

Taxonomic Classification

Mixed, hyperthermic Aquic Udipsamments

Typical Pedon

Felicity loamy fine sand in an area of Felicity loamy fine sand, 1 to 3 percent slopes, frequently flooded, in marshland; located approximately 0.5 mile south of Caillou

Island, about 100 feet north of Gulf of Mexico; T. 23 S., R. 19 E., Timbalier Island, Louisiana USGS 7.5 Minute Quadrangles. *Latitude:* 29 degrees, 3 minutes, 54.84 seconds N. *Longitude:* 90 degrees, 29 minutes, 24.06 seconds W.

C1—0 to 9 inches; grayish brown (10YR 5/2) loamy fine sand; single grain; loose; about 5 percent fragments of shell; slightly alkaline; clear smooth boundary.
C2—9 to 18 inches; dark grayish brown (10YR 4/2) loamy sand; single grain; loose; about 10 percent fragments of shell; moderately alkaline; clear wavy boundary.
C3—18 to 27 inches; olive gray (5Y 4/2) loamy sand; few coarse faint dark yellowish brown (10YR 4/4) iron concentrations throughout; single grain; loose; about 15 percent fragments of shell; slightly alkaline; clear wavy boundary.
2Abg—27 to 60 inches; very dark gray (5Y 3/1) loamy sand; 5 percent fragments massive; friable; slightly alkaline.

Range in Characteristics

Solum thickness: 40 to 60 inches to buried organic layers or mineral horizons
Clay content in the control section: 3 to 10 percent
Redoximorphic features: Few to common iron accumulations in shades of brown at 9 to 36 inches deep
Salinity: Salinity ranges from moderate to high and electrical conductivity (EC) ranges from 8 to 16 mmhos/cm throughout the 10- to 40-inch control section.
Other distinctive soil features: Few to common shell fragments at 10 to 36 inches deep
Concentrated minerals: Weatherable minerals in the sand and coarse silt fraction exceed 10 percent.
Reaction: Neutral to moderately alkaline

A or C1 horizon: (where present)
Color—Hue of 10YR, value of 2 to 5, and chroma of 1 to 3
Redoximorphic features—None
Texture—Loamy fine sand
Other features—0 to 15 percent shell fragments
Thickness—0 to 10 inches

C2, C3, or 2C horizon:
Color—Hue of 10YR to 5Y, and value of 4 or 5, and chroma of 2 to 4
Redoximorphic features—Few iron accumulations in shades of brown
Texture—Sand, loamy sand, loamy fine sand, fine sand
Other features—0 to 15 percent shell fragments
Thickness—5 to 20 inches

2Ab horizon: (where present)
Color—Hue of 10YR to 5Y, value of 2 to 4, and chroma of 1 to 3
Redoximorphic features—Few iron accumulations in shades of brown
Texture—Sand, loamy sand, loamy fine sand
Other features—0 to 15 percent shell fragments

Gramercy Series

MLRA: Southern Mississippi River Alluvium
Geomorphic setting: On natural levee on delta plain
Position on hill slope: Linear footslopes, toeslopes
Parent material: Clayey alluvium
Drainage class: Poorly drained

Saturated hydraulic conductivity class: Very slow or impermeable
Soil depth class: Very deep
Shrink-swell potential: Very high
Slope: 0 to 1 percent

Associated Soils

- Cancienne soils are fine-silty in the upper 40 inches.
- Schriever soils are clayey to more than 40 inches deep.

Taxonomic Classification

Fine, smectitic, hyperthermic Chromic Epiaquerts

Typical Pedon

Gramercy silty clay loam in an area of Gramercy-Cancienne silty clay loams, 0 to 1 percent slopes, in other grass/herbaceous cover (fig. 27); located approximately 4,900 feet due east of Bayou Cane; 1,850 feet NNE and 800 feet WSW from the southeast corner of sec. 33; Spanish Land Grant Sec. 33, T. 17 S., R. 17 E., Humphreys, Louisiana USGS 7.5 Minute Quadrangles. *Latitude:* 29 degrees, 36 minutes, 52.74 seconds N. *Longitude:* 90 degrees, 45 minutes, 35.42 seconds W.

Ap—0 to 4 inches; dark grayish brown (10YR 4/2), silty clay loam; weak fine subangular blocky structure; firm, moderately sticky, moderately plastic; many fine and very fine roots; slightly alkaline; clear smooth boundary.

Bssg1—4 to 15 inches; dark gray (10YR 4/1), silty clay; moderate medium prismatic parts to moderate medium angular blocky structure; firm, very sticky, very plastic; many fine and very fine roots; few distinct intersecting slickensides; common distinct pressure faces on vertical and horizontal faces of peds; common fine and medium prominent irregular dark yellowish brown (10YR 4/4) masses of oxidized iron on faces of peds; moderately alkaline; gradual smooth boundary.

Bssg2—15 to 29 inches; gray (10YR 5/1), silty clay; moderate medium prismatic parts to moderate medium angular blocky structure; firm, very sticky, very plastic; few fine and very fine roots; few distinct intersecting slickensides; common distinct pressure faces on vertical and horizontal faces of peds; common medium prominent irregular dark yellowish brown (10YR 4/4) masses of oxidized iron on faces of peds; moderately alkaline; gradual smooth boundary.

Bssg3—29 to 40 inches; gray (10YR 5/1), silty clay; weak medium subangular blocky structure; firm, very sticky, very plastic; few distinct intersecting slickensides; few distinct pressure faces on vertical and horizontal faces of peds; common medium distinct irregular brown (10YR 4/3) masses of oxidized iron on faces of peds; moderately alkaline; gradual wavy boundary.

Bg—40 to 70 inches; gray (2.5Y 5/1), silt loam, stratified with thin layers of silty clay; weak medium subangular blocky structure; friable; many medium prominent irregular brown (7.5YR 4/4) masses of oxidized iron on faces of peds; moderately alkaline; gradual wavy boundary.

2Cg—70 to 80 inches; dark gray (5Y 4/1) silty clay loam; massive; friable; moderately alkaline.

Range in Characteristics

Solum thickness: 60 to more than 80 inches
Clay content in the control section: 35 to 60 percent
Redoximorphic features: Common masses of iron accumulations in shades of brown throughout the subsoil.

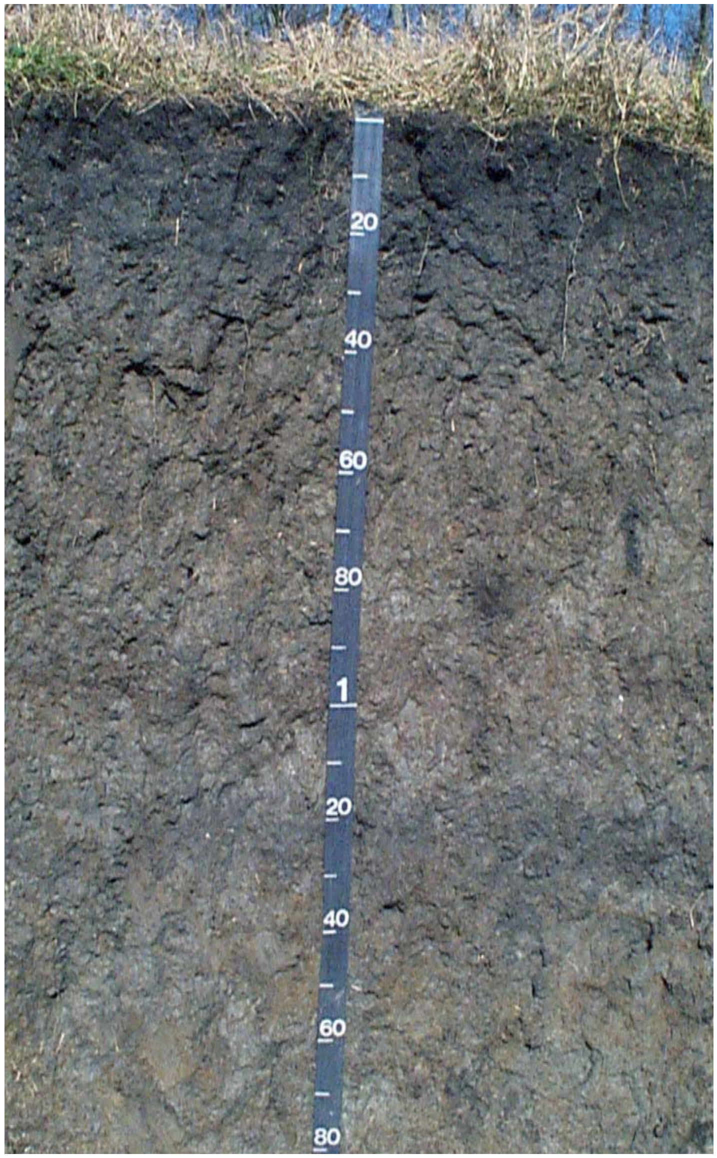

Figure 27.—Profile of Gramercy silty clay loam. Dark surface color reflects high organic matter content. Iron depleted matrix reflects saturation for extended periods.

Other distinctive soil features: Depth to subsoil layers with less than 35 percent clay ranges from 30 to 60 inches. A clayey discontinuity is below a depth of 60 inches in some pedons.

Concentrated minerals: None

Reaction: Moderately acid to moderately alkaline throughout

Ap horizon:

Color—Hue of 10YR or 2.5Y, value of 3 to 5, and chroma of 1 or 2; or neutral with value of 4

Redoximorphic features—Few masses of oxidized iron lining pores

Texture—Silty clay loam

Other features—None
Thickness—6 to 12 inches

Bssg horizon:
Color—Hue of 10YR to 5Y, value of 4 to 6, and chroma of 1; or neutral with value of 4 to 6
Redoximorphic features—Masses of iron accumulation and iron depletions in shades of brown and gray are common throughout the Bssg horizon
Texture—Silty clay or clay
Other features—None
Thickness—18 to 50 inches

Ab horizon: (where present)
Color—Hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 1 or 2
Redoximorphic features—Masses of iron accumulation and iron depletions in shades of brown and gray are common throughout
Texture—Silty clay loam
Other features—None

Bg or Bgb horizon:
Color—Hue of 10YR to 5Y, value of 4 to 6, and chroma of 1 or 2; or neutral with value of 4 to 6
Redoximorphic features—Depleted matrix with few to common masses of iron accumulation in shades of brown, and iron depletion in shades of gray.
Texture—Silt loam, very fine sandy loam, or silty clay loam. Texture is silty clay loam in the parts within a depth of 40 inches.
Other features—None

2BCg or 2Cg horizon: (where present)
Color—Hue of 2.5Y to 5BG, value of 3 to 6, and chroma of 1 or less
Redoximorphic features—Depleted matrix with few iron masses
Texture—Silty clay, clay, or silty clay loam

Harahan Series

MLRA: Southern Mississippi River Alluvium
Geomorphic setting: On artificially drained backswamp on delta plain
Position on landform: Linear areas
Parent material: Nonfluid over fluid clayey alluvium
Drainage class: Poorly drained
Saturated hydraulic conductivity class: Very slow or impermeable
Soil depth class: Very deep
Shrink-swell potential: Very high
Slope: 0.0 to 0.5 percent

Associated Soils

- Allemands soils have a histic epipedon 16 to 51 inches.
- Barbary soils are in undrained swamps and are fluid.
- Fausse soils are thicker and are nonfluid in the lower part.
- Larose soils are fluid mineral, freshwater marsh soils.
- Schriever soils are nonfluid in all layers to 60 inches.

Taxonomic Classification

Very-fine, smectitic, nonacid, hyperthermic Vertic Endoaquepts

Typical Pedon

Harahan clay in an area of Harahan clay, occasionally flooded, in swamp; located approximately 0.9 mile south of Lake Bridge, 4,850 feet east and 200 feet south of the northwest corner of sec. 28; Spanish Land Grant Sec. 28, T. 16 S., R. 14 E., Amelia, Louisiana USGS 7.5 Minute Quadrangles. *Latitude:* 29 degrees, 39 minutes, 5.00 seconds N. *Longitude:* 91 degrees, 2 minutes, 29.00 seconds W.

A—0 to 9 inches; dark gray (10YR 4/1) clay; weak coarse subangular blocky structure; firm; nonfluid; common coarse, medium, and fine roots; common medium prominent dark yellowish brown (10YR 4/6) masses of iron accumulation on faces of peds; slightly acid; clear smooth boundary.

Bg1—9 to 23 inches; dark gray (2.5Y 4/1) clay; weak coarse subangular blocky structure; firm; nonfluid; slightly sticky, slightly plastic; common coarse, medium, and fine roots; common medium prominent dark yellowish brown (10YR 4/6) masses of iron accumulation throughout; neutral; clear wavy boundary.

Bg2—23 to 30 inches; dark gray (5Y 4/1) clay; weak coarse subangular blocky structure; firm; nonfluid; slightly sticky, slightly plastic; few coarse, medium, and fine roots; common medium prominent dark yellowish brown (10YR 4/6) masses of iron accumulation throughout; neutral; gradual smooth boundary.

Cg1—30 to 35 inches; gray (5Y 5/1) clay; massive; slightly fluid; flows easily between fingers when squeezed leaving a small residue in hand; moderately alkaline; gradual smooth boundary.

Cg2—35 to 75 inches; gray (5Y 5/1) clay; massive; very fluid; flows easily between fingers when squeezed leaving hand empty; few logs and wood fragments; moderately alkaline.

Range in Characteristics

Solum thickness: 20 to 40 inches
Clay content in the control section: 60 to 95 percent
Redoximorphic features: Depleted matrix with few to common iron accumulations in shades of brown throughout.
Other distinctive soil features: Depth to layers with n-value greater than 0.7 ranges from 20 to 40 inches. None to common wood fragments and logs below 36 inches deep
Concentrated minerals: None
Reaction: Strongly acid to slightly alkaline in the Ap and Bg horizons; and neutral to moderately alkaline in the Cg horizon.

Oa horizon: (where present)
Color—Hue of 10YR, value of 2 or 3, and chroma of 2 or less
Redoximorphic features—None
Texture—Muck
Other features—None
Thickness—0 to 6 inches

A or Ap horizon:
Color—Hue of 10YR, value of 2 to 4, and chroma of 2 or less
Redoximorphic features—None to few iron accumulations in shades of brown
Texture—Clay
Other features—None
Thickness—3 to 12 inches

Bg or Bssg horizon:
Color—Hue of 10YR, 2.5Y, 5Y, 5GY, or 5BG, value of 3 to 5, and chroma of 2 or less

Redoximorphic features—Depleted matrix with none to common iron accumulations in shades of brown
Texture—Clay with or without thin lenses of silty clay
Other features—None to common slickensides; n-value is less than 0.7
Thickness—8 to 36 inches

Ab horizon: (where present)
Color—Hue of 10YR, value of 2 to 4, and chroma of 2 or less
Redoximorphic features—None
Texture—Clay, silty clay, or mucky clay
Other features—None
Thickness—0 to 13 inches

Cg horizon:
Color—Hue of 10YR, 2.5Y, 5Y, 5BG, or 5GY, value of 2 to 6, and chroma of 2 or less
Redoximorphic features—None
Texture—Clay, silty clay, or mucky clay
Other features—Few to common wood fragments; n-value is more than 0.7

Kenner Series

MLRA: Gulf Coast Marsh
Geomorphic setting: On freshwater marsh on delta plain
Parent material: Herbaceous organic material stratified with fluid clayey alluvium
Drainage class: Very poorly drained
Saturated hydraulic conductivity class: Very slow or impermeable
Soil depth class: Very deep
Shrink-swell potential: Low
Slope: 0.0 to 0.2 percent

Associated Soils

- Allemands soils do not have mineral layers in the upper part.
- Barbary soils are in fluid, mineral swamps.
- Carlin soils have a water layer within the profile.
- Larose soils are fluid and mineral throughout.
- Maurepas soils have histic epipedons over 51 inches thick.

Taxonomic Classification

Euic, hyperthermic Fluvaquentic Haplosaprists

Typical Pedon

Kenner muck in an area of Kenner muck, very frequently flooded, in marshland (fig. 28); located approximately 0.7 mile southeast of Lake Penchant, 350 feet east of Peoples Canal; T. 19 S., R. 15 E., Lake Penchant, Louisiana USGS 7.5 Minute Quadrangles. *Latitude:* 29 degrees, 25 minutes, 41.00 seconds N. *Longitude:* 90 degrees, 54 minutes, 19.00 seconds W.

Oe—0 to 12 inches; very dark grayish brown (10YR 3/2) muck; massive; about 75 percent fiber, 35 percent rubbed; dominantly live roots; about 40 percent mineral; only water runs between fingers when squeezed; slightly acid; clear wavy boundary.

Oa—12 to 19 inches; very dark grayish brown (10YR 3/2) muck; massive; 12 percent fiber, 3 percent rubbed; dominantly herbaceous fiber; about 65 percent mineral; many fine and very fine roots; neutral; clear wavy boundary.

Cg—19 to 23 inches; gray (5Y 5/1) clay; massive; very fluid; flows easily between fingers when squeezed leaving hand empty; few fine live roots; neutral; abrupt smooth boundary.

O'a—23 to 42 inches; very dark gray (10YR 3/1) muck; massive; 12 percent fiber, 3 percent rubbed; dominantly herbaceous fiber; about 65 percent mineral; few coarse yellowish brown plant fragments; flows easily between fingers when squeezed leaving hand empty; moderately alkaline; abrupt smooth boundary.

C'g—42 to 43 inches; dark gray (5Y 4/1) clay; massive; very fluid; flows easily between fingers when squeezed leaving hand empty; slightly alkaline; abrupt smooth boundary.

O''a—43 to 65 inches; black (10YR 2/1) muck; massive; about 15 percent fiber; 2 percent rubbed; flows easily between fingers when squeezed; slightly alkaline; abrupt smooth boundary.

C''g—65 to 84 inches; very dark gray (10YR 3/1) clay; massive; very fluid; flows easily between fingers when squeezed leaving hand empty; moderately alkaline; abrupt smooth boundary.

Figure 28.—Profile of Kenner muck. Plant tissue is in advanced stages of decomposition and deteriorates rapidly when disturbed.

Range in Characteristics

Organic thickness: 51 to over 100 inches
Clay content in the control section: 45 to 85 percent in the mineral layers
Redoximorphic features: None
Other distinctive soil features: Depth to mineral strata ranges from 12 to 51 inches. SAR ranges from 1 to 12 and exchangeable sodium percentage ranges from about 1 to 14 in more than half the subsurface tier. The control section is nonsaline (EC less than 2 dS/m).
Concentrated minerals: None
Reaction: Reaction is moderately acid to slightly alkaline throughout. The soil becomes more acid under drained conditions.

Oe horizon: (surface tier)
Color—Hue of 10YR or 7.5YR, and value of 2 to 4, and chroma of 1 to 3
Redoximorphic features—None
Texture—Muck
Other features—Rubbed fiber content ranges from 5 to 60 percent and mineral content from 40 to 70
Thickness—6 to 14 inches

Oa horizon: (subsurface tier)
Color—Hue of 10YR or 7.5YR, value of 2 or 3, and chroma of 1 to 3
Redoximorphic features—None
Texture—Muck
Other features—Rubbed fiber content ranges from 1 to 8 percent
Thickness—3 to 15 inches

O'a horizon: (bottom tier)
Color—Hue 10YR to 5YR, value of 2 to 3, and chroma of 1 to 3
Redoximorphic features—None
Texture—Muck
Other features—Rubbed fiber content ranges from 1 to 8 percent
Thickness—15 to more than 40 inches

Cg and C'g (and C”g) horizon:
Color—Hue of 5Y to 5GY, or neutral, value of 4 or 5, and chroma 1
Redoximorphic features—None
Texture—Clay, silty clay, or mucky clay
Other features—Very fluid

Lafitte Series

MLRA: Gulf Coast Marsh
Geomorphic setting: On brackish marsh on delta plain
Position on landform: Linear areas
Parent material: Herbaceous organic material
Drainage class: Very poorly drained
Saturated hydraulic conductivity class: Moderately rapid
Soil depth class: Very deep
Shrink-swell potential: Low
Slope: 0.0 to 0.2 percent

Associated Soils

- Bancker soils are mineral soils.
- Clovelly soils have less than 51 inches of organic material.

Taxonomic Classification

Euic, hyperthermic Typic Haplosaprists

Typical Pedon

Lafitte muck in an area of Lafitte muck, slightly saline, tidal, in marshland; located 1.25 miles northwest of Hog Point; T. 20 S., R. 14 E., Lake Mechant, Louisiana USGS 7.5 Minute Quadrangles. *Latitude:* 29 degrees, 18 minutes, 1.40 seconds N. *Longitude:* 90 degrees, 59 minutes, 1.60 seconds W.

Oa1—0 to 24 inches; dark grayish brown (10YR 4/2) muck; massive; flows easily between fingers when squeezed leaving hand empty; many fine and very fine roots; about 30 percent fiber, less than 20 percent rubbed; about 40 percent mineral; slightly saline; moderately alkaline; clear smooth boundary.

Oa2—24 to 55 inches; dark brown (7.5YR 3/2) muck; massive; flows easily between fingers when squeezed leaving hand empty; many fine and very fine roots; about 20 percent fiber, 5 percent rubbed; about 40 percent mineral; slightly saline; moderately alkaline; clear smooth boundary.

Oa3—55 to 80 inches; very dark gray (N 3/) muck; massive; flows easily between fingers when squeezed leaving hand empty; about 20 percent fiber, 5 percent rubbed; about 70 percent mineral; slightly saline; moderately alkaline.

Range in Characteristics

Organic thickness: 51 to over 100 inches
Clay content in the control section: 0 percent
Redoximorphic features: None
Salinity: EC averages 4 to 8 dS/m in at least part of the upper or middle tiers in most years
Other distinctive soil features: None
Concentrated minerals: None
Reaction: The organic material ranges from slightly acid to moderately alkaline. The mineral layers range from neutral to moderately alkaline.

Oa1 horizon: (surface tier)
Color—Hue of 10YR or 7.5YR, value of 2 to 4, and chroma of 1 or 3
Redoximorphic features—None
Texture—Muck
Other features—Rubbed fiber content ranges from 1 to 35 percent. Some pedons have mineral overwash layers 2 to 10 inches thick or have a thin Oe horizon.
Thickness—0 to 12 inches

Oa2 horizon: (subsurface tier)
Color—Hue of 10YR or 7.5YR, value of 2 or 3, and chroma of 1 to 2
Redoximorphic features—None
Texture—Muck
Other features—Rubbed fiber content ranges from 1 to 10 percent. SAR is more than 13 and the exchangeable sodium percentage is more than 15.
Thickness—12 to 36 inches

Oa3 horizon: (bottom tier)
Color—Hue of 7.5YR or 10YR, value of 2 or 3, and chroma of 1 to 2
Redoximorphic features—None
Texture—Muck

Other features—Rubbed fiber content ranges from 1 to 10 percent. SAR is more than 13 and the exchangeable sodium percentage is more than 15.
Thickness—36 to 51 inches

Ag horizon: (where present)
Color—Hue of 5Y, 2.5Y, 5GY, or 5BG, value of 3 to 5, and chroma of 1 or 2; or neutral with value of 4 or 5
Redoximorphic features—None
Texture—Clay or silty clay
Other features—None
Thickness—0 to 50 inches

Cg horizon: (where present)
Color—Hue of 5Y, 2.5Y, 5GY, or 5BG, value of 3 to 5, and chroma of 1 or 2; or neutral with value of 4 or 5
Redoximorphic features—None
Texture—Clay or silty clay
Other features—None
Thickness—0 to 50 inches

Larose Series

MLRA: Gulf Coast Marsh
Geomorphic setting: On freshwater marsh on delta plain
Position on landform: Linear areas
Parent material: Thin herbaceous organic material over fluid clayey alluvium
Drainage class: Very poorly drained
Saturated hydraulic conductivity class: Very slow or impermeable
Soil depth class: Very deep
Shrink-swell potential: Low
Slope: 0.0 to 0.2 percent

Associated Soils

- Allemands soils are fluid organic soils.
- Barbary soils are mineral soils which are in swamps.
- Carlin soils have organic layers more than 16 inches thick.
- Kenner soils are fluid organic soils.

Taxonomic Classification

Very-fine, smectitic, nonacid, hyperthermic Typic Hydraquents

Typical Pedon

Larose muck in an area of Larose muck, very frequently flooded, in marshland; located 2,150 feet south and 1,100 feet west of the northeast corner of sec. 5; Sec. 5, T. 18 S., R. 12 E., Morgan City SW, Louisiana USGS 7.5 Minute Quadrangles. *Latitude:* 29 degrees, 31 minutes, 59.10 seconds N. *Longitude:* 91 degrees, 15 minutes, 0.30 seconds W.

Oa—0 to 8 inches; dark gray (10YR 4/1) muck; massive; 20 percent fiber, less than 10 percent rubbed; 70 percent mineral; flows easily between fingers when squeezed leaving only roots and fibers in hand; many very fine and fine roots; moderately alkaline; clear smooth boundary.
Cg1—8 to 48 inches; gray (N 5/) clay; massive; very fluid; flows easily between fingers when squeezed leaving hand empty; many very fine and fine roots; moderately alkaline; clear smooth boundary.

Cg2—48 to 72 inches; gray (5Y 5/1) clay; massive; very fluid; flows easily between fingers when squeezed leaving hand empty; few fine roots; moderately alkaline; clear smooth boundary.

Cg3—72 to 96 inches; gray (N 5/) clay; massive; very fluid; flows easily between fingers when squeezed leaving hand empty; moderately alkaline.

Range in Characteristics

Organic thickness: 2 to 15 inches
Clay content in the control section: 60 to 80 percent
Redoximorphic features: Depleted or gleyed matrix
Other distinctive soil features: The n-value is more than 0.7 in all horizons above 60 inches
Concentrated minerals: None
Reaction: The reaction ranges from moderately acid to slightly alkaline in the O and A horizons and from slightly acid to moderately alkaline in the C horizon.

Oa horizon:
Color—Hue of 7.5YR or 10YR, value of 2 to 4, and chroma of 1 or 2
Redoximorphic features—None
Texture—Muck
Other features—None
Thickness—2 to 15 inches

Ag horizon: (where present)
Color—Hue of 10YR, 2.5Y, and 5Y, value of 2 to 4, and chroma of 2 or less
Redoximorphic features—Gleyed matrix
Texture—Clay, silty clay, or mucky clay
Other features—None
Thickness—4 to 12 inches

Cg horizon:
Color—Hue of 10YR to 5BG, or neutral, value of 3 to 5, and chroma of 2 or less.
Redoximorphic features—Depleted or gleyed matrix
Texture—Clay, silty clay, or mucky clay
Other features—None

Maurepas Series

MLRA: Southern Mississippi River Alluvium
Geomorphic setting: On freshwater swamp on delta plain
Position on landform: Concave areas
Parent material: Highly decomposed woody organic material over fluid clayey alluvium
Drainage class: Very poorly drained
Saturated hydraulic conductivity class: Rapid
Soil depth class: Very deep
Shrink-swell potential: Low
Slope: 0.0 to 0.2 percent

Associated Soils

- Allemands soils have less than 51 inches of organic material.
- Barbary soils are in swamps and are mineral.
- Kenner soils have thin mineral strata within 51 inches.

Taxonomic Classification

Euic, hyperthermic Typic Haplosaprists

Typical Pedon

Maurepas muck in an area of Maurepas muck, frequently flooded, in swamp; located approximately 8 miles southeast of Gibson, 200 feet east of Bayou Turtle; Sec. 18, T. 17 S., R. 14 E., Morgan City SE, Louisiana USGS 7.5 Minute Quadrangles. *Latitude:* 29 degrees, 35 minutes, 28.00 seconds N. *Longitude:* 91 degrees, 03 minutes, 51.00 seconds W.

Oa1—0 to 10 inches; very dark grayish brown (10YR 3/2) muck, same color pressed or rubbed; massive; very fluid; about 15 percent fiber, about 2 percent rubbed; about 40 percent of the total fiber content is herbaceous fiber, and the remainder is woody; about 50 percent mineral matter; neutral; clear smooth boundary.

Oa2—10 to 26 inches; dark brown (7.5YR 3/2) muck, same color pressed or rubbed; massive; very fluid; about 30 percent fiber, about 2 percent rubbed; about 60 percent of the total fiber content is woody fiber, the remainder is herbaceous; about 30 percent mineral matter; common wood fragments and logs; moderately alkaline; clear smooth boundary.

Oa3—26 to 42 inches; dark reddish brown (5YR 3/2) muck; same color pressed or rubbed; massive; very fluid; about 15 percent fiber, 0 percent rubbed; about 60 percent of the total fiber is woody fiber, the remainder is herbaceous; about 40 percent mineral matter; common logs and wood fragments; moderately alkaline; clear smooth boundary.

Oa4—42 to 60 inches; very dark gray (7.5YR 3/1) muck; same color pressed or rubbed; massive about 15 percent fiber, 0 percent rubbed; about 60 percent of the total fiber is woody fiber, the remainder is herbaceous; about 40 percent mineral matter; common wood fragments and logs; moderately alkaline; clear smooth boundary.

2Cg—60 to 68 inches; dark greenish gray (5G 4/1) mucky clay; massive; very fluid; flow easily between fingers when squeezed leaving hand empty; moderately alkaline; clear smooth boundary.

3Oa—68 to 96 inches; very dark gray (7.5YR 3/1) muck; massive; very fluid: about 5 percent fiber, less than 1 percent after rubbing; 70 percent of the total fiber is woody fiber; the reminder is herbaceous; about 50 percent mineral matter; common logs and wood fragments; moderately alkaline.

Range in Characteristics

Organic thickness: 51 to more than 80 inches
Clay content in the control section: 0 percent
Redoximorphic features: None
Other distinctive soil features: Buried cypress logs or stumps at 15 to 80 inches deep
Concentrated minerals: None
Reaction: Moderately acid to moderately alkaline throughout

Oa1 horizon: (surface tier)
Color—Hue of 5YR to 10YR, value of 2 or 3, and chroma of 2 or less
Redoximorphic features—None
Texture—Muck
Other features—Rubbed fiber content ranges from about 2 to 40 percent
Thickness—6 to 12 inches

Oa2 horizon: (subsurface tier)
Color—Hue of 5YR to 10YR, value of 2 or 3, and chroma of 2 or less
Redoximorphic features—None
Texture—Muck
Other features—Rubbed fiber content is less than 10 percent

Thickness—6 to 30 inches

Oa3 horizon: (bottom tier)
Color—Hue of 5YR to 10YR, value of 3 or 4, and chroma of 4 or less
Redoximorphic features—None
Texture—Muck
Other features—Rubbed fiber content is less than 10 percent, but some pedons have thin layers that contain more fibers. Logs, dominantly cypress, and wood fragments in varying states of decomposition, are common throughout the organic material.

Rita Series

MLRA: Gulf Coast Marsh
Geomorphic setting: On drained freshwater marsh on delta plain
Position on landform: Linear areas
Parent material: Nonfluid over fluid clayey alluvium
Drainage class: Poorly drained
Saturated hydraulic conductivity class: Very slow or impermeable
Soil depth class: Very deep
Shrink-swell potential: High
Slope: 0 to 1 percent

Associated Soils

- Allemands soils are organic, freshwater, marsh soils.
- Barbary soils are fluid, mineral, swamp soils.
- Fausse soils are in firm, mineral, swamps.
- Harahan soils are drained swamps without an organic surface.
- Larose soils are fluid, mineral freshwater marsh soils.
- Schriever soils form cracks in the upper part when dried.

Taxonomic Classification

Very-fine, smectitic, nonacid, hyperthermic Vertic Endoaquepts

Typical Pedon

Rita muck in an area of Rita muck, occasionally flooded, in pastureland; located 600 feet due north of the southeast corner of sec. 49; Spanish Land Grant Sec. 49, T. 18 S., R. 18 E., Houma, Louisiana USGS 7.5 Minute Quadrangles. *Latitude:* 29 degrees, 31 minutes, 17.68 seconds N. *Longitude:* 90 degrees, 37 minutes, 59.35 seconds W.

Oa—0 to 4 inches; very dark grayish brown (10YR 3/2) muck; moderate medium granular structure; friable; many fine and very fine roots; moderately acid; clear smooth boundary.
Bg1—4 to 24 inches; dark gray (10YR 4/1) clay; weak coarse subangular blocky structure; firm; many fine and very fine roots; many coarse prominent dark yellowish brown (10YR 4/6) masses of iron accumulation on faces of peds; neutral; clear wavy boundary.
Bg2—24 to 36 inches; gray (5Y 5/1) clay; weak coarse subangular blocky structure; firm; slightly sticky, slightly plastic; common fine roots throughout; many coarse prominent dark yellowish brown (10YR 4/6) masses of iron accumulation on faces of peds; neutral; gradual smooth boundary.
Cg—36 to 42 inches; gray (5Y 5/1) silty clay loam; massive; moderately fluid; neutral; gradual smooth boundary.
2Cg—42 to 80 inches; gray (5Y 5/1) stratified silt loam and very fine sandy loam; massive; very fluid; slightly alkaline.

Range in Characteristics

Solum thickness: 20 to 40 inches
Clay content in the control section: 60 to 95 percent
Redoximorphic features: Depleted matrix with few to many iron accumulations in shades of brown throughout the Bg.
Other distinctive soil features: The depth to a loamy or sandy 2Cg horizon ranges from 40 to 60 inches. The depth to layers with n-values of more than 0.7 ranges from 18 to 36 inches.
Concentrated minerals: None
Reaction: Extremely acid to slightly acid in the Oa horizon; extremely acid to neutral in the Bg horizons; and neutral to moderately alkaline in the Cg horizons.

Oa horizon:
Color—Hue of 10YR, value of 2 to 4, and chroma of 1 or 2
Redoximorphic features—None
Texture—Muck
Other features—None
Thickness—0 to 7 inches

Bg horizon:
Color—Hue of 10YR, 5Y, 5BG, 5GY, or 5G, value of 3 to 5, and chroma of 1; or it is neutral
Redoximorphic features—Few to many iron accumulations in shades of brown
Texture—Clay or silty clay
Other features—At least some subhorizons of the Bg horizon have vertical cracks that do not close when the soil is wet.
Thickness—12 to 50 inches

Cg horizon:
Color—Hue of 10YR, 5Y, 5BG, 5GY, or 5G, value of 3 to 5, and chroma of 1; or it is neutral
Redoximorphic features—Few to many iron accumulations in shades of brown
Texture—Clay, silty clay, or silty clay loam
Other features—None
Thickness—4 to 20 inches

2Cg horizon:
Color—Hue of 10YR, 5Y, 5BG, 5GY, or 5G, value of 3 to 5, and chroma of 1 or 2; or it is neutral
Redoximorphic features—None
Texture—Silt loam, very fine sandy loam, fine sandy loam, or loamy very fine sand
Other features—None

Scatlake Series

MLRA: Gulf Coast Marsh
Geomorphic setting: On saline marsh on delta plain
Position on landform: Linear areas
Parent material: Thin herbaceous organic material over fluid clayey alluvium
Drainage class: Very poorly drained
Saturated hydraulic conductivity class: Very slow or impermeable
Soil depth class: Very deep
Shrink-swell potential: Low
Slope: 0.0 to 0.2 percent

Associated Soils

- Bellpass soils are at lower positions and are organic.
- Felicity soils are on coastal, nonfluid, sandy beaches.
- Timbalier soils are at lower positions and are organic.

Taxonomic Classification

Very-fine, smectitic, nonacid, hyperthermic Sodic Hydraquents

Typical Pedon

Scatlake muck in an area of Scatlake muck, tidal, in marshland; located 3,700 feet south and 750 feet east of the northwest corner of sec. 32; Sec. 32, T. 21 S., R. 14 E., East Bay Junop, Louisiana USGS 7.5 Minute Quadrangles. *Latitude:* 29 degrees, 12 minutes, 0.30 seconds N.
Longitude: 91 degrees, 3 minutes, 0.60 seconds W.

Oa—0 to 8 inches; dark gray (10YR 4/1) muck; massive; many very fine and fine roots; 15 percent fiber, less than 5 percent rubbed; 40 percent mineral; when squeezed, flows easily between fingers and leaves small residue in hand; moderately saline; moderately alkaline; clear smooth boundary.

A—8 to 14 inches; dark gray (10YR 4/1) muck; massive; many very fine and fine roots; 15 percent fiber, less than 5 percent rubbed; 40 percent mineral; when squeezed, flows easily between fingers and leaves small residue in hand; moderately saline; moderately alkaline; clear smooth boundary.

C1g—14 to 38 inches; gray (5Y 5/1) clay; massive; very fluid; flows easily between fingers when squeezed leaving hand empty; many fine roots; moderately saline; moderately alkaline; clear smooth boundary.

C2g—38 to 75 inches; gray (5Y 6/1) clay; massive; very fluid; flows easily between fingers when squeezed leaving hand empty; few fine roots; moderately saline; moderately alkaline; clear smooth boundary.

Range in Characteristics

Clay content in the control section: 60 to 85 percent
Redoximorphic features: Reduced Matrix throughout
Salinity: EC is 8 to more than 16 ds/m in more than half of the upper 50 cm.
Other distinctive soil features: The n-value of all mineral layers is 1 or more. Extractable sodium averages more than 20 percent in some horizon within the 10- to 40-inch particle-size control section. Most pedons have an organic surface layer 2 to 10 inches thick
Concentrated minerals: None
Reaction: Slightly acid to moderately alkaline throughout

Oa horizon: (where present)
Color—Hue of 7.5YR or 10YR, value of 2 to 4, and chroma of 2 or less
Texture—muck or peat
Other features—None
Thickness—0 to 15 inches

A horizon:
Color—Hue of 10YR to 5BG, or N, value of 2 to 5, and chroma of 2 or less
Redoximorphic features—None
Texture—Clay, mucky clay, or mucky silty clay loam
Other features—None
Thickness—6 to 12 inches

Cg horizon:

Color—Hue of 10YR to 5BG, or N, value of 4 to 6, and chroma of 1 or less
Redoximorphic features—Masses of iron accumulation in shades of brown range from none to few
Texture—Very fluid clay
Other features—Some pedons have thin layers of black muck
Thickness—Combined thickness of the Cg horizons is 60 to 75 inches

Schriever Series

MLRA: Southern Mississippi River Alluvium
Geomorphic setting: In backswamp on Delta plain
Position on landform: Linear areas
Parent material: Clayey alluvium
Drainage class: Poorly drained
Saturated hydraulic conductivity class: Very slow or impermeable
Soil depth class: Very deep
Shrink-swell potential: Very high
Slope: 0 to 1 percent

Associated Soils

- Barbary soils are in swamps and are fluid clays.
- Cancienne soils are fine-silty in the upper 40 inches.
- Fausse soils are wetter and do not form surface cracks.
- Gramercy soils have a loamy substratum within 40 inches.

Taxonomic Classification

Very-fine, smectitic, hyperthermic Chromic Epiaquerts

Typical Pedon

Schriever clay in an area of Schriever clay, occasionally flooded, in hardwoods (fig. 29); located from Thibodaux, 3.4 miles south on La. Highway 20 to La. Highway 24, then 1.7 miles south on La. Highway 24 to La. Highway 311, then 3,100 feet west-southwest on La. Highway 311, then 900 feet due south of La. Highway 311; Spanish Land Grant Sec. 8, T. 16 S., R. 16 E., Gray, Louisiana USGS 7.5 Minute Quadrangles. *Latitude:* 29 degrees, 43 minutes, 3.63 seconds N. *Longitude:* 90 degrees, 48 minutes, 34.14 seconds W.

A—0 to 4 inches; very dark gray (2.5Y 3/1) clay; moderate fine angular blocky structure; very firm, nonsticky, nonplastic; many fine and medium roots throughout; few very fine tubular pores; few fine prominent yellowish brown (10YR 5/6) soft masses of iron accumulations along roots channels and pores; slightly acid; clear smooth boundary.
Bssg1—4 to 18 inches; dark gray (2.5Y 4/1) clay; strong medium angular blocky parting to strong medium subangular blocky structure; very firm; slightly sticky, slightly plastic; few fine roots between peds; many slickensides and pressure faces with grooved surfaces; common medium distinct very dark gray (10YR 3/1) organic coats on faces of peds; 5 percent barite crystals; many fine prominent yellowish brown (10YR 5/8) masses of iron accumulation on faces of peds; slightly acid; clear smooth boundary.

Bssg2—18 to 28 inches; dark gray (2.5Y 4/1) clay; strong coarse prismatic structure parting to medium angular blocky structure; very firm; slightly sticky, slightly plastic; few fine roots between peds; common slickensides and pressure faces with grooved surfaces; few distinct very dark gray (10YR 3/1) organic coats between peds faces; 10 percent barite crystal; many medium

Figure 29.—Profile of Schriever clay, showing slickensides from 1.0 to 1.5 meters.

prominent strong brown (7.5YR 5/8) masses of iron accumulation on faces of peds; neutral; gradual smooth boundary.

Bssg3—28 to 39 inches; dark gray (2.5Y 4/1) clay; strong coarse prismatic structure parting to medium angular blocky; very firm; very sticky, very plastic; few fine roots between peds; common slickensides and pressure faces with grooved surfaces; common medium prominent strong brown (7.5YR 5/8) masses of iron accumulation on faces of peds; neutral; gradual smooth boundary.

Bssg4—39 to 48 inches; dark gray (5Y 4/1) clay; strong coarse angular blocky structure parting to common medium subangular blocky; very firm; very sticky, very plastic; few fine roots between peds; few slickensides and pressure faces with grooved surfaces; common medium prominent dark yellowish brown (10YR 4/4) iron accumulations on faces of peds; slightly alkaline; gradual smooth boundary.

BCssg—48 to 64 inches; gray (5Y 5/1) clay; moderate medium angular blocky structure; very firm; very sticky, very plastic; few fine roots between peds; few distinct pressure faces on some peds; common medium prominent dark yellowish brown (10YR 4/6) masses of iron accumulation on faces of peds; neutral; gradual smooth boundary.

Cssg—64 to 75 inches; greenish gray (5GY 5/1) clay; moderate medium angular blocky structure; very firm; very sticky, very plastic; few distinct pressure faces on some peds; few common prominent dark yellowish brown (10YR 4/4) masses of iron accumulations on faces of peds; neutral.

Range in Characteristics

Solum thickness: 40 to more than 80 inches
Clay content in the control section: 60 to 95 percent
Redoximorphic features: Common or many iron accumulations in shades of brown at 6 to 70 inches deep
Other distinctive soil features: Few or common soft to slightly hard, nodules at 20 to 45 inches deep
Concentrated minerals: None
Reaction: Strongly acid to moderately alkaline in the A, Bg, and Bssg horizons; and from neutral to moderately alkaline in the BCg and Cg horizons.

A or Ap horizon:
Color—Hue of 10YR or 2.5Y, value of 2 to 4, and chroma of 1 or 2
Redoximorphic features—Few to common iron accumulations in shades of brown
Texture—Clay or silty clay loam
Other features—None
Thickness—3 to 12 inches

Bg horizon: (where present)
Color—Hue of 10YR to 2.5Y, value of 4 or 5, and chroma of 1 or less, or value of 6 and chroma of 2 or less; or hue of 5Y, value of 4 to 6, and chroma of 2 or less
Redoximorphic features—Depleted matrix with common to many iron accumulations in shades of brown
Texture—Clay
Other features—None
Thickness—6 to 30 inches

Bssg horizon:
Color—Hue of 10YR to 2.5Y, value of 4 or 5, and chroma of 1 or less, or value of 6 and chroma of 2 or less; or hue of 5Y, value of 4 to 6, and chroma of 2 or less
Redoximorphic features—Depleted matrix with common to many iron accumulations in shades of brown
Texture—Clay
Other features—Few to many slickensides and pressure faces
Thickness—26 to more than 60 inches

BCg or Cg horizon: (where present)
Color—Hue of 10YR to 5GY, value of 4 to 6, and chroma of 2 or less
Redoximorphic features—Depleted matrix with few to many iron accumulations in shades of brown

Texture—Dominantly silty clay or clay; however some pedons have texture of silt loam or silty clay loam below a depth of 40 inches
Other features—None to few pressure faces and slickensides; some pedons have an n-value of more than 0.7 below a depth of 60 inches.

Timbalier Series

MLRA: Gulf Coast Marsh
Geomorphic setting: On saline marsh on delta plain
Position on landform: Linear areas
Parent material: Thick herbaceous organic material
Drainage class: Very poorly drained
Saturated hydraulic conductivity class: Moderately rapid
Soil depth class: Very deep
Shrink-swell potential: Low
Slope: 0.0 to 0.2 percent

Associated Soils

- Bellpass soils have mineral layers in the upper 51 inches.
- Felicity soils are on nonfluid, sandy, coastal beaches.
- Scatlake soils are fluid clayey mineral soils.

Taxonomic Classification

Euic, hyperthermic Typic Haplosaprists

Typical Pedon

Timbalier muck in an area of Timbalier muck, tidal, in marshland; located 1.7 miles north of Dog Lake; T. 21 S., R. 16 E., Dog Lake, Louisiana USGS 7.5 Minute Quadrangles. *Latitude:* 29 degrees, 11 minutes, 2.80 seconds N. *Longitude:* 90 degrees, 49 minutes, 59.90 seconds W.

Oa1—0 to 24 inches; very dark grayish brown (10YR 3/2) muck; massive; flows easily between fingers when squeezed leaving hand empty; many fine and very fine roots; about 30 percent fiber, less than 10 percent rubbed; about 60 percent mineral; moderately saline; moderately alkaline; clear smooth boundary.
Oa2—24 to 46 inches; dark brown (7.5YR 3/2) muck; massive; flows easily between fingers when squeezed leaving hand empty; many fine and very fine roots; about 20 percent fiber, less than 10 percent rubbed; about 40 percent mineral; moderately saline; moderately alkaline; clear smooth boundary.
Oa3—46 to 62 inches; very dark gray (10YR 3/1) muck; massive; flows easily between fingers when squeezed leaving hand empty; about 15 percent fiber, less than 5 percent rubbed; about 20 percent mineral; moderately saline; moderately alkaline; clear smooth boundary.
Cg—62 to 80 inches; gray (N 5/) clay; massive; very fluid clay; flows easily between fingers when squeezed leaving hand empty; moderately saline; moderately alkaline.

Range in Characteristics

Organic thickness: Greater than 51 inches
Clay content: 50 to 80 percent
Redoximorphic features: Reduced matrix throughout
Salinity: Conductivity of the saturation extract ranges from 8 to more than 16 dS/m in at least some layer within a depth of 40 inches.

Other distinctive soil features: Depth to clayey mineral layers range from 51 inches to more than 100 inches. The organic fraction is dominantly herbaceous material, but some pedons have thin strata of woody peat and/or wood fragments. Mineral content of the organic layers ranges from 30 to 70 percent.
Concentrated minerals: None
Reaction: Neutral to moderately alkaline in the surface tier; slightly acid to moderately alkaline in the lower tiers and the Cg horizon.

Oa1 (surface tier):
Color—Hue of 7.5YR or 10YR, value of 2 to 4, and chroma of 1 to 3
Redoximorphic features—None
Texture—Muck
Other features—Rubbed fiber content after rubbing ranges from 1 to 35 percent. Some pedons have mineral overwash layers 2 to 16 inches thick.

Oa2 (subsurface tier):
Color—Hue of 7.5YR or 10YR, value of 2 or 3, and chroma of 1 to 3
Redoximorphic features—None
Texture—Muck
Other features—Rubbed fiber content ranges from 1 to 10 percent

Oa3 (bottom tier):
Color—Hue of 7.5YR or 10YR, value of 2 or 3, and chroma of 1 to 3
Redoximorphic features—None
Texture—Muck
Other features—Rubbed fiber content ranges from 1 to 10 percent
Thickness—Combined thickness of the Oa horizons is more than 51 inches.

Cg horizon:
Color—Hue of 10YR to 5G, or is neutral, value of 4 to 6, and chroma of 2 or less
Redoximorphic features—None
Texture—Very fluid or moderately fluid clay, mucky clay, or silty clay
Other features—None

Formation of the Soil

In this section the factors of soil formation are related to the formation of the soils in Terrebonne Parish. Also, processes of soil formation and the surface geology of the county are described.

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, climate, plant and animal life, relief, and time.

Interaction of the five main factors influences the processes of soil formation and results in differences among the soils. The climate during formation of the soil material from the parent material; the physical 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 erosion; and the length of time the soil has had to form all have an effect on what types of properties will be expressed in soils at any given site.

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, just the content of organic matter in the soils of Terrebonne Parish is influenced by several of the factors, including parent material, climate, plant and animal life, relief, and time. In the following paragraphs the factors of soil formation are described individually as they relate to soils in the survey area.

Parent Material

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 organic humus, air, and soil nutrients in the rooting zone. Generally, soils that form in loamy and sandy parent material have a lower capacity to hold soil nutrients than those that form in clay. The soils in Terrebonne Parish formed mainly in alluvial sediments, and many have accumulations of organic material in the upper part. Some are organic throughout, and some soils nearest to the coast formed in marine sediments.

The alluvium is from distributary streams of former deltas of the Mississippi River (16). Bordering the stream channels are low ridges called natural levees. These levees are highest next to the channels and slope gradually into backswamps further from the channels. The levees are shaped by waters that overspread the streambanks. When the water slows, it first drops sand, then silt, and finally clay particles. Thus, the soils on the highest parts of natural levees generally formed in more loamy parent materials. These soils are generally lighter in color, more permeable, and better drained than the soils on the lower part of the natural levees and in the backswamps. Cancienne soils generally are near the crest of natural levees. The soils on the lower part of the natural levees and in the backswamps beyond the natural levees generally formed in more clayey parent materials that were deposited by slowly moving water or stagnant backwater. The Schriever, Harahan, Fausse, and Barbary soils formed in these types of parent materials. The Larose, Bancker, and Scatlake soils also formed in clayey alluvium, but they contain some marine sediments in the lower parts. The Felicity soils formed in sandy marine sediments and are on former beach ridges that were built by wave action.

Organic material accumulates in areas that are continuously saturated or flooded. Water prevents the complete oxidation and decomposition of the plant residue. Water, vegetation, and time, coupled with a rise in sea level and land subsidence (13), created conditions where thick layers of organic material accumulated in the marshes of Terrebonne Parish. Until recent time, the buildup of organic material kept pace with land subsidence and sea level rise. The Carlin, Kenner, Lafitte, and Timbalier soils formed in thick accumulations of organic material from herbaceous hydrophytic plant remains. The Allemands, Bellpass, and Clovelly soils formed in moderately thick accumulations of organic material from herbaceous hydrophytic plant remains over clayey alluvium.

Climate

Terrebonne Parish has a humid subtropical climate characteristic of areas near the Gulf of Mexico. The warm, moist climate promotes rapid soil formation. Only slight variations in rainfall and temperature are throughout the parish. The minor climatic differences within the parish are not considered enough to create significant soil differences. The seasonal variations in the temperature of the air affect the temperature of the soil within the rooting zone. Because of a relatively high average winter air temperature, soils in Terrebonne Parish generally have a mean annual temperature in the rooting zone that is more than 72 degrees F. More specific information about the climate of Terrebonne Parish is given in the section "General Nature of the Survey Area."

Plant and Animal Life

Plant and animal life include plants, bacteria, fungi, and animals, 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, 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 microorganisms 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 Terrebonne Parish. Animals, such as crawfish and earthworms also influence soil formation by mixing the soil. Man's activities, such as cultivating crops, channel construction, burning, draining, diking, flooding, paving, and land smoothing, affect the soil. Some soils in Terrebonne Parish, such as Harahan and Rita, have been changed drastically through artificial drainage that de-watered and made firm the formerly semifluid clay layers in those soils. When animals die, they too decompose and enrich the soil with organic matter and nutrients (fig. 30).

Man's activities, such as cultivating, fertilizing, channel constructing, harvesting, burning, draining, diking, flooding, and land smoothing, affect the soil. Some soils in Terrebonne Parish, such as drained areas of Barbary soils that are now mapped as Harahan soils, have been changed significantly.

Figure 30.—Crawfish trapped in freshwater swamps.

The soils of the natural levees along streams formed under bottomland hardwood forest vegetation. Soils of the marsh formed under grass and sedge vegetation, and soils of the swamps formed under woody and herbaceous vegetation (3,34). The organic layers present in soils in the hardwood swamps and freshwater marshes formed in organic material from freshwater woody and herbaceous hydrophytic plants. The Maurepas and Kenner soils are examples. Freshwater marshes make up about 16.7 percent of Terrebonne Parish. The Kenner-Allemands-Larose general soil map unit is in freshwater marshes. Areas of the coastal marsh that now are brackish actually formed under freshwater vegetation, but because of subsidence of the land and encroachment of seawater (13) the vegetation has changed to more saline tolerant grass and sedge types of vegetation. Vegetation in these areas now typically consists of marshhay cordgrass, coastal waterhysop, dwarf spikerush, Olney bulrush, and saltmarsh bulrush. Examples of soils in the brackish or intermediate marsh are the Clovelly and Lafitte soils. Brackish and intermediate marshes make up about 10.5 percent of Terrebonne Parish. The Clovely-Lafitte general soil map unit is in brackish marsh. Areas of the coastal marsh closer to the Gulf coast are under saline marsh type vegetation. Saltwort, needlegrass rush, smooth cordgrass, and woody glasswort are some of the plants of the saline marsh. The Timbalier soils are in areas of saline marsh. Saline marshes make up about 10.3 percent of Terrebonne Parish. The Timbalier-Bellpass-Scatlake general soil map unit is in saline marshes.

Relief

Relief and other physiographic features influence soil formation processes mainly by affecting internal soil drainage, runoff, erosion and deposition, salinity levels, and exposure to the sun and wind.

In Terrebonne Parish, sediment accumulated at a much faster rate than the erosion took place. This accumulation of sediment has occurred at a faster rate than many of the processes of soil formation. This is evident in the distinct stratification in lower horizons of some soils. Levee construction and other water-control measures may have reversed this trend for such soils as the Cancienne soils. Soil slope and rate of runoff are low enough that erosion is not a major problem in the parish.

The land surface of Terrebonne Parish is level or nearly level. The slope is less than 1 percent, except on a few sandy and loamy ridges where the slope is as much as 3 percent. Relief and the landscape position have influenced formation of the different soils. Characteristically, the slopes are long and extend from the highest elevation on natural levees along bayous or distributary channels to an elevation that is several feet lower in the swamps and marshes.

Differences in the Cancienne, Schriever, and Allemands soils illustrate the influence of relief on the soils in Terrebonne Parish. Cancienne soils are on the highest elevation, contain the least amount of clay, and have the best natural drainage. Schriever soils are on the lower parts of the natural levees, have a high content of clay, and are poorly drained. Allemands soils are in the lower positions, are very poorly drained, and are ponded most of the time unless they are artificially drained. Allemands soils have a thick organic surface layer over clayey underlying material. Areas of Allemands soils that are protected by levees and drained now are at elevations as low as 3 feet below sea level because of subsidence.

The soils on lower positions on the landscape receive runoff from those on higher positions, and the soils remain saturated nearer to the surface for longer periods. In many areas, suitable outlets do not exist to allow the water to move out of these areas readily.

Differences in the content of organic matter in the soils are related to the length of time the soils remain saturated, and consequently to relief. The content of organic matter generally increases as the length of time the soil remains saturated increases, and at some point, a layer of partially decomposed organic matter will begin to accumulate on the surface. Soils on higher positions on the landscape, such as the Cancienne soils, have better surface runoff, internal drainage, and aeration. This allows more rapid and complete oxidation of organic matter to take place.

The overall surface elevation in Terrebonne Parish relative to sea level is slowly changing. This is because the soils are on a low-lying, slowly subsiding landmass. Geologic investigations indicate that the overall area is very slowly decreasing in elevation (3, 34). The present elevation of the undrained areas ranges from sea level to a maximum of about 14 feet above sea level. Subsidence of the land mass is attributed in part to the continued accumulation in the Gulf of Mexico of sediments from the Mississippi River and lesser sources. The added weight of this sediment results in a continuous down warping of the adjoining landmass. This process causes a general lowering of the landmass and a slight increase in the regional gulfward slope. In addition, post-depositional sediment compaction can result in some subsidence, and local deposition of sediment can contribute to similar but more localized changes.

Some possible effects of this natural geologic subsidence are apparent. For example, some soils that were subject only to intermittent flooding are now flooded more frequently and are covered with deeper water for longer periods. Some of the soils on natural levees along distributary channels have subsided to an elevation below sea level and are now covered with water most of the time. As the soils subside, seawater moves landward with each increment of subsidence. Consequently, some soils that were formerly in freshwater marshes are now in brackish or saline marshes. In time, scouring and additional deposition from floodwaters and rising tides may alter former relief and landscape positions in some of the most affected areas. In many areas, natural and accelerated subsidence have lowered the elevation to such an extent that only lakes and ponds exist where land was once visible.

Subsidence and the resulting intrusions of salt water are accelerated by some of man's actions. Artificial drainage can cause organic soils to subside several feet in a short time. Also, ditches and channels dug for drainage or navigation purposes create courses for sea water to intrude inland for great distances. The increase in soil and water salinity has had a marked effect on marsh and swamp vegetation in some areas.

Time

Time influences the kinds of horizons and their degree of development. Long periods are generally required for prominent horizons to form. In general, the soils of Terrebonne Parish are young and time has been too short for distinct horizons to develop. Soils such as Cancienne on the natural levees of streams have been influenced by soil-forming processes longest but have developed only faintly differentiated horizons. Development is evident mainly by development of structural aggregates and some illuviation of clay into the subsoil layer. Stratification that was present when the sediments were deposited is no longer evident and organic carbon has become more evenly distributed throughout the subsoil and substratum layers. These soils developed in alluvium that is about 2,000 years old (16).

The youngest soils in Terrebonne Parish have little or no profile development. For example, in Felicity soils recent sediments have been deposited to the extent that organic material has not even accumulated on the surface, the underlying material still shows evidence of stratification, and no structural aggregates have developed.

Processes of Soil Formation

The processes of soil formation influence the kind and degree of development of soil horizons. Important soil-forming processes are those that result in additions of organic, mineral, and gaseous materials to the soil; losses of these same 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 (20).

Many processes occur simultaneously. Examples in the survey area include 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 with time. Drainage and water-control systems, for example, can change the length of time some soils are flooded or saturated with water. Some important processes that have contributed to the formation of the soils in Terrebonne Parish are discussed in the following paragraphs.

Organic matter has accumulated, has partly decomposed, and has been incorporated into all the soils. The organic accumulations range from the humus in mineral horizons of the Cancienne and Schriever soils to the organic horizons, muck, of the Clovelly and Maurepas soils in the marshes and swamps. Because most of the organic matter is produced in and above the surface layer, the surface layer is higher in content of organic matter than the deeper horizons. Living organisms decompose, incorporate, and mix organic residue into the soil. Some of the more stable products contribute to darker colors, increased water-holding and cation-exchange capacities, and granulation of the soil.

Processes that result in development of soil structure have occurred in most of the mineral 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 mapped in Terrebonne Parish have horizons in which reduction of iron and manganese compounds is an important process. 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 produce the gray colors in the Bg and Cg horizons 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 by water from one position to another within the soil. Reduced forms of iron and manganese not removed can be reoxidized upon development of oxidizing conditions in the soil. The presence of gray and yellow or red masses indicates alternating oxidizing and reducing conditions in many of the soils.

Water moving through the soil has leached many soluble components from the upper horizon of some of the mineral soils in Terrebonne Parish. The components include any free carbonates that may have been present initially. The carbonates and other more readily soluble salts have been mostly leached from the soil or moved to lower horizons in the better drained, loamy soils, such as Cancienne soils. In general, the permanently wet soils of the marshes and swamps have rarely been leached.

Landforms and Surface Geology

The land area in Terrebonne Parish occupies about 1,133 square miles of the Lafourche Delta complex in the south-central region of the Mississippi River Delta Plain.

Terrebonne Parish is bordered on the east by Bayou Blue and Bayou Pointe au Chien, on the west by the Atchafalaya River, and by the Gulf of Mexico on the south. Several large bodies of water, Caillou Bay, Four League Bay, Lake Pelto, Terrebonne Bay, and numerous smaller water bodies including bays, lakes, and bayous, are within the boundaries of the parish. Numerous marshy islands in the Gulf are isolated remnants of former broad areas of marsh. These islands provide evidence of extensive deterioration of the marshes. Sandy barrier shorelines and islands at the seaward edge of the parish and in the Gulf of Mexico have linear or curvilinear forms because of the effects of marine reworking.

Elevations in Terrebonne Parish range from 14 feet on natural levees in the northern part of the parish to below sea level in backswamps and marshes throughout the parish. In places, elevations of swamps and marshes have decreased because of oxidation, de-watering, and subsidence.

Geologic Development of the Lafourche Delta Plain

The Mississippi River began constructing deltas about 8,000 years ago when the rate of rise in sea level began to decrease following the latest Pleistocene (Wisconsonian) deglaciation. During the Holocene Epoch, the river shifted its position several times in response to the extension of the delta into the Gulf of Mexico and the resulting decrease in gradient of the river channel. As the gradient decreased, the river sought a new channel with a steeper gradient. Terrebonne Parish lies within the south-central region of the Mississippi River Delta complexes. The subaerial surface of Terrebonne Parish correlates with the Teche and Lafourche Delta complex. Since the end of the Holocene transgressive, the Mississippi River Delta has been shaped by a process of sequential episodes of delta building following by abandonment and barriers shoreline generation collectively known as a delta cycle, (7)(9)(11). Individual deltas are built through a regressive or constructive phase followed by a transgressive, or destructive phase. The subsurface of Terrebonne Parish comprises two transgressed delta complexes presumed to be the Teche and Lafourche complexes. Deposition of the Lafourche lobe, the early distributary system of the Lafourche Delta complex, began about 950 years ago.

The delta plain consists of six major Holocene-age delta complexes. Each of the complexes initially experienced a constructive phase and then underwent a destructive phase. Four of these complexes are in various stages of deterioration, and the other two, the Plaquemines Modern and the Atchafalaya complexes, are actively prograding or outbuilding.

The constructive phase begins when a platform is developed as sediment is dispersed at the mouth of a river and deposited onto the inner continental shelf. The platform is thickest adjacent to the channel or distributary. Fine sand and silt accumulate mainly on natural levees flanking the channels and distributaries, and in crevasse splays that form when levees are breached during floods. In Terrebonne Parish, natural levees have formed along Bayou Black, Bayou Blue, Bayou du Large, Bayou Terrebonne, Bayou Petite Caillou, and Bayou Grand Caillou and its former distributary channels. Areas of natural levees make up about 15.3 percent of the land in the parish. Natural levees generally are the highest elevations in the parish. The Cancienne-Gramercy and the Schiever general soil map units are on natural levees. As the natural levees are built, they confine increasingly greater amounts of water until only high floods are capable of overtopping the levees. These natural levees allow the flood plain to become more stabilized, and for distinct backswamp areas to form.

The natural levees afford some protection to the backswamp areas from higher velocity channel flooding, yet slowly moving water can still back-flow into backswamp areas through breaches in the natural levees and may remain stagnant there for long periods afterwards. This situation facilitates soil building by allowing clays to settle out, and for organic matter to accumulate more rapidly in the backswamp areas. Backswamps make up about 11.1 percent of the land in the Terrebonne Parish. They are in the central and northernmost parts of the parish. Some areas of backswamp have been drained and are developed for industrial or residential use. The Barbary-Fausse general soil map unit is in backswamps.

When the supply of sediment from floodwater decreases, the rate of subsidence outpaces sediment buildup and the destructive phase of the delta complex is initiated. Land loss is a serious problem in Terrebonne Parish now because of the high rates of relative sea level rise (the combination of subsidence and eustatic sea level rise), the low supply of sediment, and the impact of frequent storms and human actions. Relative sea level rise in Terrebonne Parish averaged about 0.35 inch per year from 1962 to 1982 and ranged from about 0.2 to more than 0.8 inch per year during that period (19). The supply of sediment to the area has diminished mainly because of the construction of artificial levees along the Mississippi River (10). The rate of land loss in the parish is estimated to be about 14 square miles per year (9). Marine processes then begin to rework the seaward edge of the abandoned delta complex and concentrate the sand-size sediments into a transgressive barrier shoreline (12,15). The transgressive barrier shoreline consists of an erosional headland of barrier beaches and marginal spits that are typically flanked by barrier islands. Timbalier Island is an example. When subsidence and erosion increase in the backbarrier region, the barrier shorelines can become disconnected from the headland to form barrier islands. These island chains can ultimately become submerged and form inner shelf shoals. Shoreline erosion is largely related to the impact of storms and ranges from 15 to 50 feet per year along much of the coast of Terrebonne Parish (15). South of Houma are two barrier shoreline systems: the Isles Derniers, which is associated with Bayou Grand Caillou, and the Bayou Lafourche barrier shoreline, including Timbalier Island, which is associated with the Bayou Lafourche Delta. Barrier shorelines and barrier islands make up about 0.3 percent of the parish. The Felicity soil map unit is on these areas (fig. 31).

Figure 31.—Barrier Island in active state of erosion as evidenced by lack of vegetation. These areas are mapped as Felicity loamy fine sand, 1 to 3 percent slopes, frequently flooded.

Geologic History of Terrebonne Parish

Terrebonne Parish consists of at least two thick, partially overlapping delta complexes, the Teche and the Lafourche Delta complexes. They are underlain by Pleistocene strata at a depth of 100 to 700 feet. Depth to Pleistocene surfaces increases toward the modern delta (11). Delta lobes of the Teche Delta complex were initially deposited in shallow water about 4,500 years ago (7). Several lobes were deposited, and periods of progradation and abandonment recurred until about 650 years ago. The Terrebonne Parish landscape is dominated by the abandoned distributaries of the Teche Delta complex, which radiate southeastward from Bayou Teche at Morgan City and extend into the northwestern half of the parish. In the southeast part of the parish, distributary ridgelands of the Lafourche Delta complex dominate the landscape and radiate in a southwesterly direction before sinking below the marsh surface.

During the last 7,000 years, the Mississippi River has built six major delta complexes consisting of more than 17 smaller deltas (7). These complexes can be divided into two distinct physiographic regimes. These are active deltas and abandoned deltas. Active delta building occurs in 20 percent of the delta plain and is restricted to the Balize Delta of the Plaquemines Modern complex and the Atchafalaya Delta complex. The remaining 80 percent of the delta plain consists of five abandoned delta complexes, The Maringouin, Teche, St. Bernard, and the Lafourche, and the abandoned Plaquemines Delta of the Plaquemines Modern complex. In Terrebonne Parish the abandoned distributaries of Bayou Black, Bayou Cocodrie, Big Horn, and Bayou Penchant of the Teche Delta complex underlies the Bayou du Large, Bayou Terrebonne, Bayou Grand Caillou, and Bayou Lafourche distributaries of the Lafourche complex.

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Glossary

Many of the terms relating to landforms, geology, and geomorphology are defined in more detail in the "National Soil Survey Handbook" (available in local offices of the Natural Resources Conservation Service or on the Internet).

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alluvium. Unconsolidated material, such as gravel, sand, silt, clay, and various mixtures of these, deposited on land by running water.

Alpha, alpha-dipyridyl. A compound that when dissolved in ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction implies reducing conditions and the likely presence of redoximorphic features.

Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Aspect. The direction toward which a slope faces. Also called slope aspect.

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

Backswamp. A flood-plain landform. Extensive, marshy or swampy, depressed areas of flood plains between natural levees and valley sides or terraces.

Base saturation. The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.

Bedding plane. A planar or nearly planar bedding surface that visibly separates each successive layer of stratified sediment or rock (of the same or different lithology) from the preceding or following layer; a plane of deposition. It commonly marks a change in the circumstances of deposition and may show a parting, a color difference, a change in particle size, or various combinations of these. The term is commonly applied to any bedding surface, even one that is conspicuously bent or deformed by folding.

Bedding system. A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.
Bench terrace. A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.
Bisequum. Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.
Bottom land. An informal term loosely applied to various portions of a flood plain.
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.
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.
Catena. A sequence, or "chain," of soils on a landscape that formed in similar kinds of parent material and under similar climatic conditions but that have different characteristics as a result of differences in relief and drainage.
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.
Cement rock. Clayey limestone used in the manufacture of cement.
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. See Redoximorphic features.
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 dense, compact, slowly permeable subsoil layer that contains much more clay than the overlying materials, from which it is separated by a sharply defined boundary. A claypan is commonly hard when dry and plastic and sticky 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.
COLE (coefficient of linear extensibility). See Linear extensibility.

Colluvium. Unconsolidated, unsorted earth material being transported or deposited on side slopes and/or at the base of slopes by mass movement (e.g., direct gravitational action) and by local, unconcentrated runoff.

Complex slope. Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.

Complex, soil. A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.

Concretions. Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are compounds making up concretions. See Redoximorphic features.

Conservation cropping system. Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.

Conservation tillage. A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.

Consistence, soil. Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Corrosion (geomorphology). A process of erosion whereby rocks and soil are removed or worn away by natural chemical processes, especially by the solvent action of running water, but also by other reactions, such as hydrolysis, hydration, carbonation, and oxidation.

Corrosion (soil survey interpretations). 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.

Crop residue management. Returning crop residue to the soil, helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Decreasers. The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Delta. A body of alluvium having a surface that is fan shaped and nearly flat; 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.

Dense layer (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

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.

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.

Drainageway. A general term for a course or channel along which water moves in draining an area. A term restricted to relatively small, linear depressions that at some time move concentrated water and either do not have a defined channel or have only a small defined channel.

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.

Earthy fill. See Mine spoil.

Ecological site. An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Eolian deposit. Sand-, silt-, or clay-sized clastic material transported and deposited primarily by wind, commonly in the form of a dune or a sheet of sand or loess.

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 (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.

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 surface. A land surface shaped by the action of erosion, especially by running water.

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.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the ovendry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity, normal moisture capacity,* or *capillary capacity*.

Fine textured soil. Sandy clay, silty clay, or clay.

First bottom. An obsolete, informal term loosely applied to the lowest flood-plain steps that are subject to regular flooding.

Flood plain. The nearly level plain that borders a stream and is subject to flooding unless protected artificially.

Flood-plain landforms. A variety of constructional and erosional features produced by stream channel migration and flooding. Examples include backswamps, flood-plain splays, meanders, meander belts, meander scrolls, oxbow lakes, and natural levees.

Flood-plain splay. A fan-shaped deposit or other outspread deposit formed where an overloaded stream breaks through a levee (natural or artificial) and deposits its material (commonly coarse grained) on the flood plain.

Flood-plain step. An essentially flat, terrace-like alluvial surface within a valley that is frequently covered by floodwater from the present stream; any approximately horizontal surface still actively modified by fluvial scour and/or deposition. May occur individually or as a series of steps.

Fluvial. Of or pertaining to rivers or streams; produced by stream or river action.

Forb. Any herbaceous plant not a grass or a sedge.

Forest cover. All trees and other woody plants (underbrush) covering the ground in a forest.

Forest type. A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.

Genesis, soil. The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.

Gleyed soil. Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.

Grassed waterway. A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.

Gravel. Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.

Green manure crop (agronomy). A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.

Ground water. Water filling all the unblocked pores of the material below the water table.

Hard to reclaim (in tables). Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.

Hardpan. A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.

Hemic soil material (mucky peat). Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.

High-residue crops. Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

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.

L horizon.—A layer of organic and mineral limnic materials, including coprogenous earth (sedimentary peat), diatomaceous earth, and marl.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a Very slow 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. A landform composed of the relatively undissected upland or ridge between two adjacent valleys containing streams flowing in the same general direction. An elevated area between two drainageways that sheds water to those drainageways.

Interfluve (geomorphology). A geomorphic component of hills consisting of the uppermost, comparatively level or gently sloping area of a hill; shoulders of backwearing hillslopes can narrow the upland or can merge, resulting in a strongly convex shape.

Intermittent stream. A stream, or reach of a stream, that does not flow year-round but that is commonly dry for 3 or more months out of 12 and whose channel is generally below the local water table. It flows only during wet periods or when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Iron depletions. See Redoximorphic features.

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.

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Knoll. A small, low, rounded hill rising above adjacent landforms.

K-sat. Saturated hydraulic conductivity. (See Permeability.)

Lacustrine deposit. Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Lake plain. A nearly level surface marking the floor of an extinct lake filled by well sorted, generally fine textured, stratified deposits, commonly containing varves.

Lake terrace. A narrow shelf, partly cut and partly built, produced along a lakeshore in front of a scarp line of low cliffs and later exposed when the water level falls.

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.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Low strength. The soil is not strong enough to support loads.

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.

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. See Redoximorphic features.

Meander belt. The zone within which migration of a meandering channel occurs; the flood-plain area included between two imaginary lines drawn tangential to the outer bends of active channel loops.

Meander scar. A crescent-shaped, concave or linear mark on the face of a bluff or valley wall, produced by the lateral erosion of a meandering stream that impinged upon and undercut the bluff.

Meander scroll. One of a series of long, parallel, close-fitting, crescent-shaped ridges and troughs formed along the inner bank of a stream meander as the channel migrated laterally down-valley and toward the outer bank.

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.

Mine spoil. An accumulation of displaced earthy material, rock, or other waste material removed during mining or excavation. Also called earthy fill.

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. A kind of map unit 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.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few, common*, and *many; size*—*fine, medium*, and *coarse*; and *contrast—faint, distinct,* and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch)*; medium,* from 5 to 15 millimeters (about 0.2 to 0.6 inch)*;* and *coarse,* more than 15 millimeters (about 0.6 inch).

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.

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. See Redoximorphic features.

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

Outwash plain. A landform of mainly sandy or coarse textured material of glaciofluvial origin. An outwash plain is commonly smooth; where pitted, it generally is low in relief.

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.

Percolation. The movement of water through the soil.

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:

Impermeable	less than 0.0015 inch
Very slow	0.0015 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

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Pitting (in tables). Pits caused by melting around ice. They form on the soil after plant cover is removed.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

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.

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.

Pore linings. See Redoximorphic features.

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 as 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

Red beds. Sedimentary strata that are mainly red and are made up largely of sandstone and shale.

Redoximorphic concentrations. See Redoximorphic features.

Redoximorphic depletions. See Redoximorphic features.

Redoximorphic features. Redoximorphic features are associated with wetness and result from alternating periods of reduction and oxidation of iron and manganese compounds in the soil. Reduction occurs during saturation with water, and oxidation occurs when the soil is not saturated. Characteristic color patterns are created by these processes. The reduced iron and manganese ions may be removed from a soil if vertical or lateral fluxes of water occur, in which case there is no iron or manganese precipitation in that soil. Wherever the iron and manganese are oxidized and precipitated, they form either soft masses or hard concretions or nodules. Movement of iron and manganese as a result of redoximorphic processes in a soil may result in redoximorphic features that are defined as follows:

1. Redoximorphic concentrations.—These are zones of apparent accumulation of iron-manganese oxides, including:
   a. Nodules and concretions, which are cemented bodies that can be removed from the soil intact. Concretions are distinguished from nodules on the basis of internal organization. A concretion typically has concentric layers that are visible to the naked eye. Nodules do not have visible organized internal structure; and
   b. Masses, which are noncemented concentrations of substances within the soil matrix; and
   c. Pore linings, i.e., zones of accumulation along pores that may be either coatings on pore surfaces or impregnations from the matrix adjacent to the pores.
2. Redoximorphic depletions.—These are zones of low chroma (chromas less than those in the matrix) where either iron-manganese oxides alone or both iron-manganese oxides and clay have been stripped out, including:
   a. Iron depletions, i.e., zones that contain low amounts of iron and manganese oxides but have a clay content similar to that of the adjacent matrix; and
   b. Clay depletions, i.e., zones that contain low amounts of iron, manganese, and clay (often referred to as silt coatings or skeletons).
3. Reduced matrix.—This is a soil matrix that has low chroma *in situ* but undergoes a change in hue or chroma within 30 minutes after the soil material has been exposed to air.

Reduced matrix. See Redoximorphic features.

Relief. The relative difference in elevation between the upland summits and the lowlands or valleys of a given region.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as bedrock disintegrated in place.

Rill. A very small, steep-sided channel resulting from erosion and cut in unconsolidated materials by concentrated but intermittent flow of water. A rill generally is not an obstacle to wheeled vehicles and is shallow enough to be smoothed over by ordinary tillage.

Riser. The vertical or steep side slope (e.g., escarpment) of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural, steplike landforms, such as successive stream terraces.

Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

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. Terms describing salinity, measured in mmhos/cm, are as follows:

Nonsaline	< 2
Very slight	2 to 4
Slight	4 to 8
Moderate	8 to 16
Strong	> 16

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.

Saturated hydraulic conductivity (K-sat). See Permeability.

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.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

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 (geomorphology). A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel. Side slopes are dominantly colluvium and slope-wash sediments.

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 (pedogenic). Grooved, striated, and/or glossy (shiny) slip faces on structural peds, such as wedges; produced by shrink-swell processes, most commonly in soils that have a high content of expansive clays.

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 3 percent is a drop of 3 feet in 100 feet of horizontal distance.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in 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

Sodium adsorption ratio (SAR). 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.

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 and by the passage 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.

Strath terrace. A type of stream terrace; formed as an erosional surface cut on bedrock and thinly mantled with stream deposits (alluvium).

Stream terrace. One of a series of platforms in a stream valley, flanking and more or less parallel to the stream channel, originally formed near the level of the stream; represents the remnants of an abandoned flood plain, stream bed, or valley floor produced during a former state of fluvial erosion or deposition.

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 grain* (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. See Underlying material.

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.

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 (conservation). 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 (geomorphology). A steplike surface, bordering a valley floor or shoreline that represents the former position of a flood plain, lake, or seashore. The term is usually applied both to the relatively flat summit surface (tread) that was cut or built by stream or wave action and to the steeper descending slope (scarp or riser) that has graded to a lower base level of erosion.

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.

Tier. The control section of Histosols is divided somewhat arbitrarily into three tiers—surface, subsurface, and bottom tier.

Surface Tier. The surface tier of a Histosol or Histel extends from the soil surface to a depth of 60 cm if either (1) the materials within that depth are fibric and three-fourths or more of the fiber volume is derived from Sphagnum or other mosses or (2) the materials have a bulk density of less than 0.1. Otherwise, the surface tier extends from the soil surface to a depth of 30 cm. Some organic soils have a mineral surface layer less than 40 cm thick as a result of flooding, volcanic eruptions, additions of mineral materials to increase soil strength or reduce the hazard of frost, or other causes. If such a mineral layer is less than 30 cm thick, it constitutes the upper part of the surface tier; if it is 30 to 40 cm thick, it constitutes the whole surface tier and part of the subsurface tier.

Subsurface Tier. The subsurface tier is normally 60 cm thick. If the control section ends at a shallower depth (at a densic, lithic, or paralithic contact or a water layer or in permafrost), however, the subsurface tier extends from the lower boundary of the surface tier to the lower boundary of the control section. It includes any unconsolidated mineral layers that may be present within those depths.

Bottom Tier. The bottom tier is 40 cm thick unless the control section has its lower boundary at a shallower depth (at a densic, lithic, or paralithic contact or a water layer or in permafrost).Thus, if the organic materials are thick, there are two possible thicknesses of the control section, depending on the presence or absence and the thickness of a surface mantle of fibric moss or other organic material that has a low bulk density (less than 0.1). If the fibric moss extends to a depth of 60 cm and is the dominant material within this depth (three-fourths or more of the volume), the control section is 160 cm thick. If the fibric moss is thin or absent, the control section extends to a depth of 130 cm.

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.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Tread. The flat to gently sloping, topmost, laterally extensive slope of terraces, flood-plain steps, or other stepped landforms; commonly a recurring part of a series of natural steplike landforms, such as successive stream terraces.

Tuff. A generic term for any consolidated or cemented deposit that is 50 percent or more volcanic ash.

Upland. An informal, general term for the higher ground of a region, in contrast with a low-lying adjacent area, such as a valley or plain, or for land at a higher elevation than the flood plain or low stream terrace; land above the footslope zone of the hillslope continuum.

Underlying material. The part of the soil below the solum.

Variegation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an ovendry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.

Tables

Table 1.--Temperature and Precipitation

(Recorded in the period 1971-2000 at Houma, Louisiana)

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 less than	Average number of growing degree days*	Average	less than	more than	Average number of days w/.1 or more
January-----	62.7	43.0	52.9	80	22	176	5.43	2.54	7.92	7
February----	65.7	46.1	55.9	81	26	205	4.59	1.32	7.23	5
March-------	71.8	53.0	62.4	84	31	388	4.91	2.69	6.87	5
April-------	77.5	58.6	68.1	88	40	541	4.46	1.21	7.07	4
May---------	84.3	66.5	75.4	93	51	783	5.35	1.78	8.28	5
June--------	88.9	71.6	80.2	95	61	906	5.96	3.29	8.31	7
July--------	90.7	73.2	81.9	97	67	988	7.85	4.92	10.50	11
August------	90.5	72.9	81.7	97	65	976	6.73	3.97	9.20	10
September---	87.2	69.5	78.3	95	53	849	6.37	3.15	9.16	7
October-----	79.9	58.9	69.4	91	39	600	3.10	1.03	4.85	3
November----	72.1	51.5	61.8	85	31	366	4.55	1.91	6.79	5
December----	65.5	44.8	55.2	82	22	225	4.42	2.76	5.91	5
Yearly:										
Average---	78.1	59.1	68.6	---	---	---	---	---	---	---
Extreme---	101	10	---	98	19	---	---	---	---	---
Total-----	---	---	---	---	---	7,002	63.70	54.03	72.29	74

* A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (50 degrees F).

Table 2.--Freeze Dates in Spring and Fall

(Recorded in the period 1971-2000 at Houma, Louisiana)

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--	January 31	February 26	March 14
2 years in 10 later than--	January 18	February 17	March 4
5 years in 10 later than--	------	January 29	February 14
First freezing temperature in fall:			
1 year in 10 earlier than--	December 25	November 29	November 15
2 years in 10 earlier than--	December 31	December 7	November 23
5 years in 10 earlier than--	------	December 24	December 7

Table 3.--Growing Season

(Recorded for the period 1971-2000 at Houma, Louisiana)

Probability	Daily Minimum Temperature		
	Number of days less than 24°F	Number of days less than 28°F	Number of days less than 32°F
	Days	Days	Days
9 years in 10	339	295	261
8 years in 10	> 365	306	273
5 years in 10	> 365	329	296
2 years in 10	> 365	> 365	319
1 year in 10	> 365	> 365	332

Table 4.--Acreage and Proportionate Extent of the Soils

Map symbol	Soil name	Acres	Percent
AEA	Allemands muck, very frequently flooded	71,077	6.9
ARA	Allemands and Carlin soils, very frequently flooded	15,568	1.5
ATA	Aquents, dredged	1,699	0.2
ATB	Aquents, dredged, 1 to 5 percent slopes, occasionally flooded	21,218	2.1
BNA	Bancker muck, slightly saline, tidal	4,987	0.5
BOA	Bancker muck, very slightly saline, tidal	1,558	0.2
BRA	Barbary muck, frequently flooded	45,899	4.4
BSA	Bellpass muck, tidal	40,328	3.9
CbA	Cancienne silt loam, 0 to 1 percent slopes	12,666	1.2
CdA	Cancienne silty clay loam, 0 to 1 percent slopes	22,416	2.2
CeA	Cancienne silty clay loam, 0 to 1 percent slopes, occasionally flooded	4,117	0.4
CfA	Cancienne silt loam, 0 to 1 percent slopes, occasionally flooded	1,311	0.1
CKA	Clovelly muck, slightly saline, tidal	52,265	5.1
CLA	Clovelly muck, very slightly saline, tidal	25,499	2.5
FAA	Fausse clay, frequently flooded	31,306	3.0
FCA	Felicity loamy fine sand, 1 to 3 percent slopes, frequently flooded	2,447	0.2
GaA	Gramercy silty clay loam, 0 to 1 percent slopes	3,600	0.3
GcA	Gramercy-Cancienne silty clay loams, 0 to 1 percent slopes	5,926	0.6
HpA	Harahan clay, occasionally flooded	1,881	0.2
KEA	Kenner muck, very frequently flooded	116,497	11.1
LAA	Lafitte muck, slightly saline, tidal	35,858	3.5
LFA	Lafitte muck, very slightly saline, tidal	19,747	1.9
LRA	Larose muck, very frequently flooded	19,151	1.9
MAA	Maurepas muck, frequently flooded	3,021	0.3
RTA	Rita muck, occasionally flooded	8,534	0.8
SCA	Scatlake muck, tidal	24,751	2.4
ShA	Schriever clay, 0 to 1 percent slopes	24,786	2.4
SIA	Schriever clay, frequently flooded	17,640	1.7
SrA	Schriever clay, occasionally flooded	18,740	1.8
TUA	Timbalier muck, tidal	69,281	6.7
UB	Urban land	1,674	0.2
UD	Udorthents, 1 to 20 percent slopes	115	*
W	Water	308,537	29.8
	Total	1,034,100	100.0

* Less than 0.1 percent.

Table 5.--Prime Farmland

(Only the soils considered prime farmland are listed. Urban or built-up areas of the soils listed are not considered prime.)

Map Symbol	Map unit name
CbA	Cancienne silt loam, 0 to 1 percent slopes
CdA	Cancienne silty clay loam, 0 to 1 percent slopes
CeA	Cancienne silty clay loam, 0 to 1 percent slopes, occasionally flooded
CfA	Cancienne silt loam, 0 to 1 percent slopes, occasionally flooded
GaA	Gramercy silty clay loam, 0 to 1 percent slopes
GcA	Gramercy-Cancienne silty clay loams, 0 to 1 percent slopes
ShA	Schriever clay, 0 to 1 percent slopes

Table 6.--Non-Irrigated Yields by Map Unit Component

(Yields are those that can be expected under a high level of management. They are for non-irrigated 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	Improved bermudagrass	Soybeans	Sugarcane
		AUM	Bu	AUM	Bu	Tons
AEA:						
Allemands	8w	---	---	---	---	---
ARA:						
Allemands	8w	---	---	---	---	---
Carlin	8w	---	---	---	---	---
ATA:						
Aquents	---	---	---	---	---	---
ATB:						
Aquents	---	---	---	---	---	---
BNA:						
Bancker	8w	---	---	---	---	---
BOA:						
Bancker	8w	---	---	---	---	---
BRA:						
Barbary	8w	---	---	---	---	---
BSA:						
Bellpass	7w	---	---	---	---	---
CbA:						
Cancienne	3w	---	95.00	15.50	40.00	35.00
CdA:						
Cancienne	2w	---	85.00	15.50	40.00	35.00
CeA:						
Cancienne	3w	---	---	---	40.00	35.00
CfA:						
Cancienne	3w	---	---	---	40.00	35.00
CKA:						
Clovelly	8w	---	---	---	---	---
CLA:						
Clovelly	8w	---	---	---	---	---
FAA:						
Fausse	7w	---	---	---	---	---
FCA:						
Felicity	7w	---	---	---	---	---
GaA:						
Gramercy	3w	9.50	---	13.00	40.00	30.00

Table 6.--Non-Irrigated Yields by Map Unit Component--Continued

Map symbol and soil name	Land capability	Bahiagrass	Corn	Improved bermudagrass	Soybeans	Sugarcane
		AUM	Bu	AUM	Bu	Tons
GcA:						
Gramercy	3w	9.50	---	13.00	40.00	30.00
Cancienne	2w	---	85.00	15.50	40.00	35.00
HpA:						
Harahan	4w	---	---	---	---	---
KEA:						
Kenner	8w	---	---	---	---	---
LAA:						
Lafitte	8w	---	---	---	---	---
LFA:						
Lafitte	8w	---	---	---	---	---
LRA:						
Larose	8w	---	---	---	---	---
MAA:						
Maurepas	8w	---	---	---	---	---
RTA:						
Rita	4w	9.00	---	7.50	---	---
SCA:						
Scatlake	8w	---	---	---	---	---
ShA:						
Schriever	3w	---	---	10.00	40.00	30.00
SIA:						
Schriever	5w	---	---	---	---	---
SrA:						
Schriever	4w	---	---	---	30.00	---
TUA:						
Timbalier	8w	---	---	---	---	---
UB:						
Urban land	---	---	---	---	---	---
UD:						
Udorthents	---	---	---	---	---	---
W:						
Water	---	---	---	---	---	---

Table 7.--Forestland Productivity

Map symbol and soil name	Potential productivity: Common trees	Site index	Volume of wood fiber	Trees to manage
			cu ft/ac	
AEA:				
Allemands	---	---	---	---
ARA:				
Allemands	---	---	---	---
Carlin	---	---	---	---
ATA:				
Aquents	---	---	---	---
ATB:				
Aquents	---	---	---	---
BNA:				
Bancker	---	---	---	---
BOA:				
Bancker	---	---	---	---
BRA:				
Barbary	baldcypress	80	57	baldcypress
	black willow	---	0	
	water tupelo	60	86	
BSA:				
Bellpass	---	---	---	---
CbA:				
Cancienne	American sycamore	---	0	cherrybark oak, pecan, Shumard's oak, water oak
	eastern cottonwood	120	186	
	green ash	100	100	
	Nuttall oak	90	0	
	pecan	---	0	
	water oak	110	114	
	willow oak	---	0	
CdA:				
Cancienne	American sycamore	---	0	cherrybark oak, pecan, Shumard's oak, water oak
	eastern cottonwood	120	186	
	green ash	100	100	
	Nuttall oak	90	0	
	pecan	---	0	
	water oak	110	114	
	willow oak	---	0	
CeA:				
Cancienne	American sycamore	---	0	cherrybark oak, pecan, Shumard's oak, water oak
	eastern cottonwood	120	186	
	green ash	100	100	
	Nuttall oak	90	0	
	pecan	---	0	
	water oak	110	114	
	willow oak	---	0	

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	
CfA:				
Cancienne	American sycamore	---	0	cherrybark oak, pecan, Shumard's oak, water oak
	eastern cottonwood	120	186	
	green ash	100	100	
	Nuttall oak	90	0	
	pecan	---	0	
	water oak	110	114	
	willow oak	---	0	
CKA:				
Clovelly	---	---	---	---
CLA:				
Clovelly	---	---	---	---
FAA:				
Fausse	baldcypress	96	86	baldcypress
	black willow	---	0	
	overcup oak	---	0	
	red maple	---	0	
	water hickory	---	0	
	water tupelo	---	0	
FCA:				
Felicity	---	---	---	---
GaA:				
Gramercy	green ash	---	0	American sycamore, eastern cottonwood, sweetgum
	Nuttall oak	90	86	
	pecan	---	0	
	sweetgum	---	0	
	water oak	80	57	
	willow oak	90	100	
GcA:				
Gramercy	green ash	---	0	American sycamore, eastern cottonwood, sweetgum
	Nuttall oak	90	86	
	pecan	---	0	
	sweetgum	---	0	
	water oak	80	57	
	willow oak	90	100	
Cancienne	American sycamore	---	0	cherrybark oak, pecan, Shumard's oak, water oak
	eastern cottonwood	120	186	
	green ash	100	100	
	Nuttall oak	90	0	
	pecan	---	0	
	water oak	110	114	
	willow oak	---	0	
HpA:				
Harahan	green ash	---	---	American sycamore, eastern cottonwood
	Nuttall oak	75	---	
	overcup oak	---	---	
	sugarberry	---	---	
	water hickory	---	---	

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	
KEA:				
Kenner	---	---	---	---
LAA:				
Lafitte	---	---	---	---
LFA:				
Lafitte	---	---	---	---
LRA:				
Larose	---	---	---	---
MAA:				
Maurepas	---	---	---	---
RTA:				
Rita	---	---	---	---
SCA:				
Scatlake	---	---	---	---
ShA:				
Schriever	green ash	98	0	green ash, Nuttall oak
	Nuttall oak	---	100	
	overcup oak	---	---	
	sugarberry	---	0	
	sweetgum	---	0	
	water hickory	---	---	
SIA:				
Schriever	baldcypress	---	---	baldcypress
	black willow	---	---	
	green ash	90	0	
	overcup oak	96	---	
	sugarberry	---	0	
	sweetgum	---	0	
	water hickory	---	---	
SrA:				
Schriever	green ash	98	---	green ash, Nuttall oak
	honeylocust	---	---	
	Nuttall oak	---	0	
	overcup oak	---	---	
	sugarberry	---	0	
	sweetgum	---	---	
	water hickory	---	0	
TUA:				
Timbalier	---	---	---	---
UB:				
Urban land	---	---	---	---
UD:				
Udorthents	---	---	---	---
W:				
Water	---	---	---	---

Table 8.--Haul Roads, Log Landings, and Soil Rutting on Forestland

(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.)

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
AEA:							
Allemands-----------	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Wetness	1.00	Flooding	1.00	Wetness	0.50
		Stickiness	0.50	Low strength	1.00		
				Wetness	1.00		
ARA:							
Allemands-----------	45	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Wetness	1.00	Flooding	1.00	Wetness	0.50
		Stickiness	0.50	Low strength	1.00		
				Wetness	1.00		
Carlin--------------	40	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Wetness	1.00	Flooding	1.00	Wetness	0.50
				Low strength	1.00		
				Wetness	1.00		
ATA:							
Aquents-------------	85	Not rated		Not rated		Not rated	
ATB:							
Aquents-------------	85	Not rated		Not rated		Not rated	
BNA:							
Bancker-------------	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Wetness	1.00	Flooding	1.00	Wetness	0.50
		Low strength	0.50	Low strength	1.00		
		Stickiness	0.50	Stickiness; high plasticity index	0.50		
BOA:							
Bancker-------------	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Wetness	1.00	Flooding	1.00	Wetness	0.50
		Low strength	0.50	Low strength	1.00		
		Stickiness	0.50				
BRA:							
Barbary-------------	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Low strength	1.00	Flooding	1.00	Wetness	0.50
		Wetness	1.00	Low strength	1.00		
		Stickiness	0.50	Stickiness; high plasticity index	0.50		

Table 8.--Haul Roads, Log Landings, and Soil Rutting on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
BSA:							
Bellpass------------	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Wetness	1.00	Flooding	1.00	Wetness	0.50
		Stickiness	0.50	Low strength	1.00		
				Wetness	1.00		
CbA:							
Cancienne-----------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
CdA:							
Cancienne-----------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
CeA:							
Cancienne-----------	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
CfA:							
Cancienne-----------	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Low strength	0.50		
CKA:							
Clovelly------------	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Wetness	1.00	Flooding	1.00	Wetness	0.50
		Stickiness	0.50	Low strength	1.00		
				Wetness	1.00		
CLA:							
Clovelly------------	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Wetness	1.00	Flooding	1.00	Wetness	0.50
		Stickiness	0.50	Low strength	1.00		
				Wetness	1.00		
FAA:							
Fausse--------------	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Wetness	1.00	Flooding	1.00	Wetness	0.50
		Stickiness	0.50	Wetness	1.00		
		Low strength	0.50	Stickiness; high plasticity index	0.50		
				Low strength	0.50		
FCA:							
Felicity------------	85	Severe		Poorly suited		Moderate	
		Flooding	1.00	Flooding	1.00	Low strength	0.50
GaA:							
Gramercy------------	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	1.00
				Low strength	0.50		

Table 8.--Haul Roads, Log Landings, and Soil Rutting on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings: Rating class and limiting features	Value	Suitability for log landings: Rating class and limiting features	Value	Soil rutting hazard: Rating class and limiting features	Value
GcA:							
Gramercy------------	45	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	1.00
				Low strength	0.50		
Cancienne-----------	40	Moderate		Moderately suited		Severe	
		Low strength	0.50	Low strength	0.50	Low strength	1.00
HpA:							
Harahan-------------	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	1.00	Low strength	1.00		
		Stickiness	0.50	Stickiness; high plasticity index	0.50		
KEA:							
Kenner--------------	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Wetness	1.00	Flooding	1.00	Wetness	0.50
		Stickiness	0.50	Low strength	1.00		
				Wetness	1.00		
LAA:							
Lafitte-------------	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Wetness	1.00	Flooding	1.00	Wetness	0.50
				Low strength	1.00		
				Wetness	1.00		
LFA:							
Lafitte-------------	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Wetness	1.00	Flooding	1.00	Wetness	0.50
		Stickiness	0.50	Low strength	1.00		
				Wetness	1.00		
LRA:							
Larose--------------	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Low strength	1.00	Flooding	1.00	Wetness	0.50
		Wetness	1.00	Low strength	1.00		
		Stickiness	0.50				
MAA:							
Maurepas------------	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Wetness	1.00	Flooding	1.00	Wetness	0.50
		Stickiness	0.50	Low strength	1.00		
				Wetness	1.00		
RTA:							
Rita----------------	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Wetness	0.50	Wetness	0.50		
		Stickiness	0.50	Stickiness; high plasticity index	0.50		
		Low strength	0.50	Low strength	0.50		

Table 8.--Haul Roads, Log Landings, and Soil Rutting on Forestland--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
SCA:							
Scatlake	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Wetness	1.00	Flooding	1.00	Wetness	0.50
		Low strength	0.50	Low strength	1.00		
		Stickiness	0.50	Stickiness; high plasticity index	0.50		
ShA:							
Schriever	85	Moderate		Moderately suited		Severe	
		Low strength	0.50	Wetness	0.50	Low strength	1.00
		Stickiness	0.50	Low strength	0.50		
				Stickiness; high plasticity index	0.50		
SIA:							
Schriever	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Low strength	0.50	Wetness	0.50		
		Stickiness	0.50	Low strength	0.50		
				Stickiness; high plasticity index	0.50		
SrA:							
Schriever	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Flooding	1.00	Low strength	1.00
		Stickiness	0.50	Wetness	0.50		
		Low strength	0.50	Low strength	0.50		
				Stickiness; high plasticity index	0.50		
TUA:							
Timbalier	85	Severe		Poorly suited		Severe	
		Flooding	1.00	Ponding	1.00	Low strength	1.00
		Wetness	1.00	Flooding	1.00	Wetness	0.50
		Stickiness	0.50	Low strength	1.00		
				Wetness	1.00		
UB:							
Urban land	93	Not rated		Not rated		Not rated	
UD:							
Udorthents	85	Not rated		Not rated		Not rated	
W:							
Water	100	Not rated		Not rated		Not rated	

Table 9.--Hazard of Erosion and Suitability for Roads on Forestland

(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.)

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
AEA:							
Allemands	85	Very Severe		Very Severe		Poorly suited	
		Organic matter content high	1.00	Organic matter content high	1.00	Ponding	1.00
						Flooding	1.00
						Low strength	1.00
						Wetness	1.00
ARA:							
Allemands	45	Very Severe		Very Severe		Poorly suited	
		Organic matter content high	1.00	Organic matter content high	1.00	Ponding	1.00
						Flooding	1.00
						Low strength	1.00
						Wetness	1.00
Carlin	40	Very Severe		Very Severe		Poorly suited	
		Organic matter content high	1.00	Organic matter content high	1.00	Ponding	1.00
						Flooding	1.00
						Low strength	1.00
						Wetness	1.00
ATA:							
Aquents	85	Not rated		Not rated		Not rated	
ATB:							
Aquents	85	Not rated		Not rated		Not rated	
BNA:							
Bancker	85	Slight		Slight		Poorly suited	
						Ponding	1.00
						Flooding	1.00
						Low strength	1.00
						Stickiness; high plasticity index	0.50
BOA:							
Bancker	85	Slight		Slight		Poorly suited	
						Ponding	1.00
						Flooding	1.00
						Low strength	1.00
BRA:							
Barbary	85	Slight		Slight		Poorly suited	
						Ponding	1.00
						Flooding	1.00
						Low strength	1.00
						Stickiness; high plasticity index	0.50

Table 9.--Hazard of Erosion and Suitability for Roads on Forestland--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
BSA:							
Bellpass------------	85	Very Severe		Very Severe		Poorly suited	
		Organic matter content high	1.00	Organic matter content high	1.00	Ponding	1.00
						Flooding	1.00
						Low strength	1.00
						Wetness	1.00
CbA:							
Cancienne-----------	85	Slight		Slight		Moderately suited	
						Low strength	0.50
CdA:							
Cancienne-----------	85	Slight		Slight		Moderately suited	
						Low strength	0.50
CeA:							
Cancienne-----------	85	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
CfA:							
Cancienne-----------	85	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	0.50
CKA:							
Clovelly------------	85	Very Severe		Very Severe		Poorly suited	
		Organic matter content high	1.00	Organic matter content high	1.00	Ponding	1.00
						Flooding	1.00
						Low strength	1.00
						Wetness	1.00
CLA:							
Clovelly------------	85	Very Severe		Very Severe		Poorly suited	
		Organic matter content high	1.00	Organic matter content high	1.00	Ponding	1.00
						Flooding	1.00
						Low strength	1.00
						Wetness	1.00
FAA:							
Fausse--------------	85	Slight		Slight		Poorly suited	
						Ponding	1.00
						Flooding	1.00
						Wetness	1.00
						Stickiness; high plasticity index	0.50
						Low strength	0.50

Table 9.--Hazard of Erosion and Suitability for Roads on Forestland--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
FCA:							
Felicity	85	Slight		Slight		Poorly suited	
						Flooding	1.00
GaA:							
Gramercy	85	Slight		Slight		Moderately suited	
						Wetness	0.50
						Low strength	0.50
GcA:							
Gramercy	45	Slight		Slight		Moderately suited	
						Wetness	0.50
						Low strength	0.50
Cancienne	40	Slight		Slight		Moderately suited	
						Low strength	0.50
HpA:							
Harahan	85	Slight		Slight		Poorly suited	
						Flooding	1.00
						Low strength	1.00
						Stickiness; high plasticity index	0.50
KEA:							
Kenner	85	Very Severe		Very Severe		Poorly suited	
		Organic matter content high	1.00	Organic matter content high	1.00	Ponding	1.00
						Flooding	1.00
						Low strength	1.00
						Wetness	1.00
LAA:							
Lafitte	85	Very Severe		Very Severe		Poorly suited	
		Organic matter content high	1.00	Organic matter content high	1.00	Ponding	1.00
						Flooding	1.00
						Low strength	1.00
						Wetness	1.00
LFA:							
Lafitte	85	Very Severe		Very Severe		Poorly suited	
		Organic matter content high	1.00	Organic matter content high	1.00	Ponding	1.00
						Flooding	1.00
						Low strength	1.00
						Wetness	1.00
LRA:							
Larose	85	Slight		Slight		Poorly suited	
						Ponding	1.00
						Flooding	1.00
						Low strength	1.00

Table 9.--Hazard of Erosion and Suitability for Roads on Forestland--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
MAA:							
Maurepas------------	85	Very Severe		Very Severe		Poorly suited	
		Organic matter content high	1.00	Organic matter content high	1.00	Ponding	1.00
						Flooding	1.00
						Low strength	1.00
						Wetness	1.00
RTA:							
Rita----------------	85	Slight		Slight		Poorly suited	
						Flooding	1.00
						Wetness	0.50
						Stickiness; high plasticity index	0.50
						Low strength	0.50
SCA:							
Scatlake------------	85	Slight		Slight		Poorly suited	
						Ponding	1.00
						Flooding	1.00
						Low strength	1.00
						Stickiness; high plasticity index	0.50
ShA:							
Schriever-----------	85	Slight		Slight		Moderately suited	
						Wetness	0.50
						Low strength	0.50
						Stickiness; high plasticity index	0.50
SIA:							
Schriever-----------	85	Slight		Slight		Poorly suited	
						Flooding	1.00
						Wetness	0.50
						Low strength	0.50
						Stickiness; high plasticity index	0.50
SrA:							
Schriever-----------	85	Slight		Slight		Poorly suited	
						Flooding	1.00
						Wetness	0.50
						Low strength	0.50
						Stickiness; high plasticity index	0.50
TUA:							
Timbalier-----------	85	Very Severe		Very Severe		Poorly suited	
		Organic matter content high	1.00	Organic matter content high	1.00	Ponding	1.00
						Flooding	1.00
						Low strength	1.00
						Wetness	1.00

Table 9.--Hazard of Erosion and Suitability for Roads on Forestland--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
UB:							
Urban land	93	Not rated		Not rated		Not rated	
UD:							
Udorthents	85	Not rated		Not rated		Not rated	
		Not rated		Not rated		Not rated	
		Slope/erodibility	0.50	Slope/erodibility	0.95	Slope	0.50
				Slope/erodibility	0.50		
W:							
Water	100	Not rated		Not rated		Not rated	

Table 10.--Forestland Planting and Harvesting

(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.)

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
AEA:							
Allemands-----------	85	Poorly suited		Poorly suited		Poorly suited	
		Wetness	0.75	Wetness	0.75	Low strength	1.00
						Wetness	1.00
ARA:							
Allemands-----------	45	Poorly suited		Poorly suited		Poorly suited	
		Wetness	0.75	Wetness	0.75	Low strength	1.00
						Wetness	1.00
Carlin--------------	40	Poorly suited		Poorly suited		Poorly suited	
		Wetness	0.75	Wetness	0.75	Low strength	1.00
						Wetness	1.00
ATA:							
Aquents-------------	85	Not rated		Not rated		Not rated	
ATB:							
Aquents-------------	85	Not rated		Not rated		Not rated	
BNA:							
Bancker-------------	85	Poorly suited		Poorly suited		Poorly suited	
		Wetness	0.75	Wetness	0.75	Low strength	1.00
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Wetness	1.00
						Stickiness; high plasticity index	0.50
BOA:							
Bancker-------------	85	Poorly suited		Poorly suited		Poorly suited	
		Wetness	0.75	Wetness	0.75	Low strength	1.00
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Wetness	1.00
BRA:							
Barbary-------------	85	Poorly suited		Poorly suited		Poorly suited	
		Wetness	0.75	Stickiness; high plasticity index	0.75	Low strength	1.00
		Stickiness; high plasticity index	0.75	Wetness	0.75	Wetness	1.00
						Stickiness; high plasticity index	0.50
BSA:							
Bellpass------------	85	Poorly suited		Poorly suited		Poorly suited	
		Wetness	0.75	Wetness	0.75	Low strength	1.00
						Wetness	1.00
CbA:							
Cancienne-----------	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50

Table 10.--Forestland Planting and Harvesting--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
CdA:							
Cancienne	85	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
CeA:							
Cancienne	85	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
CfA:							
Cancienne	85	Well suited		Well suited		Moderately suited	
						Low strength	0.50
CKA:							
Clovelly	85	Poorly suited		Poorly suited		Poorly suited	
		Wetness	0.75	Wetness	0.75	Low strength	1.00
						Wetness	1.00
CLA:							
Clovelly	85	Poorly suited		Poorly suited		Poorly suited	
		Wetness	0.75	Wetness	0.75	Low strength	1.00
						Wetness	1.00
FAA:							
Fausse	85	Poorly suited		Poorly suited		Poorly suited	
		Wetness	0.75	Stickiness; high plasticity index	0.75	Wetness	1.00
		Stickiness; high plasticity index	0.75	Wetness	0.75	Low strength	0.50
						Stickiness; high plasticity index	0.50
FCA:							
Felicity	85	Well suited		Well suited		Well suited	
GaA:							
Gramercy	85	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
GcA:							
Gramercy	45	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
Cancienne	40	Moderately suited		Moderately suited		Moderately suited	
		Stickiness; high plasticity index	0.50	Stickiness; high plasticity index	0.50	Low strength	0.50
HpA:							
Harahan	85	Poorly suited		Poorly suited		Poorly suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	1.00
						Stickiness; high plasticity index	0.50

Table 10.--Forestland Planting and Harvesting--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
KEA:							
Kenner	85	Poorly suited		Poorly suited		Poorly suited	
		Wetness	0.75	Wetness	0.75	Low strength	1.00
						Wetness	1.00
LAA:							
Lafitte	85	Poorly suited		Poorly suited		Poorly suited	
		Wetness	0.75	Wetness	0.75	Low strength	1.00
						Wetness	1.00
LFA:							
Lafitte	85	Poorly suited		Poorly suited		Poorly suited	
		Wetness	0.75	Wetness	0.75	Low strength	1.00
						Wetness	1.00
LRA:							
Larose	85	Poorly suited		Poorly suited		Poorly suited	
		Wetness	0.75	Stickiness; high plasticity index	0.75	Low strength	1.00
		Stickiness; high plasticity index	0.75	Wetness	0.75	Wetness	1.00
MAA:							
Maurepas	85	Poorly suited		Poorly suited		Poorly suited	
		Wetness	0.75	Wetness	0.75	Low strength	1.00
						Wetness	1.00
RTA:							
Rita	85	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Wetness	0.50
						Low strength	0.50
						Stickiness; high plasticity index	0.50
SCA:							
Scatlake	85	Poorly suited		Poorly suited		Poorly suited	
		Wetness	0.75	Wetness	0.75	Low strength	1.00
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Wetness	1.00
						Stickiness; high plasticity index	0.50
ShA:							
Schriever	85	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
						Stickiness; high plasticity index	0.50
SIA:							
Schriever	85	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
						Stickiness; high plasticity index	0.50

Table 10.--Forestland Planting and Harvesting--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
SrA:							
Schriever	85	Poorly suited		Poorly suited		Moderately suited	
		Stickiness; high plasticity index	0.75	Stickiness; high plasticity index	0.75	Low strength	0.50
						Stickiness; high plasticity index	0.50
TUA:							
Timbalier	85	Poorly suited		Poorly suited		Poorly suited	
		Wetness	0.75	Wetness	0.75	Low strength	1.00
						Wetness	1.00
UB:							
Urban land	93	Not rated		Not rated		Not rated	
UD:							
Udorthents	85	Not rated		Not rated		Not rated	
W:							
Water	100	Not rated		Not rated		Not rated	

Table 11.--Forestland Site Preparation

(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.)

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
AEA:					
Allemands	85	Unsuited		Unsuited	
		Wetness	0.75	Wetness	1.00
ARA:					
Allemands	45	Unsuited		Unsuited	
		Wetness	0.75	Wetness	1.00
Carlin	40	Unsuited		Unsuited	
		Wetness	0.75	Wetness	1.00
ATA:					
Aquents	85	Not rated		Not rated	
		Not rated		Not rated	
ATB:					
Aquents	85	Not rated		Not rated	
		Not rated		Not rated	
BNA:					
Bancker	85	Unsuited		Unsuited	
		Wetness	0.75	Wetness	1.00
		Stickiness; high plasticity index	0.50		
BOA:					
Bancker	85	Unsuited		Unsuited	
		Wetness	0.75	Wetness	1.00
		Stickiness; high plasticity index	0.50		
BRA:					
Barbary	85	Unsuited		Unsuited	
		Wetness	0.75	Wetness	1.00
		Stickiness; high plasticity index	0.50		
BSA:					
Bellpass	85	Unsuited		Unsuited	
		Wetness	0.75	Wetness	1.00
CbA:					
Cancienne	85	Well suited		Well suited	
CdA:					
Cancienne	85	Well suited		Well suited	
CeA:					
Cancienne	85	Well suited		Well suited	

Table 11.--Forestland Site Preparation--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
CfA:					
Cancienne	85	Well suited		Well suited	
CKA:					
Clovelly	85	Unsuited		Unsuited	
		Wetness	0.75	Wetness	1.00
CLA:					
Clovelly	85	Unsuited		Unsuited	
		Wetness	0.75	Wetness	1.00
FAA:					
Fausse	85	Unsuited		Unsuited	
		Wetness	0.75	Wetness	1.00
		Stickiness; high plasticity index	0.50		
FCA:					
Felicity	85	Well suited		Well suited	
GaA:					
Gramercy	85	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
GcA:					
Gramercy	45	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
Cancienne	40	Well suited		Well suited	
HpA:					
Harahan	85	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
KEA:					
Kenner	85	Unsuited		Unsuited	
		Wetness	0.75	Wetness	1.00
LAA:					
Lafitte	85	Unsuited		Unsuited	
		Wetness	0.75	Wetness	1.00
LFA:					
Lafitte	85	Unsuited		Unsuited	
		Wetness	0.75	Wetness	1.00
LRA:					
Larose	85	Unsuited		Unsuited	
		Wetness	0.75	Wetness	1.00
		Stickiness; high plasticity index	0.50		

Table 11.--Forestland Site Preparation--Continued

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
MAA:					
Maurepas	85	Unsuited		Unsuited	
		Wetness	0.75	Wetness	1.00
RTA:					
Rita	85	Poorly suited		Unsuited	
		Stickiness; high plasticity index	0.50	Wetness	1.00
SCA:					
Scatlake	85	Unsuited		Unsuited	
		Wetness	0.75	Wetness	1.00
		Stickiness; high plasticity index	0.50		
ShA:					
Schriever	85	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
SIA:					
Schriever	85	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
SrA:					
Schriever	85	Poorly suited		Well suited	
		Stickiness; high plasticity index	0.50		
TUA:					
Timbalier	85	Unsuited		Unsuited	
		Wetness	0.75	Wetness	1.00
UB:					
Urban land	93	Not rated		Not rated	
UD:					
Udorthents	85	Not rated		Not rated	
		Not rated		Not rated	
W:					
Water	100	Not rated		Not rated	

Table 12.--Damage by Fire and Seedling Mortality on Forestland

(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.)

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Potential for damage to soil by fire: Value	Potential for seedling mortality: Rating class and limiting features	Potential for seedling mortality: Value
AEA:					
Allemands-----------	85	Low		High	
				Wetness	1.00
ARA:					
Allemands-----------	45	Low		High	
				Wetness	1.00
Carlin--------------	40	Low		High	
				Wetness	1.00
ATA:					
Aquents-------------	85	Not rated		Not rated	
ATB:					
Aquents-------------	85	Not rated		Not rated	
BNA:					
Bancker-------------	85	Low		High	
				Wetness	1.00
				Salinity	0.50
BOA:					
Bancker-------------	85	Low		High	
				Wetness	1.00
				Salinity	0.50
BRA:					
Barbary-------------	85	Low		High	
				Wetness	1.00
BSA:					
Bellpass------------	85	Low		High	
				Wetness	1.00
				Soil reaction	0.50
CbA:					
Cancienne-----------	85	Low		Low	
		Texture	0.10		
CdA:					
Cancienne-----------	85	Low		Low	
		Texture	0.10		
CeA:					
Cancienne-----------	85	Low		Low	
		Texture	0.10		
CfA:					
Cancienne-----------	85	Low		Low	
		Texture	0.10		

Table 12.--Damage by Fire and Seedling Mortality on Forestland--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
CKA:					
Clovelly------------	85	Low		High	
				Wetness	1.00
CLA:					
Clovelly------------	85	Low		High	
				Wetness	1.00
FAA:					
Fausse--------------	85	Moderate		High	
		Texture/surface depth	0.50	Wetness	1.00
FCA:					
Felicity------------	85	High		High	
		Texture	1.00	Salinity	1.00
				Carbonate content	0.50
GaA:					
Gramercy------------	85	Low		High	
		Texture	0.10	Wetness	1.00
GcA:					
Gramercy------------	45	Moderate		High	
		Texture/surface depth	0.50	Wetness	1.00
Cancienne-----------	40	Low		Low	
		Texture	0.10		
HpA:					
Harahan-------------	85	Moderate		Low	
		Texture	0.50		
KEA:					
Kenner--------------	85	Low		High	
				Wetness	1.00
LAA:					
Lafitte-------------	85	Low		High	
				Wetness	1.00
				Soil reaction	0.50
LFA:					
Lafitte-------------	85	Low		High	
				Wetness	1.00
LRA:					
Larose--------------	85	Low		High	
				Wetness	1.00
MAA:					
Maurepas------------	85	Low		High	
				Wetness	1.00

Table 12.--Damage by Fire and Seedling Mortality on Forestland--Continued

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire: Rating class and limiting features	Potential for damage to soil by fire: Value	Potential for seedling mortality: Rating class and limiting features	Potential for seedling mortality: Value
RTA:					
Rita	85	Low		Low	
SCA:					
Scatlake	85	Low		High	
				Wetness	1.00
				Salinity	1.00
				Soil reaction	0.50
ShA:					
Schriever	85	Moderate		High	
		Texture	0.50	Wetness	1.00
SlA:					
Schriever	85	Moderate		High	
		Texture	0.50	Wetness	1.00
SrA:					
Schriever	85	Moderate		High	
		Texture/surface depth	0.50	Wetness	1.00
TUA:					
Timbalier	85	Low		High	
				Wetness	1.00
				Soil reaction	0.50
UB:					
Urban land	93	Not rated		Not rated	
UD:					
Udorthents	85	Not rated		Not rated	
W:					
Water	100	Not rated		Not rated	

Table 13.--Windbreaks and Environmental Plantings

(Absence of an entry indicates that trees generally do not grow to the given height.)

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
AEA:					
Allemands	---	---	---	---	buttonbush
ARA:					
Allemands	---	---	---	---	buttonbush
Carlin	---	---	---	---	---
ATA:					
Aquents	---	---	---	---	---
ATB:					
Aquents	---	---	---	---	---
BNA:					
Bancker	---	---	---	---	---
BOA:					
Bancker	---	---	---	---	---
BRA:					
Barbary	---	---	---	---	---
BSA:					
Bellpass	---	---	---	---	---
CbA:					
Cancienne	---	Amur honeysuckle; Amur maple; autumn olive; possumhaw	eastern redcedar; Virginia pine	cherrybark oak; green ash; pecan; sweetgum	baldcypress; loblolly pine
CdA:					
Cancienne	---	Amur honeysuckle; Amur maple; autumn olive; possumhaw	eastern redcedar; Virginia pine	cherrybark oak; green ash; pecan; sweetgum	baldcypress; loblolly pine
CeA:					
Cancienne	---	Amur honeysuckle; Amur maple; autumn olive; possumhaw	eastern redcedar; Virginia pine	cherrybark oak; green ash; pecan; sweetgum	baldcypress; loblolly pine

Table 13.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of--				
	<8	8-15	16-25	26-35	>35
CfA:					
Cancienne	---	Amur honeysuckle; Amur maple; autumn olive; possumhaw	eastern redcedar; Virginia pine	cherrybark oak; green ash; pecan; sweetgum	baldcypress; loblolly pine
CKA:					
Clovelly	---	---	---	---	---
CLA:					
Clovelly	---	---	---	---	---
FAA:					
Fausse	---	---	---	---	---
FCA:					
Felicity	---	---	---	---	---
GaA:					
Gramercy	buttonbush; silky dogwood	Amur honeysuckle	eastern redcedar	baldcypress; green ash; loblolly pine; water oak	American sycamore; eastern cottonwood; pin oak; sweetgum
GcA:					
Gramercy	buttonbush; silky dogwood	Amur honeysuckle	eastern redcedar	baldcypress; green ash; loblolly pine; water oak	American sycamore; eastern cottonwood; pin oak; sweetgum
Cancienne	---	Amur honeysuckle; Amur maple; autumn olive; possumhaw	eastern redcedar; Virginia pine	cherrybark oak; green ash; pecan; sweetgum	baldcypress; loblolly pine
HpA:					
Harahan	---	---	---	---	---
KEA:					
Kenner	---	---	---	---	---
LAA:					
Lafitte	---	---	---	---	---
LFA:					
Lafitte	---	---	---	---	---

Table 13.--Windbreaks and Environmental Plantings--Continued

Map symbol and soil name	Trees having predicted 20-year average height, in feet, of-- <8	8-15	16-25	26-35	>35
LRA:					
Larose	---	---	---	---	---
MAA:					
Maurepas	---	---	---	---	---
RTA:					
Rita	---	---	---	---	---
SCA:					
Scatlake	---	---	---	---	---
ShA:					
Schriever	---	---	---	---	---
SIA:					
Schriever	---	---	---	---	---
SrA:					
Schriever	---	---	---	---	---
TUA:					
Timbalier	---	---	---	---	---
UB:					
Urban Land	---	---	---	---	---
UD:					
Udorthents	---	---	---	---	---
W:					
Water	---	---	---	---	---

Table 14.--Camp Areas, Picnic Areas, and Playgrounds

(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.)

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
AEA:							
Allemands-----------	85	Not rated		Not rated		Not rated	
ARA:							
Allemands-----------	45	Not rated		Not rated		Not rated	
Carlin--------------	40	Not rated		Not rated		Not rated	
ATA:							
Aquents-------------	85	Not rated		Not rated		Not rated	
ATB:							
Aquents-------------	85	Not rated		Not rated		Not rated	
BNA:							
Bancker-------------	85	Not rated		Not rated		Not rated	
BOA:							
Bancker-------------	85	Not rated		Not rated		Not rated	
BRA:							
Barbary-------------	85	Not rated		Not rated		Not rated	
BSA:							
Bellpass------------	85	Not rated		Not rated		Not rated	
CbA:							
Cancienne-----------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
CdA:							
Cancienne-----------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
CeA:							
Cancienne-----------	85	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Restricted permeability	0.21	Flooding	0.60
		Restricted permeability	0.21			Restricted permeability	0.21
CfA:							
Cancienne-----------	85	Very limited		Somewhat limited		Somewhat limited	
		Flooding	1.00	Restricted permeability	0.21	Flooding	0.60
		Restricted permeability	0.21			Restricted permeability	0.21
CKA:							
Clovelly------------	85	Not rated		Not rated		Not rated	

Table 14.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
CLA:							
Clovelly	85	Not rated		Not rated		Not rated	
FAA:							
Fausse	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Too clayey	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Ponding	1.00	Too clayey	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Too clayey	1.00	Restricted permeability	1.00	Ponding	1.00
		Restricted permeability	1.00	Flooding	0.40	Restricted permeability	1.00
FCA:							
Felicity	85	Not rated		Not rated		Not rated	
GaA:							
Gramercy	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Restricted permeability	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Depth to saturated zone	0.99	Restricted permeability	1.00
		Restricted permeability	1.00				
GcA:							
Gramercy	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Restricted permeability	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Depth to saturated zone	0.99	Restricted permeability	1.00
		Restricted permeability	1.00				
Cancienne	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Restricted permeability	0.21	Restricted permeability	0.21	Restricted permeability	0.21
HpA:							
Harahan	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Too clayey	1.00	Too clayey	1.00
		Too clayey	1.00	Restricted permeability	1.00	Restricted permeability	1.00
		Restricted permeability	1.00	Depth to saturated zone	0.19	Flooding	0.60
		Depth to saturated zone	0.39			Depth to saturated zone	0.39
KEA:							
Kenner	85	Not rated		Not rated		Not rated	
LAA:							
Lafitte	85	Not rated		Not rated		Not rated	

Table 14.--Camp Areas, Picnic Areas, and Playgrounds--Continued

Map symbol and soil name	Pct. of map unit	Camp areas: Rating class and limiting features	Camp areas: Value	Picnic areas: Rating class and limiting features	Picnic areas: Value	Playgrounds: Rating class and limiting features	Playgrounds: Value
LFA:							
Lafitte	85	Not rated		Not rated		Not rated	
LRA:							
Larose	85	Not rated		Not rated		Not rated	
MAA:							
Maurepas	85	Not rated		Not rated		Not rated	
RTA:							
Rita	85	Not rated		Not rated		Not rated	
SCA:							
Scatlake	85	Not rated		Not rated		Not rated	
ShA:							
Schriever	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Restricted permeability	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Too clayey	1.00	Restricted permeability	1.00
		Restricted permeability	1.00	Depth to saturated zone	0.99	Too clayey	1.00
		Too clayey	1.00				
SIA:							
Schriever	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Restricted permeability	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Too clayey	1.00	Flooding	1.00
		Restricted permeability	1.00	Depth to saturated zone	0.99	Restricted permeability	1.00
		Too clayey	1.00	Flooding	0.40	Too clayey	1.00
SrA:							
Schriever	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Restricted permeability	1.00	Depth to saturated zone	1.00
		Flooding	1.00	Too clayey	1.00	Restricted permeability	1.00
		Restricted permeability	1.00	Depth to saturated zone	0.99	Too clayey	1.00
		Too clayey	1.00			Flooding	0.60
TUA:							
Timbalier	85	Not rated		Not rated		Not rated	
UB:							
Urban Land	93	Not rated		Not rated		Not rated	
UD:							
Udorthents	85	Not rated		Not rated		Not rated	
W:							
Water	100	Not rated		Not rated		Not rated	

Table 15.--Paths, Trails, and Golf Course Fairways

(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.)

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf course fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AEA:							
Allemands-----------	85	Not rated		Not rated		Not rated	
ARA:							
Allemands-----------	45	Not rated		Not rated		Not rated	
Carlin--------------	40	Not rated		Not rated		Not rated	
ATA:							
Aquents-------------	85	Not rated		Not rated		Not rated	
ATB:							
Aquents-------------	85	Not rated		Not rated		Not rated	
BNA:							
Bancker-------------	85	Not rated		Not rated		Not rated	
BOA:							
Bancker-------------	85	Not rated		Not rated		Not rated	
BRA:							
Barbary-------------	85	Not rated		Not rated		Not rated	
BSA:							
Bellpass------------	85	Not rated		Not rated		Not rated	
CbA:							
Cancienne-----------	85	Not limited		Not limited		Not limited	
CdA:							
Cancienne-----------	85	Not limited		Not limited		Not limited	
CeA:							
Cancienne-----------	85	Not limited		Not limited		Somewhat limited	
						Flooding	0.60
CfA:							
Cancienne-----------	85	Not limited		Not limited		Somewhat limited	
						Flooding	0.60
CKA:							
Clovelly------------	85	Not rated		Not rated		Not rated	
CLA:							
Clovelly------------	85	Not rated		Not rated		Not rated	

Table 15.--Paths, Trails, and Golf Course Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails		Off-road motorcycle trails		Golf course fairways	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
FAA:							
Fausse	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00	Too clayey	1.00	Ponding	1.00
		Ponding	1.00	Ponding	1.00	Flooding	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	1.00
FCA:							
Felicity	85	Not rated		Not rated		Not rated	
GaA:							
Gramercy	85	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.99	Depth to saturated zone	0.99
GcA:							
Gramercy	45	Somewhat limited		Somewhat limited		Very limited	
		Depth to saturated zone	0.99	Depth to saturated zone	0.99	Depth to saturated zone	0.99
Cancienne	40	Not limited		Not limited		Not limited	
HpA:							
Harahan	85	Very limited		Very limited		Very limited	
		Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
						Flooding	0.60
						Depth to saturated zone	0.19
KEA:							
Kenner	85	Not rated		Not rated		Not rated	
LAA:							
Lafitte	85	Not rated		Not rated		Not rated	
LFA:							
Lafitte	85	Not rated		Not rated		Not rated	
LRA:							
Larose	85	Not rated		Not rated		Not rated	
MAA:							
Maurepas	85	Not rated		Not rated		Not rated	
RTA:							
Rita	85	Not rated		Not rated		Not rated	
SCA:							
Scatlake	85	Not rated		Not rated		Not rated	

Table 15.--Paths, Trails, and Golf Course Fairways--Continued

Map symbol and soil name	Pct. of map unit	Paths and trails: Rating class and limiting features	Paths and trails: Value	Off-road motorcycle trails: Rating class and limiting features	Off-road motorcycle trails: Value	Golf course fairways: Rating class and limiting features	Golf course fairways: Value
ShA:							
Schriever-----------	85	Very limited		Very limited		Very limited	
		Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.99	Depth to saturated zone	0.99
SIA:							
Schriever-----------	85	Very limited		Very limited		Very limited	
		Too clayey	1.00	Too clayey	1.00	Flooding	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.99	Too clayey	1.00
		Flooding	0.40	Flooding	0.40	Depth to saturated zone	0.99
SrA:							
Schriever-----------	85	Very limited		Very limited		Very limited	
		Too clayey	1.00	Too clayey	1.00	Too clayey	1.00
		Depth to saturated zone	0.99	Depth to saturated zone	0.99	Depth to saturated zone	0.99
						Flooding	0.60
TUA:							
Timbalier-----------	85	Not rated		Not rated		Not rated	
UB:							
Urban Land----------	93	Not rated		Not rated		Not rated	
UD:							
Udorthents----------	85	Not rated		Not rated		Not rated	
W:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 16.--Grain and Seed Crops and Domestic Grasses and Legumes for Wildlife Habitat

(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	Grain and seed crops for food and cover		Domestic grasses and legumes for food and cover	
		Rating class and limiting features	Value	Rating class and limiting features	Value
AEA:					
Allemands	85	Not rated		Not rated	
ARA:					
Allemands	45	Not rated		Not rated	
Carlin	40	Not rated		Not rated	
ATA:					
Aquents	85	Not rated		Not rated	
ATB:					
Aquents	85	Not rated		Not rated	
BNA:					
Bancker	85	Not rated		Not rated	
BOA:					
Bancker	85	Not rated		Not rated	
BRA:					
Barbary	85	Not rated		Not rated	
BSA:					
Bellpass	85	Not rated		Not rated	
CbA:					
Cancienne	85	Somewhat limited		Somewhat limited	
		Wetness	0.04	Wetness	0.04
CdA:					
Cancienne	85	Somewhat limited		Somewhat limited	
		Too clayey	0.43	Too clayey	0.43
		Wetness	0.04	Wetness	0.04
CeA:					
Cancienne	85	Somewhat limited		Somewhat limited	
		Flooding	0.50	Flooding	0.50
		Too clayey	0.43	Too clayey	0.43
		Wetness	0.04	Wetness	0.04
CfA:					
Cancienne	85	Somewhat limited		Somewhat limited	
		Flooding	0.50	Flooding	0.50
		Wetness	0.04	Wetness	0.04
CKA:					
Clovelly	85	Not rated		Not rated	

Table 16.--Grain and Seed Crops and Domestic Grasses and Legumes for Wildlife Habitat--Continued

Map symbol and soil name	Pct. of map unit	Grain and seed crops for food and cover		Domestic grasses and legumes for food and cover	
		Rating class and limiting features	Value	Rating class and limiting features	Value
CLA:					
Clovelly------------	85	Not rated		Not rated	
FAA:					
Fausse--------------	85	Very limited		Very limited	
		Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00
		Wetness	1.00	Wetness	1.00
		Too clayey	1.00	Too clayey	1.00
		Percs slowly	0.50	Percs slowly	0.50
FCA:					
Felicity------------	85	Very limited		Very limited	
		Excess salt	1.00	Excess salt	1.00
		Droughty	1.00	Droughty	0.99
		Flooding	0.50	Too sandy	0.50
		Too sandy	0.50	Flooding	0.50
		Wetness	0.19	Wetness	0.19
GaA:					
Gramercy------------	85	Very limited		Very limited	
		Wetness	1.00	Wetness	1.00
		Percs slowly	0.50	Percs slowly	0.50
		Too clayey	0.43	Too clayey	0.43
GcA:					
Gramercy------------	45	Very limited		Very limited	
		Wetness	1.00	Wetness	1.00
		Percs slowly	0.50	Percs slowly	0.50
		Too clayey	0.43	Too clayey	0.43
Cancienne-----------	40	Somewhat limited		Somewhat limited	
		Too clayey	0.43	Too clayey	0.43
		Wetness	0.04	Wetness	0.04
HpA:					
Harahan-------------	85	Very limited		Very limited	
		Too clayey	1.00	Too clayey	1.00
		Wetness	0.75	Wetness	0.75
		Flooding	0.50	Flooding	0.50
		Percs slowly	0.50	Percs slowly	0.50
KEA:					
Kenner--------------	85	Not rated		Not rated	
LAA:					
Lafitte-------------	85	Not rated		Not rated	
LFA:					
Lafitte-------------	85	Not rated		Not rated	
LRA:					
Larose--------------	85	Not rated		Not rated	
MAA:					
Maurepas------------	85	Not rated		Not rated	

Table 16.--Grain and Seed Crops and Domestic Grasses and Legumes for Wildlife Habitat--Continued

Map symbol and soil name	Pct. of map unit	Grain and seed crops for food and cover		Domestic grasses and legumes for food and cover	
		Rating class and limiting features	Value	Rating class and limiting features	Value
RTA:					
Rita	85	Not rated		Not rated	
SCA:					
Scatlake	85	Not rated		Not rated	
ShA:					
Schriever	85	Very limited		Very limited	
		Wetness	1.00	Wetness	1.00
		Too clayey	1.00	Too clayey	1.00
		Droughty	0.82	Percs slowly	0.50
		Percs slowly	0.50		
SIA:					
Schriever	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Wetness	1.00	Wetness	1.00
		Too clayey	1.00	Too clayey	1.00
		Droughty	0.74	Percs slowly	0.50
		Percs slowly	0.50		
SrA:					
Schriever	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Wetness	1.00	Wetness	1.00
		Too clayey	1.00	Too clayey	1.00
		Droughty	0.84	Percs slowly	0.50
		Percs slowly	0.50		
TUA:					
Timbalier	85	Not rated		Not rated	
UB:					
Urban land	93	Not rated		Not rated	
UD:					
Udorthents	85	Not rated		Not rated	
W:					
Water	100	Not rated		Not rated	

Table 17.--Upland Wild Herbaceous Plants and Upland Shrubs and Vines for Wildlife Habitat.

(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	Upland wild herbaceous plants		Upland shrubs and vines	
		Rating class and limiting features	Value	Rating class and limiting features	Value
AEA:					
Allemands	85	Not rated		Not rated	
ARA:					
Allemands	45	Not rated		Not rated	
Carlin	40	Not rated		Not rated	
ATA:					
Aquents	85	Not rated		Not rated	
ATB:					
Aquents	85	Not rated		Not rated	
BNA:					
Bancker	85	Not rated		Not rated	
BOA:					
Bancker	85	Not rated		Not rated	
BRA:					
Barbary	85	Not rated		Not rated	
BSA:					
Bellpass	85	Not rated		Not rated	
CbA:					
Cancienne	85	Somewhat limited		Somewhat limited	
		Wetness	0.04	Extreme soil temperatures	0.50
				Wetness	0.04
CdA:					
Cancienne	85	Somewhat limited		Somewhat limited	
		Too clayey	0.43	Extreme soil temperatures	0.50
		Wetness	0.04	Too clayey	0.43
				Wetness	0.04
CeA:					
Cancienne	85	Somewhat limited		Somewhat limited	
		Too clayey	0.43	Extreme soil temperatures	0.50
		Wetness	0.04	Too clayey	0.43
				Wetness	0.04

Table 17.--Upland Wild Herbaceous Plants and Upland Shrubs and Vines for Wildlife Habitat--Continued.

Map symbol and soil name	Pct. of map unit	Upland wild herbaceous plants: Rating class and limiting features	Value	Upland shrubs and vines: Rating class and limiting features	Value
CfA:					
Cancienne	85	Somewhat limited		Somewhat limited	
		Wetness	0.04	Extreme soil temperatures	0.50
				Wetness	0.04
CKA:					
Clovelly	85	Not rated		Not rated	
CLA:					
Clovelly	85	Not rated		Not rated	
FAA:					
Fausse	85	Very limited		Very limited	
		Wetness	1.00	Too clayey	1.00
		Too clayey	1.00	Wetness	1.00
				Extreme soil temperatures	0.50
FCA:					
Felicity	85	Very limited		Very limited	
		Excess salt	1.00	Excess salt	1.00
		Droughty	0.99	Droughty	0.99
		Too sandy	0.50	Extreme soil temperatures	0.50
		Wetness	0.19	Wetness	0.19
GaA:					
Gramercy	85	Very limited		Very limited	
		Wetness	1.00	Wetness	1.00
		Too clayey	0.43	Extreme soil temperatures	0.50
				Too clayey	0.43
GcA:					
Gramercy	45	Very limited		Very limited	
		Wetness	1.00	Wetness	1.00
		Too clayey	0.43	Extreme soil temperatures	0.50
				Too clayey	0.43
Cancienne	40	Somewhat limited		Somewhat limited	
		Too clayey	0.43	Extreme soil temperatures	0.50
		Wetness	0.04	Too clayey	0.43
				Wetness	0.04

Table 17.--Upland Wild Herbaceous Plants and Upland Shrubs and Vines for Wildlife Habitat--Continued.

Map symbol and soil name	Pct. of map unit	Upland wild herbaceous plants		Upland shrubs and vines	
		Rating class and limiting features	Value	Rating class and limiting features	Value
HpA:					
Harahan	85	Very limited		Very limited	
		Too clayey	1.00	Too clayey	1.00
		Wetness	0.75	Wetness	0.75
				Extreme soil temperatures	0.50
KEA:					
Kenner	85	Not rated		Not rated	
LAA:					
Lafitte	85	Not rated		Not rated	
LFA:					
Lafitte	85	Not rated		Not rated	
LRA:					
Larose	85	Not rated		Not rated	
MAA:					
Maurepas	85	Not rated		Not rated	
RTA:					
Rita	85	Not rated		Not rated	
SCA:					
Scatlake	85	Not rated		Not rated	
ShA:					
Schriever	85	Very limited		Very limited	
		Wetness	1.00	Too clayey	1.00
		Too clayey	1.00	Wetness	1.00
				Extreme soil temperatures	0.50
SIA:					
Schriever	85	Very limited		Very limited	
		Wetness	1.00	Too clayey	1.00
		Too clayey	1.00	Wetness	1.00
				Extreme soil temperatures	0.50
SrA:					
Schriever	85	Very limited		Very limited	
		Wetness	1.00	Too clayey	1.00
		Too clayey	1.00	Wetness	1.00
				Extreme soil temperatures	0.50

Table 17.--Upland Wild Herbaceous Plants and Upland Shrubs and Vines for Wildlife Habitat--Continued.

Map symbol and soil name	Pct. of map unit	Upland wild herbaceous plants		Upland shrubs and vines	
		Rating class and limiting features	Value	Rating class and limiting features	Value
TUA:					
Timbalier	85	Not rated		Not rated	
UB:					
Urban land	93	Not rated		Not rated	
UD:					
Udorthents	85	Not rated		Not rated	
W:					
Water	100	Not rated		Not rated	

Table 18.--Upland Deciduous Trees and Upland Mixed Deciduous and Coniferous Trees for Wildlife Habitat.

(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	Upland deciduous trees		Upland mixed deciduous and coniferous trees	
		Rating class and limiting features	Value	Rating class and limiting features	Value
AEA:					
Allemands-----------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Growing season wetness	1.00
ARA:					
Allemands-----------	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Growing season wetness	1.00
Carlin--------------	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Growing season wetness	1.00
ATA:					
Aquents-------------	85	Not rated		Not rated	
ATB:					
Aquents-------------	85	Not rated		Not rated	
BNA:					
Bancker-------------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Growing season wetness	1.00
BOA:					
Bancker-------------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Growing season wetness	1.00
BRA:					
Barbary-------------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Growing season wetness	1.00

Table 18.--Upland Deciduous Trees and Upland Mixed Deciduous and Coniferous Trees for Wildlife Habitat--Continued.

Map symbol and soil name	Pct. of map unit	Upland deciduous trees: Rating class and limiting features	Value	Upland mixed deciduous and coniferous trees: Rating class and limiting features	Value
BSA:					
Bellpass-----------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Growing season wetness	1.00
CbA:					
Cancienne----------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Growing season wetness	1.00
CdA:					
Cancienne----------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Growing season wetness	1.00
CeA:					
Cancienne----------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Growing season wetness	1.00
CfA:					
Cancienne----------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Growing season wetness	1.00
CKA:					
Clovelly-----------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Growing season wetness	1.00
CLA:					
Clovelly-----------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Growing season wetness	1.00
FAA:					
Fausse-------------	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Growing season wetness	1.00

Table 18.--Upland Deciduous Trees and Upland Mixed Deciduous and Coniferous Trees for Wildlife Habitat--Continued.

Map symbol and soil name	Pct. of map unit	Upland deciduous trees: Rating class and limiting features	Value	Upland mixed deciduous and coniferous trees: Rating class and limiting features	Value
FCA:					
Felicity	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Droughty	0.99	Growing season wetness	1.00
				Droughty	0.99
GaA:					
Gramercy	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Growing season wetness	1.00
GcA:					
Gramercy	45	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Growing season wetness	1.00
Cancienne	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Growing season wetness	1.00
HpA:					
Harahan	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Growing season wetness	1.00
KEA:					
Kenner	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Growing season wetness	1.00
LAA:					
Lafitte	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Growing season wetness	1.00
LFA:					
Lafitte	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Growing season wetness	1.00

Table 18.--Upland Deciduous Trees and Upland Mixed Deciduous and Coniferous Trees for Wildlife Habitat--Continued.

Map symbol and soil name	Pct. of map unit	Upland deciduous trees: Rating class and limiting features	Value	Upland mixed deciduous and coniferous trees: Rating class and limiting features	Value
LRA:					
Larose	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Growing season wetness	1.00
MAA:					
Maurepas	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Growing season wetness	1.00
RTA:					
Rita	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Growing season wetness	1.00
SCA:					
Scatlake	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Growing season wetness	1.00
ShA:					
Schriever	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Growing season wetness	1.00
SIA:					
Schriever	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Growing season wetness	1.00
SrA:					
Schriever	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Growing season wetness	1.00
TUA:					
Timbalier	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Growing season wetness	1.00

Table 18.--Upland Deciduous Trees and Upland Mixed Deciduous and Coniferous Trees for Wildlife Habitat--Continued.

Map symbol and soil name	Pct. of map unit	Upland deciduous trees		Upland mixed deciduous and coniferous trees	
		Rating class and limiting features	Value	Rating class and limiting features	Value
UB:					
Urban land----------	93	Not rated		Not rated	
UD:					
Udorthents----------	85	Not rated		Not rated	
W:					
Water---------------	100	Not rated		Not rated	

Table 19.--Riparian Herbaceous Plants, Shrubs, Vines, and Trees and Freshwater Wetland Plants for Wildlife Habitat--Continued.

(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	Riparian herbaceous plants: Rating class and limiting features	Value	Riparian shrubs, vines, and trees: Rating class and limiting features	Value	Freshwater wetland plants: Rating class and limiting features	Value
AEA:							
Allemands	85	Not rated		Very limited		Somewhat limited	
				Flooding	1.00	Ponding	0.50
				Ponding	1.00	Excess sodium	0.04
						Excess salt	0.01
ARA:							
Allemands	45	Not rated		Very limited		Somewhat limited	
				Flooding	1.00	Ponding	0.50
				Ponding	1.00	Excess sodium	0.04
						Excess salt	0.01
Carlin	40	Not rated		Very limited		Somewhat limited	
				Flooding	1.00	Excess humus	0.50
				Ponding	1.00	Ponding	0.50
						Excess salt	0.01
ATA:							
Aquents	85	Not rated		Not rated		Not rated	
ATB:							
Aquents	85	Not rated		Not rated		Not rated	
BNA:							
Bancker	85	Not rated		Very limited		Very limited	
				Flooding	1.00	Excess salt	1.00
				Ponding	1.00	Ponding	0.50
				Excess salt	0.52	Excess sodium	0.04
BOA:							
Bancker	85	Not rated		Very limited		Very limited	
				Flooding	1.00	Excess salt	1.00
				Ponding	1.00	Ponding	0.50
				Excess salt	0.52	Excess sodium	0.04
BRA:							
Barbary	85	Not rated		Very limited		Somewhat limited	
				Flooding	1.00	Ponding	0.50
				Ponding	1.00	Too acid	0.22
BSA:							
Bellpass	85	Not rated		Very limited		Very limited	
				Flooding	1.00	Excess salt	1.00
				Ponding	1.00	Ponding	0.50
				Excess salt	1.00		

Table 19.--Riparian Herbaceous Plants, Shrubs, Vines and Trees and Freshwater Wetland Plants for Wildlife Habitat--Continued.

Map symbol and soil name	Pct. of map unit	Riparian herbaceous plants: Rating class and limiting features	Value	Riparian shrubs, vines, and trees: Rating class and limiting features	Value	Freshwater wetland plants: Rating class and limiting features	Value
CbA:							
Cancienne-----------	85	Very limited		Not limited		Somewhat limited	
		Infrequent flooding	1.00			Too dry	0.98
		Too dry	0.98			Too acid	0.22
CdA:							
Cancienne-----------	85	Very limited		Not limited		Somewhat limited	
		Infrequent flooding	1.00			Too dry	0.98
		Too dry	0.98				
CeA:							
Cancienne-----------	85	Very limited		Not limited		Somewhat limited	
		Infrequent flooding	1.00			Too dry	0.98
		Too dry	0.98				
CfA:							
Cancienne-----------	85	Very limited		Not limited		Somewhat limited	
		Infrequent flooding	1.00			Too dry	0.98
		Too dry	0.98				
CKA:							
Clovelly------------	85	Not rated		Very limited		Very limited	
				Flooding	1.00	Excess salt	1.00
				Ponding	1.00	Ponding	0.50
				Excess salt	0.52	Excess sodium	0.37
CLA:							
Clovelly------------	85	Not rated		Very limited		Very limited	
				Flooding	1.00	Excess salt	1.00
				Ponding	1.00	Ponding	0.50
				Excess salt	0.14	Excess sodium	0.37
FAA:							
Fausse--------------	85	Very limited		Very limited		Somewhat limited	
		Ponding	1.00	Flooding	1.00	Ponding	0.50
		Long flooding	1.00	Ponding	1.00		
FCA:							
Felicity------------	85	Very limited		Very limited		Very limited	
		Excess salt	1.00	Excess salt	1.00	Excess salt	1.00
		Too dry	0.89	Droughty	0.99	Too dry	0.89
		Too sandy	0.50				
GaA:							
Gramercy------------	85	Very limited		Not limited		Somewhat limited	
		Infrequent flooding	1.00			Too dry	0.01
		Too dry	0.01				

Table 19.--Riparian Herbaceous Plants, Shrubs, Vines and Trees and Freshwater Wetland Plants for Wildlife Habitat--Continued.

Map symbol and soil name	Pct. of map unit	Riparian herbaceous plants: Rating class and limiting features	Value	Riparian shrubs, vines, and trees: Rating class and limiting features	Value	Freshwater wetland plants: Rating class and limiting features	Value
GcA:							
Gramercy------------	45	Very limited		Not limited		Somewhat limited	
		Infrequent flooding	1.00			Too dry	0.01
		Too dry	0.01				
Cancienne-----------	40	Very limited		Not limited		Somewhat limited	
		Infrequent flooding	1.00			Too dry	0.98
		Too dry	0.98				
HpA:							
Harahan-------------	85	Very limited		Not limited		Somewhat limited	
		Infrequent flooding	1.00			Too dry	0.53
		Too dry	0.53				
KEA:							
Kenner--------------	85	Not rated		Very limited		Somewhat limited	
				Flooding	1.00	Ponding	0.50
				Ponding	1.00		
LAA:							
Lafitte-------------	85	Not rated		Very limited		Very limited	
				Flooding	1.00	Excess salt	1.00
				Ponding	1.00	Ponding	0.50
				Excess salt	0.52	Excess sodium	0.04
LFA:							
Lafitte-------------	85	Not rated		Very limited		Very limited	
				Flooding	1.00	Excess salt	1.00
				Ponding	1.00	Ponding	0.50
				Excess salt	0.14	Excess sodium	0.04
LRA:							
Larose--------------	85	Not rated		Very limited		Somewhat limited	
				Flooding	1.00	Ponding	0.50
				Ponding	1.00	Excess sodium	0.04
MAA:							
Maurepas------------	85	Not rated		Very limited		Somewhat limited	
				Flooding	1.00	Ponding	0.50
				Ponding	1.00	Excess salt	0.01
RTA:							
Rita----------------	85	Not rated		Not limited		Somewhat limited	
						Too dry	0.53
						Too acid	0.14
						Excess salt	0.01
SCA:							
Scatlake------------	85	Not rated		Very limited		Very limited	
				Flooding	1.00	Excess salt	1.00
				Ponding	1.00	Excess sodium	1.00
				Excess salt	1.00	Ponding	0.50
				Excess sodium	0.05		

Table 19.--Riparian Herbaceous Plants, Shrubs, Vines and Trees and Freshwater Wetland Plants for Wildlife Habitat--Continued.

Map symbol and soil name	Pct. of map unit	Riparian herbaceous plants		Riparian shrubs, vines, and trees		Freshwater wetland plants	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
ShA:							
Schriever-----------	85	Very limited		Not limited		Somewhat limited	
		Infrequent flooding	1.00			Too dry	0.01
		Too dry	0.01				
SIA:							
Schriever-----------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Long flooding	0.50	Flooding	0.50	Too dry	0.01
		Too dry	0.01				
SrA:							
Schriever-----------	85	Very limited		Somewhat limited		Somewhat limited	
		Infrequent flooding	1.00	Flooding	0.50	Too dry	0.01
		Long flooding	0.50				
		Too dry	0.01				
TUA:							
Timbalier-----------	85	Not rated		Very limited		Very limited	
				Flooding	1.00	Excess salt	1.00
				Ponding	1.00	Ponding	0.50
				Excess salt	1.00		
UB:							
Urban land----------	93	Not rated		Not rated		Not rated	
UD:							
Udorthents----------	85	Not rated		Not rated		Not rated	
W:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 20.--Dwellings and Small Commercial Buildings

(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.)

Map symbol and soil name	Pct. of map unit	Dwellings without basements		Dwellings with basements		Small commercial buildings	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AEA:							
Allemands-----------	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Content of organic matter	1.00			Content of organic matter	1.00
ARA:							
Allemands-----------	45	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
Carlin--------------	40	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Content of organic matter	1.00	Content of organic matter	1.00	Content of organic matter	1.00
ATA:							
Aquents-------------	85	Not rated		Not rated		Not rated	
ATB:							
Aquents-------------	85	Not rated		Not rated		Not rated	
BNA:							
Bancker-------------	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
BOA:							
Bancker-------------	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 20.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
BRA:							
Barbary-------------	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Content of organic matter	1.00	Content of organic matter	1.00	Content of organic matter	1.00
BSA:							
Bellpass------------	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Content of organic matter	1.00			Content of organic matter	1.00
CbA:							
Cancienne-----------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
				Shrink-swell	0.50		
CdA:							
Cancienne-----------	85	Not limited		Somewhat limited		Not limited	
				Depth to saturated zone	0.99		
CeA:							
Cancienne-----------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
				Shrink-swell	0.50		
CfA:							
Cancienne-----------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
				Shrink-swell	0.50		
CKA:							
Clovelly------------	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Content of organic matter	1.00			Content of organic matter	1.00

Table 20.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
CLA:							
Clovelly	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Content of organic matter	1.00			Content of organic matter	1.00
FAA:							
Fausse	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
FCA:							
Felicity	85	Not rated		Not rated		Not rated	
GaA:							
Gramercy	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
GcA:							
Gramercy	45	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	0.50	Shrink-swell	1.00
Cancienne	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Shrink-swell	0.50	Depth to saturated zone	0.99	Shrink-swell	0.50
				Shrink-swell	0.50		
HpA:							
Harahan	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.39			Depth to saturated zone	0.39
KEA:							
Kenner	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Content of organic matter	1.00	Content of organic matter	1.00	Content of organic matter	1.00

Table 20.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
LAA:							
Lafitte	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Content of organic matter	1.00	Content of organic matter	1.00	Content of organic matter	1.00
LFA:							
Lafitte	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Content of organic matter	1.00			Content of organic matter	1.00
LRA:							
Larose	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Content of organic matter	1.00	Content of organic matter	1.00	Content of organic matter	1.00
MAA:							
Maurepas	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Content of organic matter	1.00	Content of organic matter	1.00	Content of organic matter	1.00
RTA:							
Rita	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Shrink-swell	1.00	Depth to saturated zone	1.00	Shrink-swell	1.00
		Depth to saturated zone	0.39			Depth to saturated zone	0.39
SCA:							
Scatlake	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00

Table 20.--Dwellings and Small Commercial Buildings--Continued

Map symbol and soil name	Pct. of map unit	Dwellings without basements: Rating class and limiting features	Value	Dwellings with basements: Rating class and limiting features	Value	Small commercial buildings: Rating class and limiting features	Value
ShA:							
Schriever-----------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
SIA:							
Schriever-----------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
SrA:							
Schriever-----------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Shrink-swell	1.00	Shrink-swell	1.00	Shrink-swell	1.00
TUA:							
Timbalier-----------	85	Very limited		Very limited		Very limited	
		Ponding	1.00	Ponding	1.00	Ponding	1.00
		Subsidence	1.00	Subsidence	1.00	Subsidence	1.00
		Flooding	1.00	Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Content of organic matter	1.00	Content of organic matter	1.00	Content of organic matter	1.00
UB:							
Urban Land----------	93	Not rated		Not rated		Not rated	
UD:							
Udorthents----------	85	Not rated		Not rated		Not rated	
W:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 21.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping

(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.)

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AEA:							
Allemands	85	Very limited		Very limited		Not rated	
		Ponding	1.00	Ponding	1.00		
		Depth to saturated zone	1.00	Flooding	1.00		
		Subsidence	1.00	Depth to saturated zone	1.00		
		Flooding	1.00	Too clayey	1.00		
				Content of organic matter	1.00		
ARA:							
Allemands	45	Very limited		Very limited		Not rated	
		Ponding	1.00	Ponding	1.00		
		Depth to saturated zone	1.00	Flooding	1.00		
		Subsidence	1.00	Depth to saturated zone	1.00		
		Flooding	1.00	Too clayey	1.00		
		Low strength	1.00	Content of organic matter	1.00		
Carlin	40	Very limited		Very limited		Not rated	
		Ponding	1.00	Ponding	1.00		
		Depth to saturated zone	1.00	Flooding	1.00		
		Subsidence	1.00	Depth to saturated zone	1.00		
		Flooding	1.00	Content of organic matter	1.00		
				Cutbanks cave	0.10		
ATA:							
Aquents	85	Not rated		Not rated		Not rated	
ATB:							
Aquents	85	Not rated		Not rated		Not rated	
BNA:							
Bancker	85	Very limited		Very limited		Not rated	
		Ponding	1.00	Ponding	1.00		
		Depth to saturated zone	1.00	Flooding	1.00		
		Flooding	1.00	Depth to saturated zone	1.00		
		Low strength	1.00	Too clayey	1.00		
				Cutbanks cave	0.10		

Table 21.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
BOA:							
Bancker	85	Very limited Ponding Depth to saturated zone Flooding Low strength	 1.00 1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone Too clayey Cutbanks cave	 1.00 1.00 1.00 1.00 0.10	Not rated	
BRA:							
Barbary	85	Very limited Ponding Depth to saturated zone Flooding Low strength	 1.00 1.00 1.00 1.00	Very limited Ponding Depth to saturated zone Too clayey Content of organic matter Flooding	 1.00 1.00 1.00 1.00 0.80	Not rated	
BSA:							
Bellpass	85	Very limited Ponding Depth to saturated zone Subsidence Flooding	 1.00 1.00 1.00 1.00	Very limited Ponding Flooding Depth to saturated zone Too clayey Content of organic matter	 1.00 1.00 1.00 1.00 1.00	Not rated	
CbA:							
Cancienne	85	Very limited Low strength Shrink-swell	 1.00 0.50	Somewhat limited Depth to saturated zone Cutbanks cave	 0.99 0.10	Not limited	
CdA:							
Cancienne	85	Very limited Low strength	 1.00	Somewhat limited Depth to saturated zone Cutbanks cave	 0.99 0.10	Not limited	
CeA:							
Cancienne	85	Very limited Flooding Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Depth to saturated zone Flooding Cutbanks cave	 0.99 0.60 0.10	Somewhat limited Flooding	 0.60
CfA:							
Cancienne	85	Very limited Flooding Low strength Shrink-swell	 1.00 1.00 0.50	Somewhat limited Depth to saturated zone Flooding Cutbanks cave	 0.99 0.60 0.10	Somewhat limited Flooding	 0.60

Table 21.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
CKA:							
Clovelly------------	85	Very limited		Very limited		Not rated	
		Ponding	1.00	Ponding	1.00		
		Depth to saturated zone	1.00	Flooding	1.00		
		Subsidence	1.00	Depth to saturated zone	1.00		
		Flooding	1.00	Too clayey	1.00		
				Content of organic matter	1.00		
CLA:							
Clovelly------------	85	Very limited		Very limited		Not rated	
		Ponding	1.00	Ponding	1.00		
		Depth to saturated zone	1.00	Flooding	1.00		
		Subsidence	1.00	Depth to saturated zone	1.00		
		Flooding	1.00	Too clayey	1.00		
				Content of organic matter	1.00		
FAA:							
Fausse--------------	85	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Ponding	1.00	Too clayey	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Too clayey	1.00	Flooding	1.00
		Flooding	1.00	Flooding	0.80	Depth to saturated zone	1.00
		Low strength	1.00	Cutbanks cave	0.10		
FCA:							
Felicity------------	85	Not rated		Not rated		Not rated	
GaA:							
Gramercy------------	85	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Low strength	1.00	Cutbanks cave	1.00		
		Depth to saturated zone	0.99	Too clayey	0.28		
		Flooding	0.40				
GcA:							
Gramercy------------	45	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.99
		Low strength	1.00	Cutbanks cave	1.00		
		Depth to saturated zone	0.99	Too clayey	0.28		
		Flooding	0.40				

Table 21.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets		Shallow excavations		Lawns and landscaping	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
Cancienne-----------	40	Very limited		Somewhat limited		Not limited	
		Low strength	1.00	Depth to saturated zone	0.99		
		Shrink-swell	0.50	Cutbanks cave	0.10		
HpA:							
Harahan-------------	85	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Flooding	1.00	Too clayey	1.00	Flooding	0.60
		Low strength	1.00	Flooding	0.60	Depth to saturated zone	0.19
		Depth to saturated zone	0.19	Cutbanks cave	0.10		
KEA:							
Kenner--------------	85	Very limited		Very limited		Not rated	
		Ponding	1.00	Ponding	1.00		
		Depth to saturated zone	1.00	Flooding	1.00		
		Subsidence	1.00	Depth to saturated zone	1.00		
		Flooding	1.00	Too clayey	1.00		
				Content of organic matter	1.00		
LAA:							
Lafitte-------------	85	Very limited		Very limited		Not rated	
		Ponding	1.00	Ponding	1.00		
		Depth to saturated zone	1.00	Flooding	1.00		
		Subsidence	1.00	Depth to saturated zone	1.00		
		Flooding	1.00	Content of organic matter	1.00		
				Cutbanks cave	0.10		
LFA:							
Lafitte-------------	85	Very limited		Very limited		Not rated	
		Ponding	1.00	Ponding	1.00		
		Depth to saturated zone	1.00	Flooding	1.00		
		Subsidence	1.00	Depth to saturated zone	1.00		
		Flooding	1.00	Too clayey	1.00		
				Content of organic matter	1.00		

Table 21.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
LRA:							
Larose	85	Very limited		Very limited		Not rated	
		Ponding	1.00	Ponding	1.00		
		Depth to saturated zone	1.00	Flooding	1.00		
		Flooding	1.00	Depth to saturated zone	1.00		
		Low strength	1.00	Content of organic matter	1.00		
				Too clayey	1.00		
MAA:							
Maurepas	85	Very limited		Very limited		Not rated	
		Ponding	1.00	Ponding	1.00		
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
		Subsidence	1.00	Content of organic matter	1.00		
		Flooding	1.00	Flooding	0.80		
				Cutbanks cave	0.10		
RTA:							
Rita	85	Very limited		Very limited		Not rated	
		Flooding	1.00	Depth to saturated zone	1.00		
		Low strength	1.00	Too clayey	1.00		
		Shrink-swell	1.00	Flooding	0.60		
		Depth to saturated zone	0.19	Cutbanks cave	0.10		
SCA:							
Scatlake	85	Very limited		Very limited		Not rated	
		Ponding	1.00	Ponding	1.00		
		Depth to saturated zone	1.00	Flooding	1.00		
		Flooding	1.00	Depth to saturated zone	1.00		
		Low strength	1.00	Too clayey	1.00		
				Cutbanks cave	0.10		
ShA:							
Schriever	85	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Low strength	1.00	Too clayey	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	0.99	Cutbanks cave	1.00		
		Flooding	0.40				

Table 21.--Roads and Streets, Shallow Excavations, and Lawns and Landscaping--Continued

Map symbol and soil name	Pct. of map unit	Local roads and streets: Rating class and limiting features	Value	Shallow excavations: Rating class and limiting features	Value	Lawns and landscaping: Rating class and limiting features	Value
SIA:							
Schriever-----------	85	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Flooding	1.00
		Flooding	1.00	Too clayey	1.00	Too clayey	1.00
		Low strength	1.00	Cutbanks cave	1.00	Depth to saturated zone	0.99
		Depth to saturated zone	0.99	Flooding	0.80		
SrA:							
Schriever-----------	85	Very limited		Very limited		Very limited	
		Shrink-swell	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Flooding	1.00	Too clayey	1.00	Depth to saturated zone	0.99
		Low strength	1.00	Cutbanks cave	1.00	Flooding	0.60
		Depth to saturated zone	0.99	Flooding	0.60		
TUA:							
Timbalier-----------	85	Very limited		Very limited		Not rated	
		Ponding	1.00	Ponding	1.00		
		Depth to saturated zone	1.00	Flooding	1.00		
		Subsidence	1.00	Depth to saturated zone	1.00		
		Flooding	1.00	Content of organic matter	1.00		
				Cutbanks cave	0.10		
UB:							
Urban Land----------	93	Not rated		Not rated		Not rated	
UD:							
Udorthents----------	85	Not rated		Not rated		Not rated	
W:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 22.--Sewage Disposal

(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.)

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Septic tank absorption fields: Value	Sewage lagoons: Rating class and limiting features	Sewage lagoons: Value
AEA:					
Allemands-----------	85	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Restricted permeability	1.00	Flooding	1.00
		Ponding	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Content of organic matter	1.00
ARA:					
Allemands-----------	45	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Restricted permeability	1.00	Flooding	1.00
		Ponding	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Content of organic matter	1.00
Carlin--------------	40	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Ponding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Content of organic matter	1.00
		Filtering capacity	1.00	Seepage	1.00
		Subsidence	1.00	Depth to saturated zone	1.00
ATA:					
Aquents-------------	85	Not rated		Not rated	
ATB:					
Aquents-------------	85	Not rated		Not rated	
BNA:					
Bancker-------------	85	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Restricted permeability	1.00	Flooding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Content of organic matter	1.00

Table 22.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields		Sewage lagoons	
		Rating class and limiting features	Value	Rating class and limiting features	Value
BOA:					
Bancker	85	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Restricted permeability	1.00	Flooding	1.00
		Ponding	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
				Content of organic matter	1.00
BRA:					
Barbary	85	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Restricted permeability	1.00	Flooding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Content of organic matter	1.00
BSA:					
Bellpass	85	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Restricted permeability	1.00	Flooding	1.00
		Ponding	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Content of organic matter	1.00
CbA:					
Cancienne	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Restricted permeability	1.00	Seepage	0.28
CdA:					
Cancienne	85	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Restricted permeability	0.72	Seepage	0.28
CeA:					
Cancienne	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Restricted permeability	1.00	Seepage	0.28

Table 22.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
CfA:					
Cancienne-----------	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Restricted permeability	1.00	Seepage	0.28
CKA:					
Clovelly------------	85	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Restricted permeability	1.00	Flooding	1.00
		Ponding	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Content of organic matter	1.00 CLA:
Clovelly------------	85	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Restricted permeability	1.00	Flooding	1.00
		Ponding	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Content of organic matter	1.00
FAA:					
Fausse--------------	85	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Restricted permeability	1.00	Flooding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
FCA:					
Felicity------------	85	Not rated		Not rated	
GaA:					
Gramercy------------	85	Very limited		Very limited	
		Restricted permeability	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	0.40
		Flooding	0.40		
GcA:					
Gramercy------------	45	Very limited		Very limited	
		Restricted permeability	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	0.40
		Flooding	0.40		

Table 22.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
Cancienne-----------	40	Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Restricted permeability	1.00	Seepage	0.28
HpA:					
Harahan-------------	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Restricted permeability	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Content of organic matter	1.00
KEA:					
Kenner--------------	85	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Restricted permeability	1.00	Flooding	1.00
		Ponding	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Filtering capacity	1.00	Content of organic matter	1.00
LAA:					
Lafitte-------------	85	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Ponding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Content of organic matter	1.00
		Subsidence	1.00	Seepage	1.00
		Seepage	1.00	Depth to saturated zone	1.00
LFA:					
Lafitte-------------	85	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Restricted permeability	1.00	Flooding	1.00
		Ponding	1.00	Seepage	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Subsidence	1.00	Content of organic matter	1.00
LRA:					
Larose--------------	85	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Restricted permeability	1.00	Flooding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Content of organic matter	1.00

Table 22.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
MAA:					
Maurepas------------	85	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Ponding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Content of organic matter	1.00
		Filtering capacity	1.00	Seepage	1.00
		Subsidence	1.00	Depth to saturated zone	1.00
RTA:					
Rita----------------	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Restricted permeability	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Content of organic matter	1.00
				Seepage	0.28
SCA:					
Scatlake------------	85	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Restricted permeability	1.00	Flooding	1.00
		Ponding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Content of organic matter	1.00
ShA:					
Schriever-----------	85	Very limited		Very limited	
		Restricted permeability	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Flooding	0.40
		Flooding	0.40		
SIA:					
Schriever-----------	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Restricted permeability	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		
SrA:					
Schriever-----------	85	Very limited		Very limited	
		Flooding	1.00	Flooding	1.00
		Restricted permeability	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00		

Table 22.--Sewage Disposal--Continued

Map symbol and soil name	Pct. of map unit	Septic tank absorption fields: Rating class and limiting features	Value	Sewage lagoons: Rating class and limiting features	Value
TUA:					
Timbalier-----------	85	Very limited		Very limited	
		Flooding	1.00	Ponding	1.00
		Ponding	1.00	Flooding	1.00
		Depth to saturated zone	1.00	Content of organic matter	1.00
		Subsidence	1.00	Seepage	1.00
		Seepage	1.00	Depth to saturated zone	1.00
UB:					
Urban Land----------	93	Not rated		Not rated	
UD:					
Udorthents----------	85	Not rated		Not rated	
W:					
Water---------------	100	Not rated		Not rated	

Table 23.--Landfills

(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.)

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AEA:							
Allemands-----------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00	Seepage	1.00	Hard to compact	1.00
ARA:							
Allemands-----------	45	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00	Seepage	1.00	Hard to compact	1.00
Carlin--------------	40	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Seepage	1.00
		Seepage	1.00	Seepage	1.00	Content of organic matter	1.00
		Content of organic matter	1.00				
ATA:							
Aquents-------------	85	Not rated		Somewhat limited		Not rated	
				Flooding	0.40		
ATB:							
Aquents-------------	85	Not rated		Very limited		Not rated	
				Flooding	1.00		
BNA:							
Bancker-------------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00

Table 23.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
BOA:							
Bancker-------------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
BRA:							
Barbary-------------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
		Content of organic matter	1.00				
BSA:							
Bellpass------------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00	Seepage	1.00	Hard to compact	1.00
CbA:							
Cancienne-----------	85	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.24
CdA:							
Cancienne-----------	85	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.24
CeA:							
Cancienne-----------	85	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Too clayey	0.50
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.24
		Too clayey	0.50				
CfA:							
Cancienne-----------	85	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Too clayey	0.50
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	0.24
		Too clayey	0.50				

Table 23.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
CKA:							
Clovelly	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Hard to compact	1.00
		Too clayey	1.00	Seepage	1.00		
CLA:							
Clovelly	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Hard to compact	1.00
		Too clayey	1.00	Seepage	1.00		
FAA:							
Fausse	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
FCA:							
Felicity	85	Not rated		Very limited		Not rated	
				Flooding	1.00		
				Depth to saturated zone	1.00		
				Seepage	1.00		
GaA:							
Gramercy	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00	Flooding	0.40	Too clayey	1.00
		Flooding	0.40			Hard to compact	1.00
GcA:							
Gramercy	45	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	0.50	Flooding	0.40	Too clayey	1.00
		Flooding	0.40				
Cancienne	40	Very limited		Very limited		Somewhat limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	0.50
		Too clayey	0.50			Depth to saturated zone	0.24

Table 23.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
HpA:							
Harahan	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Too clayey	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Hard to compact	1.00
		Too clayey	1.00			Depth to saturated zone	0.86
KEA:							
Kenner	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Seepage	1.00
		Seepage	1.00	Seepage	1.00	Content of organic matter	1.00
		Content of organic matter	1.00				
LAA:							
Lafitte	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Content of organic matter	1.00
		Seepage	1.00	Seepage	1.00	Seepage	0.52
		Content of organic matter	1.00				
LFA:							
Lafitte	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Content of organic matter	1.00
		Content of organic matter	1.00	Seepage	1.00	Seepage	0.52
LRA:							
Larose	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
		Content of organic matter	1.00				

Table 23.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill: Rating class and limiting features	Value	Area sanitary landfill: Rating class and limiting features	Value	Daily cover for landfill: Rating class and limiting features	Value
MAA:							
Maurepas	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Seepage	1.00
		Seepage	1.00	Seepage	1.00	Content of organic matter	1.00
		Content of organic matter	1.00				
RTA:							
Rita	85	Very limited		Very limited		Somewhat limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	0.86
		Depth to saturated zone	1.00	Depth to saturated zone	1.00		
SCA:							
Scatlake	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Ponding	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
		Sodium content	1.00			Sodium content	1.00
ShA:							
Schriever	85	Very limited		Very limited		Very limited	
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Depth to saturated zone	1.00
		Too clayey	1.00	Flooding	0.40	Too clayey	1.00
		Flooding	0.40			Hard to compact	1.00
SIA:							
Schriever	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00
SrA:							
Schriever	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Depth to saturated zone	1.00
		Depth to saturated zone	1.00	Depth to saturated zone	1.00	Too clayey	1.00
		Too clayey	1.00			Hard to compact	1.00

Table 23.--Landfills--Continued

Map symbol and soil name	Pct. of map unit	Trench sanitary landfill		Area sanitary landfill		Daily cover for landfill	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
TUA:							
Timbalier-----------	85	Very limited		Very limited		Very limited	
		Flooding	1.00	Flooding	1.00	Ponding	1.00
		Depth to saturated zone	1.00	Ponding	1.00	Depth to saturated zone	1.00
		Content of organic matter	1.00	Depth to saturated zone	1.00	Content of organic matter	1.00
		Seepage	1.00	Seepage	1.00	Seepage	1.00
		Ponding	1.00				
UB:							
Urban Land----------	93	Not rated		Not rated		Not rated	
UD:							
Udorthents----------	85	Not rated		Not rated		Not rated	
W:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 24.--Source of Gravel and Sand

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The ratings given for the thickest layer are for the thickest layer above and excluding the bottom layer. The numbers in the value columns range from 0.00 to 0.99. The greater the value, the greater the likelihood that the bottom layer or thickest layer of the soil is a source of sand or gravel. See text for further explanation of ratings.)

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
AEA:					
Allemands	85	Not rated		Not rated	
ARA:					
Allemands	45	Not rated		Not rated	
Carlin	40	Not rated		Not rated	
ATA:					
Aquents	85	Not rated		Not rated	
ATB:					
Aquents	85	Not rated		Not rated	
BNA:					
Bancker	85	Not rated		Not rated	
BOA:					
Bancker	85	Not rated		Not rated	
BRA:					
Barbary	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
BSA:					
Bellpass	85	Not rated		Not rated	
CbA:					
Cancienne	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
CdA:					
Cancienne	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
CeA:					
Cancienne	85	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
CfA:					
Cancienne	85	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00

Table 24.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel: Rating class	Value	Potential source of sand: Rating class	Value
CKA:					
Clovelly------------	85	Not rated		Not rated	
CLA:					
Clovelly------------	85	Not rated		Not rated	
FAA:					
Fausse--------------	85	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
FCA:					
Felicity------------	85	Not rated		Not rated	
GaA:					
Gramercy------------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
GcA:					
Gramercy------------	45	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
Cancienne-----------	40	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
HpA:					
Harahan-------------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
KEA:					
Kenner--------------	85	Not rated		Not rated	
LAA:					
Lafitte-------------	85	Not rated		Not rated	
LFA:					
Lafitte-------------	85	Not rated		Not rated	
LRA:					
Larose--------------	85	Not rated		Not rated	
MAA:					
Maurepas------------	85	Not rated		Not rated	
RTA:					
Rita----------------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
SCA:					
Scatlake------------	85	Not rated		Not rated	

Table 24.--Source of Gravel and Sand--Continued

Map symbol and soil name	Pct. of map unit	Potential source of gravel		Potential source of sand	
		Rating class	Value	Rating class	Value
ShA:					
Schriever-----------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
SIA:					
Schriever-----------	85	Poor		Poor	
		Bottom layer	0.00	Bottom layer	0.00
		Thickest layer	0.00	Thickest layer	0.00
SrA:					
Schriever-----------	85	Poor		Poor	
		Thickest layer	0.00	Thickest layer	0.00
		Bottom layer	0.00	Bottom layer	0.00
TUA:					
Timbalier-----------	85	Not rated		Not rated	
UB:					
Urban Land----------	93	Not rated		Not rated	
UD:					
Udorthents----------	85	Not rated		Not rated	
W:					
Water---------------	100	Not rated		Not rated	

Table 25.--Source of Reclamation Material, Roadfill, and Topsoil

(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 0.00 to 0.99. The smaller the value, the greater the limitation. See text for further explanation of ratings.)

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AEA:							
Allemands-----------	85	Not rated		Poor		Not rated	
				Depth to saturated zone	0.00		
				Low strength	0.00		
ARA:							
Allemands-----------	45	Not rated		Poor		Not rated	
				Depth to saturated zone	0.00		
				Low strength	0.00		
Carlin--------------	40	Not rated		Poor		Not rated	
				Depth to saturated zone	0.00		
ATA:							
Aquents-------------	85	Not rated		Not rated		Not rated	
ATB:							
Aquents-------------	85	Not rated		Not rated		Not rated	
BNA:							
Bancker-------------	85	Poor		Poor		Not rated	
		Low content of organic matter	0.00	Depth to saturated zone	0.00		
		Too clayey	0.00	Low strength	0.00		
		Sodium content	0.22				
		Too acid	0.99				
BOA:							
Bancker-------------	85	Poor		Poor		Not rated	
		Too clayey	0.00	Depth to saturated zone	0.00		
		Low content of organic matter	0.00	Low strength	0.00		
		Sodium content	0.22				
		Too acid	0.99				
BRA:							
Barbary-------------	85	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
				Depth to saturated zone	0.00	Depth to saturated zone	0.00
BSA:							
Bellpass------------	85	Not rated		Poor		Not rated	
				Low strength	0.00		
				Depth to saturated zone	0.00		

Table 25.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material		Potential source of roadfill		Potential source of topsoil	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CbA:							
Cancienne-----------	85	Fair		Poor		Fair	
		Low content of organic matter	0.88	Low strength	0.00	Depth to saturated zone	0.98
		Water erosion	0.90	Shrink-swell	0.98		
				Depth to saturated zone	0.98		
CdA:							
Cancienne-----------	85	Fair		Poor		Fair	
		Low content of organic matter	0.88	Low strength	0.00	Depth to saturated zone	0.98
		Water erosion	0.99	Depth to saturated zone	0.98		
CeA:							
Cancienne-----------	85	Fair		Poor		Fair	
		Low content of organic matter	0.88	Low strength	0.00	Depth to saturated zone	0.98
		Water erosion	0.99	Shrink-swell	0.94		
				Depth to saturated zone	0.98		
CfA:							
Cancienne-----------	85	Fair		Poor		Fair	
		Low content of organic matter	0.88	Low strength	0.00	Depth to saturated zone	0.98
		Water erosion	0.90	Shrink-swell	0.94		
				Depth to saturated zone	0.98		
CKA:							
Clovelly------------	85	Not rated		Poor		Not rated	
				Depth to saturated zone	0.00		
				Low strength	0.00		
CLA:							
Clovelly------------	85	Not rated		Poor		Not rated	
				Depth to saturated zone	0.00		
				Low strength	0.00		
FAA:							
Fausse--------------	85	Poor		Poor		Not rated	
		Too clayey	0.00	Shrink-swell	0.00		
		Low content of organic matter	0.00	Low strength	0.00		
		Too acid	0.97	Depth to saturated zone	0.00		

Table 25.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
FCA:							
Felicity	85	Not rated		Not rated		Poor	
						Salinity	0.00
						Too sandy	0.51
						Depth to saturated zone	0.89
						Carbonate content	0.92
						Rock fragments	0.97
GaA:							
Gramercy	85	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Low content of organic matter	0.88	Shrink-swell	0.00	Depth to saturated zone	0.00
		Water erosion	0.99	Depth to saturated zone	0.00		
GcA:							
Gramercy	45	Poor		Poor		Poor	
		Too clayey	0.00	Shrink-swell	0.00	Too clayey	0.00
		Low content of organic matter	0.12	Low strength	0.00	Depth to saturated zone	0.00
		Water erosion	0.99	Depth to saturated zone	0.00		
Cancienne	40	Fair		Poor		Fair	
		Low content of organic matter	0.88	Low strength	0.00	Depth to saturated zone	0.98
		Water erosion	0.99	Shrink-swell	0.98		
				Depth to saturated zone	0.98		
HpA:							
Harahan	85	Poor		Poor		Not rated	
		Too clayey	0.00	Low strength	0.00		
		Low content of organic matter	0.00	Shrink-swell	0.08		
		Water erosion	0.99	Depth to saturated zone	0.53		
		Too acid	0.99				
KEA:							
Kenner	85	Not rated		Poor		Not rated	
				Depth to saturated zone	0.00		
LAA:							
Lafitte	85	Not rated		Poor		Not rated	
				Depth to saturated zone	0.00		
LFA:							
Lafitte	85	Not rated		Poor		Not rated	
				Depth to saturated zone	0.00		

Table 25.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
LRA:							
Larose	85	Poor		Poor		Poor	
		Too clayey	0.00	Depth to saturated zone	0.00	Depth to saturated zone	0.00
		Sodium content	0.60	Low strength	0.00	Too clayey	0.00
		Too acid	0.99			Sodium content	0.60
MAA:							
Maurepas	85	Not rated		Poor		Not rated	
				Depth to saturated zone	0.00		
RTA:							
Rita	85	Poor		Fair		Not rated	
		Too clayey	0.00	Depth to saturated zone	0.53		
		Low content of organic matter	0.00	Shrink-swell	0.84		
		Too acid	0.50				
SCA:							
Scatlake	85	Poor		Poor		Not rated	
		Sodium content	0.00	Low strength	0.00		
		Low content of organic matter	0.00	Depth to saturated zone	0.00		
		Too clayey	0.00				
		Salinity	0.50				
ShA:							
Schriever	85	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Low content of organic matter	0.12	Shrink-swell	0.00	Depth to saturated zone	0.00
				Depth to saturated zone	0.00		
SIA:							
Schriever	85	Poor		Poor		Poor	
		Too clayey	0.00	Shrink-swell	0.00	Too clayey	0.00
		Low content of organic matter	0.12	Low strength	0.00	Depth to saturated zone	0.00
				Depth to saturated zone	0.00		
SrA:							
Schriever	85	Poor		Poor		Poor	
		Too clayey	0.00	Low strength	0.00	Too clayey	0.00
		Low content of organic matter	0.12	Shrink-swell	0.00	Depth to saturated zone	0.00
				Depth to saturated zone	0.00		
TUA:							
Timbalier	85	Not rated		Poor		Not rated	
				Depth to saturated zone	0.00		

Table 25.--Source of Reclamation Material, Roadfill, and Topsoil--Continued

Map symbol and soil name	Pct. of map unit	Potential source of reclamation material: Rating class and limiting features	Value	Potential source of roadfill: Rating class and limiting features	Value	Potential source of topsoil: Rating class and limiting features	Value
UB:							
Urban Land	93	Not rated		Not rated		Not rated	
UD:							
Udorthents	85	Not rated		Not rated		Not rated	
W:							
Water	100	Not rated		Not rated		Not rated	

Table 26.--Ponds and Embankments

(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.)

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
AEA:							
Allemands-----------	85	Very limited		Not rated		Somewhat limited	
		Seepage	1.00			Cutbanks cave	0.10
ARA:							
Allemands-----------	45	Very limited		Not rated		Somewhat limited	
		Seepage	1.00			Cutbanks cave	0.10
Carlin--------------	40	Very limited		Not rated		Somewhat limited	
		Seepage	1.00			Cutbanks cave	0.10
ATA:							
Aquents-------------	85	Not limited		Not rated		Not rated	
ATB:							
Aquents-------------	85	Not limited		Not rated		Not rated	
BNA:							
Bancker-------------	85	Not limited		Not rated		Somewhat limited	
						Salty water	0.12
						Cutbanks cave	0.10
BOA:							
Bancker-------------	85	Not limited		Not rated		Somewhat limited	
						Cutbanks cave	0.10
						Salty water	0.01
BRA:							
Barbary-------------	85	Not limited		Very limited		Somewhat limited	
				Content of organic matter	1.00	Cutbanks cave	0.10
				Ponding	1.00		
				Depth to saturated zone	1.00		
				Hard to pack	1.00		
BSA:							
Bellpass------------	85	Very limited		Not rated		Somewhat limited	
		Seepage	1.00			Salty water	0.78
						Cutbanks cave	0.10
CbA:							
Cancienne-----------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.54	Depth to saturated zone	0.68	Slow refill	0.46
				Piping	0.10	Depth to water	0.14
						Cutbanks cave	0.10

Table 26.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas		Embankments, dikes, and levees		Aquifer-fed excavated ponds	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
CdA:							
Cancienne-----------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.54	Depth to saturated zone	0.68	Slow refill	0.46
				Piping	0.03	Depth to water	0.14
						Cutbanks cave	0.10
CeA:							
Cancienne-----------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.54	Depth to saturated zone	0.68	Slow refill	0.46
				Piping	0.02	Depth to water	0.14
						Cutbanks cave	0.10
CfA:							
Cancienne-----------	85	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.54	Depth to saturated zone	0.68	Slow refill	0.46
				Piping	0.06	Depth to water	0.14
						Cutbanks cave	0.10
CKA:							
Clovelly------------	85	Very limited		Not rated		Somewhat limited	
		Seepage	1.00			Salty water	0.12
						Cutbanks cave	0.10
CLA:							
Clovelly------------	85	Very limited		Not rated		Somewhat limited	
		Seepage	1.00			Cutbanks cave	0.10
						Salty water	0.01
FAA:							
Fausse--------------	85	Not limited		Very limited		Very limited	
				Ponding	1.00	Slow refill	1.00
				Depth to saturated zone	1.00	Cutbanks cave	0.10
				Hard to pack	1.00		
FCA:							
Felicity------------	85	Very limited		Not rated		Not rated	
		Seepage	1.00				
GaA:							
Gramercy------------	85	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Slow refill	1.00
				Hard to pack	0.70	Cutbanks cave	0.10
GcA:							
Gramercy------------	45	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Slow refill	1.00
				Hard to pack	0.37	Cutbanks cave	0.10

Table 26.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
Cancienne-----------	40	Somewhat limited		Somewhat limited		Somewhat limited	
		Seepage	0.54	Depth to saturated zone	0.68	Slow refill	0.46
				Piping	0.03	Depth to water	0.14
						Cutbanks cave	0.10
HpA:							
Harahan-------------	85	Not limited		Very limited		Very limited	
				Hard to pack	1.00	Slow refill	1.00
				Depth to saturated zone	0.99	Cutbanks cave	0.10
						Depth to water	0.01
KEA:							
Kenner--------------	85	Very limited		Not rated		Somewhat limited	
		Seepage	1.00			Cutbanks cave	0.10
LAA:							
Lafitte-------------	85	Very limited		Not rated		Somewhat limited	
		Seepage	1.00			Salty water	0.12
						Cutbanks cave	0.10
LFA:							
Lafitte-------------	85	Very limited		Not rated		Somewhat limited	
		Seepage	1.00			Cutbanks cave	0.10
						Salty water	0.01
LRA:							
Larose--------------	85	Not limited		Not rated		Somewhat limited	
						Cutbanks cave	0.10
MAA:							
Maurepas------------	85	Very limited		Not rated		Somewhat limited	
		Seepage	1.00			Cutbanks cave	0.10
RTA:							
Rita----------------	85	Somewhat limited		Very limited		Somewhat limited	
		Seepage	0.54	Depth to saturated zone	0.99	Slow refill	0.46
						Cutbanks cave	0.10
						Depth to water	0.01
SCA:							
Scatlake------------	85	Not limited		Not rated		Somewhat limited	
						Salty water	0.78
						Cutbanks cave	0.10
ShA:							
Schriever-----------	85	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Slow refill	1.00
				Hard to pack	1.00	Cutbanks cave	0.10

Table 26.--Ponds and Embankments--Continued

Map symbol and soil name	Pct. of map unit	Pond reservoir areas: Rating class and limiting features	Value	Embankments, dikes, and levees: Rating class and limiting features	Value	Aquifer-fed excavated ponds: Rating class and limiting features	Value
SlA:							
Schriever-----------	85	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Slow refill	1.00
				Hard to pack	1.00	Cutbanks cave	0.10
SrA:							
Schriever-----------	85	Not limited		Very limited		Very limited	
				Depth to saturated zone	1.00	Slow refill	1.00
				Hard to pack	1.00	Cutbanks cave	0.10
TUA:							
Timbalier-----------	85	Very limited		Not rated		Somewhat limited	
		Seepage	1.00			Salty water	0.78
UB:							
Urban Land----------	93	Not rated		Not rated		Not rated	
UD:							
Udorthents----------	85	Not rated		Not rated		Not rated	
W:							
Water---------------	100	Not rated		Not rated		Not rated	

Table 27.--Engineering 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	
AEA:												
Allemands-------	0-10	Muck	PT	A-8	0	0	---	---	---	---	---	---
	10-30	Muck	PT	A-8	0	0	---	---	---	---	---	---
	30-80	Clay, mucky clay	OH, CH	A-7-6	0	0	100	100	95-100	80-100	76-100	38-77
ARA:												
Allemands-------	0-20	Muck	PT	A-8	0	0	---	---	---	---	---	---
	20-29	Muck	PT	A-8	0	0	---	---	---	---	---	---
	29-80	Clay, mucky clay	MH, CH	A-7-6	0	0	100	100	95-100	80-100	76-100	38-77
Carlin----------	0-8	Peat	PT	A-8	0	0	---	---	---	---	---	---
	8-28	Water			---	---	---	---	---	---	---	---
	28-51	Peat	PT	A-8	0	0	---	---	---	---	---	---
	51-80	Clay, silty clay, mucky clay	CH, OH	A-7-5	0	0	100	100	100	90-100	64-127	35-53
ATA:												
Aquents---------	---	---	---	---	---	---	---	---	---	---	---	---
ATB:												
Aquents---------	---	---	---	---	---	---	---	---	---	---	---	---
BNA:												
Bancker---------	0-10	Muck	PT	A-8	0	0	---	---	---	---	---	---
	10-80	Clay, silty clay, mucky clay	MH, OH	A-7-5	0	0	100	100	90-100	70-95	55-90	15-45
BOA:												
Bancker---------	0-13	Muck	PT	A-8	0	0	---	---	---	---	---	---
	13-94	Clay, silty clay, mucky clay	MH, OH	A-7-5	0	0	100	100	90-100	70-95	55-90	15-45
BRA:												
Barbary---------	0-5	Muck	PT	A-8	0	0	---	---	---	---	---	---
	5-9	Silty clay, mucky clay, clay	MH, OH	A-7-5, A-8	0	0	100	100	100	95-100	58-137	35-63
	9-80	Mucky clay, clay	MH, OH	A-7-5, A-8	0	0	100	100	100	95-100	67-137	43-63
BSA:												
Bellpass--------	0-30	Muck	PT	A-8	0	0	---	---	---	---	---	---
	30-80	Clay, mucky clay, silty clay	CH, CL	A-7-5, A-7-6	0	0	100	100	100	90-100	47-87	30-52

Table 27.--Engineering 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	
CbA:												
Cancienne-------	0-8	Silt loam	CL, CL-ML, ML	A-4	0	0	100	100	100	75-100	0-30	NP-10
	8-44	Silty clay loam, silt loam, loam	CL	A-6, A-7-6	0	0	100	100	100	85-100	26-51	9-28
	44-65	Silty clay loam, silt loam, loam	CL	A-6, A-7-6	0	0	100	100	100	85-100	26-51	9-28
	65-80	Stratified very fine sandy loam to silty clay loam	CL, CL-ML, ML	A-4, A-6, A-7-6	0	0	100	100	100	75-100	23-45	3-23
CdA:												
Cancienne-------	0-7	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	100	90-100	38-57	19-28
	7-43	Silty clay loam, silt loam, loam	CL	A-6, A-7-6	0	0	100	100	100	85-100	26-51	9-28
	43-65	Silty clay loam, silt loam, loam	CL	A-6, A-7-6	0	0	100	100	100	85-100	26-51	9-28
	65-80	Stratified silt loam to silty clay loam	CL, CL-ML, ML	A-4, A-6, A-7-6	0	0	100	100	100	75-100	23-45	3-23
CeA:												
Cancienne-------	0-7	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	100	90-100	38-57	19-28
	7-26	Silty clay loam, silt loam, loam	CL	A-6, A-7-6	0	0	100	100	100	85-100	26-51	9-28
	26-41	Silty clay loam, silt loam, loam	CL	A-6, A-7-6	0	0	100	100	100	85-100	26-51	9-28
	41-52	Silty clay loam, silt loam, loam	CL	A-6, A-7-6	0	0	100	100	100	85-100	26-51	9-28
	52-80	Silty clay loam, silt loam, loam	CL	A-6, A-7-6	0	0	100	100	100	85-100	26-51	9-28
CfA:												
Cancienne-------	0-6	Silt loam	CL-ML, ML, CL	A-4	0	0	100	100	100	75-100	15-30	NP-10
	6-27	Silty clay loam, silt loam, loam	CL	A-6, A-7-6	0	0	100	100	100	85-100	26-51	9-28
	27-51	Silty clay loam, silt loam, loam	CL	A-6, A-7-6	0	0	100	100	100	85-100	26-51	9-28
	51-80	Stratified very fine sandy loam to silty clay loam	CL, CL-ML, ML	A-4, A-6, A-7-6	0	0	100	100	100	75-100	23-45	3-23

Table 27.--Engineering 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	
CKA:												
Clovelly--------	0-38	Muck	PT	A-8	0	0	---	---	---	---	---	---
	38-80	Clay, silty clay, mucky clay	CH, CL, MH, ML	A-7-5, A-7-6	0	0	100	100	95-100	85-95	47-90	24-60
CLA:												
Clovelly--------	0-40	Muck	PT	A-8	0	0	---	---	---	---	---	---
	40-80	Clay, silty clay, mucky clay	CH, CL, MH, ML	A-7-5, A-7-6	0	0	100	100	95-100	85-95	47-87	25-45
FAA:												
Fausse----------	0-4	Clay	CH	A-7-5	0	0	100	100	100	95-100	68-108	44-72
	4-50	Clay, silty clay, silty clay loam	CH, CL, MH, ML	A-7-6	0	0	100	100	100	95-100	47-108	25-72
	50-80	Clay, silty clay, silty clay loam	CH, CL, MH, ML	A-7-6	0	0	100	100	100	95-100	47-108	25-72
FCA:												
Felicity--------	0-9	Loamy fine sand	SC-SM, SP-SM	A-2-4, A-3	0	0-10	85-100	75-100	51-80	5-30	0-23	NP-6
	9-60	Loamy fine sand, loamy sand	SC-SM, SP-SM	A-2-4, A-3	0	0-10	85-100	75-100	51-80	5-30	0-23	NP-6
GaA:												
Gramercy--------	0-7	Silty clay loam	CH, CL	A-6, A-7-6	0	0	100	100	100	95-100	38-57	19-28
	7-14	Clay, silty clay	CH	A-7-6	0	0	95-100	95-100	95-100	90-100	52-76	29-42
	14-38	Clay, silty clay, silty clay loam	CH, CL	A-6, A-7-6	0	0	95-100	95-100	95-100	90-100	38-65	19-40
	38-80	Clay, silty clay, silty clay loam	CH	A-6, A-7-6	0	0	95-100	95-100	90-100	60-90	29-59	12-36
GcA:												
Gramercy--------	0-4	Silty clay loam	CH, CL	A-6, A-7-6	0	0	100	100	100	95-100	38-57	19-28
	4-40	Clay, silty clay	CH	A-7-6	0	0	95-100	95-100	95-100	90-100	52-76	29-42
	40-70	Silty clay loam, silt loam, very fine sandy loam	CL	A-6, A-7-6	0	0	100	100	100	85-100	26-51	9-28
	70-80	Silty clay, silty clay loam, silt loam	CL	A-6, A-7-6	0	0	95-100	95-100	90-100	60-90	29-59	12-36
Cancienne-------	0-8	Silty clay loam	CL	A-6, A-7-6	0	0	100	100	100	90-100	38-57	19-28
	8-14	Silty clay loam, silt loam, loam	CL	A-6, A-7-6	0	0	100	100	100	85-100	26-51	9-28
	14-80	Silty clay loam, silt loam, loam	CL	A-6, A-7-6	0	0	100	100	100	85-100	26-51	9-28

Table 27.--Engineering 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	
HpA:												
Harahan---------	0-9	Clay	CH, MH, OH	A-7-5, A-7-6, A-8	0	0	100	100	100	95-100	64-151	36-66
	9-30	Clay, silty clay	MH, CH	A-7-5, A-7-6	0	0	100	100	100	95-100	60-90	35-50
	30-80	Clay, silty clay, mucky clay	CH, MH, OH	A-7-5, A-7-6, A-8	0	0	100	100	100	95-100	54-95	24-65
KEA:												
Kenner----------	0-19	Muck	PT	A-8	0	0	---	---	---	---	---	---
	19-23	Clay, silty clay, mucky clay	MH, CH	A-7-5	0	0	100	100	100	95-100	70-100	30-55
	23-42	Muck	PT	A-8	0	0	---	---	---	---	---	---
	42-43	Clay, silty clay, mucky clay	MH, CH	A-7-5	0	0	100	100	100	95-100	70-100	30-55
	43-65	Muck	PT	A-8	0	0	---	---	---	---	---	---
	65-84	Clay, silty clay, mucky clay	MH, CH	A-7-5	0	0	100	100	100	95-100	70-100	30-55
LAA:												
Lafitte---------	0-80	Muck	PT	A-8	0	0	---	---	---	---	---	---
LFA:												
Lafitte---------	0-52	Muck	PT	A-8	0	0	---	---	---	---	---	---
	52-80	Clay, silty clay, mucky clay	CH, CL, MH, ML	A-7-5, A-7-6	0	0	100	100	95-100	85-95	45-100	16-60
LRA:												
Larose----------	0-8	Muck	PT	A-8	0	0	---	---	---	---	---	---
	8-96	Clay, silty clay, mucky clay	CH, OH	A-7-5	0	0	100	100	100	90-100	64-127	35-53
MAA:												
Maurepas--------	0-60	Muck	PT	A-8	0	0	---	---	---	---	---	---
	60-68	Mucky clay, clay	MH, OH	A-7-5, A-8	0	0	100	100	100	95-100	67-137	43-63
	68-96	Muck	PT	A-8	0	0	---	---	---	---	---	---
RTA:												
Rita------------	0-4	Muck	PT	A-8	---	---	---	---	---	---	---	---
	4-24	Clay, silty clay	CH	A-7-5, A-7-6	0	0	100	100	100	95-100	67-98	37-68
	24-36	Clay, silty clay	CH, MH	A-7-5, A-7-6	0	0	100	100	100	95-100	67-98	37-68
	36-42	Clay, silty clay, silty clay loam	CH, MH	A-7-5, A-7-6	0	0	100	100	100	95-100	67-98	37-68
	42-80	Stratified very fine sandy loam to silt loam, fine sandy loam, loamy very fine sand	CL, ML, SC, SM	A-4, A-6	0	0	100	100	70-95	40-90	16-27	2-20

Table 27.--Engineering 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	
SCA:												
Scatlake--------	0-8	Muck	PT	A-8	0	0	---	---	---	---	---	---
	8-38	Mucky clay, clay, mucky silty clay loam	MH, CH	A-7-5	0	0	100	100	100	95-100	55-90	15-45
	38-75	Clay	MH, CH	A-7-5	0	0	100	100	100	95-100	55-90	15-45
ShA:												
Schriever-------	0-5	Clay	CH, CL	A-7-5, A-7-6	0	0	100	100	100	95-100	46-85	22-50
	5-62	Clay, silty clay	CH	A-7-5, A-7-6	0	0	100	100	100	95-100	68-105	44-68
	62-80	Clay, silty clay loam, silt loam	CH, CL	A-6, A-7-5, A-7-6	0	0	100	100	100	95-100	37-95	7-65
SlA:												
Schriever-------	0-8	Clay	CH, CL	A-7-5, A-7-6	0	0	100	100	100	95-100	46-85	22-50
	8-65	Clay, silty clay	CH	A-7-5, A-7-6	0	0	100	100	100	95-100	68-105	44-68
	65-80	Clay, silty clay loam, silt loam	CH, CL	A-6, A-7-6	0	0	100	100	100	95-100	37-95	18-66
SrA:												
Schriever-------	0-4	Clay	CH, CL	A-7-5, A-7-6	0	0	100	100	100	95-100	46-85	22-50
	4-18	Clay, silty clay	CH	A-7-5, A-7-6	0	0	100	100	100	95-100	68-105	44-68
	18-39	Clay, silty clay	CH	A-7-5, A-7-6	0	0	100	100	100	95-100	68-105	44-68
	39-48	Clay, silty clay	CH	A-7-5, A-7-6	0	0	100	100	100	95-100	68-105	44-68
	48-80	Clay, silty clay	CH	A-7-5, A-7-6	0	0	100	100	100	95-100	68-105	44-68
TUA:												
Timbalier-------	0-62	Muck	PT	A-8	0	0	---	---	---	---	---	---
	62-80	Clay	MH, CH	A-7-6	0	0	100	100	100	95-100	47-87	25-52
UB:												
Urban land------	---	---	---	---	---	---	---	---	---	---	---	---
UD:												
Udorthents------	---	---	---	---	---	---	---	---	---	---	---	---
W:												
Water-----------	---	---	---	---	---	---	---	---	---	---	---	---

Table 28.--Physical Soil Properties

(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	Sand	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
									Kw	Kf	T		
	In	Pct	Pct	g/cc	µm/sec	In/in	Pct	Pct					
AEA:													
Allemands------------	0-10	---	0-0	0.05-0.25	14.11-141.14	0.20-0.50	0.0-2.9	30-85	---	---	2	8	0
	10-30	---	0-0	0.05-0.25	14.11-141.14	0.20-0.50	0.0-2.9	20-40	---	---			
	30-80	---	60-95	0.15-1.00	0.00-0.42	0.14-0.18	0.0-2.9	0.0-10	0.32	0.32			
ARA:													
Allemands------------	0-20	---	---	0.05-0.25	14.11-141.14	0.20-0.50	0.0-2.9	30-85	---	---	2	8	0
	20-29	---	---	0.05-0.25	14.11-141.14	0.20-0.50	0.0-2.9	30-70	---	---			
	29-80	---	60-95	0.15-1.00	0.00-0.42	0.14-0.18	0.0-2.9	0.5-1.0	0.32	0.32			
Carlin---------------	0-8	---	---	0.05-0.50	42.34-141.14	0.20-0.50	0.0-2.9	30-85	---	---	2	8	0
	8-28	---	---	---	42.34-141.14	---	---	---	---	---			
	28-51	---	---	0.05-0.50	42.34-141.14	0.20-0.50	0.0-2.9	30-85	---	---			
	51-80	---	50-80	0.15-1.00	0.00-0.42	0.14-0.18	0.0-2.9	5.0-25	0.28	0.28			
ATA:													
Aquents--------------	---	---	---	---	---	---	---	---	---	---	5	8	0
ATB:													
Aquents--------------	---	---	---	---	---	---	---	---	---	---	5	8	0
BNA:													
Bancker--------------	0-10	---	---	0.10-0.40	14.11-141.14	0.20-0.50	0.0-2.9	30-70	---	---	2	8	0
	10-80	---	60-85	0.20-1.00	0.00-0.42	0.14-0.18	0.0-2.9	0.5-2.0	0.28	0.28			
BOA:													
Bancker--------------	0-13	---	---	0.10-0.40	14.11-141.14	0.20-0.50	0.0-2.9	30-70	---	---	2	8	0
	13-94	---	60-85	0.20-1.00	0.00-0.42	0.14-0.18	0.0-2.9	0.5-2.0	0.28	0.28			
BRA:													
Barbary--------------	0-5	---	---	0.15-0.50	14.11-42.34	0.20-0.50	0.0-2.9	30-70	---	---	5	8	0
	5-9	0-3	50-95	0.25-1.00	0.00-0.42	0.18-0.20	0.0-2.9	2.0-25	0.32	0.32			
	9-80	0-3	60-95	0.25-1.00	0.00-0.42	0.18-0.20	0.0-2.9	2.0-25	0.32	0.32			
BSA:													
Bellpass-------------	0-30	---	---	0.15-0.50	14.11-141.14	0.20-0.50	0.0-2.9	30-60	---	---	2	8	0
	30-80	---	50-90	0.25-1.00	0.00-0.42	0.14-0.22	0.0-2.9	0.0-10	0.28	0.28			

Table 28.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Sand	Clay	Moist bulk density	Saturated hydraulic conductivity	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	Pct	g/cc	µm/sec	In/in	Pct	Pct					
CbA:													
Cancienne------------	0-8	---	14-27	1.35-1.65	4.23-14.11	0.21-0.23	0.0-2.9	0.5-4.0	0.43	0.43	5	6	56
	8-44	---	14-39	1.35-1.65	1.41-4.23	0.20-0.22	3.0-5.9	0.5-1.0	0.32	0.32			
	44-65	---	14-39	1.35-1.65	1.41-4.23	0.20-0.22	3.0-5.9	0.5-1.0	0.32	0.32			
	65-80	---	10-39	1.35-1.65	1.41-14.11	0.20-0.23	0.0-2.9	0.5-1.0	0.37	0.37			
CdA:													
Cancienne------------	0-7	---	27-39	1.25-1.45	1.41-4.23	0.15-0.19	3.0-5.9	0.5-4.0	0.37	0.37	5	7	38
	7-43	---	14-39	1.35-1.65	1.41-4.23	0.20-0.22	3.0-5.9	0.5-1.0	0.32	0.32			
	43-65	---	14-39	1.35-1.65	1.41-4.23	0.20-0.22	3.0-5.9	0.5-1.0	0.32	0.32			
	65-80	---	14-39	1.35-1.65	1.41-14.11	0.20-0.23	0.0-2.9	0.5-1.0	0.37	0.37			
CeA:													
Cancienne------------	0-7	---	27-39	1.25-1.45	1.41-4.23	0.15-0.19	3.0-5.9	0.5-4.0	0.37	0.37	5	7	38
	7-26	---	14-39	1.35-1.65	1.41-4.23	0.20-0.22	3.0-5.9	0.5-1.0	0.32	0.32			
	26-41	---	14-39	1.35-1.65	1.41-4.23	0.20-0.22	3.0-5.9	0.5-1.0	0.32	0.32			
	41-52	---	14-39	1.35-1.65	1.41-4.23	0.20-0.22	3.0-5.9	0.5-1.0	0.32	0.32			
	52-80	---	14-39	1.35-1.65	1.41-4.23	0.20-0.22	3.0-5.9	0.5-1.0	0.32	0.32			
CfA:													
Cancienne------------	0-6	---	14-27	1.35-1.65	4.23-14.11	0.21-0.23	0.0-2.9	0.5-4.0	0.43	0.43	5	6	56
	6-27	---	14-39	1.35-1.65	1.41-4.23	0.20-0.22	3.0-5.9	0.5-1.0	0.32	0.32			
	27-51	---	14-39	1.35-1.65	1.41-4.23	0.20-0.22	3.0-5.9	0.5-1.0	0.32	0.32			
	51-80	---	10-39	1.35-1.65	1.41-14.11	0.20-0.23	0.0-2.9	0.5-1.0	0.37	0.37			
CKA:													
Clovelly-------------	0-38	---	---	0.05-0.25	14.11-141.14	0.10-0.45	0.0-2.9	30-60	---	---	2	8	0
	38-80	---	50-90	0.15-1.00	0.00-0.42	0.11-0.18	0.0-2.9	0.0-10	0.28	0.28			
CLA:													
Clovelly-------------	0-40	---	---	0.05-0.25	14.11-141.14	0.10-0.45	0.0-2.9	30-60	---	---	2	8	0
	40-80	---	50-90	0.15-1.00	0.00-0.42	0.11-0.18	0.0-2.9	0.0-10	0.28	0.28			
FAA:													
Fausse---------------	0-4	0-3	60-95	1.10-1.35	0.00-0.42	0.18-0.20	9.0-25.0	1.0-3.0	0.20	0.20	5	4	86
	4-50	---	35-95	1.10-1.45	0.00-1.41	0.18-0.22	9.0-25.0	0.5-1.0	0.24	0.24			
	50-80	---	35-95	1.10-1.45	0.00-1.41	0.18-0.22	9.0-25.0	0.0-0.5	0.24	0.24			
FCA:													
Felicity-------------	0-9	---	3-10	1.50-1.70	42.24-141.14	0.03-0.06	0.0-2.9	0.0-0.5	0.15	0.20	5	2	134
	9-60	---	3-10	1.50-1.70	42.24-141.14	0.03-0.06	0.0-2.9	0.0-0.5	0.15	0.20			

Table 28.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Sand	Clay	Moist bulk density	Saturated hydraulic conductivity	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	Pct	g/cc	µm/sec	In/in	Pct	Pct					
GaA:													
Gramercy-------------	0-7	---	27-39	1.35-1.65	0.42-1.41	0.18-0.22	3.0-5.9	0.5-4.0	0.37	0.37	5	7	38
	7-14	0-3	40-55	1.20-1.60	0.00-0.42	0.12-0.21	9.0-25.0	0.5-1.0	0.32	0.32			
	14-38	---	27-55	1.20-1.65	0.42-1.41	0.12-0.21	6.0-8.9	0.0-0.5	0.32	0.32			
	38-80	---	18-50	1.20-1.65	0.42-1.41	0.12-0.21	3.0-5.9	0.0-0.5	0.37	0.37			
GcA:													
Gramercy-------------	0-4	---	27-39	1.35-1.65	0.42-1.41	0.18-0.22	3.0-5.9	0.5-4.0	0.37	0.37	5	7	38
	4-40	0-3	40-55	1.20-1.60	0.00-0.42	0.12-0.21	9.0-25.0	0.5-1.0	0.32	0.32			
	40-70	---	14-39	1.35-1.65	1.41-4.23	0.20-0.22	3.0-5.9	0.5-1.0	0.32	0.32			
	70-80	---	18-50	1.20-1.65	0.42-1.41	0.12-0.21	3.0-5.9	0.0-0.5	0.37	0.37			
Cancienne------------	0-8	---	27-39	1.25-1.45	1.41-4.23	0.15-0.19	3.0-5.9	0.5-4.0	0.37	0.37	5	7	38
	8-14	---	14-39	1.35-1.65	1.41-4.23	0.20-0.22	3.0-5.9	0.5-1.0	0.32	0.32			
	14-80	---	14-39	1.35-1.65	1.41-4.23	0.20-0.22	3.0-5.9	0.5-1.0	0.32	0.32			
HpA:													
Harahan--------------	0-9	0-3	50-95	0.50-1.50	0.00-0.42	0.11-0.25	9.0-25.0	2.0-25	0.37	0.37	5	4	86
	9-30	0-3	60-95	1.20-1.50	0.00-0.42	0.11-0.20	9.0-25.0	1.0-3.0	0.37	0.37			
	30-80	0-3	50-95	0.25-1.00	0.00-0.42	0.11-0.25	0.0-2.9	0.5-1.0	0.37	0.37			
KEA:													
Kenner---------------	0-19	---	---	0.05-0.25	42.34-141.14	0.20-0.25	0.0-2.9	20-60	---	---	2	8	0
	19-23	---	45-85	0.15-1.00	0.00-0.42	0.12-0.18	0.0-2.9	0.0-10	0.32	0.32			
	23-42	---	---	0.05-0.50	42.34-141.14	0.20-0.25	0.0-2.9	10-40	---	---			
	42-43	---	45-85	0.15-1.00	0.00-0.42	0.12-0.18	0.0-2.9	0.0-10	0.32	0.32			
	43-65	---	---	0.05-0.50	42.34-141.14	0.20-0.25	0.0-2.9	10-40	---	---			
	65-84	---	45-85	0.15-1.00	0.00-0.42	0.12-0.18	0.0-2.9	0.0-10	0.32	0.32			
LAA:													
Lafitte--------------	0-80	---	---	0.05-0.25	14.11-42.34	0.18-0.45	0.0-2.9	30-70	---	---	2	8	0
LFA:													
Lafitte--------------	0-52	---	---	0.05-0.25	14.11-42.34	0.18-0.45	0.0-2.9	30-70	---	---	2	8	0
	52-80	---	50-90	0.15-1.00	0.00-0.42	0.11-0.18	0.0-2.9	0.0-10	0.28	0.28			
LRA:													
Larose---------------	0-8	---	---	0.05-0.25	14.11-141.14	0.20-0.50	0.0-2.9	30-85	---	---	2	8	0
	8-96	---	60-80	0.15-1.00	0.00-0.42	0.14-0.18	0.0-2.9	5.0-25	0.28	0.28			
MAA:													
Maurepas-------------	0-60	---	---	0.05-0.25	42.34-141.14	0.20-0.50	0.0-2.9	20-60	---	---	2	8	0
	60-68	0-3	60-95	0.25-1.00	0.00-0.42	0.18-0.20	0.0-2.9	2.0-25	0.32	0.32			
	68-96	---	---	0.05-0.25	42.34-141.14	0.20-0.50	0.0-2.9	20-60	---	---			

Table 28.--Physical Soil Properties--Continued

Map symbol and soil name	Depth	Sand	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors Kw	Erosion factors Kf	Erosion factors T	Wind erodibility group	Wind erodibility index
	In	Pct	Pct	g/cc	µm/sec	In/in	Pct	Pct					
RTA:													
Rita	0-4	---	---	0.15-0.50	14.11-42.34	0.20-0.50	0.0-2.9	30-70	---	---	2	8	0
	4-24	---	60-95	1.20-1.45	0.00-0.42	0.11-0.18	6.0-8.9	0.0-10	0.37	0.37			
	24-36	---	60-95	0.25-1.00	0.00-0.42	0.15-0.30	6.0-8.9	0.5-1.0	0.37	0.37			
	36-42	---	30-50	0.25-1.00	0.00-0.42	0.15-0.30	6.0-8.9	0.5-1.0	0.37	0.37			
	42-80	---	5-15	0.25-1.00	1.41-14.11	0.11-0.30	0.0-2.9	0.0-0.5	0.32	0.32			
SCA:													
Scatlake	0-8	---	---	0.05-0.25	14.11-141.14	0.20-0.50	---	30-70	---	---	2	8	0
	8-38	---	27-60	0.25-1.00	0.00-1.41	0.05-0.15	0.0-2.9	0.0-10	0.24	0.24			
	38-75	---	60-85	0.25-1.00	0.00-0.42	0.05-0.15	0.0-2.9	0.0-10	0.28	0.28			
ShA:													
Schriever	0-5	0-3	40-78	1.20-1.50	0.00-0.42	0.12-0.18	9.0-25.0	0.5-4.0	0.32	0.32	5	4	86
	5-62	0-3	60-90	1.20-1.50	0.00-0.42	0.07-0.14	9.0-25.0	0.0-0.5	0.28	0.28			
	62-80	---	25-90	1.20-1.65	0.42-1.41	0.12-0.18	6.0-8.9	0.0-0.5	0.28	0.28			
SIA:													
Schriever	0-8	0-3	40-78	1.20-1.50	0.00-0.42	0.12-0.18	9.0-25.0	0.5-4.0	0.32	0.32	5	4	86
	8-65	0-3	60-90	1.20-1.50	0.00-0.42	0.07-0.14	9.0-25.0	0.0-0.5	0.28	0.28			
	65-80	---	25-90	1.20-1.65	0.42-1.41	0.12-0.18	6.0-8.9	0.0-0.5	0.28	0.28			
SrA:													
Schriever	0-4	0-3	40-78	1.20-1.50	0.00-0.42	0.12-0.18	9.0-25.0	0.5-4.0	0.32	0.32	5	4	86
	4-18	0-3	60-90	1.20-1.50	0.00-0.42	0.07-0.14	9.0-25.0	0.0-0.5	0.28	0.28			
	18-39	0-3	60-90	1.20-1.50	0.00-0.42	0.07-0.14	9.0-25.0	0.0-0.5	0.28	0.28			
	39-48	0-3	60-90	1.20-1.50	0.00-0.42	0.07-0.14	9.0-25.0	0.0-0.5	0.28	0.28			
	48-80	0-3	60-90	1.20-1.50	0.00-0.42	0.07-0.14	9.0-25.0	0.0-0.5	0.28	0.28			
TUA:													
Timbalier	0-62	---	---	0.05-0.25	14.11-141.14	0.20-0.50	0.0-2.9	30-70	---	---	2	8	0
	62-80	---	60-85	0.25-1.00	0.00-0.42	0.05-0.15	0.0-2.9	0.0-10	0.28	0.28			
UB:													
Urban land	---	---	---	---	---	---	---	---	---	---	--	8	0
UD:													
Udorthents	---	---	---	---	---	---	---	---	---	---	1	8	0
W:													
Water	---	---	---	---	---	---	---	---	---	---	--	---	---

Table 29.--Chemical Soil Properties

(Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
AEA:							
Allemands------------	0-10	77-172	5.1-7.8	0	0	0.0-4.0	0-15
	10-30	65-108	5.1-6.9	0	0	0.0-4.0	0-15
	30-80	37-68	6.1-8.4	0	0	0.0-4.0	5-15
ARA:							
Allemands------------	0-20	77-172	5.1-7.8	0	0	0.0-4.0	0-15
	20-29	77-154	5.1-7.8	0	0	0.0-4.0	0-15
	29-80	42-63	6.1-8.4	0	0	0.0-4.0	5-15
Carlin---------------	0-8	50-92	5.6-8.4	0	0	0.0-4.0	0
	8-28	---	---	0	0	0	0
	28-51	50-92	5.6-8.4	0	0	0.0-4.0	0
	51-80	50-100	5.6-8.4	0	0	0.0-4.0	0-15
ATA:							
Aquents--------------	---	---	---	---	---	---	---
ATB:							
Aquents--------------	---	---	---	---	---	---	---
BNA:							
Bancker--------------	0-10	70-100	4.5-7.8	0	0	4.0-8.0	5-10
	10-80	50-100	5.6-8.4	0	0	4.0-8.0	5-15
BOA:							
Bancker--------------	0-13	70-100	4.5-7.8	0	0	4.0-8.0	5-10
	13-94	50-100	5.6-8.4	0	0	4.0-8.0	5-15
BRA:							
Barbary--------------	0-5	---	5.1-7.8	0	0	0.0-2.0	0
	5-9	37-70	5.6-7.8	0	0	0.0-2.0	0
	9-80	44-70	6.6-8.4	0	0	0.0-2.0	0
BSA:							
Bellpass-------------	0-30	70-100	6.6-8.4	0	0	8.0-16.0	0
	30-80	50-100	6.1-8.4	0	0	8.0-16.0	0
CbA:							
Cancienne------------	0-8	5.0-15	5.1-8.4	0	0	0	0
	8-44	10-30	6.6-8.4	0	0	0	0
	44-65	10-30	6.6-8.4	0	0	0	0
	65-80	10-40	6.6-8.4	0	0	0	0
CdA:							
Cancienne------------	0-7	10-25	5.1-8.4	0	0	0	0
	7-43	10-30	6.6-8.4	0	0	0	0
	43-65	10-30	6.6-8.4	0	0	0	0
	65-80	10-40	6.6-8.4	0	0	0	0
CeA:							
Cancienne------------	0-7	10-25	5.1-8.4	0	0	0	0
	7-26	10-30	6.6-8.4	0	0	0	0
	26-41	10-30	6.6-8.4	0	0	0	0
	41-52	10-30	6.6-8.4	0	0	0	0
	52-80	10-30	6.6-8.4	0	0	0	0

Table 29.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
CfA:							
Cancienne------------	0-6	5.0-15	5.1-8.4	0	0	0	0
	6-27	10-30	6.6-8.4	0	0	0	0
	27-51	10-30	6.6-8.4	0	0	0	0
	51-80	10-40	6.6-8.4	0	0	0	0
CKA:							
Clovelly-------------	0-38	70-100	6.6-8.4	0	0	4.0-8.0	5-15
	38-80	40-100	6.6-8.4	0	0	4.0-8.0	5-15
CLA:							
Clovelly-------------	0-40	70-100	6.6-8.4	0	0	4.0-6.0	5-15
	40-80	40-100	6.6-8.4	0	0	4.0-6.0	5-15
FAA:							
Fausse---------------	0-4	43-66	5.1-7.3	0	0	0	0
	4-50	26-63	6.1-8.4	0	0	0	0
	50-80	23-62	6.6-8.4	0	0	0	0
FCA:							
Felicity-------------	0-9	0.0-5.0	6.6-8.4	10-30	0	8.0-16.0	0
	9-60	0.0-5.0	6.6-8.4	10-30	0	8.0-16.0	0
GaA:							
Gramercy-------------	0-7	10-25	5.6-8.4	0	0	0	0
	7-14	15-40	5.6-8.4	0	0	0	0
	14-38	15-40	5.6-8.4	0-5	0	0	0
	38-80	10-40	5.6-8.4	0-5	0	0	0
GcA:							
Gramercy-------------	0-4	10-25	5.6-8.4	0	0	0	0
	4-40	15-40	5.6-8.4	0	0	0	0
	40-70	10-30	5.6-8.4	0	0	0	0
	70-80	10-40	5.6-8.4	0-5	0	0	0
Cancienne------------	0-8	10-25	5.1-8.4	0	0	0	0
	8-14	10-30	6.1-8.4	0	0	0	0
	14-80	10-30	6.6-8.4	0	0	0	0
HpA:							
Harahan--------------	0-9	37-70	5.1-7.8	0	0	0.0-2.0	0
	9-30	43-66	5.1-7.8	0	0	0.0-2.0	0
	30-80	36-63	6.6-8.4	0	0	0.0-2.0	0
KEA:							
Kenner---------------	0-19	70-147	5.6-8.4	0	0	0.0-1.9	1-12
	19-23	4.5-47	6.6-8.4	0	0	0.0-1.9	1-12
	23-42	0.0-74	5.6-8.4	0	0	0.0-1.9	1-12
	42-43	4.5-47	6.6-8.4	0	0	0.0-1.9	1-12
	43-65	0.0-74	5.6-8.4	0	0	0.0-1.9	1-12
	65-84	4.5-47	6.6-8.4	0	0	0.0-1.9	1-12
LAA:							
Lafitte--------------	0-80	50-100	6.1-8.4	0	0	4.0-8.0	5-10
LFA:							
Lafitte--------------	0-52	50-100	6.1-8.4	0	0	4.0-6.0	5-10
	52-80	40-100	6.1-8.4	0	0	4.0-6.0	5-15

Table 29.--Chemical Soil Properties--Continued

Map symbol and soil name	Depth	Cation exchange capacity	Soil reaction	Calcium carbon-ate	Gypsum	Salinity	Sodium adsorp-tion ratio
	Inches	meq/100 g	pH	Pct	Pct	mmhos/cm	
LRA:							
Larose---------------	0-8	70-100	5.1-7.8	0	0	0.0-1.9	0-15
	8-96	50-100	6.1-8.4	0	0	0.0-1.9	0-15
MAA:							
Maurepas-------------	0-60	24-124	5.6-8.4	0	0	0.0-4.0	0
	60-68	24-66	6.6-8.4	0	0	0.0-2.0	0
	68-96	24-124	5.6-8.4	0	0	0.0-4.0	0
RTA:							
Rita-----------------	0-4	---	3.5-6.5	0	0	0.0-4.0	0
	4-24	9.5-115	3.5-7.3	0	0	0.0-4.0	0
	24-36	29-54	3.5-7.3	0	0	0.0-4.0	0
	36-42	16-31	6.6-8.4	0	0	0.0-4.0	0
	42-80	1.1-8.8	6.6-8.4	0	0	0.0-4.0	0
SCA:							
Scatlake-------------	0-8	70-100	6.1-8.4	0	0	8.0-16.0	9-18
	8-38	60-100	6.1-8.4	0	0	8.0-16.0	12-20
	38-75	70-100	6.1-8.4	0	0	8.0-16.0	12-20
ShA:							
Schriever------------	0-5	20-40	5.6-8.4	0	0	0	0
	5-62	20-40	5.1-8.4	0-5	0	0	0
	62-80	10-40	6.6-8.4	0-5	0	0	0
SIA:							
Schriever------------	0-8	20-40	5.6-8.4	0	0	0	0
	8-65	20-40	5.1-8.4	0-5	0	0	0
	65-80	10-40	6.6-8.4	0-5	0	0	0
SrA:							
Schriever------------	0-4	20-40	5.6-8.4	0	0	0	0
	4-18	20-40	5.1-8.4	0-5	0	0	0
	18-39	20-40	5.1-8.4	0-5	0	0	0
	39-48	20-40	5.1-8.4	0-5	0	0	0
	48-80	20-40	6.6-8.4	0-5	0	0	0
TUA:							
Timbalier------------	0-62	49-149	6.6-8.4	---	---	8.0-16.0	---
	62-80	70-100	6.1-8.4	0	0	8.0-16.0	12-20
UB:							
Urban land-----------	---	---	---	---	---	---	---
UD:							
Udorthents-----------	---	---	---	---	---	---	---
W:							
Water----------------	---	---	---	---	---	---	---

Table 30.--Water Features

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding a nd flooding apply to the whole year rather than to individual months. 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	Surface runoff	Month	Water Table: Upper limit	Water Table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
AEA:										
Allemands	D	High								
			January	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			February	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			March	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			April	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			May	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			June	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			July	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			August	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			September	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			October	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			November	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			December	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
ARA:										
Allemands	D	High								
			January	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			February	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			March	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			April	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			May	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			June	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			July	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			August	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			September	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			October	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			November	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			December	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
Carlin	D	High								
			January	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			February	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			March	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			April	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			May	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			June	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			July	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			August	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent

Table 30.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water Table: Upper limit	Water Table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
			September	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			October	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			November	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			December	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
ATA:										
Aquents-------------------	---	---								
			June	---	---	---	---	None	Brief	Rare
			July	---	---	---	---	None	Brief	Rare
			August	---	---	---	---	None	Brief	Rare
			September	---	---	---	---	None	Brief	Rare
			October	---	---	---	---	None	Brief	Rare
ATB:										
Aquents-------------------	---	---								
			June	---	---	---	---	None	Brief	Occasional
			July	---	---	---	---	None	Brief	Occasional
			August	---	---	---	---	None	Brief	Occasional
			September	---	---	---	---	None	Brief	Occasional
			October	---	---	---	---	None	Brief	Occasional
BNA:										
Bancker-------------------	D	High								
			January	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			February	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			March	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			April	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			May	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			June	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			July	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			August	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			September	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			October	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			November	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			December	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
BOA:										
Bancker-------------------	D	High								
			January	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			February	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			March	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			April	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent

Table 30.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water Table: Upper limit	Water Table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
			May	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			June	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			July	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			August	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			September	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			October	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			November	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			December	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
BRA:										
Barbary-------------------	D	Negligible								
			January	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Frequent
			February	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Frequent
			March	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Frequent
			April	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Frequent
			May	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Frequent
			June	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Frequent
			July	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Frequent
			August	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Frequent
			September	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Frequent
			October	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Frequent
			November	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Frequent
			December	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Frequent
BSA:										
Bellpass-----------------	D	High								
			January	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			February	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			March	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			April	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			May	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			June	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			July	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			August	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			September	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			October	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			November	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			December	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent

Table 30.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water Table: Upper limit	Water Table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
CbA:										
Cancienne	C	Medium								
			January	1.5-4.0	>6.0	---	---	None	---	None
			February	1.5-4.0	>6.0	---	---	None	---	None
			March	1.5-4.0	>6.0	---	---	None	---	None
			April	1.5-4.0	>6.0	---	---	None	---	None
			December	1.5-4.0	>6.0	---	---	None	---	None
CdA:										
Cancienne	C	Medium								
			January	1.5-4.0	>6.0	---	---	None	---	None
			February	1.5-4.0	>6.0	---	---	None	---	None
			March	1.5-4.0	>6.0	---	---	None	---	None
			April	1.5-4.0	>6.0	---	---	None	---	None
			December	1.5-4.0	>6.0	---	---	None	---	None
CeA:										
Cancienne	C	Medium								
			January	1.5-4.0	>6.0	---	---	None	---	None
			February	1.5-4.0	>6.0	---	---	None	---	None
			March	1.5-4.0	>6.0	---	---	None	---	None
			April	1.5-4.0	>6.0	---	---	None	---	None
			June	---	---	---	---	None	Brief	Occasional
			July	---	---	---	---	None	Brief	Occasional
			August	---	---	---	---	None	Brief	Occasional
			September	---	---	---	---	None	Brief	Occasional
			October	---	---	---	---	None	Brief	Occasional
			November	---	---	---	---	None	Brief	Occasional
			December	1.5-4.0	>6.0	---	---	None	---	None
CfA:										
Cancienne	C	Medium								
			January	1.5-4.0	>6.0	---	---	None	---	None
			February	1.5-4.0	>6.0	---	---	None	---	None
			March	1.5-4.0	>6.0	---	---	None	---	None
			April	1.5-4.0	>6.0	---	---	None	---	None
			June	---	---	---	---	None	Brief	Occasional
			July	---	---	---	---	None	Brief	Occasional
			August	---	---	---	---	None	Brief	Occasional
			September	---	---	---	---	None	Brief	Occasional
			October	---	---	---	---	None	Brief	Occasional
			November	---	---	---	---	None	Brief	Occasional
			December	1.5-4.0	>6.0	---	---	None	---	None

Table 30.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water Table: Upper limit	Water Table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
CKA:										
Clovelly------------------	D	High								
			January	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			February	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			March	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			April	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			May	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			June	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			July	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			August	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			September	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			October	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			November	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			December	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
CLA:										
Clovelly------------------	D	High								
			January	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			February	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			March	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			April	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			May	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			June	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			July	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			August	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			September	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			October	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			November	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			December	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
FAA:										
Fausse--------------------	D	Negligible								
			January	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Frequent
			February	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Frequent
			March	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Frequent
			April	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Frequent
			May	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Frequent
			June	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Frequent
			July	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Frequent
			August	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Frequent
			September	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Frequent
			October	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Frequent
			November	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Frequent
			December	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Frequent

Table 30.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water Table: Upper limit	Water Table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
FCA:										
Felicity	A	Negligible								
			January	2.0-3.0	>6.0	---	---	None	Brief	Frequent
			February	2.0-3.0	>6.0	---	---	None	Brief	Frequent
			March	2.0-3.0	>6.0	---	---	None	Brief	Frequent
			April	2.0-3.0	>6.0	---	---	None	Brief	Frequent
			May	2.0-3.0	>6.0	---	---	None	Brief	Frequent
			June	2.0-3.0	>6.0	---	---	None	Brief	Frequent
			July	2.0-3.0	>6.0	---	---	None	Brief	Frequent
			August	2.0-3.0	>6.0	---	---	None	Brief	Frequent
			September	2.0-3.0	>6.0	---	---	None	Brief	Frequent
			October	2.0-3.0	>6.0	---	---	None	Brief	Frequent
			November	2.0-3.0	>6.0	---	---	None	Brief	Frequent
			December	2.0-3.0	>6.0	---	---	None	Brief	Frequent
GaA:										
Gramercy	D	Very high								
			January	0.0-2.0	>6.0	---	---	None	---	Rare
			February	0.0-2.0	>6.0	---	---	None	---	Rare
			March	0.0-2.0	>6.0	---	---	None	---	Rare
			April	0.0-2.0	>6.0	---	---	None	---	Rare
			December	0.0-2.0	>6.0	---	---	None	---	Rare
GcA:										
Gramercy	D	Very high								
			January	0.0-2.0	>6.0	---	---	None	---	Rare
			February	0.0-2.0	>6.0	---	---	None	---	Rare
			March	0.0-2.0	>6.0	---	---	None	---	Rare
			April	0.0-2.0	>6.0	---	---	None	---	Rare
			December	0.0-2.0	>6.0	---	---	None	---	Rare
Cancienne	C	Medium								
			January	1.5-4.0	>6.0	---	---	None	---	None
			February	1.5-4.0	>6.0	---	---	None	---	None
			March	1.5-4.0	>6.0	---	---	None	---	None
			April	1.5-4.0	>6.0	---	---	None	---	None
			December	1.5-4.0	>6.0	---	---	None	---	None
HpA:										
Harahan	D	Very high								
			January	1.0-3.0	>6.0	---	---	None	Brief	None
			February	1.0-3.0	>6.0	---	---	None	Brief	None
			March	1.0-3.0	>6.0	---	---	None	Brief	None
			April	1.0-3.0	>6.0	---	---	None	Brief	None

Table 30.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water Table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
			May	1.0-3.0	>6.0	---	---	None	Brief	None
			June	1.0-3.0	>6.0	---	---	None	Brief	Occasional
			July	1.0-3.0	>6.0	---	---	None	Brief	Occasional
			August	1.0-3.0	>6.0	---	---	None	Brief	Occasional
			September	1.0-3.0	>6.0	---	---	None	Brief	Occasional
			October	1.0-3.0	>6.0	---	---	None	Brief	Occasional
			November	1.0-3.0	>6.0	---	---	None	Brief	Occasional
			December	1.0-3.0	>6.0	---	---	None	Brief	None
KEA:										
Kenner	D	High								
			January	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			February	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			March	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			April	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			May	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			June	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			July	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			August	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			September	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			October	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			November	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			December	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
LAA:										
Lafitte	D	High								
			January	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			February	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			March	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			April	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			May	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			June	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			July	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			August	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			September	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			October	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			November	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			December	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
LFA:										
Lafitte	D	High								
			January	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			February	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			March	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			April	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent

Table 30.--Water Features--Continued

Map symbol and soil name	Hydrologic group	Surface runoff	Month	Water Table: Upper limit	Water Table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
			May	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			June	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			July	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			August	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			September	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			October	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			November	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			December	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
LRA:										
Larose	D	High								
			January	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			February	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			March	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			April	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			May	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			June	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			July	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			August	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			September	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			October	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			November	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			December	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
MAA:										
Maurepas	D	Negligible								
			January	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Frequent
			February	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Frequent
			March	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Frequent
			April	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Frequent
			May	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Frequent
			June	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Frequent
			July	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Frequent
			August	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Frequent
			September	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Frequent
			October	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Frequent
			November	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Frequent
			December	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Frequent
RTA:										
Rita	D	Very high								
			January	1.0-3.0	>6.0	---	---	None	Brief	None
			February	1.0-3.0	>6.0	---	---	None	Brief	None
			March	1.0-3.0	>6.0	---	---	None	Brief	None
			April	1.0-3.0	>6.0	---	---	None	Brief	None

Table 30.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water Table: Upper limit	Water Table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
			May	1.0-3.0	>6.0	---	---	None	Brief	None
			June	1.0-3.0	>6.0	---	---	None	Brief	Occasional
			July	1.0-3.0	>6.0	---	---	None	Brief	Occasional
			August	1.0-3.0	>6.0	---	---	None	Brief	Occasional
			September	1.0-3.0	>6.0	---	---	None	Brief	Occasional
			October	1.0-3.0	>6.0	---	---	None	Brief	Occasional
			November	1.0-3.0	>6.0	---	---	None	Brief	Occasional
			December	1.0-3.0	>6.0	---	---	None	Brief	None
SCA:										
Scatlake	D	High								
			January	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			February	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			March	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			April	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			May	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			June	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			July	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			August	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			September	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			October	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			November	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			December	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
ShA:										
Schriever	D	Very high								
			January	0.0-2.0	>6.0	---	---	None	---	Rare
			February	0.0-2.0	>6.0	---	---	None	---	Rare
			March	0.0-2.0	>6.0	---	---	None	---	Rare
			April	0.0-2.0	>6.0	---	---	None	---	Rare
			May	---	---	---	---	None	---	Rare
			June	---	---	---	---	None	---	Rare
			July	---	---	---	---	None	---	Rare
			December	0.0-2.0	>6.0	---	---	None	---	Rare
SIA:										
Schriever	D	Very high								
			January	0.0-2.0	>6.0	---	---	None	Long	Frequent
			February	0.0-2.0	>6.0	---	---	None	Long	Frequent
			March	0.0-2.0	>6.0	---	---	None	Long	Frequent
			April	0.0-2.0	>6.0	---	---	None	Long	Frequent
			May	---	---	---	---	None	Long	Frequent
			June	---	---	---	---	None	Long	Frequent

Table 30.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water Table: Upper limit	Water Table: Lower limit	Ponding: Surface water depth	Ponding: Duration	Ponding: Frequency	Flooding: Duration	Flooding: Frequency
				Ft	Ft	Ft				
			July	---	---	---	---	None	Long	Frequent
			December	0.0-2.0	>6.0	---	---	None	Long	Frequent
SrA:										
Schriever	D	Very high								
			January	0.0-2.0	>6.0	---	---	None	Long	Occasional
			February	0.0-2.0	>6.0	---	---	None	Long	Occasional
			March	0.0-2.0	>6.0	---	---	None	Long	Occasional
			April	0.0-2.0	>6.0	---	---	None	Long	Occasional
			May	---	---	---	---	None	Long	Occasional
			June	---	---	---	---	None	Long	Occasional
			July	---	---	---	---	None	Long	Occasional
			December	0.0-2.0	>6.0	---	---	None	Long	Occasional
TUA:										
Timbalier	D	High								
			January	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			February	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			March	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			April	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			May	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			June	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			July	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			August	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			September	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			October	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			November	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
			December	0.0	>6.0	0.0-1.0	Very long	Frequent	Very long	Very frequent
UB:										
Urban Land	---	---								
			Jan-Dec	---	---	---	---	None	---	None
UD:										
Udorthents	---	---								
			Jan-Dec	---	---	---	---	None	---	None
W:										
Water	---	---								
			Jan-Dec	---	---	---	---	None	---	None

Table 31.--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		
AEA:				
Allemands	8-25	16-51	High	Moderate
ARA:				
Allemands	8-25	16-51	High	Moderate
Carlin	15-30	51	Moderate	Moderate
ATA:				
Aquents	---	---	---	---
ATB:				
Aquents	---	---	---	---
BNA:				
Bancker	2-4	5-15	High	Moderate
BOA:				
Bancker	2-4	5-15	High	Moderate
BRA:				
Barbary	3-12	6-15	High	Moderate
BSA:				
Bellpass	8-25	16-51	High	Low
CbA:				
Cancienne	---	---	High	Low
CdA:				
Cancienne	---	---	High	Low
CeA:				
Cancienne	---	---	High	Low
CfA:				
Cancienne	---	---	High	Low
CKA:				
Clovelly	8-20	16-51	High	Low
CLA:				
Clovelly	8-20	16-51	High	Low
FAA:				
Fausse	---	---	High	Low
FCA:				
Felicity	---	---	High	Moderate
GaA:				
Gramercy	---	---	High	Moderate

Table 31.--Soil Features--Continued

Map symbol and soil name	Subsidence		Risk of corrosion	
	Initial	Total	Uncoated steel	Concrete
	In	In		
GcA:				
Gramercy	---	---	High	Moderate
Cancienne	---	---	High	Low
HpA:				
Harahan	2-5	4-10	High	Moderate
KEA:				
Kenner	15-30	51	High	Moderate
LAA:				
Lafitte	15-30	51	High	Moderate
LFA:				
Lafitte	15-30	51	High	Moderate
LRA:				
Larose	2-8	5-15	High	Moderate
MAA:				
Maurepas	15-30	51	High	High
RTA:				
Rita	1-5	4-10	High	Moderate
SCA:				
Scatlake	---	6-12	High	Moderate
ShA:				
Schriever	---	---	High	Moderate
SIA:				
Schriever	---	---	High	Moderate
SrA:				
Schriever	---	---	High	Moderate
TUA:				
Timbalier	25-45	51-60	High	Low
UB:				
Urban Land	---	---	---	---
UD:				
Udorthents	---	---	---	---
W:				
Water	---	---	---	---

Table 32.--Fertility Test Data for Selected Soils

(Dashes indicate that analyses were not made)

Soil name and sample number	Hori- zon	Depth	Organic matter content	pH 1:1 H_2O	Ex- tract- able phos- phorous	Exchangeable cations: Ca	Exchangeable cations: Mg	Exchangeable cations: K	Exchangeable cations: Na	Exchangeable cations: AL	Exchangeable cations: H	Total acid- ty	Cation- exchange capacity (effec- tive)	Base satura- tion (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	
Allemands muck (1,3,9)	Oe	0-10	70.2	6.2	94.0	26.20	9.00	0.50	3.00	---	---	28.80	---	57.3	4.4	---	2.9
(S94LA-109-24)	Oa	10-30	56.1	5.4	49.0	26.20	15.90	0.40	9.40	0.20	1.00	22.80	53.10	69.5	12.6	0.4	1.6
	Cg1	30-48	7.7	7.7	154.0	15.70	22.50	1.30	6.80	---	---	19.80	---	70.0	10.3	---	0.7
	Cg2	48-80	7.9	6.5	178.0	14.30	20.00	1.40	7.70	---	---	12.60	---	77.5	13.8	---	0.7
Barbary muck (1,3)	Oa	0-5	78.0	5.2	123.0	30.70	7.40	0.50	1.60	0.00	1.20	28.20	41.40	58.8	2.3	0.0	4.1
(S94LA-109-001)	Ag	5-9	10.3	6.3	79.0	34.50	14.80	0.90	1.80	---	---	16.20	---	76.2	2.6	---	2.3
	Cg1	9-55	7.2	5.5	46.0	31.80	12.90	0.90	1.60	0.00	0.40	18.60	47.60	71.7	2.4	0.0	2.5
	Cg2	55-80	11.3	5.1	50.0	32.50	13.60	0.90	2.00	0.00	1.00	21.60	50.00	69.4	2.8	0.0	2.4
Cancienne silt loam (1,3)	Ap1	0-4	4.6	5.5	81.0	14.50	8.20	0.80	3.20	0.00	0.90	4.50	27.60	85.6	10.3	0.0	1.8
(S95LA-109-053)	Ap2	4-8	1.9	5.3	97.0	12.10	8.90	0.70	9.20	0.00	1.20	3.00	32.10	91.2	27.1	0.0	1.4
	Bg1	8-15	1.7	6.9	204.0	11.10	7.70	0.50	11.70	---	---	0.30	---	99.0	37.4	---	1.4
	Bg2	15-30	0.8	7.8	285.0	10.40	6.10	0.50	7.50	---	---	0.30	---	98.8	30.2	---	1.7
	Bg3	30-44	0.6	7.9	302.0	19.00	6.70	0.80	7.40	---	---	0.20	---	99.4	21.7	---	2.8
	Bcg	44-65	0.7	7.6	286.0	9.20	6.50	0.50	7.60	---	---	0.10	---	99.6	31.8	---	1.4
	Cg	65-80	0.6	8.0	329.0	14.50	5.60	0.60	7.20	---	---	0.10	---	99.6	25.7	---	2.6
Cancienne silty clay loam (3,6)	Ap	0-7	2.2	5.0	467.0	15.30	3.70	0.60	0.10	0.00	0.60	11.40	20.30	63.3	0.3	0.0	4.1
(S94LA-109-002)	Bg1	7-14	1.9	5.4	544.0	16.20	3.90	0.50	0.10	0.20	0.60	11.20	564.90	99.9	0.1	0.0	33.6
	Bg2	14-23	0.7	6.3	267.0	18.60	5.30	0.50	0.20	---	---	7.20	---	77.4	0.6	---	3.5
	Bg3	23-43	0.5	6.7	263.0	18.20	5.70	0.50	0.20	---	---	4.80	---	83.7	0.7	---	3.2
	BCg	43-65	0.6	6.9	345.0	16.40	6.10	0.50	0.20	---	---	4.20	---	84.7	0.7	---	2.7
Cancienne silt loam (2,3,4)	A	0-6	2.4	6.8	175.0	12.60	5.30	0.30	3.70	---	---	1.80	23.70	92.4	15.6	---	2.4
(S96LA-109-002)	Bg1	6-16	0.8	7.8	230.0	10.80	4.80	0.30	5.20	---	---	1.50	22.60	93.4	23.0	---	2.3
	Bg2	16-27	0.8	8.0	202.0	19.80	4.50	0.30	4.30	---	---	0.90	29.80	97.0	14.4	---	4.4
	Bg3	27-37	0.4	7.9	228.0	18.50	3.20	0.30	2.60	---	---	0.60	25.20	97.6	10.3	---	5.8
	Bg4	37-51	0.3	8.1	185.0	15.20	3.10	0.30	2.50	---	---	0.30	21.40	98.6	11.7	---	4.9
	Cg	51-80	0.1	7.9	227.0	7.40	1.90	0.20	1.70	---	---	0.10	11.30	99.1	15.0	---	3.9

See footnotes at end of table

Table 32.--Fertility Test Data for Selected Soils--Continued

Soil name and sample number	Horizon	Depth	Organic matter content	pH 1:1 H_2O	Extractable phosphorous	Exchangeable cations: Ca	Exchangeable cations: Mg	Exchangeable cations: K	Exchangeable cations: Na	Exchangeable cations: AL	Exchangeable cations: H	Total acidity	Cation-exchange capacity (effective)	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	
Carlin peat (1,3,10)	Oi	0-8	90.7	5.7	71.0	30.30	13.10	0.90	5.00	0.00	0.40	22.80	49.70	68.4	6.9	0.0	2.3
(S94LA-109-019)	W	8-28	76.3	6.5	86.0	36.10	14.90	0.60	5.50	---	---	23.40	---	70.9	6.8	---	2.4
	Oe	28-51	59.4	5.6	60.0	28.30	21.20	0.50	7.70	0.00	1.20	25.80	58.90	69.1	9.2	0.0	1.3
	Cg	51-80	29.8	5.9	118.0	24.10	20.60	0.90	7.10	0.00	1.20	32.40	53.90	61.9	8.3	0.0	1.2
Fausse clay (1,3)	A	0-4	2.1	5.8	242.0	25.40	9.80	0.70	0.50	0.00	0.30	15.60	36.70	70.0	1.0	0.0	2.6
(S94LA-109-003)	Bg1	4-19	1.1	6.7	208.0	26.70	10.30	0.80	0.70	---	---	8.40	---	82.1	1.5	---	2.6
	Bg2	19-50	0.8	7.2	202.0	25.30	9.90	0.80	0.70	---	---	8.20	---	81.7	1.6	---	2.6
	BCg	50-80	0.8	6.9	151.0	23.50	9.20	0.70	0.70	---	---	9.00	---	79.1	1.6	---	2.6
Felicity loamy fine sand (1,3)	C1	0-9	0.1	7.6	109.0	0.20	0.50	0.10	0.80	0.00	0.20	1.80	1.80	47.1	23.5	0.0	0.4
(S94LA-109-31)	C2	9-18	0.0	8.1	100.0	0.30	0.90	0.20	3.30	0.00	0.40	3.00	5.10	61.0	42.9	0.0	0.3
	C3	18-27	0.0	7.5	84.0	0.50	1.30	0.30	4.00	0.00	0.40	1.20	6.50	83.6	54.8	0.0	0.4
	2Abg	27-60	0.0	7.5	79.0	0.50	1.20	0.30	3.60	0.00	0.40	0.60	6.00	90.3	58.1	0.0	0.4
Lafitte muck (1,3,7)	Oa1	0-24	35.8	6.3	93.0	16.90	24.60	1.30	22.30	---	---	16.80	---	79.5	27.2	---	0.7
(S94LA-109-010)	Oa2	24-55	81.4	5.7	101.0	25.80	29.30	1.70	43.70	0.00	0.60	22.20	101.10	81.9	35.6	0.0	0.9
	Oa3	55-80	37.5	5.9	70.0	25.60	33.00	0.80	26.70	0.00	0.80	35.40	86.90	70.9	22.0	0.0	0.8
Maurepas muck (1,3,7)	Oa1	0-10	47.6	5.8	105.0	30.40	12.00	0.70	2.20	0.00	0.60	24.60	45.90	64.8	3.1	0.0	2.5
(S96LA-109-003)	Oa2	10-26	69.5	5.8	67.0	37.60	19.90	0.50	6.00	0.00	0.80	33.00	64.80	66.0	6.2	0.0	1.9
	Oa3	26-42	62.3	5.7	69.0	33.60	19.90	0.60	7.00	0.00	1.00	33.30	62.10	64.7	7.4	0.0	1.7
	Oa4	42-60	59.4	6.1	140.0	20.90	16.20	0.70	6.80	---	---	21.80	---	67.2	10.2	---	1.3
	2Cg	60-68	20.0	6.5	167.0	17.60	23.80	1.30	8.10	---	---	13.80	---	78.6	12.5	---	0.7
	3Oa	68-96	46.7	6.2	582.0	23.40	24.30	1.30	14.80	---	---	25.20	---	71.7	16.6	---	1.0
Schriever clay (1,3)	A	0-4	3.5	6.2	189.0	41.30	12.40	1.50	0.30	---	---	11.40	---	83.0	0.4	---	3.3
(S95LA-109-51)	Bssg1	4-18	2.4	6.3	188.0	37.30	12.70	1.50	0.40	---	---	7.80	---	86.9	0.7	---	2.9
	Bssg2	18-28	1.0	7.2	238.0	35.90	13.50	1.50	0.60	---	---	3.60	---	93.5	1.1	---	2.7
	Bssg3	28-39	1.1	7.0	204.0	36.00	13.60	1.50	0.70	---	---	2.40	---	95.6	1.3	---	2.6
	Bssg4	39-48	1.0	7.4	248.0	35.70	13.40	1.40	0.60	---	---	3.00	---	94.5	1.1	---	2.7
	BCssg	48-64	2.3	6.9	162.0	33.10	12.30	1.40	0.60	---	---	3.30	---	93.5	1.2	---	2.7
	Cssg	64-80	2.6	6.7	202.0	30.40	11.50	1.30	0.50	---	---	3.60	---	92.4	1.1	---	2.6

See footnotes at end of table

Table 32.--Fertility Test Data for Selected Soils--Continued

Soil name and sample number	Horizon	Depth	Organic matter content	pH 1:1 H_2O	Extractable phosphorous	Exchangeable cations: Ca	Exchangeable cations: Mg	Exchangeable cations: K	Exchangeable cations: Na	Exchangeable cations: AL	Exchangeable cations: H	Total acidity	Cation-exchange capacity (effective)	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	
Gramercy silty clay loam (3,5)	Ap	0-7	1.8	5.0	153.0	14.40	4.40	0.40	0.10	0.00	0.40	12.00	19.40	61.3	0.3	0.0	3.2
(S95LA-109-51)	Bssg1	7-14	1.6	5.9	150.0	16.90	5.40	0.40	0.20	0.20	0.30	8.40	23.40	73.2	0.6	0.9	3.1
	Bssg2	14-26	1.0	7.1	171.0	22.50	7.50	0.50	0.30	---	---	7.20	---	81.1	0.8	---	3.0
	Bssg3	26-38	1.3	7.0	252.0	24.20	8.50	0.60	0.30	---	---	7.10	---	82.6	0.7	---	2.8
	2Cg	38-80	0.5	7.1	219.0	16.70	6.10	0.50	0.20	---	---	6.00	---	79.7	0.7	---	2.7
Gramercy silty clay loam (2,3,8)	Ap	0-4	---	7.7	1729.0	37.42	6.89	1.57	0.08	0.00	0.00	9.18	55.14	83.4	0.2	0.0	5.4
(S97LA-109-013)	Bssg1	4-17	---	7.8	359.0	17.64	3.80	1.30	0.07	0.00	0.00	10.91	33.72	67.6	0.3	0.0	4.6
	Bssg2	17-30	---	7.3	379.0	17.86	5.70	1.77	0.11	0.00	0.00	8.61	34.05	74.7	0.4	0.0	3.1
	2Bg	30-37	---	7.7	399.0	14.73	2.50	1.70	0.07	0.00	0.00	8.04	27.04	70.3	0.4	0.0	5.9
	2Cg1	37-55	---	7.9	335.0	16.48	3.55	1.06	0.07	0.00	0.00	7.46	28.62	73.9	0.3	0.0	4.6
	2Cg2	55-60	---	7.7	335.0	25.16	4.26	0.94	0.09	0.00	0.00	6.89	37.34	81.5	0.3	0.0	5.9

(1) Typical pedon for series in the soil survey area; pedon location is given in the series description.

(2) CEC by sum of cations.

(3) Analyses by the Soil Characterization Laboratory, Louisiana Agricultural Experiment Station.

(4) Pedon is located at 29 degrees 27 minutes 24 seconds N. Latitude, and 90 degrees 30 minutes 31.5 seconds W. Longitude; Montegut Quadrangle, Louisiana; in an area of Cancienne silt loam, 0 to 1 percent slopes, occasionally flooded.

(5) Pedon is located at 29 degrees 36 minutes 17.5 seconds N. Latitude, and 90 degrees 53 minutes 2.18 seconds W. Longitude; in an area of Gramercy silty clay loam, 0 to 1 percent slopes.

(6) Pedon is located at 29 degrees 43 minutes 11.42 seconds N. Latitude, and 90 degrees 47 minutes 48.77 seconds W. Longitude; in an area of Cancienne silty clay loam, 0 to 1 percent slopes.

(7) It is assumed that the pH of these samples became more acid before lab analyses were run. Field reaction was reported in the series description.

(8) Pedon is located approximately 1.2 miles south of Bayou Lafourche, 1.1 miles southeast of Lafarge School, northwest corner of Spanish Land Grant; 29 degrees 46 minutes 30.0 seconds N. Latitude, 91 degrees 48 minutes 51.6 seconds W. Longitude, Thibodoux Quadrangle, Louisiana; in an area of Gramercy silty clay loam, 0 to 1 percent slopes; in a wooded lot.

(9) It is assumed that the pH of the Oa, Cg1, and Cg2 became more acid before lab analyses were run. Field reaction was reported in the series description.

(10) It is assumed that the pH of the Oi, Oe, and Cg became more acid before lab analyses were run. Field reaction was reported in the series description.

Table 33.--Physical Analyses of Selected Soils

(Dashes indicate that analyses were not made)

Soil name and sample number	Horizon	Depth	Particle-size distribution: Sand: Very coarse (2.0-1.0 mm)	Sand: Coarse (1.0-0.5 mm)	Sand: Medium (0.5-0.25 mm)	Sand: Fine (0.25-0.05 mm)	Sand: Very fine (0.1-0.05 mm)	Sand: Total (2.0-0.05 mm)	Silt (0.05-0.002 mm)	Clay (<0.002 mm)
		In	Pct	Pct	Pct	Pct	Pct	Pct	Pct	Pct
Bancker muck (1,2)										
(S97LA-109-001)	Ag	0-10	0.6	3.4	2.9	2.8	0.2	9.9	20.7	69.4
	Cg1	10-24	0.3	0.9	1.7	0.4	0.0	3.3	35.0	61.7
	Cg2	24-42	0.6	3.4	3.0	2.7	2.0	11.7	30.4	57.9
	Cg3	42-55	0.0	0.3	0.8	2.5	0.6	4.2	31.3	64.5
	Cg4	55-80	0.0	0.7	0.7	0.8	0.1	2.3	25.5	72.2
Bellpass muck (1,2)	Oa1	0-10	15.5	8.8	4.8	2.7	0.0	31.8	26.7	41.5
(S97LA-109-002)	Oa2	10-22	17.2	8.1	8.1	1.4	0.0	34.8	34.5	30.7
	Oa3	22-30	1.0	2.2	1.5	2.0	1.1	7.8	50.4	41.8
	Cg1	30-38	12.0	8.1	7.4	2.3	0.2	30.0	39.1	30.9
	2Cg2	38-80	0.0	0.8	0.8	0.9	0.1	2.6	24.9	72.5

(1) Typical pedon for series in the soil survey area; pedon location is given in the series description.

(2) Analyses by the Soil Characterization Laboratory, Louisiana Agricultural Experiment Station.

Table 34.--Taxonomic Classification of the Soils

(See text for a description of those characteristics that are outside the range of the series.)

Soil name	Family or higher taxonomic class
Allemands	Clayey, smectitic, euic, hyperthermic Terric Haplosaprists
Aquents	Nonacid, hyperthermic Aquents
Bancker	Very-fine, smectitic, nonacid, hyperthermic Sodic Hydraquents
Barbary	Very-fine, smectitic, nonacid, hyperthermic Typic Hydraquents
Bellpass	Clayey, smectitic, euic, hyperthermic Terric Haplosaprists
Cancienne	Fine-silty, mixed, superactive, nonacid, hyperthermic Fluvaquentic Epiaquepts
Carlin	Euic, hyperthermic Hydric Haplohemists
Clovelly	Clayey, smectitic, euic, hyperthermic Terric Haplosaprists
Fausse	Very-fine, smectitic, nonacid, hyperthermic Vertic Endoaquepts
Felicity	Mixed, hyperthermic Aquic Udipsamments
Gramercy	Fine, smectitic, hyperthermic Chromic Epiaquerts
Harahan	Very-fine, smectitic, nonacid, hyperthermic Vertic Endoaquepts
Kenner	Euic, hyperthermic Fluvaquentic Haplosaprists
Lafitte	Euic, hyperthermic Typic Haplosaprists
Larose	Very-fine, smectitic, nonacid, hyperthermic Typic Hydraquents
Maurepas	Euic, hyperthermic Typic Haplosaprists
Rita	Very-fine, smectitic, nonacid, hyperthermic Vertic Endoaquepts
Scatlake	Very-fine, smectitic, nonacid, hyperthermic Sodic Hydraquents
Schriever	Very-fine, smectitic, hyperthermic Chromic Epiaquerts
Timbalier	Euic, hyperthermic Typic Haplosaprists

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