

Dade County, Florida
Nontechnical Soil Descriptions



Nontechnical soil descriptions describe soil properties or management considerations specific to a soil map unit or group of map units. These descriptions are written in terminology that nontechnical users of soil survey information can understand and are used to create reports. By linking the description to the soil survey map units these reports can be generated by conservation planners and other NRCS employees for distribution to land users. These descriptions are available through both TOOLKIT and NASIS.

In this subsection nontechnical descriptions are available through four categories they are Agronomic, Ecological Community, Urban, and Water Quality. Separate map unit to description links are provided for each category.

AGRONOMIC

The following agronomic categories are available and linked through the Land Capability Unit (LCU) that are listed below.

Category

- aSOI - Soil Characteristics
- bSAC - Soil Agronomic Characteristics
- cH2O - Seasonal High Water Table
- dCUL - Cultivation Limitations
- eERO - Erosion Control
- fIRR - Irrigation Needs
- hPAS - Pasture and Hayland
- iWMG - Water Table Management

<u>Map Symbol</u>	<u>Non hydric LCU</u>	<u>Hydric LCU</u>	<u>Drained LCU</u>	<u>Undrained LCU</u>
2			3w28	
3				7w1
4			3w26	
5				7w9
6			3w26	
7	5s1			
9	7s8			

<u>Map Symbol</u>	<u>Non hydric LCU</u>	<u>Hydric LCU</u>	<u>Drained LCU</u>	<u>Undrained LCU</u>
10	7s8(Udorthents) 8s1(Urban Land)			
11	8s1			
12				7w9
13				7w9
14				7w1
15	8s1			
16			3w28	
18		7w1		
20	6s5(Cardsound) 8s1(Rock Outcrop)			
22	6s5(Opalocka) 8s1(Rock Outcrop)			
23	3w6			
24	7s7			
25				7w9
	8s1(Rock Outcrop)			
26		8w2		
28		7w1		
	8s1(Rock Outcrop)			
30				7w1
31		8w2		
32		8w2		
33			3w27	
34		4w25		
35		4w25		
37		4w2		
38	8s1(Rock Outcrop)	7w9(Vizcaya)		7w9
39		8w1		
40	6s8			
41	6s5			
42	7s8			
45	6s9			
47	7s21			
48		8w2		

Map Units without an LCU listed are either not suited to these uses or suitability is so variable that it must be determined on-site.

ECOLOGICAL COMMUNITY

The following categories are available below.

kRNG - Rangeland
IWLD - Wildlife Suitability
mWOD - Woodland Suitability

EC 2 (South Florida Coastal Strand) - Map Unit 45

EC 3 (Sand Pine Scrub) - Map Unit 40

EC 9 (Everglades Flatwoods) - Map Units 7, 20, 22, 34, 35, 41

EC 14 (Tropical Hammocks) - Map Unit 24

EC 19 (Mangrove Swamps) - Map Units 26, 31, 32, 48

EC 24 (Sawgrass Marsh) - Map Units 2, 4, 5, 6, 14, 23

EC 25 (Freshwater Marsh and Ponds) - Map Units 3, 12, 13, 16, 18, 25, 28, 30, 33, 38

EC 26 (Slough) - Map Unit 37

* - These Map Units have more than one type of ecological community.

Map Units without an ecological community listed are not suited to these uses or suitability is so variable that it must be determined on-site.

URBAN USES

The following additional nontechnical descriptions are available for urban interpretations:

oURB - Urban Use Statement
pSEP - Septic Tank Absorption Fields
qLRS - Local Roads and Streets

02 - Map Units 3, 14, 30, 33

03 - Map Units 4, 5, 35, 37

05 - Map Units 2, 6, 7, 12, 13, 16, 18, 23, 24, 25, 28, 34, 38

06 - Map Units 40, 45

- 11 – Map Units 20, 22
- 12 – Map Unit 41
- 15 – Map Units 9, 10, 42, 47
- 16 – Map Unit 39
- 19 – Map Unit 48
- 21 – Map Units 11, 15
- 22 - Map Units 26, 31, 32

Map units without a link listed are either not suited to these uses or suitability is so variable that it must be determined on-site.

WATER QUALITY

The last group of nontechnical description in this subsection of this FOTG is that group dealing with water quality, specifically pesticide and nutrient management. The link between the statements and the map units is listed below.

- sWQ - Water Quality Statement
- tPES - Pesticide Management Statement
- uNUT - Nutrient Management Statement

02 - Map Units 7, 9, 10, 11, 41

03 – Map Units 2, 4, 5, 15, 18, 20, 22, 23, 24, 25, 28, 31, 34, 35, 37, 38, 39, 40, 42, 45, 47

04 - Map Units 3, 6, 12, 13, 14, 16, 26, 30, 32, 33, 48

Nontechnical Soil Descriptions

3w6 Map Unit 23

"aSOI", "3w6", "This map unit consists of nearly level poorly drained soils on flatwoods, hammocks, and upland hardwood hammocks. They have sandy surface and subsurface layers and loamy subsoils over limestone bedrock at a depth of 20 to 40 inches."

"bSAC", "3w6", "The root zone of these soils is limited by a seasonal high water table at or near the surface and the limestone bedrock. The available water capacity is low to very low in the root zone. Natural fertility is low but crop response to fertilization is moderate. The internal drainage is slow under natural conditions but the response to artificial drainage is rapid. The hazard of erosion is slight."

"cH2O", "3w6", "In normal years these soils have a seasonal high water table at a depth of between 6 and 18 inches for 1 to 4 months. In other months the water table is below these depths. Rarely, only during periods of high rainfall and only for a few days, is the water table above the normal seasonal high water table depth."

"dCUL", "3w6", "These soils have severe limitations for cultivated crops because of wetness and the depth to bedrock. The variety of crops is very limited without a total water table management system that is designed to remove excess water in wet seasons and provide subirrigation during dry periods. Crop rotations should include close growing crops on the land at least two-thirds of the time. Nutrient management maximizes yields. Soil improving cover crops and all crop residues should be left on the ground."

"eERO", "3w6", "Erosion control is not a management concern on these soils."

"fIRR", "3w6", "If cultivated, highest yields require irrigation during periods of low rainfall. Water can be supplied through subirrigation with a water table management system or by sprinklers."

"gCIT", "3w6", "These soils have poor suitability for citrus crops. Soil depth and the low to very low available water capacity are severe limitations that are difficult to overcome."

"hPAS", "3w6", "These soils are only fairly suited to pastures and hay crops. Low to very low available water capacity is the main limitation. Improved grasses such as the improved bahiagrasses are adapted. Several varieties of clovers are also well adapted where properly managed. Moderate yields require nutrient management, water table management, and controlled grazing to prevent overgrazing."

"iWMG", "3w6", "If cropped, these soils need a total water table management system to remove excess water rapidly and provide a means of applying subirrigation. Tile drains, open ditches, and/or tail-race recovery systems may be needed to maintain the preferred water table depths for the planted crop. To obtain adequate drainage, the spacing of tile drains is important. Tile drains may be used for subirrigation during periods of low rainfall."

3w26 Map Units 4, 6

"aSOI", "3w26", "This map unit consists of nearly level, poorly and very poorly drained hydric soils of the sawgrass prairie. These soils consist of marl less than 40 inches thick over limestone bedrock."

"bSAC", "3w26", "These soils have a root zone restricted by the underlying limestone. The variety of crops is limited to those that are tolerant to alkaline conditions. Adapted crops include potatoes and West Indian vegetables. The available water capacity is moderate to high in the root zone. Natural fertility is moderate and crops respond well to the addition of nutrients

"cH2O", "3w26", "In normal years these soils have a seasonal high water table at a depth of 6 inches or less for 2 to 6 months. In other months the water table is usually below this depth. During periods of high rainfall the water table may be above the surface for periods of brief duration."

"dCUL", "3w26", "These soils have severe limitations for cultivated crops due to wetness and alkalinity. In their natural conditions these soils are not suited to cultivation; however, with an adequate water table management system, they are moderately well suited to a limited variety of locally important vegetable crops. Crop rotations should include close growing crops on the land at least two-thirds of the time. Nutrient management maximizes yields. Soil improving cover crops and all crop residues should be left on the ground."

"eERO", "3w26", "Due to the lack of these soils being cultivated, erosion control is not a management concern."

"fIRR", "3w26", "Highest yields require irrigation during periods of low rainfall. Water can be supplied through subirrigation with a water table management system or by sprinklers."

"gCIT", "3w26", "Due to alkalinity and the depth to limestone bedrock these soils are not suited to the production of citrus crops."

"hPAS", "3w26", "Due to alkalinity and the depth to limestone bedrock and the limited variety of grasses suited to these conditions, these soils are not suited to the production of pasture and hay crops,

"iWMG", "3w26", "If cropped, these hydric soils need a total water table management system to remove excess water rapidly and consistently. Tile drains, canals, open ditches, and/or tail-race recovery systems may be needed to maintain the preferred water table depth for the crop grown. Slow soil permeability, frequent heavy rains, and the location of an adequate outlet are factors important to the design of a water table management system. Tile drains may be used for subirrigation during periods of low rainfall."

3w27 Map Unit 33

"aSOI", "3w27", "This map unit consists of nearly level, very poorly drained organic soils on broad flats and depressions. These hydric soils have been drained and protected from flooding and ponding by means of pumping stations, canals, and dikes for crop production and other uses."

"bSAC", "3w27", "In natural conditions these soils have a seasonal high water table above the surface for much of the year. Where or when the pumping stations, dikes, and canals are not maintained and operated the root zone is limited by the water table which will revert to pre-drained conditions. The available water capacity is very high in the root zone. Natural fertility is moderate and the soils respond well to fertilization. The internal drainage rate is slow, but response to artificial drainage is rapid."

"cH2O", "3w27", "Depth to the water table is management dependent on these hydric soils. These soils are drained and protected from flooding and ponding by means of pumping stations, canals, and dikes for crop production and other uses. In natural conditions these soils have a seasonal high water table above the surface for much of the year and where or when the pumping stations, dikes, and canals are not maintained and operated the water table will revert to pre-drained conditions."

"dCUL", "3w27", "These soils are well suited to cultivated crops such as vegetables and sugar cane where and when the pumping stations, dikes, and canals are maintained. All crop residues and cover crops should be returned to the soil."

"eERO", "3w27", "To keep the soil from oxidizing and subsiding the water table should be maintained as near the surface as feasible for crop production. Soil blowing is also a problem in the early spring. To reduce loss of soil due to soil blowing either a vegetative cover should be maintained or the area should be covered with water."

"fIRR", "3w27", "Irrigation of the high value crops produced on these soils is usually feasible either through subirrigation or sprinklers. Due to extreme wetness and salinity, these soils are not suited to hay and pasture."

"gCIT", "3w27", "These soils are not suited to citrus unless the pumping stations, dikes, and canals are maintained so that the water table is kept at a depth of about 4 feet."

"hPAS", "3w27", "Most improved grasses and clovers adapted to the area grow well on these soils when and where the water table is properly controlled. Pangola grass, bahiagrasses, and white clovers grow well. Water control should maintain the water table near the surface to prevent excessive oxidation of the organic horizons."

"iWMG", "3w27", "A well designed and maintained water control system should provide for removing excess water during times when crops are on the land and for keeping the soils saturated with water at all other times. Nutrient management is necessary to keep fertilizers from reaching surface water. Water tolerant cover crops should be on the soils when they are not in use for row crops."

3w28 Map Unit 2, 16

"aSOI", "3w28", "This map unit consists of nearly level, very shallow poorly drained soils on broad, low flats and in traverse glades. These soils consist of marl or gravelly marl less than 20 inches thick over limestone bedrock."

"bSAC", "3w28", "These soils have a root zone restricted by the underlying limestone. The variety of crops is limited to those that are tolerant to alkaline conditions. Adapted crops include potatoes and West Indian vegetables. The available water capacity is moderate to high in the root zone. Natural fertility is moderate and crops respond well to the addition of nutrients."

"cH2O", "3w28", "In normal years these soils have a seasonal high water table at a depth of 12 inches or less for 2 to 6 months. In other months the water table is usually below this depth. During periods of high rainfall the water table may be above the surface for periods of brief duration."

"dCUL", "3w28", "These soils have severe limitations for cultivated crops due to wetness and alkalinity. In their natural conditions these soils are not suited to cultivation; however, with an adequate water table management system, they are moderately well suited to a limited variety of locally important vegetable crops. Crop rotations should include close growing crops on the land at least two-thirds of the time. Nutrient management maximizes yields. Soil improving cover crops and all crop residues should be left on the ground."

"eERO", "3w28", "Crops produced on these soils do not normally need special erosion control practices."

"fIRR", "3w28", "Highest yields require irrigation during periods of low rainfall. Water can be supplied through subirrigation with a water table management system or by sprinklers."

"gCIT", "3w28", "Due to alkalinity and the depth to limestone bedrock these soils are not suited to the production of citrus crops."

"hPAS", "3w28", "These soils are well suited to pastures. Common bermudagrass, and improved bahiagrasses are well adapted. These soils produce good yields where nutrient management is practiced. Controlled grazing is needed to maintain yields."

"iWMG", "3w28", "If cropped, these soils need a total water table management system to remove excess water rapidly and consistently. Tile drains, canals, open ditches, and/or tail-race recovery systems may be needed to maintain the preferred water table depth for the crop grown. Slow soil permeability, frequent heavy rains, and the location of an adequate outlet are factors important to the design of a water table management system. Tile drains may be used for subirrigation during periods of low rainfall."

4w2 Map Unit 37

"aSOI", "4w2", "This map unit consists of nearly level, poorly drained soils on flatwoods, hammocks, and other flat areas. They have sandy layers more than 72 inches thick."

"bSAC", "4w2", "The root zone is limited by a seasonal high water table that comes to near the surface in wet seasons. The available water capacity averages low in the root zone. Natural fertility is low but crop response to fertilization is moderate. Internal drainage is slow but response to artificial drainage is moderate to rapid. The hazard of erosion is slight."

"cH2O", "4w2", "In normal years these soils have a seasonal high water table at a depth of between 6 and 18 inches for 1 to 4 months. In other months the water table is below these depths. Rarely, only during periods of high rainfall and only for a few days, is the water table above the normal seasonal high water table depth."

"dCUL", "4w2", "These soils have severe limitations for cultivated crops because of wetness. With a total water management system these soils are well suited to a variety of fruit and vegetable crops. Management should include crop rotations that keep the soil in close growing cover crops at least two-thirds of the time. The cover crops and all other crop residue should be returned to the soil. Maximum yields require good soil tilth and nutrient management."

"eERO", "4w2", "Crops produced on these soils do not normally need special erosion control practices."

"fIRR", "4w2", "Highest yields require irrigation during periods of low rainfall either subirrigated through a water table management system or by sprinklers."

"hPAS", "4w2", "These soils are well suited to pastures and hay crops. Improved grasses such as pangola grass and bahiagrasses are well adapted. Several varieties of clovers are also well adapted where properly managed. High yields require nutrient management, water table management, and controlled grazing to prevent overgrazing."

"iWMG", "4w2", "A total water table management system should remove excess water rapidly and provide a means of applying subirrigation. Tile drains, open ditches, and/or tail-race recovery systems may be needed to maintain the preferred water table depths of within 18 inches for vegetables and below four feet for citrus. To obtain adequate drainage, the spacing of tile drains is important. Tile drains may be used for subirrigation during periods of low rainfall."

4w25 Map Units 34, 35

"aSOI", "4w25", "This map unit consists of nearly level poorly drained soils on low flatwoods, low hammocks, and wetland hardwood hammocks. They have sandy surface and subsurface layers and loamy subsoils over limestone bedrock at a depth of less than 20 inches.

"bSAC", "4w25", "The root zone of these hydric soils is limited by a seasonal high water table at or near the surface and the limestone bedrock. The available water capacity is low to very low in the root zone. Natural fertility is low but crop response to nutrients is moderate. The internal drainage is slow under natural conditions but the response to artificial drainage is rapid."

"cH2O", "4w25", "In normal years these soils have a seasonal high water table at a depth of 6 inches or less for 2 to 6 months. In other months the water table is usually below this depth. During periods of high rainfall the water table may be above the surface for periods of brief duration."

"dCUL", "4w25", "These hydric soils have severe limitations for cultivated crops because of wetness and the depth to bedrock and cultivation is not recommended. If they are cultivated the variety of crops is very limited without an adequate total water table management system. Crop rotations should include close growing crops on the land at least two-thirds of the time. Nutrient management maximizes yields. Soil improving cover crops and all crop residues should be left on the ground."

"eERO", "4w25", "Erosion control is not a management concern on these hydric soils."

"fIRR", "4w25", "If cultivated, highest yields require irrigation during periods of low rainfall either subirrigated through a water table management system or by sprinklers."

"gCIT", "4w25", "These hydric soils have poor suitability for citrus crops. Soil depth and the low to very low available water capacity are severe limitations that are difficult to overcome."

"hPAS", "4w25", "These soils are only fairly suited to pastures and hay crops. Low to very low available water capacity is the main limitation. Improved grasses such as the improved bahiagrasses are adapted. Several varieties of clovers are also well adapted where properly managed. Moderate yields require nutrient management, water table management, and controlled grazing to prevent overgrazing."

"iWMG", "4w25", "If cropped, these hydric soils need a total water table management system to remove excess water rapidly and provide a means of applying subirrigation. Tile drains, open ditches, and/or tail-race recovery systems may be needed to maintain the preferred water table depths for the planted crop. To obtain adequate drainage, the spacing of tile drains is important. Tile drains may be used for subirrigation during periods of low rainfall."

5s1 Map Unit 7

"aSOI", "5s1", "This map unit consists of soils created specifically for agricultural purposes. These soils were previously a complex of rock outcrop and very shallow soils that have been rock plowed. They are now very gravelly to extremely gravelly nearly level soils less than 10 inches thick over limestone bedrock.

"bSAC", "5s1", "These soils have a very shallow root zone less than 10 inches thick. The available water capacity is very low in the root zone. Natural fertility is low but crop response to fertilization is moderate. Rainfall is rapidly absorbed and runoff is slight. The hazard of erosion due to water is slight; the hazard of erosion due to wind is moderate."

"cH2O", "5s1", "In normal years the depth to the water table is the depth to the Biscayne Aquifer which is three to six feet below the soil surface in most locations."

"dCUL", "5s1", "These soils have very severe limitations for cultivated crops due to droughtiness and the depth to limestone. Droughtiness and the rapid leaching of plant nutrients also limits the choice of crops and the potential yields of all crops. Irrigation and nutrient management are necessary for acceptable yields. With irrigation and nutrient management these soils are used to produce a wide variety of Cuban and winter vegetables and a wide variety of fruit crops."

"eERO", "5s1", "Water erosion control measures are not normally needed on these soils. Vegetable crops are best protected from wind erosion by plastic or vegetative mulch. Fruit crops are best protected from wind erosion by close grown between rows."

"fIRR", "5s1", "Irrigation is necessary for acceptable yields. Low volume direct application methods are best suited to orchard production. Overhead sprinkle systems are best suited to vegetable production."

"gCIT", "5s1", "Due to alkalinity and the depth to limestone bedrock these soils are not suited to the production of citrus crops."

"hPAS", "5s1", "These soils are not suited to pasture."

"iWMG", "5s1", "Water table management is not normally practiced on these soils."

6s5 Map Units 20, 22, 41

"aSOI", "6s5", "This map unit consists of well to excessively drained, nearly level to sloping soils on ridges along the coast and inland. They have sandy layers to depths of more than 80 inches."

"bSAC", "6s5", "The soils have a loose, well aerated root zone to depths of more than 80 inches. The available water capacity averages very low in the root zone. Natural fertility is very low and nutrients are rapidly leached from the soil. Rainfall is rapidly absorbed on protected areas, and there is little runoff. Erosion is not a serious hazard."

"cH2O", "6s5", "In normal years these soils do not have a seasonal high water table within a depth of 72 inches."

"dCUL", "6s5", "Due to the very low natural fertility, droughtiness, and the rapid leaching of plant nutrients, these soils are not suited to cultivated field crops."

"eERO", "6s5", "If these soils are cultivated, erosion control measures that would adequately protect the soil and water resource base are difficult to install and/or maintain."

"fIRR", "6s5", "Irrigation of high value crops is usually feasible where irrigation water is readily available. The rate of water application should be low enough to prevent runoff and erosion. A well designed irrigation system to maintain optimum moisture conditions is needed to assure acceptable citrus yields."

"gCIT", "6s5", "These soils are fairly suited to citrus trees even where they are in places relatively free from freezing temperatures. A good ground cover of close growing plants is needed between the trees to protect the soil from blowing and washing. Poor to fair yields of oranges and grapefruit are usually obtained without irrigation."

"hPAS", "6s5", "These soils have only fair suitability for pastures. Grasses such as hybrid bermudagrass and bahiagrass make only fair growth where an intensive nutrient management system is maintained. Clovers are not adapted."

"iWMG", "6s5", "Water table management is not normally practiced on these soils."

6s8 Map Unit 40

"aSOI", "6s8", "This map unit consists of nearly level, somewhat poorly and moderately well drained soils on low ridges of the flatwoods. They have sandy layers to more than 72 inches deep. A layer 20 to 60 inches below the surface is weakly cemented with dark colored organic material."

"bSAC", "6s8", "The root zone is limited by a water table during wet seasons and by droughtiness during periods of low rainfall. The available water capacity is very low in the root zone. Natural fertility is very low and crop response to nutrient management is only fair. The internal drainage rate is slow under natural conditions but response to artificial drainage is rapid."

"cH2O", "6s8", "In normal years these soils have a seasonal high water table at a depth of 18 and 40 inches for 1 to 4 months. In other months the water table is usually below this depth. Only rarely, during periods of high rainfall, is the water table above 18 inches."

"dCUL", "6s8", "Due to the very low natural fertility, wetness in wet seasons, droughtiness during periods of low rainfall, and the rapid leaching of plant nutrients, these soils are not suited to cultivated field crops."

"eERO", "6s8", "Crops produced on these soils do not normally need special erosion control practices."

"fIRR", "6s8", "Irrigation of high value crops is usually feasible where irrigation water is readily available. The rate of water application should be low enough to prevent runoff and erosion."

"gCIT", "6s8", "A well designed irrigation system to maintain optimum moisture conditions is needed to assure acceptable citrus yields. These soils are only fairly to poorly suited for citrus trees even where they are in places relatively free from freezing temperatures. A good ground cover of close growing plants is needed between the trees to protect the soil from blowing and washing. Poor to fair yields of oranges and grapefruit are usually obtained without irrigation."

"hPAS", "6s8", "These soils have only fair suitability for pastures. Grasses such as pangola grass and bahiagrass make only fair growth where an intensive nutrient management system is maintained. Clovers are not adapted."

"iWMG", "6s8", "Water table management is not normally practiced on these soils."

6s9 Map Unit 45

"aSOI", "6s9", "This map unit consists of nearly level, somewhat poorly and moderately well drained soils on low ridges of the flatwoods. They have sandy layers more than 80 inches deep."

"bSAC", "6s9", "The root zone is limited by a water table during wet seasons and by droughtiness during periods of low rainfall. The available water capacity is very low in the root zone. Natural fertility is very low and crop response to nutrient management is only fair. The internal drainage rate is slow under natural conditions but response to artificial drainage is rapid."

"cH2O", "6s9", "In normal years these soils have a seasonal high water table at a depth of 18 and 40 inches for 1 to 4 months. In other months the water table is usually below this depth. Only rarely, during periods of high rainfall, is the water table above 18 inches."

"eERO", "6s9", "If these soils are cultivated, erosion control measures are not normally needed."

"fIRR","6s9","Irrigation of high value crops is usually feasible where irrigation water is readily available. The rate of water application should be low enough to prevent runoff and erosion. A well designed irrigation system to maintain optimum moisture conditions is needed to assure acceptable citrus yields."

"gCIT","6s9","These soils are only fairly to poorly suited to citrus trees even where they are in places relatively free from freezing temperatures. A good ground cover of close growing plants is needed between the trees to protect the soil from blowing and washing. Poor to fair yields of oranges and grapefruit are usually obtained without irrigation."

"hPAS","6s9","These soils have only fair suitability for pastures. Grasses such as pangola grass and bahiagrass make only fair growth where an intensive nutrient management system is maintained. Clovers are not adapted."

"iWMG","6s9","Water table management is not normally practiced on these soils."

7s7 Map Unit 24

"aSOI","7s7","This map unit consists of nearly level soils on uplands near the coast. They are shallow to very shallow to limestone bedrock."

"bSAC","7s7","These soils have a shallow root zone. The available water capacity is very low. Natural fertility is very low and response to fertilizers is very low. Rainfall is rapidly absorbed but moves rapidly through the soil and very little is retained."

"cH2O","7s7","In normal years these soils have a seasonal high water table at a depth of 30 to 40 inches for 1 to 4 months or less. In other months the water table is below a depth of 40 inches. These soils are too steep and erodible to be suited to cultivated crops."

"eERO","7s7","Due to the lack of these soils being cultivated, erosion control is not normally a management concern."

"fIRR","7s7","Due to the lack of cultivation, irrigation is not a normal practice on these soils."

"hPAS","7s7","Due to extreme droughtiness, these soils are not suited to hay and pasture."

"iWMG","7s7","Water table management is not a normal practice on these soils because of the lack of cultivation and an available water source."

7s8 Map Units 9, 10, 42

"aSOI", "7s8", "This map unit consists of nearly level to steep soils on disturbed areas. These soils are variable; however, they are deep and predominately stratified sandy and loamy material."

"bSAC", "7s8", "The available water capacity is low. Natural fertility is low and response to fertilization is low. Rainfall is rapidly absorbed but moves rapidly through the soil and very little is retained. There is severe hazard of gully erosion."

"cH2O", "7s8", "In normal years these soils do not have a seasonal high water table within 72 inches of the surface."

"dCUL", "7s8", "These soils are too steep and erodible to be suited to cultivated crops."

"eERO", "7s8", "If these soils are cultivated, erosion control measures that would adequately protect the soil and water resource base are difficult to install and/or maintain."

"fIRR", "7s8", "Due to the lack of cultivation, irrigation is not a normal practice on these soils."

"hPAS", "7s8", "These soils are poorly suited to pastures due to steepness of the soil and the hazard of erosion."

"iWMG", "7s8", "Water table management is not a normal practice on these soils because of the lack of cultivation and an available water source."

7s21 Map Unit 47

"aSOI", "7s21", "This map unit consists of somewhat poorly drained nearly level to gently sloping soils on disturbed areas near the coast. They have uncoated sand layers to depths of more than 80 inches."

"bSAC", "7s21", "These soils have an excessively aerated root zone to depths of the seasonal high water table. The available water capacity is very low. Natural fertility is very low and response to fertilizers is very low. Rainfall is rapidly absorbed but moves rapidly through the soil and very little is retained. There is a hazard of gully erosion."

"cH2O", "7s21", "In normal years these soils have a seasonal high water table at a depth of between 18 and 30 inches for 1 to 4 months. In other months the water table is below the seasonal high water table depth. Only rarely is the water table above that depth."

"dCUL", "7s21", "Due to extreme droughtiness, these soils are not suited to cultivated crops."

"eERO", "7s21", "Due to the lack of these soils being cultivated, erosion control is not a management concern."

"fIRR", "7s21", "Due to the lack of cultivation, irrigation is not a normal practice on these soils."

"hPAS", "7s21", "Due to extreme droughtiness, these soils are not suited to hay and pasture."

"iWMG", "7s21", "Water table management is not a normal practice on these soils because of the lack of cultivation and an available water source."

7w1 Map Units 3, 14, 18, 28, 30

"aSOI", "7w1", "This map unit consists of nearly level, very poorly drained organic soils in depressional areas and floodplains. They have thick layers of partially decomposed remains of aquatic plants."

"bSAC", "7w1", "The root zone is limited by water that is above the surface in wet seasons. The available water capacity averages high in the root zone. Natural fertility is high. The internal drainage rate is very slow in the natural condition and seepage water seeps from the soil in wet seasons."

"cH2O", "7w1", "In normal years these soils have a seasonal high water table within 6 inches of the surface for 2 to 6 months of most years. During other months the water table is deeper. These soils are also subject to frequent ponding and/or flooding. Only rarely is the water table below the surface for an extended period."

"dCUL", "7w1", "If water control measures are established, these soil would be moderately well to well suited to cultivated crops. Due to the difficulty of installing these measures and the lack of outlets in most areas, they have seldom, if ever, been used for crops."

"eERO", "7w1", "Due to the lack of these soils being cultivated, erosion control is not a management concern."

"fIRR", "7w1", "Due to the lack of cultivation, irrigation is not a normal practice on these soils."

"hPAS", "7w1", "If water control measures are established, these soil would be moderately well to well suited to improved pastures. Due to the difficulty of installing these measures and the lack of outlets in most areas, they have seldom, if ever, been used for pasture."

"iWMG", "7w1", "Water table management is not a normal practice on these soils because of the lack of cultivation."

7w9 Map Units 5, 12, 13, 25, 38

"aSOI", "7w9", "This map unit consists of nearly level, very shallow to deep very poorly drained soils in broad, low coastal marshes and sloughs and in small depressional areas. These soils consist of marl with a texture of silt loam or mucky silt loam over limestone bedrock at depths between 4 and 46 inches."

"bSAC", "7w9", "These soils are not suited to crop production because of ponding."

"cH2O", "7w9", "In normal years these soils have a seasonal high water table up to 2 feet above the surface for up to 6 months of the year. During other months the water table is deeper. Only rarely is the water table below the surface for an extended period."

"dCUL", "7w9", "Due to extreme wetness, these soils are not suited to cultivated crops."

"eERO", "7w9", "Due to the lack of these soils being cultivated, erosion control is not a management concern."

"fIRR", "7w9", "Due to the lack of cultivation, irrigation is not a normal practice on these soils."

"hPAS", "7w9", "If water control measures are established, this soil would be moderately well suited to improved pastures. Due to the difficulty of installing these measures and the lack of outlets in many areas, it has seldom, if ever, been used for pasture."

"iWMG", "7w9", "Water table management is not a normal practice on these soils because of the lack of cultivation."

8s1 Map Units 10, 11, 15, 20, 22, 25, 28, 38

"aSOI", "8s1", "This map unit consists of miscellaneous areas where no soil exists and has no value for agricultural uses."

"bSAC", "8s1", "Due to an impervious surface these areas are not vegetated."

"cH2O", "8s1", "These soils have a highly variable water table."

"dCUL", "8s1", "Due to the impervious surface, these soils are not suited to cultivated crops."

"eERO", "8s1", "Due to the lack of these soils being cultivated, erosion control is not a management concern."

"fIRR", "8s1", "Due to the lack of cultivation, irrigation is not a normal practice on these soils."

"hPAS", "8s1", "Due to the impervious surface, actions, these soils are not suited to hay and pasture."

"iWMG", "8s1", "Water table management is not a normal practice on these soils because of the lack of cultivation."

8w1 Map Unit 39

"aSOI", "8w1", "This map unit consists of narrow strips of land between water and the inland. These strips of land consist of quartz sand and shell fragments that are constantly shifted by wave action."

"bSAC", "8w1", "Beaches are not vegetated due to tidal and wave actions."

"cH2O", "8w1", "In normal years these soils have a seasonal high water table at the surface throughout the year. These soils are also subject to daily tidal flooding. Only rarely is the water table below the surface for an extended period."

"dCUL", "8w1", "Due to tidal and wave actions, these soils are not suited to cultivated crops."

"eERO", "8w1", "Due to the lack of these soils being cultivated, erosion control is not a management concern."

"fIRR", "8w1", "Due to the lack of cultivation, irrigation is not a normal practice on these soils."

"hPAS", "8w1", "Due to tidal and wave actions, these soils are not suited to hay and pasture."

"iWMG", "8w1", "Water table management is not a normal practice on these soils because of the lack of cultivation."

8w2 Map Units 26, 31, 32, 48

"aSOI", "8w2", "This map unit consists of nearly level, very poorly drained soils of the tidal marshes."

"bSAC", "8w2", "The variety of plants growing on these soils is limited to those that are tolerant of extreme wetness and saline conditions."

"cH2O", "8w2", "In normal years these soils have a seasonal high water table at the surface throughout the year. These soils are also subject to daily tidal flooding. Only rarely is the water table below the surface for an extended period."

"dCUL", "8w2", "Due to extreme wetness and salinity, these soils are not suited to cultivated crops."

"eERO", "8w2", "Due to the lack of these soils being cultivated, erosion control is not a management concern."

"fIRR", "8w2", "Due to the lack of cultivation, irrigation is not a normal practice on these soils."

"hPAS", "8w2", "Due to extreme wetness and salinity, these soils are not suited to hay and pasture."

"iWMG", "8w2", "Water table management is not a normal practice on these soils because of the lack of cultivation."

ECOLOGICAL COMMUNITIES

kRNG - Rangeland

IWLD - Wildlife

mWOD - Woodland

South Florida Coastal Strand - Map Unit 45

"kRNG", "02", "This South Florida Coastal Strand site has little or no range value and is not used for rangeland."

"IWLD", "02", "This South Florida Coastal Strand site is well suited to a variety of shorebirds, gulls, and terns. The native grasses and legumes are good food sources and nesting sites. The area is important as a nesting ground for sea turtles. It is suited to mammals such as mice, raccoons, bobcats, foxes, and skunks. Many songbirds also inhabit the area."

"mWOD", "02", "This South Florida Coastal Strand site is not generally used for commercial production of wood or timber."

Sand Pine Scrub - Map Unit 40

"kRNG", "03", "This Sand Scrub range site supports a dense stand of trees and shrubs and has limited potential for producing native forage. Sites in excellent condition produce 1500 to 3500 pounds per acre annually. Fifteen to 40 acres or more are usually needed per animal unit. Little forage will be available if the tree canopy cover exceeds 60%. Forage is usually 75% grasses and grass-like plants, 15% trees and shrubs, and 10% forbs."

"IWLD", "03", "This Sand Scrub site is suited to deer and turkey, especially as escape cover. Many birds inhabit the area including warblers, towhees, flycatchers, scrub jays, and quail. Native legumes furnish food (seeds) for the birds. Fruits of palmetto, gopher apple, and various species of oak are also a good food source. Timber harvest and other disturbances increase wildlife food by increasing the amount and types of Herbaceous plants and by sprout production."

"mWOD", "03", "This Sand Scrub site has a low potential for commercial production of wood and timber. The soils create severe equipment limitations and moderate seedling mortality problems. Sand pine is a commercial species suited to planting. It has a potential annual growth of approximately 0.4 to 0.5 cords per acre."

Everglades Flatwoods - Map Units 7, 20, 22, 34, 35, 41

"kRNG", "09", "This Everglades Flatwoods range site has the potential for producing usable amounts of high quality forage from bluestems and panicums. Sites in excellent condition produce 1500 to 3000 pounds per acre annually. Twelve to 33 acres or more are usually needed per animal unit. Little forage will be available if the tree canopy cover exceeds 60%. Forage is usually 75% grasses and grass-like plants, 15% trees and shrubs, and 10% herbaceous plants."

"IWLD", "09", "This Everglades Flatwoods site is well suited to deer, bobcat, owls, and small rodents. It is fairly suited to squirrels and well suited to many songbirds. Palm and palmetto fruit, pine mast, oak acorns, legume seed, and grasses are good sources of wildlife food. This site is also highly valuable as a habitat for migrating birds to and from South America. Many reptiles find suitable habitat in this community."

"mWOD", "09", "This Everglades Flatwoods site has a moderate potential for commercial production of wood and timber. The soils create moderate equipment limitations and severe seedling mortality rates. Commercial species suited to planting and their potential annual growth in cords are as follows: South Florida slash pine, 1.0 to 0.8. Slash pine, 0.8 to 0.6."

Tropical Hammocks - Map Unit 24

"kRNG", "14", "This Tropical Hammock site has little or no range value."

"IWLD", "14", "This Tropical Hammock site is well suited to most local and migratory birds. Mink, squirrels, deer, mice, and rabbits utilize this site. It also serves as a source of cover for many mammals during periods of high water and resting and feeding areas for migratory birds."

"mWOD", "14", "This Tropical Hammock site has little or no value for the commercial production of wood and timber."

Mangrove Swamps - Map Units 26, 31, 32, 48

"kRNG", "19", "This Everglades Flatwoods range site has the potential for producing usable amounts of high quality forage from bluestems and panicums. Sites in excellent condition produce 1500 to 3000 pounds per acre annually. Twelve to 33 acres or more are usually needed per animal unit. Little forage will be available if the tree canopy cover exceeds 60%. Forage is usually 75% grasses and grass-like plants, 15% trees and shrubs, and 10% herbaceous plants."

"IWLD", "19", "This Everglades Flatwoods site is well suited to deer, bobcat, owls, and small rodents. It is fairly suited to squirrels and well suited to many songbirds. Palm and palmetto fruit, pine mast, oak acorns, legume seed, and grasses are good sources of wildlife food. This site is also highly valuable as a habitat for migrating birds to and from South America. Many reptiles find suitable habitat in this community."

"mWOD", "19", "This Everglades Flatwoods site has a moderate potential for commercial production of wood and timber. The soils create moderate equipment limitations and severe seedling mortality rates. Commercial species suited to planting and their potential annual growth in cords are as follows: South Florida slash pine, 1.0 to 0.8. Slash pine, 0.8 to 0.6."

Sawgrass Marsh - Map Units 2, 4, 5, 6, 14, 23

"kRNG", "24", "This Sawgrass Marsh site has little or no range value."

"IWLD", "24", "This Sawgrass Marsh site is well suited to alligators, snakes, blackbirds, ibis, herons, bitterns, egrets, and kites. Wading birds and many types of waterfowl especially like this habitat. Frogs, snails, and crayfish are also common and serve as food for larger animals."

"mWOD", "24", "This Sawgrass Marsh site is unsuited to the commercial production of wood and timber."

Freshwater Marsh and Ponds - Map Units 3, 12, 13, 16, 18, 25, 28, 30, 33, 38

"kRNG", "25", "This Freshwater Marsh and Ponds range site has the potential for producing significant amounts of high quality forage from a variety of high quality forage plants. Sites in excellent condition produce 5000 to 10000 pounds per acre annually. Three to 13 acres or more are usually needed per animal unit. Forage is usually 80% grasses and grass-like plants, 5% trees and shrubs, and 15% herbaceous plants."

"IWLD", "25", "This Freshwater Marsh and Ponds site is well suited to a wide variety of wetland wildlife species including waterfowl, reptiles, amphibians, and mammals. These species must withstand ponding of long or very long duration. Inhabitants include mink, otter, raccoons, herons, bitterns, ibis, cranes, snipe, ducks, kites, killdeer, caracara, and hawks. This community also serves as a water source for species from surrounding communities."

"mWOD", "25", "This Freshwater Marsh and Ponds site is seldom used for the commercial production of wood and timber. The soils create very severe limitations that are difficult to overcome."

Slough - Map Unit 37

"kRNG", "26", "This Slough range site has the potential for producing significant amounts of high quality forage from a variety of high quality forage plants such as maidencanes, bluestems, and panicums. Sites in excellent condition produce 3000 to 6000 pounds per acre annually. Four to 16 acres or more are usually needed per animal unit. Forage is usually 85% grasses and grass-like plants and 15% herbaceous "

"IWLD", "26", "This Slough site is well suited to snakes, frogs, salamanders, raccoons, and wading birds. The grass dominated vegetation is a highly valued food source for quail and deer; however, it provides poor cover for these and most other wildlife species except at its confluence with other communities."

"mWOD", "26", "This Slough site is seldom used for the commercial production of wood and timber. The soils create very severe limitations that are difficult to overcome."

URBAN USES

oURB - Urban Use Statement

pSEP - Septic Tank Absorption

qLRS - Local Roads and Streets

Map Units 3, 14, 30, 33

"oURB", "02", " This soil is generally unsuited to most urban uses because of ponding and low bearing strength of the soil. Dwellings and small buildings can be constructed on pilings driven to suitable depths, however, access may be limited during periods when water tables are highest. Drainage may be impractical in many areas because of a lack of suitable outlets. Landscaping considerations should include use of species that are adapted to ponded water and organic soils."

"pSEP", "02", " This soil has severe limitations for septic tank absorption fields. Pondered water tables and organic soil materials interfere with the absorption of effluent from septic tanks and pose risks of contamination to adjacent surface waters."

"qLRS", "02", "This soil has severe limitations for local roads and streets. Road and street surfaces may subside, crack or ripple if sufficient fill is not used as a base. When possible, organic soil material should be removed and filled with suitable soil material to prevent subsidence and damage to road surfaces."

Map Units 4, 5, 35, 37

"oURB", "03", "This soil is poorly suited to most urban uses because of a seasonal high water table at or near the soil surface. Housing pads, driveways, and other home site areas can be elevated using suitable fill. Area drainage can be installed to lower the water table if suitable outlets are available. Fill may also be used to elevate sites for small commercial buildings. Landscaping considerations should include use of species that are adapted to wetness."

"pSEP", "03", "This soil has severe limitations for septic tank absorption fields. High water tables interfere with the absorption of effluent from septic tanks and pose risks of contamination to adjacent surface waters. Septic tank absorption fields can be mounded to maintain the system above the seasonal high water table."

"qLRS", "03", "This soil has severe limitations for local roads and streets. For any construction, care should be taken not to impede natural drainage or impound water on the site and adjacent areas. Well designed culvert placement beneath any fill and use of existing water conveying landscapes can help minimize disturbance to natural drainage."

Map Units 2, 6, 7, 12, 13, 16, 18, 23, 24, 25, 28, 34, 38

"oURB", "05", "This soil has severe limitations for local roads and streets. They can be elevated using suitable fill. The fill can be placed with a slight grade to allow water to drain away from the house or building. An engineer or soil scientist should be consulted to determine the shrink-swell potential of near surface soil material. Additional design precautions can be planned if shrink-swell is determined to be a concern."

"pSEP", "05", "This soil has severe limitations for septic tank absorption fields. High water table, bedrock, and fine textured soil material interfere with the absorption of effluent from septic tanks and creates a risk of contamination to adjacent surface waters and system failure. Absorption fields can be mounded or fine textured soil layers can be excavated and replaced with suitable soil material. Absorption field laterals should be installed downslope from dwellings."

"qLRS", "05", "Suitability is poor for most urban uses because of a seasonal high water table and bedrock within 40 inches of the soil surface, fine textured soil material near the soil surface. House or small building pads can be elevated using suitable fill. The fill can be placed with a slight grade to allow water to drain away from the house or building. Landscape considerations should include use of species that are adapted to wetness, alkalinity, and fine textured soils."

Map Units 40, 45

"oURB", "06", "Suitability is poor for most urban land uses because of a seasonal high water table within 40 inches of the soil surface. House and small building pads can be elevated using suitable fill. The fill can be placed with a slight grade to allow water to drain away from the house or building. Irrigation can be helpful in establishing plants and for maintenance during dry periods. Landscaping considerations should include use of species that are adapted to wetness."

"pSEP", "06", "This soil has severe limitations for septic tank absorption fields. High water tables interfere with the absorption of effluent from septic tanks. This poses risks of contamination to adjacent surface waters and system failure. Septic tank absorption fields can be mounded to maintain the system above the seasonal high water table. Absorption field laterals should be installed on a slight downslope gradient. Absorption fields should be placed downslope from dwellings."

"qLRS", "06", "This soil has severe limitations for local roads and streets. They can be elevated using suitable fill. The fill can be placed with a slight grade to allow water to drain away from the house or building. An engineer or soil scientist should be consulted to determine the shrink-swell potential of near surface soil material. Additional design precautions can be planned if shrink-swell is determined to be a concern."

Map Units 20, 22

"oURB", "11", "Suitability is moderate for most urban uses because of fine textured soil material within 20 to 40 inches of the surface and limestone bedrock. Landscaping considerations should include use of species that are adapted to some droughtiness during parts of the year as well as alkalinity and fine textured soil material. Irrigation can be helpful in establishing and maintaining lawns and landscaping plants."

"pSEP", "11", "Fine textured soil material within 20 to 40 inches of the soil surface and bedrock interferes with the absorption of effluent from septic tanks. Risks of contamination to adjacent surface waters and system failure exist. Absorption fields can be mounded slightly to maintain the system above fine textured soil layers. Excavation and replacement of soil material and absorption field area expansion are other alternatives. Absorption fields should be installed downslope of dwellings."

"qLRS","11","This soil has moderate limitations for local roads and streets. They can be elevated using suitable fill. The fill can be placed with a slight grade to allow water to drain away from the house or building. An engineer or soil scientist should be consulted to determine the shrink-swell potential of near surface soil material. Additional design precautions can be planned if shrink-swell is determined to be a concern."

Map Unit 41

"oURB","12","This soil is well suited to most urban uses. There are no significant limitations. Landscaping considerations should include use of species that are adapted to droughty soil conditions. Irrigation can be helpful in establishing and maintaining lawns and landscaping "

"pSEP","12","Septic tank absorption field laterals should be installed on a slight downslope gradient."

"qLRS","12","This soil has no significant limitations important in the construction of local roads and streets."

Map Units 9, 10, 42, 47

"oURB","15","This soil survey map unit is so variable that no general suitability for urban land use can be given. On-site investigation by a soil scientist and/or engineer is recommended for any urban land use."

"pSEP","15","This soil survey map unit is so variable that no general interpretations for the installation of any type on-site sewage disposal system can be given. On-site investigation by a soil scientist and/or engineer is recommended."

"qLRS","15","This soil survey map unit is so variable that no general interpretations for the construction of local roads and streets can be given. On-site investigation by a soil scientist and/or engineer is recommended."

Map Unit 39

"oURB","16","Beaches are unsuited to any urban use because of frequent tidal flooding and instability of the land surface."

"pSEP","16","Beaches are unsuited to the installation of any type on-site sewage disposal system due of frequent tidal flooding."

"qLRS","16"," Beaches are unsuited to the construction of local roads and streets due to frequent tidal flooding."

Map Unit 48

"oURB", "19", "This soil is not suited to urban uses due to tidal flooding."

"pSEP", "19", "This soil is not suited to any on-site sewage disposal system due to wetness and tidal flooding."

"qLRS", "19", "This soil is not suited to local roads and streets due to wetness and tidal flooding."

Map Units 11, 15

"oURB", "21", "This soil has a low suitability for urban uses because of the low strength of the organic layers and the likelihood of subsidence if drained."

"pSEP", "21", "This soil has severe limitations for any on-site waste disposal system due to wetness and subsidence of the organic soil material."

"qLRS", "21", "This soil has severe limitations for local roads and streets due to wetness and subsidence of the organic soil material. Excavating and filling is required to assure roads function properly."

Map Units 26, 31, 32

"oURB", "22", "Due to flooding, this soil has severe limitations for most urban uses. Water control measures are needed to overcome excessive."

"pSEP", "22", "This soil has a low potential for septic tank absorption fields. Mounding is needed to make sure the system works properly."

"qLRS", "22", "This soil has a low potential for local roads and streets. Fill is needed to make sure the roads are usable."

WATER QUALITY: PESTICIDE AND NUTRIENT MANAGEMENT

sWQ - Water Quality Statement

tPES - Pesticide Management Statement

uNUT - Nutrient Management Statement

Map Units 7, 9, 10, 11, 41

"sWQ", "02", "These soils have a medium or high potential for pesticide leaching to the groundwater and a low potential for pesticide runoff from the field(s) to surface water. They have a medium or high potential for nitrogen leaching to the groundwater and a low potential for phosphorous runoff to surface runoff."

"tPES", "02", "The Florida Pest Control Guide from the Cooperative Extension Service contains a list of pesticides suited to each pest. This list also contains Relative Leaching Potential Index (RLPI) values. While any approved pesticide listed in the guide can be used, the applicator should consider for use pesticides with a larger RLPI value and Health Advisory Level (HAL or HALEQ) value. Read and follow pesticide labels."

"uNUT", "02", "A soil test will be used as a guide to determine plant nutrient needs. In addition, a listing of nitrogen and phosphorous requirements by crop type is available from the Cooperative Extension Service. Nutrients shall be added at the rate needed by the crop grown or according to the producer's goals, whichever is lower."

Map Units 2, 4, 5, 15, 18, 20, 22, 23, 24, 25, 28, 31, 34, 35, 37, 38, 39, 40, 42, 45, 47

"sWQ", "03", "These soils have a medium or high potential for pesticide leaching to groundwater and a medium to high potential for pesticide runoff to surface water. They have a medium or high potential for nitrogen leaching to the groundwater and a medium or high potential for phosphorous runoff to surface runoff."

"tPES", "03", "The Florida Pest Control Guide from the Cooperative Extension Service contains a list of pesticides suited to each pest. This list also contains Relative Leaching Potential Index (RLPI) and Relative Runoff Potential Index (RRPI) values. While any approved pesticide listed in the guide can be used, the applicator should consider for use pesticides with a larger RLPI value, RRPI value, Health Advisory Level (HAL or HALEQ) value, and Aquatic Toxicity value. Read and follow pesticide labels."

"uNUT", "03", "A soil test will be used as a guide to determine plant nutrient needs. In addition, a listing of nitrogen and phosphorous requirements by crop type is available from the Cooperative Extension Service. Nutrients shall be added at the rate needed by the crop grown or according to the producer's goals, whichever is lower."

Map Units 3, 6, 12, 13, 14, 16, 26, 30, 32, 33, 48

"sWQ", "04", "These soils have a low potential for pesticide leaching to groundwater and a medium or high potential for pesticide runoff to surface water. They have a medium or high potential for nitrogen leaching to groundwater and a medium or high potential for phosphorous runoff to surface runoff."

"tPES", "04", "The Florida Pest Control Guide from the Cooperative Extension Service contains a listing of pesticides suited to each pest. This list also contains Relative Runoff Potential Index (RRPI) values. While any approved pesticide listed in the guide can be used, the applicator should consider for use pesticides with a larger RRPI value and a larger Aquatic Toxicity value. Read and follow pesticide labels."

"uNUT", "04", "A soil test will be used as a guide to determine plant nutrient needs. In addition, a listing of nitrogen and phosphorous requirements by crop type is available from the Cooperative Extension Service. Nutrients shall be added at the rate needed by the crop grown, or according to the producer's goals, whichever is lower."