
CONSERVATION AND COASTAL MANAGEMENT ELEMENT

INTRODUCTION

The purpose of a Conservation Management Element is to promote the conservation, use, and protection of natural resources. The purpose of a Coastal Management Element is to protect human life and to limit public expenditures in areas that are subject to destruction by natural disaster. It is also to plan for, and where appropriate, restrict development activities where such activities would damage or destroy coastal resources. This Chapter contains the Conservation and Coastal Management elements and provides goals and policies concerning conservation of natural resources and the protection and resiliency of coastal areas.

The City of Port St. Lucie lies in St. Lucie County, an Atlantic Ocean coastal county located slightly south of the middle of the Florida peninsula. The County is composed of a mainland component, an estuarine lagoon, and a barrier island that is intersected by the Fort Pierce inlet. The City is in the southeast corner of the mainland portion of St. Lucie County with portions of the eastern limits of the City abutting the west shoreline of the estuarine lagoon. The North Fork of the St. Lucie River traverses the City and portions of the Savannas State Reserve, a large, unique freshwater coastal wetland, as well as a portion of the Atlantic Coastal Ridge fall within the City.

The coastal areas and natural resources of the City are dynamic and vulnerable resources, and are also essential components of the City's economic and social structure. Appropriate protection and management of the City's natural resources and coastal area increases community resiliency, mitigates hazard risk and supports the economic and social structure of the community.

NATURAL ENVIRONMENT

Climate

The Southeast Regional Climate Center has collected climate data from the City of Fort Pierce from 1901 through 2010, and from the Town of Stuart from 1935 through 2010. These communities lie just to the north and to the south, respectively, of the City of Port St. Lucie and provide relevant data. Data collection for Fort Pierce identifies the average annual maximum temperature is 82.1 F° and the average annual minimum temperature is 64.7 F°, with an annual total precipitation of 52.42 inches. Data collection for Stuart identifies the average annual maximum temperature is 83.2 F° and the average annual minimum temperature is 65.9 F°, with an average annual total precipitation of 58.01 inches. Precipitation is not distributed evenly throughout the year. Precipitation ranges from an average monthly low of 2.15 inches in December to 7.81 inches in September for Fort Pierce, and an average monthly low of 2.50 inches in January to 8.08 inches in September for Stuart. Precipitation is heaviest from June through September with nearly half of the annual rainfall occurring during these four months. No snowfall has been reported during this recording period.

Thunderstorms are common during the summer months. Hurricanes, much less frequent occurrences, have the potential to occur from June through November; heavy rainfall, high winds, and widespread flooding may accompany these storms. Records, again tracked

specific to Fort Pierce, identify that tropical storms or hurricanes have brushed or hit within 60 miles 52 times from 1871 through 2010. The most recent storm event occurred when tropical storm Fay passed to the northwest on August 20, 2008 with heavy rainfall causing flooding to many locations.

Soils

Map FLU-10 Soils, provides the general distribution of soils in the City as presented in the 1990 National Cooperative Soil Survey conducted by the U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS). The following table provides a list of the soils mapped by the NRCS. Appendix 5-A. Soils Descriptions, provides the description, as provided by the Natural Resource Conservation Service (NRCS), of the soil series or land cover represented in the City.

**TABLE 5-1
Soils and Land Coverage**

ANCLOTE SAND, DEPRESSIONAL	PEPPER AND EAUGALLIE SANDS
ANKONA AND FARMTON SANDS	PINEDA SAND
ANKONA – URBAN LAND COMPLEX	PITS
ARENTS, 0-5 PERCENT SLOPES	POMPANO SAND
ARENTS, 45-65 PERCENT SLOPES	POPLE SAND
BASINGER SAND	RIVIERA FINE SAND
CANAVERAL FINE SAND	RIVIERA SAND, DEPRESSIONAL
CHOBEE LOAMY SAND	SALERNO AND PUNTA SANDS
ELECTRA FINE SAND	SAMSULA MUCK
FLORIDANA SAND	SATELLITE SAND
FLUVAQUENTS, FREQUENTLY FLOODED	ST. LUCIE SAND
HILOLO LOAMY SAND	SUSANNA AND WAUCHULA SANDS
HOBE SAND	TANTILE AND POMONA SANDS
HONTOON MUCK	TERRA CEIA MUCK
JONATHAN SAND	URBAN LAND
KALIGA MUCK, DEPRESSIONAL	WABASSO FINE SAND
KESSON-TERRA CEIA COMPLEX	WABASSO SAND
LAWNWOOD AND MYAKKA SANDS	WATER
MALABAR FINE SAND	WAVELAND AND IMOKALEE FINE SAND
NETTLES AND OLDSMAR SANDS	WAVELAND-LAWNWOOD COMPLEX
OLDSMAR SAND, DEPRESSIONAL	WAVELAND URBAN LAND COMPLEX
PAOLA SAND	WINDER LOAMY SAND
PENDARVIS AND POMELLO SANDS	WINDER SAND, DEPRESSIONAL
PENDARVIS - URBAN LAND COMPLEX	WINDER SAND, SHELL SUBSTRATE

Source: 1990 National Resource Conservation Service (NRCS) SSURGO Soils Maps

Physiography

The City of Port St. Lucie is identified by the U.S. Fish and Wildlife Service (FWS) as a part of an Upper East Coast sub-region; which includes St. Lucie, Indian River, Martin and the northern portion of Palm Beach County. This sub-region covers approximately 2,174 square miles and has an average elevation of 20 feet. The rise and fall of changing sea levels formed this area which is characterized by three, east to west, physiographic zones: (1) the Atlantic Coastal Ridge, (2) the Eastern Valley, and (3) the Osceola Plain. The Atlantic Coastal Ridge, bordered on the east by the Atlantic Ocean and on the west by the Eastern Valley, consists of relic dune ridges formed by wind and wave action along the coastline. Paralleling the east coast, the Ridge varies in width from a few hundred yards to a mile or two, and ranges in elevation from sea level to approximately 100 feet in Jonathan Dickinson State Park, the highest coastal elevation within this sub-region. In general, U.S. Highway 1 and the Florida East Coast Railway run along the Atlantic coastal ridge.

The City abuts the west shoreline of the Indian River Lagoon, an estuarine lagoon. Portions of the Savannas State Reserve, a unique freshwater coastal wetland, as well as a portion of the Atlantic Coastal Ridge fall within the City.

The North Fork of the St. Lucie River traverses the City in a north-south direction. The creation of St. Lucie Inlet in 1892 connected the Indian River Lagoon to the Atlantic Ocean at the mouth of the SLR. This project ultimately converted this freshwater tributary to a riverine estuary (freshwater in the upper reaches and saltwater in the middle and lower sections). This unique salinity gradient changed the natural resources found in the SLR. Because of its geographic location and the tidal connection through the St. Lucie Inlet, the North Fork supports high species diversity and serves as an important nursery ground for a variety of fish and wildlife.

Map FLU-3 Topography identifies the topography of the City. The City is relatively flat with elevations ranging from 0 to 35 feet. The vast majority of the City is at 20 feet. The lowest elevation is found along the North Fork of the St. Lucie River. The highest elevation is along the Atlantic Coastal Ridge.

Soil Erosion

Due to the relatively flat topography of the City, and the protection the Barrier Island provides, soil erosion from typical geophysical conditions is generally not a problem in the mainland component of the County where the City lies. However, soil erosion and sedimentation can be a problem with large scale mining and agricultural operations if recommended Best Management Practices are not followed.

In the 1920's the headwaters of the North Fork the St. Lucie River were dredged for flood control and navigation. Spoil deposited along the newly-created channel isolated both floodplain habitat and oxbows from the original river course. This left canals with steep banks and narrow remains of floodplain habitats degraded by dense stands of non-native vegetation. These altered shorelines with diminished and degraded floodplain are susceptible to erosion and have created sedimentation problems along portions of the North Fork of the St. Lucie River. Restoration projects along the North Fork are proposed within a component of the federal Comprehensive Everglades Restoration Program (CERP) identified as the *Indian River Lagoon - South Plan*.

Commercially Valuable Minerals

Other than sand there are no commercially valuable minerals in the City. Currently, there are no active mining operations in the City.

Floodplains

The following table lists and describes the flood zones within the City as identified by the National Flood Insurance Program administered by the Federal Emergency Management Agency (FEMA). The flood zones are shown on map FLU-4.

**Table 5-2
Federal Emergency Management Agency Flood Zones**

Zone	Description
A	An area inundated by 1% annual chance flooding, for which no base flood elevations (BFE's) have been determined.
AE	An area inundated by 1% annual chance flooding, for which BFEs have been determined.
AH	Areas with a 1% annual chance of shallow flooding, usually in the form of a pond, with an average depth ranging from 1 to 3 feet. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.
X	Areas determined to be outside the 500-year floodplain, determined to be outside the 1% and 0.2% annual chance floodplains. Areas of minimal flood hazard from the principal source of flood in the area.
X500	Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood. An area inundated by 0.2% annual chance flooding.

Source: South Florida Water Management ArchHydro Enhanced Database (AHED) Waterbody dataset, 4/29/2011.

Prior to development by man, the area that presently comprises St. Lucie County had drainage patterns that were controlled by major topographic features such as the Atlantic Coastal Ridge and more subtle features such as minor relict beach dunes (U.S. 1 south of Fort Pierce), Green Ridge (south central County), Osceola Plain (southwest County), Ten Mile Ridge (north central County), and overall a gentle slope from west to east (about 60 feet to about 5 feet). The alignment of these surface features generally parallels the existing coastline and thus traditionally served to impede sheetflow; the St. Johns Marsh, Allapattah Flats, and the Savannas were wetlands formed by these impediments. The Allapattah Flats and the south portion of the St. Johns Marsh slowly flowed east and south to form the headwaters of the North Fork of the St. Lucie River (NFSLR), which drained almost all of mainland St. Lucie County (450 sq. mi.). The Savannas normally percolated through the Atlantic Coastal Ridge to the Indian River, but during extremely high water stages there could be overflow to the North Fork of the St. Lucie River through Platts Creek. These wetland marshes stored water and provided recharge to the shallow aquifer.

Within the City of Port St. Lucie there were minor drainageways such as Howard Creek, Blakeslee Creek and Winters Creek, but the NFSLR was, and remains, the dominant drainage feature of both the City and the County. The NFSLR varies from 200 to 400 feet in width and meanders through a lush floodplain that is approximately one-half mile wide in the City. The floodplain has been subjected to very little development in the City and the Future Land Use Plan proposes continued restriction of floodplain development.

Air

Based upon ambient air quality monitoring, conducted by the Florida Department of Environmental Protection (FDEP) and documented in the *2009 Florida Air Monitoring Report*, Port St. Lucie, is an attainment areas for the six major air contaminants: carbon monoxide (CO), lead (Pb), ozone (O₃), nitrogen dioxide (NO₂), particulate matter (PM), and sulfur dioxide (SO₂). The attainment area designation indicates that the concentrations of major pollutants are within the acceptable limits set by the Florida Department of Environmental Protection and the U.S. Environmental Protection Agency. Air quality is a matter to be addressed at a regional level requiring local, County and regional entities to coordinate air quality maintenance and improvement efforts.

The Future Land Use element of this plan addresses strategies for reduction of greenhouse gas emissions.

Water Resources

Map FLU-5 Water Bodies, locates the water bodies within and adjacent to the City. Most significant are the North Fork of the St. Lucie River (NFSLR) which traverses the City, and the Indian River Lagoon which abuts small portions of the eastern limits of the City. Within the City, the NFSLR is brackish and progresses from a riverine system to an estuarine system as it flows south. Major natural tributaries and embayments of the North Fork in the City are Long Creek, Mud Cove, Kitching Cove, Winters Creek, Blakeslee Creek, and Howard Creek.

North Fork St. Lucie River. The NFSLR is part of Florida's Save Our Rivers Program. Additionally, a portion of the North Fork is designated as an aquatic preserve and is also designated as Outstanding Florida Water pursuant to Chapter 62-302 F.A.C. The North Fork Aquatic preserve is bounded on the north by Midway Road and extends from Coconut Point in Stuart to Jenkins Point in Palm City just west of the Roosevelt Bridge in Martin County. The eastern and western boundaries of the preserve encompass the state-owned sovereign submerged lands occurring below the mean high water line to which the state holds title. The preserve is approximately 16 miles long through the natural riverbends and contains approximately 5,000 acres.

The North Fork is located in the Eastern Valley which is composed of long, low narrow ridges ranging from 15 to 30 feet in elevation. The natural topography of the watershed is generally flat with few natural rises. The hydrology of the North Fork and its headwaters was altered in the early to mid 1900s to support the growing demands of development and navigation. This began with a network of agricultural and residential canals and drainages. The canals were primarily designed to address flood control and drainage for land reclamation. Prior to these drainage efforts, the North Fork St. Lucie River (SLR) watershed encompassed 187 square miles. Construction of these drainage canals expanded the watershed to 821 square miles by diverting flows from other areas to the North Fork.

Another flood control and navigation project was conducted from the 1920s to the 40s to straighten portions of the North Fork. In the process of straightening the river, the dredged spoil was piled into berms (mounds) along the banks of the new channel. These spoil piles, which can measure up to 50 feet wide and 25 feet tall, block former river bends and oxbows as well as isolate a large portion of the North Fork floodplain. Historically, the slow and meandering path of the North Fork allowed suspended solids to settle out of the water and nutrients to be filtered by vegetation, but the direct river-course does not, which now affects the water quality and sediment loads reaching the estuary.

The creation of St. Lucie Inlet in 1892 connected the Indian River Lagoon to the Atlantic Ocean at the mouth of the St. Lucie River (SLR). This project ultimately converted this freshwater tributary to a riverine estuary (freshwater in the upper reaches and saltwater in the middle and lower sections). This unique salinity gradient changed the natural resources found in the SLR. Because of its geographic location and the tidal connection through the St. Lucie Inlet, the North Fork of the river supports high species diversity and serves as an important nursery ground for a variety of fish and wildlife. The river now serves as an important breeding and nursery ground for migratory fish, such as snook (*Centropomus spp.*), snapper (*Lutjanus spp.*), and opossum pipefish (*Microphis brachyurus lineatus*) that require estuarine and freshwater to complete their lifecycle. The river is also especially important habitat for the juvenile phases of commercially important species such as blue crabs, snook, snapper, drum and shrimp. Rare tropical peripheral fish species, such as gobies, sleepers, and pipefishes, are also found in the upper reaches of the North Fork and the two headwaters - Five Mile Creek and Ten Mile Creek.

Drainage Canals. The C-24 canal traverses the City and the C-23 canal runs along the southern limits of the City. Overall, there are three major primary drainage and flood control canals in the County, the C-23, C-24 and the C-25 which are part of the Central and South Florida Flood Control project and are managed by the South Florida Water Management District (SFWMD). In addition, the Fort Pierce Farms Water Control District and the North St. Lucie River Water Control District manage numerous secondary canal systems. These canals are solely dependent on rainfall as a source of inflow and are important sources of agricultural irrigation water. Canals C-23, C-24 and the North Fork of the St. Lucie River Water Control District canals drain into the North Fork of the St. Lucie River and its major tributaries. At this time all but a small area in southwestern and northeastern St. Lucie County is drained by these primary and secondary canal systems.

Alteration and expansion of the historic watershed coupled with ecologically-degrading land use practices have set the stage for the current impaired condition of the North Fork and most other SLR watershed basins. Prior to these manmade alterations, wet season rains pooled broadly across the SLR watershed and moved toward the naturally lower elevations surrounding the river. Historic wetland ecosystems facilitated dynamic watershed storage and sheet flow. Reduced movement through natural features kept wetlands flooded and provided for movement of groundwater to the river during the dry season. This made historic wetlands and estuaries less vulnerable to Florida's variable rainfall. Today, much of the watershed runoff from the North Fork drainage basins flows quickly from smaller, residential canals into large canals that cross the coastal ridge instead of being detained, evaporated, cleansed, and held by natural systems.

The Savannas. A unique freshwater ecosystem is located in a shallow catchment area between the steeper western slope of the Atlantic Ridge and the gentler slope to the eastern uplands. A large portion of this habitat is under public ownership and is referred to as The Savannas. A large portion of the 6,311 acre Savannas Preserve State Park, under the ownership and management of the State, falls within the City. Outside of the Savannas, inland freshwater wetlands and swamps also occur throughout the City.

Indian River Lagoon. Immediately interior to the coastal barrier island, located between the barrier island and the Atlantic Coastal Ridge, is the Indian River Lagoon (IRL). The IRL is a linear estuarine system that extends along more than a third of Florida's east coast, over 155 miles, from Ponce de Leon Inlet in Volusia County south to Jupiter Inlet in Palm Beach County. Numerous freshwater wetlands and sloughs undergo a transition into riverine systems that

connect directly to the IRL. The lagoon interacts with the saline waters of the Atlantic Ocean through the inlets, providing tidal exchange with fresh water discharged into the lagoon from the inland rivers. Although only small portions of the eastern limits of the City abut the west shoreline of the Indian River Lagoon, due to the significance of this water body it is important to discuss this estuarine system that lies in such close proximity to the City.

The IRL provides a higher species diversity than any other estuary in North America. Portions of the IRL have been designated as Aquatic Preserves. The *Jensen Beach to Jupiter Inlet Aquatic Preserve* extends from the southern corporate limits of Fort Pierce (St. Lucie County) south (through Martin County) to Jupiter Inlet (West Palm Beach County) and encompasses 22,000 acres. The aquatic preserve was adopted under Florida Statutes, Sections 258.35 – 258.46 by the State of Florida on October 21, 1969 and are managed by the Florida Department of Environmental Protection, Office of Coastal and Aquatic Managed Areas. The Preserve is listed in the Aquatic Preserve Rule, Chapter 18-20 Florida Administrative Code, and have also been designated as Outstanding Florida Water pursuant to Chapter 62.302.7 F.A.C. The IRL is one of only twenty-eight estuaries in the country in the Environmental Protection Agency's National Estuary Program.

A variety of organizations have monitoring and research underway in the IRL and its watershed. The Indian River Lagoon Surface Water Improvements and Management (SWIM) Program has been designed to develop and execute a combination of research and practical implementation projects to protect or restore the environmental resources of the Indian River Lagoon. This joint program, administered cooperatively through the St. John's River Water Management District (SJWMD) and the South Florida Water Management District (SFWMD), has three goals:

- Attain and maintain water and sediment of sufficient quality to support a healthy, seagrass-based estuarine ecosystem;
- Attain and maintain a functioning seagrass ecosystem which supports endangered and threatened species, fisheries and wildlife; and
- Achieve heightened public awareness and coordinated interagency management.

Potable Water

On a regional level, The City of Port St. Lucie and St. Lucie County are located within the South Florida Water Management District (SFWMD). More specifically they are located in the District's Upper East Coast (UEC) Planning Area consisting of St. Lucie and Martin counties and eastern Okeechobee County with a boundary encompass over 1,230 square miles, and generally reflecting the watersheds of the C-23, C-24, C-25 and C-44 canals. The *2004 Upper East Coast Water Supply Plan Update* (2004 UEC Plan Update) and the *2006 Upper East Coast Water Supply Plan Amendment* (2006 UEC Plan Amendment) provides details on the current and projected water supply for this planning area. The Executive Summary of the 2006 UEC Plan Amendment states:

The UEC Planning Area's projected population growth over the next 20 years will significantly impact the region's public water demands, particularly in the urban sector. The UEC Region's total population is expected to increase from 320,664 in 2000 to about 584,927 residents by 2025. This estimate is 20 percent higher than the population estimate projected in the 2004 UEC Plan Update. Development of alternative water supplies will play a vitally important role in meeting water needs, as further development of traditional supplies becomes increasingly limited. While public

water supply water withdrawal needs are projected to increase by 65 million gallons per day (MGD) with the region's projected rapid growth, and agricultural water demand is forecasted to decrease 7 percent, agriculture will remain the Upper East Coast Planning Area's largest water user. The largest percentage of change in urban water demand over the next 20 years will be in the thermoelectric power generation self-supply sector as three new power generation facilities are projected to be located in this region.

As a result of this water supply planning process, new public water supply capacity is expected to exceed Year 2025 demands. The utilities have identified sufficient projects to meet the projected water needs for the Year 2025, and projects specific to each major public water supplier are included in this plan amendment. Forty-seven alternative water supply projects and one traditional water supply project were submitted by local utilities for this UEC Plan Amendment.

The sole source of potable water within the City is groundwater. The Potable Water Sub-Element focuses on the public and domestic self-supply demand for the City and provides specific data on the public water needs, sources, treatment, and distribution systems. Port St. Lucie contains wellfields and also has an adopted Wellfield Protection Ordinance. Map FLU-9 identifies the location of the wellfields. The potable Water Sub-Element outlines the geographic service areas of potable water service for the major regional facilities operating in the City which include the Port St. Lucie Utility Systems Department (Public), the St. Lucie West Services Department (Private), and The Reserve (Private).

Ground Water

The South Florida Water Management District identifies that agriculture is the major land use in the Upper East Coast (UEC) Planning Area, with citrus being the dominant crop. Water for urban and agricultural uses in the UEC Planning Area comes from three main sources: the Floridan Aquifer System (FAS), the Surficial Aquifer System (SAS) and surface water. Surface water from the C-23, C-24, C-25 and C-44 canals is used primarily for agricultural irrigation, with the FAS used as a backup source during periods of low rainfall. Public water supply wells draw groundwater from both the brackish FAS and some from the shallow unconfined SAS as the source for public water supply and urban irrigation. Withdrawals from the SAS have been maximized along the coast and alternative water supplies are being developed to meet the growing water needs. These include the FAS as a source of drinking water and reclaimed water for irrigation water. The SAS and surface water are dependent upon rainfall for recharge.

There are four primary drainage canals in the UEC Planning Area that are part of the Central and Southern Florida Flood Control Project. These canals (C-23, C-24, C-25 and C-44) have also become important sources of irrigation water within their respective drainage basins. The C-44 is the only one of the four canals that receives inflow from outside its drainage basin. The C-23, C-24 and C-25 canals, by contrast, are solely dependent on rainfall as a source of inflow. As a result of the large demand for this limited surface water supply, there are prohibitions for any new or expanded water supply uses of these three canals.

The Floridan Aquifer is used by growers as a supplemental source when surface water availability is limited, and as a primary irrigation source when surface water is not available. In most cases, water from the Floridan Aquifer has a high salinity (relative to surface water) and has to be blended with surface water or water from the Surficial Aquifer before it is used for irrigation.

Currently, most of the public water supply for the region comes from the shallower Surficial Aquifer as it has better quality water. The Floridan Aquifer in the UEC Planning Areas is a relatively unused water source for public water supply, as it is located approximately 900 feet below land surface. However, the use of the Floridan Aquifer by utilities is increasing and most coastal utilities in the region plan to use the Floridan Aquifer to meet their future needs. Utilities either blend the Floridan water with fresh water or treat it using reverse osmosis.

Because of its diffuse and intermittent nature, stormwater is not generally considered a viable option for direct public-supply applications where reliability is a major consideration. Stormwater management practices that provide for increased soil infiltration and groundwater recharge opportunities should be considered as a means to protect and possibly enhance existing groundwater resources.

The following is a summary of water supply issues in the UEC Planning Area.

- Increased withdrawals from the Surficial Aquifer System are limited due to potential impacts on wetlands, as well as the increased potential for saltwater intrusion.
- Surface water availability in the C-23, C-24 and C-25 canals is not sufficient to meet existing and projected agricultural demands.
- Freshwater discharges (minimums and maximums) are affecting the health of the St. Lucie River and Estuary, southern Indian River Lagoon and the Northwest Fork of the Loxahatchee River.

Surface Water

Compared to most groundwater sources, surface water sources generally are of lower quality. Surface waters tend to contain silts and suspended sediments, algae, dissolved organic matter from topsoil, and chemical and microbiological contaminants from municipal wastewater discharges, stormwater runoff, and industrial and agricultural activities. The quality of surface water may vary seasonally with variation in flow rates or water levels. Traditionally, surface water has not been used for public supply in the SFWMD.

Pollutants

Waste generators, solid waste facilities, above and underground storage tanks, and dry cleaning facilities are licensed and regulated by the Florida Department of Environmental Protection (FDEP). Current information on these facilities is available through the Florida Department of Environmental Protection Division of Waste Management. Information on contaminated sites is also available through the U.S. Environmental Protection Agency (EPA) Resource Conservation Recovery Act (RCRA), Superfund, National Priorities List and Brownfield databases.

A May 2011 database search identifies that at this time there are no sites in the City listed on the U.S. Environmental Protection Agency's (EPA) Federal Superfund list or the National Priorities List (NPL), and there are no brownfields in the City. Currently there are two sites within the City registered in the State Dry Cleaning Solvent Clean-up Program.

The City can discourage residential source contamination through close coordination with the Florida Department of Environmental Protection and by providing public information regarding the safe disposal of chemicals. Specifically, information can be made available on free disposal of household hazardous wastes, information on disposal contractors available to small businesses and the special waste programs available for landfill disposal of non-typical materials, such as spill clean-ups and contaminated soils.

The City of Port St. Lucie does not and has never operated a solid waste disposal facility within the City. However, there are two abandoned dump sites within the City that have been identified by the Department of Environmental Protection. One is in the northwest quarter of Section 7, Township 37, Range 41, on the east side of Lennard Road and approximately 1.75 miles south of Walton Road. This site was used by General Development Corporation for disposal of residential and commercial solid waste. The second site is in the northeast quarter of Section 20, Township 36, Range 40, on the west side of Airoso Boulevard approximately 1800 feet north of Floresta Boulevard. This site was used by various property owners to dispose of building materials and some garbage. The Department of Environmental Protection Sites List describes a "minimal potential problem" to these two dump sites. Currently all solid waste including yard waste generated within the City is disposed of at the Glades Road Sanitary Landfill as per an interlocal agreement with the County.

Nuclear Power Plant. The Florida Power and Light (FPL) St. Lucie Nuclear Power Plant is located on South Hutchinson Island, a barrier island in the southern portion of the County. The Power Plant is located only several miles from the eastern limits of the City. Nuclear energy production is monitored closely by the Nuclear Regulatory Commission, (NRC) a federal agency. Daily inspections are conducted at the St. Lucie Plant to guarantee compliance. Several identical safety systems are in place so that if one fails, others automatically go to work. In the unlikely event of an emergency, that could potentially result in the release of nuclear contamination, the environmental impacts could range from modest to catastrophic on a wide ranging, long term scale.

Land Cover

Map FLU-7 Habitats locates the habitat coverage within the City as recognized by the Florida Fish and Wildlife Conservation Commission (FWC). The table below provides the acreage and percentage of each of the habitat covers within the City.

**Table 5-3
Habitat Coverage**

Habitat	Category	Acreage	Percentage
Citrus	Agriculture	14,515.05	76.81%
Improved Pasture	Agriculture	3,327.76	17.61%
Other Agriculture	Agriculture	65.28	0.35%
Row/Field Crops	Agriculture	986.71	5.22%
Unimproved Pasture	Agriculture	2.45	0.01%
Category Total		18,897.24	25.61%

Habitat	Category	Acreage	Percentage
Bare Soil/Clearcut	Disturbed/Developed	1,207.02	4.01%
Exotic Plants	Disturbed/Developed	2.47	0.01%
Extractive	Disturbed/Developed	13.61	0.05%
High Impact Urban	Disturbed/Developed	21,934.28	72.89%
Low Impact Urban	Disturbed/Developed	6,934.65	23.04%
Category Total		30,092.04	40.78%

**Table 5-3
Habitat Coverage**

Habitat	Category	Acreage	Percentage
Cypress/Pine/Cabbage Palm	Native Habitats	131.60	0.76%
Dry Prairie	Native Habitats	4,583.62	26.39%
Grassland	Native Habitats	15.12	0.09%
Hardwood Hammocks and Forest	Native Habitats	932.78	5.37%
Mixed Pine-Hardwood Forest	Native Habitats	0.67	0.00%
Pinelands	Native Habitats	11,140.25	64.14%
Sand Pine Scrub	Native Habitats	80.67	0.46%
Shrub and Brushland	Native Habitats	474.88	2.73%
Xeric Oak Scrub	Native Habitats	9.37	0.05%
	Category Total	17,368.96	23.54%

Habitat	Category	Acreage	Percentage
Bay Swamp	Water & Wetlands	15.03	0.20%
Cypress Swamp	Water & Wetlands	184.22	2.48%
Freshwater Marsh and Wet Prairie	Water & Wetlands	2,530.05	34.01%
Hardwood Swamp	Water & Wetlands	1,111.10	14.93%
Mangrove Swamp	Water & Wetlands	557.59	7.49%
Mixed Wetland Forest	Water & Wetlands	52.88	0.71%
Open Water	Water & Wetlands	2,355.18	31.66%
Salt Marsh	Water & Wetlands	14.84	0.20%
Shrub Swamp	Water & Wetlands	618.77	8.32%
	Category Total	7,439.66	10.08%
Grand Total Coverage Acreage		73,797.90	

Source: Florida Fish and Wildlife Conservation Commission

Land coverage can broadly be categorized into Agricultural, Disturbed/Developed, Native Habitats, and Water/Wetland. As mapped, roughly 26% of the City falls under the Agricultural category, 41% is Disturbed/Developed, 23% is Native Habitats and 10% is Water/Wetlands. A variety of the historic native vegetative upland and wetland communities still exist; combined these occupy nearly a third of the City. Appendix 5-B Habitat Descriptions, provides a description, as provided by the FWC, of the habitats within the City.

The FWC map is not parcel based but looks at all habitats within the City limits; it does not exclude lakes, roadways, water bodies and public right of way lands. Therefore, it is important to note that the acreage identified by the FFWCC map will not directly correspond to the acreage totals established in future or existing land use maps, which are parcel based. Additionally, on the FWC map an individual parcel may contain multiple habitats, such as urban, pineland and open water.

Natural Habitats

Imperiled and other animal species depend on native vegetative communities for refuge, foraging, nesting, and denning. The size, quality, and connectivity of native vegetative communities all influence wildlife utilization. Appendix 5-C. Listed Wildlife Species, identifies the listed wildlife species that may be found within the City.

Appendix 5-D. Native Plant Species, provides a list of native plant species having the potential to occur in the City, and identifies those that are recognized as either threatened or endangered by federal and State agencies.

Appendix 5-E. Invasive/Exotic Pest Plant Species, provides a list of the invasive exotic pest plant species that may occur in the City. Invasive exotic plant species have the capacity to disrupt, and displace native plant communities and associated dependent wildlife. The FWC recognizes and maps areas of invasive coverage in their habitat land coverage mapping program. The mapped invasive coverage within the City is limited to such a degree that only 0.01% coverage appears on the map.

Conservation Opportunities

Conservation opportunities are enhanced through the public ownership of land. The City contains three major natural areas that are managed by the state for recreation and conservation use. These areas include the North Fork St. Lucie River Aquatic Preserve; North Fork St. Lucie River State Buffer Preserve; and the Savannas State Reserve.

The City of Port St. Lucie has a Conservation Lands Management and Acquisition Plan which includes an inventory of conservation lands currently under the City's ownership and an inventory of lands that are candidates for purchase under the City's Conservation Trust Fund Program. The City's Conservation Trust Fund was formally established in 1992 through the adoption of Chapter 157: Natural Resource Protection in the City's Land Development Regulations. The funding source for the Conservation Trust Fund is a one-time voluntary contribution that developers pay in lieu of preservation or land donation as established under Chapter 157.

In 1991, the St. Lucie Board of County Commissioners formed the Land Acquisition Selection Committee (LASC), which was charged with the task of preparing a proposal for public acquisition or protection of significant natural areas in the County. The LASC still serves as an advisory body to the Board of County Commissioners. In November, 1994, St. Lucie County voters approved a bond referendum authorizing issuance of ad valorem tax bonds, not to exceed \$20 million, to participate in state and federal land acquisition programs targeting the protection of natural areas. The St. Lucie County Environmental Lands project began in 1994 with the passage of this local bond program. On December 7, 1995, Spruce Bluff, a 97-acre site along the North Fork of the St. Lucie River, was the first site acquired through the Environmentally Significant Lands program. Since that time, over 7,355 acres have been acquired and more land has been identified for protection through public acquisition, including the Oxbow Eco-Center located in the City.

Additionally, the *IRL-South SWIM Plan* identifies that restoration of 2,984 acres along the North Fork St. Lucie River is proposed and that 1,600 acres were purchased and are managed by local, state, and regional agencies. Since 1994, the Conservation and Recreation Lands Program, the SFWMD Save Our River's Program, Florida Communities Trust, and the County's Environmental Lands program combined have spent about \$7 million on lands acquisition along the North Fork and over \$1 million on removal of exotic plants. The

Recreation and Open Space Element provides greater detail and lists the recreation and preservation lands within the City. The park and recreation sites in the City are located on map REC-1.

COASTAL RESOURCES

Coastal Planning Area

The City's coastal planning area is the area where the eastern limits of the City abut the Indian River Lagoon (IRL) and the areas in the City that abut the North Fork of the St. Lucie River (NFSLR). These locations are shown on map CST-1 Coastal Planning Area, and are generally described below.

There are two separate locations where the eastern limits of the City abut the IRL. The first consists of the corridor along Walton Road that terminates at the mean high water of the IRL. This is delineated by the City limits on the north, east and south and by the Florida East Coast railroad on the west. The second area is slightly north of this area and consists of the northeastern corner of the City limits that abuts the IRL. This area is also delineated by the City limits on the north, east and south, and by the Florida East Coast railroad on the west.

Additionally, the City includes in the coastal planning area the portions of the City that abut the NFSLR; and this too consists of two separate areas. The southern area is identified by the City limits on the north and on the south; and by the City limits and U.S. 1 along the east, whichever is westernmost. The western limit is delineated by S.W. Floresta, S. Bend Boulevard, S.E. Becker Road and the Florida Turnpike from the north to the south respectively.

The second area abutting the NFSLR is the northeastern corner of the City that abuts the NFSLR. This area is delineated by the City limits on the north, east and south and by N.W. James Drive and S.W. Airoso Boulevard along the west.

Natural Resources in the Coastal Area

Immediately interior to the coastal barrier island, located between the barrier island and the Atlantic Coastal Ridge, is the Indian River Lagoon (IRL). The IRL is a linear estuarine system that extends along more than a third of Florida's east coast, over 155 miles, from Ponce de Leon Inlet in Volusia County south to Jupiter Inlet in Palm Beach County. Numerous freshwater wetlands and sloughs undergo a transition into riverine systems that connect directly to the IRL. The lagoon interacts with the saline waters of the Atlantic Ocean through the inlets, providing tidal exchange with fresh water discharged into the lagoon from the inland rivers. Along the IRL, the associated mangrove and salt marsh communities provide valuable filtration, stabilization and habitat and the seagrass beds provide foraging for manatees. Portions of the eastern limits of the City, as described above, lie adjacent to the IRL.

A unique freshwater ecosystem is located in a shallow catchment area between the steeper western slope of the Atlantic Ridge and the gentler slope to the eastern uplands. A portion of the 6,311 acre Savannas Preserve State Park falls within the City coastal planning area.

The St. Lucie River (SLR) is divided into four sections: North Fork, South Fork, Middle Estuary and Lower Estuary. The North Fork of the St. Lucie River traverses the City. The creation of St. Lucie Inlet in 1892 connected the Indian River Lagoon to the Atlantic Ocean at the mouth of the SLR. This project ultimately converted this freshwater tributary to a riverine estuary (freshwater in the upper reaches and saltwater in the middle and lower sections). This unique

salinity gradient changed the natural resources found in the SLR. Because of its geographic location and tidal connection through the St. Lucie Inlet, the North Fork supports high species diversity and serves as an important nursery ground for a variety of fish and wildlife.

Map CST-2 locates the habitats with the coastal planning area. The following table lists the habitats the fall within the coastal planning area recognized by the Florida Fish and Wildlife Conservation Commission (FWC).

**Table 5-4
Habitats in the Coastal Planning Area**

Habitat	Category	Acreage	Percentage
Bare Soil/Clearcut	Disturbed/Developed	50.01	0.89%
Exotic Plants	Disturbed/Developed	1.11	0.02%
High Impact Urban	Disturbed/Developed	4,271.92	76.06%
Low Impact Urban	Disturbed/Developed	1,293.46	23.03%
	Category Total	5,616.50	48.73%

Habitat	Category	Acreage	Percentage
Cypress/Pine/Cabbage Palm	Native Habitats	30.35	0.99%
Dry Prairie	Native Habitats	807.18	26.38%
Hardwood Hammocks and Forest	Native Habitats	385.92	12.61%
Pinelands	Native Habitats	1,736.09	56.74%
Sand Pine Scrub	Native Habitats	15.37	0.50%
Shrub and Brushland	Native Habitats	78.46	2.56%
Xeric Oak Scrub	Native Habitats	6.16	0.20%
	Category Total	3,059.54	26.55%

Habitat	Category	Acreage	Percentage
Cypress Swamp	Water & Wetlands	27.83	0.98%
Freshwater Marsh and Wet Prairie	Water & Wetlands	431.03	15.13%
Hardwood Swamp	Water & Wetlands	718.01	25.20%
Mangrove Swamp	Water & Wetlands	557.60	19.57%
Mixed Wetland Forest	Water & Wetlands	1.63	0.06%
Open Water	Water & Wetlands	926.77	32.53%
Salt Marsh	Water & Wetlands	14.84	0.52%
Shrub Swamp	Water & Wetlands	171.15	6.01%
	Category Total	2,848.87	24.72%
Grand Total Coverage Acreage		11,524.91	

The Overall land coverage within the City is broadly categorized into Agricultural, Disturbed/Developed, Native Habitats, and Water/Wetland. As mapped, there are no Agricultural lands within the coastal planning area. Native Habitats comprise 26.55% of the

area and Water/Wetlands comprise 24.72% making over half of the coastal planning area natural environmental systems. Disturbed/Develop lands comprise the remaining 48.73% of the coastal planning area. Appendix 5-B. Habitat Descriptions, provides the description, as provided by the FWC, of these habitats.

Land Use in the Coastal Area

The existing land uses within the City’s coastal planning area are shown on map CST-1. The following table lists the land uses within the coastal planning area. The primary development type in the Coastal Planning Area is residential making up 37.88% of the total land area. The second most predominant development type is planned unit development which is made up of primarily residential uses with some commercial, institutional and industrial uses. The North Fort of the St. Lucie River and Open Space make up 4.9% and 6.34% respectively.

**Table 5-5
Existing Land Use in the Coastal Planning Area**

Existing Land Use		Acreage	Percent
CG	Commercial General	118.04	1.02%
CN	Commercial Neighborhood	7.13	0.06%
CS	Commercial Service	33.36	0.29%
P	Professional	30.40	0.26%
GU	General Use	1,266.00	10.99%
I	Institutional	179.98	1.56%
Residential	Residential	4,365.33	37.88%
PUD	Planned Unit Development	4,216.56	36.59%
LMD	Limited Mixed Use	12.88	0.11%
NFSLR	North Fort St. Lucie River	564.39	4.90%
Open Space	Open Space	730.18	6.34%
TOTALS		11,524.24	100.00%

Water Access Facilities

Public access to water is provided at River Place Park, Veteran’s Park at Rivergate, and Tom Hooper Park. The Recreation and Open Space Element provides specific details on the all public, park and recreational facilities.

Historic Resources

The Bureau of Archaeological Research within the Florida Office of Cultural and Historic Preservation maintains the Florida Master Site File (MSF); a database that contains information on archaeological and historic resources in Florida. The state MSF also contains those sites listed on the National Register. Map FLU-8 identifies and locates the historic resources identified in the MSF that are located in the City. A listing of these resources is contained in Appendix 5-F. The Spruce Bluff Indian Burial Mound is the only historic resource located within the coastal planning area of the City.

Infrastructure in the Coastal Area

Three schools and one fire station lie within the Coastal Planning Area. Additionally, there are a number of bridges within the area as well.

The following is a list of roadways with bridges (plus identification of the related waterway.)

Port St. Lucie Boulevard

- C-23 Canal (Bridge)
- E-84 (Bridge)
- C-24 Canal (Bridge)
- North Fork of the St. Lucie River (two Bridges)

SW Oaklyn Street

- C-24 Canal (Bridge)

S.E. Floresta Dr. (2)

- Elkcam Waterway (Bridge)

Ballantrae Blvd

- Howard Creek (Bridge)

S.E. Westmoreland Blvd. (Water Bodies from West to East)

- Howard Creek (Bridge)

HURRICANE EVACUATION

The Florida Division of Emergency Management, the Department of Economic Opportunity Division of Community Planning, and the Department of Transportation, in coordination with the Regional Planning Councils throughout the State developed a Statewide Regional Evacuation Study Program. The 2010 Statewide Regional Evacuation Study for the Treasure Coast Region is completed and available. This report updates the region's evacuation population estimates, evacuation clearance times and public shelter demand. The Treasure Coast study covers Indian River, Martin, Palm Beach and St. Lucie Counties and their municipalities and provides the most current evacuation data available. The complete study, Volumes 1 through 8, can be found on the Treasure Coast Regional Planning Council website. Provided below are pertinent points from this study. Please note this information is specific to St. Lucie County as a whole, the study does not provide breakout data for the City of Port St. Lucie alone.

The regional model developed for the Treasure Coast used a series of input data which included:

- Designated evacuation routes and the supporting roadway network;
- A regional zone system identifying Traffic Evacuation Zones based on demographic information;
- Demographic data for 2006, 2010 and 2015, including site-built homes, mobile homes (including RV's and Boats), and hotel/motel units;
- Incorporation of planned roadway improvements for 2010, and 2011 through 2015;
- Behavioral response assumptions;
- Availability and location of public shelters; and

- Evacuation Zones correlating to predicated surge data associated with storm categories based on the Saffir-Simpson hurricane wind scale.

Two distinct sets of analyses were conducted using the evacuation transportation model, one set of analysis is for growth management purposes and one set is for emergency management purposes. These sets are identified as the Base Scenario and as the Operational Scenario. The base scenario was developed to estimate a series of worst case scenarios and is identical for all eleven Regional Planning Councils (RPCs) across the State. This scenario assumes 100 percent of the vulnerable population evacuates and includes impacts from counties outside of the TCRPC area. This scenario is generally designed for growth management purposes, in order to ensure that all residents that choose to evacuate during an event are able to do so. The operational scenarios were developed by the Regional Planning Councils in coordination with their local county emergency managers and are designed to provide important information to emergency management personnel to plan for different storm events. These scenarios are different from region to region and vary for each evacuation level.

The following table identifies the demographic characteristics utilized for St. Lucie County for year 2010 for analysis.

**TABLE 5-6
St. Lucie County Demographic Characteristics**

Occupied site-built homes	93,492
Population in site-built homes	269,736
Occupied mobile homes	10,115
Population in mobile home	17,312
Hotel/motel units	3,726

Source: 2010 Statewide Regional Evacuation Study

The vulnerable population, or population-at-risk, is defined as the portion of the population living within the county designated evacuation zones. This population is living in areas that are at risk for severe flooding during a storm event. The study's evacuation zones correlate to predicted storm surge associated with the hurricane storm categories of the Saffir-Simpson wind scale. The Saffir-Simpson scale identifies a category one hurricane as having sustained winds of 74-95 mph, a category two hurricane having sustained winds of 96-110 mph, a category three hurricane having sustained winds of 111-130 mph, a category four hurricane having sustained winds of 131-155 mph, and a category five hurricane having sustained winds greater than 155 mph. Evacuation Zones A – E correlate to Category 1 – 5 storms respectively. The following table identifies the following for St. Lucie County based on the 2010 demographic data. It is important to note that vulnerable population numbers are not inclusive, meaning population numbers listed for a higher zone are not included in the lower zone. For example, vulnerable population listed for Evacuation Zone B does not include vulnerable population listed for Evacuation Zone A.

**TABLE 5-7
St. Lucie County Vulnerable Population per Evacuation Zone**

2010	A	B	C	D	E
Site-built Homes	6,942	2,241	2,710	1,447	1,775
Mobile/Manuf. Homes	1,759	307	286	75	104
TOTAL	8,701	2,548	2,996	1,522	1,879

Source: 2010 Statewide Regional Evacuation Study

Evacuees are expected to seek shelter through a variety of means. Some will leave the County or return to other residences outside the area; others will stay with relatives and friends or, will check into hotels in less vulnerable areas; and, some will have to rely on public shelter. The following table identifies the projected destination the vulnerable population will evacuate to. Again, it is important to note that vulnerable population numbers are not inclusive, meaning population numbers listed for a higher zone are not included in the lower zone. For example, vulnerable population listed for Evacuation Zone B does not include vulnerable population listed for Evacuation Zone A.

**TABLE 5-8
Vulnerable Population by Destination for 2010**

	Level A	Level B	Level C	Level D	Level E
To Friends and Family	5,133	1,513	1,783	910	1,122
To Hotel/ Motel	1,569	428	492	240	297
To Public Shelter	696	204	348	180	221
To Other Destination	1,303	402	372	193	238

Source: 2010 Statewide Regional Evacuation Study

Map CST-3 identifies the major evacuation routes, the public hurricane shelters and the distribution points in the City of Port St. Lucie. The following table lists the shelters in the County, their address and capacity.

**TABLE 5-9
Shelters within the County**

Shelter	Location	City	Capacity
BAYSHORE ELEMENTARY	1661 SW BAYSHORE BLVD	PORT ST. LUCIE	499
OAK HAMMOCK K-8 SCHOOL	1251 SW CALIFORNIA BLVD	PORT ST. LUCIE	4097
MANATEE ACADEMY K-8	1450 SW HEATHERWOOD	PORT ST. LUCIE	400
MORNINGSIDE ELEMENTARY	2300 SE GOWIN DRIVE	PORT ST. LUCIE	543
TREASURE COAST HIGH	1000 SW DARWIN BLVD	PORT ST LUCIE	500
WEST GATE K-8	1050 NW CASHMERE BLVD	PORT ST LUCIE	500
VILLAGE GREEN ELEMENTARY	1700 LENNARD ROAD	PORT ST. LUCIE	348
MARIPOSA ELEMENTARY	2620 SE MARIPOSE AVENUE	PORT ST. LUCIE	377
SAVANNA RIDGE ELEMENTARY	6801 LENNARD RD	PORT ST. LUCIE	677
WEATHERBEE ELEMENTARY	800 E. WEATHERBEE RD	PORT ST. LUCIE	975
WINDMILL POINT ELEMENTARY	700 DARWIN BOULEVARD	PORT ST. LUCIE	377
	Total Capacity in Port St. Lucie		9293
C.A. MOORE ELEMENTARY SCHOOL	827 N 29TH STREET	FT. PIERCE	677
FLORESTA ELEMENTARY	3201 S. 25TH STREET	FT. PIERCE	770
FT. PIERCE CENTRAL HIGH	4101 S. 25TH STREET	FT. PIERCE	500
LAKEWOOD PARK ELEMENTARY	7800 INDRIO ROAD	FT. PIERCE	605
PARKWAY ELEMENTARY	7000 NW SELVITZ ROAD	FT. PIERCE	417
WESTWOOD HIGH SCHOOL	1801 PANTHER LANE	FT. PIERCE	1733
SAMUEL S. GAINES ACADAMY K-8	2250 S. JENKINS ROAD	FT. PIERCE	500
*H.L. FENN COMMUNITY CENTER	2000 VIRGINIA AVENUE	FT. PIERCE	500
	Total Capacity Fort Pierce		5702
<i>* Special Needs Shelter</i>	TOTAL CAPACITY COUNTYWIDE		14,995

Source: 2010 Statewide Regional Evacuation Study

Overall there are nineteen temporary emergency shelters in the County; eleven of these are located in Port St. Lucie. Shelter capacity countywide is 14,995. Shelter capacity for the facilities located within Port St. Lucie is 9,293. St. Lucie County Emergency Management determines which facilities will be open in any given year. At this time there is only one special needs shelter in the County, it is the H.L Fenn Community Center located in Fort Pierce. This facility, the only non-school facility, has a capacity of 500.

A special needs shelter is a temporary emergency facility capable of providing care to residents whose medical condition exceeds the capabilities of the Red Cross Shelter but is not severe enough to require hospitalization. Health Department medical staff supports these shelters. The State of Florida Division of Emergency Management, Department of Health, local emergency management agencies, and health care agencies have worked together over the last decade to establish Special Needs Shelter standards, protocols and technical assistance that can be integrated into the Florida Emergency Management System. Although not referenced in the Statewide Regional Evacuation Study, the City has identified the Port St. Lucie Community Center as a backup special needs shelter with a capacity of 250.

Clearance Times

Calculated clearance times are used by emergency managers as one input to determine when to recommend an evacuation order. This calculation can include the population-at-risk, shadow evacuees, as well as evacuees from other counties anticipated to pass through the county. Clearance time is developed to include the time required for evacuees to secure their homes and prepare to leave, the time spent by all vehicles traveling along the evacuation route network, and the additional time spent on the road caused by traffic and road congestion. Clearance time does not relate to the time any one vehicle spends traveling along the evacuation route network, nor does it guarantee vehicles will safely reach their destination once outside the County. Clearance times for St. Lucie County are presented in the tables below.

**TABLE 5-10
Base Scenario Clearance Time in Hours per Evacuation Level**

	Level A	Level B	Level C	Level D	Level E
Clearance Time to Shelter	12.5	12.5	13	16	18
In-County Clearance Time	13	13.5	14	17.5	25
Out of County Clearance Time	14	14.5	14.5	18.5	25
Regional Clearance Time	14.5	14.5	16	19.5	28

Source: 2010 Statewide Regional Evacuation Study

**TABLE 5-11
Operational Scenario Clearance Time in Hours per Evacuation Level**

	Level A	Level B	Level C	Level D	Level E
Clearance Time to Shelter	6.5	6.5	6.5	12	12
In-County Clearance Time	7	8	10.5	15.5	25
Out of County Clearance Time	8.5	8.5	11.5	17	25
Regional Clearance Time	9	9.5	13.5	20	32

Source: 2010 Statewide Regional Evacuation Study

Clearance Time to Shelter is defined as the time necessary to safely evacuate vulnerable residents and visitors to a “point of safety” within the County based on a specific hazard, behavioral assumptions and evacuation scenario. This is calculated from the point in time when the evacuation order is given to the point in time when the last vehicle reaches a point of safety within the county. *In-County Clearance Time* is the time required from the point an evacuation order is given until the last evacuee can either leave the evacuation zone or arrive at safe shelter within the county. This does not include those evacuees leaving the county on their own. *Out of County Clearance Time* is calculated from the point an evacuation order is given to the point in time when the last vehicle assigned an external destination exits the county, and *Regional Clearance Time* is the time necessary to safely evacuate vulnerable residents and visitors to a “point of safety” based on a specific hazard, behavioral assumptions and evacuation scenario, calculated from last vehicle assigned an external destination exits the region.

The primary means, available to the City, to reduce evacuation times would be the implementation of physical improvements to those portions of its local roadways designated as evacuation routes. The Treasure Coast Regional study identified the following planned improvements scheduled to occur between 2011 and 2015.

**TABLE 5-12
Roadway Improvements 2011 - 2015**

Road	From	To	# Lanes
SR 70	Okeechobee County line	MP 10.216	4
SR 70	Kings Hwy	Jenkins Rd	6
I-95	SR 70	Indian River County line	8

Source: 2010 Statewide Regional Evacuation Study

The Capital Improvements Element of this plan identifies major proposed roadway improvements within the City. The City has identified improvements to Becker Road and the extension of the Crosstown Parkway to U.S. 1 as projects to improve evacuation times. Other means the City could pursue to reduce evacuation times include the development of additional roadways and bridges over the North Fork of the St. Lucie River to provide an additional east-west thoroughfare and reduce evacuating traffic on existing east-west thoroughfares.

Coastal High Hazard Areas

The area projected to experience the most hurricane damage is the coastal high hazard area (CHHA). The coastal high-hazard area is the area below the elevation of the category 1 storm surge line as established by a Sea, Lake, and Overland Surges from Hurricanes (SLOSH) computerized storm surge model. Map CST-4 shows the CHHA in the City. The majority of the Coastal High Hazard Area in the City is undeveloped wetland habitat in the floodplain of the North Fork of the St. Lucie River. The following table, identifying the habitats within the CHHA, shows that less than 5 acres of the 156 acres that comprises the CHHA is urban in nature.

**TABLE 5-13
Habitats in the CHHA**

CLASS	Acreage
Bare Soil/Clearcut	0.04
Cypress Swamp	0.15
Cypress/Pine/Cabbage Palm	0.07
Dry Prairie	0.53
Freshwater Marsh and Wet Prairie	2.90
Hardwood Hammocks and Forest	1.10
Hardwood Swamp	38.89
High Impact Urban	4.25
Low Impact Urban	0.67
Mangrove Swamp	42.28
Mixed Wetland Forest	0.01
Open Water	52.99
Pinelands	3.17
Salt Marsh	0.34
Shrub and Brushland	0.25
Shrub Swamp	8.89
Total Acreage	156.51

Source: Florida Fish and Wildlife Conservation Service.

The significant infrastructure that falls in the CHHA is that segment of Port St. Lucie Boulevard, (State Highway 716) that traverses the North Fork of the St. Lucie River. Map CST-5 CHHA Facilities identifies a number of bridges in the Coastal High Hazard Area.

NATURAL DISASTER PLANNING

The City has developed and has in place a Comprehensive Emergency Management Plan and has in place a statewide mutual aid agreement. The City also participates in the Unified Local Mitigation Strategy Program and the National Flood Insurance Program. As identified in the St. Lucie County Local Mitigation Strategy Program (LMS), the following natural hazards pose a risk to the County and the City: floods, hurricanes/tropical storms, tornadoes, severe thunderstorms/lightning, drought, temperature extremes, muck fires, wildfire/urban interface fires and erosion. Hurricanes/tropical storms and floods are given the highest priority.

Hurricanes have the highest potential to occur from June through November; heavy rainfall, high winds, storm surge and widespread flooding may accompany these storms, as well as a potential for associated tornadoes. During a hurricane evacuation, a significant number of vehicles will have to be moved across the local and regional road network. The quantity of evacuating vehicles will vary depending upon the magnitude of the hurricane, publicity and warnings provided about the storm and particular behavioral response characteristics of the vulnerable population. The City must be prepared to evacuate highly vulnerable populations on critical routes, often concurrently with evacuees from inside and outside the County.

The St. Lucie County Division of Emergency Management provides a coordinating point for management of local emergencies to catastrophic events in and around St. Lucie County. It is the lead organization in coordinating disaster response from a municipal level to state and federal. Recovery planning and financial assistance from the State of Florida and FEMA are established through the Division's emergency operations center. The County disseminates information concerning the need for residents to evacuate at various hurricane threat levels and strives to educate the general citizenry regarding emergency preparedness plans and evacuation shelter assignments.

Public health and safety will receive the first priority in post-disaster emergency permitting decisions. Post-disaster redevelopment should ensure that actions include the following:

1. Repairs to potable water, wastewater and power facilities;
2. Removal of debris from roadways and required infrastructure;
3. Stabilization or removal of any structure which is about to collapse;
4. Minimal repairs to make structures habitable; and
5. Emergency repairs related to environmental damage.

Additionally, post-disaster redevelopment strategic planning should provide a basis to:

1. Ensure a means to restore economic activity;
2. Establish a framework for deciding whether to implement a temporary moratorium on building activity as may be required for public safety;
3. Develop procedures for reviewing and deciding upon emergency building permits;
4. Coordinate with State and Federal officials to prepare disaster assistance applications;
5. Analyze and recommend to the City Council hazard mitigation options, including

- reconstruction or relocation of damaged public facilities;
- 6. Recommend amendments to the Local Comprehensive Emergency Management Plan and other appropriate policies and procedures; and
- 7. Ensuring timely re-entry by residents following an evacuation.

Included in post-disaster redevelopment planning should be the basis for evaluating future options for damaged public facilities following a hurricane or other disaster event; which includes but is not limited to abandonment, repair in place, relocation and reconstruction with structural modifications. The following considerations will impact final determination:

- 1. Construction and maintenance costs;
- 2. History of potential for recurring damages;
- 3. Impacts on land use, the environment, and the public sector;
- 4. Inclusion in the inventory of the National Register of Historic;
- 5. Consistency with federal funding provisions; and
- 6. Consideration of structural integrity and safety.

St. Lucie Nuclear Power Plant

The Florida Power and Light (FPL) St. Lucie Nuclear Power Plant is located on south Hutchinson Island only a few miles from the City's eastern boundary. The population within the 10 mile emergency planning zone (EPZ) to the nuclear power plant is considered at greatest risk of exposure to radiation and radioactive materials in the unlikely event of an emergency. State and local officials, together with FPL, have prepared a detailed emergency plan for people within the 10 mile EPZ of the plant.

Nuclear energy production is monitored closely by the Nuclear Regulatory Commission (NRC), a federal agency. Daily inspections are conducted at the St. Lucie Plant to guarantee compliance. Several identical safety systems are in place so that if one fails, others automatically go to work. The purpose of radiological emergency preparedness is to protect people from the effects of radiation exposure after an accident at a nuclear power plant. Evacuation is the most effective protective measure because it protects the whole body (including the thyroid gland and other organs) from all radionuclides and all exposure pathways. However, in situations when evacuation is not feasible, in-place sheltering is substituted as a protective action. In addition, administering potassium iodide is a reasonable, prudent, and inexpensive supplement to both evacuation and sheltering. When the population is evacuated out of the area, and potentially contaminated foodstuffs are interdicted, the risk from further radioactive iodine exposure to the thyroid gland is essentially eliminated.

In the unlikely event of radiation contamination, the environmental impacts could range from modest to catastrophic on a wide ranging, long term scale dependent on the type and scope of event triggering a release of contamination. Long term commitments at the federal level will be required in the event of a significant emergency. At the local level, the City and County should continue to endorse the beach nourishment efforts to repair and stabilize the segment of critically eroded beach that is recognized as a threat to the power plant and should consider all current technological advances to address radiation exposure when periodically updating their CEMP.

GOALS, OBJECTIVES, AND POLICIES

GOAL 5.1: MAINTAIN AND ENHANCE THE SOCIAL AND ECONOMIC RESOURCES OF THE PORT ST. LUCIE COASTAL PLANNING AREA THROUGH THE REGULATION OF DEVELOPMENT ACTIVITIES THAT WOULD DAMAGE OR DESTROY SUCH RESOURCES, OR THREATEN HUMAN LIFE AND CAUSE UNNECESSARY PUBLIC EXPENDITURES IN AREAS SUBJECT TO DESTRUCTION BY NATURAL DISASTERS.

Continue to protect the natural resources of the coastal area through the implementation and strengthening of existing environmentally related laws, the assignment of appropriate Future Land Use designations, and providing for mitigation of development impacts.

Objective 5.1.1: Continue to protect the natural resources of the coastal area through the implementation and strengthening of existing environmentally related laws, the assignment of appropriate Future Land Use designations and providing for mitigation of development impacts.

Policy 5.1.1.1: Future development in the coastal area should be limited to those land uses which are resource dependent or compatible with the physical and environmental characteristics of the coastal area, or to those uses which can occur without degradation of important environmental values or interfere with legal public access to coastal area shorelines.

Policy 5.1.1.2: In developing land use policies for shoreline uses, first priority should be directed toward:

- a. Non-structural shoreline protection uses such as native shoreline re-vegetation programs;
- b. Approved water-dependent shoreline uses such as: fish and wildlife production, recreation, pervious accessways, small dock facilities and residential multi-slip dock facilities without commercial fuel tanks or other commercial services;
- c. Lowest priority should be directed to non-water dependent uses.

Policy 5.1.1.3: The City may continue to monitor all credible climate change data and what direct and potential effects this may have on the coastal planning area and natural resources. Based on this data the City may evaluate and update the resource protection standards of the Land Development Code and this plan as necessary.

Objective 5.1.2: Continue to protect estuarine beaches and shoreline vegetation through the establishment and enforcement of existing land development regulations and construction standards that minimize the impacts of man-made structures on beach or shoreline vegetation, or coastal wetlands, and restore altered beaches or vegetation.

Policy 5.1.2.1: Continue to enforce regulations which prohibit the alteration of estuarine beaches located within the City, and require restoration of degraded beaches as part of the site plan approval process for all new development and redevelopment.

Objective 5.1.3: The City may direct population concentrations away from known or predicted coastal high hazard areas and limit public expenditures that subsidize development permitted in high-hazard areas except for restoration or enhancement of natural resources.

Policy 5.1.3.1: The coastal high hazard area shall be defined pursuant to Chapter 163.3178(2)(h)F.S as the area below the elevation of the category 1 storm surge line as established by a Sea, Lakes, and Overland Surges from Hurricanes (SLOSH) computerized storm surge model.

Policy 5.1.3.2: Within six months of the conclusion of each annual hurricane season, the City shall review the status of lands within its corporate limits and determine whether any areas of the City meet the criteria of a coastal high hazard area.

Policy 5.1.3.3: The City may through land use designation and development review, regulate and limit the type of uses in the designated coastal high hazard area. Protection of human life and protection of natural resource system should be maximized. The City may direct population concentrations away from known or predicted High Hazard Areas.

Policy 5.1.3.4: The City may consider relocation, mitigation, or replacement of infrastructure in the coastal high hazard area as appropriate and when funding becomes available.

Objective 5.1.4: Coordinate with the County and neighboring communities to maintain or reduce hurricane clearance times identified for St. Lucie County in the 2010 Statewide Regional Evacuation Study for the Treasure Coast Region.

Policy 5.1.4.1: Maintain, throughout the planning period, the high level, operational scenario estimated clearance time to shelter of 12 hours, and in-County clearance time of 25 hours as identified in the 2010 Statewide Regional Evacuation Study for the Treasure Coast Region for St. Lucie County.

Policy 5.1.4.2: Continue to implement City road improvements identified in the St. Lucie County Local Mitigation Strategy Project Prioritization List to facilitate hurricane evacuation.

Policy 5.1.4.3: The City shall provide all hurricane evacuation studies and plans to the TCRPC, adjacent counties, and all other municipalities within St. Lucie County for consistency with regional and local plans before their adoption and implementation.

Objective 5.1.5: Prepare post-disaster redevelopment plans that will reduce or eliminate the exposure of human life, public property, and private property to natural hazards.

Policy 5.1.5.1: The City may maintain and update as needed, their Comprehensive Emergency Management Plan.

Policy 5.1.5.2: After a hurricane, but before re-entry of the population into evacuated areas, the City Council should meet to hear preliminary damage assessments, appoint a Recovery Task Force and consider a temporary moratorium on building activities not necessary for the public health, safety, and general welfare.

Policy 5.1.5.3: The City's Emergency Management Team shall coordinate disaster preparation and recovery measures.

Policy 5.1.5.4: The Recovery Task Force may review and decide upon emergency building permits; coordinate with state and federal officials to prepare disaster assistance applications; analyze and recommend to the City Council hazard mitigation options including reconstruction or relocation of damaged public facilities; develop a redevelopment plan; and, recommend amendments to the comprehensive plan, Local Comprehensive Emergency Management Plan, and other appropriate policies and procedures.

Policy 5.1.5.5: Immediate repair and cleanup actions needed to protect the public health and safety include repairs to potable water, wastewater, and power facilities; removal of debris; stabilization or removal of structures about to collapse; and minimal repairs to make dwellings habitable. These actions shall receive first priority in permitting decisions. Long-term

redevelopment activities shall be postponed until the Recovery Task Force has completed its tasks.

Policy 5.1.5.6: If rebuilt, structures that suffer damage more than fifty percent of their appraised value shall be rebuilt to meet all current requirements including those enacted since construction of the structure.

Policy 5.1.5.7: The Recovery Task Force shall review all interagency hazard mitigation reports and make recommendations for amendments to the comprehensive plan accordingly.

Policy 5.1.5.8: The City may provide the basis for evaluating future options for damaged facilities following a hurricane or other disasters. Post disaster redevelopment plan options may include but are not limited to, abandonment, repair in place, relocation, and reconstruction with structural modifications. Future options should at a minimum consider the following:

1. History of and potential for future recurring damages;
2. Impacts on land use, the environment, and the public sector;
3. Consistency with federal, state and other applicable provisions; and
4. Consideration of structural integrity and safety.

Policy 5.1.5.9: The City may consider hazard mitigation initiatives when determining capital improvement expenditures.

Policy 5.1.5.10: The City may mitigate hazards through the regulation of building practices, floodplains, stormwater management and sanitary sewer facilities.

Policy 5.1.5.11: The City may continue to identify areas in need of redevelopment including unsafe conditions to reduce exposure to risk to public and private property and human life.

Objective 5.1.6: The City may continue to provide adequate access to shorelines, including parking facilities for shoreline access.

Policy 5.1.6.1: New development shall maintain existing public access to the lagoon or NFSLR. New shoreline development and redevelopment shall show on their site plans existing access ways and the proposed development shall continue that access way, relocate it on the site, or donate it to the City according to the 1985 Coastal Zone Protection Act.

Policy 5.1.6.2: The City, with the County, should prioritize new park purchases and park development, with emphasis on parks that would provide public access to coastal area waters and include parking facilities and access to a state or county road where possible.

Policy 5.1.6.3: The City may increase access of current 2011 levels where possible and prevent the loss of the amount of public access to lagoon or river shorelines and coastal resources consistent with estimated public needs.

Objective 5.1.7: Provide for the protection, preservation and sensitive reuse of public and private historic resources to ensure that the City does not experience a loss of historic resources.

Policy 5.1.7.1: Review and revise, as needed, existing regulations that provide for identification of historic resources, encourage historic preservation, provide for sensitive reuse, permit excavation by the Division of Historic resources as an alternative prior to development, and prevent vegetation removal to prevent a loss of historic resources within the City

Policy 5.1.7.2: The City may consider accepting donations of historic or archaeological sites.

Policy 5.1.7.3: The City may, on an annual basis, determine and map any structures or sites that meet the criteria for historic resources as defined within the City's Land Development Regulations and provide a list to appropriate agencies.

Objective 5.1.8: The level of service standards and phasing of infrastructure adopted for the entire City in the Capital Improvements Element and other elements of this Comprehensive Plan shall apply to the coastal planning area.

Policy 5.1.8.1: The level of service standards shall be applied whenever development orders or permits are requested for development in coastal planning areas.

GOAL 5.2: THE CITY OF PORT ST. LUCIE SHALL CONSERVE, PROTECT, AND MANAGE THE NATURAL RESOURCES OF THE CITY IN A MANNER WHICH MAXIMIZES THEIR FUNCTIONS AND PURPOSES.

Objective 5.2.1: Air quality within Port St. Lucie should meet or surpass National Ambient Air Quality Standards (NAAQS) for all pollutants measured by the Florida Department of Environmental Protection (FDEP).

Policy 5.2.1.1: The City should obtain the DEP annual Air Quality Report and confer with the FDEP on the source(s) of air quality violations and the proper abatement methods. If needed, coordinate with the FDEP in their efforts to enforce clean air standards.

Policy 5.2.1.2: The City may develop, where possible, bicycle and pedestrian paths to reduce vehicle use and the associated toxic pollutants.

Policy 5.2.1.3: The City may review implementable measures that would effectively reduce greenhouse gas emissions, and as financially feasible, enact effective measures to reduce emissions generated by City government operations and by policies effecting community-wide functions.

Policy 5.2.1.4: The City may facilitate development that maximizes energy efficiency and sustainability. This may include implementing Land Development Code standards promoting land use patterns and development techniques that reduce the total fossil fuel energy required to build and maintain uses, including standards that promote mixed land use patterns, urban infill, public transit and provisions for non-motorized interconnections between uses to reduce auto dependence and vehicle miles traveled.

Policy 5.2.1.5: The City may provide public information on the reduction of heat island effects in urban areas and reduction of air conditioning needs in structures through appropriate placement of canopy shading.

Policy 5.2.1.6: The City may preserve and enhance the City's physical and aesthetic character and environment by:

1. Preventing untimely and indiscriminate removal or destruction of trees.
2. Providing recognition to single-family residential homeowners for tree retention.
3. Providing protection for large trees.
4. Restricting the removal of trees on undeveloped land prior to review of a specific development proposal.

Policy 5.2.1.7: The City may implement the recommendations contained in the City of Port St. Lucie Tree Planting Plan for the U.S. Conference of Mayors Climate Protection Agreement to achieve a sustainable urban forest that contains a mix of tree species and ages in order to use

the forest's ability to reduce storm water runoff and pollution, absorb air pollutants, provide wildlife habitat, absorb carbon dioxide, provide shade, stabilize soil, and increase property values.

Objective 5.2.2: Conserve, appropriately use, and protect the quality and quantity of current and projected water sources and waters that flow into estuarine waters or oceanic waters to provide for the maintenance or improvement of water quality.

Policy 5.2.2.1: Ensure that surface water management systems be designed and operated consistent with and the City's adopted Level of Service Standard.

Policy 5.2.2.2: The City may provide for open space as a part of the requirements for all development and redevelopment to promote shallow water aquifer recharge and stormwater filtration.

Policy 5.2.2.3: Work towards further education of the public regarding various methods of water conservation at the household and small business level.

Policy 5.2.2.4: Based on new technologies that become available, examine and revise, if needed, land development regulations that require water conserving landscape design, with minimum native vegetation requirements.

Policy 5.2.2.5: The City shall continue to enforce the adopted "Wellfield Protection Ordinance," and restrict activities that adversely affect water quality and quantity.

Policy 5.2.2.6: Continue to implement Utility Service Areas (USAs) for water and sewer program development to protect the City's water resources.

Policy 5.2.2.7: The City may coordinate with the South Florida Water Management District in the development and updates of the District's Regional Water Supply Plan.

Policy 5.2.2.8: The City may cooperate with the South Florida Water Management District to conserve water resources in emergencies and during declared water shortages.

Policy 5.2.2.9: The City may coordinate with the FDEP, the SFWMD, the County, other local municipalities and appropriate agencies in alternative water supply planning efforts.

Objective 5.2.3: Conserve, appropriately use and protect the environmental quality and living marine resources of estuarine waters through the following policies and enforcement of the Land Development Code.

Policy 5.2.3.1: The City may continually evaluate the setback, landscape and buffer standards in the Land Development Code and update any portion of the standards that do not adequately protect the County's estuarine and marine resources.

Policy 5.2.3.2: The City shall continue to strictly enforce regulations that direct development away from floodplains and provide upland buffers along the floodplain.

Policy 5.2.3.3: All new marina projects should be compatible with the City's natural resource codes.

Policy 5.2.3.4: Retain river islands in public ownership through designation in the Preservation/Open Space category to serve as green areas, bird roosting, nesting, and feeding areas and, when appropriate, water-oriented recreation areas.

Policy 5.2.3.5: Review, revise, and continue to enforce land development regulations consistent with those of the SFWMD and the DEP without exemptions which prohibit new point sources of run-off from discharging into the Indian River Lagoon or the NFSLR for less than the 25-year storm event, and prohibit structures which constrict water circulation.

Policy 5.2.3.6: Institute a public education program targeted at known problem areas regarding dumping of debris and maintenance of stormwater swales.

Policy 5.2.3.7: The City shall update master drainage plans and programs that examine quality and quantity of stormwater, and prioritize improvements for the Capital Improvements Plan and Capital Improvements Element.

Objective 5.2.4: Conserve, appropriately use and protect the natural functions and purposes of soils and minerals through the following policies and enforcement of the Land Development Code.

Policy 5.2.4.1: Consider topographic, hydrologic and vegetative cover factors, and appropriate excavation and filling techniques to reduce erosion in the site plan review process of proposed developments.

Policy 5.2.4.2: Review possible revisions to existing mining regulations to better address water use plan, appropriate buffering and rededication requirements of new mining operations.

Policy 5.2.4.3: Enforce land development regulations requiring the establishment and maintenance of buffers between mining activities and adjacent existing and future uses.

Objective 5.2.5: Conserve, appropriate use and protect fisheries, wildlife, wildlife habitat, marine habitat, and native vegetative communities, including forests and wetlands through the following policies and enforcement of the Land Development Code.

Policy 5.2.5.1: Continue to enforce standards for open space, wildlife and habitat preservation in conjunction with residential and commercial development.

Policy 5.2.5.2: Implement guidelines and recommendations in the adopted City of Port St. Lucie Conservation Lands Management and Acquisition Plan to allow for the purchase and management of preservation areas in the City.

Policy 5.2.5.3: Review existing measures for species identification and protection to ensure requirements exist for site surveys prior to development and management plans for identified species.

Policy 5.2.5.4: Prohibit the development of marinas in designated manatee critical habitat.

Policy 5.2.5.5: The recommendations of the County's Boating Facility Siting Plan should be utilized for the identification of those areas most appropriate for the location of additional boat ramps for access to coastal waters.

Policy 5.2.5.6: Review, revise as needed, and continue to enforce land development regulations that protect native vegetative communities from destruction by development activities.

Policy 5.2.5.7: The City may require all nuisance and invasive exotic vegetation (e.g. Brazilian pepper, Australian pine and Melaleuca) be removed and eradicated at the time of development or significant redevelopment of all site plan projects, for both nonresidential use and residential projects.

Policy 5.2.5.8: The City may consider clustering, micro-siting of structures or other protective mechanisms to preserve, wetlands, wetland functions and other native vegetative communities or protected species habitats.

Policy 5.2.5.9: Review, revise, and continue to enforce land development regulations which at a minimum require a buffer zone of native upland (i.e., transitional) vegetation shall be provided and maintained around wetland and deepwater habitats.

Policy 5.2.5.10: Require submission of comments from appropriate agencies to the City prior to dredge and fill permit issuance to assure compliance with dredge and fill permitting processes.

Policy 5.2.5.11: Continue to coordinate with adjacent local governments to conserve, appropriately use, or protect unique vegetative communities located in more than one local jurisdiction.

Policy 5.2.5.12: The City may coordinate with appropriate agencies to restore or enhance disturbed or degraded natural resources, and programs to mitigate future disruptions and degradation.

Policy 5.2.5.13: The City shall protect native upland vegetative communities, and shall protect listed species and their habitat through the implementation of the City's adopted Natural Resource Code.

Policy 5.2.5.14: Development applicants must comply with state and federal regulations when listed plant and animal populations are on a development site.

Policy 5.2.5.15: An Environmental Assessment Report should be submitted for all future land use map amendments. An Environmental Assessment Report may be required for all development or redevelopment plans that are greater than two acres.

Policy 5.2.5.16: Conservation Trust Funds may only be used for acquisition and management of upland preserves. Development of passive recreation facilities shall be consistent with the permitted principal uses and structures of the Open Space Conservation Zoning District.

Objective 5.2.6: The City may coordinate with the Department of Environmental Protection to protect natural resources from hazardous wastes.

Policy 5.2.6.1: The City may continue to offer Amnesty Days to collect hazardous wastes in the City; and may evaluate the need for scheduling local Amnesty Days.

Policy 5.2.6.2: The City may coordinate with the Florida Department of Environmental Protection in providing public information regarding the safe disposal of chemicals. Specifically, information on free disposal of household hazardous wastes, information on disposal contractors available to small businesses and the special waste programs available for landfill disposal of non-typical materials, such as spill clean-ups and contaminated soils may be made available.

APPENDIX 5-A. SOIL SERIES AND LAND COVERAGE DESCRIPTIONS

ANCLOTE SERIES

TAXONOMIC CLASS: Sandy, siliceous, hyperthermic Typic Endoaquolls

The Anclote series consists of very deep, very poorly drained, rapidly permeable soils in depressions, poorly defined drainage ways, and flood plains. They formed in thick beds of sandy marine sediments. Slopes range from 0 to 1 percent.

ANKONA SERIES

TAXONOMIC CLASS: Sandy, siliceous, hyperthermic, ortstein Arenic Ultic Alaquods

The Ankona series consists of very deep, very poorly and poorly drained, very slowly or slowly permeable soils on broad flats and in depressional areas of central and southern Florida. They formed in sandy and loamy marine sediments. Slopes range from 0 to 2 percent.

FARMINGTON SERIES

TAXONOMIC CLASS: Sandy, siliceous, hyperthermic Arenic Ultic Alaquods.

The Farmton series consists of very deep, poorly drained soils formed in sandy and loamy marine sediments. These soils are on flatwoods areas on the Lower Coastal Plain. Slopes are dominantly less than 1 percent but range to 2 percent.

BASINGER SERIES

TAXONOMIC CLASS: Siliceous, hyperthermic Spodic Psammaquents

The Basinger series consists of very deep, poorly drained and very poorly drained, rapidly permeable soils in sloughs, depressions, low flats, and poorly defined drainageways. They formed in sandy marine sediments. Slopes range from 0 to 2 percent.

CANAVERAL SERIES

TAXONOMIC CLASS: Hyperthermic, uncoated Aquic Quartzipsamments

The Canaveral series consists of very deep, somewhat poorly to moderately well drained, very rapidly permeable soils on side slopes of dune-like ridges bordering depressions and sloughs along the coast in Peninsular Florida. They formed in thick marine deposits of sand and shell fragments. Slopes are dominantly less than 3 percent but range up to 5 percent.

CHOBEE SERIES

TAXONOMIC CLASS: Fine-loamy, siliceous, superactive, hyperthermic Typic Argiaquolls

The Chobee series consists of very deep, very poorly drained, slowly to very slowly permeable soils in depressions, flats, and occasionally on river flood plains in the lower Coastal Plain. They formed in thick beds of loamy marine sediments. Slopes range from 0 to 2 percent.

ELECTRA SERIES

TAXONOMIC CLASS: Sandy, siliceous, hyperthermic Oxyaquic Alorthods

The Electra series consists of somewhat poorly drained soils that formed in thick beds of sandy and loamy marine sediments on slight ridges in the flatwoods areas of central and southern Florida. Slopes range from 0 to 5 percent.

FLORIDANA SERIES

TAXONOMIC CLASS: Loamy, siliceous, superactive, hyperthermic Arenic Argiaquolls

The Floridana series consists of very deep, very poorly drained, slowly to very slowly permeable soils on low broad flats, flood plains, and in depressional areas. They formed in thick beds of sandy and loamy marine sediments. Slopes range from 0 to 1 percent.

HILOLO SERIES

TAXONOMIC CLASS: Fine-loamy, siliceous, superactive, hyperthermic Mollic Endoaqualfs

The Hilolo series consists of deep, poorly drained slowly permeable soils formed in sandy and loamy marine sediments influenced by underlying alkaline materials. They occur on nearly level areas and along borders of depressions and sloughs in Peninsular Florida. Slopes are less than 2 percent. Hilolo soils are on cabbage palm hammocks and along borders of depressions and sloughs.

HOBE SERIES

TAXONOMIC CLASS: Sandy, siliceous, hyperthermic Entic Grossarenic Alorthods

The Hobe series consists of very deep, somewhat excessively drained, moderately permeable soils on elevated knolls and ridges in the flatwoods areas of the lower Coastal Plains of Florida. They formed in thick beds of sandy and loamy marine sediments. Slopes range from 0 to 5 percent.

HONTOON SERIES

TAXONOMIC CLASS: Dysic, hyperthermic Typic Haplosaprists

The Hontoon series consists of deep, very poorly drained, rapidly permeable organic soils formed in hydrophytic non-woody plant remains. These soils occur in fresh water swamps, marshes and poorly defined drainageways. Slopes range from 0 to 2 percent.

JONATHAN SERIES

TAXONOMIC CLASS: Sandy, siliceous, hyperthermic, ortstein Grossarenic Alorthods

The Jonathan series consists of very deep, moderately well to somewhat excessively drained, very slowly or slowly permeable soils on slightly elevated knolls and ridges in flatwoods areas of the Lower Coastal Plains of Florida. They formed in thick beds of sandy marine sediments. Slopes range from 0 to 5 percent.

KALIGA SERIES

TAXONOMIC CLASS: Loamy, siliceous, dysic, hyperthermic Terric Haplosaprists

The Kaliga series consists of very poorly drained, slowly to very slowly permeable soils that formed in moderately thick deposits of sapric material and underlying loamy and clayey materials. These soils are on nearly level low flats, marshes, and swamps in the Coastal Plain. These soils are saturated or covered with water for much of the year. Water runs off the surface very slowly. Slope is dominantly less than 1 percent.

KESSON SERIES

TAXONOMIC CLASS: Siliceous, hyperthermic Typic Psammaquents

The Kesson series consists of deep, very poorly drained, rapid to moderately rapid permeable soils that formed in thick marine deposits of sand and shell fragments in tidal swamps and marshes along the Gulf Coast of Peninsular Florida. Slopes range from 0 to 1 percent.

LAWNWOOD SERIES

TAXONOMIC CLASS: Sandy, siliceous, hyperthermic, ortstein Aeric Alaquods

The Lawnwood series consists of very deep, poorly drained, very slowly to moderately slowly permeable soils on broad flatwoods in the lower Coastal Plain of Peninsular Florida. They formed in sandy marine sediments. Slopes are dominantly less than 1 percent, but range up to 2 percent along edges of depressions and drainage ways.

MALABAR SERIES

TAXONOMIC CLASS: Loamy, siliceous, active, hyperthermic Grossarenic Endoaqualfs

The Malabar series consists of very deep, poorly to very poorly drained soils in sloughs, shallow depressions, and along flood plains. They formed in sandy and loamy marine sediments. Slopes range from 0 to 2 percent.

NETTLES SERIES

TAXONOMIC CLASS: Sandy, siliceous, hyperthermic, ortstein Alfic Arenic Alaquods

The Nettles series consists of very deep, poorly and very poorly drained, slow or very slow permeable soils on broad areas of flats and depressions of central and southern Florida. They formed in sandy and loamy marine sediments. Slopes range from 0 to 2 percent.

OLDSMAR SERIES

TAXONOMIC CLASS: Sandy, siliceous, hyperthermic Alfic Arenic Alaquods

The Oldsmar series consists of very deep, poorly drained and very poorly drained soils in flats and depressions in the flatwoods of Peninsular Florida. They formed in sandy marine sediments overlying loamy materials.

PAOLA SERIES

TAXONOMIC CLASS: Hyperthermic, uncoated Spodic Quartzipsamments

The Paola series consists of very deep, excessively drained, very rapidly permeable soils on uplands. They formed in thick sandy marine deposits more than 7 feet thick. Slopes range from 0 to 20 percent.

PENDARVIS SERIES

TAXONOMIC CLASS: Sandy, siliceous, hyperthermic, ortstein Oxyaquic Alorthods

The Pendarvis series consists of very deep, moderately well drained, slowly or moderately slowly permeable soils on low ridges and knolls in the flatwoods in central and southern Florida. They formed in thick deposits of sandy marine sediments. Slope is dominantly less than 2 percent but ranges to 5 percent along drainage ways and depressions.

PEPPER SERIES

TAXONOMIC CLASS: Sandy, siliceous, hyperthermic, ortstein Alfic Alaquods

The Pepper series consists of very deep, poorly drained, slowly or very slowly permeable soils on broad areas in the flatwoods of central and south Florida. They formed in sandy and loamy marine sediments. Slopes range from 0 to 2 percent.

PINEDA SERIES

TAXONOMIC CLASS: Loamy, siliceous, active, hyperthermic Arenic Glossaqualfs

The Pineda series consists of deep and very deep, poorly and very poorly drained, very slowly permeable soils in depressions, low hammocks, poorly defined drainageways, broad low flats, and flood plains. They formed in thick beds of sandy and loamy marine sediments on the lower Coastal Plain. Slopes range from 0 to 2 percent.

POMPANO SERIES

TAXONOMIC CLASS: Siliceous, hyperthermic Typic Psammaquents

The Pompano series consists of very deep, very poorly drained, rapidly permeable soils in depressions, drainageways, and broad flats in Peninsular Florida. They formed in thick beds of marine sands. Slopes range from 0 to 2 percent.

POPLE SERIES

TAXONOMIC CLASS: Loamy, siliceous, active, hyperthermic Arenic Endoaqualfs

The Pople series consists of very deep, poorly drained, slowly permeable soils that formed in sandy and loamy marine deposits influenced by alkaline materials. These soils are on nearly level, flatwoods and low ridges in Peninsular Florida. Slopes range from 0 to 2 percent.

RIVIERA SERIES

TAXONOMIC CLASS: Loamy, siliceous, active, hyperthermic Arenic Glossaqualfs

The Riviera series consists of very deep, poorly drained, very slowly permeable soils on broad, low flats and in depressions in the Lower Coastal Plain. They formed in stratified sandy and loamy marine sediments on the Lower Coastal Plain. Slopes range from 0 to 2 percent.

SALERNO SERIES

TAXONOMIC CLASS: Sandy, siliceous, hyperthermic, ortstein Grossarenic Alaquods

The Salerno series consists of very deep, poorly drained, very slowly permeable soils on the flatwoods of Peninsular Florida. They formed in sandy marine sediments. Slopes range from 0 to 2 percent.

SAMSULA SERIES

TAXONOMIC CLASS: Sandy or sandy-skeletal, siliceous, dysic, hyperthermic Terric Haplosaprists

The Samsula series consists of very deep, very poorly drained, rapidly permeable soils that formed in moderately thick beds of hydrophytic plant remains and are underlain by sandy marine sediments. These soils are in freshwater swamps, poorly defined drainageways and flood plains. Slopes are less than 2 percent.

SATELLITE SERIES

TAXONOMIC CLASS: Hyperthermic, uncoated Aquic Quartzipsammments

The Satellite series consists of very deep, somewhat poorly drained, rapidly permeable soils on low knolls and ridges of the Florida flatwoods and ridges on higher elevations in the Lower Coastal Plain. They formed in thick beds of marine sand. Slopes range from 0 to 2 percent.

ST. LUCIE SERIES

TAXONOMIC CLASS: Hyperthermic, uncoated Typic Quartzipsammments

The St. Lucie series consists of very deep, excessively drained, very rapidly permeable soils on dune-like ridges and on isolated knolls. They formed in marine or eolian sand. Slopes range from 0 to 20 percent.

SUSANNA SERIES

TAXONOMIC CLASS: Sandy, siliceous, hyperthermic, ortstein Ultic Alaquods

The Susanna series consists of very deep, poorly drained, very slowly permeable soils on broad flats of central and southern Florida. They formed in sandy and loamy marine sediments. Slopes range from 0 to 2 percent.

WAUCHULA SERIES

TAXONOMIC CLASS: Sandy over loamy, siliceous, active, hyperthermic Ultic Alaquods

The Wauchula series consists of very deep, very poorly or poorly drained, moderately slow or slowly permeable soils on flatwoods on the lower coastal plains. They formed in sandy and loamy marine sediments. Slopes range from 0 to 5 percent.

TANTILE SERIES

TAXONOMIC CLASS: Sandy, siliceous, hyperthermic, ortstein Ultic Alaquods

The Tantile series consists of very deep, poorly drained, slowly or very slowly permeable soils on broad areas in the flatwoods of central and southern Florida. They formed in sandy and loamy marine sediments. Slopes range from 0 to 2 percent.

TERRA CEIA SERIES

TAXONOMIC CLASS: Euic, hyperthermic Typic Haplosaprists

The Terra Ceia series consists of very deep, very poorly drained organic soils that formed from nonwoody fibrous hydrophytic plant remains. They occur mostly in nearly level fresh water marshes and occasionally on river flood plains and in tidal swamps or flats.

WABASSO SERIES

TAXONOMIC CLASS: Sandy over loamy, siliceous, active, hyperthermic Alfic Alaquods

The Wabasso series consists of deep or very deep, very poorly and poorly drained, very slowly and slowly permeable soils on flatwoods, flood plains, and depressions in Peninsula Florida. They formed in sandy and loamy marine sediments. Slopes range from 0 to 2 percent.

WAVELAND SERIES

TAXONOMIC CLASS: Sandy, siliceous, hyperthermic, ortstein Arenic Alaquods

The Waveland series consists of very deep, very poorly and poorly drained, very slowly to moderately slowly permeable soils on broad areas of flatwoods and depressions in the Lower Coastal Plain of Peninsular Florida. They formed in sandy marine sediments. Slopes are dominantly less than 1 percent but range up to 2 percent along the edges of depressions and drainage ways.

WINDER SERIES

TAXONOMIC CLASS: Fine-loamy, siliceous, superactive, hyperthermic Typic Glossaqualfs

The Winder series consists of very deep, poorly drained, slowly to very slowly permeable soils on broad, low flats and depressional areas. They formed in loamy marine sediments on the Lower Coastal Plain. Slopes range from 0 to 2 percent.

DESCRIPTIONS OF OTHER MAPPED LAND COVERAGES:

ARENTS

Arents consist of soil materials dug from several areas that have different kinds of soils. These are frequently used to fill low areas. The 45 to 65 percent slope arents consist of soil materials dug from and piled alongside canals, or materials excavated during construction of highway overpasses and interchanges and used for embankments.

FLUVAQUENTS

Fluvaquents are soils on the floodplains of rivers and creeks and consist of different kinds of soils. Fluvaquents are nearly level poorly drained soils that frequently flood.

PITS

Pits are excavations from which soil and geologic material has been removed, mostly for use in road construction or foundations. Pits generally are small and most are filled with water.

URBAN LAND

Urban lands consist of areas that are more than 70% covered by development.

WATER

Water consists of those naturally occurring and manmade waterbodies covering the land.

Appendix 5-B. Habitat Coverage Descriptions

Section I. Agriculture.

Agriculture. In a broad sense agricultural lands are those lands which are cultivated to produce food crops and livestock. There are various sub-categories of agriculture. The subcategories within the County are:

- **Citrus.** Oranges, grapefruit, and tangerines are the typical crops grown in citrus groves. Citrus groves are a subcategory of tree crops which can also include fruit orchards.
- **Improved Pastures.** Improved pastures typically have been cleared, tilled, reseeded with specific grass types, and periodically improved with brush control and fertilizer application.
- **Unimproved Pastures.** Unimproved pastures include cleared land with major stands of trees and brush where native grasses have been allowed to develop. Normally, this land will not be managed with brush control and/or fertilizer application.
- **Row/Field Crops.** Corn, tomatoes, potatoes and beans are typical row crops found in Florida. Rows remain well defined even after crops have been harvested. Wheat, oats, hay and grasses are the primary types identified as the field crops.
- **Other Agriculture.** This category includes those agricultural lands whose intended usage cannot be determined.

Section II. Developed and disturbed lands.

Urban, High and Low Impact. Urban consists of areas of intensive use with much of the land occupied by man-made structures. High impact is densely developed areas, where examples of low impact would be represented by areas of low intensity residential, rural residential, or recreational type subdivision.

Bare Soil/Clearcut. Barren Land has very little or no vegetation and limited potential to support vegetative communities. In general, it is an area of bare soil or rock. Barren land may also temporarily exist due to human activity such as clearing or resource extraction.

Extractive. Extractive areas encompass both surface and subsurface mining operations.

Exotic Plants. Land areas with a predominant coverage of exotic and invasive vegetation.

Section III. Native Upland Vegetative Communities

Cypress/Pine/Cabbage Palm. This community includes cypress, pines and/or cabbage palm in combinations in which no species achieves dominance. Although not strictly a wetland community, it forms a transition between moist upland and hydric sites.

Dry Prairie. This category includes upland prairie grasses which occur on non-hydric soils but may be occasionally inundated by water. These areas are generally treeless with a variety of vegetation types dominated by grasses, sedges, rushes and other herbs including wire grasses with some saw palmetto present. The dry prairie community is a pyrogenic landscape with a ground cover diverse in regionally endemic plant taxa.

Grassland. A grassland is an upland community where the predominant vegetative cover is very low-growing grasses and forbs, most commonly in monocultures of non-invasive, non-native species.

Hardwood Hammocks and Forests. This classification of upland forest lands has a crown canopy with at least a 66% dominance by hardwood tree species. This class, like the Upland Conifer class, is reserved for naturally generated stands. Common components of the temperate hammock may include, depending upon the location, a wide variety of oaks, red bay, sweetbay, magnolia, sweetgum, sugarberry, hickories, cabbage palm, hollies and cedar. Various pines are minor associates.

Mixed Pine Hardwood Forest. This category is a mixture of sand pine and slash pine with a wide variety of hardwoods.

Pinelands. These forests are quite common throughout much of Northern and Central Florida. Originally, longleaf pines were common on drier sites while slash pines, which are less fire-resistant, were confined to moister sites; wildfire being the contributing factor in this distribution. However, fire control and artificial reforestation have extended the range of slash pine into former longleaf sites. The pine flatwoods class is dominated by either slash pine, longleaf pine or both and less frequently pond pine. The common flatwoods understory species include saw palmetto, wax myrtle, gallberry and a wide variety of herbs and brush.

Scrub Communities. Florida scrub is a plant community easily recognized by the dominance of evergreen shrubs and frequent patches of bare, white sand. Florida scrub in its various phases has been called xeric scrub, sand scrub, big scrub, sand pine scrub, oak scrub, evergreen oak scrub, dune oak scrub, evergreen scrub forest, slash pine scrub, palmetto scrub, rosemary scrub, and rosemary bald. Florida scrubs may be classified as coastal or interior. Scrubs are often named by the dominant plant species, as in rosemary scrub, sand pine scrub, palmetto scrub, or oak scrub. When sand pines (*Pinus clausa*) are present in scrub they do not form a continuous canopy but occur as scattered individuals or clumps of individuals. The scrub sub-community identified within the Town include the following:

- **Sand Pine.** This pine community grows on deep, infertile deposits of marine sands and clays. There are two varieties of sand pines, both occurring in Florida. The Ocala variety naturally occurs in South Florida growing in densely-stocked, pure, even-aged stands. The Choctawhatchee variety of western panhandle Florida commonly occurs in uneven-aged stands invading oak communities. A root disease complex gives many sand pine stands a disheveled appearance. Its dark crown coloration distinguishes it from other southern pines.
- **Xeric Oak.** This community is similar to and occupies the same sites as the Longleaf Pine - Xeric Oak community except that the pines, if present, are not the dominant species. In many cases longleaf pine may have been present in significant numbers prior to harvesting but were never regenerated. Species common to this class include sand live oak, bluejack oak, turkey oak and post oak.

Shrub and Brushland. This category includes saw palmettos, gallberry, wax myrtle, coastal scrub and other shrubs and brush. Generally, saw palmetto is the most prevalent plant cover intermixed with a wide variety of other woody scrub plant species as well as various types of short herbs and grasses. Coastal scrub vegetation would include pioneer herbs and shrubs composed of such typical plants as sea purslane, sea grapes and sea oats without any one of these types being dominant.

Section IV. Water and Wetlands.

Open Water. Open water is area that is predominantly and persistently water covered. Open water includes streams, lakes and sloughs, as well as manmade water features. The Indian River lagoon estuary and the Intracoastal Water Way are examples of open water.

Wetlands. Marsh, wet prairie and swamps are the types of wetlands found within the County. Wetlands are those areas that are inundated or saturated by surface water or ground water at a frequency and a duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soils and standing water. Shallow water bodies having emergent vegetation or observable submerged vegetation are also placed in the wetlands category.

- **Wet Prairie.** Wet prairies are freshwater systems composed grassy vegetation in hydric soils. There is a complex mosaic that makes up the longer hydroperiod marsh and the shorter hydroperiod wet prairie. Wet prairies are often difficult to delineate, and designation is often based on soil and indirect evidence of average high water levels. In general, wet prairies are distinguished from a marsh by having less water and shorter herbage. Additionally, wet prairies typically have a very diverse species community unlike marshes which are dominated by fewer than 10 species.
- **Marshes.** The plants in marshes and wet prairies show a wide range of adaptations for dealing with floods and anaerobic conditions, droughts and aerobic conditions. Most marsh types are dominated by fewer than 10 species, marshes frequently will be dominated by one species. Marshes can be isolated or adjacent to canals, rivers, lagoons, lakes or sloughs. Marshes are herbaceous and can be freshwater or saltwater.
- **Salt Marsh.** Salt marshes are situated between the land and the sea and experience the effects of both salt and fresh water. Salt marshes are found in flat, protected waters usually within the protection of a barrier island, estuary, or along low-energy coastlines. Salt marsh plants are salt-tolerant or halophytic species that have developed biological and physiological mechanisms to adjust to a range in environmental conditions and to tolerate the stresses of salinity changes and periodic inundation. Tidal effects are greatest on salt marsh areas below mean low water, while upland freshwater sources influence areas above mean high water.

Swamps. Forested wetlands are referred to as swamps. Forested communities support a tree canopy closure of 10% or more. Swamps are further identified by type, such as mangrove, hardwood, cypress, Bay or mixed wetland forest, which are the types found within the County.

- **Hardwood Swamp.** Hardwood swamps must be 66% or more dominated by wetland hardwood species, either salt or freshwater.
- **Cypress Swamp.** Cypress swamps can be composed of pond cypress or bald cypress which is either pure or predominant.
- **Bay Swamp.** This category is composed of dominant trees such as loblolly bay, sweetbay magnolia, swamp bay with slash pines and loblolly pines as associated component at times. Large gallberry, fetterbush, wax myrtle and tit are included in the understory vegetation.
- **Mixed Wetland Forest.** A mixed wetland forest supports a tree canopy closure of 10% or more with communities in which neither hardwoods or conifers achieve a 66% dominance of the crown canopy composition.

- **Mangrove Swamp.** Mangrove communities occur in depressions along the coast and near shore where precipitation and sheetflow collect and are tidally influenced. Red mangroves are more common along the coastal areas, while black and whites dominate further inland. Dense mangrove forests do not typically have understory plant associations, except for mangrove seedlings. The local distribution of mangroves is affected primarily by a variety of interacting factors that include microclimate, substrate type, tidal fluctuation, terrestrial nutrients, wave energy, and salt water. Mangroves are unique in that their morphological specialization such as aerial roots, vivipary, and salt excretion or excluding abilities.

Shrub Swamp. Shrub swamps are wetlands where the crown closure threshold does not meet the forested category or the associated species contains willow and low scrub with no dominate species.

Appendix 5 - C. Listed Wildlife Species that may occur within Port St. Lucie

Common Name	Scientific Name	Status
Fish		
Shortnose sturgeon	<i>Acipenser brevirostrum</i>	FE
Smalltoothed sawfish	<i>Pristis pectinata</i>	FE
Mangrove rivulus	<i>Rivulus marmoratus</i>	SSC
Reptiles		
American Alligator	<i>Alligator mississippiensis</i>	FT(S/A)
American Crocodile	<i>Crocodylus acutus</i>	FT
Eastern indigo snake	<i>Drymarchon corais couperi</i>	FT
Gopher tortoise	<i>Gopherus polyphemus</i>	ST
Florida pine snake	<i>Pituophis melanoleucus mugitus</i>	SSC
Birds		
Florida scrub jay	<i>Aphelocoma coerulescens</i>	FT
Limpkin	<i>Aramus guarauna</i>	SSC
Burrowing owl	<i>Athene cunicularia</i>	SSC
Ivory-billed woodpecker	<i>Campephilus principalis</i>	FE
Kirtland's warbler	<i>Dendroica kirtlandii</i>	FE
Little blue heron	<i>Egretta caerulea</i>	SSC
Reddish egret	<i>Egretta rufescens</i>	SSC
Snowy egret	<i>Egretta thula</i>	SSC
Tricolored heron	<i>Egretta tricolor</i>	SSC
White ibis	<i>Eudocimus albus</i>	SSC
Southeastern American kestrel	<i>Falco sparverius paulus</i>	ST
Whooping crane	<i>Gus americana</i>	FE(XN)
Florida sandhill crane	<i>Grus canadensis pratensis</i>	ST
American oystercatcher	<i>Haematopus palliatus</i>	SSC
Wood stork	<i>Mycteria americana</i>	FE
Brown pelican	<i>Pelecanus occidentalis</i>	SSC
Red-cockaded woodpecker	<i>Picoides borealis</i>	FE
Roseate spoonbill	<i>Platalea ajaja</i>	SSC
Audubon's crested caracara	<i>Polyborus plancus audubonii</i>	FT
Black skimmer	<i>Rynchops niger</i>	SSC
Mammals		
Sherman fox squirrel	<i>Sciurus niger shermani</i>	SSC
West Indian manatee	<i>Trichechus manatus</i>	FE
Amphibians		
Gopher frog	<i>Rana capito</i>	SSC

FE = Federal Endangered

FT= Federal Threatened

ST = State Threatened

SSC = Species of Special Concern

F(XN) = Federally listed as an experimental population in Florida

Appendix 5 - C. Listed Wildlife Species that may occur within Port St. Lucie

FT(SA) = Federally listed due to similarity of appearance to a listed species

FWC = Florida Fish and Wildlife Conservation Commission

Source:

U.S. Fish and Wildlife Service, listed species by County found at:

www.fws.gov/verobeach/images/pdflibrary/St.%20Lucie%20County2.pdf

Florida Fish and Wildlife Conservation Commission list of Imperiled Species found at:

<http://myfwc.com/wildlifehabitats/imperiled/>

Florida Natural Area Inventory (FNAI) Tracking list of rare species in St. Lucie County found at:

<http://www.fnai.org/trackinglist.cfm>

APPENDIX 5-D. NATIVE PLANTS THAT MAY OCCUR IN PORT ST. LUCIE

SCIENTIFIC NAME	COMMON NAME(S)	FAMILY	STATE	FED.
<u><i>Acalypha ostryifolia</i></u>	PINELAND THREESEED MERCURY	EUPHORBIACEAE		
<u><i>Acanthocereus tetragonus</i></u>	TRIANGLE CACTUS; DILDOE CACTUS; BARBED-WIRE	CACTACEAE	T	
<u><i>Acrostichum danaeifolium</i></u>	GIANT LEATHER FERN	PTERIDACEAE		
<u><i>Aeschynomene americana</i></u>	SHYLEAF	FABACEAE		
<u><i>Aqalinis linifolia</i></u>	FLAXLEAF FALSE FOXGLOVE	OROBANCHACEAE		
<u><i>Agave neglecta</i></u>	WILD CENTURY PLANT	AGAVACEAE		
<u><i>Ageratina jucunda</i></u>	HAMMOCK SNAKEROOT	ASTERACEAE		
<u><i>Alternanthera maritima</i></u>	SEASIDE JOYWEED	AMARANTHACEAE		
<u><i>Ambrosia artemisiifolia</i></u>	COMMON RAGWEED	ASTERACEAE		
<u><i>Ampelopsis arborea</i></u>	PEPPERVINE	VITACEAE		
<u><i>Amyris elemifera</i></u>	SEA TORCHWOOD	RUTACEAE		
<u><i>Andropogon brachystachyus</i></u>	SHORTSPIKE BLUESTEM	POACEAE		
<u><i>Andropogon glomeratus</i> var. <i>pumilus</i></u>	BUSHY BLUESTEM	POACEAE		
<u><i>Andropogon gyrans</i> var. <i>stenophyllus</i></u>	ELLIOTT'S BLUESTEM	POACEAE		
<u><i>Andropogon longiberbis</i></u>	HAIRY BLUESTEM	POACEAE		
<u><i>Andropogon virginicus</i> var. <i>decipiens</i></u>	BROOMSEDGE BLUESTEM	POACEAE		
<u><i>Andropogon virginicus</i> var. <i>glaucus</i></u>	CHALKY BLUESTEM	POACEAE		
<u><i>Annona glabra</i></u>	POND APPLE	ANNONACEAE		
<u><i>Ardisia escallonioides</i></u>	MARLBERRY	MYRSINACEAE		
<u><i>Arenaria lanuginosa</i></u>	SPREADING SANDWORT	CARYOPHYLLACEAE		
<u><i>Argusia gnaphalodes</i></u>	SEA ROSEMARY; SEA LAVENDER	BORAGINACEAE	E	

APPENDIX 5-D. NATIVE PLANTS THAT MAY OCCUR IN PORT ST. LUCIE

SCIENTIFIC NAME	COMMON NAME(S)	FAMILY	STATE	FED.
<u><i>Arisaema triphyllum</i></u>	JACK-IN-THE-PULPIT	ARACEAE		
<u><i>Aristida gyrans</i></u>	CORKSCREW THREEAWN	POACEAE		
<u><i>Aristida palustris</i></u>	LONGLEAF THREEAWN	POACEAE		
<u><i>Aristida patula</i></u>	TALL THREEAWN	POACEAE		
<u><i>Aristida rhizomophora</i></u>	FLORIDA THREEAWN	POACEAE		
<u><i>Aristida spiciformis</i></u>	BOTTLEBRUSH THREEAWN	POACEAE		
<u><i>Arnoglossum floridanum</i></u>	FLORIDA INDIAN PLANTAIN	ASTERACEAE		
<u><i>Asclepias lanceolata</i></u>	FEWFLOWER MILKWEED	APOCYNACEAE		
<u><i>Asclepias pedicellata</i></u>	SAVANNAH MILKWEED	APOCYNACEAE		
<u><i>Asclepias tuberosa</i></u>	BUTTERFLYWEED; BUTTERFLY MILKWEED	APOCYNACEAE		
<u><i>Asimina obovata</i></u>	BIGFLOWER PAWPAW	ANNONACEAE		
<u><i>Asimina reticulata</i></u>	NETTED PAWPAW	ANNONACEAE		
<u><i>Atriplex pentandra</i></u>	CRESTED SALTBUCH	AMARANTHACEAE		
<u><i>Avicennia germinans</i></u>	BLACK MANGROVE	AVICENNIACEAE		
<u><i>Axonopus fissifolius</i></u>	COMMON CARPETGRASS	POACEAE		
<u><i>Axonopus furcatus</i></u>	BIG CARPETGRASS	POACEAE		
<u><i>Azolla filiculoides</i></u>	AMERICAN WATERFERN; PACIFIC MOSQUITOFERN	AZOLLACEAE		
<u><i>Baccharis angustifolia</i></u>	SALTWATER FALSEWILLOW	ASTERACEAE		
<u><i>Baccharis halimifolia</i></u>	GROUNDSEL TREE; SEA MYRTLE	ASTERACEAE		
<u><i>Bacopa caroliniana</i></u>	LEMON BACOPA; BLUE WATERHYSSOP	PLANTAGINACEAE		
<u><i>Bacopa monnieri</i></u>	HERB-OF-GRACE	PLANTAGINACEAE		

APPENDIX 5-D. NATIVE PLANTS THAT MAY OCCUR IN PORT ST. LUCIE

SCIENTIFIC NAME	COMMON NAME(S)	FAMILY	STATE	FED.
<u>Balduina angustifolia</u>	COASTALPLAIN HONEYCOMBHEAD	ASTERACEAE		
<u>Bartonia verna</u>	WHITE SCREWSTEM	GENTIANACEAE		
<u>Bejaria racemosa</u>	TARFLOWER	ERICACEAE		
<u>Bidens alba</u>	BEGGARTICKS; ROMERILLO	ASTERACEAE		
<u>Bidens mitis</u>	SMALLFRUIT BEGGARTICKS	ASTERACEAE		
<u>Bigelovia nudata subsp. australis</u>	PINELAND RAYLESS GOLDENROD	ASTERACEAE		
<u>Blechnum serrulatum</u>	TOOTHED MIDSORUS FERN; SWAMP FERN	BLECHNACEAE		
<u>Boerhavia diffusa</u>	RED SPIDERLING; WINEFLOWER	NYCTAGINACEAE		
<u>Borrichia frutescens</u>	BUSHY SEASIDE OXEYE	ASTERACEAE		
<u>Buchnera americana</u>	AMERICAN BLUEHEARTS	OROBANCHACEAE		
<u>Bulbostylis ciliatifolia</u>	CAPILLARY HAIRSEDEGE	CYPERACEAE		
<u>Bulbostylis stenophylla</u>	SANDYFIELD HAIRSEDEGE	CYPERACEAE		
<u>Bulbostylis warei</u>	WARE'S HAIRSEDEGE	CYPERACEAE		
<u>Bursera simaruba</u>	GUMBO LIMBO	BURSERACEAE		
<u>Caesalpinia bonduc</u>	GRAY NICKER	FABACEAE		
<u>Cakile edentula subsp. harperi</u>	AMERICAN SEAROCKET	BRASSICACEAE		
<u>Callicarpa americana</u>	AMERICAN BEAUTYBERRY	LAMIACEAE		
<u>Callisia ornata</u>	FLORIDA SCRUB ROSELING	COMMELINACEAE		
<u>Calopogon multiflorus</u>	MANYFLOWERED GRASSPINK	ORCHIDACEAE	E	
<u>Calopogon tuberosus</u>	TUBEROUS GRASSPINK	ORCHIDACEAE		
<u>Campanula floridana</u>	FLORIDA BELLFLOWER	CAMPANULACEAE		

APPENDIX 5-D. NATIVE PLANTS THAT MAY OCCUR IN PORT ST. LUCIE

SCIENTIFIC NAME	COMMON NAME(S)	FAMILY	STATE	FED.
<u><i>Campyloneurum phyllitidis</i></u>	LONG STRAP FERN	POLYPODIACEAE		
<u><i>Canavalia rosea</i></u>	BAYBEAN; SEASIDE JACKBEAN	FABACEAE		
<u><i>Canna flaccida</i></u>	BANDANNA-OF-THE-EVERGLADES	CANNACEAE		
<u><i>Capparis cynophallophora</i></u>	JAMAICAN CAPERTREE	BRASSICACEAE		
<u><i>Capparis flexuosa</i></u>	BAYLEAF CAPERTREE	BRASSICACEAE		
<u><i>Carex lupuliformis</i></u>	FALSE HOP SEDGE	CYPERACEAE		
<u><i>Carex vexans</i></u>	FLORIDA HAMMOCK SEDGE	CYPERACEAE		
<u><i>Carphephorus odoratissimus var. subtropicanus</i></u>	PINELAND PURPLE; FALSE VANILLALEAF	ASTERACEAE		
<u><i>Carphephorus paniculatus</i></u>	HAIRY CHAFFHEAD	ASTERACEAE		
<u><i>Carya aquatica</i></u>	WATER HICKORY	JUGLANDACEAE		
<u><i>Carya floridana</i></u>	SCRUB HICKORY	JUGLANDACEAE		
<u><i>Cassytha filiformis</i></u>	LOVE VINE; DEVIL'S GUT	LAURACEAE		
<u><i>Celosia nitida</i></u>	WEST INDIAN COCK'S COMB	AMARANTHACEAE	E	
<u><i>Cenchrus echinatus</i></u>	SOUTHERN SANDBUR	POACEAE		
<u><i>Cenchrus spinifex</i></u>	COASTAL SANDBUR	POACEAE		
<u><i>Centrosema virginianum</i></u>	SPURRED BUTTERFLY PEA	FABACEAE		
<u><i>Cephalanthus occidentalis</i></u>	COMMON BUTTONBUSH	RUBIACEAE		
<u><i>Ceratiola ericoides</i></u>	FLORIDA ROSEMARY; SAND HEATH	ERICACEAE		
<u><i>Chamaecrista fasciculata</i></u>	PARTRIDGE PEA	FABACEAE		
<u><i>Chamaecrista nictitans var. aspera</i></u>	SENSITIVE PEA	FABACEAE		
<u><i>Chamaesyce bombensis</i></u>	DIXIE SANDMAT	EUPHORBIACEAE		

APPENDIX 5-D. NATIVE PLANTS THAT MAY OCCUR IN PORT ST. LUCIE

SCIENTIFIC NAME	COMMON NAME(S)	FAMILY	STATE	FED.
<u><i>Chamaesyce hirta</i></u>	PILLPOD SANDMAT	EUPHORBIACEAE		
<u><i>Chamaesyce hyssopifolia</i></u>	HYSSOPLEAF SANDMAT	EUPHORBIACEAE		
<u><i>Chamaesyce maculata</i></u>	SPOTTED SANDMAT	EUPHORBIACEAE		
<u><i>Chamaesyce mesembrianthemifolia</i></u>	COASTAL BEACH SANDMAT	EUPHORBIACEAE		
<u><i>Chaptalia tomentosa</i></u>	WOOLLY SUNBONNETS; PINELAND DAISY	ASTERACEAE		
<u><i>Chiococca alba</i></u>	SNOWBERRY; MILKBERRY	RUBIACEAE		
<u><i>Chrysobalanus icaco</i></u>	COCO PLUM	CHRYSOBALANACEAE		
<u><i>Chrysophyllum oliviforme</i></u>	SATINLEAF	SAPOTACEAE	T	
<u><i>Chrysopsis delaneyi</i></u>	DELANEY'S GOLDENASTER	ASTERACEAE		
<u><i>Chrysopsis mariana</i></u>	MARYLAND GOLDENASTER	ASTERACEAE		
<u><i>Cirsium horridulum</i></u>	PURPLE THISTLE	ASTERACEAE		
<u><i>Clitoria mariana</i></u>	ATLANTIC PIGEONWINGS	FABACEAE		
<u><i>Cnidioscolus stimulosus</i></u>	TREAD-SOFTLY; FINGER-ROT	EUPHORBIACEAE		
<u><i>Coccoloba diversifolia</i></u>	TIETONGUE; PIGEON PLUM	POLYGONACEAE		
<u><i>Coccoloba uvifera</i></u>	SEAGRAPE	POLYGONACEAE		
<u><i>Coelorachis tuberculosa</i></u>	FLORIDA JOINTTAIL GRASS; PIEDMONT JOINTGRASS	POACEAE	T	
<u><i>Commelina erecta</i></u>	WHITEMOUTH DAYFLOWER	COMMELINACEAE		
<u><i>Conoclinium coelestinum</i></u>	BLUE MISTFLOWER	ASTERACEAE		
<u><i>Conradina grandiflora</i></u>	LARGEFLOWER FALSE ROSEMARY	LAMIACEAE	T	
<u><i>Conyza canadensis</i></u>	CANADIAN HORSEWEED	ASTERACEAE		
<u><i>Coreopsis floridana</i></u>	FLORIDA TICKSEED	ASTERACEAE		

APPENDIX 5-D. NATIVE PLANTS THAT MAY OCCUR IN PORT ST. LUCIE

SCIENTIFIC NAME	COMMON NAME(S)	FAMILY	STATE	FED.
<u><i>Coreopsis leavenworthii</i></u>	LEAVENWORTH'S TICKSEED	ASTERACEAE		
<u><i>Crotalaria pumila</i></u>	LOW RATTLEBOX	FABACEAE		
<u><i>Crotalaria rotundifolia</i></u>	RABBITBELLS	FABACEAE		
<u><i>Croton glandulosus</i></u>	VENTE CONMIGO	EUPHORBIACEAE		
<u><i>Croton linearis</i></u>	PINELAND CROTON; GRANNYBUSH	EUPHORBIACEAE		
<u><i>Croton punctatus</i></u>	GULF CROTON; BEACH TEA	EUPHORBIACEAE		
<u><i>Ctenium aromaticum</i></u>	TOOTHACHEGRASS	POACEAE		
<u><i>Cuscuta indecora</i></u>	BIGSEED ALFALFA DODDER	CONVOLVULACEAE		
<u><i>Cynanchum scoparium</i></u>	LEAFLESS SWALLOWWORT	APOCYNACEAE		
<u><i>Cyperus articulatus</i></u>	JOINTED FLATSEEDGE	CYPERACEAE		
<u><i>Cyperus compressus</i></u>	POORLAND FLATSEEDGE	CYPERACEAE		
<u><i>Cyperus croceus</i></u>	BALDWIN'S FLATSEEDGE	CYPERACEAE		
<u><i>Cyperus filiculmis</i></u>	WIRY FLATSEEDGE	CYPERACEAE		
<u><i>Cyperus flavescens</i></u>	YELLOW FLATSEEDGE	CYPERACEAE		
<u><i>Cyperus haspan</i></u>	HASPAN FLATSEEDGE	CYPERACEAE		
<u><i>Cyperus lecontei</i></u>	LECONTE'S FLATSEEDGE	CYPERACEAE		
<u><i>Cyperus ligularis</i></u>	SWAMP FLATSEEDGE	CYPERACEAE		
<u><i>Cyperus pedunculatus</i></u>	BEACHSTAR	CYPERACEAE	E	
<u><i>Cyperus polystachyos</i></u>	MANYSPIKE FLATSEEDGE	CYPERACEAE		
<u><i>Cyperus retrorsus</i></u>	PINEBARREN FLATSEEDGE	CYPERACEAE		
<u><i>Cyperus strigosus</i></u>	STRAWCOLORED FLATSEEDGE	CYPERACEAE		

APPENDIX 5-D. NATIVE PLANTS THAT MAY OCCUR IN PORT ST. LUCIE

SCIENTIFIC NAME	COMMON NAME(S)	FAMILY	STATE	FED.
<u><i>Cyperus surinamensis</i></u>	TROPICAL FLATSEDGE	CYPERACEAE		
<u><i>Cyperus tetragonus</i></u>	FOURANGLE FLATSEDGE	CYPERACEAE		
<u><i>Dalbergia ecastaphyllum</i></u>	COINVINE	FABACEAE		
<u><i>Dalea carnea</i></u>	WHITETASSELS	FABACEAE		
<u><i>Dalea feayi</i></u>	FEAY'S PRAIRIECLOVER	FABACEAE		
<u><i>Datura stramonium</i></u>	JIMSONWEED	SOLANACEAE		
<u><i>Daucus pusillus</i></u>	AMERICAN WILD CARROT	APIACEAE		
<u><i>Dicerandra immaculata</i></u>	LAKELA'S BALM; OLGA'S MINT	LAMIACEAE	E	E
<u><i>Dicerandra immaculata var. savannarum</i></u>	SAVANNA BALM; DICERANDRA-OF-THE-SAVANNAS	LAMIACEAE	E	
<u><i>Dichanthelium commutatum</i></u>	VARIABLE WITCHGRASS	POACEAE		
<u><i>Dichanthelium dichotomum</i></u>	CYPRESS WITCHGRASS	POACEAE		
<u><i>Dichanthelium ensifolium var. breve</i></u>	DWARF CYPRESS WITCHGRASS	POACEAE		
<u><i>Dichanthelium erectifolium</i></u>	ERECTLEAF WITCHGRASS	POACEAE		
<u><i>Dichanthelium portoricense</i></u>	HEMLOCK WITCHGRASS	POACEAE		
<u><i>Digitaria filiformis</i></u>	SLENDER CRABGRASS; SHAGGY CRABGRASS	POACEAE		
<u><i>Digitaria insularis</i></u>	SOURGRASS	POACEAE		
<u><i>Digitaria serotina</i></u>	BLANKET CRABGRASS; DWARF CRABGRASS	POACEAE		
<u><i>Diodia virginiana</i></u>	VIRGINIA BUTTONWEED	RUBIACEAE		
<u><i>Diospyros virginiana</i></u>	COMMON PERSIMMON	EBENACEAE		
<u><i>Dodonaea viscosa</i></u>	VARNISHLEAF; FLORIDA HOPBUSH	SAPINDACEAE		
<u><i>Drosera capillaris</i></u>	PINK SUNDEW	DROSERACEAE		

APPENDIX 5-D. NATIVE PLANTS THAT MAY OCCUR IN PORT ST. LUCIE

SCIENTIFIC NAME	COMMON NAME(S)	FAMILY	STATE	FED.
<u><i>Echites umbellatus</i></u>	DEVIL'S POTATO; RUBBERVINE	APOCYNACEAE		
<u><i>Eclipta prostrata</i></u>	FALSE DAISY	ASTERACEAE		
<u><i>Eleocharis baldwinii</i></u>	BALDWIN'S SPIKERUSH; ROADGRASS	CYPERACEAE		
<u><i>Eleocharis cellulosa</i></u>	GULF COAST SPIKERUSH	CYPERACEAE		
<u><i>Elephantopus elatus</i></u>	TALL ELEPHANTSFOOT	ASTERACEAE		
<u><i>Elionurus tripsacoides</i></u>	PAN-AMERICAN BALSAMSCALE	POACEAE		
<u><i>Eragrostis elliotii</i></u>	ELLIOTT'S LOVEGRASS	POACEAE		
<u><i>Eragrostis secundiflora subsp. oxylepis</i></u>	RED LOVEGRASS	POACEAE		
<u><i>Erechtites hieracifolius</i></u>	AMERICAN BURNWEED; FIREWEED	ASTERACEAE		
<u><i>Erigeron quercifolius</i></u>	OAKLEAF FLEABANE	ASTERACEAE		
<u><i>Eriocaulon compressum</i></u>	FLATTENED PIPEWORT	ERIOCAULACEAE		
<u><i>Eriocaulon decangulare</i></u>	TENANGLE PIPEWORT	ERIOCAULACEAE		
<u><i>Ernodea littoralis</i></u>	BEACH CREEPER; COUGHBUSH	RUBIACEAE		
<u><i>Eryngium aromaticum</i></u>	FRAGRANT ERYNGO	APIACEAE		
<u><i>Erythrina herbacea</i></u>	CORALBEAN; CHEROKEE BEAN	FABACEAE		
<u><i>Eugenia axillaris</i></u>	WHITE STOPPER	MYRTACEAE		
<u><i>Eugenia foetida</i></u>	SPANISH STOPPER; BOXLEAF STOPPER	MYRTACEAE		
<u><i>Eulophia alta</i></u>	WILD COCO	ORCHIDACEAE		
<u><i>Eupatorium mohrii</i></u>	MOHR'S THOROUGHWORT	ASTERACEAE		
<u><i>Eupatorium rotundifolium</i></u>	ROUNDLEAF THOROUGHWORT; FALSE HOREHOUND	ASTERACEAE		
<u><i>Euphorbia polyphylla</i></u>	LESSER FLORIDA SPURGE	EUPHORBIACEAE		

APPENDIX 5-D. NATIVE PLANTS THAT MAY OCCUR IN PORT ST. LUCIE

SCIENTIFIC NAME	COMMON NAME(S)	FAMILY	STATE	FED.
<u><i>Eustachys glauca</i></u>	SALTMARSH FINGERGRASS	POACEAE		
<u><i>Eustachys petraea</i></u>	PINEWOODS FINGERGRASS	POACEAE		
<u><i>Euthamia caroliniana</i></u>	SLENDER FLATTOP GOLDENROD	ASTERACEAE		
<u><i>Ficus aurea</i></u>	STRANGLER FIG; GOLDEN FIG	MORACEAE		
<u><i>Fimbristylis autumnalis</i></u>	SLENDER FIMBRY	CYPERACEAE		
<u><i>Fimbristylis caroliniana</i></u>	CAROLINA FIMBRY	CYPERACEAE		
<u><i>Fimbristylis cymosa</i></u>	HURRICANEGRASS	CYPERACEAE		
<u><i>Fimbristylis dichotoma</i></u>	FORKED FIMBRY	CYPERACEAE		
<u><i>Fimbristylis puberula</i></u>	HAIRY FIMBRY	CYPERACEAE		
<u><i>Flaveria linearis</i></u>	NARROWLEAF YELLOWTOPS	ASTERACEAE		
<u><i>Forestiera segregata</i></u>	FLORIDA SWAMPPRIVET	OLEACEAE		
<u><i>Fuirena breviseta</i></u>	SALTMARSH UMBRELLASEDGE	CYPERACEAE		
<u><i>Fuirena pumila</i></u>	DWARF UMBRELLASEDGE	CYPERACEAE		
<u><i>Galactia elliotii</i></u>	ELLIOTT'S MILKPEA	FABACEAE		
<u><i>Galactia regularis</i></u>	EASTERN MILKPEA	FABACEAE		
<u><i>Galactia volubilis</i></u>	DOWNY MILKPEA	FABACEAE		
<u><i>Gaura angustifolia</i></u>	SOUTHERN BEEBLOSSOM	ONAGRACEAE		
<u><i>Gaylussacia dumosa</i></u>	DWARF HUCKLEBERRY	ERICACEAE		
<u><i>Geranium carolinianum</i></u>	CAROLINA CRANESBILL	GERANIACEAE		
<u><i>Glandularia maritima</i></u>	COASTAL MOCK VERVAIN	VERBENACEAE	E	
<u><i>Gratiola ramosa</i></u>	BRANCHED HEDGEHYSSOP	PLANTAGINACEAE		

APPENDIX 5-D. NATIVE PLANTS THAT MAY OCCUR IN PORT ST. LUCIE

SCIENTIFIC NAME	COMMON NAME(S)	FAMILY	STATE	FED.
<i>Guapira discolor</i>	BEEFTREE; BLOLLY	NYCTAGINACEAE		
<i>Guettarda elliptica</i>	HAMMOCK VELVETSEED	RUBIACEAE		
<i>Habenaria floribunda</i>	TOOTHPETAL FALSE REINORCHID; MIGNONETTE ORCHID	ORCHIDACEAE	T	
<i>Habenaria nivea</i>	SNOWY ORCHID	ORCHIDACEAE		
<i>Halodule wrightii</i>	SHOALWEED	CYMODOCEACEAE		
<i>Halophila johnsonii</i>	JOHNSON'S SEAGRASS	HYDROCHARITACEAE		T
<i>Harrisia fragrans</i>	CARIBBEAN APPLECACTUS; INDIAN RIVER PRICKLY-APPLE	CACTACEAE	E	E
<i>Harrisia simpsonii</i>	SIMPSON'S APPLECACTUS	CACTACEAE	E	
<i>Helianthemum corymbosum</i>	PINEBARREN FROSTWEED	CISTACEAE		
<i>Helianthemum nashii</i>	FLORIDA SCRUB FROSTWEED	CISTACEAE		
<i>Helianthus agrestis</i>	SOUTHEASTERN SUNFLOWER	ASTERACEAE		
<i>Helianthus angustifolius</i>	NARROWLEAF SUNFLOWER; SWAMP SUNFLOWER	ASTERACEAE		
<i>Helianthus debilis</i>	EAST COAST DUNE SUNFLOWER	ASTERACEAE		
<i>Heliotropium angiospermum</i>	SCORPIONSTAIL	BORAGINACEAE		
<i>Heliotropium polyphyllum</i>	PINELAND HELIOTROPE	BORAGINACEAE		
<i>Heterotheca subaxillaris</i>	CAMPHORWEED	ASTERACEAE		
<i>Hibiscus furcellatus</i>	LINDENLEAF ROSEMALLOW	MALVACEAE		
<i>Hippocratea volubilis</i>	MEDICINE VINE	CELASTRACEAE		
<i>Houstonia procumbens</i>	INNOCENCE; ROUNDEAF BLUET	RUBIACEAE		
<i>Hydrocotyle bonariensis</i>	LARGELEAF MARSHPENNYWORT	ARALIACEAE		
<i>Hydrocotyle umbellata</i>	MANYFLOWER MARSHPENNYWORT	ARALIACEAE		

APPENDIX 5-D. NATIVE PLANTS THAT MAY OCCUR IN PORT ST. LUCIE

SCIENTIFIC NAME	COMMON NAME(S)	FAMILY	STATE	FED.
<i>Hydrocotyle verticillata</i>	WHORLED MARSHPENNYWORT	ARALIACEAE		
<i>Hydrolea corymbosa</i>	SKYFLOWER	HYDROLEACEAE		
<i>Hymenocallis latifolia</i>	MANGROVE SPIDERLILY; PERFUMED SPIDERLILY	AMARYLLIDACEAE		
<i>Hymenocallis palmeri</i>	ALLIGATORLILY	AMARYLLIDACEAE		
<i>Hypericum cistifolium</i>	ROUNDPOD ST.JOHN'S-WORT	CLUSIACEAE		
<i>Hypericum fasciculatum</i>	SANDWEED; PEELBARK ST.JOHN'S-WORT	CLUSIACEAE		
<i>Hypericum tenuifolium</i>	ATLANTIC ST.JOHN'S-WORT	CLUSIACEAE		
<i>Hypericum tetrapetalum</i>	FOURPETAL ST.JOHN'S-WORT	CLUSIACEAE		
<i>Ilex cassine</i>	DAHON	AQUIFOLIACEAE		
<i>Ilex glabra</i>	INKBERRY; GALLBERRY	AQUIFOLIACEAE		
<i>Ipomoea imperati</i>	BEACH MORNING-GLORY	CONVOLVULACEAE		
<i>Ipomoea pandurata</i>	MAN-OF-THE-EARTH	CONVOLVULACEAE		
<i>Ipomoea pes-caprae subsp. brasiliensis</i>	RAILROAD VINE; BAYHOPS	CONVOLVULACEAE		
<i>Iresine diffusa</i>	JUBA'S BUSH	AMARANTHACEAE		
<i>Itea virginica</i>	VIRGINIA WILLOW; VIRGINIA SWEETSPIRE	ITEACEAE		
<i>Iva imbricata</i>	SEACOAST MARSHELDER	ASTERACEAE		
<i>Juncus effusus subsp. solutus</i>	SOFT RUSH	JUNCACEAE		
<i>Juncus marginatus</i>	SHORE RUSH; GRASSLEAF RUSH	JUNCACEAE		
<i>Juncus megacephalus</i>	BIGHEAD RUSH	JUNCACEAE		
<i>Juncus scirpoides</i>	NEEDLEPOD RUSH	JUNCACEAE		
<i>Kosteletzkya pentacarpos</i>	VIRGINIA SALTMARSH MALLOW	MALVACEAE		

APPENDIX 5-D. NATIVE PLANTS THAT MAY OCCUR IN PORT ST. LUCIE

SCIENTIFIC NAME	COMMON NAME(S)	FAMILY	STATE	FED.
<u><i>Lachnanthes caroliana</i></u>	CAROLINA REDROOT	HAEMODORACEAE		
<u><i>Lachnocaulon anceps</i></u>	WHITEHEAD BOGBUTTON	ERIOCAULACEAE		
<u><i>Lachnocaulon beyrichianum</i></u>	SOUTHERN BOGBUTTON	ERIOCAULACEAE		
<u><i>Lachnocaulon engleri</i></u>	ENGLER'S BOGBUTTON	ERIOCAULACEAE		
<u><i>Lachnocaulon minus</i></u>	SMALL'S BOGBUTTON	ERIOCAULACEAE		
<u><i>Lactuca graminifolia</i></u>	GRASSLEAF LETTUCE	ASTERACEAE		
<u><i>Lantana involucrata</i></u>	BUTTONSAGE	VERBENACEAE		
<u><i>Lasiacis divaricata</i></u>	SMALLCANE; FLORIDA TIBISEE	POACEAE		
<u><i>Lechea cernua</i></u>	NODDING PINWEED; SCRUB PINWEED	CISTACEAE	T	
<u><i>Lechea torreyi</i></u>	PIEDMONT PINWEED	CISTACEAE		
<u><i>Lepidium virginicum</i></u>	VIRGINIA PEPPERWEED	BRASSICACEAE		
<u><i>Lespedeza hirta</i></u>	HAIRY LESPEDEZA	FABACEAE		
<u><i>Liatris chapmanii</i></u>	CHAPMAN'S GAYFEATHER	ASTERACEAE		
<u><i>Liatris spicata</i></u>	DENSE GAYFEATHER	ASTERACEAE		
<u><i>Liatris tenuifolia var. quadriflora</i></u>	SHORTLEAF GAYFEATHER	ASTERACEAE		
<u><i>Licania michauxii</i></u>	GOPHER APPLE	CHRYSOBALANACEAE		
<u><i>Lilium catesbaei</i></u>	CATESBY'S LILY; PINE LILY	LILIACEAE	T	
<u><i>Limonium carolinianum</i></u>	CAROLINA SEALAVENDER	PLUMBAGINACEAE		
<u><i>Linaria canadensis</i></u>	CANADIAN TOADFLAX	PLANTAGINACEAE		
<u><i>Linaria floridana</i></u>	APALACHICOLA TOADFLAX	PLANTAGINACEAE		
<u><i>Linum medium var. texanum</i></u>	STIFF YELLOW FLAX	LINACEAE		

APPENDIX 5-D. NATIVE PLANTS THAT MAY OCCUR IN PORT ST. LUCIE

SCIENTIFIC NAME	COMMON NAME(S)	FAMILY	STATE	FED.
<u><i>Lipocarpha micrantha</i></u>	SMALLFLOWER HALFCHAFF SEDGE	CYPERACEAE		
<u><i>Lobelia feayana</i></u>	BAY LOBELIA	CAMPANULACEAE		
<u><i>Lobelia homophylla</i></u>	PINELAND LOBELIA	CAMPANULACEAE		
<u><i>Lobelia paludosa</i></u>	WHITE LOBELIA	CAMPANULACEAE		
<u><i>Ludwigia lanceolata</i></u>	LANCELEAF PRIMROSEWILLOW	ONAGRACEAE		
<u><i>Ludwigia linifolia</i></u>	SOUTHEASTERN PRIMROSEWILLOW	ONAGRACEAE		
<u><i>Ludwigia maritima</i></u>	SEASIDE PRIMROSEWILLOW	ONAGRACEAE		
<u><i>Ludwigia suffruticosa</i></u>	SHRUBBY PRIMROSEWILLOW	ONAGRACEAE		
<u><i>Lupinus diffusus</i></u>	SKYBLUE LUPINE	FABACEAE		
<u><i>Lycopodiella appressa</i></u>	SOUTHERN CLUB-MOSS; SOUTHERN BOG CLUB-MOSS	LYCOPODIACEAE		
<u><i>Lycopus rubellus</i></u>	TAPERLEAF WATERHOREHOUND	LAMIACEAE		
<u><i>Lygodesmia aphylla</i></u>	ROSE-RUSH	ASTERACEAE		
<u><i>Lyonia fruticosa</i></u>	COASTALPLAIN STAGGERBUSH	ERICACEAE		
<u><i>Lyonia lucida</i></u>	FETTERBUSH	ERICACEAE		
<u><i>Lythrum alatum var. lanceolatum</i></u>	WINGED LOOSESTRIFE	LYTHRACEAE		
<u><i>Marshallia graminifolia</i></u>	GRASSLEAF BARBARA'S BUTTONS	ASTERACEAE		
<u><i>Mecardonia acuminata subsp. peninsularis</i></u>	AXILFLOWER	PLANTAGINACEAE		
<u><i>Melanthera nivea</i></u>	SNOW SQUARESTEM	ASTERACEAE		
<u><i>Melochia tomentosa</i></u>	WOOLLY PYRAMIDFLOWER; TEABUSH; BROOMWOOD	MALVACEAE		
<u><i>Melothria pendula</i></u>	CREEPING CUCUMBER	CUCURBITACEAE		
<u><i>Mentzelia floridana</i></u>	POORMAN'S PATCH; STICKLEAF	LOASACEAE		

APPENDIX 5-D. NATIVE PLANTS THAT MAY OCCUR IN PORT ST. LUCIE

SCIENTIFIC NAME	COMMON NAME(S)	FAMILY	STATE	FED.
<u><i>Mikania cordifolia</i></u>	FLORIDA KEYS HEMPVINE	ASTERACEAE		
<u><i>Mikania scandens</i></u>	CLIMBING HEMPVINE	ASTERACEAE		
<u><i>Mimosa quadrivalvis var. floridana</i></u>	FLORIDA SENSITIVE BRIER	FABACEAE		
<u><i>Mimosa strigillosa</i></u>	POWDERPUFF	FABACEAE		
<u><i>Monarda punctata</i></u>	SPOTTED BEEBALM	LAMIACEAE		
<u><i>Monotropa uniflora</i></u>	INDIANPIPE	ERICACEAE		
<u><i>Morus rubra</i></u>	RED MULBERRY	MORACEAE		
<u><i>Muhlenbergia capillaris var. filipes</i></u>	GULF HAIRAWN MUHLY	POACEAE		
<u><i>Myrcianthes fragrans</i></u>	TWINBERRY; SIMPSON'S STOPPER	MYRTACEAE	T	
<u><i>Myrica cerifera</i></u>	SOUTHERN BAYBERRY; WAX MYRTLE	MYRICACEAE		
<u><i>Nephrolepis exaltata</i></u>	SWORD FERN; WILD BOSTON FERN	NEPHROLEPIDACEAE		
<u><i>Nyssa sylvatica var. biflora</i></u>	SWAMP TUPELO	CORNACEAE		
<u><i>Oclemena reticulata</i></u>	WHITETOP ASTER; PINEBARREN ASTER	ASTERACEAE		
<u><i>Ocotea coriacea</i></u>	LANCEWOOD	LAURACEAE		
<u><i>Oenothera humifusa</i></u>	SEABEACH EVENINGPRIMROSE	ONAGRACEAE		
<u><i>Oenothera laciniata</i></u>	CUTLEAF EVENINGPRIMROSE	ONAGRACEAE		
<u><i>Okenia hypogaea</i></u>	BURROWING FOUR-O'CLOCK; BEACH PEANUT	NYCTAGINACEAE	E	
<u><i>Oldenlandia uniflora</i></u>	CLUSTERED MILLE GRAINES	RUBIACEAE		
<u><i>Ophioglossum palmatum</i></u>	HAND FERN	OPHIOGLOSSACEAE	E	
<u><i>Ophioglossum petiolatum</i></u>	STALKED ADDER'S-TONGUE	OPHIOGLOSSACEAE		
<u><i>Oplismenus hirtellus</i></u>	WOODSGRASS; BASKETGRASS	POACEAE		

APPENDIX 5-D. NATIVE PLANTS THAT MAY OCCUR IN PORT ST. LUCIE

SCIENTIFIC NAME	COMMON NAME(S)	FAMILY	STATE	FED.
<i>Opuntia humifusa</i>	PRICKLYPEAR	CACTACEAE		
<i>Opuntia stricta</i>	ERECT PRICKLYPEAR; SHELL-MOUND PRICKLYPEAR	CACTACEAE	T	
<i>Orontium aquaticum</i>	GOLDENCLUB; NEVERWET	ARACEAE		
<i>Osmunda cinnamomea</i>	CINNAMON FERN	OSMUNDACEAE		
<i>Osmunda regalis var. spectabilis</i>	ROYAL FERN	OSMUNDACEAE		
<i>Oxypolis filiformis</i>	WATER COWBANE	APIACEAE		
<i>Palafoxia feayi</i>	FEAY'S PALAFOX	ASTERACEAE		
<i>Panicum amarum</i>	BITTER PANICGRASS	POACEAE		
<i>Panicum anceps</i>	BEAKED PANICUM	POACEAE		
<i>Panicum dichotomiflorum</i>	FALL PANICGRASS	POACEAE		
<i>Panicum hemitomon</i>	MAIDENCANE	POACEAE		
<i>Panicum hians</i>	GAPING PANICUM	POACEAE		
<i>Panicum longifolium</i>		POACEAE		
<i>Panicum rigidulum</i>	REDTOP PANICUM	POACEAE		
<i>Parietaria floridana</i>	FLORIDA PELLITORY	URTICACEAE		
<i>Parietaria praetermissa</i>	CLUSTERED PELLITORY	URTICACEAE		
<i>Parthenocissus quinquefolia</i>	VIRGINIA CREEPER; WOODBINE	VITACEAE		
<i>Paspalum conjugatum</i>	SOUR PASPALUM; HILOGRASS	POACEAE		
<i>Paspalum dissectum</i>	MUDBANK CROWNGRASS	POACEAE		
<i>Paspalum floridanum</i>	FLORIDA PASPALUM	POACEAE		
<i>Paspalum laeve</i>	FIELD PASPALUM	POACEAE		

APPENDIX 5-D. NATIVE PLANTS THAT MAY OCCUR IN PORT ST. LUCIE

SCIENTIFIC NAME	COMMON NAME(S)	FAMILY	STATE	FED.
<u><i>Paspalum setaceum</i></u>	THIN PASPALUM	POACEAE		
<u><i>Passiflora incarnata</i></u>	PURPLE PASSIONFLOWER	PASSIFLORACEAE		
<u><i>Passiflora suberosa</i></u>	CORKYSTEM PASSIONFLOWER	PASSIFLORACEAE		
<u><i>Pectis prostrata</i></u>	SPREADING CINCHWEED	ASTERACEAE		
<u><i>Peltandra virginica</i></u>	GREEN ARROW ARUM	ARACEAE		
<u><i>Pentalinon luteum</i></u>	WILD ALLAMANDA; HAMMOCK VIPERSTAIL	APOCYNACEAE		
<u><i>Peperomia humilis</i></u>	LOW PEPEROMIA	PIPERACEAE	E	
<u><i>Persea borbonia</i></u>	RED BAY	LAURACEAE		
<u><i>Petiveria alliacea</i></u>	GUINEA HEN WEED	PHYTOLACCACEAE		
<u><i>Phaseolus polystachios</i></u>	THICKET BEAN	FABACEAE		
<u><i>Phlebodium aureum</i></u>	GOLDEN POLYPODY	POLYPODIACEAE		
<u><i>Phoradendron leucarpum</i></u>	OAK MISTLETOE	VISCACEAE		
<u><i>Phragmites australis</i></u>	COMMON REED	POACEAE		
<u><i>Phyla nodiflora</i></u>	TURKEY TANGLE FOGFRUIT; CAPEWEED	VERBENACEAE		
<u><i>Phyllanthus abnormis</i></u>	DRUMMOND'S LEAFFLOWER	PHYLLANTHACEAE		
<u><i>Physalis arenicola</i></u>	CYPRESSHEAD GROUNDCHERRY	SOLANACEAE		
<u><i>Physalis pubescens</i></u>	HUSK TOMATO	SOLANACEAE		
<u><i>Physalis walteri</i></u>	WALTER'S GROUNDCHERRY	SOLANACEAE		
<u><i>Phytolacca americana</i></u>	AMERICAN POKEWEED	PHYTOLACCACEAE		
<u><i>Piloblephis rigida</i></u>	WILD PENNYROYAL	LAMIACEAE		
<u><i>Pinus clausa</i></u>	SAND PINE	PINACEAE		

APPENDIX 5-D. NATIVE PLANTS THAT MAY OCCUR IN PORT ST. LUCIE

SCIENTIFIC NAME	COMMON NAME(S)	FAMILY	STATE	FED.
<i>Pinus elliotii</i>	SLASH PINE	PINACEAE		
<i>Piriqueta cistoides subsp. caroliniana</i>	PITTED STRIPESEED	TURNERACEAE		
<i>Pisonia aculeata</i>	DEVIL'S CLAWS; PULLBACK	NYCTAGINACEAE		
<i>Pityopsis graminifolia</i>	NARROWLEAF SILKGRASS	ASTERACEAE		
<i>Plantago virginica</i>	VIRGINIA PLANTAIN; SOUTHERN PLANTAIN	PLANTAGINACEAE		
<i>Pleopeltis polypodioides var. michauxiana</i>	RESURRECTION FERN	POLYPODIACEAE		
<i>Pluchea baccharis</i>	ROSY CAMPHORWEED	ASTERACEAE		
<i>Pluchea foetida</i>	STINKING CAMPHORWEED	ASTERACEAE		
<i>Pluchea odorata</i>	SWEETSCENT	ASTERACEAE		
<i>Plumbago zeylanica</i>	DOCTORBUSH	PLUMBAGINACEAE		
<i>Poinsettia cyathophora</i>	PAINTEDLEAF; FIRE-ON-THE-MOUNTAIN	EUPHORBIACEAE		
<i>Polanisia tenuifolia</i>	SLENDERLEAF CLAMMYWEED	BRASSICACEAE		
<i>Polygala balduinii</i>	BALDWIN'S MILKWORT	POLYGALACEAE		
<i>Polygala cruciata</i>	DRUMHEADS	POLYGALACEAE		
<i>Polygala cymosa</i>	TALL PINEBARREN MILKWORT	POLYGALACEAE		
<i>Polygala lutea</i>	ORANGE MILKWORT	POLYGALACEAE		
<i>Polygala ramosa</i>	LOW PINEBARREN MILKWORT	POLYGALACEAE		
<i>Polygala rugelii</i>	YELLOW MILKWORT	POLYGALACEAE		
<i>Polygala setacea</i>	COASTALPLAIN MILKWORT	POLYGALACEAE		
<i>Polygala smallii</i>	SMALL'S MILKWORT; TINY POLYGALA	POLYGALACEAE	E	E
<i>Polygala violacea</i>	SHOWY MILKWORT	POLYGALACEAE		

APPENDIX 5-D. NATIVE PLANTS THAT MAY OCCUR IN PORT ST. LUCIE

SCIENTIFIC NAME	COMMON NAME(S)	FAMILY	STATE	FED.
<i>Polygonella ciliata</i>	HAIRY JOINTWEED	POLYGONACEAE		
<i>Polygonella robusta</i>	LARGEFLOWER JOINTWEED; SANDHILL WIREWEED	POLYGONACEAE		
<i>Polygonum hydropiperoides</i>	MILD WATERPEPPER; SWAMP SMARTWEED	POLYGONACEAE		
<i>Polygonum punctatum</i>	DOTTED SMARTWEED	POLYGONACEAE		
<i>Polygonum setaceum</i>	BOG SMARTWEED	POLYGONACEAE		
<i>Pontederia cordata</i>	PICKERELWEED	PONTEDERIACEAE		
<i>Portulaca pilosa</i>	PINK PURSLANE; KISS-ME-QUICK	PORTULACACEAE		
<i>Proserpinaca palustris</i>	MARSH MERMAIDWEED	HALORAGACEAE		
<i>Proserpinaca pectinata</i>	COMBLEAF MERMAIDWEED	HALORAGACEAE		
<i>Prunus caroliniana</i>	CAROLINA LAURELCHERRY	ROSACEAE		
<i>Pseudognaphalium obtusifolium</i>	SWEET EVERLASTING; RABBIT TOBACCO	ASTERACEAE		
<i>Psilotum nudum</i>	WHISK-FERN	PSILOTACEAE		
<i>Psychotria nervosa</i>	WILD COFFEE	RUBIACEAE		
<i>Psychotria sulzneri</i>	SHORTLEAF WILD COFFEE	RUBIACEAE		
<i>Pteridium aquilinum var. caudatum</i>	LACY BRACKEN	DENNSTAEDTIACEAE		
<i>Pteridium aquilinum var. pseudocaudatum</i>	TAILED BRACKEN	DENNSTAEDTIACEAE		
<i>Pterocaulon pycnostachyum</i>	BLACKROOT	ASTERACEAE		
<i>Pteroglossaspis ecristata</i>	GIANT ORCHID; NON-CRESTED EULOPHIA	ORCHIDACEAE	T	
<i>Ptilimnium capillaceum</i>	MOCK BISHOPSWEED; HERBWILLIAM	APIACEAE		
<i>Quercus chapmanii</i>	CHAPMAN'S OAK	FAGACEAE		
<i>Quercus geminata</i>	SAND LIVE OAK	FAGACEAE		

APPENDIX 5-D. NATIVE PLANTS THAT MAY OCCUR IN PORT ST. LUCIE

SCIENTIFIC NAME	COMMON NAME(S)	FAMILY	STATE	FED.
<u><i>Quercus inopina</i></u>	SCRUB OAK	FAGACEAE		
<u><i>Quercus myrtifolia</i></u>	MYRTLE OAK	FAGACEAE		
<u><i>Quercus virginiana</i></u>	LIVE OAK	FAGACEAE		
<u><i>Randia aculeata</i></u>	WHITE INDIGOBERRY	RUBIACEAE		
<u><i>Rapanea punctata</i></u>	MYRSINE; COLICWOOD	MYRSINACEAE		
<u><i>Rhexia cubensis</i></u>	WEST INDIAN MEADOWBEAUTY	MELASTOMATACEAE		
<u><i>Rhexia nashii</i></u>	MAID MARIAN	MELASTOMATACEAE		
<u><i>Rhexia nuttallii</i></u>	NUTTALL'S MEADOWBEAUTY	MELASTOMATACEAE		
<u><i>Rhizophora mangle</i></u>	RED MANGROVE	RHIZOPHORACEAE		
<u><i>Rhus copallinum</i></u>	WINGED SUMAC	ANACARDIACEAE		
<u><i>Rhynchospora baldwinii</i></u>	BALDWIN'S BEAKSEDGE	CYPERACEAE		
<u><i>Rhynchospora cephalantha</i></u>	BUNCHED BEAKSEDGE	CYPERACEAE		
<u><i>Rhynchospora chapmanii</i></u>	CHAPMAN'S BEAKSEDGE	CYPERACEAE		
<u><i>Rhynchospora colorata</i></u>	STARRUSH WHITETOP	CYPERACEAE		
<u><i>Rhynchospora fascicularis</i></u>	FASCICLED BEAKSEDGE	CYPERACEAE		
<u><i>Rhynchospora filifolia</i></u>	THREADLEAF BEAKSEDGE	CYPERACEAE		
<u><i>Rhynchospora harperi</i></u>	HARPER'S BEAKSEDGE	CYPERACEAE		
<u><i>Rhynchospora inundata</i></u>	NARROWFRUIT HORNED BEAKSEDGE	CYPERACEAE		
<u><i>Rhynchospora latifolia</i></u>	GIANT WHITETOP; SANDSWAMP WHITETOP	CYPERACEAE		
<u><i>Rhynchospora megalocarpa</i></u>	SANDYFIELD BEAKSEDGE	CYPERACEAE		
<u><i>Rhynchospora microcarpa</i></u>	SOUTHERN BEAKSEDGE	CYPERACEAE		

APPENDIX 5-D. NATIVE PLANTS THAT MAY OCCUR IN PORT ST. LUCIE

SCIENTIFIC NAME	COMMON NAME(S)	FAMILY	STATE	FED.
<i>Rhynchospora microcephala</i>	BUNCHED BEAKSEDGE	CYPERACEAE		
<i>Rhynchospora miliacea</i>	MILLET BEAKSEDGE	CYPERACEAE		
<i>Rhynchospora nitens</i>	SHORTBEAK BEAKSEDGE; BALDRUSH	CYPERACEAE		
<i>Rhynchospora rariflora</i>	FEWFLOWER BEAKSEDGE	CYPERACEAE		
<i>Rhynchospora tracyi</i>	TRACY'S BEAKSEDGE	CYPERACEAE		
<i>Rhynchospora wrightiana</i>	WRIGHT'S BEAKSEDGE	CYPERACEAE		
<i>Rivina humilis</i>	ROUGEPLANT	PHYTOLACCACEAE		
<i>Rubus trivialis</i>	SOUTHERN DEWBERRY	ROSACEAE		
<i>Rudbeckia hirta</i>	BLACKEYED SUSAN	ASTERACEAE		
<i>Rumex verticillatus</i>	SWAMP DOCK	POLYGONACEAE		
<i>Sabal etonia</i>	SCRUB PALMETTO	ARECACEAE		
<i>Sabal minor</i>	DWARF PALMETTO; BLUESTEM PALM	ARECACEAE		
<i>Sabal palmetto</i>	CABBAGE PALM	ARECACEAE		
<i>Sabatia grandiflora</i>	LARGEFLOWER ROSEGENTIAN	GENTIANACEAE		
<i>Sabatia stellaris</i>	ROSE-OF-PLYMOUTH	GENTIANACEAE		
<i>Sacciolepis striata</i>	AMERICAN CUPSCALE	POACEAE		
<i>Sacoila lanceolata</i>	LEAFLESS BEAKED LADIESTRESSES; LEAFLESS BEAKED ORCHID	ORCHIDACEAE	T	
<i>Sagittaria graminea var. chapmanii</i>	CHAPMAN'S ARROWHEAD	ALISMATACEAE		
<i>Sagittaria lancifolia</i>	BULLTONGUE ARROWHEAD	ALISMATACEAE		
<i>Salix caroliniana</i>	CAROLINA WILLOW; COASTALPLAIN WILLOW	SALICACEAE		
<i>Salvia coccinea</i>	TROPICAL SAGE; BLOOD SAGE	LAMIACEAE		

APPENDIX 5-D. NATIVE PLANTS THAT MAY OCCUR IN PORT ST. LUCIE

SCIENTIFIC NAME	COMMON NAME(S)	FAMILY	STATE	FED.
<u><i>Sambucus nigra subsp. canadensis</i></u>	AMERICAN ELDER; ELDERBERRY	ADOXACEAE		
<u><i>Samolus valerandi subsp. parviflorus</i></u>	PINELAND PIMPERNEL; SEASIDE BROOKWEED	SAMOLACEAE		
<u><i>Scaevola plumieri</i></u>	BEACHBERRY; INKBERRY; GULLFEED	GOODENIACEAE	T	
<u><i>Schoenolirion albiflorum</i></u>	WHITE SUNNYBELL	HYACINTHACEAE		
<u><i>Schoenoplectus pungens</i></u>	THREESQUARE BULRUSH	CYPERACEAE		
<u><i>Schoepfia chrysophylloides</i></u>	GRAYTWIG	SCHOEPIACEAE		
<u><i>Scleria reticularis</i></u>	NETTED NUTRUSH	CYPERACEAE		
<u><i>Scoparia dulcis</i></u>	SWEETBROOM; LICORICEWEED	PLANTAGINACEAE		
<u><i>Scutellaria integrifolia</i></u>	HELMET SKULLCAP	LAMIACEAE		
<u><i>Selaginella arenicola</i></u>	SAND SPIKE-MOSS	SELAGINELLACEAE		
<u><i>Serenoa repens</i></u>	SAW PALMETTO	ARECACEAE		
<u><i>Sesuvium portulacastrum</i></u>	SHORELINE SEAPURSLANE	AIZOACEAE		
<u><i>Setaria macrosperma</i></u>	CORAL BRISTLEGRASS; CORAL FOXTAIL	POACEAE		
<u><i>Setaria parviflora</i></u>	YELLOW BRISTLEGRASS; KNOTROOT FOXTAIL	POACEAE		
<u><i>Seymeria pectinata</i></u>	PIEDMONT BLACKSENNA	OROBANCHACEAE		
<u><i>Sida rhombifolia</i></u>	CUBAN JUTE; INDIAN HEMP	MALVACEAE		
<u><i>Sida ulmifolia</i></u>	COMMON WIREWEED; COMMON FANPETALS	MALVACEAE		
<u><i>Sideroxylon foetidissimum</i></u>	FALSE MASTIC	SAPOTACEAE		
<u><i>Sideroxylon tenax</i></u>	TOUGH BULLY	SAPOTACEAE		
<u><i>Simarouba glauca</i></u>	PARADISE TREE	SIMAROUBACEAE		
<u><i>Sisyrinchium xerophyllum</i></u>	JWELED BLUE-EYED GRASS	IRIDACEAE		

APPENDIX 5-D. NATIVE PLANTS THAT MAY OCCUR IN PORT ST. LUCIE

SCIENTIFIC NAME	COMMON NAME(S)	FAMILY	STATE	FED.
<u><i>Smilax auriculata</i></u>	EARLEAF GREENBRIER	SMILACACEAE		
<u><i>Solanum americanum</i></u>	AMERICAN BLACK NIGHTSHADE	SOLANACEAE		
<u><i>Solanum capsicoides</i></u>	SODA APPLE; COCKROACHBERRY	SOLANACEAE		
<u><i>Solanum chenopodioides</i></u>	BLACK NIGHTSHADE	SOLANACEAE		
<u><i>Solanum erianthum</i></u>	POTATOTREE	SOLANACEAE		
<u><i>Solidago fistulosa</i></u>	PINEBARREN GOLDENROD	ASTERACEAE		
<u><i>Solidago odora var. chapmanii</i></u>	CHAPMAN'S GOLDENROD	ASTERACEAE		
<u><i>Sophora tomentosa var. truncata</i></u>	YELLOW NECKLACEPOD	FABACEAE		
<u><i>Spartina alterniflora</i></u>	SALTMARSH CORDGRASS; SMOOTH CORDGRASS	POACEAE		
<u><i>Spartina patens</i></u>	MARSHHAY CORDGRAS; SALTMEADOW CORDGRASS	POACEAE		
<u><i>Spermacoce remota</i></u>	WOODLAND FALSE BUTTONWEED	RUBIACEAE		
<u><i>Spermolepis echinata</i></u>	BRISTLY SCALESEED	APIACEAE		
<u><i>Sphenopholis obtusata</i></u>	PRAIRIE WEDGESCALE	POACEAE		
<u><i>Spiranthes laciniata</i></u>	LACELIP LADIESTRESSES	ORCHIDACEAE	T	
<u><i>Spiranthes odorata</i></u>	FRAGRANT or MARSH LADIESTRESSES; UNDERWATER ORCHID	ORCHIDACEAE		
<u><i>Spiranthes praecox</i></u>	GREENVEIN LADIESTRESSES	ORCHIDACEAE		
<u><i>Spiranthes vernalis</i></u>	SPRING LADIESTRESSES	ORCHIDACEAE		
<u><i>Sporobolus curtissii</i></u>	CURTISS' DROPSEED	POACEAE		
<u><i>Sporobolus domingensis</i></u>	CORAL DROPSEED	POACEAE		
<u><i>Sporobolus junceus</i></u>	PINEYWOODS DROPSEED	POACEAE		
<u><i>Sporobolus virginicus</i></u>	SEASHORE DROPSEED	POACEAE		

APPENDIX 5-D. NATIVE PLANTS THAT MAY OCCUR IN PORT ST. LUCIE

SCIENTIFIC NAME	COMMON NAME(S)	FAMILY	STATE	FED.
<u><i>Stenandrium dulce</i></u>	SWEET SHAGGYTUFT	ACANTHACEAE		
<u><i>Stenanthium densum</i></u>	CROWPOISON; OSCEOLA'S PLUME	MELANTHIACEAE		
<u><i>Stenotaphrum secundatum</i></u>	ST. AUGUSTINE GRASS	POACEAE		
<u><i>Stillingia aquatica</i></u>	WATER TOOTHLEAF; CORKWOOD	EUPHORBIACEAE		
<u><i>Stipulicida setacea</i></u>	PINELAND SCALYPINK	CARYOPHYLLACEAE		
<u><i>Suriana maritima</i></u>	BAY CEDAR	SURIANACEAE		
<u><i>Symphotrichum bahamense</i></u>	BAHAMAN ASTER	ASTERACEAE		
<u><i>Symphotrichum chapmanii</i></u>	SAVANNAH ASTER	ASTERACEAE		
<u><i>Symphotrichum dumosum</i></u>	RICE BUTTON ASTER	ASTERACEAE		
<u><i>Syngonanthus flavidulus</i></u>	YELLOW HATPINS	ERIOCAULACEAE		
<u><i>Tephrosia rugelii</i></u>	RUGEL'S HOARYPEA	FABACEAE		
<u><i>Teucrium canadense</i></u>	WOOD SAGE; CANADIAN GERMANDER	LAMIACEAE		
<u><i>Thalassia testudinum</i></u>	TURTLEGRASS	HYDROCHARITACEAE		
<u><i>Thalia geniculata</i></u>	ALLIGATORFLAG; FIREFLAG	MARANTACEAE		
<u><i>Thelypteris interrupta</i></u>	HOTTENTOT FERN; WILLDENOW'S FERN	THELYPTERIDACEAE		
<u><i>Thelypteris kunthii</i></u>	WIDESPREAD MAIDEN FERN; SOUTHERN SHIELD FERN	THELYPTERIDACEAE		
<u><i>Thelypteris palustris var. pubescens</i></u>	MARSH FERN	THELYPTERIDACEAE		
<u><i>Tillandsia balbisiana</i></u>	NORTHERN NEEDLELEAF	BROMELIACEAE	T	
<u><i>Tillandsia recurvata</i></u>	BALLMOSS	BROMELIACEAE		
<u><i>Tillandsia setacea</i></u>	SOUTHERN NEEDLELEAF	BROMELIACEAE		
<u><i>Tillandsia usneoides</i></u>	SPANISH MOSS	BROMELIACEAE		

APPENDIX 5-D. NATIVE PLANTS THAT MAY OCCUR IN PORT ST. LUCIE

SCIENTIFIC NAME	COMMON NAME(S)	FAMILY	STATE	FED.
<u><i>Tillandsia utriculata</i></u>	GIANT AIRPLANT; GIANT WILD PINE	BROMELIACEAE	E	
<u><i>Toxicodendron radicans</i></u>	EASTERN POISON IVY	ANACARDIACEAE		
<u><i>Trichostema dichotomum</i></u>	FORKED BLUECURLS	LAMIACEAE		
<u><i>Tridens flavus</i></u>	TALL REDTOP; PURPLETOP TRIDENS	POACEAE		
<u><i>Triphora gentianoides</i></u>	GENTIAN NODDINGCAPS	ORCHIDACEAE		
<u><i>Triplasis purpurea</i></u>	PURPLE SANDGRASS	POACEAE		
<u><i>Typha domingensis</i></u>	SOUTHERN CATTAIL	TYPHACEAE		
<u><i>Typha latifolia</i></u>	BROADLEAF CATTAIL	TYPHACEAE		
<u><i>Uniola paniculata</i></u>	SEAOATS	POACEAE		
<u><i>Utricularia cornuta</i></u>	HORNED BLADDERWORT	LENTIBULARIACEAE		
<u><i>Utricularia gibba</i></u>	HUMPED BLADDERWORT	LENTIBULARIACEAE		
<u><i>Vaccinium darrowii</i></u>	DARROW'S BLUEBERRY	ERICACEAE		
<u><i>Vaccinium myrsinites</i></u>	SHINY BLUEBERRY	ERICACEAE		
<u><i>Vaccinium stamineum</i></u>	DEERBERRY	ERICACEAE		
<u><i>Vernonia gigantea</i></u>	GIANT IRONWEED	ASTERACEAE		
<u><i>Vicia acutifolia</i></u>	FOURLEAF VETCH	FABACEAE		
<u><i>Vigna luteola</i></u>	HAIRYPOD COWPEA	FABACEAE		
<u><i>Viola lanceolata</i></u>	BOG WHITE VIOLET	VIOLACEAE		
<u><i>Vitis cinerea var. floridana</i></u>	FLORIDA GRAPE	VITACEAE		
<u><i>Vitis rotundifolia</i></u>	MUSCADINE	VITACEAE		
<u><i>Vitis shuttleworthii</i></u>	CALLOOSE GRAPE	VITACEAE		

APPENDIX 5-D. NATIVE PLANTS THAT MAY OCCUR IN PORT ST. LUCIE

SCIENTIFIC NAME	COMMON NAME(S)	FAMILY	STATE	FED.
<u><i>Vittaria lineata</i></u>	SHOESTRING FERN	VITTARIACEAE		
<u><i>Websteria confervoides</i></u>	ALGAL BULRUSH	CYPERACEAE		
<u><i>Woodwardia areolata</i></u>	NETTED CHAIN FERN	BLECHNACEAE		
<u><i>Woodwardia virginica</i></u>	VIRGINIA CHAIN FERN	BLECHNACEAE		
<u><i>Ximenia americana</i></u>	TALLOW WOOD; HOG PLUM	XIMENIACEAE		
<u><i>Xyris ambigua</i></u>	COASTALPLAIN YELLOWEYED GRASS	XYRIDACEAE		
<u><i>Xyris brevifolia</i></u>	SHORTLEAF YELLOWEYED GRASS	XYRIDACEAE		
<u><i>Xyris caroliniana</i></u>	CAROLINA YELLOWEYED GRASS	XYRIDACEAE		
<u><i>Xyris elliotii</i></u>	ELLIOTT'S YELLOWEYED GRASS	XYRIDACEAE		
<u><i>Xyris fimbriata</i></u>	FRINGED YELLOWEYED GRASS	XYRIDACEAE		
<u><i>Xyris flabelliformis</i></u>	SAVANNAH YELLOWEYED GRASS	XYRIDACEAE		
<u><i>Xyris floridana</i></u>	FLORIDA YELLOWEYED GRASS	XYRIDACEAE		
<u><i>Xyris jupicai</i></u>	RICHARD'S YELLOWEYED GRASS	XYRIDACEAE		
<u><i>Xyris platylepis</i></u>	TALL YELLOWEYED GRASS	XYRIDACEAE		
<u><i>Xyris smalliana</i></u>	SMALL'S YELLOWEYED GRASS	XYRIDACEAE		
<u><i>Yucca aloifolia</i></u>	SPANISH BAYONET; ALOE YUCCA	AGAVACEAE		
<u><i>Zamia pumila</i></u>	FLORIDA ARROWROOT; COONTIE	ZAMIACEAE		
<u><i>Zanthoxylum clava-herculis</i></u>	HERCULES-CLUB	RUTACEAE		
<u><i>Zanthoxylum fagara</i></u>	WILD LIME; LIME PRICKLYASH	RUTACEAE		
<u><i>Zizaniopsis miliacea</i></u>	SOUTHERN WILD RICE; GIANT CUTGRASS	POACEAE		

Data from the Atlas of Florida Vascular Plants, Institute for Systematic Botany. <http://www.plantatlas.usf.edu>
 The last columns indicate if the species is listed as **T** = Threatened or **E** = Endangered by the State of Florida or the Federal Government

APPENDIX 5-E. INVASIVE EXOTIC PLANTS

SCIENTIFIC NAME	COMMON NAME	FAMILY	EPPC	GOV.
<i>Abrus precatorius</i>	ROSARY PEA; BLACKEYED SUSAN	FABACEAE	1	N
<i>Acacia auriculiformis</i>	EARLEAF ACACIA	FABACEAE	1	
<i>Albizia lebbek</i>	WOMAN'S TONGUE	FABACEAE	1	
<i>Alternanthera philoxeroides</i>	ALLIGATORWEED	AMARANTHACEAE	2	P
<i>Antigonon leptopus</i>	CORAL VINE; QUEEN'S JEWELS	POLYGONACEAE	2	
<i>Ardisia elliptica</i>	SHOEBUTTON	MYRSINACEAE	1	N
<i>Asparagus aethiopicus</i>	SPRENGER'S ASPARAGUS-FERN	ASPARAGACEAE	1	
<i>Broussonetia papyrifera</i>	PAPER MULBERRY	MORACEAE	2	
<i>Callisia fragrans</i>	BASKETPLANT	COMMELINACEAE	2	
<i>Casuarina cunninghamiana</i>	RIVER SHEOAK	CASUARINACEAE	2	P
<i>Casuarina equisetifolia</i>	AUSTRALIAN-PINE; HORSETAIL CASUARINA	CASUARINACEAE	1	P,N
<i>Cinnamomum camphora</i>	CAMPHORTREE	LAURACEAE	1	
<i>Colocasia esculenta</i>	WILD TARO; DASHEEN; COCO YAM	ARACEAE	1	
<i>Cupaniopsis anacardioides</i>	CARROTWOOD	SAPINDACEAE	1	N
<i>Cyperus involucratus</i>	UMBRELLA PLANT	CYPERACEAE	2	
<i>Dioscorea bulbifera</i>	AIR-POTATO	DIOSCOREACEAE	1	N
<i>Eichhornia crassipes</i>	COMMON WATER-HYACINTH	PONTEDERIACEAE	1	P
<i>Elaeagnus pungens</i>	SILVERTHORN; THORNY OLIVE	ELAEAGNACEAE	2	
<i>Eugenia uniflora</i>	SURINAM CHERRY	MYRTACEAE	1	
<i>Imperata cylindrica</i>	COGONGRASS	POACEAE	1	N,U
<i>Jasminum dichotomum</i>	GOLD COAST JASMINE	OLEACEAE	1	
<i>Jasminum fluminense</i>	BRAZILIAN JASMINE; JAZMIN DE TRAPO	OLEACEAE	1	
<i>Kalanchoe pinnata</i>	CATHEDRAL BELLS; LIFE PLANT	CRASSULACEAE	2	
<i>Koelreuteria elegans subsp. formosana</i>	FLAMEGOLD	SAPINDACEAE	2	
<i>Lantana camara</i>	LANTANA; SHRUBVERBENA	VERBENACEAE	1	
<i>Ludwigia peruviana</i>	PERUVIAN PRIMROSEWILLOW	ONAGRACEAE	1	
<i>Lygodium japonicum</i>	JAPANESE CLIMBING FERN	SCHIZAEACEAE	1	N
<i>Lygodium microphyllum</i>	SMALL-LEAF CLIMBING FERN	SCHIZAEACEAE	1	N
<i>Macfadyena unguis-cati</i>	CATCLAWVINE	BIGNONIACEAE	1	
<i>Melaleuca quinquenervia</i>	PUNKTREE	MYRTACEAE	1	P,N,U
<i>Melinis minutiflora</i>	MOLASSESGRASS	POACEAE	2	
<i>Melinis repens</i>	ROSE NATALGRASS	POACEAE	1	
<i>Nephrolepis cordifolia</i>	TUBEROUS SWORD FERN	NEPHROLEPIDACEAE	1	
<i>Panicum maximum</i>	GUINEAGRASS	POACEAE	2	
<i>Panicum repens</i>	TORPEDO GRASS	POACEAE	1	
<i>Pennisetum purpureum</i>	ELEPHANTGRASS; NAPIERGRASS	POACEAE	1	

APPENDIX 5-E. INVASIVE EXOTIC PLANTS

<i>Phoenix reclinata</i>	SENEGAL DATE PALM	ARECACEAE	2	
<i>Pistia stratiotes</i>	WATER-LETTUCE	ARACEAE	1	P
<i>Psidium cattleianum</i>	STRAWBERRY GUAVA	MYRTACEAE	1	
<i>Psidium guajava</i>	GUAVA	MYRTACEAE	1	
<i>Pueraria montana var. lobata</i>	KUDZU	FABACEAE	1	N
<i>Rhodomyrtus tomentosa</i>	ROSE MYRTLE	MYRTACEAE	1	N
<i>Ricinus communis</i>	CASTORBEAN	EUPHORBIACEAE	2	
<i>Ruellia tweediana</i>	BRITTON'S WILD PETUNIA; MEXICAN BLUEBELL	ACANTHACEAE	1	
<i>Sansevieria hyacinthoides</i>	BOWSTRING HEMP; MOTHER-IN-LAW'S TONGUE	RUSCACEAE	2	
<i>Sapium sebiferum</i>	POPCORNTREE; CHINESE TALLOWTREE	EUPHORBIACEAE	1	N
<i>Schefflera actinophylla</i>	AUSTRALIAN UMBRELLA TREE; OCTOPUS TREE	ARALIACEAE	1	
<i>Schinus terebinthifolia</i>	BRAZILIAN PEPPER	ANACARDIACEAE	1	P,N
<i>Senna pendula var. glabrata</i>	VALAMUERTO	FABACEAE	1	
<i>Solanum diphyllum</i>	TWOLEAF NIGHTSHADE	SOLANACEAE	2	
<i>Solanum jamaicense</i>	JAMAICAN NIGHTSHADE	SOLANACEAE	2	
<i>Solanum viarum</i>	TROPICAL SODA APPLE	SOLANACEAE	1	N,U
<i>Sphagneticola trilobata</i>	CREEPING OXEYE	ASTERACEAE	2	
<i>Syzygium jambos</i>	MALABAR PLUM; ROSE APPLE	MYRTACEAE	2	
<i>Talipariti tiliaceum</i>	SEA HIBISCUS; MAHOE	MALVACEAE	2	
<i>Thespesia populnea</i>	PORTIA TREE	MALVACEAE	1	
<i>Tradescantia fluminensis</i>	SMALL-LEAF SPIDERWORT	COMMELINACEAE	1	
<i>Tradescantia spathacea</i>	MOSES-IN-THE-CRADLE; OYSTER-PLANT; BOATLILY	COMMELINACEAE	2	
<i>Tribulus cistoides</i>	BURRNUT; JAMAICAN FEVERPLANT	ZYGOPHYLLACEAE	2	
<i>Urena lobata</i>	CAESARWEED	MALVACEAE	2	
<i>Urochloa mutica</i>	PARAGRASS	POACEAE	1	
<i>Vitex trifolia</i>	SIMPLELEAF CHASTETREE	LAMIACEAE	2	
<i>Xanthosoma sagittifolium</i>	ARROWLEAF ELEPHANT EAR	ARACEAE	2	

Data from the Atlas of Florida Vascular Plants, Institute for Systematic Botany. <http://www.plantatlas.usf.edu>

Florida Exotic Pest Plant Council (EPPC) Category I are invasive exotics that are altering native plant communities by displacing native species, changing community structures or ecological functions, or hybridizing with natives.

Florida Exotic Pest Plant Council (EPPC) Category II are invasive exotics that have increased in abundance or frequency but have not yet altered Florida plant communities to the extent shown by category I species. These species may become category I if ecological damage is documented

P = Prohibited by the Florida Department of Environmental Protection.

N = Noxious weeds listed by the the Florida Department of Agriculture and Consumer Services.

U = Noxious weeds listed by the the U.S. Department of Agriculture.