CONSERVATION ELEMENT

CITY OF PALATKA
COMPREHENSIVE PLAN

Adopted July 10th, 2008

Prepared by the Northeast Florida Regional Council
6850 Belfort Oaks Place
Jacksonville, Florida 32216
(904) 279-0880

TABLE OF CONTENTS

TABLE OF CONTENTS (CONTINUED)

TABLES

FIGURES

Summary

The City of Palatka is located in an area rich in natural resources. The dominant natural feature in the City is the St. Johns River, which forms the eastern limits of Palatka. This is the largest river wholly within the State of Florida and serves as an important transportation route for industrial barge traffic. In addition, it is an extremely valuable recreation resource which provides many opportunities for fishing and boating.

Palatka is also unique in that it contains the Ravine Gardens State Park, a unique geologic and ecological community not often found in peninsular Florida. The river and gardens serves as a constant reminder of the importance of conserving and maintaining the land and water resources for the people of this area.

The purpose of the conservation element is to promote the conservation, use and protection of natural resources. This element identifies and analyzes natural resources in City of Palatka which include rivers, lakes, wetlands, floodplains, areas of soil erosion, commercially valuable minerals, fish and wildlife including endangered and threatened species, vegetative communities, and air quality.

The analysis includes existing commercial, recreational, or conservation uses of these resources and known pollution problems, including hazardous waste. This element also addresses current and future water needs and sources for the next ten-year planning period, and the quality and quantity of these water resources.

The Goals, Objectives, and Policies section contained within the Conservation Element address the conservation, use, and protection of these resources including cooperation with adjacent local governments to protect unique vegetative communities, the designation of environmentally sensitive lands for protection, and management of hazardous waste.

Introduction

The purpose of the conservation element is to promote the conservation, use and protection of natural resources. The element, according to Rule 9J-5, must identify and analyze natural resources in City of Palatka which includes rivers, lakes, wetlands, floodplains, areas of soil erosion, commercially valuable minerals, fish and wildlife including endangered and threatened species, vegetative communities, and air quality. Analysis must also include existing commercial, recreational, or conservation uses of these resources and known pollution problems, including hazardous waste. This element must also address current and future water needs and sources for the next ten-year planning period, and the quality and quantity of these water resources.

Inventory of Natural Resources

A. Environmental Setting

Palatka is located on the western edge of a major physiographic division known as the Coastal Lowlands. This lowland area parallels the coast of Florida and extends inland for some thirty (30) to sixty (60) miles. It consists of ancient marine terraces that were cut by ocean erosion during times when sea levels were higher. The region's climate is temperate with seasonal changes typical of northern climates, although, not as severe. Winter and summer temperature extremes are moderated by the Atlantic Ocean and also, to some extent, by the close proximity of the St. Johns River. Winters generally are mild with occasional freezes, whereas summer months are hot and humid. Average monthly temperatures range from a low of 69.0 degrees Fahrenheit in winter to a high of 92.4 degrees Fahrenheit in summer. Rainfall averages 51.96 inches annually with the majority falling from June through October (Southeast Regional Climate Center).

B. Surface Water Resources

Palatka is located within the Lower St. Johns River Drainage Basin (as defined by the St. Johns River Water Management District). The Lower St. Johns River Basin begins at St. Johns Marsh in north St. Lucie County and extends downstream to the mouth of the St. Johns River at Mayport in Jacksonville. St. Johns River only falls about a tenth of a foot (1/10') per one (1) mile in elevation from its headwaters to the mouth.

The St. Johns River is the dominant surface water feature in Palatka, forming its eastern boundary. This is the largest river at, two hundred seventy three (273) miles in length, within the State of Florida. The headwaters for the St. Johns River are located in the marshes of south central Florida, west of Vero Beach. The system of the St. Johns River marshes, before alteration by humans, was an extensive freshwater system of swamps, marshes and lakes, except for northernmost one-fifth of the river basin. Even today, half of the length of the St. Johns River is actually marsh, and in many respects it functions like a northern-flowing Everglades. The lower St. Johns River in the vicinity of Palatka functions more like an inland estuary than a freshwater river with tides reaching as far upstream as Lake George in southern Putnam County. The river here is brackish with the presence of freshwater and saltwater species. From Palatka downstream to Jacksonville, the river becomes progressively wider with widths up to several miles.

A small spring fed-stream originates within the Ravine Gardens State Park, located in eastern Palatka, where it flows east into the St. Johns River. Springs such as these originally served as the water supply for the City many years ago.

1. St. Johns River

The St. Johns River is the primary surface water feature within the City limits of Palatka. Pollutant loads are currently exceeding the amount that the lower St. Johns River can receive and still meet State and federal water quality standards. Many factors threaten the health of the river, including: man-made pollutants, such as treated domestic and industrial wastewater; stormwater runoff from metropolitan and developed areas taking lawn fertilizers, sediments, pesticides, roadway grease and trash into the river; and, agricultural runoff from farming areas, taking animal wastes, fertilizers and pesticides into the waterway. The nutrient-rich discharges into the river have fed harmful algal blooms, which block sunlight from reaching aquatic plants, produce toxins, deplete dissolved oxygen and endanger fish and other wildlife. Loss of underwater vegetation also deprives manatees and other wildlife of their primary food source, and the fish of their most important habitat (St. Johns River Water Management District, *The Lower St. Johns River Basin: Fast Facts*, September, 2006).

The Florida Department of Environmental Protection has published its 2006 Florida Water Quality Assessment 305(b) report, which summarized the existing conditions of the state's surface waters, trends, causes, and any existing cleanup activities. Surface water quality is sampled at numerous locations along the St. Johns River by several agencies. Samples taken at Federal Point in East Palatka indicate that the river meets FDEP water quality standards for conventionals, but that water quality standards for metals including lead, silver, cadmium, and copper are not being fully met. Water quality at this station has been given a Water Quality Index by FDEP of 60, with 60 to 90 considered poor. According to the EPA website, TMDLs were established and approved in 2004 for the Middle and Lower St. Johns River. The listed pollutants/impairments: Biochemical Oxygen Demand, Dissolved Oxygen, Total Nitrogen, Total Phosphorus, Cadmium, Copper, Iron, Lead and Silver. Above the mouth of Rice Creek, sampling of the St. Johns River indicates that the river meets FDEP water quality standards for conventionals but that levels of copper, silver, and lead are not fully meeting FDEP standards. Above the mouth of Dunns Creek, sampling of the St. Johns River indicates those FDEP water quality standards for conventionals are being met but levels of lead and silver are not fully meeting standards. Above the mouth of the Oklawaha River, the St. Johns meets all standards for conventionals except Total Coliform Bacteria (Putnam County Comprehensive Plan, *Conservation Element*, September 8, 2006).

The only direct discharge of treated municipal wastewater effluent into the St. Johns River within Putnam County is from the 3.0-million gallon per day (MGD) Palatka wastewater treatment plant (WWTP). This facility discharges into a ditch, which in turn enters the river just east of the Ravines Gardens State Park. The Levels of pollutant discharge at the Palatka WWTP was listed as “out-of-compliance” by DEP in July 2005. A return inspection almost a year later, in June 2006, resulted in the pollutant discharge of the WWTP being declared “significantly-out-of-compliance” by DEP (St. Johns Riverkeeper and Trust for Public Land, *Lower St. Johns River Compliance Report*, June 2007). The Palatka WWTP has approximately 0.8 MGD of reuse that diverts some of the effluent to the Palatka Municipal Golf Course (Putnam County Comprehensive Plan, *Conservation Element*, September 8, 2006).

In general, the St. Johns River Estuary, was recognized by the State as an Area of Special Concern in its 2006 Florida Water Quality Assessment 305(b) report. Since the 1970s, scientists have documented increasing levels of nutrients in surface water. The tripling of

Florida's population between 1950 and the present, and the shift from natural landscapes to intense urban development, has caused extensive habitat loss in aquatic habitats and affected the viability of fisheries in many estuarine areas. Freshwater harmful algal blooms (HABs) are increasing in frequency, duration, and magnitude and therefore may be a significant threat to surface drinking water resources and recreational areas. Abundant populations of blue-green algae, some of them potentially toxigenic, have been found statewide in numerous lakes and rivers. In addition, measured concentrations of cyanotoxins—a few of them of above the suggested guideline levels—have been reported in finished water from some drinking water facilities. In many coastal and inland waters, excessive concentrations of mercury in the tissue of some fish species limit the attainment of designated use. Sediments in many urban estuaries, including the St. Johns River Estuary, contain heavy metals and organic contaminants.

To address these concerns, the DEP in cooperation with other agencies and stakeholders have implemented several initiatives, including: a Statewide DO/Nutrient Monitoring Program; Nutrient Criteria Development; establishing a Pollutant Trading Policy Advisory Committee (PAC); adopt a Statewide Unified Stormwater Rule; and, the Urban Stormwater BMP Research Program (DEP, *2006 Florida Water Quality Assessment 305(b) Report*, May 6, 2006).

However, the St. Johns River was rated by DEP as having good water quality for most of its length in the City of Palatka and meets most water quality standards, with some variations depending on where the sampling is conducted. This is partly attributable to the flushing effect of the river, which includes a significant tidal flow. Potential sources of pollution to the river include treated sewage effluent, septic tank seepage, stormwater runoff, and industrial and agricultural runoff. A Putnam County ordinance prohibits any new discharges of wastewater effluent into the St. Johns River (Putnam County Comprehensive Plan, *Conservation Element*, September 8, 2006).

Another potential source of point source pollution to the St. Johns River is from waterfront marinas, one of which is located in Palatka. This marina is adjacent to the City's Waterfront Park and includes forty (40) boat slips and fueling facilities. As with all marinas, there is the potential for pollution from leaking underground petroleum storage tanks, spilled fuel, and discharge of sewage effluent from individual boats having such facilities.

Non-point sources of pollution are much more difficult to quantify because they originate from such large areas and from many diverse sources. Indirect discharges to the river, or non-point source pollution, comes primarily from stormwater runoff. In general, stormwater flows from west to east where it ultimately can ends up discharging into the St. Johns River during large rainfall events.

2. Lakes and Ponds

In addition to the St. Johns River, there are also several small, unnamed ponds located within the City.

Lakes are vulnerable to pollution problems due to increasing urban development around their shorelines. Unlike flowing creeks and rivers, lakes are usually closed systems which do not benefit from the constant circulation, dilution, and cleansing that rivers and creeks receive. Therefore, they are more susceptible to pollution that can enter them.

3. Wetlands

There exists approximately 12 acres of wetlands located in a few isolated sites scattered in the western part of the City. See Figure E-1. There are approximately three hundred (320) acres of wetlands/floodplains situated along the St. Johns River north and south of U.S. Route 17.

4. Floodplains

Palatka is situated on a small, distinct physiographic feature of the coastal plain called the Palatka Hill. In general, elevations of the Palatka Hill decrease from west to east. Elevations in Palatka range from less than 5 feet above mean sea level (MSL) at the St. Johns River to over 80 feet MSL in the central and south sides of the city. Drainage is generally to the east into the St. Johns River. However the extreme western portion of Palatka, west of S.R. 19, drains west into the Rice Creek sub-basin.

Palatka is relatively high in elevation, which results in rapid runoff of stormwater. The primary threat from flooding would be caused by hurricane induced storm surge in the St. Johns River. Figure A-5 depicts flood prone areas as defined by FEMA (Flood Insurance Rate Maps) and Figure E-2 depicts the Coastal High Hazard Area Map as defined by the Northeast Florida Regional Council in determining Category 1 storm surge areas. The Federal Insurance Rate Map (FIRM) delineates the boundaries of those areas that can be expected to be inundated by a 100-year flood event. Within Palatka, the 100-year flood zone is confined primarily to a strip of approximately three hundred twenty (320) acres immediately adjacent to the St. Johns River. According to FEMA, base flood elevations for the 100-year flood zone are 6 feet above MSL. Figure E-2 depicts that the Coastal High Hazard Area, associated with a Category 1 Storm Surge, within the City is mostly limited to the areas immediately adjacent to the St. Johns River.

The City of Palatka participates in the National Flood Insurance Program. The purpose of this program is to regulate development in flood prone areas and to ensure the health, welfare, and public safety of the community. To participate, a community must determine the extent of the 100-year floodplain and regulate development within these areas. Policy D.2.2.5 of the Public Facilities Element of the Comprehensive Plan regulates development in the 100-year floodplain.

5. Aquifers

Like most of northern Florida there are three primary aquifer systems within Putnam County: the surficial aquifer, the secondary artesian aquifer, and the Floridan aquifer.

a. Surficial Aquifer: The surficial aquifer is also known as the *water table aquifer*. This aquifer is unconfined and is in contact with the atmospheric pressure. It consists mainly of sand and sand/clay beds, which vary in thickness from fifty (50) to one hundred thirty (130) feet. The base of this aquifer is the top of the confining bed, the Hawthorn Formation, common throughout northern Florida. Recharge to the surficial aquifer occurs primarily from rainfall with minor amounts being contributed from septic systems, agricultural irrigation, and upward leakance from the Floridan aquifer. Discharge from this aquifer occurs by seepage into lakes, creeks, and canals, evapotransporation, and by pumpage. In

some areas, downward leakage into deeper aquifers occur. The surficial aquifer is the most susceptible to pollution in that contaminants can enter the aquifer directly from the land surface. This aquifer may be affected by many uses including septic tanks, gasoline storage tanks, wastewater percolation ponds, hazardous waste storage areas, and stormwater ponds. There is a need to carefully control all of these potential pollution sources in areas where potable water wells are located within the surficial aquifer. Many domestic wells use the surficial aquifer for potable water.

b. Secondary or Intermediate Aquifer: The second major aquifer is called the secondary artesian aquifer or intermediate aquifer. This aquifer consists of water-bearing zones of sand and limestone within the Hawthorn Formation which are under pressure, hence the term *artesian*. These zones range in thickness from several inches to six feet. Recharge occurs where the water table is higher than the potentiometric surface of the secondary artesian aquifer and where permeability is conducive to recharge. Discharge occurs from downward leakage into other aquifers and by pumpage.

c. Floridan Aquifer: The deepest and largest aquifer in the county as well as the entire southeast is the Floridan aquifer. The Floridan aquifer is the primary source of public water supplies throughout northern Florida. Water quality is generally excellent, especially in the upper less mineralized zones. This aquifer is confined throughout most of the county and thus is under pressure. The potentiometric surface is defined as the level to which water will rise in tightly encased wells drilled into the Floridan aquifer. Generally, areas where potentiometric highs occur are also areas where recharge occurs. The only significant recharge area in the vicinity of the City is located outside the southeast limits of the City in Putnam County. The majority of this area recharges approximately four (4) to eight (8) inches back into the Floridan Aquifer annually. Development in the southeastern portions of the City, including proposed annexations in this area, need to ensure that suitable protections of this recharge area are in place. The City is in an area that draws water primarily from the Floridan aquifer. There are two very large commercial users of this resource, a power plant and a pulp mill that are located within the general area of Palatka but are beyond the City limits. The City's municipal water treatment plant draws from the Floridan Aquifer.

As demand increases on the Floridan aquifer, there is the danger of salt-water intrusion into the water supply. The City must cooperate with the SJRWMD and the county to identify alternate sources of water for major water users in the City. In addition, the City must take measures to protect the current water sources (Putnam County Comprehensive Plan Conservation Element, September 8, 2006).

6. Drainage Basin

The City of Palatka lies wholly within the St. Johns River Drainage Basin draining generally south and east towards the St. Johns River.

C. Known Sources of Commercially Valuable Minerals

There are no known sources of commercially valuable minerals within the City limits of Palatka.

D. Areas Known to Experience Soil Erosion Problems.

According to the US Department of Agriculture (USDA), in the past there was some soil erosion issues at Forrester Field Complex ballpark but the City took action by re-grading and introduction of a surface drain. There appear to be no other major areas of soil erosion noted within the City of Palatka.

Much of the City consists of sandy, flat, quickly drained soils. There is a high potential for soil erosion to occur as a result of urban development. Cleared slopes and swales at roadsides are particularly subject to erosion. Following heavy rainfall, sand and clay erodes into adjacent ditches and can ultimately end up in area lakes or streams.

Construction practices can contribute to soil erosion. However, there are numerous techniques which can be used during construction to help minimize erosion. Applying mulch, moisture, resinous adhesives, or fast growing grass seed to help hold the soil in place can protect exposed surfaces. Other techniques which can be used include: phasing to minimize the amount of exposed land during any given time~~,~~; sloping the surface to minimize rapid runoff; stormwater management to help contain sediments onsite~~,~~; and, the use of hay bales, filter cloth or some other suitable material to contain sediments within drainage ditches or creeks. In total, soil erosion is not considered to be a significant problem in Palatka. For information on the distribution of soil associations within Palatka, see the Future Land Use Element.

E. Air

The U. S. Environmental Protection Agency (EPA) has designated and developed standards for six (6) air quality pollutants that in high concentrations cause adverse health, environmental, economic and structural impacts. These six pollutants are Particulate Matter (PM), Sulfur Dioxide, Nitrogen Dioxide, Ozone, Carbon Monoxide, and Lead. The standards are designed to protect citizen's health and the environment. Florida has adopted these standards with some being more stringent than the EPA. The Department of Environmental Protection (DEP) is responsible for monitoring and enforcing these standards.

DEP monitors both point and non-point sources. Stationary point sources include power plants and industries. The major non-point or mobile source of pollutants is vehicular exhausts which emit carbon monoxide in slow-moving traffic.

DEP has one monitoring station for PM and Sulfur Dioxide in the Palatka area, north of Palatka at the intersection of Comfort Road and Port Road. The sampler runs one day out of six for 24 continuous hours. PM is at acceptable levels in the Palatka area with no known violations. Monthly PM values at the DEP sampling sites fall well within acceptable limits in accordance with Florida State laws (150 micrograms per cubic meter (ug/cm) for a 24-hour averaging time). SO_2 values at the FDEP sampling site fall well within acceptable limits in accordance with Florida State laws (100 parts per billion for 24 hours and 500 parts per billion for a 3-hour period).

The odor problem evident in the Palatka area is caused by the emission of reduced sulfur compounds from the Georgia Pacific pulp plant west of town. There are no ambient air quality standards for total reduced sulfur (TRS) compounds at the present time. EPA investigations determined that ambient concentrations of TRS have no apparent health effects. TRS does have negative effects on public welfare, however, in that the unpleasant odor affects the local quality of

life and property values, limits the attractiveness of the area for tourism, and affects the finishes of some paints and metals. For these reasons TRS is considered a nuisance pollutant. According to the City, DEP-imposed Statewide air quality regulations have had a significant effect in reducing the odor problem in the City.

Levels of Nitrogen Dioxide, Ozone, Carbon Monoxide, and Lead are not monitored in the City.

F. Fisheries, Wildlife, Marine Habitats and Vegetative Communities

1. Fisheries

The St. Johns River supports a variety of fresh and saltwater fish species due to its brackish water, which is tidally influenced. Species include black bass, bream, speckled perch, shell cracker, catfish, striped bass, mullet, shad, shrimp, and blue crabs. Even sharks are spotted in the river from time to time during the dry season when salinity levels are higher. Species harvested commercially include blue crab, shrimp, and mullet. However, there are no commercial fisheries located within the City. The St. Johns River is also home to the sturgeon, which has become extremely rare due to loss of habitat and overfishing. The National Fish Hatchery is located just south of Welaka in Putnam County.

2. Vegetative Communities

Land use information was obtained by interpreting 2006 Department of Revenue property appraiser aerials (see Figure E-1: Wetland Vegetative Communities). This information was entered into a computer based geographic information system (GIS) and acreages for each land use were also determined. The largest single ecological community occurring within the City limits is the wetland forested mixed community, which occurs adjacent to the St. Johns River within the floodplain and is tidally influenced.

The second largest ecological community in the City is the hardwood forest, most of which has been converted to residential development. However, many of the trees have been preserved and incorporated into the landscape.

Following is a description of the two vegetative communities found within the City of Palatka.

a. Upland Communities

(1)~~.~~ Coniferous Forest

These areas are typical of the planted slash or longleaf pine seen throughout other parts of Florida. Trees are usually planted in rows from either seeds or seedlings. Understory vegetation includes gallberry, wax myrtle, or various grasses. This habitat is of minimal value to wildlife because of the lack of diversity of plant species present. However, it is utilized as escape cover and bedding areas for certain animals which inhabit adjacent areas. Animals ~~which are~~ found here include bob-white quail, pine warbler, pocket gopher, armadillo, opossum, cotton rat, cottontail rabbit, box turtle, gopher tortoise, and the eastern diamondback rattlesnake. Listed plants or animals, which might be found here are:

Plants: Bartrams Ixia
Reptiles: Gopher tortoise

(2). Hardwood forest/mixed hardwood forest

According to FLUCCS, the hardwood community has a crown canopy with at least sixty-six percent (66%) hardwoods whereas the mixed hardwoods community has a crown canopy in which neither hardwoods nor conifers achieve a sixty-six percent (66%) crown canopy dominance. This community is the most common upland type in Palatka and occurs throughout the entire city. Much of this community has been converted to residential development. hHowever, many of the trees have been preserved and incorporated into the landscape. Typical tree species are laurel oak, live oak, magnolia, sweetgum, sugarberry, hickories, hollies, and cedar. Common understory shrubs include saw palmetto, American beautyberry, sparkleberry, and wax myrtle. Common animal species found in this community include raccoon, opossum, southern flying squirrel, gray squirrel, gray fox, bobcat, rabbit, skunk, armadillo, rattlesnake, green anole, hognose snake, southern toad, owls, rufous sided towhee, woodpeckers, and many species of song birds. Listed plant and animal species, which ~~may occur~~might be found here are:

Reptiles: Eastern indigo snake.
Plants: East coast coontie

b. Wetland or Open Water Communities

There are approximately three hundred twenty (320) acres of wetlands/floodplains situated along the St. Johns River north and south of U.S. Route 17, as well as other isolated wetlands throughout the City. Figure E-1 depicts the location of wetlands vegetative communities within the City. The following is a brief description of each of the wetland communities.

(1) Bay Swamp

"These hardwood swamps contain broadleaf evergreen trees that occur in shallow, stagnant drainages or depressions often found within pine flatwoods, or at the base of sandy ridges where seepage maintains constantly wet soils. The soils, which are usually covered by an abundant layer of leaf litter, are mostly acidic peat or muck which remain saturated for long periods but over which little water level fluctuation occurs. Overstory trees within bayheads are dominated by sweetbay, swamp bay, and loblolly bay. Depending on the location within the state, other species including pond pine, slash pine, blackgum, cypress, and Atlantic white cedar can occur as scattered individuals, but bay trees dominate the canopy and characterize the community. Understory and goundcover species may include dahoon holly, wax myrtle, fetterbush, greenbriar, royal fern, cinnamon fern, and sphagnum moss." (Source: Florida Fish and Wildlife Conservation Commission, Office of Environmental Services)

(2) Wetland Forested Mixed

"These wooded wetland communities are composed of either pure stands of hardwoods, or occur as a mixture of hardwoods and cypress where hardwoods achieve dominance. This association of wetland-adapted trees occurs throughout the state on organic soils and forms the forested floodplains of non-alluvial rivers, creeks, and broad lake basins. Tree species include a mixed overstory containing black gum, water tupelo, bald cypress, dahoon holly, red maple, swamp ash, cabbage palm, and sweetbay. Also included in this category are mixed wetland forest communities in which neither hardwoods nor conifers achieve dominance. The mix can include hardwoods with pine or cypress and can represent a mixed hydric site or a transition between hardwoods and conifers on hydric/mesic sites. Hardwood Swamp/Mixed Wetland Forests occur on low-lying flatlands or scattered low spots in basins and depressions that will only flood in extreme conditions. The canopy is usually dense and closed, keeping air movement and light penetration relatively low and, thus, keeping the humidity high. Due to these damp conditions, this habitat infrequently burns." (Source: http://myfwc.com/Wildlifelegacy/review/Hardwood Swamp.pdf)

(3) Cypress / Cypress Swamp

"The dominant canopy vegetation in cypress wetlands includes bald cypress and water tupelo trees. Pond cypress and black gum trees are also common on the uplands of the Southeastern coastal plain. Pine trees and hardwoods can be present if cypress areas are drained or face drought conditions. The epiphyte Spanish moss is found on the stems and branches of canopy trees. Dominant understory vegetation included fetterbush, wax myrtle, and buttonbush shrubs. Herbs and ferns including duckweed, pipewort, and lizard tail are present in the understory as well." (Source: University of Florida, IFAS Extension)

(4) Hydric Pine Flatwoods

Based upon the season, this habitat functions both as a wetland and as an upland. Both wetland and upland plant species can be found in this habitat. This habitat is home to the "Florida black bear, Florida panther, wood stork, red-cockaded woodpecker, Everglade snail kite, bald eagle, eastern indigo snake, gopher tortoise, Big Cypress fox squirrel, Sherman's fox squirrel, Bachman's sparrow, bobcat, swallow-tailed kite, Florida weasel, limpkin, northern harrier, southeastern kestrel eastern American kestrel, Florida sandhill crane, and 900 native plant species including at least 80 rare and endemic plant species." (Source: www.fws.gov)

(5) Freshwater Marsh

"Florida's freshwater marshes are non-tidal systems dominated by grasses, sedges and other emergent hydrophytes. These wetlands are non-forested and have non-peat soils (unlike bogs and fens). They are periodically or continually flooded. The water chemistry in Florida's marshes depends on nearby water sources. They can be either fresh water mineralized marshes (from groundwater, streams and surface runoff) or poorly mineralized fresh water marshes (results from direct precipitation)." (Source: University of Florida, IFAS Extension)

3. Wildlife Communities

The Florida Natural Areas Inventory was established as an effort to conserve Florida's natural diversity. The inventory of Florida's ecological resources provides a continuous process for identifying significant natural areas and providing protection for these areas. This inventory was used to determine listed species (rare, endangered, or threatened species as listed in the annual publication of the Florida Fish and Wildlife Conservation Commission: Official Lists of Endangered Fauna and Flora in Florida) for Palatka. This inventory shows that no listed species have been documented within the City limits. However this does not mean that there are not any present. The FNAI inventory is far from complete and some species of animals have not been listed simply because of their far ranging habits. Examples would be the Black bear and the Manatee, both of which are known to inhabit Putnam County and both of which are endangered.

4. Marine Habitat

Parts of the St. Johns River are known to be a habitat for the endangered West Indian Manatee. During spring, summer, and fall, Manatees are found along the St. Johns River throughout Putnam County including Dunns Creek, the Oklawaha River, and the Cross Florida Barge Canal area. The St. Johns River, which forms the eastern boundary of the City of Palatka, is a major travel corridor for the Manatee. Every winter, Manatees travel up the St. Johns River passing through Putnam County and past Palatka to reach warmer water farther upstream to the south. This warm water comes from freshwater springs and warm water discharges from power plants and industry. A primary wintering area for Manatees is Blue Springs State Park located just south of the City of Deland within Volusia County. Manatees have also been reported during the winter near the FPL power plant in East Palatka and ~~in~~ Welaka Springs, located just north of the Town of Welaka.

Manatees are endangered primarily because of encounters with boats. In 2006, there were approximately 6,000 registered boats in Putnam County. Many boats using Putnam County waterways are trailered into the county by out-of-county and out-of-State fisherman and boaters. Other threats to Manatees include pollution, marinas and ports, and canal or river locks.

Existing Recreational, Commercial or Conservation Uses Of Identified Natural Resources.

A. Uses of Natural Resources

1. Surface Water Resources

The St. Johns River is the primary surface water resource in the City of Palatka. The St. Johns River is both a recreational and a commercial resource to the City for both boating and fishing activities.

In addition to the St. Johns River, the City has a few, very small (less than 2 acre) isolated wetland sites located on its western portion. These wetlands are located on private property and may serve as "open space" within community developments. There are approximately three hundred twenty (320) acres of wetlands/floodplains situated along the St. Johns River north and south of U.S. Route 17.

2. Wetlands and Floodplains

The area immediately adjacent to the St. Johns River both north and south of the City have wetlands and during periods of heavy rain are encroached by floodplains. These areas are important to protect the St. Johns River from pollutants entering the river from runoff and may support bird and animal wildlife, though no listed species are known to inhabit the area.

3. Marine Habitat

The St. Johns River forms the eastern boundary of the City of Palatka. The river is major habitat for the West Indian Manatee and a recreational boating area. The St. Johns River is a major travel corridor for the Manatee. Every winter manatees travel up the St. Johns River, passing through the City to reach warmer water farther upstream. This warm water comes from freshwater springs and warm water discharges from power plants and industry. Manatees have been reported during the winter near the Florida Power & Light (FPL) power plant in East Palatka. Sheltered coves located along the St. Johns River are popular locations for manatees including the coves adjacent to the City (Putnam County Comprehensive Plan, *Conservation Element*, September 8, 2006). As such, the use of the river needs to be controlled so as to protect the manatee from potential encounters with boats and boat propellers, and protect the water quality from boating-introduced pollutants.

4. Vegetative Communities

The major vegetative community within the City limits is the wetland forest mix located in the floodplains on the St. Johns River. Being within the floodplain, this vegetative community provides some habitat for birdlife and therefore provides for recreational bird watching.

Ravine Gardens State Park, located in the southeast part of the City, provides a botanical garden for the conservation of plant life and the enjoyment of visitors. This site is identified as a conservation and recreation area for area-wide residents.

The City is in an area that draws water primarily from the Floridan aquifer. There are two very large commercial users of this resource, a power plant and a pulp mill that are located within the general area of Palatka~~,~~ but are beyond the City limits. The City's municipal water treatment plant draws from the Floridan Aquifer.

B. Protection of Natural Resources

1. Surface Water Resources

The protection of surface water resources from the potential pollutants that may be washed in from agricultural, construction, recreation and urban activities is always of great concern to a community. The major surface water resource of the City is the St. Johns River. Although the St. Johns River does not provide for swimming, it is a recreational source for boating, fishing and parks along the bank serving as "open space."

The banks or shoreline of the St. Johns River needs to be protected from erosion. The St. Johns River itself needs to be protected from pollution. Within the City, the major potential pollutants to the St. Johns River are from urban stormwater run-off, construction activity, boating, and effluent discharge from the City's sanitary sewer plant.

Pollutant from urban activities primarily consists of oil and grease from City streets being washed into the St. Johns River through drainage culverts or ditches. This source of pollution can be reduced by requiring stormwater drainage to flow through settling areas before entering the St. Johns River.

Pollutant discharge from the City wastewater treatment plant (WWTP) is a matter of efficient operation of the treatment plant. The City must maintain a staff of trained, competent personnel to manage and operate the plant. A second cause of pollutant discharge from WWTP is from a plant attempting to treat capacity loads larger than the plant is physically capable of handling. The Levels of pollutant discharge at the Palatka WWTP was listed as "out-of-compliance" by DEP in July 2005. A return inspection almost a year later, in June 2006, resulted in the pollutant discharge of the WWTP being declared "significantly-out-of-compliance" by DEP (St. Johns Riverkeeper and Trust for Public Land, *Lower St. Johns River Compliance Report*, June 2007). According to Woody Boynton, the City of Palatka Public Works Director, the WWTP is outdated, operating at capacity and in need of replacement. The WWTP is further addressed in the Public Facilities Element Data Support Section.

Boating on the St. Johns River is a potential source of pollution from accidental fuel spillage, human waste dumped into the river, and garbage/trash dumped overboard. The disposal of human waste is controlled by law and, as with the dumping overboard of trash, requires education and policing. By requiring all new marinas to provide waste pump-out stations, the City can make such facilities more available to the boating public and thereby enhance control. Since the law already requires pleasure boats to hold human wastes onboard, these marinas with the facilities for pump-out facilities should become more desirable a location for boat docking and servicing, thereby providing an economic incentive for older marina facilities to retrofit with pump-out stations in order to maintain business.

The problem of pollution from fuel can be averted through requiring installation of

protective devices at marina fueling stations and through public education.

The protection of surface waters from septic tank effluent is a function of the County Department of Health. The protection of surface waters from household and gardening contaminants can best be achieved through the reduction of run-off velocity through a vegetative buffer. The velocity of run-off is a function of surface gradient; therefore, a vegetative buffer in accordance with the guidelines of the St. Johns River Water Management should achieve the desired control of run-off contamination into adjacent surface water bodies (see Protection of Wetlands below).

2. Protection of the Aquifer

The City's well field is located adjacent to the City's airport between SR 100 and St. Johns Avenue. The well field must be protected from contamination by polluting substances being drawn into the well's cones of influence.

The City will enforce State regulations for the area around the City well field that constitutes the well field's cone of influence and provide setback of potentially polluting land uses around the site. The City shall enforce a 500-foot radial setback buffer consistent with the definition of a "Wellhead Protection Area" as defined in 62-521.200, F.A.C. for wellhead protection.

The most important focus of a potable water aquifer protection program should be on public wells from which the community draws its drinking water (St. Johns River Water Management District, *Guide to Local Groundwater Protection in Florida, Volume 1*, January 1991).

3. Protection of Plant Life

The City has three landscape features which should be afforded protection:

(a) forest/floodplain area along the St. Johns River;
(b) hardwood forest areas that have mostly been converted to residential communities; and,
(c) the Ravine Gardens State Park.

The forest/floodplain is protected from encroachment through the land use controls on development (both density and standards for development in wetlands). The Ravine Gardens State Park is protected because of its designation as a conservation land use on the Future Land Use Map. The hardwood forest area of the City, in its conversion to residential neighborhoods is protected through regulations that require permitting for clear cutting, control the removal of canopy and require a specific number of trees to be protected or replaced at a construction site.

As a water conservation measure, an additional issue that is regulated in the landscape ordinance is the preservation, replacement or introduction of native plant life at development sites.

4. Protection of Wetlands

According to information provided by the SJRWMD in its “District 2000 Water

Management Plan," wetlands losses are occurring primarily along the coastal areas and in urbanizing areas as a result of conversion to urban uses. For example, within Planning Unit #3B, which includes a majority of Putnam County, between 1984 and 1995 approximately eight hundred and eighty seven (887) acres of wetlands were lost to urban development. This is an average of approximately eighty (80) acres per year. In order to protect waterfronts and water bodies from surface runoff, it is suggested that a vegetated upland filter or buffer strip be provided. The vegetative filter strip is a strip or area of planted or indigenous vegetation whose purpose is to remove sediment, organic matter, and dissolved nutrients from surface waters passing through it as well as to provide habitat for wildlife. According to the United States Soil and Conservation Service, an appropriate buffer may range from fifteen (15) to twenty-five (25) feet. SJRWMD recommendations are presumptive and evaluated on a case-by-case basis although twenty-five (25) feet is generally consistent with District Environmental Resource Permit requirements (Putnam County Comprehensive Plan, *Conservation Element*, September 8, 2006).

Current and Projected Water Needs

The availability of potable water for the City of Palatka and the ability of the City to meet demand is discussed more fully in the Potable Water Sub-Element of the City's Public Facilities Element.

A. Demand

Table E-1 presents the projected level of demand for potable water in the City of Palatka through the year 2010, based on Table D-5 of the Potable Water sub-element in the Public Facilities Element. As shown, total water demand is projected to rise 0.19 million gallons per day between the years 1990 and 2010. The decrease in total demand for the year 2000 reflects a drop in City population during this period.

Table E-1
Projected Demand for Potable Water Usage, 1996 – 2010

Year	Total Demand (mgd)
2005	2.027
2010	2.366
2015	2.628
2020	2.87

B. Availability of Water

Water to meet the needs of users in the City of Palatka is drawn from the Floridan aquifer. According to the St. Johns River Water Management District, the Floridan Aquifer has sufficient capability to support this demand. However, continued demand on this resource is causing higher concentrates of salinity to enter the aquifer.

C. Protection of the Aquifer and SJRWMD Policies for Conservation

The City has taken measures to protect the aquifer as a source of potable water through implementation of wellhead protection regulations, land use regulations and control of septic tank installations.

The City and SJRWMD have implemented conservation measures through requiring water saving devices in the plumbing/heating of new homes and through placing restrictions of the use of water for lawn sprinkling, car washing, etc. during periods of draught. Specific rules promulgated by the St. Johns River Water Management District to conserve and protect water resources (see Section III(B) above).

Management of Hazardous Waste

Many households and businesses use hazardous materials in their day-to-day activities. Many of these activities produce hazardous wastes, wastes that can injure or even threaten living things. Hazardous waste must be handled in special ways to prevent threats to human health and the environment. Paint products, solvents, some batteries, household cleaners and pesticides are typical examples. When disposed of in the municipal landfill or otherwise improperly managed, these materials have the potential of contaminating the ground water (our drinking water supply.) The government does not regulate hazardous wastes generated in the home. In Florida, household hazardous waste collection centers have been established in most communities.

Hazardous waste is identified in one of two ways. Waste is considered hazardous if it can be found on lists published in Title 40 of the Code of Federal Regulations (CFR), parts 260-271. The State of Florida has adopted by reference portions of the federal regulations into its Florida Administrative Code (FAC), 62-730. If waste cannot be identified on one of the hazardous waste lists, it still might be hazardous because it exhibits one or more characteristics of ignitability, corrosivity, reactivity, or toxicity. Ensuring that hazardous wastes are handled in accordance with Federal and State rules and laws is the responsibility of the Compliance and Enforcement Sub-Section of the FDEP. This group interacts with the public and with the Resource Conservation and Recovery Act (RCRA) branch of the EPA to develop policies and guidance, to provide compliance assistance to the public and the regulated community, and to enforce the laws regulating the handling of hazardous waste.

In general, hazardous waste generators are broken into three categories based upon the quantity of hazardous waste generated per month. Each category has its own special requirements for properly managing hazardous waste. Conditionally Exempt Small Quantity Generators generate less than 220 pounds of hazardous waste per month and less than 2.2 pounds of acute waste (such as some pesticides, toxins or arsenic and cyanide compounds) per month. Regulated Small Quantity Generators) generate 220-2,200 pounds of hazardous waste per month. Large quantity generators (LQGs) generate 2,200 pounds or more of hazardous waste per month or 2.2 pounds or more of acute hazardous waste per month. Table E-1 shows the City of Palatka facilities that are defined as large quantity generators, regulated small quantity generators and conditionally exempt small quantity generators of hazardous waste.

A. Large Quantity Generators (LQG)

LQGs are industries that generate 1,000 kilograms or more per month of hazardous waste. Georgia Pacific is currently the only large quantity generator of hazardous wastes within proximity to the City. In addition, the waste must be stored properly onsite and in limited quantities until shipped off site. The shipper must ensure that the materials are shipped properly to the disposal and storage sites. Since 1986 LQG have been required to do the following:

- Perform hazardous wastes determinations.
- Obtain EPA identification numbers.
- Use manifest system and ship only to a permitted facility.

- Meet pre-transport requirements (packing, labeling, etc.).
- Not store hazardous waste for more than 90 days.
- File a biennial report.
- Meet personnel training requirements for handling hazardous wastes.
- Maintain hazardous waste emergency equipment.

These requirements help to ensure that wastes are accounted for and are properly stored and disposed of.

B. Small Quantity Generators (SQG)

There are 31 facilities in the City of Palatka identified as SQGs in Table E-1. The majority of these are automobile-related dealerships, maintenance and repair business. SQGs are required to obtain an EPA identification number and to label all hazardous waste containers. In addition, the waste must be stored properly onsite and in limited quantities until shipped off site. The shipper must ensure that the materials are shipped properly to the disposal and storage sites. Since 1986 SQG have been required to:

- Use multiple manifests and maintain copies for three years.
- Obtain EPA identification numbers.
- Accumulate no more than 13,200 pounds of hazardous waste for no longer than 180 days.
- Implement a preparedness and prevention plan.
- Use only FDEP approved transporters.
- Dispose of hazardous waste only at Resource Conservation and Recovery Act (RCRA) permitted facilities.

These requirements help to ensure that waste are accounted for and are properly stored and disposed of.

C. Coordination with EPA and DEP

The City shall continue to cooperate and coordinate with the FDEP and the EPA in monitoring hazardous waste generators.

Table E- 2
City of Palatka and Putnam County Facilities Generating Large and Small Quantities of Hazardous Materials

NAME	ADDRESS	CITY	STATUS
A J GIAMMANCO & ASSOC INC	972 COMFORT RD	PALATKA	CES
ATLANTIC YACHT BUILDERS INC	US 17 N ST JOHNS RIVER BARGEPO	PALATKA	SQG
B M TIRE AND AUTO SERVICE CENTER	4102 CRILL AVE	PALATKA	CES
BAGGS TIRE & AUTO SERVICE	608 REID ST	PALATKA	CES
BAINBRIDGE MOTORS INC	1910 REID STREET	PALATKA	SQG
BECK CHRYSLER PLYMOUTH DODGE	3523 REID ST	PALATKA	SQG
BECK CHRYSLER PLYMOUTH DODGE	256 US HWY 17 N	PALATKA	SQG
BEST PACKERS	1122 BRONSON RD	PALATKA	CES

BRANAMS EXXON	3200 CRILL AVE	PALATKA	CES
CARNES CAR CLINIC	HWY 17 NORTH & EDDIE VREEN RD	PALATKA	SQG
CDR SYSTEMS CORPORATION	2 KAY LARKIN CIRCLE	PALATKA	CES
CRABTREE TIRE & AUTO SERVICE	608 REID ST	PALATKA	SQG
CSD ACQUISITION CORP	1400 REID ST	PALATKA	SQG
CSX TRANSPORTATION	SEABOARD DR & HWY 17 N	PALATKA	SQG
CVS #004422	201 S SR 19	PALATKA	SQG
DALLAS AUTOMOTIVE REPAIR	899 N HWY 19	PALATKA	CES
DSI FORMS	RT 6 BOX 971	PALATKA	SQG
FLORIDA DMA NATIONAL GUARD ARMORY	1301 MOSELEY AVE	PALATKA	CES
FPL PALATKA SERVICE CENTER	200 PINE ST	PALATKA	CES
GEM CITY CLEANERS	1210 ST JOHNS	PALATKA	SQG
GEORGIA PACIFIC CORP	234 COMFORT RD	PALATKA	CES
GEORGIA PACIFIC CORP PALATKA OPER	CR 216	PALATKA	LQG
GEORGIA PACIFIC TECH CENTER	190 CR 216	PALATKA	SQG
HASELEU'S TRANSMISSION SERVICE	2621 FENWICK ST	PALATKA	CES
HOME DEPOT USA INC HD8531	417 N HWY 19	PALATKA	CES
HUNTLEY JIFFY FOOD STORES #64	SR 20 & US 19	PALATKA	SQG
HUNTLEY JIFFY FOOD STORES #69	CR 209 W RT 2 BOX 2095	PALATKA	SQG
JOHNS METAL PALATKA	7405 CRILL AVE	PALATKA	CES
K MART STORE #9511	111 TOWN COUNTRY DR	PALATKA	SQG
KEITH MARINE	END OF STOKES LANDING	PALATKA	SQG
LIL CHAMP JIFFY #537	720 US HWY 19	PALATKA	SQG
LIPKO AUTOMATIC	1400 ST JOHNS AVE	PALATKA	SQG
MIDWAY INDUSTRIAL CONTRACTOR	US HWY 17 N	PALATKA	CES
OFFSHORE SHIPBUILDING INC	RT 3 BOX 4785	PALATKA	SQG
OOTENS AUTO SERVICE	248 N HWY 17	PALATKA	CES
PALATKA AUTO BODY	3517 REID ST	PALATKA	CES
PALATKA AUTO PARTS INC	US HWY 20 AT US HWY 19	PALATKA	CES
PALATKA FORD MERCURY INC	420 N PALM AVENUE	PALATKA	SQG
PALATKA HOUSING AUTHORITY	706 15TH ST	PALATKA	CES
PALATKA SUBSTATION	1807 TWIGG ST	PALATKA	CES
PDM BRIDGE LLC	211 COMFORT RD	PALATKA	SQG
PENSKE AUTO CENTER	111 TOWN COUNTRY DR #1	PALATKA	CES
PERMA SHINE	1008 REID ST	PALATKA	CES
PRECISION FLEET SERVICE INC	3900-C CRILL AVE	PALATKA	CES
PRECISION FLEET SERVICES INC	841 S MOODY RD	PALATKA	CES
PUTNAM CO CENTRAL LANDFILL	140 CO LANDFILL RD	PALATKA	SQG
PUTNAM CO DISTRICT SCHOOL BOARD	801 N 13TH ST	PALATKA	SQG
RESCO INC	4095 SILVER LAKE DR	PALATKA	CES
RICE SUBSTATION	398 OLD STARKE RD	PALATKA	CES
RONS QUICK LUBE	2223 REID ST	PALATKA	CES
RYDER TRUCK RENTAL INC	809 KIRBY ST	PALATKA	SQG

SJRWMD	WEST HIGHWAY 100	PALATKA	SQG
SMITH PRODUCTS CO INC	1005 KIRBY ST	PALATKA	SQG
ST JOHNS AUTO BODY	1609 ST JOHN AVE	PALATKA	CES
ST JOHNS CHEVROLET BUICK	1601 REID ST	PALATKA	SQG
STAR PAPER TUBE	COMFORT RD	PALATKA	SQG
SUBURBAN PROPANE FLEET MAINT	3506 CRILL AVE	PALATKA	SQG
SUNOCO SERVICE STATION #06139349	2600 REID ST	PALATKA	CES
TIRE KINGDOM INC #192	813 REID ST	PALATKA	CES
TOMOKA AUTO PARTS	454 HWY 17 NORTH	PALATKA	CES
TRUCK STUFF INC	117B TOWLES AVE	PALATKA	CES
USA PALATKA AMSA 55 M	4300 ST JOHNS AVENUE	PALATKA	SQG
VILLAGE TIRE & AUTO SERVICE	701 REID ST	PALATKA	SQG
WAL MART STORE #551	101 US HWY N	PALATKA	CES
WALLACE AUTO SERVICE	322 REID ST	PALATKA	CES
WALMART SUPERCENTER #551	1024 SR 19 S	PALATKA	CES
WILLIAMS BODY SHOP	519 MAIN ST	PALATKA	CES
WINN DIXIE #163	901 US HWY 19 S	PALATKA	SQG

Source: FDEP Hazardous Waste Database 2005
CES= Conditionally Exempt Small Quantity Generator
SQG=Small Quantity Generator
LQG=Large Quantity Generator

Bibliography

Boyle, James R. and Charles W. Hendry, Jr., *The Mineral Industry of Florida, 1983 (Information Circular No. 99)*, Tallahassee: Florida Department of Natural Resources, Division of Resource Management, Bureau of Geology, 1985.

Brown, M. T. and E. M. Starnes, *A Wetlands Study of Seminole County: Identification, Evaluation, and Preparation of Development Standards and Guidelines*, Gainesville, Florida: University of Florida, Center for Wetlands. 1983.

Davis, John H., Jr., *The Peat Deposits of Florida: Their Occurrence, Development, and Uses (Geological Bulletin No. 30,* Tallahassee: Florida Department of Conservation, Florida Geological Survey. 1946.

Florida. Department of Agriculture, Soil Conservation Service, Putnam County Soil Survey, 1987.

Florida Board of Conservation, Division of Water Resources, Florida Lakes Part III Gazetteer, Tallahassee, Fl., 1969.

Florida. Department of Environmental Protection, *Florida Mining Atlas: A Guide to Mineral Resource Management*, 1982

Florida Department of Environmental Protection, *Integrated Water Quality Assessment for Florida: 2006 305(b) Report and 303(d) List Update*, Tallahassee: Florida Department of Environmental Protection, May 2, 2006

Florida Department of Natural Resources, *The Nature Conservancy, Florida Natural Areas Inventory: Wildlife Inventory Data Sheet*, March 1986.

Florida Department of Transportation, *Florida Land Use, Cover and Forms Classification System*, Tallahassee: Florida Department of Transportation, ~~State Topographic Bureau, Thematic Mapping Section~~ Surveying and Mapping, Geographic Mappng Section, ~~1985~~January 1999.

Florida State University. Water Resources Atlas of Florida, 1984.

Griffin, George M., Christopher C. Wieland, Jerry Q. Hood, R. W. Goode,III, Robert K. Sawyer, and Donald F. McNeill. Assessment of the Peat Resources of Florida, with a Detailed Survey of the Northern Everglades. Tallahassee: State of Florida, Governor's Energy Office. 1982.

Institute of Food and Agricultural Sciences, University of Florida, Florida Marine Resource Usage and Related Industries: County Indicator Data. 1987.

Jacksonville Area Planning Board, St. Johns River Water Management District, and University of Florida Center for Wetlands. Land Cover and Selected Characteristics Map, Putnam County, Florida, Circa 1973. 1978.

Marine Mammal Commission. Preliminary Assessment of Habitat Protection Needs for West Indian Manatees on the East Coast of Florida and Georgia. December 1988.

Putnam County Comprehensive Plan, *Conservation Element*, September 8, 2006.

Scott, Thomas M,, Ronald W. Hoenstine, Michael S. Knapp, Ed Lane, George M. Ogden, JR., Richard Deverling, and Harry E. Neel. The Sand and Gravel Resources of Florida (Report of Investigation No. 90). Tallahassee: Florida Department of Natural Resources, Division of Resource Management, Bureau of Geology. 1980.

St. Johns Riverkeeper and Trust for Public Land, Lower St. Johns River Compliance Report, Jacksonville, FL: St. Johns Riverkeeper and Trust for Public Land, June 2007

St. Johns River Water Management District, *The Lower St. Johns River Basin: Fast Facts*, September 2006

St. Johns River Water Management District, *District Water Management Plan*, September 2005.

United States Department of Agriculture Soil Conservation Service, 26 Ecological Communities of Florida. 1987.

United States Geological Survey. Hydrologic Almanac of Florida. (Open File Report 81-1107). 1981

Wright, Cynthia Roseman and Carol A. Knox. 1982. Mining Atlas: A Guide to Mineral Resource Management. Tallahassee: Florida Department of Environmental Regulation, Bureau of Water Management.

CONSERVATION ELEMENT
Goals, Objectives and Policies

CITY OF PALATKA
COMPREHENSIVE PLAN

Adopted July 10th, 2008

Prepared by the Northeast Florida Regional Council
6850 Belfort Oaks Place
Jacksonville, Florida 32216
(904) 279-0880

CONSERVATION ELEMENT
GOALS, OBJECTIVES AND POLICIES

Goal E.1 9J-5.013(2)(a)
Conserve and protect the natural resources of the City of Palatka and maintain an acceptable quality of life for its citizens.

Objective E.1.1 9J-5.013(2)(b)1
Upon Plan adoption, the air quality in the City of Palatka shall be maintained with no further degradation.

Policy E.1.1.1 9J-5.013(2)(c)
The City shall report any apparent industrial pollution problems to the Jacksonville Department of Environmental Protection (DEP) office.

Policy E.1.1.2 9J-5.013(2)(c)
Developments of Regional Impact, future power generation projects, future major transportation projects and future industry shall be required to evaluate their impacts on the air quality of the City as a condition of receiving an approved development order from the City.

Policy ~~D~~E.1.1.3 9J-5.013(2)(c)
The City Commission will work with local industry to acquire whatever State and federal assistance may be available to reduce levels of air pollution being generated by business already sited within the City.

Objective E.1.2 9J-5.013(2)(b)2
Upon Plan adoption, the City through enforcing adopted objectives and policies shall ensure that no degradation will occur in either the quality or quantity of the St. Johns River and current projected water sources.

Policy E.1.2.1 9J-5.013(2)(c)1 and 6
No new landfills shall be located within the City limits.

Policy E.1.2.2 9J-5.013(2)(c)1and 6
The City Building Official shall not issue a building permit or other development order until the Department of Health has provided a permit for sizing and siting of an on-site sewage disposal system.

Septic tanks may be installed only in accordance with Policy D.1.4.1.

Policy E.1.2.3 9J-5.013(2)(c)1 and 6
Any waterbody or wastewater treatment plant having wasteload allocations shall meet or exceed established water quality standards through enforcement by DEP, the City and the county.

Policy E.1.2.4 9J-5.013(2)(c)1 and 6
Wastewater effluent shall not adversely impact surface water quality of area lakes or rivers.

Policy E.1.2.5 9J-5.013(2)(c)1 and 6
The City shall prohibit the dumping of raw sewage from live-aboard vessels. and The City shall require that sewage pumpout facilities at future designated marinasto meet or exceed established water quality standards through enforcement by DEP, the City and the county.

Policy E.1.2.6 9J-5.013(2)(c)1 and 6
Secondary containment around all underground storage tanks and attached piping located within waterfront marinas shall meet or exceed established water quality standards through enforcement by DEP, the City and the county.

Policy E.1.2.7 9J-5.013(2)(c)
New waterfront development shall be designed so that stormwater runoff and erosion do not degrade ambient water quality of adjacent waters.

Policy E.1.2.8 9J-5.013(2)(c)3 and 6
A fifty (50)-foot vegetated upland buffer of native plant species shall be required for any waterfront development along the St. Johns River. A vegetated, upland buffer a minimum width of fifteen (15) feet and an average width of twenty-five (25) feet shall be required in any new development abutting a wetland.

Policy E.1.2.9 9J-5.013(2)(c)
All new waterfront development shall be required to coordinate with the SJRWMD to ensure the protection of water quality through: maintenance of vegetated upland buffers, maintenance of littoral zones rather than use of bulkheads, and proper application of pesticides and fertilizers. Within twenty-four (24) months the City, in coordination with the St. Johns River Water Management District, shall notify all owners of residential waterfront property techniques to protect water quality through: maintenance of vegetated upland buffers, maintenance of littoral zones rather than use of bulkheads, and proper application of pesticides and fertilizers

Policy E.1.2.10 9J-5.013(2)(c)1 and 6
The City Building Official shall, as a condition of receiving a building permit or other development order, require that the standards of Policies D.1.5.1 and D.1.5.3 be met.

No occupancy permit shall be issued unless the required water conservation measures are in place. Water conservation information shall be attached to every permit application and will be issued with all plumbing permits. The City will cooperate with the SJRWMD to promote public education and awareness of the benefits of conserving water.

Policy E.1.2.11:
By June 1, 2009, the City shall adopt into its Land Development Regulations rules governing irrigation consistent with Chapter 40C-2, F.A.C., *Permitting of Consumptive Uses of Water*.

Policy E.1.2.12
Unless proven to be economically, environmentally, or technologically unfeasible, all new subdivisions and nonresidential development shall include reuse / reclaimed water lines.
(Note: it has been, and continues to be, the policy of the City of Palatka to require reuse / reclaimed water lines to be installed when feasible.)

Policy E.1.2.13
The City shall require the *St. Johns River Water Management District Potable Water Availability Worksheet* to be submitted with every application for amending the Future Land Use Map.

Policy E.1.2.14
By June 1, 2009, the City shall amend its land development regulations by adopting a landscape irrigation and Xeriscape ordinance based on "Standards for Landscape Irrigation in Florida."

Policy E.1.2.15
The City shall require that residential developers provide a copy of the St. Johns River Water Management District's "Saving Water Indoors" and "Saving Water Outdoors" pamphlets with each residential and nonresidential unit.

Policy E.1.2.16
By June 1, 2009, the City will implement a water conservation public awareness campaign for the purpose of communicating clear, concise and consistent messages on water conservation.

Policy E.1.2.17
New development shall utilize and/or preserve native vegetation, or use drought-resistant plants for landscaping to the greatest practicable extent. Native or drought tolerant plants include, but are not limited to those in the Florida Native Plant Society's Native Plants for Landscaping in Florida, or comparable guidelines.

Policy E.1.2.18 9J-5.013(2)(c)1
The City shall coordinate with the SJRWMD to ensure that groundwater supplies for public wellfields be maintained and protected from competing, man-made, non-potable uses in accordance with the requirements of Rule 40C-2.381, F.A.C., as it relates to the illegal use of water or leaking wellheads or valves that legally can be observed through the City's police authority.

Infractions of Rule 40C-2.381 shall be reported to the SJRWMD for action.

Policy E.1.2.19 9J-5.013(2)(c)1
The City shall require all new water-to-air heat pumps to have return wells.

Policy E.1.2.20 9J-5.013(2)(c)1 and 10
The City will enforce State regulations for the area around the City well field that

constitutes the well field's cone of influence and provide setback of potentially polluting land uses around the site. The City shall enforce a 500-foot radial setback buffer consistent with the definition of a "Wellhead Protection Area" as defined in 65-521.200, F.A.C. for wellhead protection.

Non-polluting land uses shall include Recreation and Conservation land uses, low and medium density residential land use and commercial land uses that do not, in their operations, produce, store, use nor sell toxic materials as defined in SARA Title III (Consolidated List of Chemicals).

Any non-conforming land use located within the five hundred (500) foot radial setback of a well serving the public will not be permitted to expand or be improved and will be phased out upon change of ownership.

Objective E.1.3 9J-5.013(2)(b)3
Upon Plan adoption, the City shall implement the following policies to ensure that remaining minerals, soils, ~~and~~ native vegetative communities and resources are not reduced due to inefficiently regulated land use practices.

Policy E.1.3.1 9J-5.013(2)(c)3
Developers shall be required to use the Florida Stormwater, Erosion, and Sedimentation Control Inspector's Manual published by the Florida Department of Environmental Protection, Nonpoint Source Management Program, as the guiding Best Management Practices erosion control document, and shall be required to adhere to the requirements therein both during and after construction.

Policy E.1.3.2 9J-5.013(2)(c)3 and 6
The Building Official shall continue to enforce the City tree and landscape ordinance.

This ordinance specifies:

A. The permitting requirements for clearing a parcel prior to development;
B. The allowable trimming limits for preservation of tree canopy in developed areas;
C. The number of trees to be preserved or replaced in a development site; and
D. The requirements for xeriscape planting.

An occupancy permit Certificate of Occupancy shall not be issued by the Building Official unless the standards required by the ordinance are adhered to.

Policy E.1.3.3 9J-5.013(2)(c)7
The City shall enforce the Future Land Use Element and Future Land Use Map density, and use provisions to ensure that existing natural reservations identified in the Future Land Use and the Recreation and Open Space Elements are protected from development intrusion.

Policy E.1.3.4 9J-5.013(2)(c)8
The City shall coordinate with the county to ensure that the St. Johns River and unique vegetative communities that are shared between the two jurisdictions are

protected from degradation or intrusion by development.

Policy E.1.3.5 9J-5.013(2)(c)9
The City shall enforce land use regulations which ensure that the wetlands identified in Figure E-1 are protected through controlling development density in wetlands to no greater than one (1) unit per five (5) acres and requiring that the total number of approved units be clustered on the least sensitive portion of the land parcel.

Objective E.1.4 9J-5.013(2)(b)4
Upon Plan adoption, the City shall implement the following policies to achieve a goal of no more than two (2) percent loss of wildlife habitat and marine habitat within the City for both the five year planning and long term planning horizons.

Policy E.1.4.1 9J-5.013(2) (c)5, 6 and 9
The City shall continue to enforce its tree and landscape ordinance to control potential destruction of wildlife habitat within the City limits that has been identified by the Florida Fish and Wildlife Conservation Commission as a known habitat of listed endangered or threatened wildlife or plant species of special concern.

Policy E.1.4.2 9J-5.013(2)(c)5, 6 and 9
Within six (6) months of adoption by Putnam County, the City shall incorporate into the Land Development Regulations the County's Manatee Protection Plan.

Policy E.1.4.3
Reserved.

Policy E.1.4.4
In order to ensure minimum water flows and levels established pursuant to s. 373.042, Florida Statutes, the City shall utilize its police powers to assist the SJRWMD in monitoring and enforcement of the criteria in the documents incorporated by reference in Rule 40C-2.101.

Objective E.1.5 9J-5.013(2)(b)
Upon Plan adoption, the City shall implement the following policies to manage hazardous waste so as to protect natural resources.

Policy E.1.5.1 9J-5.013(2)(c)10
The City shall continue to provide in-kind support to Keep Putnam Beautiful in order that City residents, businesses and facilities will be informed through public education of hazardous waste disposal locations and proper methods of disposal.

Policy E.1.5.2 9J-5.013(2)(c)10
The City shall continue to cooperate with the DEP to enforce the proper disposal of hazardous waste including used automobile and truck tires and batteries.

Policy E.1.5.3 9J-5.013(2)(c)10
The City shall continue to require that Fire Department personnel have proper training in regard to hazardous materials spills and evacuation procedures in the event that hazardous materials are released due to train or truck accidents or other causes.

Policy E.1.5.4 9J-5.013(2)(c)10

Information currently obtainable from EPA, DEP, and Putnam County regarding hazardous materials, and evacuation procedures shall be made available for distribution to City residents, and shall be available at the City Hall and fire stations.