

# CONSERVATION ELEMENT

## I. INTRODUCTION

### A. Purpose

The purpose of this element is to analyze, effectuate, and guide and identify conservation use and allow protection of natural resources present within the County. The element is intended to protect and enhance the public health, safety, welfare, and quality of the environment.

The element will also suggest plan and policy directions concerning conservation of natural resources and will provide a basis for decision making by County officials. As growth occurs in Wakulla County, the need for protection and management of the County's natural resources, such as fresh and saltwater wetlands, ecological communities, coastal resources, and estuarine water quality will increase.

The County's natural resources are identified and analyzed herein. A description of these resources and their associated local and regional significance is also presented. Policies to maintain and enhance these resources as well as growth patterns of the County are contemplated for inclusion in the adopted Comprehensive Plan.

### B. Environmental Setting

Wakulla County lies predominantly in the Ochlockonee River Basin (which includes the Ochlockonee and Sopchoppy Rivers) and the St. Marks River Basin (which contains the St. Marks and Wakulla Rivers within its basin) in the panhandle of Florida. Approximately 58% of the County is contained in conservation lands much of which lies in the Apalachicola National Forest and the St. Marks Wildlife Refuge. Rainfall averages about 56 inches per year with 20 inches of that falling in the summer months. The physiographic regions are generally classed into the following categories: Apalachicola Coastal Lowlands and Woodville Karst Plain. The Apalachicola Coastal Lowlands are generally located in the western half of the County. That area provides virtually no aquifer recharge because of nearly impermeable soils and is characterized by a predominantly swampy environment. On the contrary, the Woodville Karst Plain, generally located in the eastern half of the County, is typified by karst geology with sandy, well to excessively drained soils, and very high recharge potential. This area is dotted with many sinkholes and springs along with small creeks and streams that drain throughout the area.

### C. Overview

Wakulla County currently has a population of approximately 29,417. This population represents a 28.67 percent change from the 2000 population of 22,863. This population increase is due to migration from other states and counties within Florida.

The County has four principal river corridors. The Ochlockonee, Sopchoppy, Wakulla and St. Marks Rivers have experienced varying degrees of development pressures because of their aesthetic and recreational appeal. Even though some of the corridors contain significant natural resources, development proposals within them have been increasing steadily until the recent economic recession.

It is projected that most of the development activity anticipated in the future will occur within the central County development corridor, including areas along the main rivers, high aquifer recharge areas, and in environmentally sensitive areas.

The degradation of environmentally sensitive lands, groundwater sources, regionally significant recreation areas, and critical habitats for flora and fauna is increasing and given the present rate of growth, will continue to occur unless corrective measures are taken.

## II. INVENTORY AND ANALYSIS

### A. Water Resources

#### 1. Surface water

There are two significant drainage basins in Wakulla County: the Ochlockonee and the St. Marks River Basins. The Ochlockonee River originates in the clay hills of Georgia, entering Florida approximately 15 miles north of Tallahassee. The river flows 162 miles, first through the rolling piedmont hills near the headwaters, then through the sandy coastal plains before entering the Gulf of Mexico. The Florida drainage basin is 1,253 square miles, in addition to the 300 square miles in Georgia. The Ochlockonee River is in the western part of the County and is a natural boundary with Liberty and Franklin counties. There are several small tributaries that branch off from the Ochlockonee River with the Sopchoppy River being the largest. The Ochlockonee River is the largest body of surface water in the County. The average flow recorded upstream near Havana was approximately 3,200 cubic feet per second. The Ochlockonee, as it travels through Wakulla County, passes through land uses that are predominantly conservation with the Apalachicola National Forest located on both sides of the river. The Sopchoppy River has an average flow of 350 cubic feet per second. Predominant land uses adjacent to the Sopchoppy River are mostly conservation with few small residential enclaves.

The St. Marks River Basin drains approximately 1,180 square miles and it extends south from Georgia to the Gulf of Mexico through Wakulla County. The average flow of the river is approximately 700 cubic feet per second. This river flows through conservation and silviculture areas in the northern part of the County, but as it enters estuarine areas before it empties into the Gulf of Mexico, the river flows adjacent to the City of St. Marks in which lands uses range from residential to industrial.

There are 25 named lakes in Wakulla County, of which two are over 100 acres and two are over 200 acres in area. The following table gives a description of lakes over 20 acres in size.

<b>Name</b>	<b>Surface Area (Acres)</b>	<b>Water Surface Elevation</b>	<b>Type</b>
Alligator Lake	40	15	4
East River Pool	298	6	3
Lake Ellen	150	25	1
Lighthouse Pool	21	3	4
Mounds Pond	61	6	3
Otter Lake	133	5	1
Picnic Pond	22	6	2
Port Leon Lake	27	4	3
Silver Lake	53	4	4
Stony Bayou Pool	230	4	3

Lake Type Index:

1. Lakes with streams flowing into them;
2. Lakes with streams flowing out of them;
3. Lakes with streams flowing in and out of them.
4. Lakes that are landlocked

SOURCE: Gazetteer of Florida Lakes, 1986

## 2. Floodplains

Wakulla County has two major riverine floodplains: the Ochlockonee and the St. Marks Rivers, and the coastal floodplain. The floodplains in Wakulla County are sources of diverse vegetation and wildlife. The majority of the floodplains are in areas where soils are poorly drained and are generally swampy in nature. There are also two major federally owned land holdings: the Apalachicola National Forest and the St. Marks Wildlife Refuge.

The principal flood hazard in terms of damage, is the inundation of low-lying coastal areas during a tropical storm or a hurricane event. The floodplains associated with the Ochlockonee and St. Marks Rivers are also prone to flood damage during high river stages. Other low-lying areas are prone to rainfall ponding or flooding during periods of high rainfall. The following table displays a summary of discharges for major flooding sources in Wakulla County.

TABLE 2

<b>Flooding Source and Location</b>	<b>Drainage Area (Square Miles)</b>	<b>10 Year Peak Discharges (cfs)</b>	<b>50 Year Peak Discharges (cfs)</b>	<b>100 Year Peak Discharges (cfs)</b>	<b>500 Year Peak Discharges (cfs)</b>
Ochlockonee River (at mouth)	2000	31,000	59,000	74,000	116,000
Sopchoppy	100	5,200	8,400	9,800	12,900

River (At Forest Road north of Sopchoppy)					
Lost Creek (at US 319 Sw of Crawfordville)	70.2	4,200	6,900	8,000	10,600
Buckhorn Creek (Downstream of confluence with west branch Buckhorn Creek)	9.7	340	530	580	730
(upstream of confluence with west Branch Buckhorn Creek)	8.5	270	420	460	580
(west branch of Buckhorn Creek at mouth)	1.2	75	120	130	160

SOURCE: Flood Insurance Study, Wakulla County

Wakulla County has adopted floodplain ordinances and participates in the FEMA/FIRM flood program and has adopted a flood damage ordinance which addresses development in floodplains. The ordinance includes “a statement of purpose” which includes the following provisions:

1. Restrict or prohibit uses which are dangerous to health, safety and property due to potential flooding, water, erosion, or in flood elevations or velocities;
2. Require that uses vulnerable to floods, including infrastructure that serves such uses, be protected against flood damage at the time of initial construction;
3. Control the alteration of natural flood plains, stream channels and natural protective barriers that involve storage or accommodation of flood waters;
4. Control filling, grading, dredging and other development which may increase erosion or flood damage; and
5. Prevent or regulate the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards to other lands.

### 3. Groundwater

Groundwater is the principal source of the County's domestic, industrial, and agricultural water supply. The main source of groundwater comes from the Floridan Aquifer which in the eastern half of the County is at or near the surface. In areas where the available static head within the aquifer is higher than that of the overlying ground surface, groundwater can discharge from the aquifer into streams, lakes, and other aquifers. A principal contributor of potable water is from the St. Marks Limestone Aquifer located in the eastern, central and southern parts of the County. This aquifer discharges into St. Marks, Wakulla, Sopchoppy, and Ochlockonee Rivers, as well as other small creeks.

Groundwater and its rapid southern movement prevents saltwater intrusion of the underlying aquifer by preventing the inland movement of saltwater along tidal reaches of streams and canals; flushing residual salts left in upland areas following hurricane surges; preventing upward migration of more highly mineralized groundwater from the deeper Suwannee Limestone Aquifer into the more fluid St. Marks Limestone Aquifer.

Groundwater is derived from the overlaying Hawthorn Formation which is composed of mostly sand and clays, but by far the main source of domestic water supplies is from the St. Marks Limestone. Few wells penetrate the Suwannee Limestone, which is the deepest layer in the St. Marks Limestone Formation and is capable of yielding a larger volume of water. These formations make up the Floridan Aquifer.

High recharge areas include approximately 35% of the County with only one area where recharge is rejected (the northwestern section of the County). The groundwater flows generally from the highest potentiometric surface to the lower potentiometric surface. In Wakulla County this translates into generally a northwest to southeast flow. The potentiometric surface represents the height at which water will stand in tightly cased wells penetrating the aquifer.

## B. Flora, Fauna and Species with Special Protection Status

### 1. Inventory

Wakulla County has several significant ecological communities that are addressed. These communities can be delineated into two categories, upland and wetland communities. The upland communities include the Longleaf Pine-Turkey Oak Hills and North Florida Piney Flatwoods. The wetland communities include Swamp Hardwoods, Bottomland Hardwoods, Salt Marsh, and Wetland Hardwood Hammocks.

### 2. Upland Communities

#### a) Longleaf Pine-Turkey Oak Hills Community

This community is located primarily in the central section of the County in areas of historic development. This area is generally an area of well drained sandy soils with a high fire potential. This community has a low diversity of tree types although there is a wide variety of understory plant types including the aster, blazing star, bracken fern, butterfly pea, elephant's foot, grass-leaf golden aster, partridge pea, pineland beggarweed, sandhill milkweed, and the wild indigo. Grasses associated with this community include; wiregrass, curtis dropseed, hairy panicum,

yellow indiagrass, low panicum, and the pinewoods dropseed. There are only a few animals that are associated with this community. The animals include the fox squirrel, pocket gopher and white-tailed deer along with bobwhite quail, rufous-sided towhee and morning dove.

The Longleaf Pine-Turkey Oak Hills community is a fairly open community which is influenced by fire and drought. Since fires occur frequently either by natural or manmade causes through controlled burns, the natural vegetation has adapted to withstand their effects. Fires prevent hardwoods from regenerating, allowing the longleaf pine, which cannot compete with hardwoods, to remain dominant. Grasses which cover large areas of this community become very dry during periods of little rain, and become fuel for fire. Water in these areas generally moves quickly through the soil to the aquifer with little runoff and minimal evaporation.

#### b) North Florida Piney Flatwoods

This community is generally found in the western section of the County in the Apalachicola National Forest. The piney flatwoods are found in areas where the terrain is swampy and the soils are poorly drained. There are numerous and diverse animal and vegetative communities. Animals associated with this community include the bobcat, deer, cottontail rabbit, cotton rat, fox squirrel, gray fox, raccoon, opossum, bear, and the skunk. Large communities of birds include the Bachman's sparrow, bobwhite quail, pine warbler, red cockaded and bellied woodpecker, red-shouldered hawk and the rufous-sided towhee. There are also several species of reptiles and amphibians, including the eastern diamondback rattler, pygmy rattlesnake, chorus frog, cricket frog, grass frog, and the flatwoods salamander. There are also many shrubs, grasses and trees associated with the community. This area is also a part of the Apalachicola Wildlife Management area in which commercial silviculture production occurs.

### 3. Wetland Communities

#### a) Salt Marsh

The Salt Marsh community is present from Panacea east along the coastal areas of Wakulla County. This is the transition zone between terrestrial and marine life forms. For the County, major animal populations include deer, otter, raccoon, alligator, Atlantic green turtle, Atlantic hawksbill turtle, brown pelican, coots, egrets, gulls, and terns. Predominate vegetative species include a wide variety of sawgrasses and cordgrasses. Soils associated with this community are generally very poorly drained and are characterized by muck or sandy clay loam type soils. The salt marsh acts as an important buffer between the land and sea and is very important as a breeding ground for terrestrial and marine species alike. The dense vegetative growth of the Salt Marsh's various sawgrasses and cordgrasses also protects the mainland from wave action that would promote soil and beach erosion.

#### b) Wetland Hardwood Hammock

The Wetland Hardwood Hammock is found in several areas of the County. There is a large community found in the central section of the County and a smaller community in the northeastern part of the County. Soils in these areas are generally poorly drained with areas of high water tables. The Wetland Hardwood Hammocks have high recreational value for hunting, hiking, and nature study with important aesthetic benefits. Water quality and quantity control is

one of the most important benefits of the Hammocks, particularly in the coastal areas adjacent to Panacea.

There is a wide variation of trees associated with the Hammocks, including cabbage palm, hawthorns, laurel oak, live oak, red bay, red maple, sweet gum, water oak, and magnolia. There is also a wide variety of plants such as the wax myrtle, cinnamon fern, saw palmetto, and the longleaf uniola. There is also a diversity of animals associated with these Wetland Hammocks including bobcat, deer, skunk, mink, otter, raccoon, bear, wild hog, and gray squirrel. Of the reptiles that are significant to this community, the most common are the green anole and the gecko. Birds that are associated include Mississippi and swallow-tailed kites, owls, turkey, red-shouldered hawk, and a variety of woodpeckers.

#### C) Bottomland Hardwoods

The Bottomland Hardwood ecological community occurs within the floodplain of the Ochlockonee and St. Marks River Basins. The general location of the community is along the Ochlockonee River to the Ochlockonee Bay. Soils are level to nearly level and are alluvial in nature. This community supports a wide variety of wildlife and is well suited for squirrel, deer, and birds such as owls, towhee, turkey, warblers, woodpeckers and wren. The various species of hardwood vegetation provide good food and cover for these wildlife species. This community is subject to periodic flooding and has severe limitations for urban development.

#### d) Swamp Hardwoods

The Swamp Hardwood ecological community occurs in several areas of Wakulla County. These include the extreme southeast corner of the County and generally in the Bradwell Bay Wilderness Area. Soils associated with the community are nearly level and very poorly drained. Wildlife species include: black bear, bobcat, squirrel, otter, barred owl, hawks woodpeckers, wood ducks, songbirds, turtles and various snakes. The Swamp Hardwoods are of great value for maintaining good water quality for the various species of wildlife that inhabit the area.

#### 4. Analysis

Upland communities are generally more vulnerable to development than wetland communities. The Longleaf Pine-Turkey Oak Hills community is the predominate area that is being developed, but due to the vast area which the Longleaf pine encompasses, the generally sparse nature of the longleaf pine, and the low intensity of development, the community deserves concerted efforts to remain relatively unharmed and may warrant special protection. Concern has also been placed upon wildlife associated with this community.

The North Florida Flatwood community is located almost entirely within the Apalachicola National Forest and should not feel any direct effects of development and will remain conservation lands buffered from the vast majority of development, except silviculture.

The Salt Marsh community is an area where development is increasing and pressures on the community and associated wildlife are being tested. Adverse effects of development take the form of increased fecal coliform counts which has a detrimental effect to marine and terrestrial lifeforms, and shellfish populations. Steps have been taken to eradicate these problems through the placement of sewer lines in the Panacea area. All marshes should remain as conservation

areas to preserve the marsh and associated wildlife, and there should be concurrent support infrastructure for all development in adjacent coastal areas.

Wetland Hardwood Hammocks are located in areas where development is causing detrimental effects to the community. Fortunately, nearly 50% of the community lies within conservation lands in the Apalachicola Wildlife Management area (trees that are forested in the management area are predominantly pines and not the hardwood hammock).

The Swamp Hardwoods are located principally in the southeast section of the County in which the predominant land use is already conservation, as the majority of this section of the County is contained within the St. Marks Wildlife Refuge. One area of concern is the area of the swamp marsh that lies on the southern end of the St. Marks River where residual oil is still present from previous oil spills near the City of St. Marks. One other area of Swamp Hardwoods is located well within the Apalachicola National Forest in which conservation is the only use in the area. This area of Swamp Hardwoods is enclosed within the forest with adjacent uses being conservation.

The Bottomland Hardwoods that lie along the Ochlockonee River have an important role as they receive floodwaters, sediments, pollutants, and nutrients and assimilate them into the natural system surrounding the Bottomland Hardwoods through redistribution. As the residential population on the Ochlockonee River increases, the importance of hardwoods becomes more prevalent. A cooperative management plan with agencies and adjacent counties is needed to protect the hardwoods on both sides of the river.

Disturbance and destruction of ecological communities is the major reason for the loss of various species. In Wakulla County there are several species that have special protection status. Some of these species are declining in population to the point that only prompt action can avert their disappearance. The following section shows a list of species, their designated status and the ecological community in which the species are most likely to be found.

Partial destruction of ecological communities often breaks up the wildlife areas into smaller isolated pockets by destroying vegetation which serves to link communities together. The linkages of different communities allow the movement of wildlife throughout the County and the region. This connected network of communities also reduces inbreeding, provides evacuation routes during various extremes in weather patterns and other environmentally stressful events, and is needed to ensure the existence of certain species.

#### 5. Endangered and Threatened Species

Currently there are five species within the County that are considered either endangered or threatened. These are the Gopher Tortoise, which is classified as threatened and under review, the Gopher Frog (amphibian), which is classified as endangered, the Red-Cockaded Woodpecker (*Picoides borealis*), which is classified as endangered, the West Indian Manatee which is endangered, and the Eastern Indigo Snake (*Drymarcton corais couperi*), which is classified as threatened.

a) The Bald Eagle

The Bald Eagle has been reclassified from threatened due to the recovery of the taxon. There were over 10 pairs of Bald Eagles nesting within Wakulla County during the time they were listed as threatened. They all were located within the same general area, being the St. Marks Wildlife Refuge, more specifically, in the extreme southeast corner of the County near Lighthouse Point. In Florida, the most significant factor that influenced the decline of the eagles population is human interference during nesting periods, including clearing of nesting sites, illegal shooting, electrocution, and destruction or alteration of habitat.

In the areas of the coast where they breed, the Bald Eagles have several elements that are consistent with where they have nesting sites: (1) proximity to water is generally within 1/2 mile; (2) they choose largest available trees; and, (3) they generally choose trees that are in open spaces within open views to areas of water.

b) Red-Cockaded Woodpecker

According to the National Forests in Florida "Facts for FY 1985" report, there were approximately 600 colonies of the Red-Cockaded Woodpecker within the Apalachicola National Forest, of which there are currently at least 18 known occurrences. The location of most of the woodpeckers is fortunately within the Apalachicola National Forest in the areas where Longleaf Pines abound and are therefore afforded protection to a large degree. The habitat requirement for the woodpecker is generally open stands of Longleaf Pine with minimum ages of 40 years. They seldom nest in other southern pine species.

c) Eastern Indigo snake

There are currently at least 3 known occurrences of the Eastern Indigo Snake. They are generally located in habitat between uplands and wetlands areas of the County. In that area, development is unfortunately encroaching. Development, farming, forestry, and collecting for the pet trade are the main reasons for the decline of the snake. The snake is associated with high, dry sandy soils and likes to utilize gopher tortoise burrows for dwellings at times. Unfortunately for the snake, the topographic condition that it prefers is one that is optimum for development in the south central area of the County.

d) West Indian Manatee

The West Indian Manatee is an endangered species which regularly inhabits coastal areas in the summer months with coastal and riverine areas of Wakulla County possibly being the most northerly area where manatees are present. Sightings of the manatees usually range from late spring to late autumn. Generally, manatees migrate to the lower reaches of the St. Marks and the Wakulla Rivers. Due to the manatees' slow docile movements and their need to stay near the surface to breath air, they are often killed or injured by power boat props. With manatees inhabiting coastal and riverine areas of Wakulla County through the spring, summer, and fall, the County has implemented the placement of no wake and Manatee Alert signs based on sighting information from the FDEP, Florida Natural Areas Inventory, and other sources such as Humanatee. The County also recommends boaters that use the St. Marks and Wakulla Rivers from late May to late October use manatee protective devices that shield manatees from boat propellers.

SOURCES: Florida Natural Areas Inventory, ONE

e) Gopher Tortoise

One species of special note is the Gopher Tortoise. The Gopher Tortoise can be found across Wakulla County but the largest population is generally located in upland areas between Crawfordville and Panacea. The tortoise is an important species as it is known to have commensals such as arachnids, insects, amphibians, reptiles, birds, and other mammals species use its burrow for their own dwellings. The threatened Eastern Indigo Snake is a benefactor of the tortoise as it frequently uses their burrows. Fortunately, the location of the largest population of the tortoise is in an area where there is little development pressure although development threatens to encroach upon the areas which could in the near future have a significant effect on all of the above mentioned species. The County therefore should protect the areas that lie between Crawfordville and Panacea to provide protection of the Gopher Tortoise and commensal species associated with it.

SOURCE: Florida Game and Fresh Water Fish Commission  
Nongame Wildlife Program Technical Report No. 4, FNAI

Table 3 shows an inventory of species listed by the Federal or the Florida Game and Fresh Water Fish Commission as endangered, threatened or species of special concern.

TABLE 3 Endangered, Threatened and Species of Special Concern	
Common Name	Status
<b>Reptiles</b>	
American Alligator	Similarity of Appearance (Threatened)
Eastern Indigo Snake	Threatened
Alligator Snapping Turtle	Under Review
Florida Pine Snake	Species of Special Concern
Suwannee Cooter	Not Listed
Gopher Tortoise	Threatened AND Under Review (in Florida)
Gopher Frog (amphibian)	Endangered
<b>Birds</b>	
Limkin	Species of Special Concern
Bald Eagle	Delisted Taxon Recovered (listed Threatened in Arizona)
Osprey	Species of Special Concern
Red-Cockaded Woodpecker	Endangered
<b>Mammals</b>	
West Indian Manatee	Endangered
<b>Special Plants</b>	
Southern Milkweed	Species of Concern
Scareweed	Threatened
Wiregrass Gentian	Species of Concern
Godfrey's Blazingstar	Species of Concern
Ashe's Magnolia	Species of Concern
Bent Golden Aster	Endangered
Southern Red Lily	No data found
Burtrom's Azalia	No data found

SOURCE: Florida Natural Areas Inventory (FNAI)

<http://www.gardenguides.com/plants/plant.asp?symbol=BASI>

<http://www.allaboutbirds.org/guide/limpkin/lifehistory>

## 6. Oil Sensitive Species

There are several species that are oil sensitive in Wakulla County and adjacent areas off shore. These include shellfish, fish, fowl and mammals. The following list will give an inventory and a description of where these species are located.

a) Ochlockonee Bay - pink shrimp, American oyster, blue crab, rock shrimp, spotted sea trout, various waterfowl, wading birds, and seasonal or migratory seabirds.

b) Oyster Bay - American oyster pink shrimp, white shrimp, brown shrimp, rock shrimp, blue crab, and birds.

c) Apalachee Bay - spotted sea trout, red- drum, mullet, rock shrimp, brown shrimp, various wading, diving, shore, seabirds with seasonal or migratory birds (winter months).

d) St. Marks River and adjacent coastal areas— Manatee, oyster, rock shrimp, pink shrimp, white shrimp, brown shrimp, and the clam, blue crab, and all birds and fish listed in the Oyster Bay paragraph of this section (more on these species can be found in the coastal management

element).

SOURCE: Atlas The Sensitivity of Coastal Environments and Wildlife to Spilled Oil or in the Apalachee Region

### C. Air Quality

Wakulla County has a very limited amount of air pollution originating in or being transported into the County and no known pollution problems although there are five industries in Wakulla County that DEP has issued air permits to and monitors. These include:

1. Purdom Electric - (City of Tallahassee)
2. Mckensie Service Company
3. Baxter Asphalt
4. Seminole Refining Corporation
5. St. Marks Powder

### D. Commercially Valuable Minerals

Currently, sand is the only commercially valuable mineral in the County. Although the County has some extractable clay, limestone, and phosphate, sand is the only economically feasible mineral that can be extracted.

### E. Soil Erosion

Currently, there are no known soil erosion problems in Wakulla County according to the Soil Conservation Service. This is due in part due to the soil types and the relatively level topography in the County.

### F. Commercial Uses of Natural Resources

Timber production is an important commercial use of natural resources in the County, with approximately 67% of the County covered by forests. Although much of the land is contained in forest, less than 150 are employed in this sector.

### G. Conservation and Recreational Uses of Natural Resources

There are several managed natural areas and canoe trails that are located in Wakulla County. These areas are managed by different state and federal agencies for recreation and conservation use. The Recreation and Open Space Element gives a detailed inventory of recreational aspects of the following areas; Apalachicola National Forest; Apalachicola Wildlife Management Area; St. Marks Wildlife Refuge; Aucilla Wildlife Management Area; Wakulla Springs State Park; Wakulla River State Canoe Trail (4 miles); Sopchoppy River State Canoe Trail (15 miles); Ochlockonee River South Canoe Trail (67 miles); St. Marks Trail; and Mashers Sands Park.

#### 1. Apalachicola National Forest

The Apalachicola National Forest contains approximately 631,269 acres of which 166,880 acres are contained within Wakulla County. This represents about 45% of the total land within Wakulla County. The forest is used extensively for timber production. The volume of growing stock is estimated at 4,119 MBF (MBF = million board feet, one board foot=1 ft. x 1 ft. x 1 in.). The forest also has a multiple use management for wildlife, water protection and outdoor recreation including the Sopchoppy River State Canoe Trail and the Ochlockonee River State

Canoe Trail. Also contained within the National Forest is the Bradwell Bay Wilderness. The majority of soils in the National Forest are poorly drained with a large area in the northwest section of the County that experiences rejected aquifer recharge while the other areas have moderate to high aquifer recharge. There is no single predominate ecological community within the forest. Included is the Bottomland Hardwood community and its associated vegetation, which was discussed previously in this section, which borders Liberty County on the Ochlockonee River. Adjacent to that community are large communities of Longleaf Pines and North Florida Flatwoods and the vegetative understory associated with those communities. To the east of the above identified communities is a large Swamp Hardwood community of which the majority is contained in the Bradwell Bay Wilderness Area. Also contained in the central-eastern section of the Forest is a large Wetland Hardwood Hammock community. Other communities and plant and animal species associated with the area can be found in Appendix A at the end of the element. With the different ecological communities, there is also a wide variety of wildlife including many reptiles, mammals, and amphibians. Of special note is the threatened Red-cockaded woodpecker of which there are over 600 colonies contained within the National Forest.

a) Existing land uses

The existing uses within the National Forest are entirely forest management uses including silviculture along with conservation and recreational uses. The recreational uses are mostly canoe trails such as the Sopchoppy Canoe Trail and nature trails. Although these are the only types of uses within the Forest itself, there are private land ownings inside the boundaries of the Forest but are not parts of it. These include small areas (generally under 20 acres) of agricultural and low-density residential land uses located along the Ochlockonee River with two areas of medium-density residential located on the northern end of the Ochlockonee River near the Leon County boundary. Another area of private land ownings within the geographic boundaries of the Forest is located several miles north of Sopchoppy. This area is characterized by four subdivisions of low density residential housing (mobile home and single family) along the Sopchoppy River. The total land area is less than one square mile. There are also several individual private silvicultural parcels located throughout the Forest which are generally small in scale.

b) Commercial exploitation of natural resources

Currently in the National Forest, timber is the only exploited natural resource.

## 2. St. Marks Wildlife Refuge

The St. Marks Wildlife Refuge is located in coastal areas and land adjacent to coastal areas in Wakulla County and extends through Jefferson County to Taylor County. The Refuge is contained within the Aucilla Wildlife Management Area. There are several important ecological communities within the Refuge including large Salt Marsh, Swamp Hardwood, and Longleaf Pine communities in the eastern part of the County. There is also a Bottomland Hardwood community in the western section of the county at the mouth of the Ochlockonee River. In the communities there are many important species of wildlife, particularly in the eastern part of the County, south of St. Marks to the Jefferson County border. Within this area are large populations of the alligator and Bald eagles. Recreational uses include 20,000 acres of hunting area, over 100 miles of hiking trails with additional multipurpose trails as well as, daily tours at the historic St.

Marks Lighthouse. Other plant and animal species can be found in Appendix A at the end of the element.

#### a) Existing Land Uses

The only land uses in the refuge, with the exception of the conservation and recreational uses are very few residential developments that were grandfathered in and are very limited in number.

### 3. Aucilla Wildlife Management Area

The Aucilla Wildlife Management Area extends from Wakulla County to Taylor County. In Wakulla County, areas that have not been described above in the St. Marks Wildlife Refuge section, which is part of the Management Area, will be described. Areas of the Aucilla Wildlife Management Area not in the Refuge are generally east of St. Marks to the Jefferson County boundary. This area is predominantly covered by Longleaf Pine and Swamp Hardwood communities. As described above in the St. Marks Refuge section, there is a large alligator population and other types of reptiles. Mammals common to this area include the fox squirrel, gopher tortoise, and the white-tailed deer. Birds associated with this area include the bob-white quail, ground dove, and rufous-sided towhee.

#### a) Existing Uses

In the Aucilla Wildlife Management Area, the coastal management region consists of a section of the St. Marks Wildlife Refuge east of the St. Marks River. Other sections of the St. Marks Wildlife Refuge (SMWR) are located west of the Refuge but are not in the Aucilla Wildlife Management Area. North of the SMWR, the predominate land use is agriculture as the majority of this land belongs to the St. Joe Land Development Corporation, in which silviculture is the major activity.

### 4. Wakulla Springs State Park

The Wakulla Springs State Park is located in the northeastern section of the County in an area predominantly covered by a longleaf pine community. Wakulla Springs is one of the largest springs in the United States. A listing of species associated with the Park can be found in Appendix A.

## H. Development Pressures

### 1. Managed Natural Areas

The managed areas discussed previously are subject to few development pressures. The Apalachicola National Forest, St. Marks Wildlife Refuge, and the Aucilla Wildlife Management Area are experiencing limited pressure from development, but the pressure can be described as being generally very low density development in peripheral areas only. The principal area experiencing the strain of development is the Wakulla Springs State Park and the Wakulla River. Nearly 70% of land in Wakulla County is conservation lands with a large majority of that land being in managed areas. With the rapid growth trend experienced by the County, it is inevitable that the managed natural areas could be somewhat impacted. This is prevalent along the County's rivers adjacent to the managed areas. Those areas include the Sopchoppy River where there are four subdivisions north of the City of Sopchoppy. The existing subdivisions all border on the Apalachicola National Forest. Two of the subdivisions are within 2 miles of the Bradwell Bay Wilderness Area, which is entirely within the National Forest. Other areas of note include

several small subdivisions located on the Ochlockonee River in the extreme southwest area of the County where the subdivisions are on the border of the Apalachicola National Forest and the St. Marks Wildlife Refuge. Along the Wakulla River Canoe Trail, much of the river frontage property down to St. Marks has been subdivided for development although less than 10% of the land has been developed as much of this land is speculative in nature. There is also an area of Highway 267 in the northern section of the County that is growing rapidly and borders the National Forest.

## 2. Pollution

### a. Surface Waters

The surface waters in Wakulla County are generally of good water quality, except for the areas that were designated in DER's 305B technical report as having poor surface water quality. These surface water bodies are listed below. It is important to recognize that the continuing existence of high water quality in a majority of surface waters may be assured since development is occurring adjacent to these surface waters but the County proposes to require that water quality will not degrade through land development review procedures.

Areas of the County that have poor water quality as designated by DEP in the 305B technical report include the Rattlesnake Branch of the St. Marks River in the lower 3 or 4 river miles. That section of the river receives effluent from the Purdom Power Plant. The previous discharge was circulation water; however, it does pass through an oil and grease contaminated marsh before reaching the river. Also there are docking and pumping stations for oil barges and a few recreational boats. There have been several spills in the past and sediments in the area contain oil. One other area of note is the Wakulla River which currently has good water quality although the report stated that riverfront development is leading to decreased water quality. This problem should be addressed through adequate buffering of riverfront development from the river.

### b. Groundwater

Groundwater quality has not been extensively studied in the county. Because groundwater and surface water interchange, the quality of one affects the other. A pollution problem on the surface may become a problem for groundwater. This problem may occur due to the County's sandy soils, high rainfall, high water table and closeness of the Floridan Aquifer to the surface. One developed and developing area that should be noted is the north central section of the County. There are approximately 3,000 residents living in this area which utilizes septic systems. This is an area where the potentiometric surface of the aquifer is less than 20 feet from the surface and the soils are well to excessively drained. Although pursuant to state regulations they must modify their septic systems, some percent of septage percolates due to the soil type, conditions, and system failure. With increasing development, groundwater quality in the area and areas lying in the direction of the groundwater flow are being decreased. Potable water is received through private wells into the underlying Floridan Aquifer.

Secondly, groundwater pollution is not strictly a Wakulla County problem. In the FDEP 305B technical report, the St. Marks River basin was reviewed but no water samples were taken to evaluate the water quality of the area. Samples were taken just several miles north in Leon County at various sites, including Lake Munson and Munson Slough, which were reported to have poor water quality. This was due to several wastewater plants that allow effluent to drain

into the lake system and from urban runoff from Tallahassee. Although many of the problems have been recently identified, and system-wide studies continue, the ground investigations show that effluent and runoff from the rapidly growing population of Tallahassee and Leon County historically drained and continue to drain towards Wakulla County.

## I. Hazardous Waste

### 1. Introduction

Hazardous waste includes solid waste or a combination of solid waste and other substances which because of the quantity, concentration, or infectious characteristics may cause or significantly contribute to an increase of mortality or an increase in serious, irreversible or debilitating illness or may pose a substantial hazard to human health or environment. Hazardous wastes are not only generated by large industrial firms, small commercial operations, various commercial services, and by individual households. The management and control of the wastes (hazardous or not) are the concern of federal, state, county, and local governments, ranging from federal laws concerning the disposal of nuclear wastes to local regulations banning the disposal of certain wastes in incinerators. The federal government regulates large quantity generators when the quantity produced is in excess of one ton of waste per month.

### 2. Small Quantity Generators

As required by the Florida Resource Recovery Act, commonly known as the Florida Water Quality Assurance Act, the Regional Planning Council conducted an assessment of hazardous waste generations and management needs in 1992. It was estimated that over ten tons of hazardous waste is produced by small quantity generators in Wakulla County. The range of generated quantities is from 9 pounds of corrosive plating waste to 34,340 pounds of waste oils and greases. Of the waste oils and greases that were produced, most were generated from auto garages and service stations. The second largest generator of hazardous waste was from lead-acid batteries. These two produce types accounted for over 90% of the total amount of waste generated in the County.

### 3. Storage and Disposal Methods

The majority of hazardous waste generated by small quantity generators in Wakulla County is disposed of by private, city, or County garbage collection. Approximately 45% of the waste generated is estimated to be disposed of in local landfills. Approximately 12% is taken to the landfill by the generator. Recycling accounted for another 22% of the waste generated in the County. The only large quantity generator in the County, St Marks Powder, manufactures gunpowder with a majority of its wastes being reactive. These types of wastes are most often treated on site with liquid injection incinerator. Lead, which is generated as a byproduct of ammunition, is shipped off-site to a chemical waste management facility in Emelle, Alabama. In Wakulla County, more than 50% of all hazardous waste may be disposed of improperly.

Improper disposal methods include:

- a) pickup by the city, county, or private haulers
- b) generator takes it to the landfill
- c) waste buried on the property

- d) disposed in pit, pond, lagoon or sinkholes
- e) disposed in public sewer
- f) disposed in septic tank

Proper disposal includes:

- a) being sent to permitted hazardous waste facility
- b) recycling
- c) burned for fuel
- d) destroyed by incineration
- e) treated by filtering
- f) treated by neutralization

#### 4. Abandoned sites and DEP Sites List

Wakulla County has 11 abandoned historic waste disposal sites which are generally dispersed throughout the central and eastern sections of the County with only one site in the western section of the County. Currently, the County is assessing threats posed by these sites.

### J. Water Use

#### 1. Water Demand and Quality

Water consumption in Wakulla County, is evenly split among residents using private wells and those using domestic supplies (48% to 52% respectively). The current and future demand on domestic water systems within the County are well below the serving capacity. Information on performance assessment and water quality can be found in the Potable Water Sub-Element of the Goals, Objectives and Policies of the Plan.

#### 2. Local Water Conservation

Due to the normally high water table, the high potentiometric surface of the Floridan Aquifer beneath populated areas of Wakulla County, and the low residential population, indications are that even the most extreme drought conditions will not severely impact the ability of residents in the County to receive an acceptable Level of Service (LOS) from public systems and private wells.

Wakulla County does not currently have a water conservation program. The Water Resources Act of 1972, mandates each water management district to “promote the conservation, development and proper utilization of surface and groundwater” (Section 373.013, FS.). The water management district is mandated by Section 373.207, F.S., to have an ongoing program to identify and plug abandoned artesian wells and restore them to the original hydrologic conditions. The plugging of these wells can prevent wasting of water resources while preventing contamination of the aquifer. The County may adopt policies to promote the water management district’s polices.

### **III. THE PLAN**

These recommendations are designed to provide direction for future action by the County Proper

management and control of the County's natural resources is essential to the economic stability, safety, health and welfare of the County residents and to ensure its current high quality of life.

#### A. Air Quality

The air quality of Wakulla County is very good with only limited sources of air pollution. These sources are located away from the majority of the population. To insure that the County continues to enjoy good air quality, it is recommended that the County devise a plan to closely coordinate with DER to monitor air pollution generators and guarantee that air quality is not degraded below current levels in the County.

The impact of future growth will be considered to determine what impact it could have on local air quality. Emission data on proposed new industrial uses will be considered as part of the development review process, and prior to issuing development orders or permits. This could help evaluate potential problems before development approval conditions are made.

Land use patterns and transportation systems should be compatible with a desired level of air quality. Automobile emissions on major highways such as U.S. 90 and Highway 61 should be monitored to isolate sources to maintain an acceptable minimum air quality standard. Whenever possible, urban land uses should be buffered from sources of emissions with open space. Dense vegetation can be required with intense industrial and commercial proposals.

Group facilities that house the sick, elderly, or needy should be located away from concentrated automobile emission sources. Development permit review will address proper buffering or screening. Designs for planned unit developments, multi-use proposals, and other innovative development tot-ins should be encouraged to reduce the need for automotive travel.

#### B. Water Quality

In order to protect the quality of surface and ground water systems, the County will regulate development activities to protect natural water cleansing features and reduce or prevent the discharge of contaminants from urban, agricultural, and industrial land uses. The County may adopt a comprehensive stormwater management ordinance establishing:

1. Streambank and shoreline buffer zones adjacent to surface water bodies to preserve natural vegetation, which provides filtration of stormwater runoff;
2. General design and construction standards for on-site stormwater management systems for new development to ensure the post-development runoff rates, volumes and pollutant loads do not exceed the pre-development conditions;
3. Best management practices for agriculture and silviculture uses consistent with federal and state recommended standards to reduce pesticide and fertilizer runoff and soil erosion;
4. Standards for all development located within either the St. Marks or Ochlockonee River basins to ensure compliance with pretreatment practices and standards adopted by the water management district and Rule 40B-4.230, F.A.C.; and,
5. Protect outstanding Florida waters from degradation of water quality.

The County shall enhance the protection of its groundwater resources by establishing a wellhead protection zone for areas within one mile of an existing municipal or County wellhead. Land uses with high potential for ground water contamination such as industrial land uses or hazardous waste generators should not be permitted in such areas. Future wellfield locations shall be identified by the County through coordination with the Regional Planning Council and the North Florida Water Management District. Residential development in areas of high aquifer recharge shall not be permitted without supporting sewer systems or without special modifications to septic systems.

Wells located far from a source of contamination can quickly pick up pollutants due to the infiltration into the aquifer. To prevent possible contamination of the aquifer, the County should coordinate with the Water Management District to identify and plug abandoned wells, and to restore their original hydrological conditions in accordance with Section 373.207, F.S.

#### C. Floodplains

The County's damage prevention ordinance is designed to reduce flood damage to proposed and existing development in the floodplains. Although this is necessary, the County may adopt an ordinance addressing the protection of the four major river corridors and the protection of floodplain resources including water quality and natural floodplain flow patterns. This could be instituted through proper buffering and other development standards.

#### D. Wetlands

Wetlands cover a large percentage of Wakulla County. These wetlands are important habitats for the many species of wildlife, including threatened and endangered species, and play an important role in maintaining levels of water quantity and quality of surface waters. Some of these wetlands are in areas of residential and nonresidential development.

In order to protect these resources, the County shall adopt provisions within the Land Development Code to ensure that proposed development will identify wetlands on-site plans and provide measures to insure that normal flows and quality of water will be provided to maintain the wetlands after development. Where alteration of wetlands is necessary in order to allow reasonable use of property, the County should require restoration of the wetlands disturbed during development or creation of additional wetlands to mitigate any wetland destruction.

#### E. Water Conservation

Wakulla County has an abundant supply of groundwater due to the high dome of the Floridan Aquifer. Due to the low population relative to the water supply and the fact that drought conditions are very rare in the County, potable water impacts are currently not a major problem. Economic problems could develop if the groundwater were contaminated. With most of the development in the County being in areas of high aquifer recharge and the use of septic systems rather than being on central sewer systems, the County and private developments should place sewer systems in the area of high aquifer recharge where high density development is proposed to ensure the highest quality of this abundant resource. To ensure quality of groundwater, the County may set higher performance standards on all commercial or industrial uses that are potential sources of hazardous wastes. Additionally, the County may establish standards and requirements for the use of performance-based septic systems.

## F. Soil Erosion

Based on U.S. Soil Conservation Service (SCS) studies of the County, soil erosion is not currently a problem due to the lack of abrupt elevation changes, abundant vegetation, and the lack of intense development. However, policies addressing soil erosion are necessary due to potential effects of intense development within some areas of the County.

## G. Mineral Resources

The County should develop a strategy which addresses proper development and reclamation of extractive resources to the extent not addressed in chapter 378, F.S., but consistent with Section 380.6, F.S.

1. Site selection permitting process;
2. A water use plan ensuring protection of water quality and quantity to ground and surface waters;
3. Implementation methods ensuring site reclamation;
4. Requirements for buffering around the perimeter of mining activities to protect surrounding, existing, and proposed future uses and to achieve an aesthetically pleasing landscape compatible with existing uses; and,
5. Requirements for phasing of extractive activities, assuring that only small areas are affected by such activities at one time.

## H. Flora and Fauna

Several of the ecological communities in Wakulla County are vulnerable to development, including the Salt Marsh and the Wetland Hardwood Hammocks with their associated wildlife. Wakulla County will coordinate a management program for preserving and conserving ecological communities which may include:

### 1. Protecting the Most Vulnerable Communities

The County may formulate a list of communities requiring the most protection and as an option, recommend their acquisition through the state land acquisition program through programs such as the SWIM program, Nature Conservancy, CARL, or the Save our Rivers.

### 2. Protecting the Salt Marsh

The Salt Marsh is located generally in areas that are predominantly conservation lands but there are a few areas in which development is placing increasing pressure on them (i.e., Shell Point, Spring Creek and Panacea). The County should discourage development in areas directly adjacent to the Salt Marsh communities to preserve the wildlife habitats associated with the community, including threatened or endangered species, and to prevent soil and beach erosion. The County should require all new development in the above mentioned areas to be hooked up to the existing sewer systems in the area, when capacity is available.

### 3. Protecting Ecological Communities

In conjunction with acquisition of ecological communities in need of preservation, the county should recommend, as a part of the land development codes, provisions to conserve unique ecological communities. The provisions could address the need to:

- a) preserve the most sensitive portions of the community;
- b) provide for a development plan which promotes clustering of dwelling units away from sensitive portions of the associated community;
- c) discourage the fragmentation of large community associations;
- d) provide for buffering adjacent to the community; and,
- e) require sustaining management programs to restore disturbed parts.

### 4. Maintaining a Natural Areas Network

Natural area networks can enhance the movement of wildlife throughout the region. A management plan could be developed to guide future acquisitions, develop strategies to link natural areas, and establish coordination and support from private landowners and government agencies. The County can use numerous methods including purchase of real property and conservation easements for the maintenance of the network. Cooperative efforts with landowners should also be pursued to encourage voluntary protection of the natural area network.

Land use activities adjacent to natural area networks should be coordinated so that the greatest amount of activity is farthest from the most sensitive portions of the network or breeding area of threatened and endangered species.

### 5. Protecting Threatened and Endangered Species

There are several species in Wakulla County that have special protection status designated by the state or federal government and should be evaluated for appropriate protective status. The County should develop performance standards in its land development codes for each species' habitat and to review and regulate development in or near areas that are deemed critical species habitat.

On privately owned land, the County may establish a program to protect threatened or endangered species' habitat. This would allow various conservation groups, such as the Natural Areas Inventory and the Florida Department of Natural Resources to identify and advise land owners of various methods of protection such as conservation easements or the establishment of private sanctuaries. Conservation groups could also coordinate with private landowners in the use of the best management practices to protect threatened or endangered species' habitats.

### 6. Public Awareness: An Information Program

To increase public awareness, the County could promote the development of volunteer groups to broaden public awareness. Through the assistance of the local conservation group, the mapping of locations of significant ecological communities and associated species could be initiated. A public information program for the public to identify and understand ecological community significance and special protected species could be established.

## I. Public Conservation Areas

Wakulla County should make the protection of the Apalachicola National Forest, the St. Marks Wildlife Refuge, Wakulla Springs State Park, and the various canoe trails a priority due to their resource value, to provide recreation, open space, wildlife habitats, for scientific research, and as a generator of tourism.

Land development codes can restrict development adjacent to the Apalachicola National Forest and the St. Marks Wildlife Refuge. The associated review would examine whether adjacent land use is compatible with the National Forest and Wildlife Refuge. This should also be done for the Wakulla Springs State Park due to the sensitivity of the spring.

## J. Hazardous Waste

Because safe and convenient methods of disposal are currently not available through the County, most hazardous waste may be disposed of improperly. Some is dumped in to public sewer systems and some is dumped directly into the ground or transported to the landfill. To protect the people and regional water resources, the County should establish short and long term management practices, with assistance of the Apalachee Regional Planning Council (ARPC), to improve the hazardous waste storage and disposal methods, lessen the risk of an accident, and to make permitting exclusively local. Recommended management practices may include:

### 1. An Emergency Response Plan

The County has adopted an emergency response plan containing procedures to be followed in the event of an accident. This plan, as required by 40 CFR 264.5, U.S., and Chapter 84-223, P.S., includes:

- a) an appropriate contact person;
- b) measures to be taken;
- c) telephone numbers to call for assistance; and
- d) identifies the nearest health care facility.

The plan varies with the type of hazardous waste being handled or generated depending upon how dangerous to man and the environment.

### 2. Safe Waste Management in the Workplace

Knowledge of hazardous wastes and training in how to handle them provides a basis for safe operation. Under Florida's "Right-to-Know" law, employers at small quantity generator sites are required to notify employees of toxic substances used in the workplace, and to provide them with written information which explains the properties and hazards of each toxic substance. Employee awareness is also necessary for safe and effective waste management.

### 3. The Reduction of Hazardous Waste in the Workplace

The County will promote reducing the generation of hazardous wastes at the source through regular inspections of small quantity generators. The inspection will review current generation and handling practices and will be expanded to include an information program directed at reducing the generation of hazardous or toxic waste, recycling of materials, and reducing the volume and/or toxicity of hazardous or toxic wastes. Steps for reducing hazardous waste

mismanagement may be accomplished through the assistance of the Apalachee Regional Planning Council (ARPC).

#### 4. Preventing Hazardous Wastes from Being Deposited into the County Landfill

The landfill has provisions for the storage of waste fuel, oil, and lead-acid batteries only. A management strategy to control hazardous wastes from entering the landfill is currently being subcontracted through the ARCP. The following recommendations may help keep hazardous wastes out of the existing landfill:

- a) signs listing prohibited wastes should be posted at the entrance;
- b) visual inspections of a truck's contents;
- c) compile a list of all vehicles entering the landfill;
- d) require a signed statement from the drivers attesting that their trucks contain no hazardous wastes;
- e) visual inspection of contents when dumped;
- f) notification to FDER if hazardous wastes are found; and
- g) maximum penalties and fines for any violations.

To ensure effective implementation of this strategy, the County has an ongoing program to train staff at the landfill.

#### 5. Amnesty Days

Another short-term management practice is to continue the "amnesty days" program where the County would charge a small fee for commercial small-quantity generators and householders to dispose of limited amounts of wastes.

#### 6. Public Awareness

To increase the public awareness of the hazardous nature of many household products, the County may establish a program to educate the general public about household wastes which are considered hazardous, and the associated hazardous waste problems in Wakulla County, and how the private citizen can store, recycle, and properly dispose of the hazardous household wastes.

#### 7. A Long-term Solution: A Permanent Transfer/Storage Facility

The development of an adequate hazardous waste transfer and storage facility is a major factor for the long-term management of wastes. All generators of hazardous wastes, from commercial interests to the private householder, would have access to a facility on a daily basis. The location of the facility should be such as to give the most convenient access to the majority of the population to ensure the most use of the facility.

The ARPC's assessment of existing hazardous wastes generation indicates a need for a transfer/storage facility in Wakulla County due to the percentage of hazardous wastes that are improperly disposed of locally.

Subsection 403.7225(4), F.S., states, "Each county shall designate areas within the county in which a hazardous waste storage facility may be located. Counties may jointly designate areas or sites by interlocal agreement. Public hearings shall be held to determine the site location. Each county shall amend its comprehensive plan.

However, this section does not prohibit a county from amending its comprehensive plan to designate other areas for this purpose or prohibit construction of a facility, or designate other locally approved or state approved sites.

### K. Wakulla Springs Protection

Through on-going coordination with Leon County and the City of Tallahassee, an aquifer vulnerability assessment has been completed and a springs protection area has been defined. Steps are currently being developed and implemented for the protection of the aquifer and the springs. In recognition of their joint responsibility to protect Wakulla Springs, the Commissions from all three local governments participated in a workshop on April 10, 2008 to review the issues, discuss the draft Comprehensive Plan policies, and affirm their willingness to work together. These draft Comprehensive Plan policies should be included in the Wakulla Comprehensive Plan and on-going coordination between the three jurisdictions should continue. Additionally, Wakulla County should evaluate the appropriateness of the Springs Protection Area based on current scientific research and the interaction between the various springs within the County.

