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INTRODUCTION

The Conservation Element is intended to provide a framework for the ongoing monitoring, management and use of the County's natural resources. This element addresses the environment and its goals, objectives and policies as they relate to the preservation, management and enhancement of the natural environment in Lake County. Because of the holistic nature of the natural environment, it is necessary for this element to have strong interrelationships with other elements in the Comprehensive Plan, most notably Future Land Use, Recreation and Open Space, Intergovernmental Coordination and Transportation.

The Future Land Use Element is dependent upon the Conservation Element to provide information and guidelines regarding the suitability of lands for development, particularly those lands containing or influencing significant or sensitive natural resources. In addition, this element shall support and strengthen the recommendations for land development regulations.

The Recreation and Open Space Element is dependent upon the Conservation Element to provide guidelines for the establishment of open space corridors, to assist in the nature education programs, to encourage compatible land uses adjacent to managed natural areas, and in giving indications of which environmentally sensitive areas are suitable for acquisition and development for recreational and open space purposes.

The Intergovernmental Coordination Element establishes policy for cooperation between various governmental entities having jurisdiction in Lake County. The Conservation Element incorporates the policies and regulations of these entities to ensure the coordination of effort among all levels of government in Lake County.

The Transportation Element is dependent upon the Conservation Element to identify areas where roadways may be constructed so as to minimize impacts upon significant natural resources and to maintain acceptable air quality standards for citizens. It is also necessary to recognize the relationship between transportation and conservation in order to effectively implement the policies of the Wekiva Parkway and Protection Act.

This Element provides goals, objectives and policies relating to natural resources by four broad categories: Air, Water, Land and Environmental Systems. The conservation goal provides a vision of what the County seeks to accomplish during the planning time frame. Chapter 9J-5 F.A.C. defines a goal as "the long-term end toward which programs or activities are ultimately directed." Objectives serve to identify strategic opportunities which will enable the County to move toward the vision projected by the goal. Chapter 9J-5 F.A.C. defines an objective as "a specific, measurable, intermediate end that is achievable and marks progress toward a goal." Policies are action-oriented statements, the means towards an end that, when implemented, will support or fulfill the stated objective. Chapter 9J-5 F.A.C. defines policy as "the way which programs and activities are conducted to achieve an identified goal."

DEFINITIONS

The following definitions shall be used in the review or interpretation of this comprehensive plan. Where a definition contained within this section is different or inconsistent with the definitions contained in enabling state legislation or is inconsistent with the definition contained within the Florida Administrative Code, the definition contained herein shall be utilized.

Acutely Hazardous Waste - Wastes designated by the U.S. EPA as being significantly more dangerous in small amounts than other hazardous wastes. Wastes listed in Appendix B of "Understanding the Small Quantity Generator Hazardous Waste Rules: A Handbook for Small Business" EPA/530-SW86-019, September 1986.

Adverse Effect - {upon a natural community} Direct contamination, destruction, or that which contributes to the contamination or destruction of a natural community, or portion thereof, to the degree that its environmental benefits are eliminated, reduced, impaired, or where there is a resultant threat to its present or future function.

Altered Natural Communities - Natural resources which have been substantially affected by development but continue to provide some environmental benefit.

Ambient - Circulating or surrounding.

Air Quality Control Region - Any air quality control region designated pursuant to Section 107 of the Clean Air Act. The boundaries of the air quality control regions in Florida are set forth in 40 CFR Sections 81.49, 81.68, 81.95, 81.96, and 81.97.

Aquatic Preserves - Submerged lands owned by the State of Florida as identified in Chapter 258, Florida Statutes, which have been set aside in an essentially natural or existing condition for the benefit of future generations.

Aquifer - A geologic formation, group of formations, or part of a formation that will yield significant quantities of water to streams, wells and springs. (See Floridan Aquifer System; Intermediate Aquifer System; and Surficial Aquifer System.)

Aquifer Protection Zones - Those areas within "Protected Recharge Areas," "Areas Most Vulnerable to Contamination" or springsheds. In the Wekiva Study Area this term shall include areas within or adjacent to "Most Effective Recharge Areas".

Aquifer Vulnerability - The tendency or likelihood for contaminants to reach the top of the specified aquifer system after introduction at land surface based on existing knowledge of natural hydrogeologic conditions.

Aquifer vulnerability map or assessment - A modeling technique developed by the Florida Geological Survey to delineate relative degrees of vulnerability to an aquifer based on available data. An aquifer vulnerability map may be prepared for any aquifer. These techniques are documented in FGS Reports "Wekiva Aquifer Vulnerability Assessment" (RI 104) and "Florida Aquifer Vulnerability Assess (FAVA): Contamination potential of Florida's principal aquifer systems."

Area Most Vulnerable to Contamination - Areas more vulnerable to contamination from land surface as determined by the best available aquifer vulnerability maps.

Area of Special Flood Hazard - Any locality that, because of topography, soil limitations or geographic location, is subject to periodic or occasional inundation.

Artificial Waterway - Dredged canal created by man in upland or wetland.

Assimilative Capacity - The greatest amount of a pollutant loading that a water or wetland can receive without violating state water quality standards.

Best Management Practices (BMP) - Management or design criteria adopted for area wide application, usually associated with agricultural, horticultural, or commercial forestry pursuits.

Bicycle and Pedestrian Ways - Any road, path, or way which is open to bicycle travel and travel afoot and from which motor vehicles are excluded.

Biohazardous Waste - Any solid waste or liquid waste which may present a threat of infection to humans. The term includes, but is not limited to, nonliquid human tissue and body parts; laboratory and veterinary waste which contain human-disease-causing agents; used disposal sharps, human blood, and human blood products and body fluids; and other materials which in the opinion of the Florida Department of Health and Rehabilitative Services represent a significant risk of infection to persons outside the generating facility.

Biological Waste - Solid waste that causes or has the capability of causing disease or infection and includes, but is not limited to, biohazardous waste, diseased or dead animals, and other wastes capable of transmitting pathogens to humans or animals.

Borrow Activities - See Excavation.

Buffer Zone - Area which shields a natural community of protected species habitat by prohibiting development activities and removal of native vegetation. Such zones use naturally occurring vegetation or open space for the purposes of limiting the effects of development on natural systems or the recreational value of natural features.

Common Area - Any part of a development designed and intended to be used in common by the owners, residents or tenants of the development.

Common Open Space - All open space, natural areas and recreational areas which are part of a common area.

Compensating Storage - Physical replacement of natural flood water storage volumes that would be displaced in areas of special flood hazard due to development. The volume of compensating storage shall be calculated assuming normal wet season ground water levels.

Comprehensive Plan - A plan adopted pursuant to the "Local Comprehensive Planning and Land Development Regulation Act" and meeting the requirements of ss. 163.3177 and 163.3178.

Cone of Depression - A depression in the potentiometric surface of a body of ground water, which has the shape of an inverted cone which can develop around a well from which water is being withdrawn or around a sensitive karst feature.

Cone of Influence - The area in an aquifer around a well or wellfield where pumping affects the potentiometric surface in that aquifer.

Confined Aquifer - An aquifer that is bounded above and below by impermeable beds or by beds of distinctly lower permeability than that of the aquifer itself.

Confining Layer - see Confining Unit

Confining Unit - A formation that does not conduct readily water and/or is less permeable than the aquifers above or below it. When a confining unit is above an aquifer, recharge to or discharge from that aquifer is restricted by that confining layer.

Connected Wetland - A vegetative community which is part of a flowing water system or a runoff system where waters flow through during times of heavy rainfall.

Conservation - The prudent use of natural resources commensurate with environmental functions.

Conservation Plan - A formal document, prepared or approved by the Lake County Soil and Water Conservation District organized pursuant to Chapter 582, Florida Statutes, which outlines a system of management practices to control soil erosion, reduce sediment loss or protect the water quality on a specific parcel.

Conservation Open Space - Land area that is suitable for conservation uses.

Conservation Uses - Activities within land areas designated for the purpose of conserving or protecting natural resources or environmental quality and includes areas designated for such purpose as flood control, protection of quality or quantity of groundwater of surface water, floodplain management, fisheries management, or protection of vegetative communities or wildlife habitat.

Critical - Of special importance, requiring high-priority treatment, usually applied to resource areas of special importance due to their usefulness, hazard, or pending impact from alteration.

Critical Habitat - The viable areas of habitation including feeding, breeding, and nesting areas for species of Special Concern as well as Endangered and Threatened species as confirmed by appropriate jurisdictional agency documentation, or by reports which may be submitted by an applicant requesting a development order on a site containing an area of such habitation by the above noted species. The extent of these areas shall have a definitive boundary which may vary in extent based on the individual species.

Depression Basins - Natural depression watershed areas which have no positive outfall for surface water runoff except by infiltration or evapotranspiration.

Development - As defined in 380.04 Florida Statutes.

Development Permit - Includes any building permit, zoning permit, subdivision approval, rezoning, certification, special exception, variance, or any other official action of local government having the effect of permitting the development of land.

Development Order - Means any order granting, denying, or granting with conditions and application for a development permit.

Development Rights - The potential for the improvement of a parcel of real property, measured in dwelling units per gross acre, or gross leasable area, which exists because of the land use designation or zoning classification of the parcel.

Endangered Species - Any species of flora and/or fauna naturally occurring in Florida, whose prospects of survival are in jeopardy due to modification or loss of habitat; over utilization for commercial, sporting, scientific, or educational purposes; disease; predation; inadequacy of regulatory mechanisms; or other natural or manmade factors affecting its continued existence. Endangered species include, at a minimum, those identified as such in Chapter 39-27, Florida Administrative Code, s. 581.185, Florida Statutes and 50 of Federal Regulations, Sections 17.11 and 17.12.

Environmentally Sensitive - Descriptive of lands which, by virtue of some qualifying environmental characteristic are regulated by either the Florida Department of Natural Resources, the Florida Department of Environmental Regulation, the Southwest Florida or St. Johns River Water Management District, or any other governmental agency empowered by law for such regulation. Environmentally sensitive lands include, at a minimum, rivers, streams, lakes, springs, sinkholes, wetlands, floodplains, high recharge areas, and habitat inhabited by designated species.

Excavation - The removal and transport of earth materials (sometimes referred to as "borrow" activities). This definition excludes commercial mining operations (such as limerock and sand mining operations), excavation associated with construction of storm water management facilities, excavation activities governed by the Lake County Subdivision Regulations, and excavation associated with sod farming and removal activities, and tree farming activities.

Exotic Species - A non-native plant or animal.

Extraction - The removal of resources from their location so as to make them suitable for commercial, industrial, or construction use; but does not include excavation solely in aid of onsite farming or onsite construction, nor the process of searching, prospecting, exploring, or investigating for resources for drilling.

Fill - Raising the surface level of the land with suitable soil or clean fill material.

Fish and Wildlife - Any member of the animal kingdom, including, but not limited to, any mammal, fish, bird, amphibian, reptile, mollusk, crustacean, arthropod, or other invertebrate.

Flatwoods -- Broad, nearly level, low ridges of dominantly poorly drained soils characteristically vegetated with open woods of pine and saw palmetto.

Flood or Flooding - The inundation of land by the overflow of a stream basin or depression basin, the accumulation of runoff, or the rise of ground water.

Flood Plain - Areas inundated during a 100-year flood event or identified by the National Flood Insurance Program as an A Zone or V Zone on Flood Insurance Rate Maps or Flood Hazard Boundary Maps.

Floodway - The channel of a river or other watercourse of the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one (1) foot.

Floridan Aquifer System or FAS - An aquifer system in the limestones and dolomites of the carbonate unit that is below the surficial aquifer system. It underlies all of Lake County and is the principal source of the water used in Lake County. It is composed of thick sequences of carbonate rocks (limestone, dolomitic limestones, and dolomite) of Eocene to Oligocene age that are generally high in permeability and hydraulically connected to each other in varying degrees. The FAS has two major water-bearing zones; the Upper Floridan and Lower Floridan zones. These zones are separated by a lower permeability carbonates.

Geophysical - Of or pertaining to the physical properties of earth materials and their chemical composition and transformations.

Ground Water - Water found below land surface in an aquifer. (Moisture present in unsaturated soil is not considered ground water.)

Habitat - The natural abode of a plant or animal. The kind of environment in which a plant or animal normally lives, as opposed to the range, or spatial distribution.

Habitat Corridors - A naturally-vegetated transportation route for plants and animals that connects larger natural areas. Wild plants and animals typically require avenues for dispersal to different feeding and breeding sites in order to survive.

Hazardous Waste - Solid waste, or a combination of solid wastes, which, because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness or may pose a substantial present or potential hazard to human health or the environment when improperly transported, disposed of, stored, treated or otherwise managed.

Hydrogeologic - Of or pertaining to the science that deals with subsurface waters and with related geologic aspects of surface water. The movement patterns and chemistry of ground water are heavily dependent on geology of the area.

Hydrologic – Of or pertaining to the science that deals with water, its properties, circulation, and distribution on and under the earth's surface and in the atmosphere, from the moment of its precipitation until it is returned to the atmosphere through evapotranspiration or is discharged into the ocean.

Hydroperiod - The annual period of inundation.

Hydric Soils - Soil that is wet long enough to periodically produce anaerobic conditions, thereby influencing the growth of plants.

Important Agricultural Areas - The important farmlands that are identified by the U. S. Soil Conservation Service. These include prime and unique farmlands, and additional farmland of statewide and local importance as described in 7 Code of Federal Regulations 657.

Important Ecological Community - An assemblage of native biota which may be easily recognized because of characteristic species or overall appearance, and which is sustainable through maintenance or ecosystem regulators such as fire to period inundation.

Injection Well - A well into which fluids are drained, either by gravity flow or under pressure. The terms deep well and shallow well injection have no real significance relative to the actual depth of a well.

Intermediate Aquifer System - that the aquifer system that lies between the overlying surficial aquifer system and the underlying Floridan aquifer system. This system contains ground water under confined conditions. This aquifer is not present in all areas of Lake County.

Isolated Wetland - Cypress domes or shallow marshes where no naturally occurring outfall exists.

Karst Area - A terrane, generally underlain by limestone or dolostone, in which the topography is chiefly formed by the dissolution of rocks, and which may be characterized by karst features.

Karst Features – Including but not limited to springs, sinkholes, sinking streams, closed depressions, subterranean drainage and caves.

Land Application - The act of disposing of sewage effluent and/or sludge on the earth's surface. There are three primary types of land application: (1) overland flow, which includes depository sludge in landfills, (2) rapid rate infiltration, such as in percolation ponds, and (3) slow rate infiltration such as spray irrigation.

Level of Service - An indicator of the extent or degree of service provided by or proposed to be provided by a facility based on and related to the operational characteristics of the facility. Level of service shall indicate the capacity per unit of demand for each public facility.

Listed - Refers to those lists of endangered species which are not accompanied by protection legislation, such as rare and endangered species lists compiled by academic or conservation groups.

Mining - The extraction of natural deposits from the earth which are regulated by the State of Florida under Part II of Chapter 211 and Chapter 378, Florida Statutes, and by Lake County Ordinance 68.

Minerals – Any naturally formed inorganic element or compound. All solid minerals, including clay, gravel, phosphate rock, limestone, dolomite, shells (excluding live shellfish), stone, sand, heavy minerals, and any rare earths, which are contained in the soils or waters of the state.

Most Effective Recharge Areas - Type "A" Hydrologic soils, defined by the NRCS Soil Survey, unless otherwise provided for by rule of the St Johns River Water Management District. Applies only to the Wekiva.

Mounding - Filling the area of the absorption field of a septic tank with suitable soil material to raise it above the water table to meet state and local regulations.

National Ambient Air Quality Standards (NAAQS) - Restrictions established by the U.S. EPA pursuant to Section 109 of the Clean Air Act to limit the quality or concentration of an air pollutant that may be allowed to exist in the ambient air for any specific period of time. Those air pollutants for which standards exist are: carbon monoxide, lead, nitrogen dioxide, ozone, sulfur dioxide and total suspended particulates.

Native Biota - The natural occurrence of species of plants and animals in a specific region. Native biota does not include species that are exotic or introduced by humans and that have become "naturalized".

Native Vegetation - Plants that are indigenous to the State of Florida.

Natural Drainage Features - The naturally occurring features of an area which accommodates the flow of rainfall runoff, such as streams, rivers, lakes and wetlands.

Natural Ecological Communities - An ecological community is an assemblage of plants and animals that is: (1) repeatable in general terms under similar physical conditions over the landscape, (2) capable of self-maintenance, (3) can be recognized as being distinct from adjoining communities, and (4) has not been significantly altered by previous manmade activities. A community can usually be recognized by a few key species of plants. A natural ecological community is one that is important as a reserve of biological diversity.

Natural Reservation - Areas designated for conservation purposes and operated by contractual agreement with or managed by a federal, state, regional, or local government or non-profit agency such as national parks, state parks, lands purchased under the Save Our Coasts, Conservation and Recreational Lands or Save Our Rivers programs, sanctuaries, preserves, monuments, archaeological sites, historic sites, wildlife management areas, national seashores, and Outstanding Florida Waters.

Natural Resources - Natural resources include, at a minimum, all the natural features associated with the land, air, water, groundwater, flora and fauna, as well as other such resources belonging to, managed by, held in trust by, appertaining to, or otherwise controlled by the State of Florida and situated in an area of critical state concern or offshore from an area of critical state concern.

Nonattainment - Any area not meeting ambient air quality standards and designated as a nonattainment area under Section 17-2.410, F.A.C. for any of the NAAQS listed air pollutants.

Non-point Source Pollution - Contamination arising from the discharge of wastes to the land, soils, water bodies or to the atmosphere from dispersed sources.

Paleontologic - Dealing with the study of life in past geologic time based on fossils, plants and animals.

Percolate or Percolation - The movement of water through small openings within porous materials, generally soils.

Permeability - The capacity of a formation or soil for transmitting water.

Point source pollution - Contamination arising from direct discharge of wastes to water bodies, geologic formation or to the atmosphere. This can be through a pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operations or vessel or other floating craft or other concentrated means from which pollutants are discharged.

Ponding - Standing water on soils in closed depressions.

Potentiometric Map or "Pot" Map - A subsurface contour map showing the elevation of a potentiometric surface. Maps of the potentiometric surface of the Floridan aquifer are prepared twice a year by the US Geological Survey in Florida.

Potentiometric Surface - An imaginary surface representing the total head of ground water and defined by the level to which water will rise in a tightly cased well. The potentiometric surface is related to a specific aquifer, usually the Floridan.

Preservation - The perpetual maintenance of areas in their natural state.

Productivity (soil) - The capacity of a soil for producing a specified plant or sequence of plants under specified management.

Protected - Refers to official Federal, State or international treaty lists which provide legal protection for the rare and endangered species they list.

Protected recharge areas - Areas with a natural potential for an average annual recharge rate to the Florida aquifer of 10 inches or greater.

Rare species - Species which, although not presently endangered or threatened as defined, are potentially at risk because they are found only within a restricted geographic area or habitat in the State, or are sparsely distributed over a wider range.

Recharge - The process of adding water to an aquifer. It is commonly described in inches per year. Recharge can be influenced by development. Increasing the rate of stormwater runoff and building impervious surfaces—such as roads, parking lots, and buildings—can alter both the rate and volume of recharge and reduce the area available for rainfall percolation.

Recharge Area - Land or water areas through which groundwater is replenished. The surficial aquifer system is recharged by rainfall and surface water. Recharge can be augmented locally from other sources. Examples of these other sources are wastewater or reuse water land application, rapid-infiltration basins, and septic systems. Where the water level in the surficial

aquifer is higher than the potentiometric surface of the Floridan aquifer, the surficial aquifer system has the potential to recharge the Floridan aquifer. These areas include much of Lake County.

Reclamation - The filling, backfilling, restructuring, reshaping, and/or revegetation within and around a mine, land excavation or filling area to a safe and aesthetic condition.

Relief - The elevations of inequalities of a land surface, considered collectively.

Reuse - The planned activity or activities that are intended for the land excavation or filling area and/or abutting land after the excavation or filling ceases and reclamation is completed or, the reuse of wastewater generally treated to drinking water standards.

Runoff - The precipitation that does not infiltrate into the soil.

Secondary Treatment - The second step in wastewater processing whereby most of the organic material in sewage areas is broken down to simpler, inorganic molecules. The biological demands of sewage, such as the heavy use of oxygen, are reduced at this step. This kind of treatment is commonly the last step in sewage treatment plants.

Seepage - See percolation.

Sensitive - Areas where natural resource values or hazards play a primary role in land suitability and capability. These include areas with special natural resource characteristics which may be described as fragile and subject to harm with a minimal amount of alteration.

Sensitive Karst Features – A karst feature where at the surface, the feature is directly open to the limestone of the Floridan Aquifer System or, a sinkhole or closed depression where there is no confining layer below the bottom of the sinkhole or depression allowing water to rapidly percolate into the FAS. Sinkholes and other karst features that are directly open to limestone of the FAS, or are located within areas more vulnerable to contamination as determined by the Wekiva Aquifer Vulnerability Assessment (WAVA) or the best available Floridan aquifer vulnerable assessment map shall be considered sensitive karst features. Should an applicant believe that a karst feature(s) on their site is not sensitive they shall provide site-specific report prepared by a qualified professional to characterize the karst feature(s) is not sensitive to supplement the aquifer vulnerability assessment. The testing data used to prepare this report should consist of relevant geologic, geophysical, geotechnical and/or ground water quality data collected on site.

Sheet flow - The pattern of water movement where water moves in a broad-spread, shallow layer across the surface. This is typical in wetlands, marshes, grasslands, pine flatwoods, and prairies.

Significant Natural Upland Community or Significant Upland Community - Those sites identified on the Conservation Element as "Significant Upland Communities".

Silviculture - Of or pertaining to commercial forestry.

Sinkhole - A naturally occurring, karst feature on the land surface typically measured in meters or tens of meters, typically circular and/or conical in nature, characterized by closed depressional contours, internal drainage and side slopes that are notably steeper than the natural slope of the surrounding land surface. A sinkhole may or may not exhibit an open connection into the Floridan aquifer. It also may or may not contain water. To be characterized a sinkhole, the settlement that caused the depression must have resulted from subsidence or raveling of soils, sediments, or rock materials into subterranean voids created by the effect of water on a limestone or similar rock formation.

Slough - A broad, slightly depressional, poorly defined drainageway.

Soil - A natural three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Solid Waste - Means sludge from a waste treatment works, water supply treatment plant, or air pollution control facility, or garbage, rubbish, refuse, or other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from domestic, industrial, commercial, mining, agricultural, or governmental operations.

Source Separation - The separation of the components of solid waste (glass, metal, paper, chemicals, plastic, kitchen wastes, etc.) at the source of generation before disposal to allow for alternative waste management practices such as reuse, recycling, and energy recovery.

Species of Special Concern - Fauna identified in Section 39-27.005 F.A.C. which warrants special protection, recognition or consideration because it has an inherent significant vulnerability to habitat modification, environmental alteration, human disturbance, or substantial human exploitation which, in the foreseeable future, may result in its becoming a Threatened species; may already meet certain criteria for designation as a Threatened species but for which conclusive data is limited or lacking; may

occupy such an unusually vital and essential ecological niche that should it decline significantly in numbers or distribution other species would be adversely affected to a significant degree; or has not sufficiently recovered from past population depletion.

Spring – A point where underground water emerges onto the Earth's surface (including at the bottom of a stream, lake or the ocean). The image of a trickle of water springing from a hillside hardly matches that of a vast cave pouring forth a river, but both are springs.

Springshed - Those areas within ground- and surface-water basins that contribute to the discharge of the spring. AKA a spring recharge basin.

Stream - Any river, creek, slough, or natural watercourse in which water usually flows in a defined bed or channel. It is not essential that the flowing be uniform or uninterrupted. The fact that some part of the bed or channel has been dredged or improved does not prevent the watercourse from being a stream.

Stream-to-Sink Basins - A drainage basin typified by surface streams or runoff discharging into a karst area that is directly open to the limestone of the FAS. There are at least two stream-to-sink basins in Lake County. These are in Shockley Heights in the Ocala National Forest and Wolf Branch basin just east of Mt. Dora.

Stream Basins - Watershed areas which drain surface water runoff via streams and channels, both natural and manmade.

Stream Crossing - Transportation and utility crossings of stream basins.

Structure - Anything constructed or erected, the use of which requires permanent location on the ground or attachment to something having a permanent location on the ground as well as a mobile home.

Surface Waters - Water upon the surface of the earth, whether contained in bounds created naturally or artificially or diffused. Water from natural springs shall be classified as surface water when it exits from the spring onto the earth's surface.

Surficial Aquifer System or water table aquifer - An aquifer where the ground water is at atmospheric pressure, i.e. not confined and has no impermeable layer between the zone of saturation and water table. It consists of consists of the surficial sands, silts and clays and in some cases limestone where there is no confining layer.

Tertiary Treatment - The third and usually most expensive in a series of processes whereby pollutants such as phosphorous or nitrogen compounds are removed from wastewater. Most sewage treatment plants are only capable of secondary treatment of wastewater.

Threatened Species - Any species of flora or fauna naturally occurring in Florida which may not be in immediate danger of extinction, but which exists in such small populations as to become endangered if it is subjected to increased stress as a result of further modification of its environment. Threatened species include, at a minimum, those identified as such in Chapter 39-27, Florida Administrative Code, s. 581.185, Florida Statutes and 50 of Federal Regulations, Sections 17.11 and 17.12.

Type A soils - A soil group defined by the NRCS as having high infiltration rates.

Unconfined Aquifer - See surficial aquifer system.

Upland Communities - Those non-wetland, non-aquatic areas not subject to regular flooding. These include: scrub, sandhill, xeric hammock, upland pine forest, mesic hammock, slope forest, mesic flatwoods and scrubby flatwoods. For this element, communities that do not consistently meet legal criteria for protection as a wetland have also been included. These are floodplain forest, baygall, wet flatwoods, and hydric hammocks.

Vertical Drainage - The characteristic of porous soils and rocks whereby water pools only temporarily and cannot form perennial streams on the earth's surface; instead, water flows straight down through soils and rock to an underlying aquifer.

Vegetative Communities - Ecological communities, such as oak hammocks or cypress swamps, which are classified based on the presence of certain soils, vegetation and animals.

Water - Any and all water on or beneath the surface of the ground or in the atmosphere, including natural or artificial watercourses, lakes, ponds, or diffused surface water and water percolating, standing, or flowing, beneath the surface of ground, as well as all coastal waters within the jurisdiction of the state.

Water table - The ground water surface in the surficial aquifer. It is defined by the levels at which water stands in wells that penetrate the water body just far enough to hold standing water.

Wetlands - Lands which are transitional between terrestrial (upland) and aquatic (open water) systems where the water table is usually at or near the surface, or where the land is covered by shallow water. Such lands are predominantly characterized by hydrophytic vegetation identified in Section 17-4.022, F.A.C. The presence of hydric soils determined by the U.S. Soil

Conservation Service, and other indicators of regular or periodic inundation, shall be used as presumptive evidence of the presence of a wetland area. The existence and extent of these shall be determined by the jurisdictional limits defined by Chapter 17-4, F.A.C. and implemented by the Florida Department of Environmental Regulation, or as defined within Chapter 40D-4 and implemented by the Southwest Florida District or within Chapter 40C-4 and implemented by the St. Johns River Water Management District.

Wildlife - See fish and wildlife.

Woodland Management Plan - A document developed by or in coordination with the Florida Department of Agriculture's Division of Forestry for areas containing commercially valuable forests, developing forests, or other valuable forested areas.

ABBREVIATIONS

ARMS	Air Resource Management System
BMPs	Best Management Practices
CUP	Consumptive Use Permit
DOH	Department of Health
DRI	Development of Regional Impact
EAR	Evaluation and Appraisal Report
ECFRPC	East Central Florida Regional Planning Council
FDAC	Florida Department of Agriculture and Consumer Services
FDCA	Florida Department of Community Affairs
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FFWCC	Florida Fish and Wildlife Conservation Commission
FGS	Florida Geological Survey
GSACSC	Green Swamp Area of Critical State Concern
FNAI	Florida natural Areas Inventory
IFAS	Institute of Food and Agricultural Services
LDR	Land Development Regulation
LEED	Leadership in Energy and Environmental Design
LID	Low Impact Development
NAAQS	National Ambient Air Quality Standards
NRCS	Natural Resources Conservation Services
OFW	Outstanding Florida Waters
OLW	Outstanding Lake Waters
RPC	Regional Planning Council
SJRWMD	St. John's River Water Management District
SPZ	Springshed Protection Zone
SWFWMD	Southwest Florida Water Management District
SWIM	Surface Water Improvement Management
USEPA	US Environmental Protection Agency
USGS	US Geological Survey
WPPA	Wekiva Parkway and Protection Act
WRPA	Wekiva River Protection Area
WSA	Wekiva Study Area

GOAL CON 1

The County shall strive to preserve, properly manage and, where possible, enhance the quantity, quality and function of its natural resources and natural environment for existing and future generations. These goals should include, but not be limited to, the following natural resources: air, groundwater, lakes and surface waters, springs and springsheds, soils, minerals, wetlands, native vegetation and wildlife habitat, floodplains, endangered, threatened and species of special concern, open spaces, ecological landscapes, significant karst features, aquifer recharge areas, and historical and archaeological resources.

AIR¹

OBJECTIVE 1.0 AIR QUALITY

The County shall implement State and Federal guidelines to improve and protect air quality and ensure that the County meet or exceed all applicable air quality standards.

1.1 Assess Air Quality

The County shall require compliance with state and federal ambient air requirements through the air quality programs established by federal, state, regional and local agencies in the County.

1.2 Reduce Point-source Air Pollution Emissions

The County shall facilitate reduction in total air emissions by all current sources listed for the County on the FDEP ARMS or its successor by supporting the enforcement of applicable federal, state, regional and local regulations.

The County shall require facilities found to be chronically non-compliant with these standards to utilize the best available control technologies prior to re-issuance of their operating permits. The County will follow up on complaints and the appropriate state and federal agencies will be notified.

The County will adopt LDRs to require that development proposals which emit air pollutants model potential air pollution impacts. The LDRs will require stringent air pollution review on any air polluting facilities and require a safe buffer distance from nearby uses, including but not limited to schools, hospitals, or residential neighborhoods.

The County shall cooperate with the State in the monitoring of hazardous materials users and hazardous waste generators. The County will provide support to the State in their effort to ensure that contamination of the air by volatile pollutants released in the clean up, use, or disposal of hazardous materials shall not exceed levels that may cause significant harm to human health or the environment. This policy shall be incorporated within the hazardous materials management program under the Lake County Department of Environmental Services.

¹ Air Quality topics numbered CON 1.1 through CON 1.9 correspond to Objective 7-10 and Policies 7-10.1 through 7-10.09 in the 2002 Lake County Comprehensive Plan. Objectives CON 2 Noise Pollution and CON 3 correspond to Policies 7-10.10 and 7-10.11, respectively, in the 2002 Lake County Comprehensive Plan.

The County will follow up on complaints and the appropriate state and federal agencies will be notified.

1.3 Combat Fugitive Particle Emissions from Land Use Practices

LDRs shall ensure and require compliance with State BMPs regarding fugitive dust emissions caused by mining, inappropriate land use management practices, and development activities such as highway construction, road maintenance, and building construction. Mining activities shall be in conformance with the County mining ordinance).

1.4 Encourage Alternative Modes of Transportation

In order to reduce vehicular emissions, the County shall encourage programs that improve automotive traffic flow and shall encourage the use/development of private/public mass transit, multiple ridership in automobiles, telecommuting and the development and safe use of bikeways.

1.5 Reduce Vehicular Pollutant Emission Levels

The County shall reduce or stabilize vehicular emission levels by requiring air quality impact analyses be performed on all significant traffic generating development proposals. Projects which are predicted to violate air quality standards shall be required to pursue the implementation of traffic mitigation techniques to achieve compliance standards), as conditions in all development orders. Establish Airshed Protection Zones

1.6 Establish Airshed Protection Zones

The County shall establish an airshed protection plan for the urbanized areas and major transportation corridors of the County. This plan shall include urban forestry components and open space conservation guidelines. Airshed protection zones will have open space guidelines incorporated within the County's future land use element. New developments will be reviewed for consistency with landscape requirements for tree preservation or planting, as determined from the project's landscape site plan.

1.7 Indoor Air Quality Education Program

The County shall establish an education program regarding potential indoor air problems.

WATER

OBJECTIVE 2.0 GROUNDWATER

The County, in coordination with federal, state, regional and local agencies, shall protect both the quantity and quality of groundwater resources, protection of recharge areas, and prevention of excessive groundwater draw-down caused by withdrawal for consumptive uses.

2.1 Develop Comprehensive Surface and Groundwater Basin Management Plans

The County shall cooperate with the appropriate agencies in developing and implementing comprehensive surface water and groundwater basin management plans. These plans shall assess the impacts of existing and anticipated future pollution sources on the quality of surface waters and ground water, and shall develop strategies to abate those impacts.

2.2 Participate in Long Range Water Conservation Planning

The County shall participate in the development of long-range water conservation plans that are created as part of the water supply planning process of the water management districts. The County shall participate in working groups and advisory groups on supply planning, minimum flows and levels, TMDLs including the Florida Water Quality Monitoring Council and other water quality monitoring. The County shall facilitate input from stakeholder groups.

2.3 Plan for Safe Withdrawal Rates of Water

The County, as a participant in the Water Alliance under interlocal agreement, shall continue to work with the water management districts on water supply plans that provide for water supply needs and the basis for emergency conservation measures in the event of drought conditions or water shortages, while encouraging and participating in efforts to comply with federal state regional and local standards and rules for protection of ground water-and ground water dependent natural resources.

2.4 Conserve Potable Water Supplies

The County shall implement plans and procedures to conserve its potable water supplies to the maximum extent practicable through the implementation of water conservation techniques, programs, and cooperative arrangements with local water utilities. Such techniques, methods, and programs may include, but are not limited to:

- Requiring installation of water conserving plumbing fixtures in new and renovated buildings which are, at minimum, consistent with the requirements of the federal, state, regional and local agencies;
- Promoting water reuse and/or reclamation, where appropriate, for landscape, golf courses and farm irrigation; industrial use and other appropriate applications;
- Supporting the implementation of leak detection programs by the owners/operators of public water supply systems in order to discover and curtail wasteful losses of potable water from public water supply water delivery networks;

- A cooperative plugging program for uncapped artesian wells with SJRWMD and SWFWMD, and the local DOH;
- Encouraging the implementation of water and sewer revenue mechanisms which encourage the economical/conservational use of potable water supplies;
- Implementation of irrigation policies and practices according to federal, state, regional and local agency guidelines;
- Prescribe water wise “Florida-Friendly Landscape” guidelines for all County facilities and new development; and
- Distribute educational materials, which describe sources of water consumption and opportunities for conservation, to the general public.
- Require the installation of dual-water lines and meters in all new developments served by a central water system to distribute reuse water even if reuse water is not yet available.

2.5 Adopt a Water Conservation Ordinance

The County shall adopt within the LDRs provisions for water conservation which further implement the water conservation plans and programs of the federal, state, regional and local agencies. The County shall also establish incentives to conserve water.

2.6 Monitor Consumptive Use Permitting

The County shall track the consumptive use permitting activities of the SJRWMD and the SWFWMD. The County shall evaluate the CUPs issued by the WMDs for potential surface water and groundwater impacts and compliance with LDRs. The County shall take appropriate land use regulatory actions to assist the federal, state, regional and local agencies in ensuring an adequate water supply for existing and future needs, including the protection of water dependent natural resources.

2.7 Ensure Supply of Safe Potable Water

The County shall review regulatory data and information related to the supply of safe potable water to its residents. The County shall coordinate and cooperate with the federal, state, regional and Water Management Districts on countywide ground water monitoring especially in those areas of existing, suspected or the potential for ground water contamination.

2.8 Emergency Water Shortage Plan

Lake County shall cooperate with the SJRWMD and SWFWMD in the enforcement of provisions of the Water Management District’s emergency water shortage plans.

2.9 Impact of Land Use on Groundwater

Lake County shall prohibit land uses which are known to pose a severe threat to the availability of groundwater resources or whose practices are known to pose a severe threat to the quality of groundwater. Land use planning and development approvals shall reflect the limitations and vulnerability of groundwater supplies, including groundwater basin inventories conducted by the water management districts.

2.10 Conformance with State Requirements

Lake County shall ensure that all land use planning and development approval decisions are consistent with state agency rules and permits, and shall require compliance with all state agency rules and permits relative to the protection of groundwater.

2.11 Identify Aquifer Protection Zones / Conservation Measures

The County shall identify critical areas and land uses within the County that may impact the County's ground water resources. In consultation with state and federal resource management agencies, the County shall establish aquifer protection zones. LDRs shall be established to protect these areas from a reduction of the volume of recharge, to minimize the impact of development on the quality of surface and ground waters, to sustain the rate flow from springs and reduce the vulnerability of ground water from contamination,

Consistent with the intent of this policy:

The County shall require for the proposed rezoning or development of a parcel within protected recharge areas, most effective recharge areas, areas most vulnerable to contamination and/or springsheds that a site specific hydrogeologic and geotechnical report be submitted to determine the hydrogeologic character of a site. This report shall be prepared by a qualified Professional Geologist and/or Engineer shall identify all surface and sub-surface features that could be potential pathways for contamination of the aquifer. At a minimum, this report shall address waste water disposal, recharge, water supply, potential locations of stormwater management facilities. Borings shall be performed at potential locations of waste water disposal areas and stormwater management facilities. These borings shall be sufficiently deep to characterize the subsurface and confining unit. The overburden material shall be characterized (grain size, percent organic matter) to determine its permeability, filtering capacity and ability to bind pollutants. Size threshold requirements for the hydrogeologic survey shall be established in the LDRs and based on the size of the project.

The information contained in the hydrogeologic survey shall establish setbacks, the use of karst features, buffers, open space and other best practices to minimize development impacts. Site stormwater and effluent disposal systems will only be allowed in locations with the greatest depth of overburden and the least potential for contaminants entering the aquifer.

Require the on-site retention of and infiltration into Type A soils of the first three (3) inches of runoff from directly connected impervious areas that shall be designed and based on the storm events and durations established within the Stormwater Management Element Goals, Objectives and Policies.

Impervious surface ratios shall be calculated and be site specific for development projects and shall be based upon a recommendations of the sites-specific hydrogeological report.

Net retention and infiltration of pre-development recharge to the aquifer (system) must be maintained as determined from calculations presented in the the sites-specific hydrogeological and geotechnical reports.

The County shall, through its LDRs, prohibit large quantity hazardous waste generators (> 1000 kg per month) in designated areas and aquifer protection zones.

2.12 Groundwater Recharge

The County shall protect groundwater recharge areas through land use strategies including but not limited to reduction of land use densities in critical areas, mandatory open space, protection of pervious surface areas, drought-tolerant landscaping, and the use of reclaimed water for irrigation. An aquifer recharge overlay classification shall be developed that sets standards to protect the infiltration functions of protected and most effective aquifer recharge areas.

2.13 Area Most Vulnerable to Contamination /Conservation Measures

Through the LDRs and land use strategies including but not limited to a reduction of land use density and intensity and restrictions on land use the County shall protect areas most vulnerable to contamination.

2.14 Restrict Landscape Irrigation

In order to conserve supplies of potable water, the County shall discourage the use of potable water for landscape irrigation, require the use of and/or conservation of native vegetation and soils, or require the use other species with drought-resistant properties in landscaping to the greatest extent practicable. Native or drought-resistant plants include, but are not limited to, those in the Florida Native Plant Society's Native Plants for Landscaping in Florida, or comparable guidelines prepared by FDAC, FFWCC, FDEP, RPC, or the water management districts. These planting guidelines shall be incorporated within the the County LDRs.

2.15 Landscaping at County Facilities

By January 2008, the County shall establish guidelines for managing existing and future land and landscapes at county facilities using the educational guidelines contained in the University of Florida Extension's Florida Yards and Neighborhoods Program, Environmental Landscape Management (ELM) principles and BMPs. Such guidelines shall include practices that are designed to reduce nitrate infiltration into ground and surface waters.

2.16 Prevent Salt Water Intrusion

The County through restrictions on density, intensity and the future land use map shall protect areas and aquifers identified by the USGS and Water Management Districts where salt water intrusion has occurred or is likely. The County shall cooperate with the federal, state, regional and local agencies in determining the safety of siting of wells especially in areas which are along the Wekiva and St. Johns Rivers. Lake County shall prohibit potable water withdrawals in quantities that would degrade or contaminate water supplies and shall cooperate with the Water Management Districts in determining the safety of the siting of any wells requiring a consumptive use permit within areas known to be experiencing salt water intrusion or vulnerable to saltwater intrusion.

2.17 Protect Recharge Areas/Conservation Measures

Through land use strategies including but not limited to a reduction of land use density and intensity, the County shall protect the rate and volume of recharge in protected recharge areas.

2.18 Springsheds /Conservation Measures

Through land use strategies including but not limited to a reduction of land use density and intensity within springsheds the County shall protect the water quality and discharge volume from springs.

2.19 Monitor Ground Water Impacts

The County shall monitor and evaluate the use of septic systems, water reuse systems, and public water supplies within aquifer protection zones to determine impacts on groundwater quality and quantity and, if appropriate, recommend the adoption and development of additional regulations governing their use.

2.20 Regulate and Monitor Septic Tanks

The County shall develop and implement guidelines and standards in the LDRs to regulate the location and use of septic tank systems in accordance with the Sewer Sub-Element. If approved for use by the County, septic tanks and drain fields shall be located away from the most environmentally-sensitive portions of the site, including wetlands, floodplains, and karst features. Except for existing platted lots, the County shall not approve the use of septic systems for new development in excess of one unit per net net buildable acre.

The County, in cooperation with the local DOH, shall work toward the development of an inspection, maintenance and repair program for all septic tanks within the County.

2.21 Meet Non-Potable Water Use Demand

The County shall coordinate with federal, state, regional and local agencies to implement programs and policies that require that non-potable water use demands be met using water of the lowest quality supply, which is both available and acceptable for the intended application. The County shall require that water reuse or reclamation be used wherever economically and

ecologically feasible to reduce groundwater or surface water withdrawals for applications which do not require potable water. Educational materials shall be distributed to residents on private water systems informing them of alternatives.

2.22 Use of Drainage Wells

The County shall discourage the practice of draining or injecting untreated stormwater, wastewater, or surface water into the aquifer through drainage or injection wells. The County shall require the plugging and abandonment pursuant to water management district rules of existing unpermitted drainage and injection wells situated within the County.

2.23 Protection of Sinkholes and Surface Water Basins with Internal Drainage

The County with the assistance of other federal, state, regional and local agencies and using aquifer vulnerability mapping and other tools shall identify, to the extent practical, areas where surface waters are likely to directly enter to the Floridan Aquifer. In stream to sink basins the County shall at a minimum require storm water treatment greater than OFW guidelines to protect the Floridan Aquifer from contamination from contamination that could directly enter the aquifer from surface waters. Land uses within these basins shall be tightly regulated so as to restrict activities with the potential to cause adverse impacts on the quality of water in the Floridan Aquifer. Acquisition of properties within stream to sink basin should be strongly considered.

2.24 Comply with Wastewater Reuse and Treatment

The County shall require that the disposal of effluents from all wastewater treatment plants comply with Federal, State, WMD and local regulations. A remedial action and enforcement plan, which encourages non-caustic treatment methods, shall be implemented through the LDRs. The County shall cooperate with municipal and private utilities in preparing a grey water treatment and reuse program and shall address the needs of this program within the Comprehensive Plan and land development regulations.

2.25 Program for Establishment of Public Wellfields

The County shall participate with federal, state, regional and local agencies in the mapping and identification of areas within the county and/or zones within the Floridan Aquifer where ground water quality is good, the potential for groundwater contamination is low, sinkhole potential is slight and where potential negative impact to spring flow, groundwater volume, and wetlands are low. Once these areas zones are determined, the County will encourage the use of these areas for regional and sub-regional water supplies to implement measures to protect these areas for future wellfield use.

2.26 Adopt Wellfield Overlay Zones

The County shall update the wellfield protection program and siting criteria contained in the LDRs. A map of all wellfields and protected wellheads shall be maintained to ensure that incompatible uses are not permitted within the setbacks from protected wells or wellfields. The

County shall pursue the establishment of interlocal agreements to ensure the protection of well-fields and well-field protection zones.

2.27 Investigation of Aquifer Storage and Recovery Technologies

The County shall support research and evaluation projects that evaluate the use of aquifer storage and recovery (ASR) technologies and practices. The County shall cooperate with federal, state, regional and local agencies in ASR research and development projects.

OBJECTIVE 3.0 SURFACE WATER

The County shall evaluate and identify sources of surface water pollution within the County and coordinate the development and implementation of pollution abatement methods and programs with local governments, State, and Federal agencies.

3.1 Assessment Procedure

The County shall identify water bodies including lakes, rivers, streams, and spring discharges and develop and maintain levels of sampling that will describe existing conditions which will be essential to monitor short and long term changes. The County shall partner with and use the expertise of the USGS, FDEP, and the water management districts to accomplish these investigations. The design, parameters, and protocols including the need for more intense sampling shall be evaluated on a periodic basis to insure that high quality information is acquired.

3.2 Water Quality Improvement

The County shall implement a program to identify and improve surface water quality associated with stormwater runoff within receiving waters that are below established standards, in coordination with the Lake County Water Authority.

3.3 Surface Water Quality Restoration

The County shall continue to participate in a surface water restoration programs in cooperation and coordination with the state for programs such as, but not limited to, SJRWMD's SWIM plans for Lake Apopka and the Upper Oklawaha River Basin Stormwater Management Systems

3.4 Stormwater Management Systems

Stormwater management systems shall employ the most cost-effective pollutant control techniques available that are consistent with sound environmental management and which provide the greatest efficiency in stormwater runoff pollutant removal.

3.5 Stormwater Management Requirements

The County shall require that all new developments utilize stormwater management systems that are designed to meet the adopted level of service as found within the Stormwater Sub-element Goals, Objectives and Policies for the specified design storm.

3.6 Surface Water Quality and Land Use Guidelines

The County shall continue to promote land use decisions which limit the density of lakefront and stream shoreline development. Maximum densities and shoreline buffers shall be established in the FLUE & LDRs based on the provision of centralized water and wastewater facilities. Where the provision of centralized services are required, densities shall conform to that which is compatible with the protection of shoreline values and the surrounding area.

3.7 Lakeshore Protection

To protect lakefront and wetland areas from the encroachment of development, the County shall implement the following shoreline protection standards, incorporated within the Land Development Regulations:

1. The County shall establish a minimum setback of 50 feet from the ordinary high water line or as far landward as possible based on the depth of the lot, except for water-dependent development such as docks.

2. The County shall require a 100 foot setback, or a setback as far landward as possible based on the depth of the lot, from the ordinary high water line of lakes and wetlands for the installation of septic tanks and drainfields in addition to the requirements of Chapter 10D-6, F.A.C.

3. The County shall require compliance with FDEP regulations in Chapters 16C-20 and 18-20, F.A.C., regarding removal of shoreline vegetation. In addition, the County shall extend the provisions of Chapter 16C-20, F.A.C., so as to make the provisions applicable to all waters of the County. Provided, however, the extension of this policy shall be implemented in manner so as to not unreasonably infringe upon the common law or statutory riparian rights of the upland riparian property owners.

4. The County shall prohibit the disposal of yard waste along the shoreline and in wetlands.

5. In order to protect the quality and quantity of surface water and provide habitat for semi-aquatic or water-dependent terrestrial species of wildlife, upland buffer zones shall be established for vegetation occurring within the 100 year floodplain.

3.8 Vegetated and Functional Littoral Zone

The County shall require establishment of a vegetated and functional littoral zone as part of any new surface water management system that consists of or is adjacent to lakes and wet detention areas greater than 0.5 acres in size.

3.9 Mosquito and Aquatic Plant Control Guidelines

The chemical control of aquatic plants, mosquitoes, animal pests, or undesirable fish shall be performed in a manner that will minimize the degradation of ecological functions and surface water quality. The employment of biological and mechanical pest and/or aquatic weed control management practices shall be applied, as appropriate within environmentally sensitive areas, including OFWs.

3.10 Wastewater Treatment Plant Effluent Discharge

The County shall prohibit the discharge of wastewater treatment plant effluent and reuse water into the surface waters of the County.

3.11 Waterless Toilets and Grey Water Systems

In cooperation with the local DOH office, the County shall encourage the use of waterless toilets and the use of home-based grey water systems in accordance with state regulations.

3.12 Other Point Source Pollution Discharges

The County shall continue to follow and enforce its rules relating to all pollution sources. The County shall require all point source discharges to recycle and/or treat wastewaters and pollutants on-site in conformance with State and Federal rules and regulations. The County shall continue to have its rules codified in the the County Code of Ordinances and shall be made part of the the County LDRs.

3.13 First Flush Diversion for Stormwater Management Systems

The County shall, through the Land Development Regulations, require that new or redesigned stormwater management systems that use isolated wetlands or wet detention systems direct the first flush of stormwater to separate detention or retention facilities.

3.14 Best Management Practices

The County shall participate in State initiatives and will evaluate water conservation, water reuse and BMPs to minimize the impact of agricultural, horticultural, silvicultural, construction, and landscape practices to both surface water quantity and quality, wetland and floodplain areas.

3.15 Comply with Existing Ordinances

In addition to the Water Conservation and Sensitive Lands Plan, all activities permitted within designated wetland and flood prone areas, including agriculture, silviculture, and landscape practices shall, at a minimum, comply with the County's Wetland, Flood and plant Ordinances to ensure the protection and function of these resource areas.

3.16 Evaluate BMPs

The evaluation of BMPs shall be coordinated with federal, state, regional and local agencies. The evaluation shall include a review and incorporation of applicable BMPs established by the agencies identified above as well as by public-private partnerships such as Clean Marina and programs created by non-profit organizations such as Audubon International.

3.17 BMPs for the Control of Erosion and Sedimentation

BMPs for the control of soil erosion and sedimentation shall be employed for all road construction, development and agricultural activities in order to protect natural waterbodies, watercourses and wetlands from siltation. BMPs shall also be employed, as necessary, to protect the function of stormwater management systems (e.g., exfiltration systems) from excess sediment loads. Erosion and sediment control BMPs include those of the NRCS, FDOT, FDEP, FDACS, and IFAS or other agencies.

IMPLEMENTATION MECHANISMS

1. Require the LDRs to incorporate the BMPs for the following activities: urban land uses, construction, agriculture, silviculture, urban stormwater design, on-site wastewater disposal, hydrologic modification, and activities in forested wetlands.

2. Cooperate with the Lake County Extension and NRCS Offices to develop conservation management plans and incentives for agricultural operations.

3.18 Marina and Boating Guidelines

Marinas which service boats with on-board sewage facilities shall be required to provide sewage pumpout and treatment facilities and to provide for appropriate effluent disposal methods.

3.19 Protect Water and Watersheds

The County shall participate in programs at the local, regional, state, and federal levels to afford protection and management of land in watersheds and in water areas given special protection status by law, rule or ordinance. These areas shall include but not be limited to the GSACSC, the Wekiva River and its tributaries, the Wekiva-Ocala Greenway, OFWs, and OLWs. All proposed development activities within the 100-year floodplain shall be required, prior to approval, to demonstrate that water quality and floodplain functions and values shall not be adversely affected.

3.20 Outstanding Lake Water Program.

The County shall implement an OLW program that will identify those waterbodies that possess exceptional water quality and/or habitat for aquatic, terrestrial, and avian wildlife, including designated species habitat, or possess strong hydrogeological logical connection with the Floridan Aquifer. Water quality standards, nutrient loading capacities, and use criteria shall be established for these OLWs to ensure their conservation. These waterbodies will be regulated to prohibit further degradation of the environment; consideration will be given to noise levels, light levels, water quality, and significant adverse impacts. Lake County shall amend the Comprehensive Plan and LDRs as appropriate to identify OLWs and implement policies for their protection.

3.21 Map Outstanding Florida Waters

The Wekiva River, its tributaries, and other waters designated as "Outstanding Florida Waters" shall be included on maps and GIS coverages prepared for use in regulatory decisions by the County. Section 403.061 (27), Florida Statutes, grants FDEP power to: establish rules that provide for a special category of water bodies within the state, to be referred as "Outstanding Florida Waters," which shall be worthy of special protection because of their natural attributes; and the Wekiva River has been so designated. The direct or indirect discharge into OFW in the County as may be influenced by land use decisions by the County shall be regulated consistent with Florida Statutes.

OBJECTIVE 4.0 SPRINGSHEDS

The County shall protect and restore, to the maximum extent possible, sensitive areas within and adjacent to all springsheds, including springs, seeps, recharge areas, sinkholes, cavers, and other karst features. The following policies shall apply within identified springsheds, including the Wekiva Study Area.

4.1 Identification of Springshed Resources

The County, in cooperation with federal, state, regional and local agencies, shall use the Floridan Aquifer Vulnerability Assessment, the Wekiva Aquifer Vulnerability Assessment, ground water models and other tools as appropriate, to identify and map springs and springsheds, and to designate springshed protection zones (SPZs) to protect the springshed and spring systems resources and designate appropriate land uses in these zones:

- In and around critical springshed resources and sensitive springshed area, low density and intensity land uses will be designated, including conservation lands, silviculture, parks and recreation areas, and pastures.

Primary Springshed Protection Zones: The primary zone shall include the springshed features that are most sensitive to contamination, including the principal areas of ground water contribution and recharge, sinkholes, depressions and stream-to-sink basin features, the buffer area immediately adjacent to the spring and the spring run. To protect these sensitive areas, land uses will be low density and intensity uses including preservation, conservation, recreation and open space. In addition, low-intensity, long-crop rotation silviculture and unimproved rangeland uses are appropriate within the primary zone.

Secondary Springshed Protection Zones: The secondary zone is land within the springshed but outside the more sensitive primary springshed protection zone but is also vulnerable to contamination. Land uses will be moderate density and intensity including: conservation, recreation and open space, silviculture, rangeland, or very low density rural residential.

4.2 Protection of Springshed Resources

Within the primary and secondary protection zones, avoid mining, industrial and heavy commercial land uses, golf courses, and urban uses with extensive impervious surfaces. Intensive agriculture should be discouraged in the primary and secondary protection zones.

4.3 Acquire Land in Springshed Protection Zones

The County shall protect, to the maximum extent possible, primary springshed protection zones through the acquisition of land in these areas to preserve and protect the natural qualities of these valuable natural resources, consistent with other policies found elsewhere.

4.4 New Development in Springshed Protection Zones

In addition to providing for consistency with all provisions of the Future Land Use Element, new development and the expansion of existing development within springsheds shall be required employ Low Impact Development (LID) and Best Management Practices in order to minimize the impact of development on springshed resources and provide the highest standards for the protection of surface and ground water quality and quantity and implementing principles established in the DEP/DCA Publication "Protecting Florida's Springs—Land Use Planning Strategies and Best Management Practices". Land development regulations adopted to implement the springshed protection program will specify the required practices.

4.5 Existing Development in Springshed Protection Zones

Existing development shall be required to employ Low Impact Development practices to the greatest extent possible, consistent with Policy 4.4.

4.6 Open Space and Buffers within Springsheds.

All new development projects in designated springshed protection zones will provide at least 50 percent dedicated open space consistent with the Future Land Use Element. Development will be clustered on the least sensitive portion of the development site.

Establish undisturbed buffer areas of at least 100 feet, adapted from those developed for the Wekiva, Econlockhatchee, and Suwannee Rivers, for protection of sensitive karst features and to minimize stormwater impacts. Setback standards established within the Future Land Use Element shall apply within the Wekiva Study Area.

4.7 Delineate and Manage Critical Springshed Lands to be Acquired

The County shall delineate critical lands to be acquired, preserved or otherwise included in the greenway network, and develop a management plan for the protection of the springshed greenway network. The management plan will address natural resource and habitat protection, public access, recreation, and education consistent with protecting the greenway network. The County shall maintain a greenway land acquisition priority list.

4.8 Protect Springsheds and Karst Features Through Purchase

The County may use revenues and monies that may become available to match or leverage funds for private or public acquisition programs including but not limited to the Florida Forever Program, the Florida Community Trust, and the Lake County Land Acquisition Program and any other existing or newly implemented program to acquire fee simple ownership or less than fee ownership through conservation easements. Karst features directly impacting or showing the potential to impact ground and surface water quality should be considered for acquisition by the County with priority given to those areas where acquisition would protect the health and welfare of the citizens and environment.

4.9 Create Open Areas within Springsheds

The County may identify other approaches to create open areas within the springsheds. Connect existing dedicated open space areas, trails, pedestrian pathways and, where appropriate, utility corridors to form a greenway system.

4.10 Water Quality Monitoring Within Springsheds

The County shall continue its springs sampling program on a quarterly basis. Regular spring flow measurements shall also be included as a part of this monitoring program. This program shall also provide for periodic sampling and testing of the surface and ground water quality within springsheds and springshed protection zones. Monitoring programs shall be coordinated with sampling and testing programs of the USGS, Florida Department of Environmental Protection and the Water Management Districts and other federal, state, regional and local agencies. Funding sources shall be sought to enhance the local program.

4.11 Environmental Education

The County shall establish environmental programs to educate the public and community leaders about the relevance to their community and region of the springs, springsheds, springshed protection, ground water, aquifers, water pollution and karst features, and the vital hydrological system of which they are a part. The County shall formulate a media campaign to enhance the environmental literacy of the public and community leaders with respect to water resources, natural values and threats facing local springs and springsheds.

The County shall coordinate with local colleges, the school board and individual schools to develop environmental education programs for school-aged children regarding springsheds, waterbodies, watersheds and ground water. The educational tools of the Lake County Water Resource Atlas shall be included these programs

4.12 Coordinate with Local Communities

Coordinate with local communities to develop environmental education programs regarding springsheds, waterbodies, watersheds and ground water. The educational tools of the Lake County Water Resource Atlas shall be included these programs.

4.13 Encourage Use of BMPs and Low Intensity Agricultural and Silvicultural Practices

Within the springshed, the County shall encourage silviculture activities and the use of best management practices that are compatible with the need to protect springsheds and conserve the water resources. The County shall require compliance with best management practices outlined in “Silviculture and Agriculture Best Management Practices Manuals” (Florida Department of Agriculture and Consumer Services), and “Protecting Florida’s Springs—Land Use Planning Strategies and Best Management Practices (DEP/DCA)”. The County shall encourage low-intensity, long-crop rotation silviculture and unimproved pasture within the primary zone and minimum tillage farming elsewhere within the springshed.

The County shall work with federal, state, regional, and local agencies, and existing agricultural extension programs to educate, encourage and assist farmers and the agricultural industry within springsheds to use best management practices that minimize use of water, fertilizers, herbicides and pesticides and that reduce erosion.

4.14 Encourage Residential and Commercial use of BMPs

The County shall encourage residential and commercial land owners within springsheds to use BMPs , including Florida-Friendly landscaping practices and guidelines provided by the Florida Yard and Neighbors program to reduce the use of water, fertilizer, herbicides, and pesticides.

4.15 Encourage Use of Florida-Friendly Plants

The County shall continue to encourage the use and application of Florida-Friendly practices to improve water quality and reduce the consumptive use of water. The County shall continue to enforce and evaluate its Florida-Friendly regulations which, at a minimum, set standards for the use of native and drought tolerant species, removal of exotic plants, vegetative clearing and efficient irrigation to maximize conservation of water resources. The evaluation process shall consider the existing arbor and landscaping requirements of the LDRs requirements.

4.16 Regulate Land Use Activities

The County shall minimize impacts from development within Springshed Protection Zones; The County shall direct inappropriate land use away from protected recharge areas and most effective recharge areas, including feed lots, industrial, heavy commercial, golf courses and urban uses with extensive impervious surfaces; The County shall require the use of best management practices and performance standards to maximize open space, limit impervious surfaces and turf grass areas, promote protection of natural vegetation, promote the use of pervious parking areas, and treat stormwater to protect water quality.

4.17 Require Appropriate Stormwater Management Systems

Require the construction of site-appropriate stormwater management systems to minimize leaching or discharge of nutrients and to ensure that post-development recharge rates equal pre-development recharge rates within areas of protected recharge and Most Effective Recharge. Impervious surface ratios shall be calculated based upon a recommendations of the sites-specific hydrogeological report. Net retention and infiltration of pre-development recharge to the aquifer (system) must be maintained as determined from calculations presented in the the sites-specific hydrogeological and geotechnical reports. The County shall require compliance with all evaluation and design requirements specified within the Public Facilities element and LDRs for the Wekiva Study Area.

4.18 Require Open Space within Springsheds

The county shall require a minimum percentage of dedicated open space for all new development projects in springsheds. Clustering techniques shall be used to create open space for aquifer recharge and protection of karst sensitive features.

4.19 Guide Development Away from Springsheds

The County shall guide development away from identified springsheds and springshed protection zones through a variety of approaches including designation of land use type and density restrictions, buffer requirements, land acquisitions and conservation easements.

4.20 Identify Aquifer Protection Zones and Karst Features within Proposals for New Development

Aquifer protection zones and karst features shall be accurately identified within development proposals. The County shall require strategies for protecting these features during construction and after development, which promote the following:

- Inclusion of aquifer protection zones, springs, sinkholes and karst features into pervious open space areas;
- Use of landscape design principles to incorporate features as aesthetic elements;
- Pretreatment of stormwater runoff, in accordance with applicable federal, state, regional and local regulations, prior to discharge in springsheds, aquifer protection zones or to karst features.
- Prohibit discharge of wastewater effluent to karst features.
- Perimeter buffering around features to maintain natural context, edge vegetation, and structural protection.

4.21 Establish a Water Quality Protection Strategy for Springsheds

If not required by the regional water management district or FDEP, adopt design criteria for stormwater management practices that minimize the leaching or discharge of nutrients. Use karst area requirements similar to those required by the SJRWMD. Provide funding for the Florida Yards and Neighborhoods program to educate the public about proper lawn and landscaped area fertilization and irrigation; Incorporate the principles of the Florida Yards and Neighborhoods Program into local landscaping ordinances; Require frequent and active street sweeping; Adopt water conservation programs; Educate the public about the proper operation and maintenance of septic tanks. Implement a local septic management program to assure that these systems are regularly inspected, pumped out, and brought up to current standards whenever a parcel is sold; and Promote the local stewardship “adopt a spring” type program and other incentive and volunteer springshed awareness and protection programs.

4.22 Golf Courses within Springsheds

The County shall require that all golf course siting, design, construction, management, and monitoring practices within springsheds, including within the WSA, implement golf course practices described in the “Protecting Florida’s Springs Manual-Land Use Planning Strategies and BMPs” (FDCA and FDEP). In addition, the County shall implement Land Development Regulations to further govern the development of golf courses.

4.23 Landscaping within the WSA

Within the Wekiva Study Area, the County shall require that all development implement BMPs described by the principles and practices of the Florida Yards and Neighborhoods Program established by the University of Florida. New development within the WSA shall be designed to limit turf grasses and landscaping requiring regular irrigation to no more than 50% of all pervious surface areas, including residential lots. Drought tolerant vegetation shall be required and native vegetation encouraged. The County shall adopt LDRs as required to implement these provisions, utilizing “Guidelines for Model Ordinance Language for Protection of Water Quality and Quantity Using Florida Friendly Lawns and Landscapes” (FDEP).

4.24 Landscape and Lawncare Education

The County shall establish an education program for homeowners and landscape and lawn-care professionals regarding responsible practices that limit water use, fertilizers and pesticides such as those contained in the WaterMatters.org publications “What Professional Lawn Care Providers Should Know About Fertilizing, Watering and Mowing to Protect Florida Springs” and “What You Need to Know About Fertilizing and Watering to Protect Florida Springs”. This program shall be applicable county-wide and specifically for the WSA.

4.25 Wastewater Treatment Systems Within Springsheds and WSA

The County shall support and require compliance with all federal, state, regional and local agency regulations relating to the location and operation of central wastewater treatment facilities, including advanced standards for wastewater treatment facilities within springsheds and the WSA adopted pursuant to FDEP rule. The County shall coordinate with the Florida Department of Health regarding the development and implementation of rules and regulations relating to septic systems and onsite sewage treatment and disposal systems that may be required within environmentally-sensitive areas and springsheds, including the WSA. The County shall consider establishment of a mandatory pump-out program for septic system within the WSA, similar to the five-year pump out program utilized within the GSACSC.

4.26 Use BMPs for Producing the LDRs

The County shall adopt LDRs for springshed protection and incorporate BMPs contained in the document "Protecting Florida's Springs Manual-Land Use Planning Strategies and BMPs" (FDCA and FDEP). These LDRs shall include but not be limited to standards for the use of native and drought tolerant species, clearing of vegetation, landscaping and arbor requirements, agriculture and silviculture practices, aquifer recharge, use of septic systems, creation of open space and efficient irrigation to maximize conservation of water.

OBJECTIVE 5.0 FLOODPLAINS ²

The County shall protect the 100-year floodplain areas so that natural hydrological functions are maintained to the greatest extent practical.

5.1 Protect Floodplains

The County shall establish Land Development Regulation pertaining to floodplains that accomplish the following:

- Restrict uses which are dangerous to health, safety, and property, and minimize public and private losses due to flood conditions;
- Prohibit land filling and grade changes where such activity will cause erosion or inhibit flood waters;
- Require development to comply with the requirements and rules of the National Flood Insurance Program and Florida DOH; and
- Require all subdivisions and site plans to maintain pre-development run off characteristics, provide compensating storage, comply with wetland regulations, and dedicate post-development flood prone and wetland areas to the County, state agency or other appropriate conservation entity as a conservation easement.

5.2 Floodplain Management Program

The County shall develop a strict floodplain management program designed maintain natural hydrologic functions, preserve wetlands and other natural floodplain features. The County shall cooperate with the SJRWMD and the SWFWMD to identify significant floodplains for restoration.

5.3 Flood Information Updates

The County using best available technology shall update flood maps in areas not been mapped by FEMA and cooperate with all agencies to keep flood information up to date, evaluate the flood-handling capacities of natural drainage systems and develop flood prevention management guidelines.

5.4 Preserve Flood Storage Capacity

The County shall amend the Lake County Floodplain Ordinance and LDR as necessary to prohibit new development from causing a net loss of flood storage capacity.

5.5 Protect Natural Fluctuation of Surface Waters

The County shall require that the natural hydrological character of surface waters be maintained, and promote protection and restoration of natural water systems in lieu of structural alternatives and modified systems. Natural surface water flows, including sheet flow, shall be maintained. Surface water shall be allowed to fluctuate on a seasonal basis. The County shall cooperate with federal, state, regional and local agencies to develop a natural lake level fluctuation plan for lakes currently regulated by water control structures, as feasible.

5.6 Protect Floodplain Vegetation

In order to protect the quality and quantity of surface waters and provide habitat for semi-aquatic or water-dependent terrestrial species of wildlife, Lake County shall establish land development regulations for buffer zones within the floodplain of wetlands and riverine systems, consistent with federal and state agencies. Lake Count shall require buffer zones of a least 25 feet for vegetation occurring within the 100-year floodplain of riverine systems, or as required by federal and state agencies, whichever is more stringent. In order to assist in providing for viable wildlife corridors, Lake County shall require the protection of 100-year floodplains that connect significant isolated wetlands and environmentally sensitive areas identified by state and federal agencies through land development regulations.

5.7 Permitted Use of Floodplains

The 100 year floodplain as designated by FEMA, the County or other federal, state, regional or local agencies may be utilized for storage of floodwater, passive recreation, conservation, and water dependent activities. Development, unless otherwise provided for in this policy, shall not encroach the 100 year floodplain with exception of:

1. Recreation facilities limited to the following: boardwalks, hiking/horseback trails, picnic areas, and primitive camp sites in designated recreation areas. Recreational facility structures may be permitted within floodplain areas that do not require cleared open areas greater than 10,000 square feet and that do not contain a permanent structure exceeding 1,000 square feet.

2. Conservation facilities limited to the following: stormwater management facilities designed to protect the natural surface water flow regime and hydroperiod and groundwater quality or quantity; fire lanes and fire towers; wildlife monitoring stations and facilities designed to protect nesting, feeding, or habitat areas for designated species, or to support the propagation of other game and non-game species; facilities designed to protect an archaeological or historical site; facilities designed to retard or eliminate soil erosion problems; and facilities designed to eradicate exotic vegetation.

In the event that development is proposed within the 100 year floodplain the following shall apply:

- compensating storage shall be required
- the natural hydrological character and flow regime of surface waters shall be maintained
- natural surface water flows, particularly, sheet flows, shall be maintained;
- surface water quality and quantity shall be maintained;
- floor elevations shall be raised eighteen inches (18) above the 100 year flood elevation.

OBJECTIVE 6.0 WETLANDS

The County shall protect wetlands and the functions provided by wetlands. These functions may vary depending upon the type, location, and classification. The County shall continue to adopt regulations that protect and conserve wetlands, including criteria for identifying the significance of wetlands.

6.1 Wetland Mapping

Lake County shall work with federal, state, regional and local agencies to maintain accurate wetland maps and GIS layer information using the best available data and technology. The actual extent of wetlands on a parcel of land proposed for development shall be determined by a site-specific delineation, subject to confirmation by the County and/or other appropriate agencies.

6.2 Establish Wetland Classification System

Consistent within the Future Land Use Element, Lake County shall work with federal, state and local agencies to establish a classification system and criteria for assessing the significance of wetlands based on factors including but not limited to size, location, vegetation, and functional integrity. Once this activity is complete, the County shall update this Comprehensive Plan and the LDRs as appropriate to include policies protective of wetlands based on this classification system.

6.3 Protection of Wetlands

The County shall implement policies and LDRs to protect and preserve wetlands and other environmentally sensitive areas for natural water management and hydrologic functions; for use by aquatic and wetland dependent wildlife; as habitat for endangered, threatened or species of special concern; and for passive recreation. Within the WSA, Wekiva-Ocala Area and GSACSC, wetland impacts, including the placing or depositing of fill within wetlands, shall be prohibited except as necessary to provide for legal ingress or egress to developable upland areas. In such circumstances, enhancements shall be required to maintain wetland connectivity and natural flow regimes.

6.4 Encourage Protection of Isolated and Ephemeral Wetlands

The County shall implement policies and LDRs to protect and preserve isolated and ephemeral wetlands, and the unique functions such wetlands provide, such as habitat for upland amphibians that require a wet environment for part of their life cycle.

6.5 Require Conservation Easements/Dedications

The County shall require upon conservation easements or require dedication of open space areas to an appropriate management agency or recognized mitigation bank as a tool for preserving floodplains, flood prone areas, springsheds, wetland and other ecologically significant communities to the extent allowed by law.

6.6 Enforce Wetland Regulations

The County shall continue to enforce and apply all special federal, state, regional and local regulations that relate to protection of wetlands and their functions.

6.7 Assign Future Land Use Designations

The County shall assign Future Land Use Designations contained within this plan as appropriate to direct incompatible uses such as higher densities and intensities of development away from wetlands. Special planning techniques and overlay districts shall also be used to cluster development away from wetlands.

6.8 Wetland Survey and Delineation

The County shall require that a wetland survey and delineation be conducted by a certified biologist, and submitted to the County as part of site plan review. This wetland survey and delineation may be performed either by the applicant, or subject to verification by the County and agency with exercising jurisdiction. For developments consisting of twenty (20) acres or more, the applicant shall prepare a study which evaluates the quality and integrity of existing wetland systems and establish areas for wetland preservation and/or restoration.

6.9 Wetland Requirements for Site Plans

The County shall require site plans for all proposed development, which shall include the following information pertaining to wetlands:

1. Identification of the location and extent of wetlands on the property to be developed. Wetland delineations shall be determined or verified in the field by agencies exercising jurisdiction. This cost shall be the responsibility of the applicant;

2. Assurances that the normal flow regime and quality of the historic hydroperiod will be maintained after development;

3. Demonstration that development proposed on site shall be clustered away from wetland areas;

4. Use of appropriate upland buffers, consistent with Policy 6.11.

5. Provision for residential development credit applied to the upland portion of the site, at a rate not to exceed one (1) dwelling unit per five (5) acres of wetland.

6. Minimize the use and impact to wetlands. Except for water dependent activities and access, there shall be no dredge or fill activities in wetlands. In those instances where dredge or fill activities are authorized, the applicant must demonstrate that (a) there is no other reasonable, practical or economical alternative, (b) without the dredge or fill activity the property owner will be deprived of all reasonable uses of the property, and (c) the developer can adequately mitigate for the dredge or fill activity.

7. assurances that the development shall be directed away from the wetlands and conducted in a manner to protect the vegetation, habitat and the water storage, water quantity, water quality, and recharge functions of the wetlands.

6.10 Wetland Dedication

To the extent practicable, wetlands within a project shall be dedicated to the County, conservation agency, or non-profit conservation entity, or shall be placed in a conservation easement that shall run in favor of, and be enforceable by a homeowners' association, conservation agency, or the County, at its option. In determining whether it is practical to convey a conservation easement to a homeowners' association or other entity, the County shall take into account the following factors: (1) the number of lots in the subdivision; (2) the size of the subdivision; (3) the size of the wetlands; and (4) the location of the wetlands. The conservation easement shall require that wetlands be maintained in perpetuity in their natural and unaltered state. To the extent practicable, wetlands shall not be included as part of any platted lot, other than a lot platted as a common area, which shall be dedicated for reservation or passive recreational use.

6.11 Establish Minimum Buffer Requirements

Upland buffers adjacent to wetlands provide habitat for wetland dependent species, and assist in minimizing the deleterious effects of development adjacent to the wetland. The County shall require that all developments provide natural upland buffers adjacent to wetlands. These buffers shall be of such size to ensure that the quality and quantity of surface waters and the habitat for aquatic and wetland-dependent species of wildlife are not adversely affected by the proposed development. Buffers shall be determined to start landward from the wetland jurisdictional line as determined in the field by the permitting agency. The following minimum buffer requirements shall apply to isolated wetlands, non-isolated wetlands and rivers and streams:

WETLAND SYSTEM	MINIMUM
isolated	15 feet
non-isolated	25 feet
rivers and streams	50 feet

In situations where more extensive buffering is necessary, the County may alternatively allow for the use of a variable natural upland buffer adjacent to wetlands. The purpose of a variable buffer is to provide additional protection to areas that are considered more environmentally sensitive than others, provided that the aggregate buffer area is not less than that required pursuant to the previous standard. Buffers shall be determined to start landward from the wetland jurisdictional line as determined in the field by the permitting agency. The following standards shall apply to variable buffers:

WETLAND SYSTEM	MINIMUM	AVERAGE
isolated	10 feet	25 feet
non-isolated	15 feet	50 feet
rivers and streams	35 feet	100 feet

Uses allowed in buffers are limited to: fishing piers, docks, walkways, passive recreation activities, and limited stormwater facilities. Buffers without native vegetation shall be

revegetated with indigenous habitat to protect the quality of the adjacent isolated wetland, wetland system, river or stream. A buffer of native upland edge vegetation shall be provided or preserved on new development sites.

To the extent that federal, state or regional requirements exceed the minimum wetland buffers established here, the County shall require compliance with the stricter standard. The County shall require compliance with all riparian and wetland buffer requirements for the Wekiva River System and other Outstanding Florida Waters.

6.12 Wetland Impacts and Mitigation

In the consideration of development proposals, the County shall prefer solutions that preserve or restore the natural structure and connectivity of wetlands and that minimize adverse impacts to wetlands, over development alternatives that result in the loss or degradation of wetland systems. The County shall, on a case by case basis, reserve the right to require the protection of wetlands on site and may deny a proposal to destroy or alter wetlands. If wetland mitigation is allowed, the County shall require compliance with all federal and state regulations. If wetlands are taken, mitigation shall be performed within the same drainage basin where the loss occurred in order to ensure no net loss of wetland functionality.

6.13 Wetland BMPs

Lake County shall adopt BMPs for wetlands based on the most current available publications. All agricultural and silvicultural activities within wetlands shall comply with applicable BMPs established by the the agencies identified above as well as by public-private partnerships such as Clean Marina and programs created by non-profit organizations such as Audubon International, including all criteria and setbacks for stream and wetland management zones.

6.14 Surface and Groundwater Withdrawal Impacts on Wetlands

Lake County shall coordinate with the water management districts to limit groundwater and surface water withdrawals which may cause adverse inmpacts upon natural waterbodies, wetlands, and wetland-dependent ecosystems.

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OBJECTIVE 7.0 AREAS OF ECOLOGICAL SIGNIFICANCE

7.1 Green Swamp Area of Critical State Concern

The County shall preserve the integrity of the Green Swamp as an intact ecosystem of statewide significance by protecting its discrete and intra-dependent natural resources including but not limited to hydrologic regimes, wetland and upland communities, floodplain, ecologic connectivity, wildlife, and aquifer recharge.

7.2 Wekiva-Ocala Greenway

The County shall preserve the integrity of the Wekiva-Ocala Greenway which links the Ocala National Forest and state-owned lands along the Wekiva River as an intact ecosystem of statewide significance by protecting its discrete and intra-dependent natural resources including but not limited to its springs, springsheds, river system, karst features, wetland and upland communities, floodplain, ecological connectivity, and wildlife.

7.3 Emeralda Marsh

Lake County shall preserve the integrity of the Emeralda Marsh as National Natural Landmark, bird rookery, and intact ecosystem with linkage to the Ocala National Forest by protecting its discrete and intra-dependent natural resources including but not limited to hydrologic regimes, wetland and upland communities, floodplain, ecologic connectivity, and wildlife.

7.4 Lake Apopka Restoration Area

Lake County shall preserve the integrity of the Lake Apopka Restoration Area as an intact ecosystem and important bird rookery by protecting its discrete and intra-dependent natural resources including but not limited to hydrologic regimes, waters, wetlands, floodplain, and wildlife.

7.5 Lake Wales Ridge

Lake County shall establish a program to secure the protection of rare and native upland communities unique to the Lake Wales Ridge.

OBJECTIVE 8.0 HABITAT AND WILDLIFE PRESERVATION

Lake County shall conserve habitat and wildlife populations in order to maintain the health natural ecosystems and maintain biodiversity. In addition, the county shall cooperate with federal, state, and local agencies to protect and maintain viable habitat for species designated as endangered, threatened, or species of special concern.

8.1 General Wildlife Habitat and Populations

Wildlife in existing natural areas such as surface waters and their perimeters, wetlands, floodplains, and native uplands shall be conserved and enhanced by management techniques which encourage the improvement of biological diversity and wildlife resources. Lake County, through implementation of this Plan and the LDRs, shall maintain species diversity and viable populations of non-listed wildlife species through the provision of open space and public conservation land.

8.2 Neighborhood Wildlife Management Programs

Wildlife habitat within developed areas shall be enhanced through a county neighborhood wildlife management program encouraging such techniques as urban forestry, scenic road preservation, wildflower planting, bird sanctuary areas, wildlife-friendly stormwater systems, and native landscaping.

8.3 Freshwater Habitat and Wildlife

The County shall seek and utilize management plans developed by FFWCC, LCWA, FDEP, and USFWS, and other relevant agencies in developing strategies for the protection and restoration of significant aquatic habitat and aquatic species, including but not limited to species listed as endangered, threatened, or species of special concern.

8.4 Native Vegetation, Habitat, and Wildlife within Development Projects

The County shall require that vegetative communities and wildlife habitats be protected from adverse effects associated with development. The Land Development Regulations shall include provisions to require that development preserve wetlands and portions of developable uplands containing designated species or rare upland habitat. The County shall evaluate its LDRs and code of ordinances (including arbor ordinance), and revise said ordinances and regulations as appropriate to ensure the protection of trees and native vegetation with a target of protecting 50% of trees on-site. As appropriate, a tree replacement ratio may be implemented based on type and caliper. Special consideration shall be given to rare upland habitats and designated species within environmentally-sensitive areas such as the Wekiva-Ocala Area and GSACSC. Pursuant to this Comprehensive Plan and LDRs, the development review process shall determine the extent to which preservation of vegetative communities and wildlife habitats shall be protected and incorporated into protected open space on a development site.

8.5 Dedication of Environmental Lands within Development Projects

The County shall require that lands which are designated as open space for "preservation" or "conservation" as part of a develop project be identified as such in a legal agreement which ensures their protection from future development or other uses that are inconsistent with conservation objectives.

8.6 Development Considerations adjacent to Conservation Areas

The County shall protect conservation area from degradation adjacent to development by conducting impact assessments during the development review process. The LDRs shall stipulate that development projects within an area of 1000 feet of a federal, state, or locally managed conservation area be evaluated for impacts including but not limited to hydrology, water quality, air quality, ambient noise, wildlife populations, natural ecosystems and aesthetics.

8.7 Florida Natural Areas Inventory

Land use planning, development approvals and assignments of priorities for environmental preservation/acquisition and protection programs shall require consideration of the Florida Natural Areas Inventory (FNAI) status of rare or endangered ecosystems.

8.8 Identification and Protection of Wildlife and Habitat Corridors

Lake County shall cooperate with federal, state and local agencies and conservation organizations to identify wildlife and habitat corridors that serve as biological connections between natural areas, and shall implement programs that protect the viability of these corridors. These programs shall include focused land acquisition initiatives, conservation easements, and appropriate regulatory measures.

8.9 Impact of Land Use on Wildlife and Habitat Corridors

The County shall regulate the use of land within or adjacent to wildlife and habitat corridors in a manner consistent with the continued function of those corridors. The County shall require that land use or development proposals demonstrate that wildlife and habitat corridors will not be adversely impacted by a proposed use or activity. In addition to requiring the preservation of corridors, the county shall regulate the density and intensity of adjacent uses, permitted activities, landscaping, lighting, and other factors that may contribute to the function or viability of identified corridors.

8.10 Riparian Habitat Protection Zones

The County shall require compliance with all statutory requirements and regulations pertaining to Riparian Habitat Protection Zones established by state or federal agencies.

8.11 Public Conservation Land Priority

Public conservation land acquisition programs shall consider conservation needs before recreation needs when lands that appear on lists or inventories of rare or endangered ecosystems are selected, to protect designated species and their habitats.

8.12 Identification of Conservation Programs

The County shall identify public and private conservation programs within the County's boundaries.

8.13 Identify and Protect Designated Species and Critical Habitat

The County shall cooperate with State and Federal agencies to determine the presence and habitat distribution of designated species. The County shall cooperate with these agencies to prevent further reductions in designated species populations.

8.14 Predevelopment Survey for Designated Species and Protection from Development

Activities that require the alteration or clearing of habitat of designated species shall be surveyed for occurrences of designated species by a qualified biologist prior to the issuance of a development permit. Development activities that have adverse effect upon a designated species shall require mitigation or shall not be permitted. Where viable habitat for designated species occur on a site, a management plan protecting these species shall be submitted by the applicant. The management plan shall depict areas to be preserved and describe management activities to provide for viability of the species, utilizing management protocols and guidelines accepted by FFWCC. The plan must be approved by the County in consultation with FFWCC before development is authorized.

8.15 Clustering Development Away from Designated Species

All development proposals shall be compared to FNAI maps and data to determine if the area is known to contain designated species. If it is determined that designated plant or animal species are present on site, development shall be clustered away from those species and their habitat, according to guidelines established by FFWCC.

8.16 Mitigation for Designated Species

Mitigation for species, including relocations, shall be permitted in Lake County only if consistent with applicable State and Federal regulations. If species mitigation is permitted, the County shall require written proof that onsite or offsite mitigation activities have occurred or are scheduled prior to site development. The County reserves the right to perform compliance inspections.

8.17 Management of Private Lands

The County shall encourage proper management of natural communities and designated species on private lands.

8.18 Endangered Species Management Plans

Lake County shall cooperate with the appropriate agencies in identifying habitat ranges for designated species located within the County and shall assist in the preparation of management plans, including mitigation procedures, to ensure the survival of these species.

8.19 Intergovernmental Coordination

The County shall adopt agreements with local governments and State and Federal agencies as necessary, pertaining to the protection and enhancement of designated species. The County shall continue to coordinate with all public agencies listed in the Intergovernmental Coordination element as primary or secondary agencies, whether or not they have regulatory authority over the use of the land.

8.20 Explore a Land Banking Program for Habitat Mitigation

Lake County, in cooperation with the Lake County Water Authority, and other state and regional regulatory and land use management agencies, shall investigate the feasibility of establishing an off-site "land banking" or land trust program as an option for the mitigation of the unavoidable loss of protected rare or endangered lands, natural upland communities, and wetlands. The monies generated from this program shall be dedicated to the purchase of significant environmentally sensitive lands for preservation.

8.21 Wildlife Consideration within Environmentally-Sensitive Areas

The County shall require the following methodology regarding the development of property containing species designated as endangered, threatened, or species of special concern within the Wekiva-Ocala corridor, WSA, and GSACSC:

1. As a condition for development approval, the developer/applicant shall be required to complete a site survey of plants and animals including designated species pursuant to Florida States, utilizing the most current wildlife methodology guidelines published by FFWCC and current information from FNAI.

2. Protection of listed species shall be accomplished either through on-site preservation or relocation within the designated area in accordance with a plan acceptable to, and permitted by FFWCC. Incidental taking of listed species shall be prohibited unless FFWCC determines that a particular group of animals on the site can not benefit from either on-site preservation or relocation. Should such a determination be made, any incidental taking must be expressly and specifically approved by the County. To the extent possible, commensal species shall be relocated with the designated species.

3. If a listed species is determined to exist on a site, the following shall apply in the given order of priority:

a. The developer/applicant must accomplish development in such a fashion as to avoid the habitat of the listed species; or b. The developer/applicant must demonstrate to the County that it is not possible to avoid the habitat of said species with the approved use, and then relocate the species on site to an equally suitable area consistent with guidelines published by FFWCC; or c. The developer/applicant must demonstrate to the County via site analysis that development with the approved use can not be accomplished through on-site relocation and that a conservation benefit can be achieved for the species and natural community through off-site relocation. Relocation must take place within the designated area (Wekiva-Ocala corridor, WSA, or GSACSC) with preference given to properties adjacent or close to the donor site. To the extent possible, commensal species shall be relocated with the designated species.

4. Whether the designated species is protected in place or relocated on or off site, the developer/applicant must assure that the habitat to be occupied by the species will continue to be compatible with survival of that species. The developer/applicant shall be required to dedicate associated habitat to the County, a conservation agency or conservation entity, or shall ensure that a conservation easement or similar legally binding instrument is established over the associated habitat on or off site. A site-specific management plan shall be required for the designated species and associated funding provided as necessary by the developer/applicant.

OBJECTIVE 9.0 CONSERVATION OF NATURAL UPLANDS

Lake County shall conserve natural uplands in cooperation with federal and state conservation agencies, and shall regulate the development of land to ensure the preservation of natural upland communities.

9.1 Inventory of Natural Upland Communities

The County shall cooperate with agencies and organization, including but not limited to the LCWA, FFWCC, FNAI, and water management districts to map upland habitat.

9.2 Conservation of Natural Upland Plant Communities

The County shall regulate the conservation of natural upland communities through provisions of the LDRs. The following upland plant communities shall be protected from the impacts of development: pine flatwoods, longleaf pine/xeric oak, sand hill, sand pine, upland mixed coniferous hardwood, mesic flatwoods/dry prairie. This list includes rare upland habitats specifically identified by the Wekiva Parkway and Protection Act (longleaf pine, sand hill, sand pine, and xeric oak scrub.)

9.3 Site Survey and Protection of Natural Upland Plant Communities

The County shall require all development proposals in excess of fifty (50) acres to inventory the type and extent of natural upland vegetative communities occurring on the development site. The survey shall be completed by a qualified biologist and also include a survey of plant and wildlife populations, and indicate the presence of any designated species. The species survey shall utilize a professionally accepted methodology approved by the County in consultation with the FFWCC. In addition, the survey shall inventory corridors important for wildlife movement. If a protected upland plant community identified in the previous policy is identified on site, then those communities shall be preserved for up to 50% of the subject site. Connectivity shall be maintained among protected upland areas to the greatest extent possible. The County shall have the authority to accept alternatives to onsite conservation that provide for the long-term protection and management of upland communities of equal or greater value elsewhere. Within the Wekiva Study Area, developments proposals in excess of five (5) acres shall require an upland vegetative community inventory.

9.4 Reestablishment of Natural Upland Communities

The County shall seek public and private assistance in propagating natural upland vegetation, especially designated species, from nursery stock in order to reestablish natural upland communities within the county.

9.5 Funding for Conservation of Native Uplands

Lake County shall investigate the establishment of native upland impact fee. The County shall also investigate funding this program through the general fund or other alternatives. If established, this impact fee shall be payable to the County and shall be used by the County for acquisition of native habitat preserve areas.

9.6 Protection of Sensitive Natural Habitat within the WSA

The County shall protect sensitive natural habitat identified by the Wekiva Parkway and Protection Act within the WSA, including Longleaf Pine/Sandhill, Sand Pine, and Xeric Oak Scrub communities, through land acquisition and regulation.

9.6.1 Acquisition of Sensitive Natural Habitat

The County shall strive to protect sensitive natural habitat within the Wekiva Study Area (WSA) through land acquisition and the establishment of conservation easements. The County shall utilize funds from the Lake County Land Acquisition Program and partner with federal, state and local governments and agencies, and with non-profit conservation organizations, to the greatest extent possible.

9.6.2 Protection of Sensitive Natural Habitat with Development

For new development within the Wekiva Study Area (WSA), a site analysis shall be performed during the development review process to identify sensitive natural habitats. If any such habitat is determined to exist on site, proposed development shall be required to avoid and protect such areas where they exist as follows:

Design shall be accomplished to maintain sensitive natural habitat in functional, clustered and contiguous configurations that maximizes use by wildlife and maintains the long-term viability of natural communities. This includes linkages to habitat corridors and greenways where possible.

If the sensitive natural habitat identified on site is determined to be of minimal ecological value, the County may accept alternatives to onsite conservation that provide for the long-term protection and management of sensitive natural habitat of equal or greater value elsewhere within the WSA that is not otherwise protected. Such alternatives may include the off-site preservation of sensitive natural upland habitat through fee-simple purchase of conservation easement.

The LDRs shall establish criteria for determining which projects warrant the use of alternatives to onsite conservation. Criteria may include but are not limited to size, quality, connectivity, management opportunities, and adjacent uses.

Sensitive natural habitats protected on-site shall require a permanent conservation easement and be incorporated as open space within the subject property.

9.6.3 Management Plan for Sensitive Natural Habitat

Within the Wekiva Study Area (WSA), the County shall require the development and implementation of a management plan for any sensitive natural habitat occupying more than two (2) acres that is to be protected on or off-site as a result of a development project. This management plan shall be prepared at the expense of the applicant by a qualified professional biologist and provide for the following:

- Removal of invasive vegetation, and replanting with native vegetation as necessary.
- Maintenance of biodiversity, with special emphasis on protection of listed plant and animal species.
- Removal of debris, articles, and structures not permitted by the management plan.
- Conditions for use that are limited to passive recreation.
- Any additional measures determined necessary to protect and maintain the functions and values of the habitat area while ensuring protection from wildfire.

OBJECTIVE 10.0 SOIL CONSERVATION

Lake County shall support efforts and activities that conserve soils.

10.1 Support Natural Resources Conservation Service

The County shall support the Lake Soil Conservation District with its ongoing countywide program that provides soils evaluation for the Agricultural Extension Service, reviews of development plans, public facilities location, and wetlands identification.

10.2 Coordinate Land Use with Soil Data

The County shall use the most recent "Soil Survey of Lake County and Soil Supplement" as the source of soil interpretation information for countywide land use planning and development review and approval. Land use activities, including densities and intensities, shall be compatible to soil types whose properties are capable of supporting proposed structures, parking, ancillary uses, and facilities, while ensuring public health and safety and protection of the environment, including groundwater resources. The County shall adopt LDRs that stipulate and define performance standards for land use activities, including but not limited to septic systems, proposed to occur on soil types whose development potential is limited in some form or manner.

10.3 Best Management Practices

The County, in cooperation with IFAS, FDACS, and other relevant agencies, shall require adherence to BMPs for agriculture and silviculture operations to prevent soil erosion, and to protect the biological diversity and health of soils. BMPs shall be followed during construction to prevent soil erosion.

10.4 Slope and Land Use

Future Land Use and zoning shall be assigned with consideration to topography. The County shall prescribe land use development limitations for slopes to minimize the impacts of development. The County LDRs shall limit septic tanks on Astatula (AtF) and Lake (LaE) soil types where steep slopes are present. Conservation easements or dedication shall be required where steep slopes are located adjacent to surface waters to minimize erosion consistent with streambank and lakeshore stabilization objectives. Steep or severe slopes shall be defined as having a gradient exceeding 10%. The alteration of slopes to reduce relief to gradients that can accommodate development must be approved by the County prior to land preparation activity.

Limitations shall be placed on septic systems upslope of groundwater seepage slopes and shall not be permitted where the density is greater than one dwelling unit per acre.

OBJECTIVE 11.0 MINING AND BORROW PITS

The County shall regulate mining extraction activities for mineral commodities including sand, clay and rock to minimize adverse impacts to air quality, surface waters, groundwater, springsheds, wetlands, and other natural resources.

11.1 Evaluate Mining and Borrow Pit Operations

The County shall continue to evaluate and enforce its Land Development Regulations relative to mining and borrow pit operations, including criteria of submitted restoration, reclamation and/or mitigation plans.

11.2 Coordination with State Reclamation Program

The County shall coordinate its permitting and regulation of mining and borrow pit operations with activities of the Bureau of Mine Reclamation of the Florida Department of Environmental Protection.

11.3 Prohibitions on Mining in Environmentally Sensitive Areas.

Mining shall be prohibited in environmentally sensitive areas of Lake County that cannot be restored. Areas that fall into this category include, but are not limited to: the limestone deposits within the Green Swamp Area of Critical State Concern and the Okahumpka Swamp; phosphate deposits on the west side of Lake George; and in the Wekiva Study Area.

11.4 Mining in Aquifer Protection Zones

Within aquifer protection zones mining must be performed in a manner that would not negatively impact recharge or water quality. Prior to approval of mining in these areas, the County shall require the applicant to provide a hydrogeologic report as described under Objective 2 - Ground Water Protection. The information contained in the hydrogeologic survey shall establish site specific standards and best practices for the mine to minimize mining impacts that include but not limited to aquifer and springshed protection, depth of mining, setbacks, buffering, open space and wetland protection.

11.5 A Mining Reclamation Plans

The County shall continue to require within its mining ordinance that no mining activities shall be permitted until the operator demonstrates a practical and environmentally sound reclamation plan, as required by the FDEP. The County shall encourage owners of existing mines presently exempted from reclamation requirements to carry out environmentally sound reclamation practices.

11.6 Preservation of Surface and Ground Water Resources at Mining, Excavation and Recontouring Sites

The County shall implement policies and land development regulations to minimize the effects of recontouring the land surface, resource excavation and mining on ground and surface waters.

11.7 Wetland Reclamation Procedures

The County shall establish provisions within the LDRs for appropriate standards for establishing or restoring the natural functions of mined areas, with respect to hydrology, vegetation, created wetlands and water bodies, and the control of exotic or noxious plant species. The County shall inventory improperly closed mining sites and develop a strategy for restoration of these areas.

OBJECTIVE 12.0 SILVICULTURE

The County shall require that silviculture activities be conducted in a manner compatible with the need to protect, conserve and appropriately use natural resources associated with karst features, wetlands and surface waters.

12.1 Follow BMPs for Silviculture

Lake County shall require that silviculture activities follow the best management practices contained in the publication titled "Silviculture Best Management Practices Manual" (FDACS) or its successor, and comply with requirements of federal, state, regional and local regulations.

12.2 Monitoring of Special Management Zones

The County shall require monitoring of special management zones, as established by the "Silviculture Best Management Practices Manual (FSACS), to ensure that such zones provide buffering between forestry operations and sinkholes or other karst features in order to reduce or eliminate non-point pollutants such as sediment, nutrients, logging debris, chemicals, and water temperature fluctuations and to protect natural in stream or near-stream habitat functions. In addition, the County shall require compliance with best management practices contained in the DEP/DCA publication "Protecting Florida Springs Manual-Best Management Practices."

HUMAN SYSTEMS

OBJECTIVE 13.0 GREEN BUILDING

The County shall encourage the public and private-sector in the use of third-party sustainable building rating and certification systems, such as the Master Builder Association's BuiltGreen system and the U.S. Green Building Council's LEED system.

OBJECTIVE 14.0 ENERGY CONSERVATION

The County shall promote the use of renewable energy sources and energy conservation practices.

14.1 State and Federal Incentives

The County shall support incentives by the state and federal governments to promote energy efficiency and conservation and the use of solar and other clean alternative energy sources.

14.2 Coordinated Energy Conservation

The County shall coordinate with the municipalities to promote energy conservation and education.

14.3 Alternative Energy Sources

The County shall encourage the development of power generating facilities that use energy efficient technologies, use diverse fuel sources, and take advantage of clean energy resources,.

14.4 Energy Programs

The County shall encourage participation in the following programs or their successors, as well as others that may apply:

USEPA's Energy Star Buildings and Green Lights Program to increase energy efficiency through lighting upgrades in buildings.

- Rebuild America
- Building for the 21st Century
- Million Solar Roofs
- Energy Smart Schools
- National Industrial Competitiveness through Energy
- U.S. Department of Environmental Protection's Pollution Prevention (P2) Program.

14.5 Promote Energy Efficiency in Government

The County shall promote energy efficiency in government operations and facilities. "Green building" techniques shall be employed in the construction or renovation of government facilities, and consideration given to renewable energy demonstration projects such as solar collectors on schools or other government buildings. The County shall evaluate the transitioning of its fleet of government vehicles to hybrid technology.

14.6 Reduce Architectural Consumption of Energy

The County shall promote the reduction of architectural energy consumption by - encouraging the incorporation of energy efficient site design techniques into all new developments. These guidelines shall include landscaping, green roofing, solar orientation and solar access provisions that promote the conservation of energy used for the thermal conditioning of buildings.

14.7 Promote Renewable Energy Resources

The County shall promote renewable energy applications by providing educational materials to the general public.

14.8 Promote Energy Consumption for Transportation

The County shall implement through the Future Land Use Element efficient urban development that minimize transportation demand. The County shall identify and implement transportation strategies that will lead to reduced per capita consumption of non-renewable energies.

OBJECTIVE 15.0 NOISE POLLUTION

The County recognizes the potential for noise pollution from various commercial and domestic sources and shall establish maximum decibel levels allowable for noise emitting vehicles, devices, and activities.

15.1 Consider Noise Pollution in Land Use Decisions

The County shall consider the impacts of noise pollution in reviewing proposals for land use, zoning, or permitted activities.

15.2 Adopt Noise Ordinance and LDRs

The County shall adopt a noise ordinance and LDRs as appropriate to regulate the volume and duration of noise emitted from vehicles, devices, and activities.

OBJECTIVE 16.0 LIGHT POLLUTION

The County recognizes the potential for light pollution from various commercial and domestic sources and shall establish standards regarding the intensity, type, and position of light sources.

16.1 Consider Light Pollution in Land Use Decisions

The County shall consider the impact of light pollution in reviewing proposals for land use, zoning, or permitted activities.

16.2 Adopt Lighting Ordinance and LDRs

The County shall adopt an exterior lighting ordinance and LDRs as appropriate to regulate the intensity, duration, direction and the area of illumination produced from artificial sources within urban and rural residential areas. The lighting ordinance shall also protect dark skies, and shall be based on recommendations of the International Dark Sky Association and exemplified by the City of Casselberry Exterior Lighting Ordinance (May 2002).

OBJECTIVE 17.0 ENVIRONMENTAL LAND ACQUISITION AND MANAGEMENT

The County shall continue a program to acquire and manage environmentally sensitive lands.

17.1 Acquire Land for Conservation

The County shall utilize revenue bonds from the the County Land Acquisition program and partner to the greatest extent possible with federal, state, and local agencies, as well as with private conservation entities as appropriate to acquire environmentally-sensitive land for permanent preservation.

17.2 Management of Conservation Lands

The County shall coordinate with federal, state, and local agencies regarding the management of public and private conservation land and shall consult with agencies regarding the potential impact of adjacent uses on the health and management of federal, state, and local conservation land and environmentally-sensitive lands. The County shall encourage best management practices associated with native habitats, such as controlled burning, and shall coordinate with the federal, state, and local agencies regarding management programs and policy.

17.3 Natural Areas Network

The County shall partner with federal, state and local agencies, and with private conservation entities as appropriate, to identify and acquire environmentally-sensitive land in order to establish natural area networks or greenways. These networks or greenways are intended to link parks, preserves and natural areas for the purposes of protecting habitat and wildlife corridors, viable populations of listed species, aquifer recharge capacity, and to establish a county-wide network of open space between developed areas.

17.4 Special Protection Areas

The County shall participate in programs at the local, regional, state, and federal levels to afford protection and management through acquisition and conservation easements within areas given special protection status. These land areas shall include but not be limited to the Green Swamp Area of Critical State Concern, the Lake Wales Ridge, the Emeralda Marsh, the **Lake Apopka Restoration Area**, the Wekiva-Ocala Greenway and the Wekiva Study Area .

OBJECTIVE 18.0 ECOLOGICAL RESOURCES PLAN

18.1 Investigate conducting an ecological resources plan

The County shall investigate the feasibility of conducting an ecological resources plan as part of an overall long-range planning effort to provide the County with an approach for sound and sensitive urban and rural development that is interwoven with the community's goals for maintaining and enhancing the ecological and economic benefits of the natural environment.

OBJECTIVE 19.0 HISTORICAL AND ARCHAEOLOGICAL RESOURCES

The County recognizes the importance and value of protecting historical and archaeological resources.

19.1 Identify and Preserve Historical and Archaeological Resources

The County shall cooperate with the State and Federal agencies and local archaeological and historical groups to identify and preserve archaeological and historical resources within the county. Land development regulations shall take into consideration historic sites and properties to insure appropriate maintenance and preservation.

19.2 Prevent Destruction of Archaeological Resources

Development shall cease construction activities on a development site when unidentifiable artifacts are uncovered during either land preparation or construction. The developer shall notify the County of such potential discovery, and the County and/or the developer shall contact the Florida Department of State of such discovery. Construction shall not begin until the State has determined the archaeological significance of the discovery and restrictions that will be placed on development. Development may continue in areas that will not impact the discovery site.