

EXECUTIVE SUMMARY

Alachua County, by virtue of its subtropical climate and variable hydrology and geology, supports a rich and diverse complement of natural resources. The County borders one of the most scenic and life-giving waters of the state, the Santa Fe River, and several major lake systems distinguish the County's interior (See Alachua County Location Map). The County is underlain by the Floridan aquifer system, the largest and highest quality potable water aquifer in the state, and contains some of the richest springs in the North Central Florida region. The karst geology of the County has created a mosaic of solution sinks and depressions which contain a wide variety of wetland flora and fauna, while the higher well-drained elevations support increasingly rare sandhill and scrub habitats.

Over the past century, however, development has slowly destroyed and degraded the rich natural resources of the County. The unregulated filling of wetlands, discharge of pollutants, mining of limestone and phosphate deposits, clearing of forests, dredging of lake bottoms, and channeling of streams and rivers has irretrievably destroyed or altered much of the original natural resource base. Environmental legislation passed at the federal, state, regional and local levels over the past three decades has done much to stem the tide of this destruction. Advance planning and further safeguards, however, will be needed to ensure the preservation and conservation of the County's remaining natural resources for future generations.

Alachua County's population has increased by approximately 20% over the last 10 years and consequently has increased the conversion of natural areas for urban development. The North Central Florida Regional Planning Council (1997) has identified a number of Regionally Significant Natural Areas in Alachua County. Several of these, including Payne's Prairie, San Felasco Hammock, Devil's Millhopper, and various recharge areas, are characterized as receiving significant amounts of growth. Additional scattered development has proliferated west of the Gainesville urban area and is impacting agricultural areas and natural systems at a rapid pace. As growth occurs, the need for protection and management of the County's natural, agricultural, and historic resources will increase. The identification of the types of resources, their location, and their significance to the residents of the County and region are necessary to understand policies intended to guide future growth and development in Alachua County in a manner compatible with the unique environment of North Florida.

The role of the Conservation and Open Space Element is to maintain or improve the quality of the County's environment and natural resources, and its citizens' quality of life, in light of the anticipated population growth. The Conservation and Open Space Element must work in harmony with the Future Land Use, Transportation Mobility, Recreation and other elements of the Comprehensive Plan in ensuring environmental protection while fostering economic growth and development.

Purpose of Conservation and Open Space Element

The Conservation and Open Space Element addresses long range planning for the conservation and protection of the natural resources and human-related resources, including open space areas, in Alachua County. The purposes of the Conservation Element are generally to identify the natural resources of the area, including air resources, earth resources (soils, minerals, and geological resources), water resources (groundwater and surface water quantity and quality, floodplains, natural groundwater recharge areas and natural drainage features) and natural communities and wildlife (vegetative communities, wildlife and wildlife habitats), and to establish policies to protect and conserve those resources. This Element also identifies certain human-related resources with close connections to natural resource or conservation objectives. These include energy, open space, scenic quality, vegetation management, agricultural and silvicultural resources, wildfire mitigation, and hazardous materials and waste resources. The purposes of the Open Space portion of the Element are to identify open space needs and to establish policies to protect natural areas and open space for wildlife and people. Implementation of these policies will include a broad array of strategies that include education and outreach, public participation, regulations, incentives, acquisition, intergovernmental coordination, and other appropriate mechanisms.

Element Organization

The Element is presented in two sections, the Data and Analysis portion and the Goals, Objectives, and Policies portion. The Data and Analysis section presents historic and current conditions upon which to base the recommended planning and management strategies. The Goals, Objectives, and Policies section presents the recommended planning guidelines, programs and other operative provisions which are intended to drive private and governmental decisions regarding natural resources. The Goals, Objectives, and Policies section is the most critical portion of this element, as it is adopted in ordinance form and provides the measurable guidelines within which Alachua County will operate in the future. The Data and Analysis shall be updated on a regular basis and will be used to support the Goals, Objectives, and Policies. The Evaluation and Appraisal process under Section 163.3191 F.S. will be used to update the Goals, Objectives, and Policies every five years. It will be necessary to adopt regulations to enforce these objectives and policies and to identify funding sources to provide additional services for future needs. These issues are fundamental to the implementation of this Element.

Overview of Data and Analysis

The Element divides the Data and Analysis into three broad categories: conservation strategies, natural resources, and human-related resources.

The section on conservation strategies is presented to give a basic overview of Alachua County's approach to environmental conservation. The Conservation and Open Space Element is designed to protect and manage natural resources on a system-wide basis, through a comprehensive approach that encompasses an array of strategies. Strategies are presented under four major categories: information strategies, acquisition, regulatory approaches, and incentives. Information strategies include commitments to indicators tracking, information sharing, education and outreach, civic engagement, and intergovernmental coordination. Acquisition encompasses the use of voluntary acquisition tools, such as sales, donations, and dedications of interests in land for conservation purposes. The new Alachua County Forever program is described, as well as various state programs available in the County. Under regulatory approaches, various efforts are described within a whole-systems thinking framework. Conservation and preservation land use categories are discussed, and an overview of resource protection

standards and natural resources maps is provided. Incentives discussed in this part of the data and analysis include tax breaks, innovative planning and zoning, rural land stewardship areas, and cost-shares and certification programs. All of these strategies are discussed in later portions of the data and analysis in further detail.

Natural resources are presented under five major topic areas: air quality, earth resources, water resources, wetland ecosystems, and natural communities and wildlife. Air quality and sources of air pollution are discussed, as well as the County's efforts to seek local air quality program delegation from the state. Earth resources are identified, including soils, minerals, and geological resources. Ground water resources are identified in the physiographic and geologic context of Alachua County. Aquifer characteristics, including flow, discharge, and recharge are described and mapped. Ground water quality, pollution problems, and existing regulatory structure are presented, along with current and projected water needs and sources. Surface water types, watershed basins, wetlands, floodplains and floodways are identified. Surface water quality, pollution problems, and existing and potential recreation and conservation uses are described. Finally, various components of biodiversity, including natural upland and wetland communities, forests, native mammals, birds, reptiles, amphibians, and fish, and rare and endangered species, are inventoried. A map series of uplands and wetlands is included, as well as inventory lists of plants and animals found in the County.

Human-related resources are presented in the form of seven broad categories: energy conservation, open space, scenic quality, vegetation management, agriculture and silviculture, wildfire mitigation, and hazardous materials. The section on agricultural and silvicultural practices provides an in-depth discussion of current issues related to farming and forestry in Alachua County. Other portions of the data and analysis reference this section for overlapping discussions of resource impacts, management strategies, and incentives. In addition, new sections devoted to scenic quality, vegetation management, and wildfire mitigation are representative of increasing interest in and attention to these issues.

Overview of Goal and Objectives

The Goal of the Conservation and Open Space Element is to conserve, manage, restore, or enhance the natural and human-related resources of Alachua County to ensure long-term environmental quality for the future. Objectives and policies for implementation are presented in the following areas:

Conservation Strategies: Embrace multiple, diverse strategies for the conservation of natural systems in Alachua County, and establish environmental conservation as a priority in all decision-making for Alachua County.

Environmental Information Management: Increase public understanding of natural resources issues and provide access to the most current and reliable information so that the public may make informed decisions regarding their health, welfare, and safety. Manage natural resources at a scale appropriate to their protection, and facilitate consensus-building in the public participation process.

Environmental Land Use Categories: Establish and map conservation and preservation areas to recognize and protect natural resources within privately and publicly owned lands in Alachua County utilizing appropriate regulatory, acquisition, and incentive mechanisms.

Natural Resources:

- *Air Quality:* Take appropriate steps to maintain or improve ambient air quality to ensure the protection of public health and the environment and to exceed compliance with state and national ambient air quality standards.
- *Soils/Slopes:* Reduce the rate of soil erosion and sedimentation from development activities and encourage the utilization of the soil consistent with the ability of the physical properties of the soil to support appropriate land uses.
- *Minerals:* Regulate extraction activities so that they do not adversely affect the quality of air, groundwater, surface water, land, and wildlife.
- *Geology:* Protect and maintain significant natural geologic features such as special karst features -- springs, caves and sinkholes in their natural condition.
- *Groundwater:* Protect and conserve the quality and quantity of groundwater resources to ensure long-term public health and safety, potable water supplies from surficial, intermediate, and Floridan aquifers, and the ecological integrity of natural resources.
- *Surface Water:* Ensure the protection and improvement of the water quality, biological health, and natural functions of surface water systems in Alachua County.
- *Wetlands:* Ensure the protection and improvement of biological health and natural functions of wetland systems in Alachua County. Wetland acreage and function shall be protected.
- *Floodplains:* Protect and maintain the natural functions of floodplains, floodways, and all other natural areas having hydrological characteristics of the one hundred (100)-year flood elevation. Natural functions include water purification, flood hazard mitigation, water supply, and wildlife habitat and connectivity.
- *Biodiversity:* Maintain and enhance plant and animal species diversity and distribution within Alachua County by protecting significant plant and wildlife habitats, providing for habitat corridors, and preventing habitat fragmentation.
- *Ecosystems:* Protect, conserve, enhance, and manage the ecological integrity of strategic ecosystems in Alachua County.

Human-Related Resources

- *Energy:* Provide for energy efficiency in human activities, land uses, and development patterns in order to reduce overall energy requirements for the County and its residents.
- *Open Space:* Preserve or establish open space within developments to ensure public health, safety and welfare and to protect recreational and natural resources and functions.
- *Scenic Quality:* Protect the natural resources and scenic quality of the community to preserve and cultivate a unique sense of place while maintaining economic well-being.
- *Vegetation:* Require and encourage public and private land clearing and landscaping practices that conserve, appropriately use, and protect native vegetation, including forests.

- *Agriculture/Silviculture:* The County shall encourage the retention of agricultural and silvicultural operations that are conducted in accordance with best management practices.
- *Wildfire Mitigation:* Protect life, property, and the economy by eliminating or minimizing the present and future vulnerability to wildfire hazards.
- *Hazardous Materials:* Act to reduce the risks associated with hazardous materials and encourage the reduction of hazardous waste generation. Protect and enhance the quality and safety of the environment by requiring that disposal methods for hazardous waste and handling and storage methods for hazardous materials are properly designed, operated, and monitored.

Land Conservation Program: Establish and maintain a land conservation program that uses a variety of strategies for the purchase, preservation, and management of natural areas and open space to complement the regulatory approaches identified in other sections of this element. Improve the environmental stewardship of all preservation, conservation and recreation areas within County boundaries.

Relationship to Other Plan Elements

The **Conservation and Open Space Element** is part of the Comprehensive Plan of Alachua County, which is made up of a number of distinct elements. No single element has a higher status or greater importance than any other -- the individual elements collectively are part of a whole. The following list of other Plan elements describes how each is affected by and, in turn, affects the Conservation and Open Space Element.

The **Future Land Use Element** establishes policies and standards for the proper distribution of varying land uses. It identifies the protection of natural and cultural resources in conjunction with proper design as an important feature in managing growth. The conservation policies give specific guidelines on development of lands containing important natural and cultural resources. Of crucial importance to the relationship between natural resources and land use is the completion and implementation of multi-objective special area plans that provide for the conservation and efficient utilization of human-related and natural resources in the area.

The **Transportation Mobility Element** projects the needed roadway infrastructure for the anticipated growth of the County. The Conservation and Open Space Element identifies areas where roadways can be constructed so as to direct growth away from important natural areas and into areas where urban development has already taken place or is projected to occur. In addition, the Conservation and Open Space Element includes standards for tree conservation, landscaping, and lighting of transportation corridors generally, as well as additional considerations for specifically identified scenic corridors.

The **Solid Waste Element** projects the future demand for landfilling and other forms of waste disposal. Careful selection of waste disposal sites and adequate regulations can also prevent contamination of the County's resources.

The **Potable Water and Sanitary Sewer Element** establishes guidelines for providing water to the community. The quality and quantity of ground and surface water resources can be influenced by the development activities on or around sources of potable water. The Conservation and Open Space

Element provides protection for well fields and community water supplies. It also projects future needs and establishes policies for sewage collection and treatment facilities. Adequate facilities help to protect water and land resources from contamination and aid in the conservation of the resources of the County.

The **Recreation Element** identifies the need for public recreational facilities and user-oriented parks. Public acquisition and private participation in the utilization of certain sensitive areas for recreation and open space purposes can enhance the public's appreciation of the landscape while conserving the natural and cultural resources of the County.

The **Intergovernmental Coordination Element** establishes policy for cooperation among governmental entities in Alachua County. When natural resources are threatened, joint efforts among governmental agencies can help avoid problems and promote awareness.

The **Housing Element** projects the future mix of housing types and establishes guidelines for promoting a healthy and diverse housing market. New housing construction may be guided by conservation policies to allow both development and protection of historic and natural resources.

The **Economic Element** seeks to create an economic environment that will enhance the economic prosperity of all citizens of Alachua County. The Conservation and Open Space Element establishes policies for the protection and enhancement of natural resources vital to public health and welfare, while providing for appropriate use of natural resources of economic importance to the citizens of Alachua County commensurate with the need to ensure long-term environmental quality.

The **Stormwater Element** identifies floodprone areas and determines natural drainage capacity to project the need for necessary infrastructure to reduce flooding problems. The Conservation and Open Space Element provides for protection of the natural functions of floodprone areas and requires that development be designed to minimize additional impacts on natural drainage features that could cause flooding or stormwater contamination.

The **Capital Improvements Element** projects the financial capabilities of the County to meet capital demands for the future. This includes prioritizing and scheduling capital projects to be constructed by the County and identifying revenue sources for financing such projects. The Conservation and Open Space Element coordinates with the Capital Improvement Element to insure that capital projects are designed to conserve natural resources.

The **Historic Preservation Element** is a new element created largely from objectives and policies located within the former Conservation/Aquifer Recharge Element. The Historic Preservation Element preserves, protects, enhances, and supports historic and paleontological resources and properties. All development activities subject to the County's development review process, as well as all County capital improvement projects, are required to consider potential impacts to historic and paleontological resources. Policies in the Historic Preservation Element require relevant survey and analysis, avoidance and minimization of impacts to significant resources, or appropriate mitigation where avoidance is not possible. The Element, as well, calls for creation of a comprehensive Historic Preservation Plan and Historic Preservation Ordinance in the interest of implementing and furthering the stated goals, objectives, and policies.