

## DRAFT

Lee County desires to develop additional science-based information to help evaluate planning alternatives for areas that are facing strong development pressure. One such area is southeast Lee County, defined as the region south of SR 82 and east of Six Mile Cypress and Estero Bay, which includes most of the Density Reduction / Groundwater Resource (DR/GR) area.

A much greater understanding of subsurface conditions is now available as a result of the 2005 Groundwater Resource and Mining Study, and a thorough review of all prior scientific studies of southeast Lee County has recently been completed. The review of prior studies acknowledged the lack of information about several essential topics, including the ecological impacts of mining, the ecological impacts of agriculture and the potential for restoration of farmland, and a hydrologic water budget for DR/GR lands. Also missing is critical baseline data about natural systems in this area, including fundamental information such as approximate boundaries of wetlands, existing land uses and vegetative cover, and the natural fluctuations of surface water levels.

The long-term goal for the Density Reduction / Groundwater Resource area is a sustainable mosaic of preserved lands, agricultural uses, mining operations, and residential land uses (mostly rural in character). This mosaic must protect and restore rather than destroy natural systems, not just groundwater resources but also wildlife habitat, natural vegetation, and historic hydroperiods.

Planning for the future of southeast Lee County requires reliable data so that county officials will be able to make informed decisions about potential land use conflicts in this environmentally and economically valuable area.

Completion of the following tasks would provide much better information on the state of physical and biological resources in southeast Lee County to assist to county staff when reviewing pending land development and mining applications. Additionally, surface and ground water monitoring results can be used to calibrate models that can predict the impacts of land use changes and can be used to improve project designs and management plans.

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## TASKS:

- Analyze the existing application and approval requirements for rezoning, mining, and agricultural clearing submittals. Determine any gaps and analyze appropriate methodologies for collecting essential information to fill any gaps, with particular attention to southeast Lee County. Determine whether changes to current regulations may be needed and draft appropriate land development code amendments.
- Analyze the major land uses in southeast Lee County such as residential development, mining, agriculture, and conservation lands. Analyze at least the following levels; already constructed; approved but not constructed; and pending or imminent applications.
- Formulate potential land-use that might help achieve a sustainable mosaic of preserved lands, agricultural uses, mining operations, and rural land uses in the Density Reduction / Groundwater Resource area. This task is intended to stimulate a community discussion that may lead to amendments to the Lee Plan.
- Prepare an accurate existing land use map and cover map using the Florida Land Use and Cover Classification System (FLUCFCS) at no less than Level III for both current and historical conditions. Tabulate all results by watershed and include hydric soils mapping.
- Expand a ground and surface water monitoring network within each watershed that focuses on a variety of land use types including native uplands and wetlands, commercial and residential development, and mining.
- Prepare a water budget and estimate minimum flows, current and historical (pre-development) water levels for select streams and wetlands within each watershed.
- Conduct an evaluation of commonly accepted scientific hydrological modeling systems currently used to assess a variety of land use activities. Determine if these modeling systems represent the best available science for understanding the impacts of activities, including but not limited to residential development, agriculture and mining.