

Hendry County Visioning Workshops

Issue Summaries #5 and #6

John C. Capece, Ph.D.
Southern DataStream, Inc.
April 15, 2006

5. Enhance the quality of Lake Okeechobee and the Caloosahatchee River

The public expects South Florida's water bodies to be managed in ways that deliver flood protection, sufficient water supply, environmental quality, navigation, health, and recreation. Only the natural systems that evolved over the millennia can effectively provide all these functions in balance. As man increasingly alters the natural system to emphasize one function over another, we disturb this balance, creating unintended, negative consequences. Such is the case with Lake Okeechobee. By altering Lake Okeechobee and its watershed to emphasize drainage, flood protection, and water supply for agricultural and urban development, we have sacrificed the Lake's environmental quality and recreation functions; affecting the economies, health, and quality of life for communities along its shores and those along the Caloosahatchee River into which Okeechobee waters flow.

The issues of Lake Okeechobee and the Caloosahatchee River are closely linked. Both suffer from extremely poor water quality, unnaturally frequent algal blooms and declining fish and wildlife populations. The waters have become unsafe for drinking and even precarious due to simple direct contact. As a result, the community of Hendry County has lost part of its valued heritage – access to and connection with the liquid heart of Florida. But through its shared expressions, that community has identified Lake Okeechobee and the Caloosahatchee River as natural treasures we should seek to restore and protect.

The solutions fall into two categories: (1) **clean-up** of past mistakes and (2) **prevention** of their repetition or future pitfalls. Unless we confront both challenges, Hendry County will face a future of unending clean-up projects with little to show for our efforts.

Clean-up projects at the regional level have focused on the creation of Stormwater Treatment Areas (STA's) that attempt to relieve the lake, river and canal waters of their elevated nutrient levels. Also included in these plans are the creation of large, public reservoirs and, if feasible, water storage sites on private lands. Plans for actions within Lake Okeechobee focus on improved management of lake depth and the health and longevity of littoral zone vegetation to achieve improvements in water and habitat quality. Other, more aggressive approaches being considered include the creation of regional flow ways, southward from Okeechobee towards the Everglades, and the removal of nutrient-laden sediments from the bottom of the Lake. These more aggressive concepts will present significant public policy and economic challenges in the coming years.

Prevention of future water problems requires that we not only deal with our lakes and rivers properly, but that we also dramatically improve how we manage the lands that drain into them. Three major trends affect our land, lake and river management future: (1) land conversion to residential and urban uses, (2) changes in the ways we manage current agricultural lands, and (3) public purchases of both undeveloped and agricultural lands for environmental and recreation preserves. Public land purchases serve habitat functions in addition to providing water quality improvements and will thus continue to be a growing part of our future. However, public land purchases alone will not restore our water quality as people continue to move to South Florida and impervious area increases. In the years from 1990 to 2000, the Hendry County population increased by over 40 percent. To avoid further degradation and reverse past damage we must dramatically improve the way we manage our farms and towns to minimize their negative impacts on water quality. Hendry County has begun to move in this direction. Its agricultural industries and agencies continue to develop and implement Best Management Practices (BMPs). However, the public investment in long-term BMP research have been insufficient and more often managed as short-term rather than long-term projects, thus diminishing their effectiveness. But research is continuing and the immediate implementation of currently approved BMPs provides hope that the remaining resources are protected or improved.

Water quality BMP programs exist for sugar, cattle, vegetables, citrus, and urban development. Sugarcane BMPs have already yielded improvements, while cattle BMPs are showing less benefit, and citrus BMP implementation has begun this year. Expansion of the current public-private partnerships and investment in BMP programs is necessary. The economic constraints of international open trade policies make it difficult for farmers to make the required investments while also remaining competitive in global markets, but government funding or private assistance could change that. Hendry County should be among the national leaders in developing sustainable agricultural practices that will protect our environmental quality and economic competitiveness. Such an approach would not only improve our local waters, but would also allow Hendry County to export advanced, environmentally-sustainable farming methods to other parts of the world that face similar development and ecological challenges.

Hendry County has also begun exploring sustainable urban development practices such as stormwater utilities to treat residential and commercial runoff waters. Minimizing runoff and the damaging nutrients it contains is the focus of the UF-IFAS Cooperative Extension Service program, Florida Yards & Neighborhoods (FYN). The FYN program is one that should be applied throughout the county so that all existing and new development adopts integrated water & nutrient conservation landscape design and practices. The county and its communities should also expand their investments in alternative water supply systems, such as capturing and cleaning runoff and river water during the wet season for treatment and potable use. Water systems must be further improved to include modernized septic systems, central sewers, wastewater treatment plants, and water reuse for landscape and crop irrigation. Hendry County faces critical decisions in both policy development and infrastructure construction that will impact the

future health of our water resources. These decisions will shape all future urban development and thus, the future of water and environmental quality as well.

Current investment of public resources in restoring Lake Okeechobee and the Caloosahatchee River are heavily slanted towards clean-up projects. This investment needs to be balanced with equal investments in prevention, research, and public education if we are to make real improvements. Hendry County should advocate for additional local, state and federal funds to create and enforce prevention measures so that we avoid simply replacing our current agricultural legacy water quality problems with urbanization water quality problems. Hendry County is on the brink of a boom in residential development and the time has arrived for the community to make the visionary decisions and investments required for the restoration of Lake Okeechobee and the Caloosahatchee River.

6. Enhance the natural environment

The public's desire to enhance the natural environment can be viewed as representing two related, but distinct priorities: (1) improving and protecting the health of the Hendry County's natural ecosystems and (2) preserving and enhancing the aesthetic appearance and general health of the more commonly-encountered Hendry County landscapes. Natural ecosystems are the spaces that are Hendry County's treasured wilderness and wildlife habitat. These may be just outside town or may be so remote that their direct enjoyment is not be a part of our frequent or even annual experience. Examples of the second case include well-maintained neighborhoods, parks, golf courses, pastures and groves that provide visually pleasing landscapes which people encounter and enjoy during their routine activities, but are far from being natural ecosystems. The public desire for enhancing the natural environment requires action in both categories. We need to protect remaining natural areas while simultaneously adapting our developed areas to incorporate more elements of the natural environment (healthy water bodies, fish, trees, backyard wildlife, etc.).

Hendry County's native habitats are generally found in its southern half of the County, while the northern sections are more developed. The most prominent ongoing environmental programs are the purchases of land tracts for. The largest of these public land holdings is the Okaloacoochee Slough (35,000 acres) with its adjacent Spirit of the Wild to the northwest (7,680 acres) and Dinner Island (19,840 acres) to the southeast. Both Spirit of the Wild and Dinner Island have agricultural sections that are being restored to their native wetland and flatwood states to create a large, connected natural habitat corridor for native wildlife, with an emphasis on birds and the Florida panther. Another wildlife haven is the SFWMD Stormwater Treatment Area (STA) of southeast Hendry County. Additional land purchases are either planned or being considered.

Agricultural land use is not always incompatible with environmental protection. Well-managed, semi-improved pasturelands provide greater biological diversity than other agricultural land use. In addition, the Florida panther, while preferring native forests and swamps, also traverses citrus groves, which provide canopy cover more similar to their

native habitat. Thus, there can be ecological value in preventing the conversion of agricultural lands to residential use, particularly where they connect disparate native habitats. Through innovative growth strategies, which maintain these open spaces, Hendry County can enhance its natural environment while preserving its agricultural character.

Best Management Practices (BMPs) are the components of an environmentally sustainable farming. BMPs can improve water quality and decrease the overall impact on the environment, while improving the sustainability of agricultural practices. Examples include selecting a slow-release fertilizer, decreasing the amount of fertilizer applied, reusing field runoff for future irrigation, or employing environmentally friendly pest control methods for both landscaping and commercial agriculture.

The control and reduction of exotic plant and wildlife populations is important on all lands of the county, but particularly within preserve areas. Improvement of the habitat quality along the extensive Caloosahatchee shoreline and the physical restoration of historically-significant landscapes (such as the Caloosahatchee Oxbows) can play an important role in improving both the environment and recreation in Hendry County. Local non-profit organizations are pursuing funding to continue the improvements to the LaBelle Nature Park and establish an environmental education center adjacent to the park.

Progressive building and development codes are a primary tool in achieving visual and ecosystem improvement goals. Native landscaping ordinances are being developed which will serve both water quality and water supply needs while also creating more natural landscapes that will better attract and sustain local and migratory wildlife.

The public goals are best achieved through a balance of land purchases and private protection and enhancements. If we fail to integrate eco-friendly design and management into our residential and agricultural landscapes then the only way the public can effectively enhance the natural environment is by the purchase of additional lands, permanently removing this acreage from the County tax roll.

One of the critically important initiatives for environmental protection and enhancement is the creation of Transfer of Development Rights or Units programs (TDR & TDU). A rapidly growing population, combined with a highly competitive agricultural market, creates strong incentives for all landowners, even those in remote areas, to pursue development. Concurrency requirements, which dictate a halt to growth once road capacity has been consumed, also encourage landowners to convert their properties to residential development as soon as possible.

A TDR/TDU program would help to moderate these pressures and can be structured to enhance the natural environment. Existing programs achieve this by allowing increased densities (number of residential units per acre) only where the planned homes can best be supported by efficient urban infrastructure and services and where the home development generates the least environmental impact. The TDU program further requires that

developers purchase their increased densities from the more remote and more environmentally sensitive areas of the county or those areas designated for long-term agriculture land use, permanently removing the potential for development from these areas. This allows even the most remote landowners to share in the economic benefits of development while providing a free market mechanism for both population growth and preservation of high priority lands. The sooner a well-designed and administered TDR/TDU program is initiated in Hendry County, the greater the chances of achieving Priority #6 (Enhance the Natural Environment).