

VISION FOR A SUSTAINABLE EVERGLADES AGRICULTURAL AREAⁱ

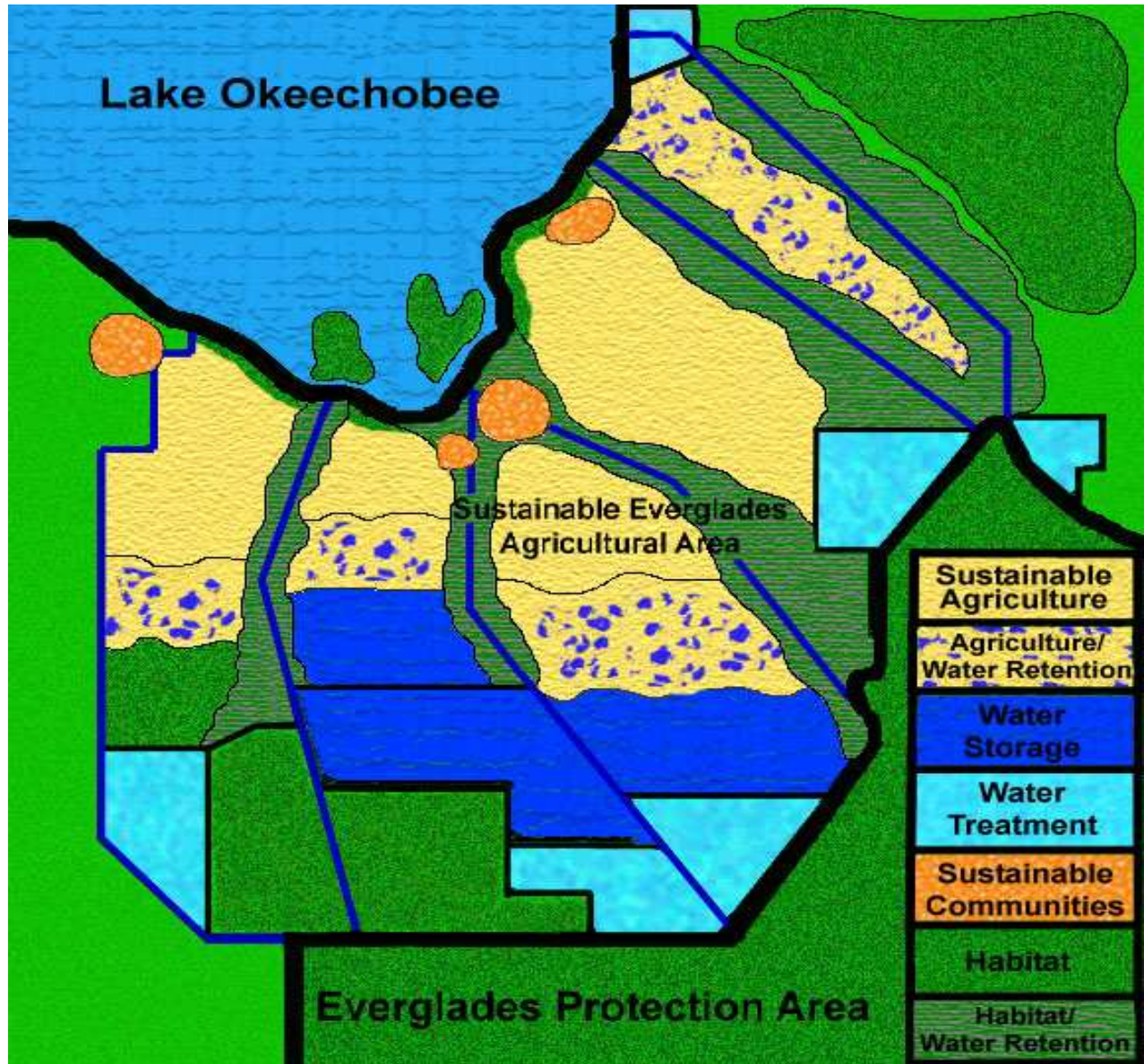


Figure 1. Vision for a Sustainable EAA

A sustainable Everglades Agricultural Area includes the following components (see Figure 1):

- I. Everglades Restoration (water storage, water treatment, habitat, and water retention),
- II. Sustainable Agriculture, and
- III. Sustainable Communities.

INTRODUCTION: Management of land and water in the Everglades Agricultural Area (EAA) profoundly affects the Lake Okeechobee, coastal estuaries, the Everglades, and Florida Bay, as well as the Glades Communities. The Everglades Agricultural Area (EAA) is fundamentally important to a sustainable Everglades ecosystem. Designated by Congress for its soils and potential to help feed the nation, the EAA can be managed for both working farms and to enhance Everglades restoration goals.

Recent development and mining proposals from EAA landowners, once thought to be committed to agriculture for the long-term, raise questions about the prospects for this area and impacts to the rest of the region. There needs to be a plan for the EAA that focuses on Everglades restoration, sustainable agriculture, and sustainable growth within and around existing communities.

The Everglades Agricultural Area (EAA) encompasses roughly 700,000 acres of former Everglades habitat, and separates Florida Bay and the remaining Everglades from Lake Okeechobee. This large region formerly experienced water depths ranging from 1-5 feet but is now pumped dry. Lake Okeechobee holds unnaturally high amounts of water during the wet season, and is often over drained unnaturally fast in the dry season. The future of the EAA is both a significant opportunity and a grave threat to the success of restoration and the sustainability of South Florida.

Although Everglades restoration plans assume the continuation of agriculture in the EAA, the future of the current dominant crop is uncertain. Pressures are increasing for conversion of EAA lands to mining, residential, and commercial development uses. Development within the EAA and associated flood control, urban pollution, and other infrastructure could exacerbate the problems the EAA presently creates, further disrupt Everglades restoration, and threaten future water supply for natural and human systems. Conversely, if planned properly, land use changes present opportunities to reverse many of the disruptive effects on the Everglades, Lake Okeechobee, and on lands in the EAA. A thoughtful approach to the future of the EAA is urgently needed (see Figure 1).

STEPS TOWARD A SUSTAINABLE EAA: Water storage, water treatment, habitat restoration, and water retention are all essential ecological functions that should be recreated in the EAA to provide important benefits for South Florida (see Table 1).ⁱⁱ Sustainable agriculture and food production that protects soils and meets water quality standards should continue to be a purpose of the EAA. Compact urban growth patterns within existing population centers (*i.e.*, Belle Glade, Clewiston, Pahokee, and South Bay) will keep the remaining land in the EAA available for working farms agriculture and land uses that facilitate Everglades restoration, consistent with state and local comprehensive planning documents.

Audubon of Florida, Florida Wildlife Federation, and 1000 Friends of Florida call on:

- The State of Florida to work with the Glades communities, local, regional, state, and federal agencies, and other stakeholders to establish a long-term sustainability plan for the region.
- County governments to refrain from major land use changes outside of existing communities in the EAA until an area-wide plan is established.
- The local U.S Department of Agriculture and the Florida Department of Agriculture and Consumer Services to work to secure the future of farming in the EAA.
- U.S. Fish and Wildlife Service and the Florida Fish and Wildlife Conservation Commissioner to help restore wildlife abundance in the EAA.
- The South Florida Water Management District to plan for increased storage, retention, and treatment of water on lands available from willing sellers in the EAA.

I. EVERGLADES RESTORATION: Water storage, water treatment, habitat restoration, and water retention are all essential ecological functions that should be recreated in the Everglades Agricultural Area (EAA) to provide important benefits for South Florida (see Table 1).

Table 1. Essential Ecological Functions of EAA Lands to Achieve Everglades Restoration

Function	Total Goal	Existing/Planned	Additional Need
Water Storage	1,000,000 Acre-Feet ⁱⁱⁱ	360,000 Acre-Feet	640,000 Acre-Feet
Water Retention	375,000 Acre-Feet	225,000 Acre-Feet	150,000 Acre-Feet
Water Treatment	10 ppb Phosphorus	41,400 Acres STAs	30,700 ^{iv} Acres STAs
Habitat	80,000 Acres	65,000 Acres	15,000 Acres

A. WATER STORAGE IN THE EAA: Water supply for the Everglades and growing urban populations throughout South Florida depends on a restored Everglades, including significant additional water storage. Based on the fact that substantial amounts of water are being lost to tide each year, with no concomitant benefit, the Everglades Restoration Plan^v water storage proposal should be expanded to maximize benefits from holding water in the system. In the wettest years, Lake Okeechobee receives more than 4,700,000 acre-feet of water.^{vi} About 2,384,000 acre-feet of this water are expected to evaporate, CERP surface storage may store an additional 500,000 acre-feet, and water supply will need about another 500,000 acre-feet.^{vii} 1.3 million acre-feet^{viii} of excess water (enough to raise Lake Okeechobee almost 3 feet) are discharged to prevent the lake from over-filling, usually via harmful discharges to the Caloosahatchee and St. Lucie Estuaries. Benefits of adequate water storage include:

- more natural timing and distribution of water to the Everglades ecosystem,
- enhanced water quality for the environment and people and reduced EAA stormwater runoff,
- more water supply certainty,
- contingency for uncertain ASR technology,
- ability to capture excess water from the lake, leading to fewer harmful discharges to estuaries,
- improved freshwater sheetflows to Florida Bay, and
- improved Lake Okeechobee water quality/water use regimens.

B. WATER QUALITY IMPROVEMENT IN THE EAA: Expand stormwater treatment areas (STAs) without sacrificing planned water storage capacity of the EAA reservoirs. Benefits include:

- storage and processing of additional water,
- incorporation of larger areas of STAs, periphyton-based STA (PSTA) or other advanced treatment methods without compromising submerged aquatic vegetation (SAV) and emergents,
- ability and flexibility to meet 10 ppb phosphorus under a variety of climatic conditions, and
- habitat on STA lands (though not a management goal for these lands).

C. RESTORING EVERGLADES HABITAT: Restore a variety of habitats throughout the EAA to help create a landscape capable of supporting local species as well as wide-ranging and migratory species that use the region. Primary goals should include the restoration of abundant and sustainable populations of locally endangered species and the restoration of unique habitats lost. Benefits include:

- additional foraging grounds for wide-ranging species like wading birds,
- increased diversity of habitat and abundance of local fauna and flora, including endangered species,
- increased groundwater recharge, improved water quality, and soil conservation, and
- increased public recreational opportunities.

D. WATER RETENTION IN THE EAA: Additional acreage in the EAA is needed for retention of excess water and flexibility in water management to prevent harmful releases into estuaries and the Everglades. "Habitat/retention" is defined as land that would be nominally restored as habitat corridors or flowways, but would be managed to accept water whenever the need arises. Similarly, "agriculture/retention" would be agricultural land whose owner has agreed to retain water when a certain level of need arises. Retention areas require less engineering since they are not designed to meet storage needs, but instead offer opportunities for interim retention on lands serving other purposes, including agriculture, water treatment, recreation, and habitat. Benefits of water retention areas in the EAA include:

- fewer harmful discharges of polluted water to the estuaries and the Everglades,
- potential to route waters captured in retention areas to storage for later use,
- habitat restoration in Lake Okeechobee through improved water level management,
- soil conservation,
- habitat on retention lands (though not a management goal for these lands),
- increased recreational opportunities such as fishing and hunting, and
- Increased hydrologic connections and flowways.

II. SUSTAINABLE COMMUNITIES: We recognize an opportunity to work cooperatively with the Glades communities to achieve our common goals of economic, social, and environmental sustainability for the EAA. We support the 'Glades Vision to Action' goal of quality, sustainable development shaped for the most part by the aspirations of the residents of the Glades communities and to be part of those communities, as well as the focus on the physical infrastructure - maintaining and improving the existing built environment and the natural environment.

We commend the Glades Community Development Corporation for its efforts to provide for the human and economic potential of the Glades area and its interest in diversifying from the sugarcane economy. Conversion of agricultural land to sprawling subdivisions and mining pits are neither in the best interest of Glades residents or the environment. From the final report, we take special notice of the following:

Infrastructure - Create more affordable housing within the existing developed areas. Convert or recycle existing substandard and abandoned properties to viable housing and business locations. Focus on improving downtown rather than sprawling outward.

Civic Infrastructure - Improve citizen participation in decisions affecting the future of the Glades communities.

Jobs - Increased recreation opportunities, particularly through better management and use of Lake Okeechobee, would provide tourism-based jobs.

Infill and redevelopment in the EAA should be directed to existing incorporated areas, such as Belle Glade, Clewiston, South Bay, and Pahokee, around existing town structures (e.g., city hall, chamber of commerce, schools, and banks). EAA communities should be guided by Smart Growth^{ix} policies that incorporate citizen-based directives with interagency government initiatives. Economic vitality will require diversification of skills, technical training, and employment opportunities. Development efforts will need to address water quality and delivery deficiencies. Benefits of Sustainable Communities in the EAA include:

- encouraging economic vitality,
- protecting open space,^x and
- creating new opportunities to live and work within the growing town center.

III. SUSTAINABLE AGRICULTURE: As mass production of sugarcane phases out, Florida and the U.S. should establish policies to encourage conversion of sugarcane fields to agricultural uses that protect soils and meet water quality standards for water entering the Everglades Protection Area. Congress designated the EAA in 1948 to encourage farming. Trade agreements, domestic surpluses, declining demand, and destruction of the organic soils point to near-term obsolescence of sugarcane production and traditional agricultural practices in the EAA. Appropriate crop selection and revised agricultural practices, however, may allow the EAA to continue to provide agricultural products that are beneficial to the state and to the country. Benefits of converting the EAA sugarcane fields to sustainable agriculture include:

- providing food to a growing nation,
- retaining Florida’s farm economy, with an emphasis on local jobs,
- slowing the loss of soils, and
- creating new markets for Florida produced food.

RESTORATION & SUSTAINABILITY CRITERIA FOR EAA LAND USE:

1. Use holistic, predictive models that include hydrologic, ecologic, and economic parameters in balancing human needs with those of the ecosystem.
2. Establish long-term scenarios that include demographic, ecological, and land-use variables to determine needed land use patterns compatible with the South Florida ecosystem.
3. Transform existing population centers in the EAA into sustainable communities and prohibit new development districts until their compatibility with ecosystem restoration is demonstrated.
4. Evaluate long-term (e.g., 25- and 50-year) full-cost economic analyses of alternative uses of EAA lands, including urban development, agricultural production, and ecological restoration.
5. Manage restoration lands for their primary function, such as water storage, retention, treatment, or habitat. Secondary functions, while important, should not interfere with primary function management.

ⁱ This paper updates and supplements Audubon’s 1997 paper on EAA lands and restoration. Audubon 1997. Everglades Agricultural Lands: Their Role in Water Storage and Retention for Sustainability of the Everglades and the South Florida Ecosystem.

ⁱⁱ Governor's Commission for a Sustainable South Florida 1996. Conceptual Plan for C&SF Project Restudy.

ⁱⁱⁱ An acre-foot is the amount of water that would cover an acre of land (a football field), a foot deep. It is equivalent to 325,853 gallons.

^{iv} Includes Stormwater Treatment Area (STA) expansions now proposed by SFWMD staff for STAs 2, 5 and 6 (Approximately 19,000 acres) plus a 100% increase in size of STA 1W (6,700 acres) and an additional 5000-acre STA south of Port Myacca.

^v It is important to note that the storage volumes recommended in the CERP (1999) imply the highest water storage efficiency to land use ratio, but do not imply greatest amount of water storage possible. Audubon proposes that additional water storage be placed in the EAA to retain useable water within the system. This is based on the amount of discharge that emanates from the EAA, and on varying amounts of excess water from Lake Okeechobee, which may be diverted for storage rather than allowing it to be wasted (often in an ecologically destructive manner) through discharges to the estuaries.

^{vi} Trimble, P. J., E. R. Santee, and C. J. Neidrauer. 1997. Including the effects of solar activity for more efficient water management: an application of neural networks. Proc. of the Second International workshop on artificial intelligence applications in solar-terrestrial physics. (In Appendix A of WSE EIS).

^{vii} Steinman, A. D., K. E. Havens, H. J. Carrick, and R. VanZee. 2002. The past, present, and future hydrology and ecology of Lake Okeechobee and its watersheds. Pages 19-37 in *The Everglades, Florida Bay, and Coral Reefs to the Florida Keys: An ecosystem sourcebook*. J. W. Porter and K. G. Porter, eds. CRC Press, Boca Raton, FL.

^{viii} This “1.3 million acre-feet” of storage need does not include the storage needs for water falling in the EAA itself, during these years, which could total another million acre-feet.

^{ix} Smart growth is an anti-sprawl town planning approach to balance the economic, community, environmental, and fiscal needs of an area. Audubon of Florida. 1999. Smart Growth: History, Tools, and Challenges, page 1. See also 1000 Friends of Florida's 2001 booklet, "A Citizen's Guide to Smarter Growth in Palm Beach County", p. 20.

^x Conserving open space and maintaining rural communities are top priorities for western residents of the County. Central Western Communities Sector Plan, Sector Plan Guiding Principles, Palm Beach County Department of Planning Community Workshop, January 13, 2004.