

# South Florida Geographic Initiative Large Aquatic Ecosystem (LAE)



The partners of the **South Florida Geographic Initiative** work together to address the issues confronting the south Florida ecosystem. The United States Environmental Protection Agency's (EPA) Region 4 Office takes the lead on special initiatives and planning activities in the area that includes the Everglades and Florida Keys ecosystem. The office also facilitates programs to protect and restore many of the area's ecological treasures, including wetlands, seagrass, the Everglades, the Florida Keys National Marine Sanctuary (FKNMS), and coral reefs. Region 4's South Florida Office also works with the Region 4 Science and Ecosystem Support Division on the South Florida Assessment Project which is an ecosystem assessment of the Everglades.

The south Florida ecosystem is the principal nursery area for the largest commercial and sport fisheries in Florida, home of the largest wilderness east of the Mississippi River, the location of the only living coral barrier reef adjacent to the United States, the most significant breeding ground for wading birds in North America, a major producer of sugarcane, home to two Native American nations and a major tourist region.



## Challenges

The south Florida ecosystem's health is threatened because of expanding human population. South Florida's population of about eight million exceeds that of 39 states; over two million more people are expected to settle in the area over the next 10 to 20 years. Fifty percent of the region's wetlands have been lost to suburban and agricultural development. Altered hydrology and water management throughout the system have had a major impact on the area's ecosystems. The challenge is to sustain the sensitive natural resources that co-exist with extensive agricultural operations and a rapidly expanding human population. Each component has competing needs and desires for the ecosystem's land and water.

## Priorities

The EPA South Florida Geographic Initiative protects and restores communities and ecosystems impacted by environmental problems. Under this initiative, Region 4 works with stakeholders to develop and implement community-based approaches to mitigate diffuse sources of pollution and cumulative risk such as:

- Water Quality Protection Program action plan for the FKNMS addresses point and nonpoint sources of pollution to restore and maintain the water quality along with coral reef and seagrass communities within the sanctuary.
- SEFCRI Local Action Strategy (LAS). The goal of the LAS is to preserve and protect southeast Florida's coral reefs and associated reef resources, emphasizing balance between resource use and protection.
- Comprehensive Everglades Restoration Plan's (CERP) goal is to restore the Everglades and Florida Bay ecosystems while still meeting the water management needs of south Florida.
- Coordinate research and monitoring efforts and promote partnerships to protect the coral reefs, hardbottom communities, and associated reef resources of south Florida.
- Continue the Everglades Ecosystem Assessment Program. This 15-year, probability-based sampling program provides quantitative information across space about ecosystem health and the effectiveness of restoration activities.



## Accomplishments

- Substantial progress has been made in alleviating the mercury problem in south Florida. Emissions of mercury in south Florida have declined by 90%. Mercury also declined in fish and wildlife in some portions of the Everglades.
- Region 4 finalized a report titled "Everglades Ecosystem Assessment: Water Management and Quality, Eutrophication, Mercury Contamination, Soils and Habitat" (EPA-904-R-07-001). This report provides status and trends information on the health of the Everglades as determined by EPA's R-EMAP study from 1993 to 2005. This \$6 million, multi-media effort was conducted by Region 4 and is widely supported by multiple federal and state partners. This work will be used by the state of Florida and federal partners to determine the effectiveness of phosphorus control efforts. It will also be used to by Florida and EPA in the development of a forthcoming mercury Total Maximum Daily Load for the Everglades.
- Established and funded for 15 years an ongoing comprehensive status and trends monitoring program (water quality, coral reefs and seagrasses) for the FKNMS. In addition, about 29 special studies have been funded to identify and understand cause/effect relationships involving pollutants, transport pathways, and biological resources of the Sanctuary and southeast Florida.
- In accordance with Section 312 of the Clean Water Act and at the request of the Governor of Florida and Monroe County, EPA Region 4 designated all State waters within the boundary of the FKNMS as a no discharge zone (NDZ). The NDZ became effective in June 2002. Because of vessel pumpouts and proper disposal of boat sewage, boaters are reporting improving water clarity and citizens are reporting increased numbers of bait fish and spotted rays and dolphins are returning to some harbors.
- EPA Region 4 worked with the State of Florida and local governments to develop comprehensive wastewater and storm water master plans for the Florida Keys. Monroe County and other local governments of the Florida Keys continue to make significant progress in upgrading inadequate wastewater infrastructure; as of June 2009, about 32,138 equivalent dwelling units (EDUs) had been upgraded to meet State treatment requirements for wastewater management systems; total EDUs are about 74,995.
- The Florida Legislature mandated that all ocean outfalls be removed from the coastal waters of southeast Florida. This was accomplished as a result of overwhelming public concern and the desire to reuse wastewater effluent and conserve drinking water resources.

## Future Direction

The goal of the South Florida Geographic Initiative is to assure the long-term sustainability of the region's varied natural resources while providing for the coexistence of extensive agricultural operations and a continually expanding human population.

### **The South Florida Geographic Initiative Facts**

Watershed Size: 17,930 square miles

Waterbody Size: 575 coastline miles; 1,876 coastline miles including islands

Population: South Florida region is home to about 8 million people

EPA Region: 4

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**The South Florida Geographic Initiative Program** was designated a member of the US Environmental



Protection Agency's Large Aquatic Ecosystem Council (LAE) in 2008. The South Florida Geographic Initiative Program joins nine other geographic-based efforts that focus on protecting and restoring the health of critical aquatic ecosystems. The LAE Council seeks to merge geographic-based efforts with national water programs to advance the health of the nation's large aquatic ecosystems and strengthen national water programs.

## LAE Program Web Sites

### **Chesapeake Bay Program**

[www.chesapeakebay.net](http://www.chesapeakebay.net)

### **Columbia River Basin**

[www.epa.gov/region10/columbia](http://www.epa.gov/region10/columbia)

### **Great Lakes**

[www.epa.gov/glnpo](http://www.epa.gov/glnpo)

### **Gulf of Mexico Program**

[www.epa.gov/gmpo](http://www.epa.gov/gmpo)

### **Lake Champlain Basin Program**

[www.lcbp.org](http://www.lcbp.org)

### **Long Island Sound Study**

[www.longislandsoundstudy.net](http://www.longislandsoundstudy.net)

### **Pacific Islands Office**

[www.epa.gov/region09/islands](http://www.epa.gov/region09/islands)

### **Puget Sound - Georgia Basin**

(Under Construction)

### **San Francisco Bay Delta Estuary**

[www.epa.gov/region9/water/watershed/sfbay-delta.html](http://www.epa.gov/region9/water/watershed/sfbay-delta.html)

### **South Florida Geographic Initiative**

<http://epa.gov/region4/water/southflorida/index.html>

EPA Office of Wetlands, Oceans, and Watersheds

[www.epa.gov/owow/oceans/partnerships/large\\_aquatic.html](http://www.epa.gov/owow/oceans/partnerships/large_aquatic.html)

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