

## Seagrasses in Northern Gulf of Mexico: An Ecosystem in Trouble

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Area of proposed seagrass research by the USGS National Wetlands Research Center.

### **Problem**

The USGS National Wetlands Research Center has documented that seagrasses in the northern Gulf of Mexico constitute an ecosystem in trouble. From studies in St. Andrews Bay, Perdido Bay, the Chandeleur Islands, and the Gulf Islands National Seashore, scientists have discovered that declining seagrass acreage ranges from 12% to 66% in bays and estuaries of

the Gulf of Mexico. Not only are seagrasses disappearing, but they are also changing in species composition, densities, and patchiness.

### **Causes**

The causes of loss and changes of these seagrasses are many, complex, and not completely understood. Moreover, the signs or indicators of stress among the

seagrass meadows, beds, and patches are not consistently and regionally monitored so that solutions can be found.

### **Value**

Seagrasses provide habitat and forage for waterfowl, fish, and shellfish; buffering against storms; and improved water quality.

### **Solution**

The FY1999 Department of the Interior budget includes \$450,000 for the USGS National Wetlands Research Center to comprehensively study the seagrass ecosystems of the northern Gulf of Mexico.



### **Research**

The Center will

- Collect baseline data for monitoring Gulf of Mexico seagrasses through the Gap Analysis Program (GAP).
- Establish randomly selected sample sites and collect natural color aerial photography of them at a scale of 1:24,000 for monitoring changes.
- Determine the complete extent of seagrasses in the northern gulf by adding the distribution of Texas seagrasses.
- Develop a geographic information system to include environmental



information associated with seagrasses such as oyster beds, bottom sediment types, water quality sampling points, public management areas, navigation channels, and bathymetry.

- Develop a prototype Estuarine Aquatic GAP to evaluate condition and trends of this important habitat type.

### **Where**

The Center will conduct research along the northern coast of the Gulf of Mexico, from Cape Romano, Florida, to Brownsville, Texas.



- Agency's E-Map Program
- National Marine Fisheries Service
  - National Estuarine Programs of Mobile, Galveston, Corpus Christi, and Sarasota Bays
  - U.S. Army Corps of Engineers
  - National Park Service
  - Florida Department of Environmental Protection
  - Florida Aquatic Reserve Program
  - Alabama Department of Economical Community Affairs
  - Mississippi Department of Marine Resources
  - Louisiana Department of Natural Resources
  - Louisiana Department of Environmental Quality
  - Texas General Land Office
  - Texas Department of Parks and Wildlife
  - Universities
  - Private entities



### **Information Users**

- U.S. Fish and Wildlife Service
- Minerals Management Service
- U.S. Environmental Protection Agency's Gulf of Mexico Program
- U.S. Environmental Protection

