

STUDY TITLE: Northeastern Gulf of Mexico Coastal Ecological Characterization

REPORT TITLE: Florida Coastal Ecological Characterization: A Socioeconomic Study of the Northwestern Region, Volume I: Text, Volume II: Data Appendix, Part 1, and Volume III: Data Appendix, Part 2

CONTRACT NUMBERS: BLM: MU0-20; MMS: 14-12-0001-30037

SPONSORING OCS REGION: Gulf of Mexico

APPLICABLE PLANNING AREA: Eastern Gulf of Mexico

FISCAL YEARS OF PROJECT FUNDING: 1980; 1981; 1982; 1983

COMPLETION DATE OF REPORT: August 1983

COSTS: FY 1980: \$360,000; FY 1981: \$250,000; FY 1982: \$375,000; FY 1983: \$200,000

CUMULATIVE PROJECT COST: \$1,185,000

PROJECT MANAGER: J. Johnston

AFFILIATION: U.S. Fish and Wildlife Service

ADDRESS: 1010 Gause Boulevard, Slidell, Louisiana 70458

PRINCIPAL INVESTIGATORS*: C. French, J. Parsons

KEY WORDS: Eastern Gulf; Florida; baseline; socioeconomics; characterization; coastal zone; synthesis; population; demographics; development; minerals; tourism; recreation; commercial fishing; recreational fishing; transportation; pollution; agriculture; modeling; literature review

BACKGROUND: The Florida Coastal Ecological Characterization: A Socioeconomic Study of the Northwestern Region is one of a series of characterizations of coastal socioeconomic systems produced and funded jointly by the Minerals Management Service and U.S. Fish and Wildlife Service. The series describes the components and interrelationships among complex processes that include population and demographic characteristics, mineral production, multiple-use conflicts, recreation and tourism, agriculture production, sport and commercial fishing, transportation, industrial and residential development, and environmental issues and regulations. This report and data appendix should prove useful for coastal planning and management.

OBJECTIVES: To compile and synthesize information from existing sources about social and economic characterizations of the northwestern coastal region of Florida.

DESCRIPTION: The study is a compilation and synthesis of information from existing sources about the social and economic characteristics of the northwestern coastal region of Florida, including Escambia, Santa Rosa, Okaloosa, Walton, Bay, Gulf, and Franklin Counties. Individual authors have contributed sections in Volume I on the following topics: (1) population and demographic characteristics; (2) transportation; (3) residential and industrial development; (4) socioeconomic trends in agriculture; (5) mineral and oil resources; (6) recreation and tourism; (7) commercial and sport fisheries; (8) multiple-use conflicts; (9) environmental issues and regulations; and (10) energetics models of socioeconomic systems. Volumes II and III comprise data appendices with tables and figures from existing sources on the topics listed above.

SIGNIFICANT CONCLUSIONS: Offshore oil and gas development, deepwater ports, processing and shipping of petroleum products, and other Outer Continental Shelf (OCS)-related activities potentially have major environmental, economic, and social impacts on northwestern Florida's coastal wetlands, natural resources, and communities. A major environmental threat is the potential for spills during drilling or transportation activities. A major oil spill could be devastating because of the vulnerable coastal environment and the region's heavy reliance on tourism. Intensive OCS exploration and development generates considerable onshore activity which is accompanied by environmental, economic, and social impacts that can be either beneficial or detrimental.

STUDY RESULTS: Northwestern Florida is rather sparsely populated and is more rural than urban. Recent population increases are due to natural increases rather than to immigration. The study area is economically weak. In 1970, about 20% of families were at the poverty level and only 10% earned \$15,000 or more. Median school years completed are lower than for the State. Unemployment is higher than the State average. Northwestern Florida lacks licensed professionals and adequate medical facilities for its area and population.

Transportation systems that were reviewed included seaports, airports, railroads, highways, bus systems, and pipelines. Three major (Pensacola, Panama City, and Port St. Joe) and two minor (Apalachicola and Carabelle) seaports exist in the study area. The region contains three commercial and nine small public airports. Four freight line railroads serve northwestern Florida. Within the study region, Interstate Highway 10 (I-10) is the major east-west highway facility. The seven counties in the region are served by Greyhound and Trailways intercity bus routes. Major regional pipelines are privately owned and serve primarily to transport natural gas.

Rapid development is taking place along some coastal areas of the region. Increase in housing units, primarily single family homes, in 1970-1980 doubled that of 1960-1970. The region is not heavily industrialized. The amount of land suitable for development near urbanized areas is limited because of extensive wetlands, large public holdings, and because of hurricane surge hazards or riverine flooding. Population growth and industrial development are partially restricted by availability and capacity of public

utilities. Agriculture and forestry are among the major industries in the region. Northwestern Florida is a major producer of field corn, soybeans, wheat, peanuts, cotton, poultry, and forest products. Forestry accounts for the major share of land and income.

Regional mineral production has increased substantially during the past few years because of oil fields near Jay. Oil and gas produce greater revenue in the region than all other minerals combined, and they now account for about one-third of the value of all mineral production in the State. Significant amounts of oil and gas were not found offshore. There is expectation of a nearshore gas find in East Bay, but exploration may not begin for years. Nonfuel mineral production includes sand and gravel, ilmenite and rutile from coastal sands, and magnesia from sea water.

Tourism in northwestern Florida has increased sharply since the mid-1960s. Numbers of tourists in 1965-1979 increased nearly 300%. In 1980, public lands contributed more recreation areas (1.63 million acres) than the private sector (8,745 acres) and more beach frontage (423,750 ft compared to 4,030 ft). Data on freshwater sportfishing can be related by licenses issued. Intensity of saltwater sportfishing can only be estimated.

The regional offshore and estuarine waters support extensive sport and commercial fisheries. Catch and value figures for commercial landings are available. Commercial catch includes finfish (snappers and groupers, mackerels, spotted seatrout, striped mullet, and ladyfish) and shellfish (shrimp, blue crabs, oysters, and bay and calico scallops).

Coastal waters and estuaries of the region have been seriously altered by industrial, residential, and commercial developments, partly because of lack of consideration for the integrity of the natural environment. Development of institutional procedures for responding to failures of the market system to consider environmental planning is a difficult task. Trade-offs between economy and environment depend upon society's evaluation of need for maintaining viable coastal ecosystems as opposed to further residential, commercial, and industrial developments. Areas selected for discussion-- Apalachicola River, St. George Island, Panama City Beaches, East Bay, and Escambia Bay--are areas of special concern having felt effects of various types of expanding onshore development. Actions have resulted because of the relatively high abundance of environmental data available about these areas. Environmental research in all regional coastal waters must be expanded to demonstrate environmental values in multiple-use conflicts.

The quality of the ambient air in the region is considered to be good due to scarcity of heavy industry. The study area is an area of great hydrological activity, including dredging, diking, and draining. These alterations result in habitat stress, dune destruction, reduced flow of detrital food sources for aquatic life, decreased dissolved oxygen, increased coliform counts, reduced runoff through natural systems, and increased erosion. Groundwater is seriously depleted in certain areas of the region

such as Ft. Walton Beach, but generally the region is rich in quantity and quality of groundwater.

The regional socioeconomic systems are modeled using energy as a common denominator for all flows and storages within the system. Energy circuit models are evaluated by measuring energy quantity flowing in a particular pathway or stored in the system. Because all activities, interactions, and even storages require or represent energy, it is possible and practical to quantify a particular pathway by its energy value.

STUDY PRODUCTS: French, C. O. and J. W. Parsons (eds.). 1983. Florida Coastal Ecological Characterization: A Socioeconomic Study of the Northwestern Region. Vol. I, Text. A final report by the U.S. Fish and Wildlife Service for the U.S. Department of the Interior, Minerals Management Service Gulf of Mexico OCS Office, Metairie, LA. NTIS No. PB84-174200. FWS/OBS-83/15. Contract No. 14-12-0001-30037. 317 pp.

French, C. O. and J. W. Parsons (eds.). 1983. Florida Coastal Ecological Characterization: A Socioeconomic Study of the Northwestern Region. Data Appendices. A final report by the U.S. Fish and Wildlife Service for the U.S. Department of the Interior, Minerals Management Service Gulf of Mexico OCS Office, Metairie, LA. Vol. II (Data Appendix, Part 1, 333 pp.)-NTIS No. PB84-174218; Vol. III (Data Appendix, Part 2, 397 pp.)-NTIS No. PB84-174192. FWS/OBS-83/15. Contract No. 14-12-0001-30037.

*P.I.'s affiliation may be different than that listed for Project Managers.