ACCESS NUMBER: 30036

STUDY TITLE: Southwest Florida Shelf Coastal Ecological Characterization

REPORT TITLE: Florida Coastal Ecological Characterization: A Socioeconomic Study of the Southwestern Region, Volume I: Text, Volume II: Data Appendix, Part 1, Volume II: Data Appendix, Part 2, and Volume II: Data Appendix, Part 3

CONTRACT NUMBERS: BLM: MU0-48; MMS: 14-12-0001-30036

SPONSORING OCS REGION: Gulf of Mexico

APPLICABLE PLANNING AREAS: Straits of Florida; Eastern Gulf of Mexico

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CUMULATIVE PROJECT COST: $1,090,973

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KEY WORDS: Straits of Florida; Eastern Gulf; Southwest Florida Shelf; Florida; baseline; socioeconomics; population; demographics; development; minerals; pollution; tourism; recreation; commercial fishing; agriculture; recreational fishing; transportation; modeling; literature review; synthesis

BACKGROUND: This study 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 components and interrelationships among complex processes that include population and demographic characteristics, mineral production, multiple-use conflicts, recreation and tourism, agricultural 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.

OBJECTIVE: To compile and synthesize information from existing sources about social and economic characteristics of the southwestern 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 southwestern coastal region of Florida, including Charlotte, Collier, DeSoto, Hillsborough, Lee, Manatee, Monroe, Pasco, Pinellas, and Sarasota 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-IV are 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 the region's coastal wetlands, natural resources, and communities. A major environmental threat is the potential for oil spills during drilling and transportation activities. A major spill could be devastating because of the vulnerable coastal environment and the region's heavy reliance on tourism. Intensive OCS exploration and development usually generates new onshore activity that causes additional environmental, economic, and social impacts.

STUDY RESULTS: The study area population is made up of a relatively high proportion of elderly persons. Much of their income is from outside the region, or from social security, pensions, and retirement funds. For this reason, and also due to limited employment opportunities, the labor force tends to be lower than the State average. Study area family and per capita income are slightly below that of the State because of the high percentage of older persons, high unemployment, and several seasonal fluctuations in employment. Net migration has caused a study area population increase between 1950 and 1980. In general, the region is heavily populated, urban oriented, and fast growing. Median school years completed is about the same as for the State. Transportation systems reviewed included seaports, airports, railroads, highways, bus transits, and pipelines. Two major (Tampa and Manatee) and three medium (St. Petersburg, Boca Grande, and Key West) seaports exist in the region. The region has three commercial and 24 smaller public airports. The Seaboard Coast Line Railroad provides the only rail freight service to the region. Interstate Highway 75 (I-75) is the major regional north-south highway. Greyhound and Trailways have regional intercity bus routes. Major pipelines in the region are privately owned and serve primarily for transport of natural gas. Southwestern Florida is characterized by urban centers that sprawl outward over former farmlands, coastal areas with condominiums and time-sharing units, and residential developments. The region contains one-quarter of the State's population and had a population growth between 1970 and 1980 of 51.1%. Most of the population growth was and is along the coast of the Tampa Bay area, Sarasota, Venice, Port Charlotte, Fort Myers, Sanibel and Captiva Islands, Naples, and the Keys. Inland from the coast, growth and change are much slower, but are still apparent. Except for the Tampa Bay area, regional growth is oriented toward recreation

and retirement and associated services. Agriculture in Florida has traditionally been a major source of income and employment. Employment in forest and agricultural production and agricultural support services has risen from about 91,646 employees in 1963 to 127,589 in 1978. From 1954 to 1978, real agricultural income (1967 dollars) rose 145%. Warm climate and abundant rainfall has given Florida farmers advantage over other states. The region is among the State's principal citrus, vegetable, beef cattle, and egg producing areas. Phosphate clearly is the predominant mineral in the study area, but data on amounts and value of production are not publicly available. Production is high in Polk, Hillsborough, and Hardee Counties but significant quantities may exist on the continental shelf off Clearwater. Other minerals of regional importance are peat, limestone, cement, sand, oil, and uranium (a by-product of phosphate production). Because of nondisclosure rules, gaining information on mineral industries is difficult.

Recreation is a major use characteristic in the study area. Coastal recreation per capita is 10 days annually. Sportfishing attracts millions of residents and out-of-state saltwater anglers. Hunting, surfing, boating, skindiving, beach recreation, and nature studies are popular coastal activities. In recent decades, demand for recreation has been increasing, but opportunities are declining. Only a small fraction of the region's coastline is now available for public recreation and many areas are being developed for other uses.

Over 100 species of finfish and shellfish are caught by commercial and sport fishermen in southwestern Florida. Commercial statistics exist but little information is available for sport catches. The many and diverse estuarine and coastal habitats support the extensive fisheries.

As the region's population increases, socioeconomic/environmental conflicts associated with this growth increase. Development of institutional procedures for responding to failures of the private enterprise system to consider environmental planning is difficult. Enforcing regulations to control or reduce ecological damage may be prohibitively expensive. Trade-offs between the economy and the environment will depend on society's evaluation of the need for maintaining viable coastal ecosystems as opposed to further residential and industrial development. Local government zoning commissions may become instrumental in developing balances among needs.

Regional air and water (surface and groundwater) quality are monitored and regulated by Federal, State, and local agencies. Over the past few decades, extensive areas of regional interior wetlands and uplands have been dredged, drained, and diked resulting in major alterations of coastal wetlands. These alterations have caused changes in habitat composition, reduced the abundance of detritus and other nutrient sources, decreased dissolved oxygen concentrations, increased coliform counts, reduced natural purification of runoff, and increased erosion. Competition for available groundwater for public, agricultural, industrial, and commercial consumption is a growing problem.

The energetics model provides a method for integration processes and components of natural and socioeconomic production. Energy circuit models are evaluated by measuring the quantity of energy 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 PRODUCT: French, C. O. and J. W. Parsons (eds.). 1983. Florida Coastal Ecological Characterization: A Socioeconomic Study of the Southwestern Region. 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. I (Text, 345 pp.)-NTIS No. PB84-174119; Vol. II (Data Appendix, Part 1, 319 pp.)-NTIS No. PB84-174101; Vol. III (Data Appendix, Part 2, 376 pp.)-NTIS No. PB84-174093; Vol. IV (Data Appendix, Part 3, 212 pp.)-NTIS No. PB84-174127. Contract No. 14-12-0001-30036. 333 pp.

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