

STUDY TITLE: South Atlantic and Gulf of Mexico Marine Birds Literature Synthesis and Analysis

REPORT TITLE: Marine Birds of the Southeastern United States and Gulf of Mexico. Part I, Gaviiformes through Pelecaniformes; Part II, Anseriformes; Part III, Charadriiformes

CONTRACT NUMBERS: BLM: MU8-12; MMS: 14-12-0001-29134

SPONSORING OCS REGION: Gulf of Mexico

APPLICABLE PLANNING AREAS: South Atlantic; Eastern Gulf of Mexico; Central Gulf of Mexico; Western Gulf of Mexico

FISCAL YEAR(S) OF PROJECT FUNDING: 1978; 1979; 1980

COMPLETION DATE OF REPORT: March 1982 (Part I); July 1982 (Part II); September 1983 (Part III)

COSTS: FY 1978: \$87,491; FY 1979: \$62,509; FY 1980: \$40,000

CUMULATIVE PROJECT COST: \$190,000

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KEY WORDS: South Atlantic; Eastern Gulf; Central Gulf; Western Gulf; birds; seabirds; biology; literature review; life history; abundance; synthesis; maps; distribution; Gaviiformes; Podicipediformes; Procellariiformes; Pelecaniformes; Anseriformes; Charadriiformes; impacts; oil spill; census.

BACKGROUND: This report summarizes the status of marine birds in the southeastern United States and examines potential effects of Outer Continental Shelf (OCS) petroleum resource development on these species. The information enables the Minerals Management Service to identify aspects of OCS development that threaten marine bird populations and allows managers to decide on energy resource development alternatives that minimize damage to these populations.

OBJECTIVES: (1) To determine most likely occurrence of marine birds in future oil and gas production areas; (2) to ascertain species most at risk from oil, gas, and ancillary activities related to resource development; (3) to evaluate importance of southeastern United States populations in relation to entire species distribution and abundance; and

(4) to summarize life history information of each species, emphasizing southeastern data.

DESCRIPTION: This report is a literature search, synthesis, and analysis emphasizing literature and data concerning marine bird populations in the southeastern United States and the Gulf of Mexico from North Carolina to Texas. Part I contains compiled information and distribution maps concerning Gaviiformes (loons), Podicipediformes (grebes), Procellariiformes (albatrosses, petrels, and shearwaters), and Pelecaniformes (tropicbirds, frigatebirds, cormorants, gannets, boobies, and pelicans); Part II, Anseriformes (ducks, geese, and swans); and Part III, Charadriiformes (phalaropes, gulls, terns, and skimmers).

SIGNIFICANT CONCLUSIONS: Susceptibility of birds to oil depends not only on their juxtaposition in time and space, but also on currents, climatic factors, life history or annual cycle stage, and general species behavior. Oil contamination may result in matted feathers; death may soon follow from chilling or starvation or from the toxic effects of oil ingested when preening is attempted. Oil from feathers may be transferred to incubating eggs and may greatly reduce reproductive success.

STUDY RESULTS: Part I contains information on seasonal distribution and abundance of 39 marine birds species of the Orders Gaviiformes, Podicipediformes, Procellariiformes, and Pelecaniformes that occur off southeastern shores of the United States and in the Gulf of Mexico; Part II, 41 species of waterfowl in the Order Anseriformes; and Part III, 22 marine bird species in the Order Charadriiformes. Additionally, each volume summarizes world-wide distribution, habitat, food, and various aspects of the life history for species surveyed. From this information, the susceptibility of the bird species to oil from oil and gas development in the study area is predicted. Among the birds covered in Part I, loons and grebes are considered most susceptible to oil pollution; cormorants, pelicans, and boobies are moderately susceptible; and truly pelagic birds (most Procellariiformes, tropicbirds, and frigatebirds) are least susceptible. Among the birds covered in Part II, seaducks and diving ducks are most susceptible to oil pollution; other ducks, geese, and swans are relatively unsusceptible because they are seldom found in areas where oiling is likely to occur. Large concentrations of wintering, breeding, and migrant gulls and terns covered in Part III, occur within the survey area and in instances, comprise large proportions of worldwide or North American populations. Consequently, Part III includes most of the marine birds that are most likely to be detrimentally affected by oil resource development.

STUDY PRODUCTS: Clapp, R. B., R. C. Banks, D. Morgan-Jacobs, and W. A. Hoffman. 1982. Marine Birds of the Southeastern United States and Gulf of Mexico. Part I. Gaviiformes through Pelecaniformes. A final report by the U.S. Fish and Wildlife Service, Office of Biological Services for the U.S. Department of the Interior, Minerals Management Service Gulf of Mexico OCS Office, Metairie, LA. NTIS No. PB82-195850. FWS Report FWS/OBS-82/01. Contract No. 14-12-0001-29134. 648 pp.

Clapp, R. B., D. Morgan-Jacobs, and R. C. Banks. 1982. Marine Birds of the Southeastern United States and Gulf of Mexico. Part II. Anseriformes. A final report by

the U.S. Fish and Wildlife Service, Office of Biological Services for the U.S. Department of the Interior, Minerals Management Service Gulf of Mexico OCS Office, Metairie, LA. NTIS No. PB82-264995. FWS Report FWS/OBS-82/20. Contract No. 14-12-0001-29134. 505 pp.

Clapp, R. B., D. Morgan-Jacobs, and R. C. Banks. 1983. Marine Birds of the Southeastern United States and Gulf of Mexico. Part III. Charadriiformes. A final report by the U.S. Fish and Wildlife Service, Office of Biological Services for the U.S. Department of the Interior, Minerals Management Service Gulf of Mexico OCS Office, Metairie, LA. NTIS No. PB84-158773. FWS Report FWS/OBS-83/80. Contract No. 14-12-0001-29134. 869 pp.