

STUDY TITLE: Gulf of Mexico and South Atlantic OCS Study on the Distribution and Abundance of Endangered and Vulnerable Mammals, Birds, and Turtles

REPORT TITLE: Aerial Surveys for Manatees and Dolphins in Western Peninsular Florida (With Notes on Sightings of Sea Turtles and Crocodiles)

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KEY WORDS: South Atlantic; Straits of Florida; Eastern Gulf; Florida; endangered species; marine mammals; manatee; *Trichechus*; aerial observations; distribution; abundance; bottlenose dolphin; *Tursiops*; loggerhead turtle; *Caretta*; seasonality

BACKGROUND: This report is one of several resulting from a 1979 pilot study sponsored by the U.S. Department of the Interior, Bureau of Land Management on distribution and abundance of marine mammals, birds, turtles, and the endangered manatee of the South Atlantic and Gulf of Mexico. The report summarizes observations of manatees and dolphins made during aerial surveys along Florida's western peninsular coast.

OBJECTIVE: To conduct and report on results of low altitude aerial observation surveys of manatees and dolphins along Florida's western peninsular coast.

DESCRIPTION: Aerial surveys were conducted at approximately monthly intervals from July to December 1979 to examine distribution and relative abundance of manatees and dolphins from Bayport, Hernando County, Florida (28°32'N Lat, 82°39'W Long), south to Flamingo Range Station (Everglades National Park), Monroe County, Florida (25°08'N Lat, 81°02'W Long). Incidental sightings of sea turtles, turtle tracks on beaches, and crocodiles were also noted.

SIGNIFICANT CONCLUSIONS: A total of 554 manatees were observed in 297 groups. Fifty-eight percent of the West Indian manatees (*Trichechus manatus*) were sighted in the Collier-Monroe Counties area in shallow, brackish, inshore areas. A total of 1,383 bottlenose dolphins (*Tursiops truncatus*) were observed in 431 herds, including 700 individuals (in 146 herds) in the Gulf of Mexico, 491 individuals (in 185 herds) in bays, and 192 individuals (in 100 herds) in marsh-river habitats. Fifty-eight sea turtles (including 45 loggerheads, *Caretta caretta*) and 30 sets of turtle tracks were counted. One crocodile, probably *Crocodilus acutus*, was sighted in Everglades National Park.

STUDY RESULTS: Three hundred and twenty-four manatees (58.5% of survey total) were sighted in the Monroe-Collier County area of southwestern Florida. Others were probably not observed due to habitat complexity and turbidity. The 100 manatees counted in Monroe and Collier Counties in November represent 10% of the total of 1,000 animals estimated in Florida. Southwestern Florida thus has an important concentration of manatees that would be potentially vulnerable in the event of an oil or chemical spill. Concentrations of manatees wintering near warm-water effluents in Tampa Bay were identified. A Lee County winter refuge was not surveyed during the abbreviated December surveys. Southerly movements by manatees in the fall have been predicted, but were not observed.

Ninety-four percent of the manatee groups consisted of 1 to 4 animals. Group size varied little by month or county. A majority of the animals were sighted in marsh-river habitats and in brackish waters. Few calves were sighted, and they did not indicate seasonal reproductive trends.

Numbers of bottlenose dolphins sighted increased from July to November, but counts by county were inconsistent. Dolphin herd sizes differed by county and month and were generally smaller than herd sizes reported during other nearshore area surveys. Numbers of dolphin sighted per month varied significantly by habitat and salinity. Most dolphins were sighted offshore in northern areas, in bay-estuary habitats in central regions, and in marsh-river habitats in southern areas. Relatively few calves were sighted compared to other surveys. Seasonal reproductive trends were not apparent.

Most of the sea turtles sighted (45 of 58 sea turtle sightings) were loggerheads (*Caretta caretta*). A single crocodile (*Crocodilus acutus*) was observed in the Everglades National Park.

STUDY PRODUCT: Irvine, A. B., J. E. Caffin, and H. I. Kochman. 1981. Aerial Surveys for Manatees and Dolphins in Western Peninsular Florida (With Notes on Sightings of Sea Turtles and Crocodiles). A final report by the U.S. Fish and Wildlife Service for the U.S. Department of the Interior, Bureau of Land Management Gulf of Mexico OCS Office, New Orleans, LA. NTIS No. PB81-247660. FWS/OBS-80/50. Contract No. 14-12-0001-29096. 20 pp.

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