ACCESS NUMBER: 30951-16808

STUDY TITLE: Interactions Between Migrating Birds and Offshore Oil and Gas Structures Off the Louisiana Coast

REPORT TITLE: Interactions Between Migrating Birds and Offshore Oil and Gas Platforms in the Northern Gulf of Mexico: Final Report

CONTRACT NUMBER: 1435-01-99-CA-30951-16808

SPONSORING OCS REGION: Gulf of Mexico

APPLICABLE PLANNING AREAS: Eastern Gulf of Mexico, Central Gulf of Mexico, Western Gulf of Mexico

FISCAL YEARS OF PROJECT FUNDING: 1998; 1999; 2000; 2001; 2002; 2003

COMPLETION DATE OF REPORT: March 2005

COSTS: FY: 1998: $535,375; 1999: $362,981; 2000: $0; 2001: $0; 2002: $0; 2003: $0

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KEY WORDS: migratory birds; trans-Gulf migration; Gulf of Mexico; oil and gas platforms

BACKGROUND: Year after year millions of birds migrate during the spring and fall seasons. During these migration seasons, birds will travel over the Gulf of Mexico using oil and gas platforms as stopover sites. This study provides data and analyses of trans-Gulf bird migration from three years of intensive study on 13 platforms located in offshore waters in the northern Gulf of Mexico, and provides environmental information concerning the possible influence of platforms on migrating birds.

OBJECTIVES: This study was conducted over a three-year period on 13 platforms located in offshore waters of the Gulf of Mexico and sought to address the following: 1) which species are migrants; 2) are there specific migration routes; 3) when do migrants use platforms for stopovers and how does the timing of platform use relate to seasonal and diel timing and weather; 4) how many migrants use platforms as stopovers and how does that number relate to the total trans-Gulf migration traffic aloft; 5) what is the condition of birds that use platforms and what determines how long they stay; 6) do migrants use platforms in predictable ways; 7) and how many migrants that stop on platforms depart successfully versus die, and why do some birds die?.

DESCRIPTION: The platforms selected are representative of both structure and geography. Field work was conducted on five platforms from mid-March to mid-May in spring 1998 and 1999 and from mid-August to mid-November in fall 1998. The study expanded with ten

platforms staffed from early August through mid-November in fall 1999, and nine platforms staffed from early March to late May in spring 2000. One platform was staffed year round in 1999-2000.

Field observers conducted a "platform census" while walking around the platform on a prescribed route, with the goal of locating, counting, and identifying all living birds on the platform at different times of the day. The following information about a migrant was recorded whenever possible: species, age, sex, details of behavior, and apparent physiological condition. Additionally, visual surveys of the airspace around platforms was assessed to determine the volume of flyby migration traffic and to quantify the flight behavior of trans-Gulf migrants.

To estimate the density of migration traffic, the use of radar was employed. Radar reflectivity can be converted into migration traffic rates using the theoretical and empirical models of radar cross section, provided that one has information concerning the approximate size distribution of the radar scatterers, such as that available from the platform observations.

SIGNIFICANT CONCLUSIONS: In both spring and fall, variation in the direction of travel may have been influenced by wind. Many species may select days of travel when tail winds may prevail and correlate with synoptic weather patterns over the continental United States. Favorable weather patterns may persist for more than one day. Small differences in wind direction between favorable synoptic weather patterns may correlate with subtle differences in migration routes of many species if they are somewhat steered by prevailing wind directions.

STUDY RESULTS: The study found that platforms appear to be a suitable stopover habitat for most species, and most of the migrants that stopped over on the platforms benefited from their stay, particularly in spring. The migrants used the platforms in nonrandom ways and the structures facilitated the trans-Gulf migration by providing "steppingstones" across the Gulf of Mexico**.**

STUDY PRODUCTS: Russell, R.W. 2005. Interactions between migrating birds and offshore oil and gas platforms in the northern Gulf of Mexico: Final Report. U.S. Dept. of the Interior, Minerals Management Service, Gulf of Mexico OCS Region, New Orleans, LA. OCS Study MMS 2005-009. 327 pp.