ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 115526
Juneau, AK 99811-5526

Alaska Department of Fish and Game
State Wildlife Grant

Grant Number: **T-1** **Segment Number: 3**

Project Number: **5.12**

Project Title: Monitoring raptor nesting fluctuations on Minto Flats State Game Refuge, Alaska

Project Duration: July 1, 2006 – June 30, 2008

Report Period: 1 July 2006 – 30 June 2007

Report Due Date: September 30, 2007

Partner: Alaska Department of Fish and Game

Project Objectives

OBJECTIVE 1: Establish and refine protocol to survey raptor and raven stick nests in interior Alaska's boreal forest lowlands.

JOB/ACTIVITY A: Using a combination of fixed-wing and rotor-winged aircraft, establish nest search protocol on Minto Flats State Game Refuge.

JOB/ACTIVITY B: In conjunction with biometrics staff, ensure that established protocol is statistically valid.

OBJECTIVE 2: Based on protocol above, provide baseline population of raptor and raven stick nests on Minto Flats State Game Refuge.

JOB/ACTIVITY A: Using helicopters, monitor nest sites for occupancy by various raptor species.

JOB/ACTIVITY B: Calculate minimum nesting density for active nesting pairs of at least 3 raptor species using the refuge.

OBJECTIVE 3: For at least 3 raptor species nesting on Minto Flats State Game Refuge, describe nesting habitat affinities based on overstory vegetation classifications.

JOB/ACTIVITY A: While assessing raptor and raven nest site use on the Refuge, gather various metrics on forest stand composition and describe nesting habitat for species with more than 5 nesting pairs.

OBJECTIVE 4: For at least an additional 2 years, continue spring monitoring of known nest sites to provide information on annual fluctuations in nesting raptors.

JOB/ACTIVITY A: Following establishment of baseline information on nesting densities of Refuge raptors, use helicopters to assess breeding efforts of at least 3 raptor species during spring 2007 and 2008.

JOB/ACTIVITY B: During each of the next 2 years, gather information on nest mortality/longevity.

Summary of Project Accomplishments

OBJECTIVE 1:

JOB/ACTIVITY A: In 2005, conducted a low-intensity survey with fixed-wing aircraft to gather preliminary data on nesting raptors and to develop appropriate survey techniques for future surveys. In 2006, conducted a more comprehensive survey of randomly selected units to use in analyses of nest density estimates.

JOB/ACTIVITY B: Consulted with Department biometric staff to ensure survey techniques were valid to estimate nesting densities of common raptor species. Developed a survey method to allow for Geospatial models and classical approaches to estimate nest abundance and densities.

OBJECTIVE 2:

JOB/ACTIVITY A: In June 2007, all nests located during the 2005 and 2006 surveys were visited with rotor-wing aircraft (Robinson R44) to determine species occupancy and productivity. A total of 12.7 hours of survey time was used.

JOB/ACTIVITY B: In fall 2006, calculated Geospatial estimates for 18 parameters that included combinations of nest quality, occupancy status, and species presence. A sightability correction factor was calculated for application to the estimate of total nests.

OBJECTIVE 3:

JOB/ACTIVITY A: In 2005 and 2006, collected vegetation data and landscape conditions to describe habitat affinities of nesting raptors and common ravens. Classified vegetation to include species composition and percent cover. Landscape conditions included distance to and water body type.

OBJECTIVE 4:

JOB/ACTIVITY A: In June 2007, visited 241 nests using rotor aircraft (Robinson 44) and determined species occupancy and productivity. Total survey time was completed in 12.7 hours over two days.

JOB/ACTIVITY B: In June 2007, all nests located during the 2005 and 2006 surveys were visited with rotor-wing aircraft (Robinson R44) to determine sources and rates of nest structure mortality. Total survey time was completed in 12.7 hours over two days and as part of Job/Activity 4(a).

Prepared By: Jackson Whitman and Jason Caikoski