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-3** **Segment Number: 1**

Project Number: **5.14**

Project Title: Monitoring population fluctuations in boreal owls in Interior Alaska

Project Duration: 1 July 2008 – 30 June 2011

Report Period: 1 July, 2008 – 30 June 2009

Report Due Date: September 30, 2009

Partner: Alaska Department of Fish and Game

Project Objectives:

OBJECTIVE 1: Provide long-term population trend information on boreal owls.

JOB/ACTIVITY 1A: Maintain at least 100 nest boxes along at least 5 routes accessible from the all-weather road system around Fairbanks.

JOB/ACTIVITY 1B: Provide annual indices to breeding boreal owl abundance by monitoring use of the nest boxes.

JOB/ACTIVITY 1C: Monitor annual productivity of boreal owls (number of branchlings/fledglings).

JOB/ACTIVITY 1D: Through direct examination of prey in nest boxes, maintain data base of annual boreal owl diets.

JOB/ACTIVITY 1E: Through the use of standard USFWS legbands, assess nest site fidelity of adult female boreal owls and gather information on movements and nesting area fidelity of fledgling owls.

Summary of Project Accomplishments:

OBJECTIVE 1:

JOB/ACTIVITY 1A: Maintain at least 100 nest boxes along at least 5 routes accessible from the all-weather road system around Fairbanks.

112 boxes were maintained and remained available for Boreal Owl use in FY09.

JOB/ACTIVITY 1B: Provide annual indices to breeding boreal owl abundance by monitoring use of the nest boxes.

T. Booms monitored Boreal Owl use of 129 historical nest box sites and found 112 boxes in good condition and available for owl use. Of 112 boxes available, 18 boxes were occupied by Boreal Owls giving an occupancy rate of 16%. This is the lowest occupancy rate of the previous three comparable years (2005-2007; 28-36% occupancy). However, unlike previous years, boxes were not cleaned during

the preceding fall because the biologist position responsible for the study was vacant. Boreal Owls are probably less likely to nest in boxes that contain nest remains from previous years and this may have contributed to the low occupancy observed in 2009.

JOB/ACTIVITY 1C: Monitor annual productivity of boreal owls (number of branchlings/fledglings).

T. Booms conducted clutch counts at the 18 occupied boxes but was unable to complete nestling/fledgling counts because of scheduling conflicts. The 18 boxes produced a minimum of 80 eggs, giving a mean clutch size of 4.4 eggs/nest.

JOB/ACTIVITY 1D: Through direct examination of prey in nest boxes, maintain data base of annual boreal owl diets.

T. Booms visually assessed prey remains present during box checks. The predominant remains were those of voles from the *Microtus* and *Clethrionomys* genera in similar proportions to that previously reported.

JOB/ACTIVITY 1E: Through the use of standard USFWS legbands, assess nest site fidelity of adult female boreal owls and gather information on movements and nesting area fidelity of fledgling owls.

T. Booms captured 12 after hatch year (AHY) female Boreal Owls from 12 nest boxes and banded 7 nestlings from 2 boxes. Of the 12 birds captured, three were previously captured and banded as part of this study. Two of these birds were at least 4 years old and nesting in the same nest box used when first caught in 2006. One owl was at least 3 years old and was nesting in a box within 1 km of the box it nested in when first caught in 2007. Hence, these data continue to support our general finding of high nest site fidelity among breeding Boreal Owls and only short-distance movements.

Prepared By: Travis Booms