

**Alaska Department of Fish and Game
State Wildlife Grant**

Grant Number: W-33 **Segment Number:** 11

Project Number: 4.43

Project Title: Spatial relationships, harvest vulnerability, and harvest rates of brown bears on the northern mainland coast of Southeast Alaska

Project Duration: July 1, 2009–June 30, 2015

Report Due Date: September 1, 2013

Principal Investigators: Antony Crupi, Rod Flynn, LaVern Beier

Cooperators: Wrangell-Saint Elias National Park & Preserve

Work Location: Mainland coast of Southeast Alaska from Glacier Bay National Park to Icy Bay, including the Yakutat and Malaspina Forelands

I. PROGRESS ON PROJECT OBJECTIVES DURING LAST SEGMENT

OBJECTIVE 1: Describe seasonal spatial relationships of brown bears in a portion of GMU 5 including seasonal home ranges and habitat selection.

Since the inception of the study we have captured and GPS radiocollared 59 brown bears (28 males, 31 females) in game management unit (GMU) 5A. Of these, 17 brown bears (11 males, 6 females) were captured at the landfill in Yakutat. In GMU 5B, we captured and deployed GIS collars on 18 brown bears (10 males, 8 females).

By the end of the reporting period, we had retrieved 50 GPS radiocollars from 45 individual bears. We have performed preliminary analyses of location data investigating seasonal movement patterns, animal home range size, and den site selection.

OBJECTIVE 2: Estimate harvest rate of brown bears.

During the reporting period, we sent 98 tissue samples collected between 2009 and 2012 to Wildlife Genetics International for DNA analysis. We collected 82 samples in GMU 5A, and collected 16 samples in GMU 5B. We collected DNA tissue samples from live-captured bears (29), hunter harvested bears (62), and other human-caused mortalities (7).

II. SUMMARY OF WORK COMPLETED ON JOBS IDENTIFIED IN ANNUAL PLAN THIS PERIOD.

JOB/ACTIVITY 1a: Capture bears, deploy GPS radiocollars

We captured 16 brown bears (11 males, 5 females) in GMU 5A during the reporting period. The bears were processed and outfitted with GPS equipped radiocollars. Fourteen bears were caught on the Yakutat Forelands near the beach. Five of the captured bears had been previously radiocollared; we retrieved their old collars and deployed new GPS

radiocollars. One female bear and one male bear were captured in GMU 5A at the Yakutat landfill.

In GMU 5B, we captured 2 brown bears and deployed GPS equipped radiocollars. These captures included 1 adult male and 1 adult female.

JOB/ACTIVITY 1b: Retrieve collars

By the end of the reporting period, we had retrieved 50 GPS radiocollars from 45 individual bears.

JOB/ACTIVITY 1c: Download and analyze location data.

Brown bear GPS radiocollar data have been downloaded and entered into geographical databases. The location data have been analyzed according to seasonal movement patterns, animal home range size, and den site selection.

JOB/ACTIVITY 1d: Prepare reports and publications

We completed one interim wildlife research report titled, "Spatial relationships and harvest vulnerability of brown bears in the Malaspina Forelands of Southeast Alaska" in February 2012. This report summarized the work conducted in the first 3 field seasons.

JOB/ACTIVITY 2: Collect DNA samples

We collected DNA from 13 live-captured brown bears and 24 harvested bears in GMUs 5A and 5B. The DNA samples have been processed and archived. They were sent to Wildlife Genetics International for DNA and population structure analysis.

III. Not applicable

IV. SIGNIFICANT DEVIATIONS AND/OR ADDITIONAL FEDERAL AID-FUNDED WORK NOT DESCRIBED ABOVE THAT WAS ACCOMPLISHED ON THIS PROJECT DURING THIS SEGMENT PERIOD

None.

V. PUBLICATIONS

Flynn, R. W., L. R. Beier and S. B. Lewis. 2012. Spatial relationships and harvest vulnerability of brown bears in the Malaspina Forelands of Southeast Alaska. Interim wildlife research report. Alaska Department of Fish and Game, Juneau, AK. USA

VI. RECOMMENDATIONS FOR THIS PROJECT

In the upcoming year we are prepared to continue field work in Yakutat following objectives and job activities outlined in the current project statement.

Prepared by: Anthony Crupi

Date: 09/01/2013