

# FEDERAL AID ANNUAL RESEARCH PERFORMANCE REPORT

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

## Alaska Department of Fish and Game Wildlife Restoration Grant

**GRANT NUMBER:** AKW-10 Wildlife Restoration FY2016

**PROJECT NUMBER:** 3.52

**PROJECT TITLE:** Climatic and nutritional regulators of caribou productivity in western Alaska

**PROJECT DURATION:** 1 July 2011 to 30 June 2016

**REPORT DUE DATE:** 1 Sep 2016

**PRINCIPAL INVESTIGATOR:** William B. Collins

**COOPERATORS:** Don Spalinger, University of Alaska Anchorage; Andy Aderman, Togiak National Wildlife Refuge.

**WORK LOCATION:** Western Alaska, Game Management Units 9, 10, 17, and 19.

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### I. PROGRESS ON PROJECT OBJECTIVES DURING LAST SEGMENT

OBJECTIVE 1 : Nutritional factors affecting caribou productivity.

We completed a vegetation-type map of all areas from Cold Bay to King Salmon for which public-domain satellite imagery unobstructed by clouds is available.

OBJECTIVE 2 : Climatic factors affecting caribou productivity.

No further work was done on this objective.

OBJECTIVE 3 : The effects of these (climate and nutrition) environmental factors as regulators of nitrogen and energy availability to caribou will be assessed.

No further work was done on this objective

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

JOB/ACTIVITY \_1\_: Identify principal caribou range types by season.

We completed a vegetation-type map of all areas from Cold Bay to King Salmon for which public-domain satellite imagery unobstructed by clouds is available.

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JOB/ACTIVITY \_2\_: Forage Selection and Food Habits of Caribou Based on Analysis of Alkanes and Long-chain Alcohols in Feces.

We expanded our collection of winter caribou fecal samples and reference plants from the northern Alaska Peninsula, because previously poor flying conditions in the mountains precluded our access to where the majority of caribou were presumably located. We completed analyses of caribou diets for the southern Alaska Peninsula.

JOB/ACTIVITY \_3\_: Timing of Green-up and Availability of Important Caribou Forages. We continued analysis of historic and current years' plant phenology for the Mulchatna range.

JOB/ACTIVITY \_4\_: Effects of Growing Season Conditions on Forage Quality.

No additional work was done on this objective.

JOB/ACTIVITY \_5\_: Forage Availability as Affected by Ice Crusts Following Rain-on-snow Events.

No additional work was done on this objective.

### **III. RECOMMENDATIONS FOR THIS PROJECT**

Extend one year.

**Prepared by:** William B. Collins

**Date:** 8/29/16