

Wildlife Restoration OPERATING GRANT FINAL 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-B-R3-2020 Amendment #1

PROJECT NUMBER: P4.46

PROJECT TITLE: Demographic and Numeric Consequences of Harvest Regulations on Grizzly Bear Populations.

PERIOD OF PERFORMANCE: July 1, 2019 - June 30, 2021

PERFORMANCE YEAR: July 1, 2020 - June 30, 2021; year 2 of a 2-year grant

REPORT DUE DATE:

PRINCIPAL INVESTIGATOR: Danny Caudill & Graham Frye (Wildlife Research Biologists), ADF&G

COOPERATORS: NA

I. PROGRESS ON PROJECT OBJECTIVES DURING PERIOD OF PERFORMANCE

OBJECTIVE 1A: Estimate population parameters (e.g., reproduction, survival and mortality) for grizzly bears using available demographic data.

ACCOMPLISHMENTS: We have identified available historic ADF&G demographic data in units 20A and 13A. We have estimated survival and reproduction parameters and used those estimates to populate a female only state structured matrix model. Because age is implicit in a stage structured model, we were able to calculate and compare the conditional mean time to death for each stage and cause of death (i.e., human and “other”). We also calculated for comparison the death probability distributions for each demographic state and the proportion of the expected remaining life in a protected state (e.g., adult with cub). These parameters and the comparison between sites (13A and 20A) provide insight into the effects of hunting on bear demography. However, both of these areas are open to hunting, and consequently a site without hunting would provide more detail for comparisons. We reached out to federal wildlife agency staff and plan to cooperate and incorporate data on un hunted populations. Once we have determined the availability of un hunted population data and identified cooperators we will provide the methods and code to estimate the same variables for the un hunted population(s). Once these three areas have complete analyses, we will write the results of the analyses into a manuscript to submit for peer review.

OBJECTIVE 1B: Determine feasibility of harvest data analyses where existing data are available.

ACCOMPLISHMENTS: This objective is largely on hold as the results from Objectives 1a and 1c will likely determine the direction or necessity of this objective. However, the historic harvest numbers and regulations were used in the manuscript outlined in objective 2 accomplishments.

OBJECTIVE 1C: Compile and analyze Interior grizzly bear population estimates.

ACCOMPLISHMENTS: We have identified unpublished studies on both black and grizzly bear abundance in game management units 20A, 20E, 19D, and 25D. We have begun to compile the details of these studies into a single manuscript. The intended manuscript will present results from each individual study, as well as provide a comparison of abundance among studies.

OBJECTIVE 2: Literature review, data analysis, reporting writing, and publication of results.

ACCOMPLISHMENTS: The principal investigators reviewed the literature and completed reports. Data and analyses were compiled and archived. Several authors have criticized aspect of managing predators in Alaska, both under general management of predator harvest and targeted predator control (e.g., Miller et al. 2011, 2017; Ripple et al. 2019). We have prepared a manuscript to submit to a peer-reviewed journal outlining the current state and knowledge surrounding predator harvest and control measures in Alaska. Within that manuscript, aspects associated with Intensive Management (sensu predator management) are associated with the concurrent project 1.73 of grant AKW-B-R3-2020 FY20, whereas aspects associated with predator harvest are largely associated with this project.

II. SUMMARY OF WORK COMPLETED ON PROJECT TO DATE.

All accomplishments completed to date are outlined in the specific objectives. Historic data was identified, located, and analyzed. One manuscript is nearing completion and other manuscripts should be substantially done within the next reporting period.

III. SIGNIFICANT DEVELOPMENT REPORTS AND/OR AMENDMENTS.

None.

IV. PUBLICATIONS

None during the reporting period.

V. RECOMMENDATIONS FOR THIS PROJECT

The project should continue as planned.

Prepared by: Danny Caudill

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Date: 8/17/2021