

**Wildlife Restoration MULTI-YEAR GRANT
INTERIM 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-R2-2020

PROJECT NUMBER: 4.0

PROJECT TITLE: Region 2 Brown Bear S&I program: Brown Bear Populations and Factors Influencing Their Status

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

PERFORMANCE YEAR: July 1, 2019 - June 30, 2020; year 1 of a 2-year grant

REPORT DUE DATE: Submit to FAC August 28, 2020

PRINCIPAL INVESTIGATOR: Cynthia Wardlow

COOPERATORS: Jeff Selinger, Charlotte Westing, Nate Svoboda, Dave Battle

Authorities: 2 CFR 200.328
2 CFR 200.301
50 CFR 80.90

I. PROGRESS ON PROJECT OBJECTIVES DURING PERFORMANCE YEAR

Objective 1: Population Size, Status, and Trend. Assess the size and status of each brown/grizzly bear population to determine the 5-year trend.

ACCOMPLISHMENTS:

Objective 1 by Area

Regionwide

- Assess population trends through anecdotal field observations made by biologists and members of the public.
 - ADF&G staff collect information from members of the public through in-person contacts at area offices and also through reports submitted online through the ADF&G website for brown bear sightings and other human-bear interactions.

Unit 6

- Conduct spring track and den surveys in Unit 6D.
 - Track and den surveys in Unit 6D were not conducted in this reporting period.

Unit 8

- Conduct annual Intensive Aerial Surveys (IAS) of brown bears to estimate population density and develop an area specific population estimate.
 - Unfortunately, due to COVID-19 and the lack of available survey pilots we were unable to conduct an IAS in 2020. However, the 2019 IAS, which had not been analyzed at the time of the last report, conducted in the Sturgeon River Area yielded an estimated 102 independent brown bears/1,000 km² (independent bears include all bears except dependent offspring). This estimate was similar to the 2018 estimate (113) but less than previous estimates including 2007 (231), 1998 (227), 1992/93 (190), and 1987 (293). Statistical analysis indicated density differed significantly ($p = 0.000004$) among the 6 years surveys were conducted. Pairwise testing revealed no difference in density between 2019 and 2018 ($p = 0.6620$) but significantly lower density in 2019 compared to 2007 ($p = 0.0029$), 1998 ($p = 0.0003$), 1992/93 ($p = 0.0111$), and 1987 ($p = 0.0003$). The estimated density of independent bears recorded in 2019 was less than half the estimated mean density of four previous surveys during 1987-2007 ($102/235 = 43\%$) and was only 58% ($102/175$) of the lowest accepted management target prescribed for southwestern Kodiak Island. We are currently investigating potential reasons for the apparent decline in the Sturgeon River population, particularly since harvest data island wide suggests the bear population continues to be stable.
- Collect tissue samples from harvested brown bears to determine the feasibility of using genetic analysis to derive an archipelago wide population estimate.
 - Genetic samples are collected, cataloged, and stored from all hunter harvested and agency killed brown bears. Samples are also collected from bears captured during research and monitoring projects. Additional samples are collected opportunistically when possible. The feasibility of using genetic analysis for a population estimate is being assessed.
- Develop a survival estimate for female brown bears on Sitkalidak Island and obtain estimates of litter production, cub survival, and female reproductive interval.
 - We continue to assess survival and productivity of female brown bears and cubs on Sitkalidak Island, Alaska. Continuing a long-term project initially implemented in 2008 to monitor litter size, cub survival, and female reproductive interval we conducted 2 aerial surveys (fall and spring) this reporting period to assess survival and productivity of bears radio-collared between 2008 and 2020. To supplement our current sample size, we implemented additional collaring efforts this reporting period and captured 17 additional brown bears, of which 16 were fitted with GPS radiocollars. All bears previously or recently collared will continue to be monitored to assess annual survival and productivity.

Objective 2: Mortality/Harvest Monitoring and Regulations. Assess the number of brown/grizzly bear harvested by hunters and other sources of mortality that might have an impact on each population.

ACCOMPLISHMENTS:

Objective 2 by Area

Regionwide

- Monitor the harvest and hunting effort using data from sealing reports, registration permits, and interviews with hunters.
 - We monitored the harvest of brown bears in Units 6, 7, 8, 14C, and 15 primarily through sealing data, but also with registration and drawing permit harvest reports, field observations, interviews with successful hunters, and analysis of data for a variety of seasons. Data were recorded for 200 harvested brown bears through this process. Harvest data were analyzed, and the results were applied to management planning and ongoing population assessment.
- Collect data, determine sex, and extract a tooth for aging from bears presented for sealing by hunters, and monitor and analyze harvest of brown bears taken at permitted bear bait stations. Document all human-caused brown bear mortality by sealing all bears killed through legal harvest, illegal hunting, defense of life or property, and vehicle collisions
 - All bears taken in Region II were presented to staff or appointed sealers for specimen collection and sealing, including those taken at bait sites. Premolar teeth for aging were collected from 200 brown bears harvested (28 bears from Unit 6, 64 bears from Units 7 and 15, 103 bears from Unit 8, and 4 bears from Unit 14C. Harvest was lower in Units 6, 8 and 14C and higher Units 7 and 15 than in the previous reporting period. The nonresident bear season was closed in the spring of 2020 as part of a wide-scale COVID-19 response. Bears killed under defense of life or property (DLP), agency kills, or roadkill are included in these numbers and data and teeth are collected when possible. Additional brown bear harvest occurs during the federal subsistence hunt. For most bears taken in Region II, a premolar was extracted and placed in a marked envelope for tooth sectioning and age analysis. Teeth were bulk shipped to a contractor for aging and when estimated ages were provided to the Department, they were entered into the bear harvest database.

Objective 3: Brown/Grizzly Bear Management with Public Participation and Outreach. Manage each brown/grizzly bear population with an emphasis on engaging the public in management goals and objectives through public meetings, working groups, educational materials, and incentive programs.

ACCOMPLISHMENTS:

Objective 3 by Area

Regionwide

- Respond to issues and public reports involving brown bears associated with nuisance behavior, injuries, habituation and bear-vehicle collisions (BVCs).

- As part of harvest monitoring, 5 area offices communicated and coordinated with local residents to reduce bear-human problems, improve understanding of defense of life or property (DLP) situations, and reduce the need for DLP kills. We also responded to and made recommendations in multiple instances of human-brown bear interactions. All offices responded to nuisance or habituated brown bear situations from July- November 2019 and from March-June 2020.
- Educate the public on bear awareness and safety and provide demonstrations of how to minimize attractants and/or use electric bear fences to reduce bear/human problems as requested.
 - Staff educated the public on bear awareness and safety, used public education programs and/or increased communication with the public to improve understanding of hunting regulations and the value of conserving brown bear populations.
- Prepare 5-year brown bear survey and inventory operational reports and plans for each Unit or Subunit inhabited by brown/grizzly bears.
 - We compiled information and data in preparation for writing four 5-year Brown Bear Management Reports and Operational Plans for Units 6, 7 and 15, 8, and 14C. These reports are expected to be published soon and will be available at the following url:
<http://www.adfg.alaska.gov/index.cfm?adfg=librarypublications.wildlifepublications&sort=all&species=Brown+Bear&submit=Search>.
- Provide information to state and federal regulatory processes on brown bear management.
 - We communicated with and attended meetings of local Fish and Game Advisory Committees, the Alaska Board of Game, Federal Regional Advisory Councils, the Federal Subsistence Board, Office of Subsistence Management, numerous local village councils and Native corporations about brown bear management and to review and analyze regulation proposals for the Alaska Board of Game and the Federal Subsistence Board.

Units 7 and 15

- Continue implementation of the Kenai brown bear conservation strategy.
 - The Kenai brown bear management strategy was revised in 2013 and continues to provide guidance on management practices. Additional harvest opportunity was provided due to a documented increase in bear numbers and a population that had reached social carrying capacity. We continue to monitor the bear population through population demographic data from captured animals and harvest through sealing requirements. Harvest strategies will be adjusted to maintain sustainable harvest within population levels that meet an acceptable social carrying capacity for brown bears. Continued public education and enforcement of bear conservation strategies to minimize negative human bear interactions will be increased.

Unit 8

- Continue implementing recommendations of Unit 8 brown bear management plan.
 - Implementation of the Kodiak Bear Conservation Management Plan continued in 2019-2020 with support from the Kodiak Unified Bear Subcommittee (KUBS)

and other local partners. We continued to make progress with the Kodiak Island Borough Assembly and area villages to reduce the availability of human food and garbage to bears. Working closely with Alaska Waste Management, the Alaska Wildlife Troopers and other local law enforcement agencies (Coast Guard Military Police, Kodiak Island Borough, Kodiak Police Department) we have encouraged responsible waste management within the villages and the city of Kodiak and the Kodiak Island Borough. We have developed public service announcements and handouts providing guidelines for living responsibly in bear country and presented numerous bear safety presentations to groups and organizations throughout the island.

II. SUMMARY OF WORK COMPLETED ON PROJECT TO DATE.

This project is ongoing. Summaries of past data trends are published at the following url:

<http://www.adfg.alaska.gov/index.cfm?adfg=librarypublications.wildlifepublications&sort=all&species=Brown+Bear&submit=Search>

III. SIGNIFICANT DEVELOPMENT REPORTS AND/OR AMENDMENTS.

None. Project number 4.0 was significantly underspent during the reporting period due to a staff vacancy in the Soldotna office and more work being done on other projects requiring less field work. Restrictions on travel due to COVID-19 and an overall budget shortage resulted in a request to reduce planned spending to preserve Fish & Game matching funds. Planned field work, conference travel and site visits were not completed and personnel time was coded to other projects that did not require travel.

IV. PUBLICATIONS

Project publications for previous years are available at the following url:

<http://www.adfg.alaska.gov/index.cfm?adfg=librarypublications.wildlifepublications&sort=all&species=Brown+Bear&submit=Search>

V. RECOMMENDATIONS FOR THIS PROJECT

We recommend continued funding for this project to effectively manage brown bear populations in Southcentral Alaska.

Prepared by: Cynthia Wardlow

Date: October 2020