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-R5-2020 Amendment #1

PROJECT NUMBER : P4.0

PROJECT TITLE: The Status of Brown Bears and Factors Influencing Their Populations

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

REPORT DUE DATE: Submit to FAC August 27, 2021

PRINCIPAL INVESTIGATOR: Phillip Perry

Authorities: 2 CFR 200.328
2 CFR 200.301
50 CFR 80.90

II.   SUMMARY OF WORK COMPLETED ON PROJECT TO DATE.

Prepare a regional biennial brown bear management report.

> Brown bear management reports for Units 18, 22, 23, and 26A were prepared during this reporting period.

Provide information to state and federal regulatory processes on brown bear management.

> Area management staff reviewed State and Federal regulatory proposals, attended regulatory process meetings, and presented brown bear information to the State Board of Game, State Fish and Game Advisory Committees, Federal Subsistence Board, and Federal Subsistence Regional Advisory Councils.

Review and revise population objectives.

> Brown bear population objectives were reviewed with no revisions in Units 18, 22, 23, and 26A.

Monitor the brown bear harvest through field observations, analyses of brown bear sealing data, and interviews with hunters.

> Unit 18: We made numerous field observations of brown bears while conducting surveys for other species in Unit 18; interviewed brown bear and other hunters regarding bears;

and analyzed brown bear sealing data. Sealing data for RY20 is preliminary and subject to change due to delays in reporting & data entry due to the impacts of COVID-19. To date, 5 brown bears have been reported harvested in the general hunt in Unit 18 all in the fall of RY 2020, 4 and 1 for the spring of 2021. Of these bears, 2 were male bears and 3 were female. Two bears were harvested by nonresidents and 3 were taken by residents.

 Unit 22: Reported harvest during the RY2020 reporting period was 91 brown bears. Sex composition of the total reported harvest was 56 males and 35 females. The fall and spring season reported a harvest of 30 bears and 60 bears, respectively. The average annual reported harvest for the last 10 years (RY11 through RY20) is 103 bears per year (range 95-132 bears per year). Non-residents harvested 32% (30 of 95 bears) of the reported bear harvest in RY20 through drawing permits or general season harvest.

Unit 23: Reported harvest during RY2020 was 19 bears through the general hunt for residents, 0 in the registration hunt for residents, and 27 were harvested in the registration hunt for non-residents. Therefore, 46 bears were harvested. The average annual harvest for the last 10-years is 50 bears per year (range 33-71 bears per year).

Unit 26A: We recorded brown bear harvest through field observations and analyzed brown bear sealing data and subsistence harvest data. 14 brown bears (10 males, 4 females) were reported taken in Unit 26A during the reporting period. Six were taken by nonresidents, ten were taken by Alaskan residents. Seven bears were taken in August, three in September, two in May and one in April. The average annual harvest for the last 10 years is 19 bears per year.

Collect harvest data, determine sex, and extract a tooth for aging from brown bears presented for sealing.

Unit 18: Data were collected from 23 sealed bears (16 males and 7females). Teeth were extracted for aging when these bears were presented for sealing.

Unit 22: Data were collected from 87 sealed bears(54 males and 23 females). Premolar teeth were extracted for aging when these bears were presented for sealing.

Unit 23: Data were collected from 46 sealed bears (28 male and 18 females). Teeth were extracted for aging when these bears were presented for sealing.

Unit 26A: Data were collected from fourteen sealed bears (ten males and 4 females). Teeth were extracted for aging when these bears were presented for sealing.

Obtain estimates of ages of sealed bears by tooth sectioning.

Unit 18: Premolars were extracted and sent to Matson's Lab for sectioning and aging but results for these samples are not available. The average age of bears from RY19 is 5.4 for females and 8.5 for males. This sample is very small N= 13 so averages are heavily influenced by single bears.

Unit 22: Premolars were extracted and sent to Matson's Lab for sectioning and aging; results for the RY20 reporting period are not yet available. Ages returned for the RY19 reporting period show the average age for males was 5.5 years old (n=46, range= 1–20

yrs.), and sows was 5.8 years old (n=24, range=1–16 yrs.). The average age of males and females harvested in Unit 22 the last 10 years (RY10–RY19) was 6.5 years old and 6.7 years old, respectively.

Unit 23: Premolars were extracted and sent to Matson's Lab for sectioning and aging. Ages returned for the RY19 reporting period show the average age for males was 9.2years old (n=18, range= 2 yrs-17 yrs.), and sows was 9.8 years old (n=13, range=3 yr-21 yrs.).

Unit 26A: Of the 14 bears that were sampled in RY20 data are incomplete. For the RY 19 females that were sampled for teeth, the average was 7.5 years old (n=2), for the males the average age was 13.2 years old (n=5). There were 7 total bears taken in RY19 and all were aged.

Analyze registration permit harvest data collected for subsistence hunts.

Unit 18: No brown bears were reported taken under the subsistence brown bear registration hunt (RB698) in Unit 18 during this period.

Unit 22: The department issued 0 subsistence brown bear registration permits (RB699) in Unit 22 during the reporting period.

Unit 23: No brown bears were reported taken under the subsistence brown bear registration hunt (RB700) in Unit 23 during this period. Since general season bear regulations have been liberalized and no tag is required, most subsistence hunters are using general season requirements.

Unit 26A: No brown bears were reported taken in RY20 under the subsistence brown bear registration hunt (RB697) in Unit 26A. Since general season bear regulations have been liberalized and no tag is required, most subsistence hunters are using general season requirements.

Use public education programs and/or increased communication with the public to improve understanding of hunting regulations and the value of conserving brown bear populations, and to obtain better harvest data through increased harvest reporting.

Unit 18: We addressed bear conservation education in Unit 18 through opportunistic interviews with hunters, village police officers, berry pickers, and other interested members of the public.

Unit 22: The Department discussed brown bear hunting regulations, the importance of reporting a bear harvested or taken in a Defense of Life & Property situation, and methods to minimize human-bear conflicts during Advisory Committee meetings, Regional Advisory Council meetings, local news reporters, and with local residents.

Unit 23: We spoke to the public about the importance of reporting all bears killed while hunting or in defense of life and property.

Unit 26A: At public meetings and during individual contacts with local residents, we discussed bear hunting regulations, the importance of reporting harvest and DLP bears, and methods to minimize human-bear conflicts.

Educate the public on bear awareness and safety and provide demonstrations of how to use electric bear fences to reduce bear/human problems.

Unit 18: We continued to promote the use of electric fences around fish camps, hunting camps, and other applications as a way to reduce bear problems. One person was mauled by bear on the Yukon River in the spring. An increase in bear problems around villages and fish camps were reported.

Unit 22: Unit 22 promotes the use of electric fences around camps and stresses the importance of keeping remote camps free of attractants. Bear Aware posters were provided to local organizations and the public on how to keep bears away from camp or homes. Staff participated in brown bear safety and bear education programs with local youth and private organizations. Staff visited villages and fish camps in subunit 22B to provide advice on bear safety and electric bear fence demonstrations or installation assistance.

Unit 23: We spoke to numerous hunters, especially hunters who reside outside of Unit 23 who call for information, about bear safety.

Unit 26A: We continued to promote the use of electric fences around cabins as a way to reduce human/bear conflicts. Efforts have been made to do bear safety programs at schools and in public meetings to increase bear awareness particularly in Utqiagvik and Anaktuvuk Pass.

Communicate and coordinate with local residents to reduce bear/human problems, improve understanding of defense of life or property (DLP) situations, and reduce need for DLP kills.

Unit 18: Each year we work with residents and provide educational information to reduce bear/human conflicts at camps and residences. Two nuisance bears were taken under DLP regulations.

Unit 22: One bear was killed in defense of life and property in Unit 22 during the reporting period. Staff members work with Norton Sound villages and village public safety officers to have nuisance bears reported to the Department and, when taken, salvaged properly. When the department received reports of bears within the vicinity of local communities efforts to educate the public were made in instances where bears posed a potential threat to public safety.

Unit 23: We also spoke with local residents about preventing DLP situations and the need to report bears taken under such circumstances.

Unit 26A: Each year there are reports of brown bears entering villages. Efforts are being made to improve knowledge of DLP regulations and expand the use of registration permits for subsistence hunting of bears. Tag fees were eliminated for the general season hunt, which will make it easier for residents to protect their property. Electric fences are an alternative to protect remote cabins and camping areas.

Activities by Unit:

Unit 22

Assess population trends through field observations and analyses of sealing data.

> In accordance with local management objectives, annual reported harvest of boars between RY90 and RY20 has consistently exceeded the sow harvest (the average harvest composition is 64% boars). Harvest data suggests an increase in the average age of harvested sows over time (average 5.8 years RY90-RY98 to average 6.6 years RY98-RY19). The average skull size of harvested females was stable between RY19 and RY20 with average skull size of 20.3 inches and 20.0 inches respectively. The average skull size for males has remained consistent with an average skull size of 22.2 inches in RY19 to 22.0 inches in RY20. Anecdotal evidence from the public indicates the population is highly productive; reports of sows with 2-3 cubs are common.

Analyze drawing permit harvest data collected for nonresident drawing hunts.

> The department administers two nonresident drawing permit hunts (DB685 in GMU 22B and 22C and DB690 in GMU 22D and 22E) annually with 27 and 21 permits available annually, respectively. During the reporting period 56% of DB685 and 38% of DB690 permits were awarded to hunters. The RY20 success rates for nonresident hunters in permit hunt DB685 and DB690 was 50% (6 of 12) and 20% (1 of 5), respectively. The average skull size of harvested sows was 20.4 inches and average skull size for boars was 25.7 inches in the DB685 hunt. For the DB690 hunt, the skull size of the one sow harvested during the hunt was 18.4 inches.

Complete surveys and data analysis on a brown bear census project with National Park Service in Unit 22.

> A brown bear survey was conducted on the Seward Peninsula in the spring of 2021. Analysis of this survey is currently underway by the NPS. The last time this survey was conducted was in 2015; The 2015 survey estimated bear density within the survey area at 36.5 bears/1000 km^2, which is similar to the density estimate from a survey completed in 1991 (Miller 1993). However, the two survey methods are not directly comparable due to differences in study area size and methodology. It is difficult to understand population change over the last 25 years, although reported harvest has approximately doubled. Based on the 2015 survey, current harvest levels (~100 bears/year) represent approximately 4-5% harvest rate for total bears (all ages) and approximately 6.5-8% of independent bears (non-cubs). Additional surveys are planned in the future with the goal of providing information on population trends.

Units 23 and 26A:

Monitor population trends through field observations, censuses, registration permit hunt reports, and analysis of sealing data.

Unit 23: Harvest data indicates there has been little change in the sex or age structure of bear populations in Unit 23 since the early 1960s despite increasing harvest levels. This is consistent with our opportunistic observations of bears. However, modeling exercises indicate harvest data is insensitive to biological changes in bear populations so these results should be viewed with caution.

Unit 26A: Opportunistic observation of brown bears during surveys for other species and the observations of hunters and pilots indicate that brown bears are relatively plentiful, and most subsistence users indicate the current population level of brown bears is higher than they would like to see. There were seven brown bears reported harvested in 26A during this reporting period. This level of harvest is considered sustainable.

Actions were taken at the Board of Game to increase brown bear bag limits from one bear a year to two brown bears per year.

Analyze harvest data collected from selected communities in Unit 23 through household subsistence surveys.

Previous Community-based Harvest Assessments suggest the harvest of brown bears by residents of Unit 23 is low but accounts for more than sealing records indicate.

There were no community household surveys conducted in 26A during this reporting period that included information regarding brown bears.

Investigate techniques (census or survey program) to assess population status in Unit 23 and, if appropriate, complete a census/survey in a selected portion of the unit in late May/early June.

No work was completed for this activity during this reporting period. Previously in Unit 23 staff assisted in completing a brown bear survey in the lower Noatak drainage with the National Park Service in May 2016 and 2017 in the upper Noatak drainage. The 2016 survey results estimated the bear density at 106.4 bears/1000 km2 and the 2017 survey results estimated the bear density at 41.8 bears/1000 km2.

III.   SIGNIFICANT DEVELOPMENT REPORTS AND/OR AMENDMENTS.

None

IV.   PUBLICATIONS

None

V.   RECOMMENDATIONS FOR THIS PROJECT

Ongoing Project will continue.

Prepared by: Phillip Perry

Date: 9/29/21