

FEDERAL AID ANNUAL 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-7

PROJECT NUMBER: 3.0

PROJECT TITLE: Statewide Intensive Management for Deer Populations Identified as Important for Providing High Levels of Harvest for Human Consumptive Use and Predators Influencing Deer Population Status.

PROJECT DURATION: April 1, 2015 – March 31, 2020

REPORT DUE DATE: September 28, 2018

PRINCIPAL INVESTIGATOR: Thomas V. Schumacher

COOPERATORS: None.

WORK LOCATION: Reg 1 Game Management Unit 3

Briefly describe how Federal Aid funds were spent on each active job, listing the results achieved during this segment period. If a job was not accomplished as planned, explain briefly why.

I. PROGRESS ON PROJECT OBJECTIVES DURING LAST SEGMENT

Objective 1: Conduct more frequent and more robust surveys to estimate the population size and fall composition (bucks, does and fawns) of deer to evaluate if Intensive Management (IM) treatments are successful.

Traditional pellet group transects have been conducted annually within portions of the proposed Intensive Management (IM) Treatment Area. In spring 2018 pellet-group counts were conducted in 3 VCUs on 2 islands located within the proposed Unit 3 IM treatment area (Kupreanof and Mitkof). Counts in all areas were generally higher than in prior years (Table 1). Pellet group data can be challenging to interpret because several factors can influence the number of pellet groups seen. However, we believe that in conjunction with other data sources, these counts do reflect an upward trend in deer abundance.

Period	RY	Transect location (VCU)	Pellet Groups/Plot (95% CI)
Year 1	2013	VCU 435 Castle River	0.15 (0.10-0.21)

		VCU 437 East Duncan	0.56 (0.40-0.71)
		VCU 442 Portage Bay	0.24 (0.16-0.32)
		VCU 448 Woewodski	0.64 (0.50-0.77)
Year 2	2014	VCU 437 East Duncan	0.47 (0.33-0.61)
		VCU 448 Woewodski	0.76 (0.58-0.93)
Year 3	2015	VCU 437 East Duncan	0.60 (0.48-0.72)
		VCU 442 Portage Bay	0.40 (0.30-0.51)
		VCU 448 Woewodski	0.63 (0.49-0.76)
Year 4	2016	VCU 437 East Duncan	0.37 (0.28-0.46)
		VCU 442 Portage Bay	0.50 (0.38-0.61)
		VCU 448 Woewodski	0.46 (0.35-0.56)
Year 5	2017	VCU 437 East Duncan	1.01 (0.80-1.22)
		VCU 442 Portage Bay	0.40 (0.28-0.52)
		VCU 448 Woewodski	1.03 (0.83-1.24)
Year 6	2018	VCU 435 Castle River	0.52 (0.41-0.63)
		VCU 437 East Duncan	1.25 (1.05-1.46)
		VCU 448 Woewodski	1.77 (1.49-2.04)

Table 1. Summary of deer pellet group counts in Unit 3, 2013-2018.

ALPINE DEER AERIAL SURVEYS

After two seasons of experimentation (2013 and 2014), Petersburg staff developed standardized methodologies for conducting aerial alpine deer surveys. Survey routes are designed to be approximately 2 hours in duration ending at sunset. Time of year and weather conditions under which surveys are flown are also held as constant as possible. The pilot and observer count as many deer as possible while covering established alpine survey routes (Fig. 4). The number of deer observed per survey hour was selected as the standard metric to measure deer abundance. Unless abundance is very high, deer can also be classified as large buck, small buck, doe, and fawn to provide information on sex and age composition. Replicate surveys with a goal of 4-5 surveys per survey area were used to account for variability among individual survey flights.

We initiated the development of the aerial alpine survey technique in response to IM needs in Unit 3, but the methodology may have utility for deer managers in other units with sufficient alpine habitat. Although we have yet to verify that trends seen in the alpine accurately reflect trends in the larger population, we believe alpine surveys may have the potential to be a stand-alone index of deer abundance or to complement existing survey techniques (i.e. harvest reports, traditional pellet group counts, fecal DNA mark-recapture density estimates).

During late July and early August 2018, ADF&G staff and volunteers from the Petersburg Area Office conducted over 30 individual aerial alpine deer surveys in seven areas within Southeast

Alaska. Our survey efforts in 2018 represent the sixth year of an ongoing effort to improve and standardize aerial alpine deer survey methods. In the near future we plan to quantitatively evaluate whether alpine deer survey data accurately mirror trends in the larger population. If so, they will be a valuable tool to assess the effectiveness of a proposed IM program to aid the recovery of deer numbers in portions of the Petersburg Management Area (Mitkof Island, Woewodski Island, and Eastern Kupreanof Island) in Game Management Unit 3.

Results

Aerial alpine surveys conducted from 2013-2018 indicate a statistically significant increasing trend in the number of deer observed during alpine deer surveys on the Lindenberg Peninsula (Figure 1a). Numbers of deer seen on western Kupreanof Island (Figure 1b) also appear to be trending upward, but not significantly. Until 2017 trends in deer seen on alpine surveys appeared to mirror the trend in harvest more closely than did pellet group data, which failed to detect an increase in deer abundance until 2018. Interestingly, estimated Unit 3 deer harvest (Figure 3) and Kupreanof Island deer harvest (Figure 4) declined in 2017, while alpine surveys suggest abundance continued to increase.

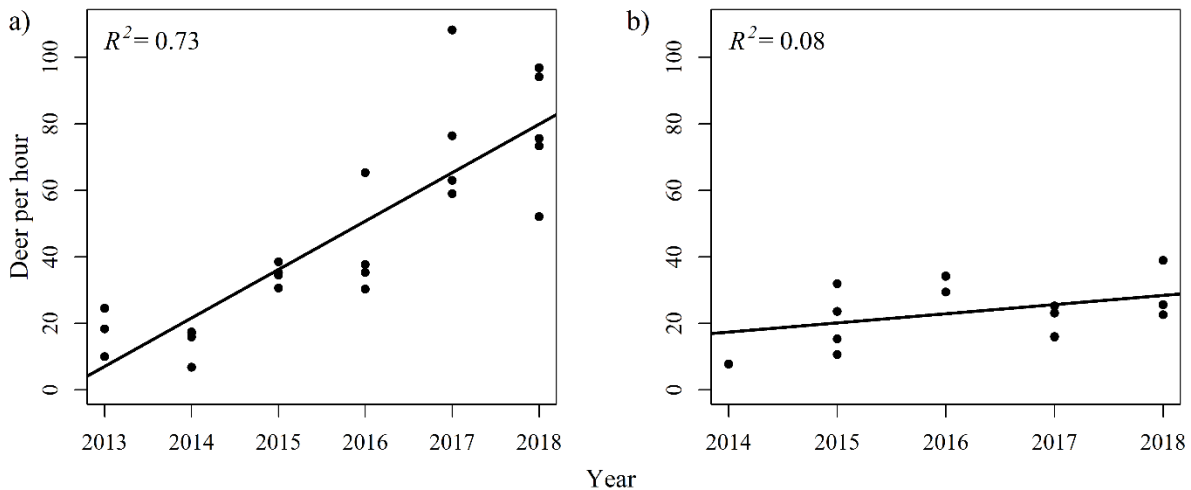


Figure 1, Alpine survey results, deer per hour observed on Lindenberg Peninsula (a) and on western Kupreanof Island (b).

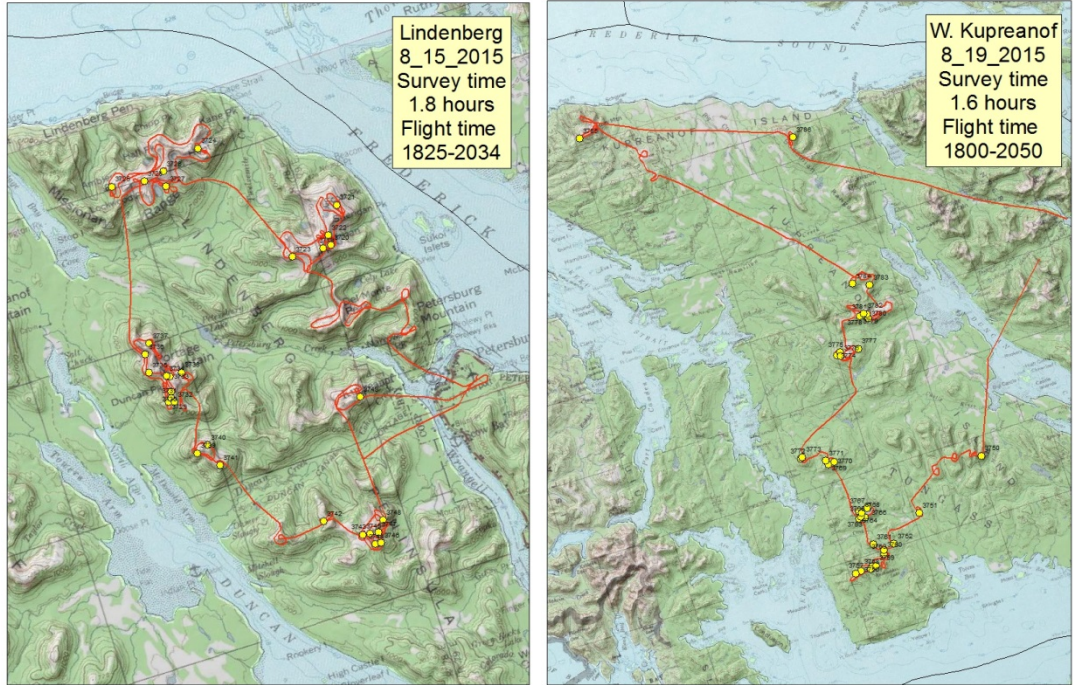


Figure 2. Aerial survey routes for Lindenberg Peninsula and West Krupreanof Island.

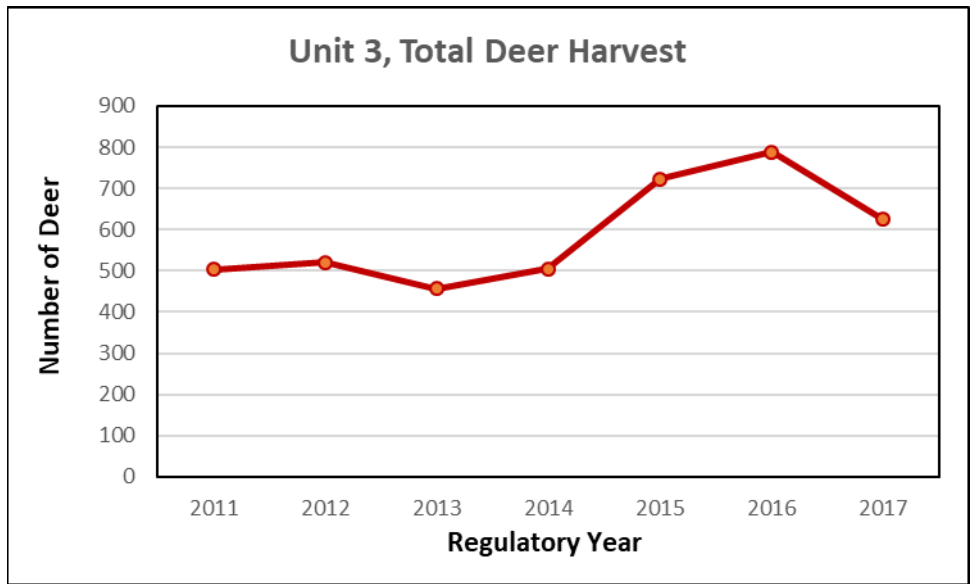


Figure 3. Estimated total deer harvest in Unit 3, 2011-2017.

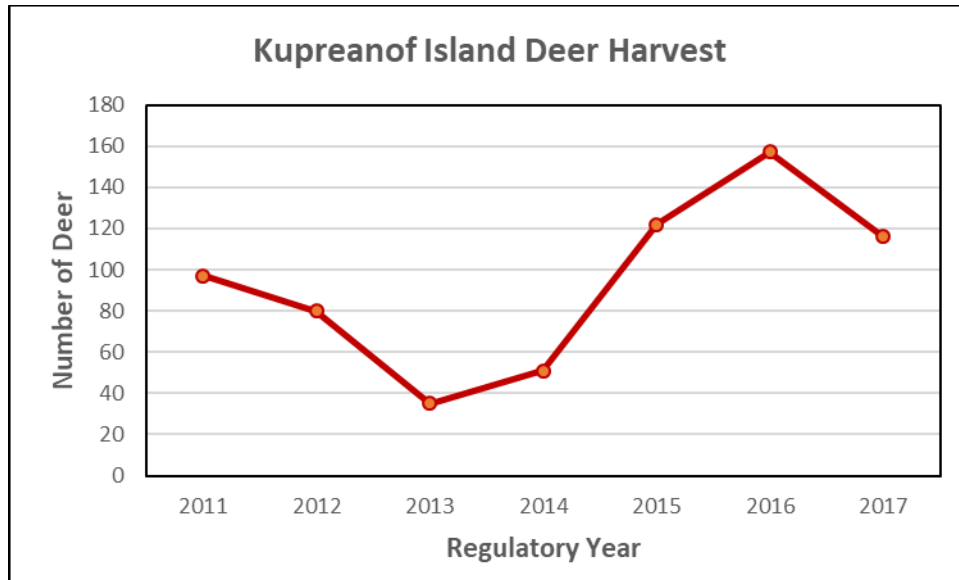


Figure 4. Estimated total deer harvest on Kupreanof Island within Unit 3, 2011-2017.

Objective 2: Estimate fawn production, survival and causes of mortality using radio-collars and or camera-collars to determine if a) fawn mortality can be reduced to meet IM population and/or harvest objectives or b) to evaluate the effects of the IM treatment.

This was not done as it was not the primary focus of activity during the report period. Management and research staff recently met to discuss additional deer focused work in GMU 3 and both adult and fawn survival studies may occur in the future.

Objective 3: Estimate adult deer survival rates using radio-collars to evaluate the effects of the IM treatment.

This was not done as it was not the primary focus of activity during the report period. Management and research staff recently met to discuss additional deer focused work in GMU 3 and both adult and fawn survival studies may occur in the future

Objective 4: Monitor deer nutritional status to evaluate the influence of an expanding moose population on deer and to evaluate viability of IM population objectives for deer.

No work on this objective was done. As noted above additional studies are being discussed and rigorous habitat assessments (browse surveys) may be undertaken. Course browse assessments were made during traditional pellet surveys in an attempt to get some understanding of browse utilization by deer and moose, and to determine if this method provided usable data.

Objective 5: Monitor forage abundance and utilization to evaluate habitat capability and to develop reasonable IM population objectives.

This was not done during the current report period. However, in late-March and early-April 2014 staff initiated a pilot study designed to test a low cost and efficient methodology for assessing the

quantity of key deer overwinter forage plants, and their utilization, to aid in the assessment of deer carrying capacity in portions of Unit 3. The main question to be investigated was whether or not the existing overwinter range in portions of the IM Treatment Area (Mitkof and Kupreanof islands) could support more deer. While this initial effort focused in large part on developing an efficient methodology to determine the density, condition, and overwinter utilization of key deer browse species, it did however, provide initial insights into the current condition of deer winter range in a small portions of the IM treatment area. While the number of plots samples was extremely limited, the preliminary results indicate that browsing is more intense on Lindenberg Peninsula than on Mitkof Island. On Mitkof island deer appear to be far enough below the carrying capacity of the existing habitat that nutrition is not believed to be a major factor in the recent population decline. The Lindenberg Peninsula on Kupreanof Island had a higher proportion of decadent shrubs, 24%, versus 16% on Mitkof.

Objective 6: Investigate and monitor wolf, black bear and brown bear abundance relative to defined IM objectives.

This was not done. At present, methods for monitoring abundance and trend of deer are the primary focus. Anecdotal information from trappers and hunters are collected when possible, and harvest data for the species listed above are collected annually. Additionally, wolf and bear research plans are being discussed for future regulatory years.

Objective 7: Report findings in appropriate scientific and popular publications.

None.

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

USFWS approved an amendment to decrease the grant duration, ending the grant on June 30, 2018. After extensive investigation by DWC and USFWS staff into performance reporting and financial accounting of the 5-year AKW-7 Intensive Management award for projects Caribou 1.0, Moose 2.0, and Deer 3.0, it was determined it is in the State's best interest to cease work on and terminate the entire AKW-7 award, first Caribou on Dec. 1, 2017, and then moose and deer projects on June 30, 2018. It should be noted that there were no issues with cost accounting and performance reporting for the deer project itself.

III. PUBLICATIONS

Annual Report to the Alaska Board of Game on Intensive Management for Sitka Black-Tailed Deer with Wolf Predation Control in a Portion of GMU 3. February 2018.

IV. RECOMMENDATIONS FOR THIS PROJECT

Continue project work under a new or existing grant, with an emphasis on refining the alpine deer survey technique.

Prepared by: Thomas V. Schumacher

Date: June 26, 2017