ALASKA DEPARTMENT OF FISH AND GAME
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Alaska Department of Fish and Game
Wildlife Restoration Grant

GRANT NUMBER: AKW-10 Wildlife Restoration FY2016

PROJECT NUMBER: 2.0

PROJECT TITLE: The Status of Deer and Factors Influencing Their Populations

PERIOD: July 1, 2015 – June 30, 2016

PROJECT LOCATION: Statewide

REPORT DESCRIPTION: This performance report describes deer survey and inventory activities. Activities are listed by game management unit.

The Status of Deer and Factors Influencing Their Populations in Region I

Region-wide Activities Units 1-5

Activity 1: Prepare biennial regional deer management reports.

Accomplishments: This report is being reviewed and edited.

Activity 2: Provide information to state and federal regulatory processes on deer management.

Accomplishments: Data from deer harvest and population indices were provided to the Alaska Board of Game and Regional Advisory Council as requested.

Activity 3: Determine harvest and population trends using a harvest reporting system.

Accomplishments: Beginning in RY2011, ADFG changed our deer harvest data gathering system from a mail-out survey to a state-wide deer harvest report card. Each deer harvest ticket now has a harvest report card attached, and hunters are required to submit their hunt effort through this card, or report on-line through the department website. Deer harvest summary data has been revised and is now provided in a consistent format for the state as a whole, rather than in different formats for each Region where deer occur. New methodologies have been employed to more accurately and efficiently code harvest data to location, and reduce data entry errors. Deer harvest data has undergone intensive review to identify and correct data entry errors that occurred before error-checking mechanisms were in place. Additional summary table formats have been provided to allow managers additional ways to analyze the data and provide

information to the public. New harvest statistics will be available by the end of September 2016 for the 2015-16 regulatory year.

Activity 4: Conduct spring pellet-group surveys at selected locations throughout the region.

Accomplishments: Spring pellet group transects were conducted throughout the region, albeit at fewer locations than usual, to allow time for field crews to collect pellets for the intensive DNA-based pellet transects used to estimate deer density described in Activity 7.

In Region I, pellet-group surveys were conducted in 8 watersheds – 3 in GMU 01C, 1 in GMU 04Z, 3 in GMU 03Z, and 1 in GMU 01A. Surveys in two additional watershed in 01A had been planned, but had to be abandoned due to severe weather. Pellet-group counts were down in 5 of the watersheds to various degrees, but this was likely due to an extremely mild winter rather than reduced deer numbers. Deer pellet-group surveys are conducted in areas with critical winter range, but in mild winters deer can use a larger variety of habitats.

Activity 5: Conduct mortality transects in key areas as needed and budgets allow.

Accomplishments: No mortality transects were conducted during this report period because we believe survival over the very mild winter was high and few deer wintered near the beach.

Activity 6: Monitor the harvest by communicating with hunters on an opportunistic basis.

Accomplishments: Regional managers gathered anecdotal information from hunters as opportunity allowed.

Activity 7: Conduct DNA deer pellet transects in the region to further our investigations as to the efficacy of this method in estimating deer numbers.

Accomplishments: The DNA technique is being tested with the hope that it can provide us with a more precise method of determining deer abundance and trend. During this report period we focused on a study area on Mitkof Island in GMU 3 where we have an intensive management program focused on deer. Compared to previous efforts, we spaced transects closer together, started sampling at an earlier date, conducted more repeat visits to the same transects, and collected a wider variety of pellet qualities. More than 3 times as many pellet-groups were sampled than during a previous effort in this area in 2014, partially due to revised techniques and partially due to a perceived increase in pellet-groups encountered. Over 400 samples were sent to the lab for genotyping in May of 2016. We anticipate receiving deer identification data from the lab during fall 2016 and completing a report on this project over the winter. We will then evaluate efficacy of the new methods employed. .

Activity 8: Conduct path sampling transects as a “new” method of determining deer trends.

Accomplishments: We did not evaluate this technique during the report period.

Activity 9: Establish browse plots in Units 1A and 3 as a way of assessing deer habitat value, and for browse utilization.

Accomplishments: This activity was inactive during the report period.

Activity 10: Establish forb plots in Units 1A and 3 as a way of assessing summer deer habitat quality.

Accomplishments: This activity was inactive during the report period.

Activity 11: Collect deer pellets throughout the region to assess diet makeup through microhistological analysis of pellets.

Accomplishments:
Deer pellets were collected around Region I in Spring of 2015. Samples were sent for analysis in July of 2015. Because only one lab in the country conducts diet analyses, the lab cannot produce results quickly. Results of the diet analyses were received in June of 2016. These data are in the process of being analyzed, and results will be available this winter.

Activity 12: Collect fresh pellets or tissue samples throughout the region for genetic comparison of populations across the region.

Accomplishments: This activity was inactive during the report period.

Activities by Unit:

Unit 3

Activity 1: Establish and conduct aerial alpine deer surveys to determine effectiveness of this technique in assessing deer numbers.

Accomplishments: We flew up to three late summer alpine deer counts in each of three count areas within Unit 3 during the report period.

Unit 4

Activity 1: GPS radio-collar 7-10 deer to gather movement and spatial use patterns in altered and unaltered habitats.

Accomplishments:

A pilot project is being conducted in conjunction with the Sitka Conservation Society (SCS) in the Starrigavan watershed adjacent to Sitka. The goals of the project are to provide participatory opportunities for students to engage in resource stewardship and GIS analyses, and to serve as a pilot study for the use of GPS-iridium collars to assess of habitat selection by deer in forested areas that have undergone various forest management treatments. To date, 4 deer (two male and 2 female) have been collared with Iridium GPS collars and 2 deer (1 male and 1 female) have

been collared with store-on-board GPS collars. The collars are still on the deer, but are scheduled to fall off in 2017.

No deer were collared elsewhere in Region I during this report period. However, spatial data analyses were conducted on data collected from deer that had been collared on NE Chichagof Island in GMU 04Z during previous years. An annual report on this project was submitted and is available on the ADFG website. Additional analyses will be conducted the winter of 2016-17.

Submitted by: Tom Schumacher, Region I Management Coordinator

The Status of Deer and Factors Influencing Their Populations in Region II

Regionwide Activities

ACTIVITY : Prepare a biennial deer management report.

A deer management report was prepared and submitted to Headquarters for review during the summer 2015. Staff continue to collect information for future publication. The department is transitioning to a 5-year report and plan. The next report will be published in 2017.

ACTIVITY : Determine harvest and population trends using a harvest reporting system.

Questionnaires were replaced in 2011 with a new harvest reporting system. All hunters were required to obtain harvest tickets and report on hunting activities after the season or at the completion of their hunt.

ACTIVITY : Monitor the deer harvest through field observations and contacts with hunters.

These are standard activities accomplished in each office. See Area specific activities.

ACTIVITY : Provide information to state and federal regulatory processes on Sitka Black Tailed deer management.

Staff routinely interact with federal staff and discuss management of deer relative to the respective regulatory systems. Staff prepared information for presentation to the state Board of Game meeting in 2015.

Activities by Unit

Unit 6

ACTIVITY 1: This year's Mean Pellet Groups/Plot (MPGP) was 0.65, the second lowest on record (since 1994/95 which was the first year that a comparable sample area was considered). The lowest point in 2013 marked a 61% decline since the 2011 estimate. While the last two years showed improvement in the index, this year fewer pellets were observed. The MPGP is now 56%

lower than the 2011 estimate. This contradicts what we believe to be true based on anecdotal reports, improved harvest numbers, success rates, and weather conditions.

ACTIVITY 2: Final harvest estimate is not yet available but preliminary reports from hunters suggest that harvest increased as the population increased and success rates improved. Harvest in RY14 was almost double each of the two years prior which were the lowest reported harvest on record with less than 600 deer reported in the harvest each year.

Unit 8

ACTIVITY 1: A Sitka black-tailed deer mortality survey was completed on the shoreline of Chief Cove (west Kodiak Island) in May. We surveyed 12 km of shoreline and located 8 mortalities resulting in 0.45 carcasses/km. Winter mortality of deer in Chief Cove during 2015–16 was low compared to past surveys suggesting either lower winter mortality rates or decreased deer abundance in this region. The Chief Cove area serves as a major deer wintering area for the western Spiridon Peninsula and has consistently revealed the highest winter mortality rates when compared to other historical survey areas (i.e., Olga Bay, North Sitkalidak Strait). Island wide reports from hunters and local residents concurred with our annual deer mortality transects, suggesting winter mortality was minimal across Kodiak Island.

ACTIVITY 2: Evaluate improved procedures for assessing population status. We are currently investigating various modeling approaches to obtain a rigorous population estimate and gather information on recruitment and survival.

ACTIVITY 3: Harvest estimates are not yet available for this reporting period; however, hunter and air taxi reports suggest the deer population is robust and harvest numbers and hunter success rates have increased with the increased deer population.

Submitted by: Cynthia M. Wardlow