

ANNUAL SURVEY AND INVENTORY

GRANT AND SEGMENT NO. AKW-20 Wildlife Restoration FY2017

PROJECT NO. 2.0 Deer,

PERIOD: July 1, 2016 – June 30, 2017

PROJECT LOCATION: REGION I

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

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

TITLE

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

Region-wide Activities Units 1-5

Activity 1: The department is switching to 5-year operational plans and reports with brief annual reports for survey and inventory activities. Operational plans for S&I activities involving deer will be finalized during FY2018.

Accomplishments: Area management biologists worked on operational plans for S&I activities involving deer during the reporting period. The report section will cover July 2011 – June 2016. The plan section will cover July 2016 – June 2021.

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. Harvest statistics for RY2016 will be available by the end of June 2017.

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

Accomplishments: During spring 2017 pellet group transects were conducted in a total of 15 watersheds – 3 in GMU 01A, 3 in GMU 01C, 3 in GMU 03Z, and 6 in GMU 04Z. A report summarizing spring 2016 pellet group counts was also completed and published during this report period.

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

Accomplishments: Two mortality transects were completed in Unit 4. Winter 2016-17 was relatively mild and only two winter-killed carcasses were found.

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: Collect fecal DNA along deer pellet transects in selected areas of the region to evaluate the efficacy of this method as a tool to monitor changes in deer abundance.

Accomplishments: We elected to not collect field data for this project during spring 2017 and to instead focus on analyzing previously collected data in more detail. Goals of the analyses are to develop ways of sampling low density populations that still yield estimates with acceptable measures of error and to evaluate whether this technique is useful for broad-scale population monitoring or more suited to situations involving discreet hypothesis testing. A report on this project will be prepared during the FY2018 reporting period.

Activity 8: Compare path sampling (following deer trails along a general transect) to sampling along compass line transects as methods of collecting deer pellet group data.

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:

Analyses of pellets collected during spring 2015 were received in June of 2016. A report on the findings will be prepared during FY1018.

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: During the report period, we flew late summer alpine deer surveys in Unit 3 and in Units 2 and 4 as comparison areas. We flew 4 surveys in 1 survey area in Unit 2, 3 surveys late in three 2 count areas and 4 surveys in a third count area within Unit 3, and 2 surveys in one survey area in Unit 4. Comparison with harvest trends and anecdotal accounts of deer populations suggest these surveys are better suited to monitoring finer-scale changes in deer abundance than pellet group transects. We plan to continue these surveys and perhaps add additional survey areas in other GMUs with suitable alpine habitat. At a workshop on monitoring deer abundance held in June 2017 deer managers and researchers identified testing assumptions and delineating the effective area sampled using this method as research priorities.

Unit 4

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

Accomplishments:

This 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 scheduled to fall off in 2017. Data will be analyzed and collar performance evaluated during FY2018.

Project AKW-20 2.0 S&I
FY17 Annual Performance Report

Submitted by: Tom Schumacher, Region I Management Coordinator

Date: September 2017

**Alaska Department of Fish and Game
Wildlife Restoration Grant**

GRANT NUMBER: AKW-20 Wildlife Restoration FY2017

PROJECT NUMBER: 2.0

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

PERIOD: July 1, 2016 – June 30, 2017

PROJECT LOCATION: Region 2

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 II

Regionwide Activities: Units 6 and 8

ACTIVITY 1: Prepare a 5-year regional deer management operational plan.

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

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

Staff routinely interact with federal staff and discuss management of deer relative to the respective regulatory systems. 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.

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

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

Activities by Unit

Unit 6

ACTIVITY 1: This year's Mean Pellet Groups/Plot (MPGP) was 1.50, the highest index observed since 1998. All locations had higher MPGP this year compared with other years since the winter of 2011/12 with the lowest point in 2013 marking a 61% decline since the 2011 estimate.

ACTIVITY 2: Final harvest estimate is approximately 2045 deer from Unit 6. Reports from hunters suggest that harvest increased as the population increased and success rates improved.

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 8.5 km of shoreline and located 30 mortalities resulting in 2.8 carcasses/km. Winter mortality of deer in Chief Cove during 2016–17 was high compared to past surveys suggesting either higher winter mortality rates or increased deer abundance in this region. Fifteen carcasses were examined on the northern transect and 15 carcasses were examined on the southern. Eighteen (67%) mortalities were identified as adults and 9 (33%) were identified as fawns. Eleven femur bones were broken and examined and 4 femurs contain solid white-yellow marrow which indicates the deer did not starve to death. Seven femurs contained dried marrow. From the state of the carcasses we assume the bulk of winter mortality occurred in February. 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).

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, Management Coordinator