

**ELK  
ANNUAL SURVEY AND INVENTORY  
PERFORMANCE REPORT**

**STATE:** Alaska

**GRANT AND SEGMENT NR.:** W-33-12

**PROJECT NR.:** 13.0

**PERIOD:** 1 July 2013 – 30 June 2014

**PROJECT LOCATION:** Region I & II

**PROJECT TITLE:** The Status of Elk and Factors Influencing Their Populations

**REPORT DESCRIPTION:** This performance report describes elk survey and inventory activities. Region wide activities are listed before specific activities by herd and game management unit.

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**The Status of Elk  
and Factors Influencing Their Populations in Region I**

**Region wide Activities**

**ACTIVITY 1:** Provide information to state and federal regulatory processes on elk management.

Data from elk harvest and population monitoring efforts was used in the winter 2015 Board of Game meeting to assist in elk management strategy.

**ACTIVITY 2:** Monitor harvest through analysis of drawing and registration permit data.

As part of the permit requirements, all harvested elk must be reported, and photos of antlers are taken.

**ACTIVITY 3:** Monitor dispersal of elk through anecdotal information from hunters.

During discussions with hunters, fishermen and other outdoors people, we acquire information about elk presence and or absence throughout the unit.

**ACTIVITY 4:** Collect biological data on harvested elk including incisors for aging and photos of antlers.

The Petersburg Area Biologist collected 6 incisors and 6 antler photographs from 8 elk harvested in Unit 3 during the report period.

**ACTIVITY 5:** Conduct spring fecal pellet surveys as budgets permit.

This activity was not conducted during this report period.

## **Activities by Unit**

### **Units 1A, 1B, 2, and 3**

ACTIVITY 1: Monitor for presence of elk in southern southeast Alaska through contact with deer, elk, moose and bear hunters.

Petersburg and Ketchikan area staff spoke with pilots, commercial fisherman, and deer, moose and black bear hunters opportunistically to gain an understanding of elk sightings and gather information on elk dispersal in southern Southeast Alaska.

Staff received no confirmed reports of elk outside the Etolin-Zarembo permit hunt area during 2013.

ACTIVITY 2: Monitor the general elk hunt in Units 1, 2, and “the remainder of Unit 3.”

Staff received no reports of elk harvested outside of the Etolin-Zarembo permit hunt area under the “general hunt”.

### **Unit 3**

ACTIVITY 1: Monitor the Unit 3 Etolin and Zarembo Islands elk hunt and analyze the permit report data.

The Petersburg Area Biologist and other staff members spoke with hunters before, during and/or after their hunts. Seventy six drawing and/or registration permit holders hunted and 4 elk were harvested. Hunt-based parameters were evaluated by use of mandatory drawing and registration permit hunt reports, incisors, and photos of antlers submitted by hunters.

ACTIVITY 2: Use established population modeling techniques to estimate population growth.

This activity was not conducted during the report period.

ACTIVITY 3: Conduct spring elk fecal pellet surveys on Etolin, Zarembo and Onslow Islands in conjunction with spring deer pellet-group surveys.

Elk and deer fecal pellet surveys were not completed on Etolin and Onslow Islands.

## **The Status of Elk and Factors Influencing Their Populations in Region II**

### **Region wide Activities**

ACTIVITY. Prepare a biennial regional elk management report.

Staff collected information for preparation of the biennial report in 2014.

ACTIVITY. Provide information to state and federal regulatory processes on elk management.

Staff routinely interact with federal staff and discuss management of elk relative to the respective regulatory systems. Staff prepared information for presentation to the state Board of Game meeting during the next reporting period.

## Activities by Unit and herd

### Unit 8

ACTIVITY. Aerial composition surveys indicate an increasing trend in the Unit 8 elk population. The population on Raspberry and Afognak islands is estimated to be 765 animals in 2013–14. This estimate is higher than previous reporting periods (711 and 685 in 2011–12 and 2012–13, respectively); and is notably higher than the 5-year average ( $\bar{x} = 649$ ). Overall, elk herd estimates have been below management objectives for the past 15 years likely due to multiple factors including reduced habitat availability and high winter mortality. Increased snow accumulation combined with extended periods of cold weather during the harsh winters of 2006–07 and 2007–08 likely contributed to a reduction in herd size.

Obtaining calf:cow and bull:cow ratios continues to be challenging. Distinguishing yearling (spike) bulls in velvet from cows and estimating elk numbers in dense cover can be difficult during aerial surveys. Aerial surveys indicate the elk population was comprised of 21.5% calves in 2013–14. The ratio of calves:100 cows was 31 in 2013–14 indicating increased calf production during this reporting period. Further, it is important to note, due to the difficulty in distinguishing spike bulls from cows, survey results may overestimate cow numbers (misidentify yearling bulls as cows) thereby underestimating the calf:cow ratio. The ratio of calves:100 cows may be slightly higher than observed indicating increased productivity this period. The bull:100 cow ratio was 13 in 2013–14.

ACTIVITY. From 18–20 June 2014, with support from project collaborators including Afognak, Ouzinkie, Natives of Kodiak, and Koniag Native Corporations and the Alaska Wildlife Troopers, we darted 9 adult female elk and deployed global positioning system (GPS) collars on Afognak Island. Elk were in excellent spring condition with a mean body condition score of 3.3 (range = 2.8–4.0). Estimated ages of captured elk ranged from 1–7 years, with a mean age of 4 years.

A total of 3,032 GPS locations were collected on elk this reporting period resulting in 286–371 locations per individual (mean = 337, SD=25.3). We calculated 95% and 50% fixed kernel home range and core area sizes for radio-collared female elk during this reporting period. Home ranges ranged from 23.31–47.68 km<sup>2</sup> with a mean home range of 34.66 km<sup>2</sup> (SD=10.25). Fifty percent fixed kernel core areas ranged from 5.49–10.56 km<sup>2</sup> with a mean core area size of 8.29 km<sup>2</sup> (SD=1.67). Home range and core area calculations are preliminary since elk were only recently collared. Movement, distribution, and resource use data continues to be collected.

ACTIVITY. Hunt reports provided data on hunting effort and harvest. We issued 517 drawing and registration permits. Hunters reported harvesting 43 elk (16 males, 27 females). The harvest by

permit hunt was as follows: Raspberry Island drawing hunt – 7 elk (5 males, 2 female); southwest Afognak drawing hunt – 4 elk (4 females); eastern Afognak drawing hunt – 6 elk (3 males, 3 female); remainder of Unit 8 drawing hunt – 9 elk (6 males, 3 females); registration hunt – 15 elk (15 females) ; Federal Subsistence – 2 elk (2 males). The reported 2013-14 harvest of 43 elk was about 6% of the estimated population.

On October 22, 2013 an Emergency Order was issued to close all portions of registration hunt RE755 to the harvest of antlerless elk only

ACTIVITY. Herd specific objectives have been developed for each of the recognized herds on Afognak and Raspberry Islands and we are currently managing each herd based on these objectives.