ALASKA DEPARTMENT OF FISH AND GAME
DIVISION OF WILDLIFE CONSERVATION
PO Box 115526
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Alaska Department of Fish and Game
State Wildlife Grant

Grant Number: W-33-8 **Segment Number:** 9

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Project Title: Survivorship of Sitka black-tailed deer fawns in Southeast Alaska

Project Duration: July 1, 2008 – June 30, 2014

Report Due Date: September 1, 2011

Principal Investigator: Dave Person

Cooperators: Kris Hundertmark and Sophie Gilbert (University of Alaska Fairbanks)

Work Location: Ketchikan, Alaska**.**

I. SUMMARY OF COMPLETED ON JOGS INDENTIFIED IN ANNUAK PLAN THIS PERIOD

Objective 1: Evaluate fawn mortality as a result of malnutrition.

JOB/ACTIVITY 1a: Capture and radio fawns and adult females.

Graduate student, Sophie Gilbert, completed her Ph D dissertation proposal and is preparing for her comprehensive examinations to be taken in November 2011. We purchased 20 new GPS radiocollars for adult deer and 40 VHF collars for fawns. We also purchased a new dart gun for capturing adult deer. In addition, we trained 2 dogs to assist us with capturing adult deer, locating deer fawns, location wolf and bear feces, and locating released GPS and fawn radiocollars.

During the reporting period, we captured 21 preparturient adult and yearling female deer during April-May 2010. Two of those were recaptures of deer collared in June 2010. All deer were captured by free-range darting using telemetered darts filled with a combination of ketamine and medetomidine. Eighteen does were fitted with vaginal implant transmitters (VIT) and we placed GPS radio collars on all does. We assessed body condition of all does using ultrasound measurements of rump fat and loin muscle. ody condition of does will be compared with survival of their fawns. One animal died from stress induced by capture. Thirteen VIT-fitted does gave birth before June 30. Two lost their VITs prior to parturition and 3 others did not give birth prior to June 30. We radiocollared fawns from 12 of those does using VITs to locate birth sites. We also captured neonate fawns opportunistically along roads. Using both methods,we radiocollared 54 neonate fawns during May 27–June 30. All fawns were weighed and measured for growth indicating body size and condition.

Of 45 fawns radiocollared during the previous reporting period (May and June 2010), 15 were killed by black bears and 1 died as a premature birth. Twenty-nine fawns were alive at the beginning of the current reporting period (July 1, 2010). Of those, 12 survived until May 2011. One was killed by wolves during winter, 1 was killed by an

unknown predator in autumn 2010, 1 was killed by a bear, 1 drowned during a severe rainstorm and 1 was hit by a car. Twelve dropped their radiocollars prematurely or went missing. No fawns died from apparent effects of malnutrition during July 2010–May 2011. Nonetheless, during spring 2011, we opportunistically located 3 untagged fawns that died from causes related to malnutrition while monitoring our radiocollared deer.

Thirty of 54 neonate fawns radiocollared during 2011 died before July 1. Two were killed by eagles and the rest were killed by black bears.

Objective 2: Evaluate Habitat Selection

JOB/ACTIVITY 2a: Monitor and tracking does and fawns.

We recovered 12 GPS radiocollars during April–May 2011 that released from adult female deer captured during April–May 2010. We obtained >40,000 GPS locations for those deer. Nine other does captured in 2010 will drop their collars during July 2011. During July 2010–June 2011, 2 radiocollared adults died. One was killed by a black bear in autumn and the other died from causes related to malnutrition during late winter. Data from the adult does will be analyzed during winter 2011–2012.

Adult and yearling does captured and radiocollared during April–May 2011 were monitored through the end of the reporting period. We will continue tracking them during the next reporting period and their GPS collars are programmed to release in July, 2012.

Radio-collared fawns captured in 2010 were tracked aerially and from the ground. We obtained >500 locations and initial data analyses will begin during the next reporting period. Neonate fawns captured in 2011 were monitored through the end of the current reporting period.

We deployed >40 snow stakes fitted with temperature sensors that will measure depth and duration of snow pack.

Objective 3: Evaluate black bear predation on fawns is positively related to levels of bear activity or is spatially correlated with habitat composition and distribution.

JOB/ACTIVITY 3a: Vegetation sampling and estimating deer and bear activity

We measured habitat and landscape variables associated with birth sites of 21 fawns located using VITs were evaluated, and locations of death for 26 fawns killed by bears. We did transects using a trained dog to locate scats and tracks of wolves and bears at each site to determine relative predator activity.

Objective 4: Evaluate whether bear predation is partly compensatory and additive.

JOB/ACTIVITY 4a: Data analysis

We will begin the data analysis in future years.

II. PUBLICATIONS

We are preparing a publication describing the use of VITs in Sitka black-tailed deer in temperate rainforest.

III. RECOMMENDATIONS FOR THIS PROJECT

We attempted to recapture does collared after parturition in 2010 during winter to fit them with VITs. Weather prevented us from making the attempt until spring. We were able to recapture 2 of those does. However, we were able to capture a full complement of preparturient adult does during spring 2011. Therefore, we did not need to capture any adults after parturition in 2011 thus we don't need to do any recaptures to implant VITs. We will also be purchasing in new GPS collars for neonate fawns in 2012 that will dramatically increase the number of locations obtained for fawns.

Prepared by: David K. Person Ph. D.

Date: 8/22/2011