



Protocol Implementation Plan for Monitoring Moose in Southwest Alaska Network Parks

Natural Resource Report NPS/SWAN/NRR—2018/1755



ON THE COVER

Bull moose observed during aerial survey of Survey Unit 3 South in December 2010, Lake Clark National Park and Preserve
NPS/BUCK MANGIPANE

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Abstract

This is a protocol implementation plan for monitoring moose in the Southwest Alaska Network (SWAN) of the Inventory and Monitoring Division. The SWAN monitors moose population trends in 4 out of the 5 network parks, including Lake Clark National Park & Preserve (LACL), Katmai National Park & Preserve (KATM), Alagnak Wild River (ALAG), and Aniakchak National Monument & Preserve (ANIA). This document summarizes how the protocols developed by the Arctic Inventory and Monitoring Network (ARCN; Sorum et al. 2018) and Central Alaska Inventory and Monitoring Network (CAKN; Burch et al. 2012) will be followed in the SWAN parks. The SWAN moose monitoring program's main objective is to estimate the abundance of moose in the SWAN. Details about the conceptual framework, monitoring objectives, study design, sampling frame, standard operating procedures, and budget, are summarized and cited.

Introduction

The SWAN considers moose (*Alces alces*) as an essential vital sign to monitor the biological integrity of terrestrial ecosystems (Bennett et al. 2006). Moose are good indicators of long term habitat change and are an integral component of terrestrial systems in ALAG, ANIA, KATM and LACL. Moose have the potential to influence the structure and function of terrestrial systems both through their browsing effects on vegetation communities (Naiman 1988) and through their role as a prey species for predators such as wolves and bears (Ballard 1991). Since moose require large quantities of resources year round, their populations have the potential to reflect long term changes in resource conditions in their habitat (Van Ballenberghe and Ballard 1998; Peek 1998). Moose are crucial to many subsistence communities as a primary source of food that may be harvested on most National Park Service (NPS) lands in Alaska, in addition to being harvested by the general public on NPS Preserve lands. In LACL, moose are the most important ungulate harvested in the park and the demand is increasing as the human population grows in and around the park.

People travel from all over the world to visit national parks in Alaska and one of the primary goals of many visitors is viewing and photographing wildlife. The non-consumptive value of wildlife is difficult to estimate. However ecosystems that support the full complement of wildlife species in a completely wild state is of great importance to many people, even if they never see a moose in their natural environment. It is the responsibility of the NPS to ensure that opportunities like these remain unimpaired for future generations. The Vital Signs Monitoring data will help with management decisions in KATM, LACL, ANIA, and ALAG.

Moose, along with many other natural resources, may be harvested by people throughout most of SWAN. General hunting is allowed under state regulations throughout all National Preserves in Alaska, and subsistence harvest by qualified residents is allowed within 12 of 13 park units created by the Alaska National Interest Lands Conservation Act of 1980 (ANILCA), including three SWAN units (LACL, ALAG, and ANIA). ANILCA mandates that harvest of fish and wildlife be consistent with the conservation of natural and healthy populations within a national park or national monument, and that harvest be consistent with the conservation of healthy populations within national preserves. In general the terms “natural” and “healthy” can be defined as populations that are not regulated by human harvest or human-caused change. An annual robust estimate of population size, is crucial to making informed management decisions regarding any harvested wildlife population.

This protocol implementation plan describes how the protocols developed by the Arctic Inventory and Monitoring Network (ARCN; Sorum et al. 2018) and Central Alaska Inventory and Monitoring Network (CAKN; Burch et al. 2012) will be followed in the SWAN parks. Information gained from monitoring moose in SWAN will be fully integrated with other vital signs monitored in SWAN. The vital sign of vegetation structure and composition will provide data on the abundance of willow and other forage plants that moose depend on. Climate data, predominately snow depths, can be used as an indicator of winter severity so that changes in winter condition can be compared to changes in the moose population.

Measurable objectives

The SWAN will adopt all monitoring objectives of the ARCN moose monitoring protocol (Sorum et al. 2018).

1. Estimate the abundance of moose in the SWAN.

Conceptual framework for monitoring

Annual and/or long term changes in moose populations can be caused by both natural and anthropogenic factors (Table 1). These factors can affect populations directly through mortality, or indirectly through changes in habitat composition, quality, or structure. For example, changes in habitat brought on by wildland fire, or unusual weather conditions (drought or deep snow) could have potentially dramatic effects on moose forage quality (e.g., secondary plant compounds) and quantity, which in turn could cause changes in moose population size or distribution (Vucetich and Peterson 2003; Dussault et al. 2005). As part of an integrated Vital Signs Monitoring Program, the SWAN monitors many of the habitat variables that can potentially affect a moose population, as well as brown bears, a predator of moose. Maintaining healthy, harvestable moose populations is a priority for the SWAN parks, stakeholders, and surrounding communities. Quality moose abundance monitoring is necessary for this important management objective.

Table 1. Factors potentially affecting moose populations in the Southwest Alaska Network parks, and how they are measured.

Category	Management Issue	Data needed to address management issues
Predation	Predation is a natural process that can affect both the distribution and abundance of moose.	Brown bear abundance is a vital sign in all parks with moose monitoring. Brown bear monitoring is on hold until adequate funding is obtained. Direct mortality is not measured by NPS.
Sport and subsistence hunting	Hunting can affect the distribution and abundance of moose, especially near villages and other popular hunting areas	Human harvest data are not collected by NPS. Data collected by ADF&G may provide insight about harvest.
Extreme weather events	Deep snow can affect moose movement and susceptibility to predation. Temperature extremes may also affect moose habitat use.	Snow depth, snow season length, snow cover, and air temperature are monitored by SWAN as part of the climate and seasonal processes vital signs.
Disturbance: Wildfire and insect outbreaks	Natural disturbance can dramatically affect moose habitat composition and structure by encouraging growth of preferred forage plants like willows.	Forest composition, species cover, and tree mortality are monitored by SWAN as part of the vegetation composition and structure vital sign. Vegetation recovery following disturbance is also monitored. Forest insect activity is recorded annually by the USFS using aerial surveys.
Forage plant abundance	Forest succession can change the abundance and distribution of preferred forage plants.	Forest composition and species cover are monitored by SWAN as part of the vegetation composition and structure vital sign.

What is being measured and how

Monitoring will be completed by LACL and KATM staff using the ARCN moose monitoring protocol that the SWAN has adopted in full. Tables 2 & 3 give brief descriptions of the study design and sample frames for monitoring moose abundance in the SWAN network. The field sampling methods were originally developed by ADF&G (DeLong 2006) and described, reviewed, and approved by the CAKN (Burch et al. 2012) and ARCN (Sorum et al. 2018).

Table 2. Monitoring objectives, sampling methods, and variables measured at SWAN parks as a part of the protocol for monitoring moose in Alaska, USA.

Objective	Sampling method	Data Collected	Analysis Tool	Derived Data
Moose abundance	Aerial survey of GSPE units on days with adequate snow cover	Count of all moose in each group	GSPE analysis (Sorum and Joly 2018d, Ver Hoef 2000, 2002, Kellie and DeLong 2006)	Estimated moose abundance and variance

Table 3. Monitoring objectives, sampling frame, and scale of analyses at SWAN parks as a part of the protocol for monitoring moose in Alaska, USA.

Objective	Area Sampled	Spatial Design	Temporal Design	Scale of Analysis
Moose abundance	Determined by park priorities and as described by SOP #2, "Selecting the Survey Area" (Sorum and Joly 2018b)	Stratified random sample as described by SOP #3 "Survey Methods and Flight Patterns" (Sorum and Joly 2018c)	Annual (rotating core areas), as allowed by snow conditions and aircraft availability, with a frequency of <3 years. All core areas will be completed every 10 years, weather permitting	Determined by park priorities

Sampling Design, Monitoring Schedule, Field methods, and Quality Assurance

Moose monitoring in the SWAN is planned and carried out by park biologists. Park biologists are considered to be the project leaders for the moose vital sign in their parks. The SWAN quantitative ecologist and data manager provide a supportive role by providing advice about sample units, and organizing long term data storage.

The Geo-Spatial Population Estimator (GSPE; Kellie and Delong 2006) technique developed by the Alaska Department of Fish and Game (ADF&G) has evolved into the standard for estimating moose abundance in Alaska and is the technique most often used by ADF&G and most federal agencies in interior Alaska and the Yukon, Canada. The GSPE method developed by Jay Ver Hoef (2002) meets five necessary criteria: (1) it produces an unbiased estimator of moose abundance; (2) it provides an adequate level of precision around that estimate; (3) it is a realistic, practical survey technique to be used over very large, remote, roadless areas, including flat and mountainous terrain; (4) it has analytical software available for consistent, error free calculations; and (5) it is affordable. In addition, the GSPE method has several advantages over previous survey designs (i.e., stratified random sampling, Gasaway et al. 1986) including (1) estimation of moose numbers in small areas that are nested within larger survey areas, (2) increased precision, and (3) greater flexibility in sample design. Other advantages of using the protocol described here are that results are directly comparable to many other surveys widely distributed in space and time throughout Alaska and the Yukon, and most surveys are based on the same sampling grid of 2 minutes of latitude and 5 minutes of longitude statewide, allowing easy integration and collaboration with other agencies and surveys. This technique focuses on estimating population size, but the other desirable parameters (rate of population change, distribution, age composition, and recruitment) are easily calculated from the data required to estimate population size.

Aerial surveys in SWAN are typically conducted any time there is adequate snow cover, weather conditions, and daylight. Eight different core areas are surveyed across the five SWAN parks, chosen for their overall high moose abundance relative to surrounding areas, and their value to local communities for subsistence resources. There are three moose core areas in LACL (Figure 1.A, Table 4), five in KATM (Figure 1.B, Table 4), and one in ANIA (not shown). Population abundance surveys within the moose survey areas will be conducted approximately once every one to four years. Ideally, all core areas are completed on a 10 year interval. Surveys will be planned for periods of adequate snow cover, recognizing that spring surveys do not provide adequate information about moose population sex composition due to the timing of antler drop by bull moose. This level of sampling will be adequate to detect a change in abundance, distribution, and age composition (e.g., adults and calves).

Several months prior to each survey, the park biologist should schedule aircraft and pilots, and ensure that the project aviation safety plan (PASP) for the survey flights is complete and up to date. Prior to data collection biologists will define or modify core areas (Figure 1) to be compliant with Sorum and Joly (2018b). The core area needs to be stratified into high and low strata and a random selection of

sample units made for each stratum. Stratification can be handled in one of three ways: 1) a stratification flight can be made immediately before the survey begins; 2) prior knowledge of moose distribution in the area from past surveys can be used to stratify the area in the office using GIS (Sorum and Joly 2018b), which is commonly referred to as the ‘office’ or ‘desktop’ stratification; and 3) a variation of the ‘desktop’ stratification is to use prior knowledge of moose distribution and assume that a large part of the total survey area is in one (usually low density) stratum. Desktop stratification reduces the need to stratify the survey area with an aircraft, which can be time consuming and limit the probability that the survey can be completed. The PI should consider allocating sampling effort between high and low stratum at a ratio near 75:25. Recent surveys have shown considerable improvements in precision over previous surveys by employing this strategy of favoring the high-density stratum (e.g., Taras 2014, Sorum et al. 2015, Tony Gorn, ADF&G Nome, *pers comm.*).

Several days prior to the start of the surveys, the pilot and project leader should: design a plan for surveying GSPE units in selected areas; review the safety protocols; file a flight plan with the Alaska Region Communication Center (ARCC); and print the data sheet (Appendix A). Assumptions of the GSPE technique does not allow annual surveys to be spread out over a long period of time. Therefore the PI should ensure that all GSPE units located within annual rotating core areas can be completed within a few days.

It is imperative that GSPE units are flown in a way that is complete and efficient for counting moose so that they can be completed in the shortest period of time possible. The pilot and observer should collaborate on counting, and agree on the number and size of groups before moving to the next GSPE unit. The biologist will be responsible for recording all survey data on the data sheets. Although recording survey condition variables is desirable (e.g., weather, temperature, turbulence), only total group size and group composition data are absolutely required to meet Objective 1. Details pertaining to how aerial surveys should be conducted are contained in SOP 3 (Sorum and Joly 2018c)

Upon returning to the office, the park biologist will review the data sheets for accuracy, and enter the data using the geospatial analysis tool described in SOP 3 (Sorum and Joly 2018c) and DeLong (2006). This is the only quality assurance step required for the moose vital sign. The goal of the sampling strategy is to achieve less than a 20% confidence interval at an alpha of 0.1, which will allow detection of population increases of 50% or decreases of 33%. Data sheets should be saved and archived with SWAN to preserve the integrity of the raw data

If surveys of scheduled core areas are not completed in a scheduled year due to funding or logistical issues (such as weather and aviation issues), they will be attempted in the next year, if possible, to provide abundance information. Although completing surveys for all GSPE units in a particular year and a given core area is desirable, it is not required. Due to the flexibility of the analytical framework, valid estimates can still be produced if some core areas are not surveyed in a given year.

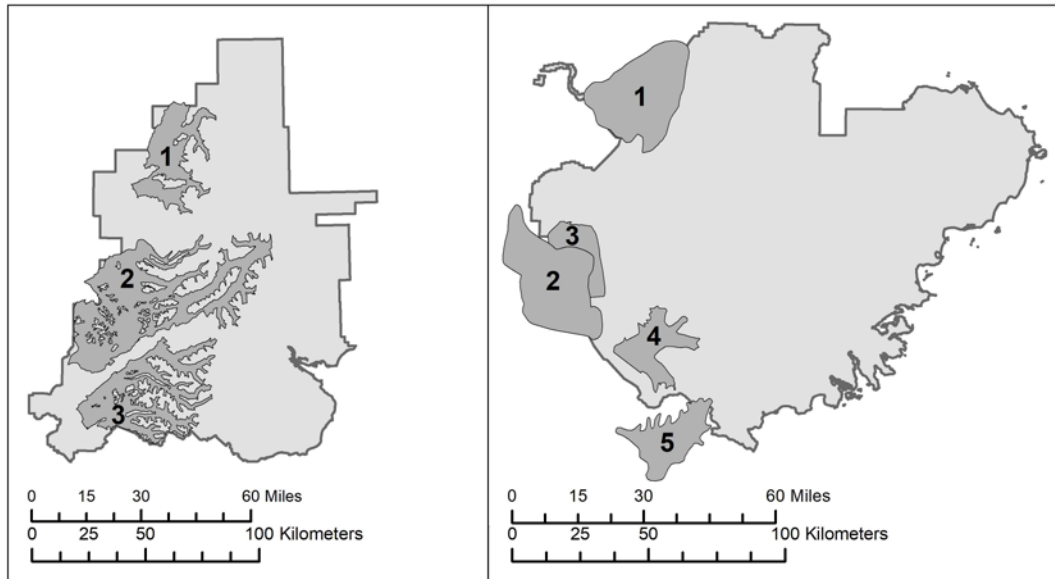


Figure 1. Maps of current Moose survey areas in Lake Clark National Park and Preserve (A) and Katmai National Park and Preserve (B), Alaska. These areas will be modified by park biologists to conform to the GSPE protocol. The core survey areas are highlighted in dark gray.

Table 4. List of moose survey areas within SWAN and associated extents in square miles and kilometers.

Survey Area	Size (mi ²)	Size (km ²)
LACL 1	286	741
LACL 2	791	2049
LACL 3	432	1118
KATM 1	361	934
KATM 2	378	980
KATM 3	205	531
KATM 4	147	382
KATM 5	178	461

Data Management, Data Processing, Analysis and Reporting

The success of the SWAN moose monitoring program hinges directly on sustaining a dataset of high quality for many decades. To meet this challenge, the program has invested time and energy up front developing this monitoring protocol, its related standard operating procedures and a robust data management system. This system ensures that data are collected consistently, processed correctly, and managed well to meet the present and future analytical objectives of park scientists. Moose monitoring team members must work collaboratively to assure that the quality of the communal dataset is maintained at a high level.

Moose monitoring at the SWAN parks is managed, maintained, and conducted at the park level. Wildlife biologists at each park must plan the field schedule, conduct surveys, create spreadsheets with survey data, enter field data into the master database, process GSPE data, and present certified datasets to the SWAN data manager. The project managers at each park must ensure that the moose monitoring protocol and all of its standard operating procedures are followed. Changes to the established protocol may negatively impact data quality, and should be done in collaboration with the SWAN wildlife biologist/quantitative ecologist and the SWAN data manager. In order to ensure that data are handled correctly, the park project leaders must perform an annual closeout with the SWAN quantitative ecologist/wildlife biologist and data manager.

The SWAN data manager provides for the security, longevity and accessibility of the moose monitoring dataset. They also maintain software/hardware for file backups and security, databases, custom and proprietary applications and GIS tools, and guides personnel in data processing techniques, metadata generation and product archival in NPS data stores and enterprise databases. The data manager is not responsible for data collection, entry, or processing.

Network Parks will decide what data are considered to be sensitive (e.g., exact coordinates of each moose/group). Sensitive data will be removed from publicly available datasets. Network staff must ensure that all references to protected information are removed or obscured in any reports, publications, maps, or other public forum. Following the standard for Freedom of Information Act (FOIA) requests, the Network will segregate the non-releasable information and where practical will not withhold associated releasable information. Metadata for files in the IRMA Data Store must reflect that the associated data are sensitive. The park biologist is responsible for maintaining the security of data released to any NPS dataset catalog and ensuring confidentiality agreements (or data sharing agreements if applicable) are in place before sharing data with any non-NPS entity.

Data are analyzed by the GeoSpatial Population Estimator software maintained by the Alaska Department of Fish and Game. Detailed instructions for using the program and managing the data are contained in DeLong (2006). Results from this tool can be reported as they are produced. Park project leaders are responsible for data summarizing and reporting. Trend analysis will be conducted after GSPE estimates have been collected > 5 times for individual survey blocks or Network Parks depending on the investigative scale of interest.

Personnel Requirements & Training

All survey personnel should review Sorum et al. (2018), Gasaway et al. (1986) and Delong (2006) annually to refresh knowledge of survey best practices. Survey personnel will have required basic aviation safety training (A-100) to conduct low level reconnaissance flights. Additional crewmember training (e.g., operational safety, wilderness responder/1st aid) is recommended, but not required. The estimated budget is presented in Table 5.

Budget

Table 5. Estimated SWAN annual operating costs (based on FY2017 dollars) for implementation of the SWAN moose monitoring protocol in four park units (LACL, KATM, ALAG, ANIA). The budget assumes that IT equipment (e.g., GPS, camera, and computers) are available prior to protocol implementation. The budget does not include in-kind support provided by parks (e.g., park staff salary and fleet aircraft). As outlined in SOP 3, a portion of each person's time is devoted to data management tasks. The SWAN does not currently pay for park and aircraft costs related to moose surveys.

Category	Budget Item	Costs (FY 2017)†	Notes
Personnel	SWAN Quantitative Ecologist*	16,000	0.15 FTE GS-12
	SWAN Wildlife biologist*	15,000	0.15 FTE GS-12
	SWAN Data Manager	10,000	0.10 FTE GS-11
	SWAN Asst. Data Manager	11,000	0.10 FTE GS-9 (IT)
	Park Biologists (2)	Park funded	0.20 FTE GS-11
	Park Biological Technicians (2)	Park funded	0.2–0 FTE GS-7
	Park pilot	Park funded	If available
	Total Personnel Costs	52,000	–
Aircraft	KATM- aircraft	Park funded	–
	LACL- aircraft	Park funded	–
	Total Aircraft Costs	Park funded	–
Total Protocol Implementation Cost	–	52,000	–

* These roles are currently filled by the same person

† Costs rounded to the nearest \$1000

Safety

Implementation of this protocol has multiple complex risks. Staff will continuously evaluate all risks during the surveys at the programmatic, personnel, and site level. Programmatic-level safety information is presented in Wilson (2017), and summarized below.

Risks associated with implementation of this protocol are mainly associated with the low level aerial survey in winter. Project Aviation Safety Plans (PASP) will be completed or updated prior to sampling each year. The PASP includes all important information about the flight. This document should be available to all participants and supervisors involved in project. Pilots and aviation contractors are responsible for following all Office of Aviation Services (OAS) safety protocols. Flight plans are filed with the ARCC. Pilots and crew will take part in a pre-flight briefing covering the safety features of the aircraft. There may be other park-specific safety protocols required before takeoff (e.g., pre-flight go-no go checklist). All biologists/ecologists supervising survey personnel will obtain the requisite aviation safety training (M3, DOI Aviation Management Training). The flight crew will complete basic aviation training, and wear the required aviation personal protection equipment (PPE). Winter survival equipment will be carried in the aircraft.

Standard Operating Procedures

To ensure consistent implementation of this protocol over time, the following Standard Operating Procedures (SOPs) have been adopted from the ARCN (Table 6). To the greatest extent possible, SOPs are adopted from procedures approved and implemented programmatically through other monitoring efforts. All approved SOPs are published with the latest approved versions, and are available for download at the NPS Integrated Resource Management Applications portal (IRMA; <http://irma.nps.gov>).

Table 6. Standard Operating Procedures required to implement the ARCN moose monitoring protocol on Southwest Alaska Network parks.

Topic	Citation	Notes	Link to Published Document / IRMA record
Preparing for the survey	Sorum, M. and K. Joly. 2018a. Moose monitoring protocol for the Arctic Inventory and Monitoring Network. Standard Operating Procedure (SOP) #1 Survey Preparation and Timing. National Park Service.	Aircraft fuel logistics should be adapted by park program leaders	https://irma.nps.gov/D ataStore/Reference/Profile/2254781
Selecting and stratifying the survey area	Sorum, M. and K. Joly. 2018b. Moose monitoring protocol for the Arctic Inventory and Monitoring Network. Standard Operating Procedure (SOP) #2 Selecting the Survey Area. National Park Service.	Survey area descriptions specific to ARCN do not apply to SWAN. Survey areas should be adapted by park program leaders	https://irma.nps.gov/D ataStore/Reference/Profile/2255927
Conducting the survey	Sorum, M. and K. Joly. 2018c. Moose monitoring protocol for the Arctic Inventory and Monitoring Network. Standard Operating Procedure (SOP) #3 Survey Methods and Flight Patterns. National Park Service.	Adopted in full	https://irma.nps.gov/D ataStore/Reference/Profile/2255928
Data management	Miller, S., M. Sorum, and K. Joly. 2018. Moose monitoring protocol for the Arctic Inventory and Monitoring Network. Standard Operating Procedure (SOP) #4 Data Management. National Park Service.	Adopted in full	https://irma.nps.gov/D ataStore/Reference/Profile/2255938

Table 6 (continued). Standard Operating Procedures required to implement the ARCN moose monitoring protocol on Southwest Alaska Network parks.

Topic	Citation	Notes	Link to Published Document / IRMA record
Data analysis and reporting	Sorum, M. and K. Joly. 2018d. Moose monitoring protocol for the Arctic Inventory and Monitoring Network. Standard Operating Procedure (SOP) #5 Data Analysis and Reporting. National Park Service.	Adopted in full	https://irma.nps.gov/DataStore/Reference/Profile/255937
Revising the Protocol	Sorum, M., and K. Joly. 2018e. Moose monitoring protocol for the Arctic Inventory and Monitoring Network. Standard Operating Procedure (SOP) #6 Revising the Protocol. National Park Service.	–	https://irma.nps.gov/DataStore/Reference/Profile/255930
Safety for low elevation aerial surveys	Wilson, T.L., E. A. Weiss, T. Shepherd, L. M. Phillips, and B. Mangipane. 2016. Monitoring bald eagles in southwest Alaska: Standard operating procedures, version 1.00: SOP 6. Inventory & Monitoring Program, Southwest Alaska Network. Natural Resource Report NPS/SWAN/NRR—2017/1384. National Park Service, Fort Collins, Colorado.	Safety protocols for fixed wing low elevation reconnaissance surveys adopted here.	https://irma.nps.gov/DataStore/Reference/Profile/238350

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Appendix A

Moose Abundance Survey Data Form

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SEARCH IDENTIFICATION Date: _____ SU #: _____ GMU: _____ Location: _____ Observer: _____ Pilot: _____ Aircraft Type: _____ Temp (F) _____	SEARCH EFFORT ~8 min/mi ² (depends on terrain) Stratum: _____ Area (mi ²): _____	SEARCH TIMES (in minutes) Stop@ _____ Start@ _____ Elapsed _____
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OVERALL SURVEY RATING: ☐ Excellent ☐ Good ☐ Fair ☐ Poor
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SEARCH CONDITIONS		
SNOW AGE ☐ 1. Fresh ☐ 2. < 1 week ☐ 3. >1 week LIGHT TYPE ☐ 1. Bright ☐ 2. Flat	SNOW COVER ☐ 1. Complete ☐ 2. Some Low veg Showing ☐ 3. Bare Ground Showing LIGHT INTENSITY ☐ 1. High ☐ 2. Medium ☐ 3. Low	PREDOMINANT HABITAT TYPE IN SU ☐ 1. Open lower elevation, predom shrub, riparian, or wetland ☐ 2. Mixed Open Forest with some shrub understory ☐ 3. Dense Spruce Forest ☐ 4. Dense Deciduous Forest Birch, Aspen, etc. Few Shrubs ☐ 5. Subalpine Shrub ☐ 6. Burn ☐ 7. Open tussock tundra with forested 'stringers' ☐ 8. Other (describe): _____

CHECK ADDITIONAL CONDITIONS THAT MAY HAVE AFFECTED THE QUALITY OF THE SEARCH			
☐ Classification Errors ☐ Uncooperative Pilot ☐ Inadequate Search Effort ☐ Short on Fuel ☐ Windy/Turbulent ☐ Other (Explain): _____	☐ Inadequate Snow Cover ☐ Inexperienced Pilot ☐ Movement In/Out Of Intensive ☐ Movement In/Out of SU ☐ Improper Aircraft	☐ Poor Light ☐ Inexperienced Observer ☐ Large Number of Moose in Unit (>25) ☐ Observer Airsick	☐ Low Clouds or Fog ☐ Poor Visibility/Snow on Trees ☐ Problems finding SU Boundaries ☐ Observer Sleeping

Group No.	Adults	Calves	Unk	Total Moose	Remarks/Waypoint/Lat-Long
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					

Survey Summary					
1-13					Total Number of Moose:
14-45					
Total					

Group No.	Adults	Calves	Unk	Total Moose	Remarks/Waypoint/Lat-Long
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
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34.					
35.					
36.					
37.					
38.					
39.					
40.					
41.					
42.					
43.					
44.					
45.					
Survey Summary Subtotal					
14-45					

The Department of the Interior protects and manages the nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its special responsibilities to American Indians, Alaska Natives, and affiliated Island Communities.

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National Park Service
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