

**Susitna-Watana Hydroelectric Project
(FERC No. 14241)**

**Dall's Sheep Distribution and Abundance
Study Plan Section 10.7**

**Part D: Supplemental Information to
June 2014 Initial Study Report**

Prepared for

Alaska Energy Authority



SUSITNA-WATANA HYDRO

Clean, reliable energy for the next 100 years.

Prepared by

Alaska Department of Fish & Game

Anchorage and Palmer, Alaska

and

ABR, Inc.—Environmental Research & Services

Fairbanks and Anchorage, Alaska

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1. INTRODUCTION

Section 1 (Part A) of the June 2014 ISR for Dall's Sheep Distribution and Abundance (Study Plan 10.7) details the development of this study from the Revised Study Plan (RSP) in 2012, through the end of the 2013 study season. Section 7 of the ISR (Part C), filed in June 2014, sets forth AEA's plan and schedule, at that time, for completing this study and meeting the objectives of the RSP.

As detailed in Section 2.2 of the ISR Part D Overview, various circumstances have required AEA to extend the original timeframe for completing the Commission-approved Study Plan. However, AEA has completed this Study 10.7 since the filing of the ISR in June 2014. As detailed below, AEA's recent activities for Study 10.7 have consisted of the following:

- In May and June 2014, the study team completed site visits to the Jay Creek and Watana mineral licks to assess Dall's sheep use of the licks.
- On October 21, 2014, AEA held an ISR meeting for the Dall's Sheep Distribution and Abundance Study work completed in 2013.
- In July 2015, the study team conducted the second and final aerial survey to estimate the number and distribution of Dall's sheep in the study area.
- The study team completed the Study Completion Report (SCR) in October 2015.

The primary purpose of this Part D Supplemental Information to the ISR is to report on the implementation of the Study Plan from the filing of the ISR in June 2014, through the filing of this ISR Part D. In light of this additional implementation, AEA has now completed Study 10.7 in a manner that meets the objectives of the Commission-approved Study Plan.

2. BACKGROUND

2.1. Purpose of Study

The goal of the study is to obtain sufficient information on the minimum population size, summer distribution, and current use of mineral licks by Dall's sheep—an important species of big game in the Project area—to use in evaluating potential Project-related effects and identifying measures to avoid, minimize, or otherwise mitigate those effects.

The study objectives are established in RSP Section 10.7.1:

- Estimate the current minimum population size of Dall's sheep in the study area.
- Delineate the summer range of Dall's sheep in the study area.
- Evaluate the current condition of mineral licks in and near the Project area.

- Analyze and synthesize data from historical and current studies of Dall's sheep in the study area, as a continuation of the 2012 study.

2.2. Study Components

This study consists of the following components:

- Fixed-wing airplane surveys to document sheep distribution and develop a minimum population estimate.
- Visit mineral licks to provide a qualitative assessment of lick condition and levels of use.
- Review and synthesize historical and current data for Dall's sheep to examine patterns of habitat use in the study area, changes in population size, and use of the Jay Creek and Watana Creek mineral licks.

3. STATUS, HIGHLIGHTED RESULTS, AND ACHIEVEMENTS

The following tasks were completed in 2013 and reported in Part A of the ISR for Study 10.7:

- The first aerial survey for summer distribution and minimum population estimation was conducted in July 2013 (ISR Part A, Section 10.7.4.1);
- Completed one year of inspections of the Jay Creek and Watana Creek mineral licks to assess their current condition and general level of use in May and June 2013 (ISR Part A, Section 10.7.4.2); and
- Analyzed historical (1980s) data and synthesis with current Alaska Department of Fish and Game (ADF&G) monitoring results (ISR Part A, Section 10.7.4.3).

The study team has completed the following activities for Study 10.7 since the June 2014 filing of the ISR:

- The study team completed the second and final year of inspections of the Jay Creek and Watana Creek mineral licks to assess their current condition and general level of use in May and June 2014; and
- The study team conducted a second and final aerial survey for summer distribution and minimum population estimations in July 2015.

4. SUMMARY OF STUDY 10.7 DOCUMENTS

Since filing of the RSP in 2012, AEA and FERC have prepared several documents pertaining to this study. To aid review by FERC staff and licensing participants, each of these documents is listed below. Each of these documents is accessible on AEA's Project licensing website

(<http://www.susitna-watanahydro.org/type/documents/>) by clicking on the entry in the “Link” column in the table. In addition, these documents are available on FERC’s eLibrary system (<http://www.ferc.gov/docs-filing/elibrary.asp>), in Docket No. P-14241.

Title	Date	Description	Link
10.7. Dall's Sheep Distribution and Abundance Study Plan (Revised Study Plan)	12/14/2012	This document presents the plan for this study, including goals, objectives, the study area, and proposed study methods for Dall's sheep.	RSP for Study 10.7
FERC Study Plan Determination for Study 10.7	2/1/2013	This document presents FERC approval of Study 10.7, which approved AEA's Revised Study Plan with no recommended changes.	FERC SPD for Study 10.7
Draft Initial Study Report for Study 10.7	2/3/2014	This draft of the ISR summarized the study methods and variances during the 2013 study season, and presented preliminary data collected for Study 10.7. This draft ISR was later republished as Part A of the final ISR.	Draft ISR for Study 10.7
Initial Study Report for Study 10.7	6/3/2014	This document is the Initial Study Report (Parts A, B and C) for Study 10.7. Part A republishes the Draft ISR. Part B identifies supplemental information and errata in Part A. Part C presents study modifications and plans for completing the study.	ISR Part A for Study 10.7 ISR Part B for Study 10.7 ISR Part C for Study 10.7
Initial Study Report Meetings, October 21, 2014 (Parts A and B)	11/15/2014	Transcripts and AEA's agenda and PowerPoint presentations for the ISR meeting concerning the Project wildlife studies filed by AEA.	Transcripts from ISR Meeting Materials from ISR Meeting
Dall's Sheep Distribution and Abundance Study – Study Completion Report	11/4/2015	Study Completion Report: a summary of field survey results in 2014 and 2015.	2014-2015 SCR for Study 10.7

5. NEW STUDY DOCUMENTATION SUPPLEMENTING THE ISR

The following table identifies and describes additional reports and other documents that update, refine, or otherwise supplement certain sections of the ISR pertaining to this Study 10.7, during AEA’s continued implementation of the Study Plan since the ISR was filed in June 2014.

ISR Reference	Description
Part A, Section 4	This Section is updated by the Study Completion Report for Study 10.7 (Section 4), describing 2014 and 2015 study plan implementation.
Part A, Section 5	This Section is updated by the Study Completion Report for Study 10.7 (Section 5), describing the results of the 2014 and 2015 study plan implementation.

6. VARIANCES

6.1. 2013 Study Season

The following variance is reported in the June 2014 ISR.

- During the site visit to the Jay Creek mineral lick in May 2013, the study team deployed a time-lapse camera to record sheep presence on the main cliff face of the mineral lick, thereby providing a greater volume of data on lick use than would have resulted from the two site visits proposed in RSP Section 10.7.4. The time-lapse camera (Model PC900 from Reconyx, Inc., Holmen, WI) was programmed to record photographs at 10-minute intervals for 24 hours each day, although the cliff was only visible in photos taken during daylight hours. The study team placed the camera approximately 600 m from the main cliff face at the lick. That distance was relatively far for distinguishing sheep in the photographs but, because of local topography, the location selected was the best one from which to photograph the cliff face. The data obtained from the time-lapse photography provide additional information to use in achieving the study objective regarding characterization of mineral lick use.

6.2. 2014–2015 Study Seasons

As noted in Section 4 of the Study Completion Report for this study, the following variances occurred following the filing of the June 2014 ISR:

- During the site visit to the Jay Creek mineral lick in May 2014, the study team deployed a time-lapse camera to record sheep presence on the main cliff face of the mineral lick, consistent with its approach in 2013 described in section 6.1 above.
- Due to a lack of adequate survey conditions in 2014, the second year of aerial surveys was instead conducted in 2015. During the 2015 aerial surveys, a small portion of the Chulitna Mountains block was missed due to pilot miscommunication. On the last day of surveying, the two fixed-wing survey pilots conducting the survey communicated that they would survey up to either side of Portage Creek in the southern portion of the Chulitna Mountains block. One pilot surveyed up to the eastern edge of the East Fork of Portage Creek and the other pilot surveyed up to the western edge of the West Fork of Portage Creek. Due to this error, a small area between the East and West Forks of Portage Creek was not surveyed (depicted in Figure 5.1-2 of the Study Completion Report).

7. STUDY PLAN MODIFICATIONS

7.1. Modifications Identified in ISR

As detailed in Section 7 of the ISR (Part C), AEA plans no modifications of the methods for this study.

7.2. Modifications Identified since the June 2014 ISR

As detailed in the Study Completion Report for this study, AEA plans no modifications of the methods for this study, as this study is now complete.

8. STEPS TO COMPLETE THE STUDY

The field work, data collection, data analysis, and reporting for this study successfully met all study objectives in the FERC-approved Study Plan. In light of the results and variances described above, AEA has completed this study.