

# Susitna-Watana Hydroelectric Project Document

## ARLIS Uniform Cover Page

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### 1.1. Wildlife Harvest Analysis

### 1.2. Requester of Proposed Study

AEA anticipates resource agencies will request this study.

### 1.3. Responses to Study Request Criteria (18 CFR 5.9(b))

#### 1.3.1. Describe the goals and objectives of each study proposal and the information to be obtained.

The goal of this study is to compile and analyze information on the distribution of big game, furbearers, and small game (including both small mammals and upland gamebirds) in and near the Project area and to understand patterns of hunting effort and harvest in the area. This study is a continuation in 2013–2014 of work beginning in 2012 (AEA 2012a).

The study area includes the Alaska Department of Fish and Game (ADF&G) Game Management Unit (GMU) subunits 13A, 13B, 13E, 14B, 16A and portions of 20A, which may either be influenced directly or indirectly by Project construction and operations, including facility sites, access roads, laydown/storage areas, and the inundation zone for the reservoir.

This study has two primary objectives:

- 1) Identify past and current harvest effort for large and small game including furbearers, harvest locations, access modes and routes; and
- 2) Compare current harvest locations of large and small game, including furbearers, with data on the seasonal distribution, abundance, and movements of harvested species, using the results of other, concurrent Project studies on big-game and furbearers.

#### 1.3.2. If applicable, explain the relevant resource management goals of the agencies and/or Alaska Native entities with jurisdiction over the resource to be studied. [Please include any regulatory citations and references that will assist in understanding the management goals.]

ADF&G, through the Commissioner, is responsible for the management, protection, maintenance, and improvement of Alaska's fish and game resources in the interest of the economy and general well-being of the state (AS 16.05.020). ADF&G monitors game populations and manages subsistence and sport hunting for game species (5 AAC 85.045) through regulations set by the Board of Game (AS 16.05.255). The Federal Subsistence Board, which comprises representatives of the U.S. Fish and Wildlife Service, National Park Service, Bureau of Land Management, Bureau of Indian Affairs, and U.S. Forest Service, oversees the Federal Subsistence Management Program (57 FR 22940; 36 CFR Parts 242.1–28; 50 CFR Parts 100.1–28), with responsibility for managing subsistence resources on Federal public lands for rural residents of GMU 13.

According to the Alaska constitution, the legislature shall provide for the use, development, and conservation of all natural resources belonging to the state, including land and waters, for the maximum benefit of the people and, wherever occurring in their natural state, fish, wildlife, and waters are reserved to the people for common use. The Alaska National Interest Lands Conservation Act (ANILCA) passed in 1980 mandated that the state maintain a subsistence

hunting and fishing preference for rural residents on federal public lands. This rural resident preference was found to contradict the state constitution's "common use" provision, but subsequent attempts to amend the state constitution were unsuccessful. Consequently, Federal management agencies exerted authority over subsistence harvests on Federal lands in 1990.

In 1994, the Alaska legislature passed the Intensive Management of Game Resources bill, which requires the Alaska Board of Game to identify moose, caribou, and deer populations that provide especially important food sources for Alaskans, and to insure that those populations remain large enough to allow for adequate and sustained harvest. If those identified important game populations drop below the level necessary for continued harvest, the Board of Game directs ADF&G to undertake intensive management that may include restricted hunting, improving habitat, or predator control. Currently, wolf control and liberalized harvest restrictions for wolves and bears are being used to increase the moose population in GMU 13 under the intensive management law.

Furbearers, small game animals, and upland gamebirds are of recreational, economic, and subsistence value to thousands of Alaskans and provide revenue to several lodges and retail outlets in and near GMU 13. Much of GMU 13 is readily accessible by road and provides hunting opportunities for many Alaskans. The potential for increased human access and activity within GMU 13A and 13E without additional understanding of potential implications on hunting pressure is a resource management concern. Creating access points to the project site from the Denali Highway to the north or from the rail corridor to the west could allow increased motorized vehicle access for hunters and recreational users to portions of GMU 13 that are currently inaccessible. Newer snowmobiles allow riders to access more remote locations to pursue small birds and upland gamebirds than was possible historically.

**1.3.3. If the requester is not a resource agency, explain any relevant public interest considerations in regard to the proposed study.**

Wildlife resources are owned by the State of Alaska, and the Project could potentially affect these public interest resources.

**1.3.4. Describe existing information concerning the subject of the study proposal, and the need for additional information.**

ADF&G documents legal sport hunting and trapping in Alaska through the collection of harvest reports and sealing records of hides for certain furbearers. Harvest reports are required to be submitted by hunters for some big game species. Hunting effort and harvest success are summarized from harvest reports and sealing records by Game Management Unit, subunit, and, when possible, by smaller Uniform Coding Units (UCU) that are delineated based on watersheds at a subbasin level. These data are compiled and stored by ADF&G in a statewide harvest database. In addition, a trapper questionnaire is issued annually to compile trapper's views of various wildlife species in their area (Schumacher 2010) and some subsistence hunting activity is summarized based on household surveys.

This information is available from ADF&G to be summarized and analyzed to determine spatial and temporal patterns of hunting effort and harvest success. It also provides some information on access types, use of guides, and residency of hunters. These data can be compared with data on the distribution of game mammals and the analyses can be used to help predict the impact of the Project on hunting opportunities, hunter distribution, and impacts on game

mammals. Subsistence surveys will be conducted by ADF&G in 2012 and 2013 to gather current information for communities near the project area.

Much of GMU 13 is readily accessible by road and provides hunting opportunities for many Alaskans. Creating access points to the project site from the Denali Highway to the north or from the rail corridor to the west could allow increased motorized vehicle access for hunters and recreational users to portions of GMU 13 that currently are inaccessible. Newer snowmobiles allow riders to access more remote locations to pursue big game, furbearers, ptarmigan, and other small game than was historically possible. The potential for increased human access and activity within Subunits 13A and 13E without additional understanding of the implications for small game and upland gamebirds is a resource management concern for ADF&G.

The principal small game animals in Alaska are snowshoe hare, grouse, and ptarmigan. Ptarmigan are of recreational, economic, and subsistence value to thousands of Alaskans and provide revenue to several lodges and retail outlets near and within GMU 13. Ptarmigan hunting is a very popular activity in both the fall and winter months in GMU 13 due to its accessibility. ADF&G surveys since 1997 suggest that willow ptarmigan along the road-accessible portions of GMU 13 have been declining in abundance or have remained at low abundance over the past 10 years, leading to reduced bag limits and shorter hunting seasons.

Kessel et al. (1982) found that snowshoe hares were fairly common to uncommon in forest and shrub habitats at lower elevations, but generally were restricted in the upper basin to areas east of Watana Creek. Long-term information on hare abundance, provided by several local residents, suggested that the low numbers of hares in 1980 and 1981 were typical for the area, rather than representing a low phase in a population cycle (Kessel et al. 1982). Spruce grouse were considered to be fairly common in the Susitna River basin, but ruffed grouse were rare (ABR 2011).

**1.3.5. Explain any nexus between project operations and effects (direct, indirect, and/or cumulative) on the resource to be studied, and how the study results would inform the development of license requirements.**

The Project would create an access road to the dam site, as well as a large reservoir that could be used for floatplane access to the region. These Project features, along with transmission-line corridors, have the potential to facilitate human access to the Project area and to change the pattern of human harvest of big game, furbearers, small game mammals, and upland gamebirds.

The proposed development will result in lost and altered habitat for wildlife and will change hunter access to the Project area. The conversion of this area from its presently remote character with little hunting pressure to a much more accessible area with potentially higher hunting pressure may affect the distribution and abundance of game animals. This study will:

- Provide baseline harvest data on large and small game and furbearers for the Project area;
- Provide harvest locations for comparison with wildlife distributions during harvest seasons;
- Help to evaluate access-related changes for harvest management; and
- Provide data that will be useful for subsistence and recreational impact assessments.

This study addresses the following issues identified in the PAD (AEA 2011):

- W4: Potential impact of changes in predator and prey abundance and distribution related to increased human activities and habitat changes resulting from Project development.
- W5: Potential impacts to wildlife from changes in hunting, vehicular use, noise, and other disturbances due to increased human presence resulting from Project development.

The study results will be used to inform the licensing process by analyzing baseline harvest data for the Project area. This study would provide a basis for impact assessment; developing any necessary protection, mitigation, and enhancement measures; and developing resource management and monitoring plans. ~~Adverse changes resulting from increased human access and harvest can be ameliorated through changes in hunting regulations.~~

**1.3.6. Explain how any proposed study methodology (including any preferred data collection and analysis techniques, or objectively quantified information, and a schedule including appropriate field season(s) and the duration) is consistent with generally accepted practice in the scientific community or, as appropriate, considers relevant tribal values and knowledge.**

This project will use existing data as well as new data that will be collected during other concurrent studies to assess the spatial and temporal patterns and success of hunting and trapping effort and to examine relationships between effort, harvest, and the distribution of wildlife, as indicated by telemetry studies and other surveys. The methods used in this study will include the following:

- Compilation and analysis of ADF&G harvest database records;
- Review of ADF&G management reports;
- Review of ADF&G trapper questionnaires;
- Review of ADF&G small game outlook and harvest surveys;
- Review of ADF&G subsistence surveys and harvest reports;
- Interviews with regional biologists; and
- Comparison of harvest patterns with development plans and the distribution of game mammals and birds.

Beginning in 2012, ADF&G will conduct moose, caribou, and ptarmigan telemetry studies and the AEA wildlife contractor will begin analysis of historical and current telemetry data for big game (AEA 2012b). Harvest patterns will be compared with seasonal distribution and movements revealed by the telemetry data on moose, caribou, and ptarmigan. Subsistence surveys will be conducted by ADF&G over several years, beginning in 2012; the questionnaires will be reviewed and modified to incorporate data needs for this analysis. The wildlife contractor also will coordinate with the AEA contractor conducting the recreational analyses for the Project to ensure that hunter effort and harvest data are made available for those analyses.

**1.3.7. Describe considerations of level of effort and cost, as applicable, and why any proposed alternative studies would not be sufficient to meet the stated information needs.**

This study will focus on analyzing existing harvest data and new data collected for other wildlife, subsistence, and recreational studies to maximize the information gained from these data. Thus, basic questions associated with human harvest of game animals in and near the Project area

can be analyzed in a cost-effective manner. The similar study beginning in 2012 (AEA 2012a), which is designed to analyze as much of the historical harvest data as possible, has a budget of approximately \$45,000. It is anticipated that the continuing study in 2013–2014 will require the same amount or possibly less, as the volume of historical and current data to be analyzed will decrease each year.

### 1.3.8. Literature Cited

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- Schumacher, T. 2010. Trapper questionnaire: Statewide annual report, 1 July 2008–30 June 2009. Alaska Department of Fish and Game, Division of Wildlife Conservation, Juneau.