# Comprehensive Data Delivery README FILE

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| **Study Section** | Study 10.8: Distribution, Abundance, and Habitat Use by Large Carnivores |
| **Study Component** | (not applicable) |
| **Prepared By** | ABR, Inc.—Environmental Research & Services |
| **Data Collection and Processing By** | Earl Becker, Alaska Department of Fish and Game, Anchorage;  Alex Prichard & Joseph Welch, ABR, Inc.—Environmental Research & Services, Fairbanks;  Alaska Stable Isotope Facility, UAF Water & Environmental Research Center;  Prugh Lab, University of Alaska Fairbanks;  Wildlife Genetics International |
| **Field Date Range** | July–September 2013; July–September 2015; January 2015 |

**Introduction:** The overall goal of this data collection effort was to characterize the distribution, abundance, and habitat use by brown bears, black bears, and wolves in areas with the potential to be affected by construction and operation of the proposed Susitna–Watana Hydroelectric Project (Project) in Alaska.

Distribution, Abundance, and Habitat Use by Large Carnivores (Large Carnivore Study) focused on: (1) a spatial reanalysis of data from previous aerial surveys (2001–2003) of brown and black bears conducted by the Alaska Department of Fish and Game (ADF&G); (2) DNA and stable-isotope analysis of hair samples collected during July–September 2013 and 2015 from bears using salmon spawning locations along the Susitna River between Devil’s Canyon and Talkeetna, to estimate the proportion of salmon in the diet of brown and black bears; and (3) an aerial survey of wolves in the area conducted by ADF&G during January 2015. The study area for spatial modeling of density and population estimation of bears encompasses a large region, including the proposed Project area (reservoir inundation zone, access and transmission corridors, and other Project features) as well as surrounding areas. The bear study area includes the entire area of Game Management Unit (GMU) Subunit 13E plus parts of adjacent Subunits 13A, 16A, and 16B, to provide a broad regional context for the analysis of bear densities. The bear hair collection occurred in the Middle Susitna River Segment (Middle River, from Project River Mile [PRM] 102 to 187) and its tributaries from the proposed Watana Dam site as far downstream as the confluence of the Susitna River and the Chulitna River (all of which are located within GMU Subunit 13E). The wolf survey area included GMUs 13A, 13D, and 13E, however only the results of the survey of GMU 13E are described in this report. The study also involves office-based analysis of existing ADF&G data on wolves from GMU Subunits 13E and 13A, and from adjacent Subunits 14B, 16A, and 20A, as available.

Fieldwork for the bear hair collection occurred July 22–September 25, 2013, and July 20–September 20, 2015, consisting of initial hair-snag deployment plus 5 hair-snag checks in each year. The wolf survey was conducted January 26–27, 2015. A small amount of additional plant collection for stable-isotope analysis was conducted in summer 2016.

This multi-year study was initiated in 2013 and completed in 2016. The Study Completion Report (SCR) for the study was produced in 2017.

**Data Summary:** Public data for the Large Carnivore Study consist of GIS data layers and photos of hair-snag stations. Hair snare installation and field check data were collected with paper forms (which have been scanned) or photos. Bear and wolf locations collected during aerial surveys conducted by ADF&G are confidential under Alaska state statute and regulations; therefore, summaries of estimated animal density are presented in the report rather than providing data layers of specific animal locations. All data for the study have undergone a QC3 level of review.

*Photos*— Photos show bear hair-snags deployed along the Middle Susitna River in 2013 and 2015.

*GIS Data*— Contain files for salmon spawning areas used to determine hair-snag locations, hair-snag locations, a file of hair-snag information, sample information, and laboratory results, a table of hair snare checks, the large carnivore study area, areas not available for hair-snag locations in 2013, and the wolf aerial survey area.

**Data Organization:**

The field photos are in the subfolder /10-WILD/10.08-LCAR/Photos, with subdirectories for 2013 and 2015.

The GIS data are archived in the GIS subfolder /10-WILD/10.08-LCAR/GIS, which contains one geodatabase (SuWa\_10\_8\_GIS\_20170630.gdb) containing:

* LCAR\_2013\_2015\_AWCSalmonSpawnAreas
* LCAR\_2013\_2015\_AWCSpawnStreamSurv
* LCAR\_2013\_2015\_AWCStreamSurvArea
* LCAR\_2013\_2015\_StudyArea
* LCAR\_2013\_SA\_NotSampled
* LCAR\_2015\_Wolf\_MinCountSurvArea
* LCAR\_2013\_2015\_Bear\_HairSnares
* LCAR\_2013\_2015\_Bear\_HairSampleResults
* LCAR\_2013\_2015\_Bear\_HairSnareChecks (file geodatabase table)

**Online Data Link:** <http://gis.suhydro.org/SuWa/10-WILD/10.8-LCAR/>

**Online Report Link:** 10.08 Distribution, Abundance, and Habitat Use by

Large Carnivores – Study Completion Report under 2017; Study Completion and Implementation Reports at <http://www.susitna-watanahydro.org/type/documents>

[[1]](#endnote-1)

1. **Data Distributor Contact Information:**

   Alaska Energy Authority, 813 West Northern Lights Boulevard, Anchorage, AK 99503

   Voice: 907-771-3000, Email: [SUWAhelp@aidea.org](mailto:SUWAhelp@aidea.org)

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