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

Rare Plant Study
Study Plan Section 11.8

Initial Study Report
Part C: Executive Summary and Section 7

Prepared for

Alaska Energy Authority

SUSITNA-WATANA HYDRO

Clean, reliable energy for the next 100 years.

Prepared by

ABR, Inc.—Environmental Research & Services

June 2014

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EXECUTIVE SUMMARY

Rare Plant Study 11.8	
Purpose	The primary goal of the Rare Plant Study is to locate populations of rare vascular plant species that may be affected by development activities associated with the proposed Project. The rare plant occurrence data collected in this study will be used to assess the potential direct, indirect, and cumulative impacts to rare plants from Project construction and operations activities. Additionally, the data will be used to develop protection, mitigation, and enhancement measures, as appropriate, to minimize Project impacts to rare plant populations.
Status	This study was designed so that the entire study area would be surveyed once over a period of 2 years. During July and August 2013, field surveys were conducted in accessible areas of the Watana Reservoir area, portions of the Watana Camp area, and in the Chulitna, Gold Creek and Denali West Option alternative Susitna-Watana access and transmission line corridors. Fieldwork will be performed in 2015 in the remainder of the study area, including the new Denali East Option alternative access and transmission line corridor. In 2015, rare plant species found during other Project botanical surveys will be collected to confirm identifications, and lists of species found in all study years (including rare species) will be reviewed for any range extensions.
Study Components	(1) Compile a list of rare vascular plant species that were previously found within a broad region surrounding the Project area (from collections records) and identify the habitats in the Project area that may harbor those rare species; (2) locate populations of rare vascular plant species occurring in those portions of the Project area that could be disturbed by Project construction and operations activities; and (3) estimate population sizes for any rare species found and map their locations.
2013 Variances	There were no variances from the field survey methods (RSP Section 11.8.4.1) during the 2013 study season. While portions of the study area were not surveyed during 2013 due a lack of access to Cook Inlet Regional Working Group (CIRWG) lands, this is not considered a variance because the study was designed as a multi-year effort in which the study area would be sequentially surveyed. The study team will meet study objectives by surveying CIRWG lands in 2015.
Steps to Complete the Study	The plans for completing this study include implementing the Study Components listed above in 2015. No modifications to the Study Plan are needed to achieve the study objectives; however, the study area has been changed from that described in the RSP (Section 11.8.3). As described in the

Rare Plant Study 11.8	
	ISR Overview, AEA has added the Denali East Option road and transmission line alternative corridor to the study area. The small amount of additional high-resolution aerial imagery needed to cover the expansion of the study area applicable to this study for the Denali East Option corridor will be acquired in 2014.
Highlighted Results and Achievements	Two rare plant species were found in the portions of the study area surveyed in 2013, *Vicia americana* Muhl. ex Willd. (American vetch) and *Eriophorum viridicarinatum* (Engelm.) Fernald (thinleaf cottonsedge). *V. americana* is listed as S2, G5 (imperiled in Alaska, demonstrably secure globally); a population of several hundred plants was found growing with other successional forbs in disturbed clearings in the Gold Creek Camp area at the western end of the Gold Creek Corridor. *E. viridicarinatum* is listed as S2S3, G5 (rare or uncommon to imperiled in Alaska, demonstrably secure globally); several populations were found in sedge-bog meadows below treeline, in the central portion of the proposed Watana Reservoir, on a terrace above the Susitna River west of Watana Creek.

7. COMPLETING THE STUDY

7.1. Proposed Methodologies and Modifications

To complete this study, the study team will implement the methods in the Study Plan except as described in Sections 7.1.1 and 7.1.2. These activities include:

- Compiling a list of rare vascular plant species that were previously found within a broad region surrounding the Project area (from collections records) and identifying the habitats in the Project area that may harbor those rare species (RSP 11.8.4.1) (task completed in 2013);
- Locating any additional populations of rare vascular plant species that occur in those portions of the Project area that were unsurveyed in 2013 and could be disturbed by Project construction and operations activities (RSP Section 11.8.4.1); and
- Estimating population sizes for any rare vascular plant species found and mapping their locations in GIS (RSP Section 11.8.4.1).

7.1.1. Decision Points from Study Plan

The RSP (Section 11.8.1) indicates that the field methods and/or study area described in the Study Plan would be updated, if necessary, based on the results of the first year of work in 2013. After a careful review of the 2013 survey work and the data collected, the study team has determined that, other than the study area modification noted below in Section 7.1.2, no additional alterations to the Study Plan are needed. The study team has not received any comments from AEA, FERC, resource agency staff, or other licensing participants indicating a need for alterations in the Study Plan.

7.1.2. Modifications to Study Plan

No modifications to the Study Plan methods are needed to complete the study and meet the Study Plan objectives. However, the study area has changed from that described in the RSP (Section 11.8.3). As described in the ISR Overview and depicted in Figure 1, AEA has added the Denali East Option road and transmission line corridor to the study area to provide an alternative to crossing higher elevation BLM lands just south of the Denali Highway. For this study, the corridor addition to the study area includes the Project area buffer surrounding the center lines of the road and transmission line alignments of the new Denali East Option (Figure 7.1-1). The Project area buffer encompasses those areas that could be directly or indirectly affected by development activities, and specifically, the field survey work for this study will be focused on those suitable habitats that could support rare plant species and that occur within or closely adjacent to the Project area buffer, as described in the RSP (Section 11.8.3) above in Section 3.

7.2. Schedule

In general, the schedule for completing the FERC-approved Study Plan is dependent upon several factors, including Project funding levels authorized by the Alaska State Legislature,

availability of required data inputs from one individual study to another, unexpected weather delays, the short duration of the summer field season in Alaska, and other events outside the reasonable control of AEA. For these reasons, the Study Plan implementation schedule is subject to change, although at this time AEA expects to complete the FERC-approved Study Plan through the filing of the Updated Study Report (USR) by February 1, 2016, in accordance with the ILP schedule issued by FERC on January 28, 2014.

With regard to this specific study, AEA is not proposing any data collection efforts under this study in 2014. Rather, AEA plans to complete the final year of field data collection in the 2015 study season. The results of the field surveys in 2013 and 2015 will be reported in the USR.

A small section of the study area in the new Denali East Option corridor is not covered by current, high-resolution imagery needed for the rare plant field surveys. This imagery gap will be filled in 2014 either with existing, archived satellite imagery or a new acquisition of digital aerial photography. The study team is actively working with staff at the Geographic Information Network of Alaska (GINA) to find the best solution to fill the imagery gap.

7.3. Conclusion

The data collected in 2013 (two rare species were located) and the field survey work planned for 2015 will achieve the Study Plan objective of documenting the locations of rare plants in the Project area that may be directly or indirectly affected by proposed development activities. The modification to the study area (reduced size) for the interrelated Vegetation and Habitat Mapping Study in the Upper and Middle Susitna Basin (Study 11.5) and the modifications to the field methods for the interrelated Riparian Vegetation Study Downstream of the Proposed Susitna-Watana Dam (Study 11.6) will not affect this study. This is because this study depends only on plant habitat information and any records of rare species from those two interrelated studies, and that information will not be affected by the modifications to those studies.

7.4. Figures

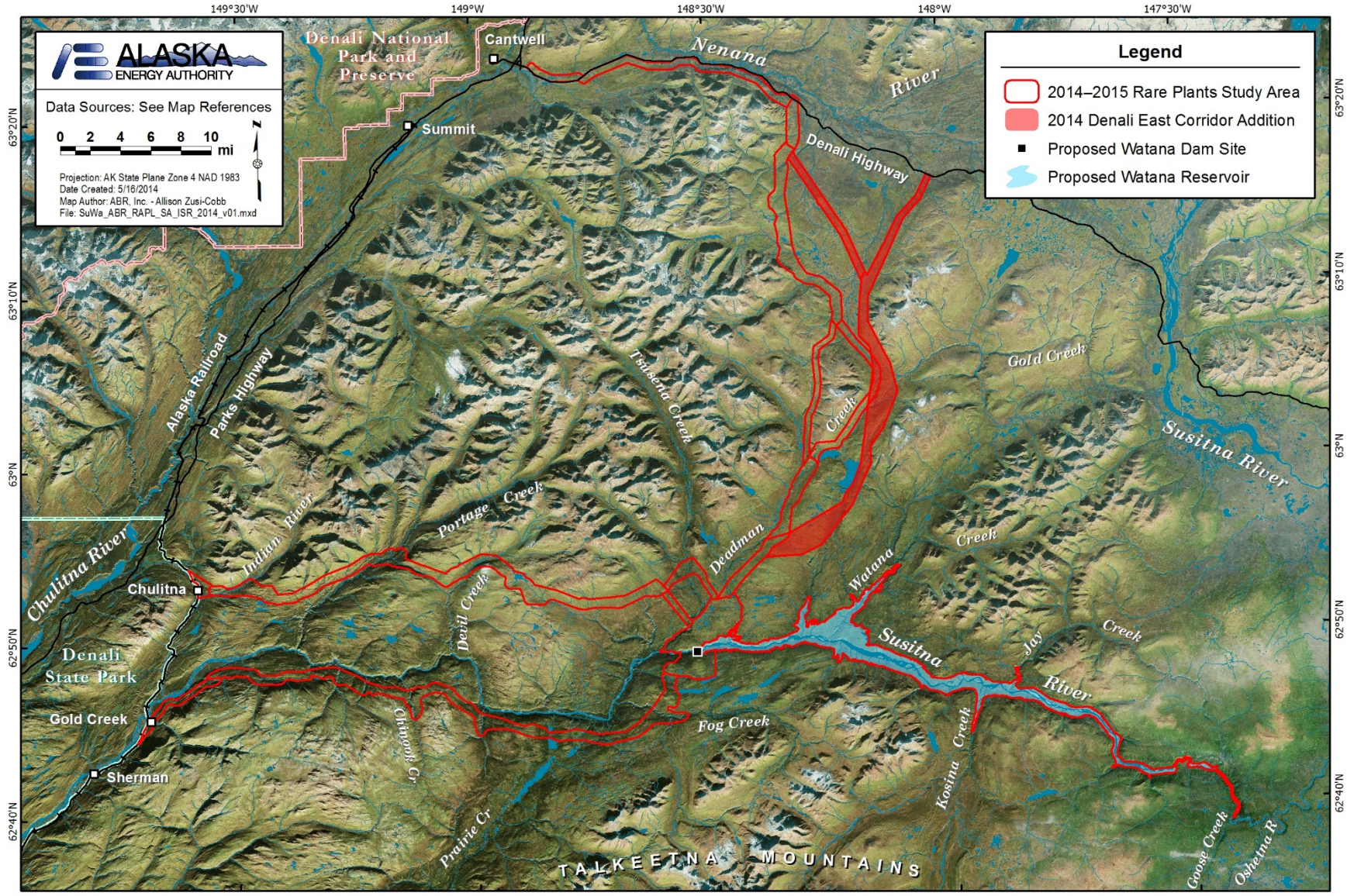

Figure 7.1-1. Rare Plant Study Area Showing the Denali East Option Corridor Added in 2014.