

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

**Aquatic Resources Study within the Access Alignment,
Transmission Alignment, and Construction Area
Study Plan Section 9.13**

**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

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EXECUTIVE SUMMARY

Aquatic Resources Study within the Access Alignment, Transmission Alignment, and Construction Area (9.13)	
Purpose	<p>The objectives of the study are to:</p> <ol style="list-style-type: none"> 1. Characterize the aquatic habitats and fish assemblages at potential stream crossings within a 200-meter (650-foot) buffer zone along proposed access road and transmission line alignments. 2. Describe aquatic habitats and species present within the construction area for the dam and related hydropower facilities.
Status	<p>During 2013, AEA initiated the synthesis of existing information component of the study. AEA rescheduled the remaining components of the study to 2015.</p>
Study Components	<ol style="list-style-type: none"> 1. Synthesis of existing information. 2. Field data collection of aquatic habitat and fish distribution.
2013 Variances	<p>AEA has scheduled the implementation of the field study components to 2015. The rescheduling of this study component is not anticipated to impair AEA's ability to meet study objectives. Undertaking the field data collection and completing this study in 2015 will allow the study to benefit from additional information coming from other study efforts as additional results become available.</p>
Steps to Complete the Study	<p>AEA plans to complete the remaining study components in 2015, which consist of field data collection efforts along the potential access and transmission corridors and in the vicinity of construction areas and potential airport locations (RSP Section 9.13.4.2).</p> <p>The study area has changed from that described in the RSP (Section 9.13.3). 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 a 200 meter buffer along the alignments of the new Denali East Option.</p>
Highlighted Results and Achievements	<p>The study is not complete but based upon the initial analysis of existing information:</p> <ul style="list-style-type: none"> • The Denali West Option Corridor would require approximately 38 stream crossings between the Watana Dam site and Denali Highway near Cantwell, and these streams include only resident fish species, if any. • The Chulitna Corridor would require approximately 23 stream

	<p>crossing, with several known to produce anadromous fish as well as resident species, including the Indian River and Portage Creek.</p> <ul style="list-style-type: none">• The Gold Creek Corridor would require approximately 17 stream crossings and at least five streams are known to have anadromous fish production.
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7. COMPLETING THE STUDY

7.1. Proposed Methodologies and Modifications

To complete this study, AEA will implement the methods in the Study Plan, except as described in Section 7.1.2. These activities consist of field data collection at proposed crossing sites in streams along the potential access and transmission corridors and within the vicinity of construction areas and potential airport locations. Specific methods include:

1. Recording aquatic habitat characteristics within the vicinity of each potential crossing site (RSP Section 9.13.4.2.1).
2. Stream sampling to characterize fish assemblages in the vicinity of potential stream crossings (RSP Section 9.13.4.2.2). AEA plans to implement two habitat and fish sampling events for this study in 2015. The first sampling event will occur early in the field season (June to July) and will be the main sampling event during which each potential crossing site is surveyed. If there is a need to resample a site due to: 1) unsuitable sampling conditions (dry, or excessive flow), 2) data gaps, or 3) no fish were detected during event 1, a second field event will be conducted late in the open-water period (September to October) to re-evaluate site conditions at these selected locations where additional data is needed.
3. Data analysis and reporting, including incorporating data generated in this study into the Project's geospatial database (RSP Section 9.13.4.2.3).

7.1.1. Decision Points from Study Plan

There were no decision points in the FERC-approved Study Plan to be evaluated for this study following the completion of 2013 work.

7.1.2. Modifications to Study Plan

AEA proposes three modifications to the FERC-approved study plan:

1. The study area has changed from that described in the RSP (Section 9.13.3). As described in the ISR Overview, 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 a 200 meter buffer along the alignments of the new Denali East Option. (Figure 7.1-1), which matches the 200 meter buffers used on the other potential road and transmission line corridors included in the study area.
2. The FERC-approved Study Plan anticipated two years of field work, with the second year designed primarily to accommodate resampling sites with data gaps or potential refinements in the corridor alignment. With the field work now being conducted in the 2015 field season, the proposed modification incorporates two sampling events during the open water period. With two events the ability to fill in data gaps and to address realignment needs related to aquatic resources will be maintained. Thus these field

events will be sufficient to allow AEA to collect all of the data in one year to meet study plan objectives.

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 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 by February 1, 2016, in accordance with the ILP schedule issued by FERC on January 28, 2014.

AEA is not proposing any efforts under this study in 2014. AEA plans to complete all remaining data collection and analysis for this study in 2015.

7.3. Conclusion

Synthesis of existing data required in the FERC-approved Study Plan was completed in 2013. This information, combined with field data collection and analysis in 2015 and the interrelated Study of Fish Distribution and Abundance in the Upper Susitna River (ISR Study 9.5), Characterization and Mapping of Aquatic Habitats (ISR Study 9.9), and the Study of Fish Passage Barriers in the Middle and Upper Susitna River and Susitna Tributaries (ISR Study 9.12), will meet study plan objectives. This information will allow AEA to characterize aquatic habitats and fish assemblages at potential stream crossings along potential access road and transmission corridors and describe aquatic habitats and species present within the construction area for the dam and related hydropower facilities.

7.4 Figures

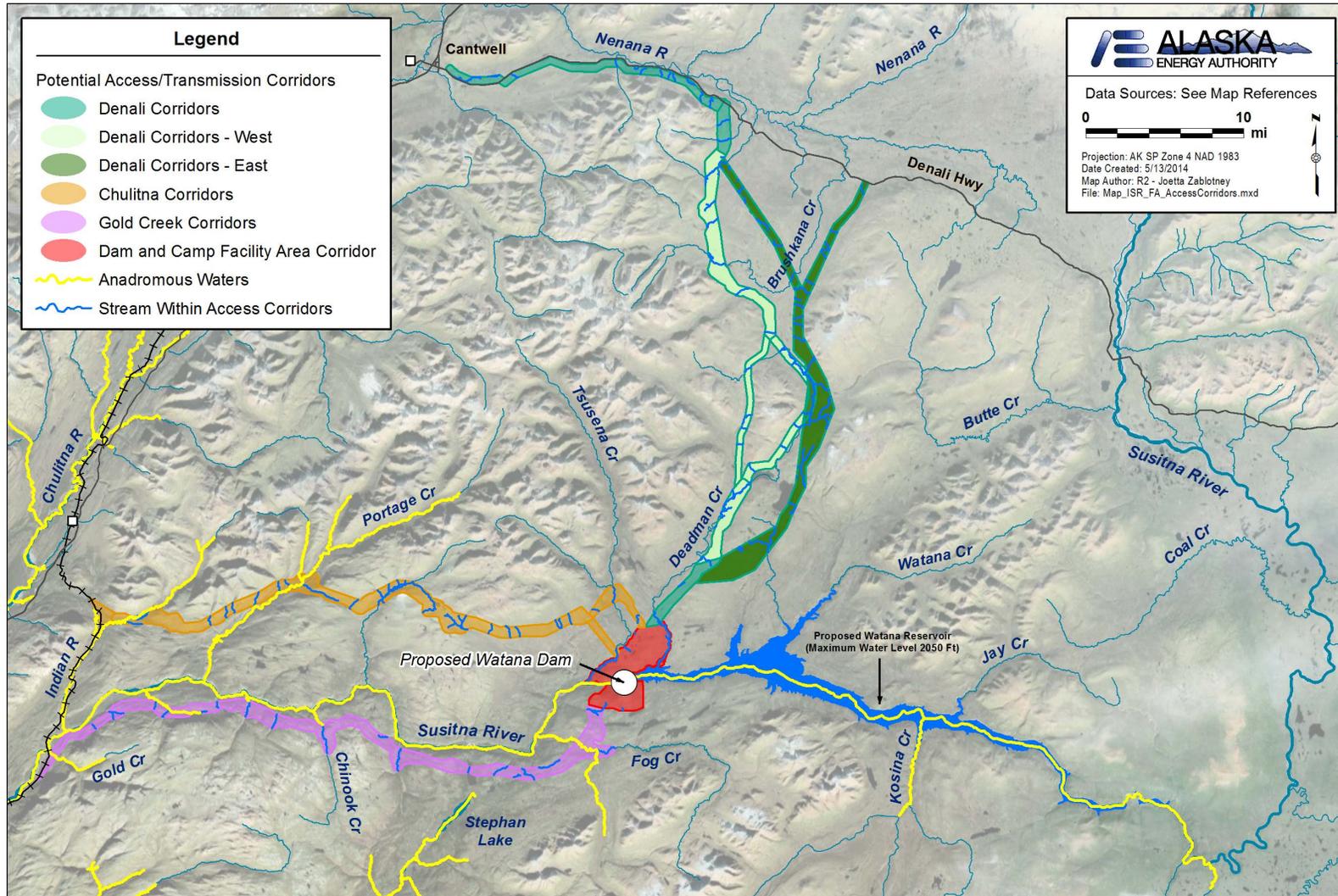


Figure 7.1-1. Updated Study Area including the Denali East Option