# comprehensive Data delivery README FILE

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| **Study Section** | Study 9.5: Fish and Aquatics Fish Distribution and Abundance |
| **Study Component** | Downstream Migrant Trapping (DMT) in Upper Susitna River Segment |
| **Field Date Range** | June 14, 2013 –October 2, 2014 |

**Introduction:** The overall goal of the Fish Distribution and Abundance data collection efforts was to characterize the current distribution, relative abundance, run timing, and life history of resident and non-salmon anadromous fish species as well as freshwater rearing life stages of anadromous salmonids in the Susitna River. Study 9.5 focused on species with the potential to be affected by construction and operation of the proposed Susitna-Watana Hydroelectric Project (Project) in Alaska.

Eight specific objectives have been developed for Study 9.5 and include multiple tasks. DMT data collected as part of Objective 2 will be used to provide a baseline characterization of seasonal fish movements. These data will support the identification and evaluation of potential Project-induced effects on fish assemblages, and inform development of any necessary protection, mitigation, and enhancement measures.

**Data Summary:** This multi-year study was conducted during the 2013 and 2014 open water seasons on a 48 hours on followed by 72 hours off trapping schedule. In 2013, fish trapping took place in the Oshetna River and Kosina Creek using rotary screw traps. In 2014, fish trapping took place in the Oshetna River and mainstem Susitna River at project river mile 200 using rotary screw traps and at Kosina Creek using two fyke nets. The data for 2013 and 2014 is stored in a single database and provides a consistent database structure for efficient querying and analysis. However, the methodologies (screw trap and fyke net) employed each year varied enough that the data for each year is in separate tables. The database structure consists of detailed information about the site (location, habitat, physical attributes), screw trap installation, and fish collected and tagged (species, counts, measurements, and tag codes).

Data were collected in accordance with the methods outlined in the Fish Distribution and Abundance Implementation Plan with the exception of the variances identified in the ISR Part D (November 2015). Data management followed the QA/QC protocol described in the Implementation Plan ultimately resulting in a relational database of all DMT collections for Study 9.5 of the Susitna-Watana Project.

Data have undergone 5 levels of data quality control (QC), named QC1 to QC5. The QC levels, briefly, are as follows:

* QC1–Field Review: Review of field forms before leaving the field, or the QC level of raw data collected via field equipment such as thermistors, cameras, GPS units, etc.
* QC2–Data Entry: Data from paper forms are entered into an electronic format and verified.
* QC3–Senior Review: Final review by senior professional before submitting field data to AEA, or the QC level of raw data cleaned up for delivery to AEA.
* QC4–Database Validation: Tabular data files are verified to meet Project database standards.
* QC5–Technical Review: Data revision or qualification by senior professionals when analyzing data for reports.

**Data Organization:**  2013-2014 DMT data are organized as an MS Access relational database, and accompanied by data dictionaries for information such as table and attribute descriptions and relationship keys.

**Software Considerations:** MS Access version 2003 or newer is needed for database use.

**Online Data Link:** Folder Downstream\_Migrant\_Trap at <http://gis.suhydro.org/SuWa/09-FISH/9.05-FDAUP/>

File 9\_FAQ\_Database\_Data\_Dictionary\_20170630.pdf at <http://gis.suhydro.org/SuWa/09-FISH/00/FAQ_Data_Documentation/>

**Online Report Link:** AEA has prepared several documents with data pertaining to this study component. However, because database QC is an ongoing process, the most recent version of the data found through the hyperlink above may supersede the results reported in study documents. Copies of the datasets used for analysis in the ISR and SIR are available through the hyperlink found at the beginning of the results section (Section 5). To aid review, study documents using this study component are listed below. Each of these documents is accessible on AEA’s Project licensing website (<http://www.susitna-watanahydro.org/type/documents/>) or through FERC’s eLibrary system (<http://www.ferc.gov/docs-filing/elibrary.asp>), in Docket No. P-14241.

| **Title** | **Date** | | | **Description** | | | **Link** | | |
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| Draft Initial Study Report for Study 9.5 | 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 9.5. This draft ISR was later republished as Part A of the final ISR. | | | [Draft ISR for Study 9.5 (File 1)](http://www.susitna-watanahydro.org/wp-content/uploads/2014/01/09.05_FDAUP_ISR_Draft_1_of_2.pdf)  [Draft ISR for Study 9.5 (File 2)](http://www.susitna-watanahydro.org/wp-content/uploads/2014/01/09.05_FDAUP_ISR_Draft_2_of_2_App_A-D.pdf) | | |
| Sampling Considerations for Study 9.5 Fish Distribution and Abundance in the Upper Susitna River | 3/20/2014 | | | This technical memorandum presented rationale for AEA’s proposed sampling modifications to better describe fish-habitat associations in the Upper Susitna River mainstem and tributaries. These proposed modifications were later included in Section 7 of ISR Part C. | | [March 2014 TM for Study 9.5](http://www.susitna-watanahydro.org/wp-content/uploads/2014/03/Study9.5_FDAUP_SamplingModifications_2014-03-20.pdf) | | |
| Initial Study Report for Study 9.5 | 6/3/2014 | | | This document is the Initial Study Report (Parts A, B and C) for Study 9.5. 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 9.5 (File 1)](http://www.susitna-watanahydro.org/wp-content/uploads/2014/06/09.05_FDAUP_ISR_PartA_1_of_2.pdf)  [ISR Part A for Study 9.5 (File 2)](http://www.susitna-watanahydro.org/wp-content/uploads/2014/05/09.05_FDAUP_ISR_PartA_2_of_2_Apps.pdf)  [ISR Part B for Study 9.5](http://www.susitna-watanahydro.org/wp-content/uploads/2014/06/09.05_FDAUP_ISR_PartB.pdf)  [ISR Part C for Study 9.5](http://www.susitna-watanahydro.org/wp-content/uploads/2014/06/09.05_FDAUP_ISR_PartC.pdf) | | |
| Proposed 2015 Modifications to Fish Distribution and Abundance Study Plan Implementation Technical Memorandum | 9/17/2014 | | This technical memorandum evaluated the implementation of the Upper River mainstem and tributary sampling modifications that were proposed in *Sampling Considerations for Study 9.5 Fish Distribution and Abundance in the Upper Susitna River* and screw trap locations proposed in Section 7 of the ISR. | | | | | [Sept. 2014 TM for Study 9.5](http://www.susitna-watanahydro.org/wp-content/uploads/2014/09/9.05_FDAUP_2014TM.pdf) |
| Fish Distribution and Abundance in the Upper River, 2014 - 2015 Study Implementation Report | 11/6/2015 | | This report presents methods, variances, and data collected for study components that have been completed since filing the June 2014 ISR. | | | | | [2014-2015 SIR for Study 9.5](http://www.susitna-watanahydro.org/wp-content/uploads/2015/11/09.05_FDAUP_SIR.pdf) |
| [Response of the Alaska Energy Authority to Comments on the Initial Study Report](http://www.susitna-watanahydro.org/wp-content/uploads/2016/11/ISR_Response_OCT_2016.pdf) | | 10/24/2016 | This document provides a technical response to stakeholder comments on the Initial Study Report. | | [Oct. 2016 Response for Study 9.5](http://www.susitna-watanahydro.org/wp-content/uploads/2016/11/ISR_Response_OCT_2016.pdf) | | | |

**[[1]](#endnote-1)**

1. **Data Distributor Contact Information:**

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