# comprehensive Data delivery README FILE

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| **Study Section** | Study 9.7: Salmon Escapement  |
| **Study Component** | Indian River Weir |
| **Field Date Range** | June 26, 2013-June 26, 2014 |

**Introduction:** The overall goal of Study 9.7 is to characterize the distribution, abundance, habitat use, and migratory behavior of all species of adult anadromous salmon (*Oncorhynchus* spp.) across mainstem river habitats and select tributaries above the Three Rivers Confluence (i.e., confluence of the Susitna, Chulitna, and Talkeetna rivers). Study 9.7 is focused on adult anadromous salmon 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 9.7, a few of which include multiple tasks. Weir data collected as part of Objectives 6 and 8 and will be used to provide a baseline characterization of salmon spawning locations migratory behavior and timing and counts. The Indian River weir was used to recapture tagged fish, generate survey-area mark rates, and estimates of abundance of the Chinook Salmon passing upstream of Devils Canyon. 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:** As an alternative to stream counts and carcass surveys, AEA implemented a variance to the Study Plan in 2013 and 2014 and operated a picket weir on the lower Indian River approximately 1.6 river miles from the confluence with the Susitna River. The weir and underwater video system was operated to enumerate tagged and untagged fish and establish mark rates. The database structure consists of information about the weir site (coordinates), digital video review documentation (reviewer, time stamps), individual salmon observations (direction, species, sex, length. tag type), hourly count summaries of passage for adult salmon and resident fish species, and information collected from carcasses (date, tag codes, length, spawn status). Data for each year is stored in a separate file. In 2013, the weir was operated from June 26 to August 20. In 2014 the weir only operational for five days before it was damaged due to a high flow event on June 26 and not replaced.

Data were collected in accordance with the methods outlined in the Final Study Plan for 9.7 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 relational databases of weir salmon data collected for the Susitna-Watana Project.

Data have undergone 3 levels of data quality control (QC), named QC1 to QC3. 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.

**Data Organization:**  The weir data are delivered as 2 separate MS Excel workbooks, one for each year.

The data files are accompanied by data dictionaries for information such as table and attribute descriptions.

**Software Considerations:** MS Excel or compatible software is needed for the weir data files.

**Online Data Link:** Folder Weir at <http://gis.suhydro.org/SuWa/09-FISH/9.07-ESCAPE/>

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.

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| **Title** | **Date** | **Description** | **Link** |
| Draft Initial Study Report for Study 9.7 | 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 9.7. This draft ISR was later republished as Part A of the final ISR. | [Draft ISR Part A for Study 9.7](http://www.susitna-watanahydro.org/wp-content/uploads/2014/01/09.07_ESCAPE_ISR_Draft.pdf) |
| Initial Study Report for Study 9.7 | 6/3/2014 | This document is the Initial Study Report (Parts A, B and C) for Study 9.7. 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 9.7](http://www.susitna-watanahydro.org/wp-content/uploads/2014/05/09.07_ESCAPE_ISR_PartA.pdf)[ISR Part B for Study 9.7](http://www.susitna-watanahydro.org/wp-content/uploads/2014/06/09.07_ESCAPE_ISR_PartB.pdf)[ISR Part C for Study 9.7](http://www.susitna-watanahydro.org/wp-content/uploads/2014/06/09.07_ESCAPE_ISR_PartC.pdf) |
| Salmon Escapement Study (Study 9.7), 2014 Implementation and Preliminary Results Technical Memorandum | 9/30/2014 | This attachment includes a report describing the methods and variances related to 2014 implementation of the Salmon Escapement Study, and preliminary results. | [Sept. 2014 TM for Study 9.7](http://www.susitna-watanahydro.org/wp-content/uploads/2014/09/09.07_ESCAPE_TM_Short-Version_new.pdf) |
| Initial Study Report –Part D for Study 9.7 | 11/6/2015 | The purpose of Part D to the Initial Study Report for Study 9.7 is to report on any additional implantation of the Study Plan from June 2014 to the end of the 2014 calendar year. | [ISR Part D for Study 9.7](http://www.susitna-watanahydro.org/wp-content/uploads/2015/11/09.07_ESCAPE_ISR_PartD.pdf) |
| Salmon Escapement Study, Study Plan 9.7, Study Completion Report | 11/6/2015 | This report described methods, variances and results for 2014 study year, along with synthesis of findings from the full 3 years of implementation (2012-2014) for salmon escapement study. | [SCR for Study 9.7](http://www.susitna-watanahydro.org/wp-content/uploads/2015/11/09.07_ESCAPE_SCR.pdf) |

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

1. **Data Distributor Contact Information:**

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