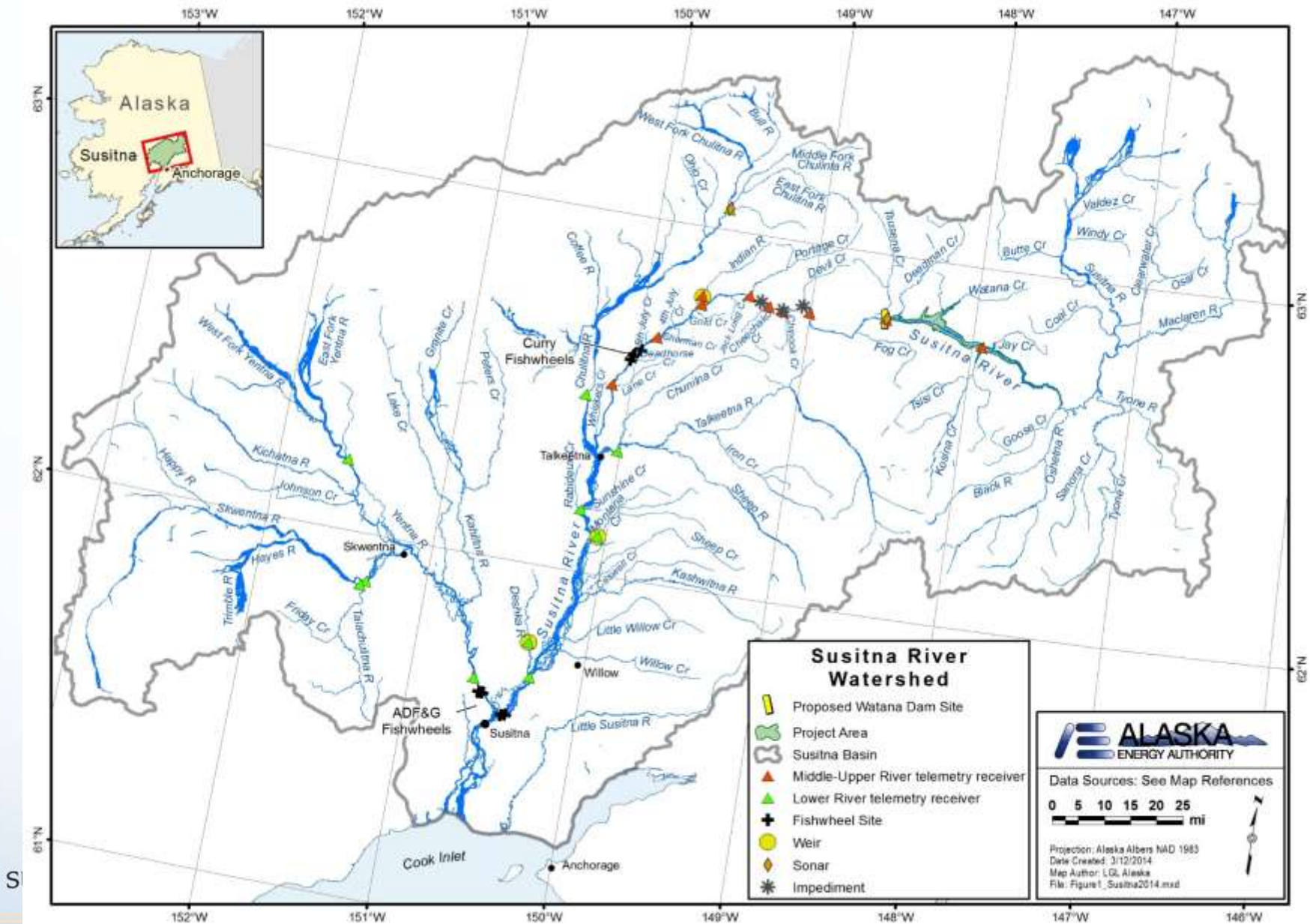


Study 9.7 - Salmon Escapement, 2014

Study 9.7 Salmon Escapement – 2014

LOWER, MIDDLE & UPPER RIVER

- Study Objectives remain the same as presented in the Study Plan (RSP Section 9.7.1.2)
- Several specific approaches to achieving the Objectives will be modified from the Study Plan based on new information, feasibility of methods, or refinement of methods.



Study 9.7 Salmon Escapement

2014 Lower River Activities

- Fishwheels on Susitna & Yentna
- Counting weirs
- Radio-telemetry
- Sonar

Study 9.7 Salmon Escapement

2014 Lower River Activities

Continue as per FERC-approved Study Plan

- Susitna PRM 34 fishwheel operations to capture and radio-tag select species
- Radio-tag 700 Chinook (system-wide estimate), 600 coho (estimate above Yentna), and 200 pink (distribution) salmon
- Conduct aerial surveys every two weeks, June through October
- Operate weirs on Deshka and Montana to count Chinook

Study 9.7 Salmon Escapement

2014 Lower River Activities

Modifications to FERC-approved Study Plan

- Fishwheel-to-Fishwheel Mark-Recapture for Chinook salmon abundance on Yentna drainage using dart tags in lieu of Fishwheel-to-weir.
- Apply 300 radio-tags to Chinook on Yentna for spawner distribution in lieu of 700.
- Not a variance implemented in 2013.
- Recommendation by ADF&G after unsuccessful attempt to operate weirs and/or sonar on Yentna.

Study 9.7 Salmon Escapement

2014 Lower River Activities

Modifications to FERC-approved Study Plan

- Use ARIS sonar and telemetry on Chulitna to count Chinook in lieu of weir.
- Variance in 2013 (ISR Section 4.8.1).
- Recommendation by ADF&G after unsuccessful attempt to operate a weir.

Study 9.7 Salmon Escapement

2014 Middle & Upper River Activities

- Fishwheels
- Indian River Weir
- Radio-telemetry
- Turbid Waters Sonar
- Watana Dam Site Sonar

Study 9.7 Salmon Escapement

Curry Fishwheels

Continue as per FERC-approved Study Plan

- Radio-tag 200 pink, chum, sockeye, and coho salmon in the Middle River using fishwheels.



Study 9.7 Salmon Escapement

Curry Fishwheels

Modifications to FERC-approved Study Plan

- Operate three fishwheels at Curry in lieu of two fishwheels. At Curry and one at Devils Canyon.
- Variance implemented in 2013 (ISR Section 4.1.8).
- Increases the likelihood of achieving radio-tagging goals in Objective 1.

Study 9.7 Salmon Escapement

Curry Fishwheels

Modifications to FERC-approved Study Plan

- Radio-tag 650 Chinook in lieu of 400 at Curry.
- Variance implemented in 2013 (ISR Section 4.1.8).
- Increases the likelihood of achieving Objectives 1 & 3 by putting more tags on the spawning grounds, and potentially above Devils Canyon.

Study 9.7 Salmon Escapement

Curry Fishwheels

Modifications to FERC-approved Study Plan

- Use sonar as secondary run monitoring in June and September in lieu of June through September.
- Not a variance in 2013.
- Experience in 2012 and 2013 indicates that using sonar during July and August is not necessary for achieving Objective 1.

Study 9.7 Salmon Escapement

Curry Fishwheels

Modifications to FERC-approved Study Plan

- Operate fishwheels through early September, then switch to seining, in lieu of continuing fishwheels through September.
- Not a variance in 2013.
- Increases the likelihood of achieving Objectives 1 & 2. Analysis of sonar data from 2013 showed that fishwheels were not effective catching fish in September due to decreased discharge and turbidity.

Study 9.7 Salmon Escapement

Indian River Weir

Continue as per FERC-approved Study Plan

- Establish mark rates from LR and MR fishwheels.



Study 9.7 Salmon Escapement

Indian River Weir

Modifications to FERC-approved Study Plan

- Enumerate Chinook salmon, and other species as feasible at a weir in lieu of conducting spawning ground surveys.
- Variance in 2013 (ISR Sections 4.1.8 & 4.8.1).
- Increases the likelihood of achieving Objectives 1 & 8. This method is more effective at examining a large number of fish for marks.

Study 9.7 Salmon Escapement

Radio-Telemetry

Objective: Determine the timing, distribution and habitat use of all species of salmon

Continue as per FERC-approved Study Plan

- Operate fixed telemetry stations and conduct mobile aerial surveys



Study 9.7 Salmon Escapement

Radio-Telemetry

Modifications to FERC-approved Study Plan

- Operate fixed stations at five alternate locations in lieu of those originally designated on CIRWG lands.
- Variance implemented in 2013 (ISR Section 4.2.4).
- Implement only if no CIRWG land access. Ensures achieving Objective 2 of tracking migration.

Study 9.7 Salmon Escapement

Radio-Telemetry

Modifications to FERC-approved Study Plan

- Conduct daily aerial surveys of DC during Chinook migration in lieu of surveys 1-2 times per week.
- Variance implemented in 2013 (ISR Section 4.3.5).
- Increases the likelihood of achieving Objective 3 including migration timing within Devils Canyon.

Study 9.7 Salmon Escapement

Turbid Water Sonar Surveys

Continue as per FERC-approved Study Plan

- Assess Chinook salmon spawning in mainstem habitats using mobile ARIS sonar



Study 9.7 Salmon Escapement

Turbid Water Sonar Surveys

Modifications to FERC-approved Study Plan

- Conduct sampling effort late July through early August for Chinook in lieu of sampling through the entire salmon spawning season (July through October).
- Variance implemented in 2013.
- ARIS sonar was not an adequate method for surveying turbid, shallow sites to document spawning activity associated with chum, coho, pink, or sockeye salmon (Objective 4).

Study 9.7 Salmon Escapement

Turbid Water Sonar Surveys

Modifications to FERC-approved Study Plan

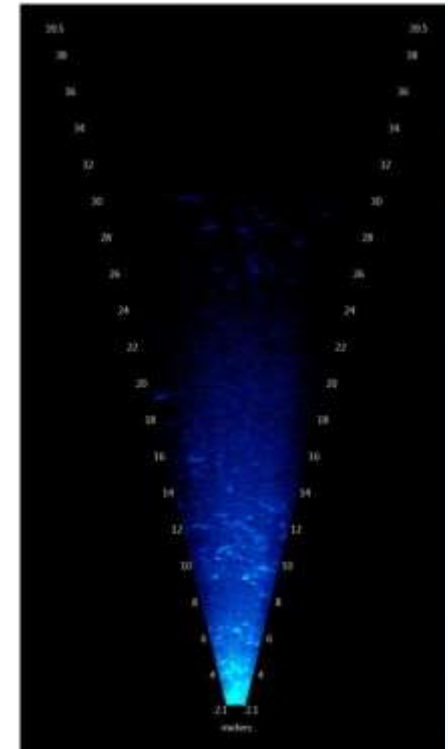
- Conduct aerial telemetry survey support every three days from Fifth of July Creek to Portage Creek in lieu of surveys every five days.
- Not a variance in 2013.
- Increases the likelihood of achieving Objective 2 and identifying potential spawning locations.

Study 9.7 Salmon Escapement

Sonar near Watana Dam Site

Continue as per FERC Study Plan Determination

- Assessment of the feasibility of putting a weir or sonar counting station at or near the dam site completed in 2013
- Weir is not feasible
- Sonar is feasible to count salmon-sized fish



Study 9.7 Salmon Escapement

Sonar near Watana Dam Site

Modifications to FERC Study Plan Determination

- Enumerate Chinook salmon moving past the dam site using sonar. Not a variance in 2013.
- Operate during peak Chinook salmon migration in July.
- Quantify the accuracy of sonar counts using the passage of radio-tagged fish.
- Provides minimal count of Chinook salmon above dam site.