

NORTHERN DISTRICT SET NETTERS ASSOCIATION OF COOK INLET

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9 February 2014

Alaska Board of Fisheries
Alaska Department of Fish and Game
Anchorage, Alaska

SUBJECT: Susitna-Watana Hydroelectric Project (FERC No. 14241) Appendix I: Abundance Estimates for Chinook Salmon in the Susitna River Drainage and Coho Salmon Above the Yentna River

See the following pages indicating 2013 estimated abundance in the mainstem Susitna River above the Yentna River of 89,463 Chinook salmon and 130,026 coho salmon.

Source:

LGL Alaska Research Associates, Inc., and Alaska Department of Fish and Game, Division of Sport Fish 2014 Draft. Salmon Escapement Study, Study Plan Section 0.7. Initial Study Report. Prepared for Alaska Energy Authority. Appendix I: Abundance Estimates for Chinook Salmon in the Susitna River Drainage and Coho Salmon Above the Yentna River.

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

**Salmon Escapement Study
Study Plan Section 9.7**

Initial Study Report

Prepared for

Alaska Energy Authority



SUSITNA-WATANA HYDRO
Clean, reliable energy for the next 100 years.

Prepared by

LGL Alaska Research Associates, Inc. &
Alaska Department of Fish and Game, Division of Sport Fish

February 2014 Draft

APPENDIX I: ABUNDANCE ESTIMATES FOR CHINOOK SALMON IN THE SUSITNA RIVER DRAINAGE AND COHO SALMON ABOVE THE YENTNA RIVER

Table I-4. Estimated abundance, number of radio tags deployed, and relative weights (number of spawners per tag) used to estimate abundance within size stratum for Chinook salmon spawning upstream from the lower mainstem tagging site in the Susitna River, 2013.

Size Strata	Estimated Abundance	Estimated SE	Radio Tags Deployed*	Relative Weight spawners/tag
50.0-65.9 cm METF	45,667	7,981	263	175.2
66.0-77.4 cm METF	9,482	711	161	58.3
≥77.5 cm METF	33,315	5,239	134	242.9

* Does not include two radio-tagged fish for which final spawning locations were not determined.

Table I-5. Chinook salmon spawning distributions, based on weighted abundance (Table I-4), in the mainstem Susitna River above the lower river tagging site, 2013.

Location	Estimated		Intervals	
	Abundance	SE	95% lower	95% upper
Susitna River above the mainstem tagging site	89,463	9,523	77,720	114,954
PRM 34-102.4 mainstem Susitna River *	2,432	259	2,112	3,124
Deshka River	18,469	1,573	16,643	22,801
Eastside Susitna River	16,867	1,873	14,541	21,860
Talkeetna River	24,408	3,008	20,619	32,362
PRM 102.4-153.4 mainstem Susitna River *	7,580	888	6,560	10,066
Chulitna River	19,607	2,161	16,907	25,352

* PRM 34 upstream to the Chulitna River Confluence

† Chulitna River Confluence to Devils Canyon

Table I-9. Estimated abundance, number of radio tags deployed, and relative weights (number of spawners per tag) used to estimate abundance within size stratum for coho salmon spawning upstream from the lower mainstem tagging site in the Susitna River, 2013.

Size Strata	Estimated Abundance	Estimated SE	Radio Tags Deployed*	Relative Weight spawners/tag
40.0-47.9 cm METF	5,666	1,129	154	36.8
48.0-53.4 cm METF	27,805	4,595	147	189.1
≥53.5 cm METF	96,556	23,860	109	885.8

* Does not include 1 radio-tagged fish for which final spawning location was not determined.

Table I-10. Coho salmon spawning distributions, based on weighted abundance (Table I-9), in the mainstem Susitna River above the lower river tagging site, 2013.

Location	Estimated		Intervals	
	Abundance	SE	95% lower	95% upper
Susitna River above the mainstem tagging site	130,026	24,342	100,411	193,403
PRM 34-102.4 mainstem Susitna River *	31,204	6,604	23,224	48,365
Deshka River	29,215	5,386	22,629	43,231
Eastside Susitna River	11,038	1,837	8,764	15,839
Talkeetna River	13,372	2,277	10,568	19,324
PRM 102.4-153.4 mainstem Susitna River *	8,313	1,566	6,402	12,363
Chulitna River	36,844	6,726	28,684	54,413

* PRM 34 upstream to the Chulitna River Confluence

† Chulitna River Confluence to Devils Canyon