



Region SCN USGS Quad(s) SEWARD B-8
 Fish Distribution Database Number of Waterway 244-30-10010-2158
 Name of Waterway Russian River USGS Name Local Name
 Addition Deletion Correction Backup Information

For Office Use

Nomination # <u>08-096</u>	_____ ADF&G Fisheries Scientist	_____ Date
Revision Year: <u>2006 2009</u>	_____ ADNR OHMP Operations Mgr.	_____ Date
Revision to: Atlas _____ Catalog _____ Both _____	<u>[Signature]</u> FDD Project Biologist	<u>5/8/08</u> Date
Revision Code: <u>F-1</u>	_____ Cartographer	_____ Date

OBSERVATION INFORMATION

Species	Date(s) Observed	Spawning	Rearing	Present	Anadromous
Sockeye salmon	1958, 68 - 82, 1984 - 2003			X	<input checked="" type="checkbox"/>
coho salmon	1958, 70, 76, 79, 80, 84, 96 - 2001, 2003			X	<input checked="" type="checkbox"/>
chum salmon	1958, 77			X	<input checked="" type="checkbox"/>
pink salmon	1958, 76			X	<input checked="" type="checkbox"/>
Chinook salmon	1968, 76, 84, 96, 99, 2000 - 2003			X	<input checked="" type="checkbox"/>

IMPORTANT: Provide all supporting documentation that this water body is important for the spawning, rearing or migration of anadromous fish, including: number of fish and life stages observed; sampling methods, sampling duration and area sampled; copies of field notes; etc. Attach a copy of a map showing location of mouth and observed upper extent of each species, as well as other information such as: specific stream reaches observed as spawning or rearing habitat; locations, types, and heights of any barriers; etc.

Comments:

Inclusion of Russian River (244-30-10010-2158) in AWC supported by historic data
additional data on file through 2007 - Soldotna Comm. Fish Archives.
 Sockeye Salmon - 2004 - 2007
 Chinook Salmon - 2004 - 2007
 ADF&G Fishery Data Series No. 07-02
 documents anadromous fish presence

Name of Observer (please print): J. Johnson
 Signature: [Signature] Date: 6/15/2007
 Agency: ADF&G
 Address: 333 Raspberry Road
Anchorage, Ak 99518

This certifies that in my best professional judgment and belief the above information is evidence that this waterbody should be included in or deleted from the Fish Distribution Database.

Signature of Area Biologist: [Signature] Date: 4/30/08 Revision 02/05
 Name of Area Biologist (please print): Dave Westerman

Location Code/
Stream Name/ Kenai Riv

Year	Date	Chinook	Sockeye	Coho	Chum	Pink	Comments	Data Source
244-30-10010-2158								
Russian River (Upper) Seward B-8							Max. count 2,100 chinook (1958); 62,000 sock. (1968); 18 coho (1956); 25 chum (1960); 100 pink (1958)	ADF&G, SF
1968			53000				Includes weir counts & esc. below falls escapement below falls	ADF&G, SF
1969			30020				Includes weir counts & esc. below falls	ADF&G, SF
1970			28420				Includes weir counts & esc. below falls	ADF&G, SF
1970	9/01		33000	87	77		Weir count, sock. Other est. by survey	
1970			227				Peak survey count	
1971			64430				Includes weir counts & esc. below falls escapement below falls	ADF&G, SF
1971							Escapement count (weir)	
1971							Peak survey count	
1972							Includes weir counts & esc. below falls	ADF&G, SF
1972							Escapement count (weir)	
1972							Peak survey count	
1973							Includes weir counts & esc. below falls	ADF&G, SF
1973							Escapement count (weir)	
1973							Peak survey count	
1974							Includes weir counts & esc. below falls	ADF&G, SF
1974							Escapement count (weir)	
1974							Peak survey count	
1975			32660				Includes weir counts & esc. below falls	ADF&G, SF
1975			39000				Escapement count (weir)	
1975			866				Peak survey count	
1976			35420				Includes weir counts & esc. below falls	ADF&G, SF
1976			4813				Peak survey count	
1976	8/18	88	40000	7		2	Weir count, sock. Other species estimates from surveys	
1977			38500				Includes weir counts & esc. below falls	ADF&G, SF
1977			38982				Peak survey count	
1977			56000				Escapement count (weir)	
1978			52560				Includes weir counts & esc. below falls	ADF&G, SF
1978			87000				Escapement count (weir)	
1978			26885				Peak survey count	
1979			91840				Includes weir counts & esc. below falls	ADF&G, SF
1979			112000	1098			Escapement count, sockeye (weir); Sport fish harvest, coho	
1980			87200				Includes weir counts & esc. below falls	ADF&G, SF
1980			116000	1025			Weir count, sock. sport fish harvest, coho	
1981			48690				Includes weir counts & esc. below falls	
1982			75630					
1984			28901				Early run only, weir 6/7-7/16; includes wier ct. & peak esc.count below falls	ADF&G, SF
1984		390	95660	4000				
1985			145620				Late run only, includes counts above and below weir for years 1985 through 1989, ADF&G, SF.	
1986			55652					
1987			130462					
1988			72839					
1989			166798					
1990			83376					ADF&G, SF, Nelson
1991			131891				Weir count, includes 729 as brood stock by CIAA; 1st run =32389; 2nd run=78175; downstream esc., 2nd run = 22267	ADF&G, SF
1992			105575				first run esc. = 37117 second run esc. = 63478 downstream esc., 2nd run = 4980	ADF&G, SF
1993			151374				first run esc. = 39857 second run esc. = 99259 downstream esc., 2nd run = 12258	ADF&G, SF

adequate
documentation
enclose

Location Code/
Stream Name/ Kenai Riv

Year	Date	Chinook	Sockeye	Coho	Chum	Pink	Comments	Data Source
1994			182515				first run esc. =44872 second run esc. =122,277 downstream esc., 2nd run = 15,366	ADF&G, SF
1995			103064				first run esc. =28603 second run esc. =61982 downstream esc., 2nd run = 12479	ADF&G, SF
1996		47	87596	556			first run esc. = 52905 second run esc. = 34691 downstream esc., 2nd run = 31601	ADF&G, SF additional 75 Chinook below weir
1997		0	113522	4105			first run esc. = 36,280 second run esc. = 65,905 downstream esc., 2nd run = 11,337	ADF&G, SF below weir
1998		0	167162	4017			first run esc. = 34,143 second run esc. = 113,480 downstream esc., 2nd run = 19,539	ADF&G, SF below weir
1999		171	195989	2964			first run esc. = 36,607 second run esc. = 139,863 downstream esc., 2nd run = 19,519	ADF&G, SF below weir
2000		40	103246	4819			first run esc. = 32,736 second run esc. = 56,580 downstream esc., 2nd run = 13,930	ADF&G, SF below weir
2001		68	170294	9888			first run esc. = 78,255 second run esc. = 74,964 downstream esc., 2nd run = 17,075	ADF&G, SF below weir
2002			68973				first run esc. = second run esc. = 62,115 below weir., 2nd run = 6858	ADF&G, SF
2003	06/30 09/01 08/22	726	23650 184943	545			first run above weir; 2nd run esc. = 157,469 below weir; 2nd run = 27,474 sock., 88 chinook	ADF&G, SF-Berkhahn

Fishery Data Series No. 07-82

Upper Cook Inlet Salmon Escapement Studies, 2006

by

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and

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Alaska Department of Fish and Game

Divisions of Commercial Fish and Sport Fisheries



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ABSTRACT

Sockeye salmon *Oncorhynchus nerka* escapements into 4 river systems of Upper Cook Inlet, Alaska, were estimated using side-looking (formerly referred to as side-scanning) sonar equipment. Estimated sockeye salmon escapements were 1,499,692 into the Kenai River, 368,092 into the Kasilof River, 92,533 into the Crescent River, and 92,896 into the Yentna River. Species composition of fish wheel catches was used to apportion sonar counts in the Crescent and Yentna rivers during the entire sockeye salmon run and for Kenai and Kasilof rivers late in the sockeye salmon run. Incomplete indices of escapements of other salmonid species were also obtained by sonar for pink *O. gorbuscha* and coho salmon *O. kitsutch* in the Kenai and Kasilof rivers; for pink and chum salmon *O. keta* and Dolly Varden *Salvelinus malama* in the Crescent River; and pink, chum, and coho salmon in the Yentna River. The primary age classes for sockeye salmon in the Kenai River consisted of -1.2 (9.9%), -1.3 (38.7%), and -2.3 (44.0%); for the Kasilof River -1.2 (35.3%), -1.3 (30.5%) and -2.2 (27.4%); for the Crescent River age-1.3 (42.6%), -2.3 (36.2%), and -1.2 (14.3%); and for the Yentna River -1.2 (44.0%) -1.3 (39.3%), and -2.3 (5.8%). Sockeye salmon length and sex ratio data were within normal historical bounds in each river. The majority of fish counts were recorded within the onshore half of the ensonified range. Hourly peak salmon counts were typically recorded during the afternoon and evening hours along both banks in the Kenai River. Peak hourly counts along the north bank of the Kasilof River generally began in the morning hours and did not substantially decline until after midnight, when counts dropped sharply from the daytime and evening highs. Peak counts along the Kasilof south bank were highest in mid morning and lowest for several hours after midnight. Peak hourly counts along both banks of the Crescent River occurred in mid and late morning through the evening and reflected post meridiem high tides. Peak hourly counts along the north bank of the Yentna River occurred during the evening hours, whereas the south bank counts were highest from mid morning through the afternoon and into the evening, often declining substantially late in the evening. High water events were not a problem on any of the rivers except late in the season on the Yentna River. Two independent studies to estimate escapement were conducted on the Kenai and Yentna rivers in 2006. A DIDSON sonar counter was placed on both banks of the Kenai and Yentna rivers and the north bank of the Kasilof River to collect escapement data independent of the Bendix counter. A mark-recapture study was conducted to establish a third estimate of sockeye salmon strength in both the Kenai and Susitna (including Yentna) rivers. Due to the mark-recapture studies, fish wheels were operated for atypically long periods every day, which may have impacted run timing on the Yentna River but not on the Kenai River. Results of these studies will be published in another report.

Key words: Upper Cook Inlet, sockeye salmon, Kenai River, Kasilof River, Crescent River, Yentna River, Susitna River, age, sex, length, sonar, escapement, fish wheel, substrate less, Bendix, DIDSON.

INTRODUCTION

The primary objectives of Upper Cook Inlet (UCI) salmon escapement projects in 2006 were to estimate: (1) the daily and cumulative escapement of sockeye *Oncorhynchus nerka* salmon into the Kenai, Kasilof, Crescent, and Yentna rivers and (2) the age, length, and sex composition of those escapements. Meeting these objectives aids fisheries biologists in making day-to-day fisheries management decisions for Upper Cook Inlet to achieve escapement goals.

The Alaska Board of Fisheries has set optimal escapement goals (OEG), (considers both biological and allocative issues) for sockeye salmon in the Kenai and Kasilof rivers. The OEG for late-run sockeye salmon into the Kenai River is between 500,000 and 1,000,000 sockeye salmon and is 150,000 to 300,000 sockeye salmon for the Kasilof River. A sustainable escapement goal (SEG), (an escapement index that provides for sustained yields over a 5–10 year period), was set for the Yentna River at 90,000 to 160,000 sockeye salmon. The Crescent River biological escapement goal (escapement that provides for greatest potential for maximum sustained yield - BEG) is 30,000 to 70,000 sockeye salmon.

Prior to 1968, sockeye salmon escapement estimates in UCI, Alaska (Figure 1) were based on surveys of clear water spawning areas and provided no information about the distribution or