



COOK INLET STREAM AND LAKE SURVEYS

1955

U.S. FISH AND WILDLIFE SERVICE



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1042

USFWS COOK INLET STREAM AND LAKE
SURVEYS 1927-1955

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COOK INLET LAKE AND STREAM SURVEYS, 1955

Special surveys have been made in this area since 1952 because it is difficult to obtain a measure of total escapement. The drainage is extensive, covering an estimated 45,000 square miles. While a number of roads provide access to a portion of the spawning grounds, many areas are accessible only by air or extensive foot travel. At present only two weirs are employed to count fish enroute to the spawning grounds. These are on Fish Creek and Bishop Creek. The three major systems-- the Kenai, Kasilof and Susitna-- are all large and extremely turbid. Counting fish in these streams by either weirs or observation towers is impractical. Automatic fish counting devices may eventually solve our problems in the large turbid rivers, but workable units have yet to be devised which satisfy our needs.

These problems restrict counts of escapement to the clear water tributaries. The question is whether these areas receive a uniform part of the run. This has been studied in the Fish Creek system where a weir is operated, but in the other systems there is no possible check. The data are presented here with the assurance that they have been carefully collected but with no certainty that they are accurate indexes of relative escapement. In no respect do they represent total escapement.

Our surveys have concentrated on red salmon because of the importance of this species. Records of the other species have been obtained, but spawning areas and survey times have been selected to cover especially red spawning. During these surveys we have employed a standard method of assessing escapement which has been developed essentially as follows:

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1. Exploratory surveys have been made to determine the location and timing of spawning.

2. Count areas have been established. These are sections of a spawning area in which the fish are counted visually. The length of these count areas varies from a few hundred feet to several miles. It may be the actual extent of a spawning area or a limited distance since complete coverage is not always physically possible. In all instances, the count area is clearly marked with signs, paint blobs or geographic features. A record is available of all marker locations.

3. With few exceptions all stream counts have been made on foot and lake counts by boat. The remainder were made from the air.

4. Each season's survey has entailed one (usually 2) or more visits to a spawning area to determine peak spawning levels.

5. In order to assess the escapement, peak counts in the index areas have been compared with respective peak counts in previous years. A comparative rating then has been made for each major system on the basis of similar counts in earlier years.

To test the accuracy of our counting technique, we have applied the method to the Fish Creek system^{1/} where a weir has been in operation for a number of years. Total red salmon escapements were therefore known, and it remained to be determined if our survey counts were a constant fraction of the weir count (i.e., total escapement).

^{1/} Fish Creek is a small stream, tightly weired and generally subject to only minor flooding during the upstream migration period; the chances of error in the weir count are considered minimal.

There are three principal spawning areas in the Fish Creek system:

(1) Fish Creek below the outlet of Big Lake, (2) Meadow Creek above Big Lake, and (3) the Blodgett Lake group at the headwaters of Meadow Creek. An index area was established in each of these three spawning areas. Peak counts in the index areas were totalled and compared with weir counts in each year.

These are given below for the four-year period 1952-1955.

	<u>1952</u>	<u>1953</u>	<u>1954</u>	<u>1955</u>
Weir count (reds)	92,724	54,343	23,287	37,141
Total of peak survey counts in index areas (1) (2) & (3)	4,144	2,028	1,257	1,750
Percent of weir count	4.5	3.7	5.4	4.7

It may be seen that our surveys account for only a minor portion of the escapement (average about 4.5%), but the survey counts closely parallel the escapement as recorded by the weir. If the weir counts had been unavailable, our surveys would rank the escapement in the same order.

As explained earlier, we have no weirs or counting devices on the principal large river systems. Here our index counts in the clear water tributary areas--counts similar to those applied in the Fish Creek experiment--are the basis for our estimates of relative escapements.

Summary of 1955 Red Salmon Escapements

The 1955 Cook Inlet red salmon escapement was the lowest since the start of our surveys in 1952. This might well have been the expected appraisal as the pack was the lowest on record since 1931. The disappointing run was due to failures in two major systems--the Kenai and Susitna Rivers.

Listed below are individual assessments for the past season and comparative ratings of relative escapements in the various systems for the four year period 1952-1955. These estimates have been based on a comparison of peak counts from index areas. The indexes given are the geometric means of the observed counts expressed in terms of a base year (1.00). The year 1954 was chosen as the base because it was the first year in which a maximum number of index counts were obtained. The data used in the analysis are presented in Table 1. A graphic summary of relative abundance is given in Figure 1.

Kenai River -- approximately 41% of the 1954 counts. Poorest seeding since start of surveys in 1952. Only early Upper Upper Russian had adequate seeding.

	<u>1952</u>	<u>1953</u>	<u>1954</u>	<u>1955</u>
Index	.619	.866	1.000	.413

Susitna River -- very poor showing in most tributary systems. Average about 32% of 1954 counts.

	<u>1952</u>	<u>1953</u>	<u>1954</u>	<u>1955</u>
Index	1.122	.999	1.000	.325

Kasilof River -- one of the few bright spots in the escapement picture. A good seeding was obtained in both Moose and Bear Creeks. Estimated overall escapement about 92% of the excellent showing in 1954.

	<u>1952</u>	<u>1953</u>	<u>1954</u>	<u>1955</u>
Index	.396	.585	1.000	.916

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Fish Creek -- approximately 39% increase over low of 1954. Fair seeding indicated.

	<u>1952</u>	<u>1953</u>	<u>1954</u>	<u>1955</u>
Index	3.297	1.613	1.000	1.392

West Side -- almost complete failure in Creech Lake system. Other areas fair. Overall seeding about half of 1954.

	<u>1952</u>	<u>1953</u>	<u>1954</u>	<u>1955</u>
Index	2.356	1.633	1.000	.513

English Bay -- average increase in lower system over 1954, about 60%. Air surveys of upper system indicate 20% decline.

	<u>1952</u>	<u>1953</u>	<u>1954</u>	<u>1955</u>
Index (lower system)	2.354	.908	1.000	1.606

Fig. 1 RELATIVE ABUNDANCE — RED SPAWNERS, COOK INLET

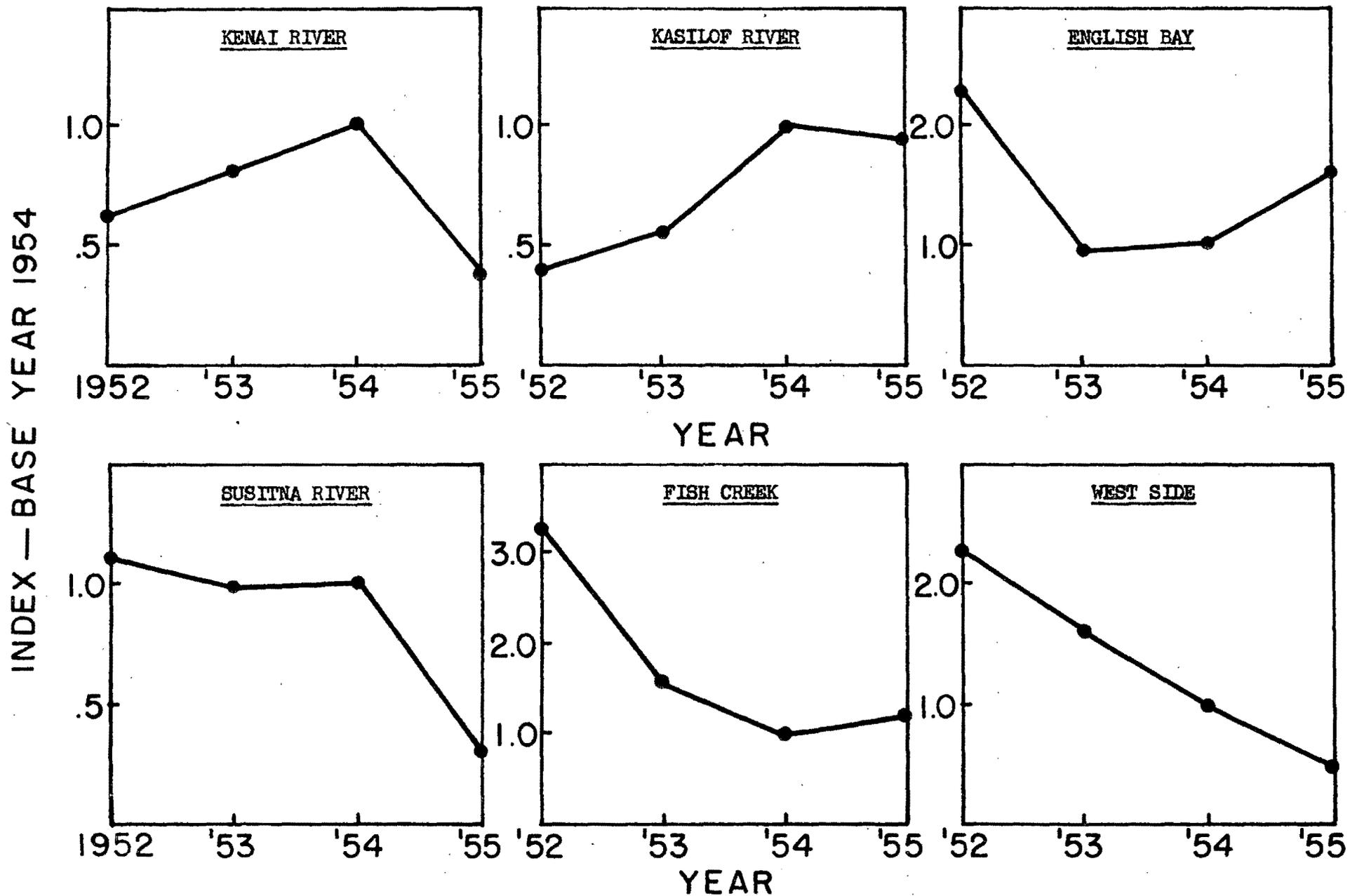


Table 1.—Peak counts of live red salmon spawners

Bracketed figures indicate number of visits

KENAI RIVER

Year	Lower Russian R.	Upper Russian R.	Quartz Cr.	Mud Lake	Moose Cr.	Ptarmigan Cr.	Hidden Lake
1952	3544(4) ^{1/}		833(6)	100(4)	1057(3)	1054(4)	600(4)
1953	5733(5)		531(3)	485(2)	270(1)		2328(2)
1954	6485(3)	2322(4)	1230(2)	151(3)	1059(2)	1382(1)	1500(3)
1955	2261(4)	774(2)	958(2)	150(3)	282(3)	134(2)	543(2)

^{1/} Count adjusted to include spawners in lower 1/2 mile.

SUSITNA RIVER

Year	Tal. Cr.	#2 Judd Spring	S. Judd Spring	Judd Lake	Upper Tal. Cr.	Hewitt Lake	Huckle. Cr.	Shell Lk.	Lake Stenan	Prairie Cr.	Red Shirt Lake
1952	2544(4)			381(3)	582(3)	1000(1)			338(2)	971(3)	500(5)
1953	2285(3)		110(1)	2007(3)	974(3)	978(2)	386(2)		365(2)	894(2)	174(3)
1954	1936(3)	224(3)	503(3)	2142(3)	965(3)	1713	509(2)	1777(2)	161(2)	269(2)	139(2)
1955	668(3)	105(4)	400(4)	208(4)	79(3)	400(3) ^{1/}	217(3)	659(1)	39(2)	95(2)	187(1)

^{1/} Estimate - overflow from Yentna River clouded lake water.

KASILOF RIVER

Year	Bear Cr.	Moose Cr.	Seepage Cr.	Cliff House Cr.	Nikolai Cr.
1952	4204(4)	1960(4)	148(3)		308(4) ^{2/}
1953	5738(4) ^{1/}	2486(3)		250(1)	
1954	12,583(3)	4185(2)	369(1)	338(1)	788(2)
1955	8611(4)	4083(2)	371(2)	332(1)	769(3)

^{1/} Count projected to include upper 1 1/2 miles.

^{2/} Count reduced to conform with present survey area.

Table 1.—(continued)

WEST SIDE

Year	N.W. Spring Packer's Lk.	Packer's Lake	Grecian Lk. Cr. #4	Blue Lake	Lone King Cr.
1952	225(1)		100(1)	1300(2)	200(2)
1953	101(2)		210(2)	475(3)	134(2)
1954	171(2)	202(2)	15(2)	740(1)	100(1) ^{1/}
1955	204(2)	133(2)	0(2)	1000(1)	50(1) ^{1/}

^{1/} Air survey estimates.

ENGLISH BAY

Year	Stream #2	Lake #1	Stream #3	Lake #2
1952	3110(2)			
1953	1200(3)			
1954	1321(2)	291(2)	448(2)	618(1)
1955	1496(3)	1081(2)	610(2)	770(2)

FISH CREEK

See counts on Page 3.

Pink Salmon Escapement

As Upper Inlet pink runs are historically negligible on odd years, this year's report is confined to Lower Inlet and Outer District observations. These are included in the latter portion of this report through courtesy of the Anchorage Fish and Wildlife Service management office, which was responsible for the surveys. Pink escapements in this area ranged from good to excellent.

Field Crews

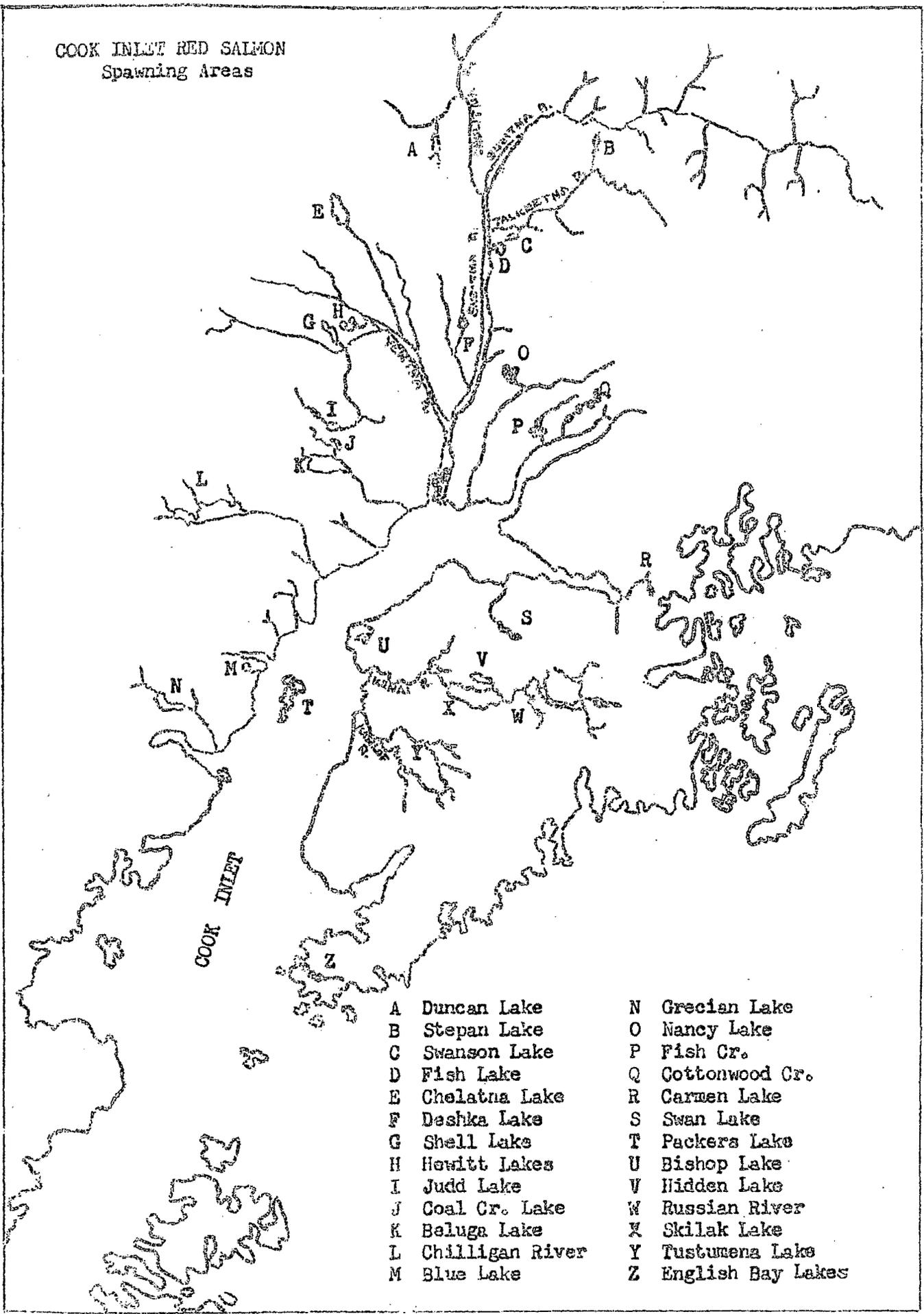
Survey party leaders during the past season and their Cook Inlet field experience are listed below:

K. L. Liscom	- 4	seasons
T. O. Duncan	- 3	"
R. V. DeJardine	- 3	"
J. L. Hout	- 4	"
R. J. Hansen	- 3	"

Submitted February 16, 1956

C. H. Elling
Project Leader

COOK INLET RED SALMON
Spawning Areas



WEST SIDE COOK INLET

Stream and Lake Surveys, 1955

Stream or Lake	Date	Distance Surveyed	Counts		Others	Remarks
			Reds Alive	Dead		
Chilligan River (Chackachanna Lk.)	8/29	2 Mi.	590	2		No salmon observed in portion of stream covered in 1954. Reds found in side channel of river.
Three Mile Lk.	8/1	Entire	0	0		Stream clearance crew report.
Three Mile Cr.	8/1	2½ Mi.	25	0		Stream clearance crew. Reds moving up to lake. Very small run reported by local residents.
Packers Lake (Kalgin Is.)	8/7	Entire	60	1		Early. Brackish water, observation difficult.
	9/7	Entire	133	11		Water very brackish, limiting observation. Estimate 4,000 reds season total in lake and tributaries.
N.W. Spring #1	8/7	100 Yds*	204	174		30 reds at mouth. Spawning past peak on this group. 35 live and 36 dead reds in adjacent springs.
	9/9	100 Yds*	109	209		Spawning nearly complete.
North Stream #2	8/7	1/8 Mi.	25	11		Water very brackish.
	9/7	1/8 Mi.	5	38		
N.E. Spring #3	8/7	1/4 Mi.	42	50		Water very brackish.
	9/7	1/4 Mi.	15	21		Few reds remaining.
Packers Lk. Outlet	8/8	Entire	16	1		Fresh reds moving upstream to lake.
	8/30	-			6,000 coho	Estimate by stream guard of numbers entering stream in past two weeks.

* Established count area.

WEST SIDE COOK INLET

Stream and Lake Surveys, 1955

Stream or Lake	Date	Distance Surveyed	Reds		Counts Others	Remarks
			Alive	Dead		
Blue Lake	9/4	Entire	1,000	1		Estimate of visible fish. Deep spawning activity. Total for season estimate 2,000 reds.
Grecian Lake	9/4	Entire	1	1		Very poor showing. No evi- dence of spawning in areas where encountered in previous years' surveys.
	9/13	Entire	1	0		Glacial water but fair condi- tions for observation along shore.
Grecian Stream #4	9/3	Mouth	0	0		Clear water. No reds in stream or off mouth.
	9/13	Mouth	0	0		No sign of dead.
Chenik Cr.	8/5	Entire	0	0		About 50 reds off mouth in tidal area.
Chenik Lake	8/5	Entire	175	0		Medium sized reds all fresh fish. No digging yet.

WEST SIDE COOK INLET

Air Surveys

Stream or Lake	Date	Distance Surveyed	Reds		Counts Others	Remarks
			Alive	Dead		
Coal Creek	8/25	8 Mi.	0	0		From Beluga Lk. upstream. Murky water. No activity observed in shallow areas where visibility marginal.
	8/30	6 Mi.	0	0		Upper area of stream. Clear, excellent spawning facilities.
Coal Creek West Fork	8/30	3 Mi.	800	0		All reds seen in $\frac{1}{4}$ mi. area at juncture with main branch of stream.
Coal Creek Lk.	8/25	Entire	50	0		Only S.E. corner of lake utilized.
Lone King Cr. (Beluga Lk.)	8/30	1 Mi.	50	0		All fish near mouth at Beluga Lk. Water level high.
Katnu Lakes	9/4	Entire	0	0		
Grecian Streams #1 and #2	9/15	2 Mi.	0	0		Examination of clear areas in upper portion of streams showed no evidence of spawners.

SUSITNA RIVER DRAINAGE - 195
Live Counts Only - Reds

Stream or Lake	Survey in Mi.	July		August						September					
		25-29	30-3	4-8	9-13	14-18	19-23	24-28	29-2	3-7	8-12	13-17	18-22	23-27	28-2
Talachulitna Cr.	3½			102			313			668			506		
Upper Talachulitna Cr.	1½*			0			32			79					
North Judd Springs	3/8			0		0					0		0		
#2 Judd Springs	1/8					0					66		105		
South Judd Springs	½			0		0					25		400		
Judd Lake	½			0		0					142		208		
Talachulitna Lake	1/8			0			6			27			12		
Spring Cr. (Lake Chelatna)	¼				11			2		18					
Howitt Lake	Entire				10				0**			7**			
Howitt Cr.	2½				0				3			10			
Whisky Lake	Entire					0			0			7			
Huckleberry Cr.	1					0			217			160			
Shell Lake	Entire										69				
Deshka Lake	½						No Survey								
Swanson Lake	½					12				5					
Lake Stepan - Areas #1 & #2	¾					0				39					
Prairie Cr.	2				95					68					
Red Shirt Lake	1/8										187				
Ro Le Jo Cr.	1										0				

* - Same survey as in previous years. Mileage corrected.

** - Water turbid, possibly backwater from Yentna River.

SUSITNA RIVER DRAINAGE

Stream and Lake Surveys, 1955

Stream or Lake	Date	Distance Surveyed	Counts		Others	Remarks
			Reds Alive	Reds Dead		
Lk. Chelatna	8/9	Entire	4	0		Lake glacial. Poor conditions for observation.
	8/26	Entire	1	2		Water level highest in recent years. Lodge flooded out. Murky water.
	9/4	Entire	0	2		Water level normal but glacial. Estimate smallest run in past 4 years.
Lake Creek	8/8	2 Mi.	30	0		All reds seen in spring area $\frac{1}{2}$ Mi. below lake.
	8/27	$\frac{1}{2}$ Mi.	0	0		Water level very high. Murky water.
	9/4	$\frac{1}{2}$ Mi.	0	0		High and glacial.
Cripple Cr. (Lk. Chelatna)	8/9	Brief	0	0		High and turbid.
	8/26	Brief	0	0		High and turbid.
Spring Cr. (Lk. Chelatna)	8/9	$\frac{1}{4}$ Mi.*	11	0		All fish below Beaver Dam at $\frac{1}{4}$ Mi. mark. Little spawn. area above dam.
	8/26	$\frac{1}{4}$ Mi.*	2	0		Water high and turbid.
	9/4	$\frac{1}{4}$ Mi.*	18	0		Spawning near completion.
Coffee Cr.	8/9	Brief	0	0		Very glacial.
	8/26	Brief	0	0		Continued glacial & very high from recent heavy rains.
Upper Talachulitna River	8/5	$3\frac{1}{2}$ Mi.*	243	0	1 chum 13 king	Water low & clear.
	8/17	$3\frac{1}{2}$ Mi.*	286	0	27 chum 1 king	Good visibility.
	9/9	$3\frac{1}{2}$ Mi.*	0	0	22 coho 1 dead chum	River high visibility limited.

SUSITNA RIVER DRAINAGE

Stream and Lake Surveys, 1955

Stream or Lake	Date	Distance Surveyed	Reds		Counts		Remarks
			Alive	Dead	Others		
Grayling Cr.	8/5	3/4 Mi.*	0	0	14	chum	Good visibility.
	8/17	3/4 Mi.*	0	0	61	chum	Spawning underway.
	9/9	3/4 Mi.*	0	0			Stream high & clear. All dead washed out.
Judd Lake	8/6	1/2 Mi.*	0	0			No beach spawning. 805 reds of mouths of tributary streams.
	8/18	1/2 Mi.*	0	0			No beach spawning noted. 1,505 reds schooled off stream mouth.
	9/8	1/2 Mi.*	142	0			Beach spawning underway. 1,047 live & 5 dead reds in entire lake including schools off stream mouths.
	9/19	1/2 Mi.*	208	1			Poor visibility-lake level high. Estimate not more than 400 reds spawning in lake at present.
North Judd Springs	8/6	3/8 Mi.*	0	0			200 reds off mouth.
	8/18	3/8 Mi.*	0	0			300 reds off mouth.
	9/8	3/8 Mi.*	0	0			20 reds off mouth. Considerable bear sign, but no kills observed.
	9/19	1/8 Mi.*	0	0			No evidence of reds in this stream all season.
#2 Judd Springs	8/6	Brief	-	-			No fish off mouth.
	8/18	1/8 Mi.*	0	0			150 reds off mouth.
	9/8	1/8 Mi.*	66	0			250 reds off mouth. All fish in good condition. Some bear activity noted.
	9/19	1/8 Mi.*	105	0			30 reds off mouth.

* Established count area.

SUSITNA RIVER DRAINAGE

Stream and Lake Surveys, 1955

Stream or Lake	Date	Distance Surveyed	Counts		Others	Remarks
			Reds Alive	Reds Dead		
South Judd Springs	8/6	½ Mi.*	0	0		3 reds off mouth.
	8/18	½ Mi.*	0	0		300 reds off mouth. Early for stream spawning.
	9/8	½ Mi.*	25	0		400 reds off mouth. All bright fish.
	9/19	½ Mi.*	400	0		250 reds off mouth. Spawning about at peak.
Talachulitna Creek	8/7	3½ Mi.*	102	0	2 chum	No reds beyond 3 miles upstream.
	8/19	3½ Mi.*	313	1		Water level very low. Most fish in first mile.
	9/7	3½ Mi.*	668	2		All fish spawning in 1/8 Mi. area above Judd Lake and ¼ Mi. section below Talachulitna Lake.
Talachulitna Lake	8/7	W. Shore	0	0		Early
	8/19	100 Yds.	8	0		Southeast shore.
	9/7	100 Yds.	27	0		Total of 31 reds observed in lake.
	9/19	S.E. shore	12	0		No other spawning activity.
Upper Talachulitna Cr.	8/7	1½ Mi.*	0	0		Early. No fish in stream.
	8/19	1½ Mi.*	32	0		Nearly all fish in lower ½ Mi. of stream.
	9/7	1½ Mi.*	79	2		Peak of spawning.

* Established count area.

SUSITNA RIVER DRAINAGE

Stream and Lake Surveys, 1955

Stream or Lake	Date	Distance Surveyed	Counts		Others	Remarks
			Reds Alive	Reds Dead		
Hewitt Lake	8/13	Entire*	10	0		Fish seen near S.W. corner of lake.
	8/31	Entire*	0	0		Lake level 18" high & very milky. Observation very limited.
	9/16	Entire*	7	1		Poor visibility. Water choppy & milky, probably due to back-water from Yentna River.
Hewitt Creek	8/13	2 $\frac{1}{4}$ Mi.*	0	0	11 kings	Early for reds.
	8/31	2 $\frac{1}{4}$ Mi.*	3	0		
	9/16	2 $\frac{1}{4}$ Mi.*	10	0	15 coho	
Whisky Lake	8/14	Entire	0	0		Early
	9/1	Entire	0	0		
	9/16	Entire	7	1		Water choppy, limiting observation.
Christmas Tree Creek (Whisky Lake)	8/14	100 Yds.	0	0		
	9/1	100 Yds.	3	0		
	9/16	100 Yds.	0	0		
Huckleberry Cr. (Whisky Lake)	8/14	1 Mi.*	0	0		Four beaver dams blown out by stream clearance crew.
	9/1	1 Mi.*	217	0		Spawning just commencing in upper springs.
	9/16	1 Mi.*	160	0		Fish paired and in good condition. All in springs at head of stream.
Shell Lake	9/11	Entire	659	5		Spawning on west shore somewhat in advance of east shore activity.

* Established count area.

SUSITNA RIVER DRAINAGE

Stream and Lake Surveys, 1955

Stream or Lake	Date	Distance Surveyed	Counts		Remarks
			Reds Alive	Reds Dead	
Shell Creek	9/11	150 Yds.	1054	0	Area immediately below lake. Predominantly small reds moving upstream to lake.
Long Lake	9/13	Entire	0	0	Exploratory survey. Poor spawning facilities. Small outlet to Shell Cr. Coho fingerling observed.
Swanson Lake	8/15	1/2 Mi.*	12	0	4 reds observed entering lake.
	9/3	1/2 Mi.*	5	0	No live or dead noted outside of count area. Estimate season total not in excess of 100 reds.
Fish Lake	9/3	Entire	2	0	No reds in outlet area.
Lake Stepan	8/14	3/4 Mi.*	0	0	No reds seen in entire lake.
	9/4	3/4 Mi.*	39	0	Total count in areas #1 & #2. No reds noted elsewhere in lake.
Prairie Cr.	8/13	2 Mi.*	95	0	From outlet Lake Stepan to East Fork Prairie Cr. All fish in Upper Prairie Cr. Nothing in Murder Lake.
	9/4	2 Mi.*	68	4	Only 2 reds observed in Murder Lake.
Inlet Stream Lake Stepan	8/14	300 Yds.	0	0	
	9/5	100 Yds.	0	0	
Duncan Lake	8/16	Entire	0	0	Many fry observed in lake.
	9/8	Entire	9	0	Murky water.

* Established count area.

SUSITNA RIVER DRAINAGE

Stream and Lake Surveys, 1955

Stream or Lake	Date	Distance Surveyed	Counts		Remarks
			Reds Alive	Reds Dead	
T. Creek	8/16	1/2 Mi.*	0	0	Many fry & fingerling noted. Removed beaver dam 1/4 mi. up.
	9/8	1/2 Mi.*	19	2	Dead are bear kill.
Slim Creek (Duncan Lk.)	8/16	200 Yds.	0	0	Good school of fry at head of creek.
	9/8	200 Yds.	72	5	Dead are bear kill.
Red Shirt Lake	9/9	200 Yds.*	187	8	Peak of spawning. All fish on mid-east shore. No fish observed elsewhere in lake.
Ro Le Jo Cr.	9/10	1 Mi.	0	0	Water level high & discolored. Observation conditions poor.
Ro Le Jo Lake	9/20	Entire	40	0	Brackish coloration. Limited beach spawning all on east shore.
Sucker Lake	8/18	Entire	Present		Stream clearance crew. Mature salmon observed surfacing in lake. No activity in outlet stream.

SUSITNA RIVER DRAINAGE

Air Surveys - 1955

Stream or Lake	Date	Distance Surveyed	Counts		Others	Remarks
			Reds Alive	Dead		
Lake Creek Lake Chelatna	8/8	10 Mi.	0	0		Stream clear below mouth of Sunflower Cr. and only slightly turbid above.
Long Lake (Trib. Shell Cr.)	8/25	Entire	0	0		Exploratory. Small outlet to Shell Creek.
Shell Lake	8/25	Entire	0	0		Early.
Talachulitna River	8/16	Entire	50	0		Only fish observed-20 miles below Judd Lake.
	8/25	10 Mi.	0	0	Few kings	Lower 20 Mi. of stream high & muddy.
Trinity Lake	9/10	Entire	0	0		
	9/12	Entire	0	0		
Upper Tala- chulitna Cr.	8/25	3 Mi.	0	0		High water, but clear.
Red Shirt Lake	8/25	Brief	12	0		In count area adjacent to lodge.
Spink Lake	8/17	Entire	0	0		Water deep green coloration.
Hour Glass Lake	8/17	Entire	0	0		
	9/3	Entire	0	0		
Chunilna Cr.	9/3	5 Mi.	0	0		

UPPER COOK LAKE

Stream and Lake Surveys, 1955

Stream or Lake	Date	Distance Surveyed	Counts		Others	Remarks
			Reds Alive	Dead		
Lake Nancy	8/9	1/8 Mi.*	4	0		Early. Initial entry to lake reported on August 6.
	9/1	1/8 Mi.*	36	0		Count area at N.W. corner of lake.
	9/1	Entire	129	0		Extremely high water. Nearly all reds in N.W. arm. Very poor showing. Estimate 600 reds season total.
Nancy Creek	8/11	200 Yds.	8	0		No reds off mouth.
	9/2	200 Yds.	0	0		High water. Resident reports almost total failure in run this season.
Lake Creek (Nancy Lk. outlet)	8/9	Brief	0	0		1 hour count at lake outlet. Large beaver dam reported 5 miles downstream.
	8/11	Brief	0	0		45 min. count.
	9/1	Brief	0	0		35 min. count.
182.5 Creek (Nancy Lk.)	8/9	1/8 Mi.	0	0		No reds off mouth.
	8/11	1/8 Mi.	0	0		
	9/1	1/4 Mi.	0	0		No reds off mouth in sharp contrast to large school seen last year.
Big Lake (Fish Creek) (Knik Arm)	8/21	Entire	392	2		Most reds spawning in outlet area adjacent to Big Lake Lodge. Another group along N.W. shore.

* Established count area.

UPPER COOK INLET

Stream and Lake Surveys, 1955

Stream or Lake	Date	Distance Surveyed	Counts		Others	Remarks
			Reds Alive	Dead		
Fish Creek	8/21	1/8 Mi.*	73	0		Lagoon springs below old bridge road to Payton's.
	9/12	1/8 Mi.*	101	19		
	8/21	1/2 Mi.	4720	2	30 coho	From Big Lake outlet to old bridge road. No jacks noted.
	9/12	1/2 Mi.	3698	683	6 coho	200 reds in $\frac{1}{4}$ mi. area below bridge. Few fish downstream from this point.
Meadow Cr.	8/19	$\frac{1}{2}$ Mi.*	1249	129		30 females examined. All totally spawned.
Blodgett Lake #1	8/28	Entire	1508	16		Most spawning on S.E. shore.
Blodgett Lake #2	8/28	Entire	1751	131		Spawning along East end of lake.
Blodgett Lake #3	8/28	Entire	29	0		Little spawning area.
Blodgett Lake #4	8/28	Entire	2078	66		One tagged fish noted.
Connecting Streams, Blodgett Chain	8/29	#1 to #2*	117	17		Counts made downstream starting from Walt Trench's place.
		#2 to #3*	128	21		
		#3 to #4*	155	14		
Lucille Creek	8/25	1/8 Mi.	2	6		Brief survey from Big Lake road downstream. Spawning continues upstream.
Beaver Lakes	8/25 27	Entire	0	0		Tributary system to Meadow Cr. Coho fry found. Beaver dams numerous. Road access to most lakes.

* Established count area.

UPPER COOK INLET

Stream and Lake Surveys, 1955

Stream or Lake	Date	Distance Surveyed	Counts		Remarks
			Reds Alive	Reds Dead	
Horseshoe Lk.	8/26	Entire	0	0	Road access via Beaver Lk. road. Coho fingerling & rainbow present. Several adjoining lakes void of spawners. Trib. to Little Susitna River.
Wasilla Lake	8/22	Entire	52	1	All spawning on N.W. shore.
Cottonwood Cr.	8/22	200 Yds.	0	0	Between Wasilla and Mud Lakes.
Mud Lake	8/22	Entire	13	0	
Cottonwood Lk.	8/22	Entire	493	0	Spawning nearly complete.
	9/11	Entire	36	136	
Cornelius Lk.	8/23	Entire	70	0	
	9/10	Entire	25	42	
Upper Cottonwood Creek	8/23	$\frac{1}{2}$ Mi.	0	0	
	9/10	$\frac{1}{4}$ Mi.	0	0	
Niklasen Lk.	8/23	Entire	202	0	
	9/11	Entire	49	67	
Kings Lake	8/7	$\frac{1}{2}$ Mi.	0	0	Exploratory. Headwaters, West Fork Cottonwood Creek.
	8/23	Entire	0	0	Caretaker at Kings Lk. camp reports no salmon in lake during past 8 years. Rainbow present.

* Established count area.

UPPER COOK INLET

Stream and Lake Surveys, 1955

Stream or Lake	Date	Distance Surveyed	Counts		Remarks
			Reds Alive	Dead	
Anderson Lake	8/7	$\frac{1}{4}$ Mi.	0	0	Connected with Kings Lake by small culvert.
	8/23	Entire	0	0	Resident at outlet reports considerable red run in old days. No run during past 6 years. Beaver dams & practice of taking salmon for dog food said to have decimated run. Coho and rainbow fingerling noted.
Palmer Creek	8/29	$\frac{1}{4}$ Mi.*	0	0	
	9/10	$\frac{1}{4}$ Mi.*	0	0	
	9/21	$\frac{1}{4}$ Mi.*	6	0	
Palmer Creek Slough	8/29	$\frac{1}{8}$ Mi.	0	0	
	9/10	$\frac{1}{8}$ Mi.	0	0	
	9/21	$\frac{1}{8}$ Mi.	0	0	
Carmen Lake (Turnagain Arm)	9/14	Entire	1	1	Water glacial. Little evidence of spawning activity.
Upper Carmen River-N. Fork	9/14	$\frac{1}{2}$ Mi.	0	0	Water blue-glacial, counts possible.
Upper Carmen River-S. Fork	9/14	$1\frac{1}{4}$ Mi.	0	0	Good spawning facilities. Water reasonably clear.

* Established count area.

Fish Creek Weir Count - 1955

<u>Date</u>	<u>Pinks</u>	<u>Cohos</u>	<u>Reds</u>	<u>Red Net Marks</u>
7/8			60	6
7/9			125	9
7/10			263	19
7/11			684	47
7/12			69	4
7/13			5	1
7/14			0	0
7/15			0	0
7/16			78	6
7/17			284	18
7/18			1,920	124
7/19			1,574	124
7/20			1,853	237
7/21	2		598	94
7/22			408	67
7/23			371	49
7/24			359	45
7/25			571	50
7/26			949	99
7/27	1	6	6,198	726
7/28		18	5,701	684
7/29	1	26	5,626	736
7/30	4	31	4,086	505
7/31		20	2,314	334
8/1		11	356	41
8/2		7	747	135
8/3		4	472	79
8/4		8	380	55
8/5		15	181	37
8/6		0	8	3
8/7		20	201	31
8/8		100	700	52

Totals	8	266	37,141	4,417
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1954 Total Fish Creek escapement should be changed to 23,287 from 20,904.

* Courtesy of Cook Inlet Management Office.

UPPER KENAI PENINSULA

Stream and Lake Surveys, 1955

Stream or Lake	Date	Distance Surveyed	Reds		Others	Remarks
			Counts Alive	Dead		
Bishop Creek		Weir	1266	-		Weir count from July 16 to Aug. 12. Count minimal as high tides flooded weir from July 18 - 25. See Bishop Lk. counts.
Bishop Lake	9/18	3/4 Shoreline	4677	49		Spawning near peak. Far more fish than in 1954. Heaviest concentration on S.W. shore.
Swan Lake (Chickaloon R.)	8/5	Entire	853	390		All spawning at upper end of lake. At peak. Estimate 3,000 reds total escapement.
Swan Lk. Inlet	8/7	1/8 Mi.	0	0		
Upper Chickaloon River	8/7	1/8 Mi.	0	0		Area below lake. No migrating fish noted.

* Established count area.

Bishop Creek Weir Count - 1955*

<u>Date</u>	<u>Reds</u>	<u>Silvers</u>	<u>Net Marks</u>
7/16	23	0	0
7/17	26	0	5
7 18-25	Estimate 700 reds escaped upstream.		
7 26	87	0	10
7/27	207	0	40
7/28	185	0	30
7 29	112	0	35
7/30	46	0	10
7/31	4	0	0
8/1	38	0	12
8/2	157	0	20
8/3	92	0	7
8/4	13	0	3
8/5	23	3	5
8/6	65	13	12
8/7	87	25	21
8/8	46	10	7
8/9	33	20	5
8/10	22	5	6
8/11	0	0	0
8/12	0	0	0
<hr/>			
Totals	1,266	76	223

* Courtesy of Cook Inlet Management Office.

KEMAI RIVER DRAINAGE - 195
Live counts only - Reds

Stream or Lake	Survey in Mi.	July			August				September						
		25-29	30-3	4-8	9-13	14-18	19-23	24-28	29-2	3-7	8-12	13-17	18-22	23-27	28-2
Upper Russian Cr.	2				5191										
Lower Russian River	3½				Air 1000	2261	1887	669							
Upper Russian River	½							774		152					
Upper Russian Lake	Entire				430					*					
Quartz Cr.	3						958		73						
Moose Cr.	3			150		282		35							
Mad Lake	½			21		138		150							
Pearmain Cr.	1½						134		32						
Hidden Lake	2							543			451				

* - Stormy weather, no count possible.

KENAI RIVER DRAINAGE

Stream and Lake Surveys, 1955

Stream or Lake	Date	Distance Surveyed	Reds		Counts	Others	Remarks
			Alive	Dead			
Lower Russian	8/7	Entire*	8000	119	15 king		Not resident spawners. Green fish moving to upper watershed. Dead are mostly bear or sport-fishing kills.
	8/9	Entire	1000	-			Air survey. Most fish have moved to Upper Russian.
	8/17	Entire*	2261	59	42 live & 1 dead king 63 coho, 3 dead pinks		200 reds off mouth. Spawning just beginning.
	8/26	Entire*	1887	194	12 live & 6 dead kings		50 reds off mouth. Coho also present.
	9/1	Entire*	669	169	200 coho, 5 live & 3 dead kings		
Upper Russian River	8/29	1/2 Mi.*	774	5	1 dead pink		Spawn. area 2 Mi. below Upper Russian Lk. Est. 2,500 reds in entire stream.
	9/8	1/2 Mi.*	152	50	7 coho		Spawning nearly complete. Considerable bear activity.
Upper Upper Russian Cr.	7/19	2 Mi.*	0	0			50 reds off mouth. Fish late in arrival this yr. <u>Air survey.</u>
	8/11	2 Mi.*	5191	245			300 reds off mouth. Spawning near peak but appears somewhat later than last year.
Upper Russian Lake	8/12	Entire	430	17			Estimate 3000 reds in lake. Many jumps seen. Water somewhat discolored from glacial runoff. All fish in green condition.
	8/29	E. shore	2000	0			Air survey. Most fish concentrated in outlet area. Scattered schools along E. shore. About half the number observed in '54.

* Established count area.

KENAI RIVER DRAINAGE

Stream and Lake Surveys, 1955

Stream or Lake	Date	Distance Surveyed	Reds		Counts Others	Remarks
			Alive	Dead		
Upper Russian Lake (Cont.)	9/8&9	Brief	-	-		Stormy weather prevented survey of lake. cursory examination of outlet area indicates spawning near peak.
	9/17	1/4 Mi.	4	51		Spawning near completion. No count of live fish made.
Upper Russian Stream #1	8/12	Brief	117	1		500 reds off mouth.
Upper Russian Stream #2	8/12	Brief	0	0		
Upper Russian Stream #3	8/12	Brief	150	0		All fish at mouth below base of beaver dam.
Lower Russian Lake	8/17	Entire	1	0		No spawning facilities in lake.
Upper Kenai River	9/2&3	2 1/2 Mi.	0	11	4 dead kings	Water very high & turbid from recent heavy rains. Spot checks of river bars from Henton's Ferry to Skila lodge. Earlier cursory checks in late August indicated only fair abundance of reds.
Moose Cr. (Upper Trail Lk.)	8/6	3 Mi.*	150	0		Reds just entering stream.
	8/18	3 Mi.*	282	23		Spawning near peak. Later than on previous years.
	8/30	Brief	35	50		Spawning completed.
Garter Cr.	8/6	1/8 Mi.	17	0		Early
	8/18	1/8 Mi.	34	0		Spawning near mouth at Moose Creek.

* Established count area.

KENAI RIVER DRAINAGE

Stream and Lake Surveys, 1955

Stream or Lake	Date	Distance Surveyed	Reds		Counts		Remarks
			Alive	Dead		Others	
Hidden Lake	8/29	W. end	543	1			All spawning at upper end (west) of lake.
	9/16	1½ Mi.	451	5			Boat survey of N.W. shore. Spawning near peak.
Hidden Creek	7/26	Mouth	1000	0			Stream clearance crew report. Stream very low at highway crossing. 50 red fingerling noted in pool near road.
	8/16	¼ Mi.	0	2			From mouth at Skilak Lake.
Jean Lake	8/19	Entire	120	0			Estimate 300 reds in lake.
Jean Creek	8/31	2½ Mi.	0	0			No spawning activity. Exploratory survey.
Quartz Cr.	8/21	3 Mi.	958	4		3 live & 6 dead kings	200 reds off mouth. Estimate 2500 reds in entire stream. Survey from mouth of Daves Cr. downstream. Slightly turbid.
	9/4	2½ Mi.*	73	50		coho present	Survey from point about 200 yds. above mouth of Crescent Cr. to Kenai Lake.
Mud Lake	8/15	½ Mi.*	21	0			
	8/18	½ Mi.*	138	2			Spawning appears to be late this year.
	8/30	½ Mi.*	150	24			Peak of spawning.
Ptarmigan Cr.	8/23	1½ Mi.*	134	0		17 live & 3 dead kings.	Estimate 300 reds in glacial water off mouth.
	9/5	1½ Mi.*	32	1		2 dead kings	High water levels.

* Established count area.

KENAI RIVER DRAINAGE

Stream and Lake Surveys, 1955

Stream or Lake	Date	Distance Surveyed	Reds		Counts Others	Remarks
			Alive	Dead		
Kings Co. Cr.	8/14	1 Mi.	0	0		Air survey.
Moose River	8/9	1/4 Mi.	0	0	coho present	From mouth upstream.
	9/17	20 Mi.	0	0		Air survey. Check of headwater lakes on East and West forks.

KENAI RIVER BASIN STUDIES
 FWS - ANCHORAGE
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RESURRECTION BAY DRAINAGE

Stream and Lake Surveys, 1955

Stream or Lake	Date	Distance Surveyed	Reds		Counts Others	Remarks
			Alive	Dead		
Grouse Cr. and Lake	8/5	2 Mi.	6	0		Spawning at upper end of lake.
Bear Lk.	8/5	Entire	10	1		Lake level low. Uplake spawning area very shallow.
	8/24	Entire	64	9		No spawning in uplake section. Only Southeast shore utilized.

KASLOF RIVER - 1955
 Live Counts Only - Beds

Stream or Lake	Survey in Mi.	July			August			September							
		25-29	30-3	4-8	9-13	14-18	19-23	24-28	29-2	3-7	8-12	13-17	18-22	23-27	28-2
Bear Cr.	4				861			2003							
Hoove Cr.	1 1/2*				4085			1026							
Sagepage Cr.	2				513			371							
Cliff House Cr.	1/4				332										
Nikolai Cr.	1				769			647							

* - Same Distance as on Previous Year. Mileage corrected.

ENGLISH BAY - 1955
 Live Counts Only - Beds

Stream or Lake	Survey in Mi.	July			August			September							
		25-29	30-3	4-8	9-13	14-18	19-23	24-28	29-2	3-7	8-12	13-17	18-22	23-27	28-2
English Bay Cr. #2	1						1429		1496						
English Bay Cr. #3	1/2						610		229						
English Bay Lake #1	Entire						393		1081						
English Bay Lake #2	Entire						* 500		770						

* - Lake choppy - count at outlet only.

LAKE TUSTUMENA - KASLOF RIVER

Stream and Lake Surveys, 1955

Stream or Lake	Date	Distance Surveyed	Reds		Counts		Remarks
			Alive	Dead		Others	
Bear Creek	7/13	3 Mi.	400	0			Report by J. Branson, FWS, Game Agent. Very early showing for this stream.
	8/11	4 Mi.*	8611	203	1 pink		3,000 reds off mouth. Estimate 18,000 reds in entire stream.
	8/15	1½ Mi.	2926	397	1 chum		Peak of spawning. About 900 more reds than were counted in this area on 8/11. Estimate 22,000 reds in entire stream.
	8/25	4 Mi.*	2003	8449			Spawning nearly complete. No fish off mouth.
Moose Creek	8/13	1½ Mi.*	4083	279			Same count area as in '53 & '54. Distance corrected from 2 to 1½ mi. 1,000 reds off mouth. Estimate 10,000 reds in entire stream.
	8/25	1½ Mi.*	1016	1181			Few reds off mouth. Spawning near completion.
Nikolai Cr.	8/10	1 Mi.*	769	88	1 chum 6 pink		Additional 442 live & 23 dead reds counted in next mile. Estimate 2,500 reds in entire stream.
	8/18	Entire	2000	0			Air survey. Few reds in upper area.
	8/29	8 Mi.	0	0			Air survey.
Seepage Cr.	8/12	¾ Mi.*	313	1			Beaver dams completely removed by stream clearance crew. Few reds above ¾ Mi. No evidence of school off mouth.
	8/24	¾ Mi.*	371	225			Spawning past peak. Fairly intense bear predation.

* Established count area.

LAKE TUSTUMENA - KASILOF RIVER

Stream and Lake Surveys, 1955

Stream or Lake	Date	Distance Surveyed	Reds		Counts Others	Remarks
			Alive	Dead		
Cliff House Creek	8/12	$\frac{1}{4}$ Mi.	332	5		Nearly all fish in 200 yd. area at mouth. No sign off mouth.
Rocky Creek (Muddy Cr.)	8/12	$\frac{1}{4}$ Mi.	45	0		250 reds at mouth, stream clear & rocky. Gradient steep. Mouth about $\frac{1}{2}$ mi. S.W. of Cliff House Creek.
Tustumena Lake	8/12	3 Mi.	0	0		Boat survey of west end of lake. May be early. Water glacial.
Fox Creek	8 '18	1 Mi.	0	0		Air. Poor spawning facilities.
Kachemak Lk. (Caribou Lk.)	9/5	Entire	0	0		Exploratory. Drains to Kachemak Bay. Reds reported in past year.

ENGLISH BAY DRAINAGE

Stream and Lake Surveys, 1955

Stream or Lake	Date	Distance Surveyed	Reds		Counters		Remarks
			Alive	Dead		Others	
English Bay Stream #1 (Lower lk. to sea)	8/20	1½ Mi.	0	0	200 pink	30 coho	Not a red spawning area.
	8/31	1½ Mi.	1	1	300 pink	50 coho	Pinks spawning below falls.
English Bay Stream #2 (Between 1st & 2nd lakes)	8/19	1 Mi.*	1338	48	6 pink	2 coho	
	8/21	1 Mi.*	1429	80	8 pink	2 coho	
	8/30	1 Mi.*	1496	276			Spawning near completion.
English Bay Stream #3 (Between 2nd & Upper Lk.)	8/19	½ Mi.*	610	6	3 pink		Most reds concentrated in lower 2 mi. of stream. Estimate 2,500 in entire stream.
	8/30	½ Mi.*	229	32			Considerable bear sign.
English Bay Lake #1	8/20	Entire	393	13	1 pink		Same area covered last year. No spawning on south shore.
	8/31	Entire	1081	31			Near peak. Estimate 2,500 reds in lake.
English Bay Lake #2	8/19	Outlet	500	-			Lake choppy. Full count not possible.
	8/30	N. Shore	770	21			Estimate 2,500 reds in lake.
English Bay Lake #3	8/18	Entire	1200	200			Air survey. Somewhat less than in '54.

* Established count area.

LOWER INLET - EAST SIDE*

Stream Surveys, 1955

Stream or Lake	Date	Distance Surveyed	Counts	Remarks
Port Dick Island Creek No. 5.	7/18	1½ Mi.	900 Chums	Air survey. Poor chum escapement.
South Branch (No. 5)	9/14	350 Yds.	300 Pinks	
North Branch (No. 4)	9/14	1 Mi.	30,000 Pinks	Approx. 50% dead. Air survey.
Port Dick Middle Creek No. 6	9/14	¾ Mi.	2,800 Pinks 2,500 Pinks	Alive. Air survey Dead
Port Dick Creek No. 7	9/14	1½ Mi.	1,000 Pinks	Never had fish before. Air Survey.
Port Dick Creek No. 8	7/18	2 Mi.	1,100 Chums	Poor escapement. Air survey.
	9/14	Entire	35,000 Pinks 40,000 Pinks	Alive. Air survey. Dead
Rocky River No. 9	7/18	4 Mi.	80 Chums	Very poor chum escapement. Air survey.
	7/21	4 Mi.	200 Pinks	} Estimates given for the seven } indicated surveys were made at } ¾ tides by the streamguard } stationed at this River.
	7/23	2 Mi.	500 Pinks	
	7/27	1 Mi.	500 Pinks	
	8/7	1 Mi.	2,000 Pinks	
	8/10	1 Mi.	2,000 Pinks	
	8/14	2 Mi.	10,000 Pinks	
	8/16	2 Mi.	12,000 Pinks	
	9/14	Entire	4,500 Pinks	Air survey. (Alive and dead).
Windy Bay South Branch (No. 11)	9/14	Entire	13,000 Pinks 4,500 Pinks	Dead (Air survey) Alive.

* Courtesy of Cook Inlet Management Office.

LOWER INLET - EAST SIDE*

Stream Surveys, 1955

Stream or Lake	Date	Distance Surveyed	Counts	Remarks
Windy Bay North Branch (No. 10)	9/14	Entire	1,500 Pinks 2-300 Pinks	Dead. Air survey. Alive
Port Chatham South Creek (No. 12)	9/14	$\frac{1}{4}$ Mi.	1 Pink	Dead. Air survey.
North Creek (No. 13)	9/14	$\frac{1}{4}$ Mi.	3-4,000 Pinks	Dead. Air survey.
Dogfish Bay (Koyuktulik Bay) Stream No. 14	9/14	$\frac{1}{2}$ Mi.	300 Pinks 500 Pinks	Alive. Air survey. Dead (At head of Bay.)
Stream No. 14 A	9/14	$\frac{1}{4}$ Mi.	30-40 Pinks 800 Pinks	Alive. Air survey. Dead

* Courtesy of Cook Inlet Management Office.

LOWER INLET - EAST SIDE*

Stream Surveys, 1955

Stream or Lake	Date	Distance Surveyed	Counts	Remarks
Port Graham Creek (No. 16)	9/14	Entire	600 Pinks 50 Pinks	Alive. Air survey. Dead
Seldovia River (No. 17)	9/14	Entire	800 Pinks 15-18,000 Pinks	Alive. Air survey. Dead
Jackalof Bay Creek (No. 19)	9/14	1 Mi.	None seen.	Air survey.
Tutka Bay Lagoon Stream (No. 20)	6/21) 6/28)	$\frac{1}{2}$ Mi. "	No fish at this date. No fish--stream surveyed daily between these two dates.	
	6/29	"	4 Chums 150 in mouth.	
	6/30	"	100 Chums in lagoon.	
	7/4	"	30 Chums in lagoon.	
	7/12	"	Fish entering stream daily.	
	7/13	"	40-50 new fish in lagoon.	
	7/17	"	100 Chums - 100 Pinks.	
	7/18	"	Several schools of Pinks. 50 - 75 in each school.	
	7/19	"	500 Pinks - Less than 20 Chums.	
	7/20	"	300 new Pinks - 1,000 in lagoon. Approximately 12 Chums.	
	7/21	"	2-300 new Pinks in lagoon.	
	7/24	"	100 new Pinks - 6 Chums.	
	7/27	"	200 new Pinks.	
	7/28	"	200 - 250 new Pinks.	
	7/29	"	250 new Pinks.	
	7/31	"	350 new Pinks.	
	8/1	"	500 Pinks - 2,000 fish in lagoon.	
	8/4	"	2,000 new Pinks in lagoon.	
	8/7	"	200 Pinks daily.	
	8/8	"	4,000 Pinks in stream.	
	8/12	"	4,500 Pinks in stream.	
	8/13	"	3,000 Pinks in stream.	

* Courtesy of Cook Inlet Management Office.

LOWER INLET - EAST SIDE*

Stream Surveys, 1955

Stream or Lake	Date	Distance Surveyed	Counts	Remarks
Mallard Bay Stream (No. 24)	7/18	Mouth	160 Pinks	A few fresh pinks at mouth.
	9/14	Entire	5,000 Pinks 25-27,000 Pinks	Alive. Dead. Air survey. Good to excellent seeding.

* Courtesy of Cook Inlet Management Office.

LOWER WEST SIDE SURVEYS*

Stream Surveys, 1955

Stream or Lake	Date	Distance Surveyed	Counts	Remarks
Johnson River	8/17	1/2 Mi.	300 Silvers 50 Pinks	
	8/18	1/2 Mi.	500 Silvers	
	8/19	1/2 Mi.	300 Silvers	- Few old Pinks.

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