

## 2021 SOUTHEAST ALASKA SALMON ESCAPEMENT SUMMARY

### **PINK SALMON:**

The total 2021 Southeast Alaska pink salmon escapement index of 15.67 million ranked 10th since 1960. Escapements of pink salmon met or exceeded management targets for stock groups in southern Southeast, but runs in northern Southeast Alaska were more variable. Biological escapement goals were met or exceeded in all three subregions (Table 1). Management targets for pink salmon were met or exceeded for all 15 districts with management targets (Table 2) and, at a finer scale, for 40 of the 46 pink salmon stock groups (Table 3).

Table 1.–Southeast Alaska pink salmon escapement indices and biological escapement goals by subregion, 2021 (in millions).

Subregion	2021 Pink Salmon Index	Biological Escapement Goal	
		Lower Bound	Upper Bound
Southern Southeast	9.81	3.00	8.00
Northern Southeast Inside	3.91	2.50	6.00
Northern Southeast Outside	1.94	0.75	2.50
Total	15.67		

***Southern Southeast Subregion:*** The Southern Southeast subregion includes all of the area from Sumner Strait south to Dixon Entrance (Districts 1–8). The 2021 pink salmon harvest of 38.1 million was 207% of the recent 10-year average (Figure 1). The escapement index value of 9.81 million was above the escapement goal range of 3.0 to 8.0 million index fish. Escapement indices were within or exceeded management targets for all 7 districts and all 18 pink salmon stock groups within this subregion.

***Northern Southeast Inside Subregion:*** The Northern Southeast Inside subregion includes all of the area on the inside waters north of Sumner Strait (Districts 9–12, 13 inside, 14, and 15). The 2021 pink salmon harvest of 8.0 million was 72% of the recent 10-year average (Figure 2). The escapement index value of 3.91 million was within the escapement goal range of 2.5 to 6.0 million index fish. Escapement indices were within or above management targets for all 7 districts and for 17 of 21 pink salmon stock groups within this subregion.

***Northern Southeast Outside Subregion:*** The Northern Southeast Outside subregion includes all of the outer coasts of Chichagof and Baranof islands (District 13 outside). The pink salmon harvest of 2.4 million was 56% of the recent 10-year average (Figure 3). The escapement index value of 1.94 million was within the escapement goal range of 0.75 to 2.50 million index fish. Escapement indices were within or exceeded management targets for 5 of 7 pink salmon stock groups within this subregion.

Table 2.—Southeast Alaska pink salmon escapement target ranges by district (in millions), and years for which the escapement index for each district was within (blank cells), above (+), or below (-) the management target range, 2012–2021.

Sub-region	District	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Management Target		
												Lower	Upper	
SSE <sup>1</sup>	101	+	+	+		+						+	1.02	2.71
SSE	102	+	+	+		+	+	-				+	0.29	0.77
SSE	103		+	+								+	0.95	2.54
SSE	105		+			-							0.25	0.66
SSE	106		+										0.21	0.57
SSE	107												0.26	0.69
SSE	108		+	-			+		+			+	0.02	0.06
NSEI <sup>2</sup>	109	-	+			-		-					0.65	1.56
NSEI	110	-		-		-		-	-	-			0.59	1.41
NSEI	111	-		-		-		-	-	-			0.25	0.60
NSEI	112	-		-		-		-	-	-			0.52	1.24
NSEI	113	-		-	+		+	-	-				0.32	0.78
NSEI	114		+	-	+	-	+	-	-	-	+		0.14	0.34
NSEI	115	+	+	-	+	-	+	-	-	-			0.03	0.07
NSEO <sup>3</sup>	113		+	+	+		+						0.75	2.50

Table 3.—Southeast Alaska pink salmon escapement target ranges by stock group (in millions), and years for which the escapement index for each stock group was within (blank cells), above (+), or below (-) the management target range, 2012–2021.

Sub-region	District	Stock Group	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	Management Target	
													Lower	Upper
SSE <sup>1</sup>	101	E Behm	+	+	+		+					+	0.67	1.77
SSE	101	Portland	+	+	+		+	+	+		+	+	0.10	0.28
SSE	101	W Behm		+	+	-	+					+	0.25	0.66
SSE	102	Kasaan	+	+	+		+		-			+	0.24	0.64
SSE	102	Moira		+				+	-			+	0.05	0.13
SSE	103	E Dall		+	+								0.13	0.36
SSE	103	Hetta		+	+			+	-			+	0.30	0.79
SSE	103	Klawock		+	+								0.42	1.11
SSE	103	Sea Otter Sound		+				-					0.10	0.28
SSE	105	Affleck Canal		+			-		-				0.14	0.38
SSE	105	Shipley Bay	-	+	-		-						0.11	0.28
SSE	106	Burnett		+	+								0.05	0.14
SSE	106	Ratz Harbor		+	+					+		+	0.04	0.12
SSE	106	Totem Bay	-		-	-							0.05	0.13
SSE	106	Whale Pass	-									+	0.07	0.18
SSE	107	Anan									-		0.21	0.57
SSE	107	Union Bay		+	+							+	0.05	0.12
SSE	108	Stikine		+	-			+		+		+	0.02	0.06
NSEI <sup>2</sup>	109	E Baranof	-		-				-	-	-		0.09	0.21
NSEI	109	Eliza Harbor	-		-		-		-	-	-		0.14	0.33
NSEI	109	Saginaw Bay	-	+		+	-						0.14	0.33
NSEI	109	SE Baranof	-	+				+	-	-	-	-	0.07	0.16
NSEI	109	Tebenkof		+			-						0.22	0.53
NSEI	110	Farragut Bay		+		+		+	-	-	-	+	0.02	0.04
NSEI	110	Houghton	-		-		-	-	-	-	-		0.37	0.87
NSEI	110	Portage Bay		+	-			+		-			0.03	0.08
NSEI	110	Pybus/Gambier			-	+	-		-	-		+	0.17	0.41
NSEI <sup>1</sup>	111	Seymour Canal	-		-		-	-	-	-	-	-	0.15	0.37
NSEI	111	Stephens	-		-		-	-	-	-	-	-	0.10	0.23
NSEI	112	Freshwater Bay	-	-	-	-	-	-	-	-	-	-	0.07	0.16
NSEI	112	Kelp Bay	-	+	-				-	-	-	-	0.07	0.16
NSEI	112	Lower Lynn Canal			-	+	-		-	-	-		0.03	0.06
NSEI	112	SW Admiralty	-		-	+	-	+	-	-	-	+	0.10	0.24
NSEI	112	Tenakee	-		-		-		-	-	-	-	0.21	0.49
NSEI	112	W Admiralty		+	-	-	-	-	-	-	-	-	0.05	0.12
NSEI	113	Hoonah Sound	-		-	+		+	-	-	-	-	0.32	0.78
NSEI	114	Homeshore		+	-	+	-	-	-	-	-	-	0.03	0.07
NSEI	114	N Chichagof		+	-	+	-	+	-	-	-	+	0.11	0.27
NSEI	115	Upper Lynn Canal	+	+	-	+	-	+	-	-	-	-	0.03	0.07
NSEO <sup>2</sup>	113	Lisianski	+	+		+	+	+		+	+	+	0.08	0.27
NSEO	113	Portlock	+	+	+	+	+	+	+	+	+	+	0.04	0.13
NSEO	113	Salisbury Sound											0.19	0.63
NSEO	113	Sitka Sound	+	+	+					-		-	0.21	0.70
NSEO	113	Slocum Arm		+	+				+				0.16	0.52
NSEO	113	W Crawfish	+	+	+	+				-		-	0.03	0.10
NSEO	113	Whale Bay		+	+	+							0.04	0.15

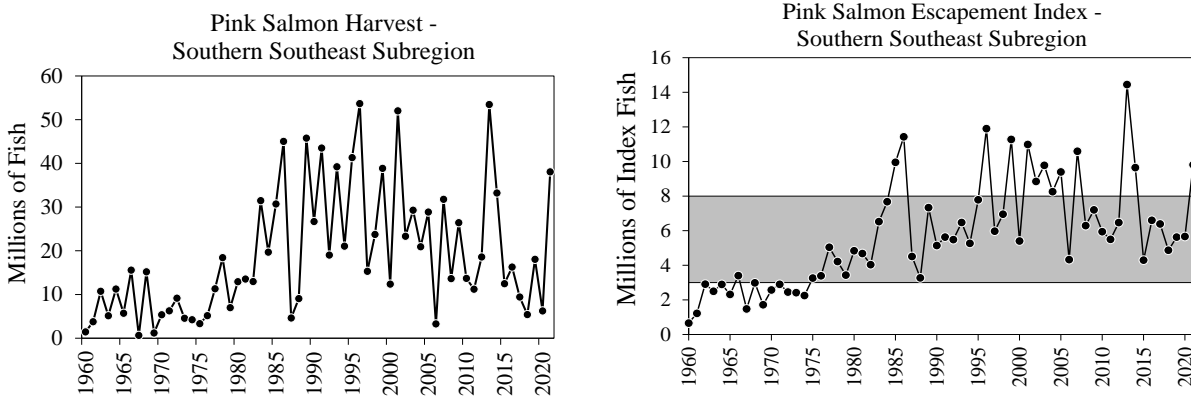


Figure 1. Annual pink salmon harvest and escapement index for the Southern Southeast subregion, 1960–2021 (Districts 1–8). The shaded area indicates the escapement goal range of 3.0 million to 8.0 million index spawners.

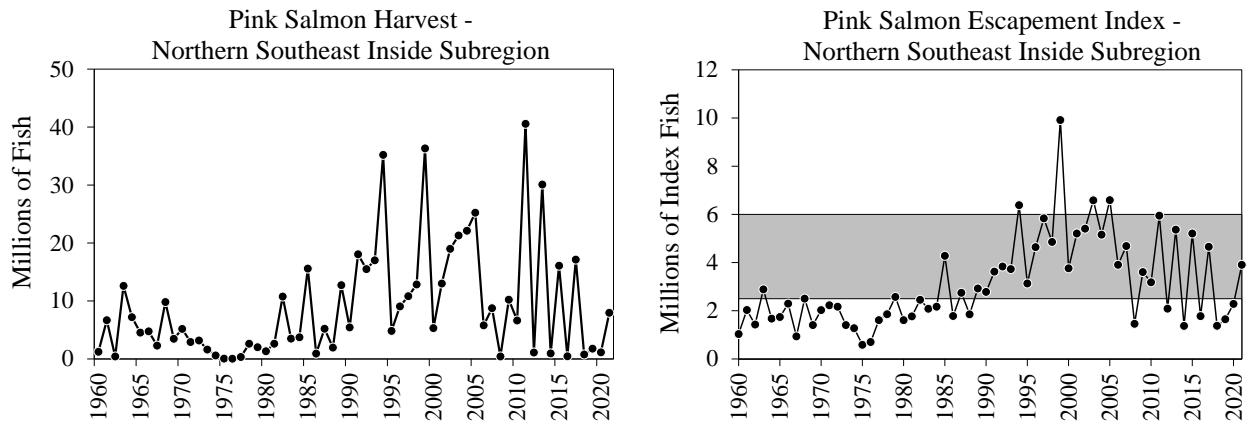


Figure 2. Annual pink salmon harvest and escapement index for the Northern Southeast Inside subregion, 1960–2021 (Districts 9–12, 14–15, and 13 subdistricts 51–59). The shaded area indicates the escapement goal range of 2.5 million to 6.0 million index spawners.

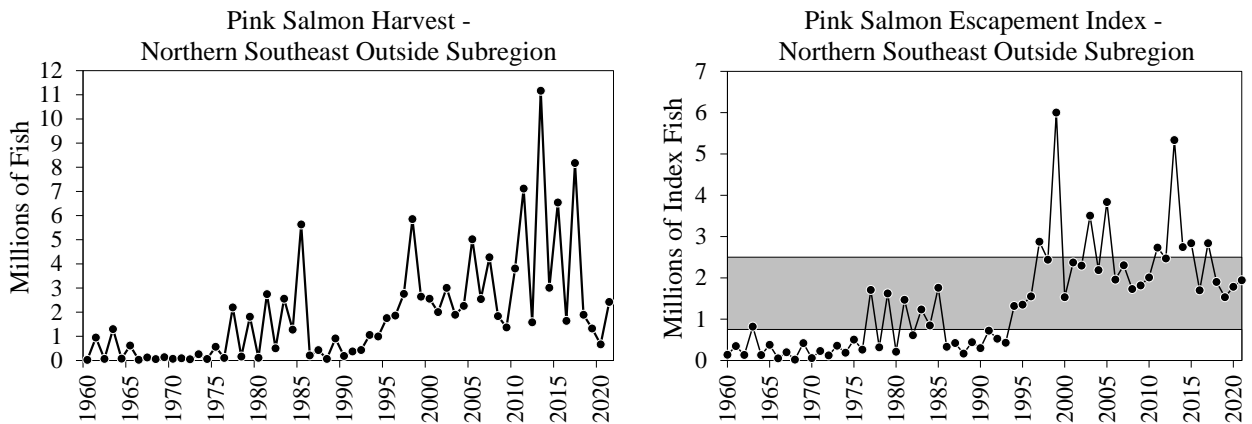


Figure 3. Annual pink salmon escapement index for the Northern Southeast Outside subregion, 1960–2021 (District 13, subdistricts 22–44 and 62–96). The shaded area indicates the escapement goal range of 0.75 million to 2.50 million index spawners.

**CHUM SALMON:**

In 2021, lower-bound sustainable escapement goals for summer chum salmon were met for one of three subregions in Southeast Alaska (Figure 4, Table 4). The index count of 77,000 chum salmon in the Southern Southeast Subregion was just above the current lower-bound sustainable escapement goal of 62,000 index fish. The index counts of 67,000 chum salmon in the Northern Southeast Inside subregion and 11,600 in the Northern Southeast Outside subregion were below the lower-bound sustainable escapement goals of 107,000 and 25,000 index fish respectively (Figure 4).

Fall chum salmon escapement goals were met for three of the five fall-run stocks with formal escapement goals (Table 4). The escapement of 172,000 fish to the Chilkat River was within the sustainable escapement goal range of 75 to 250 thousand fish, but the harvest of 10,001 fall chum salmon in Lynn Canal was well below average. The Excursion River escapement index of 1,900 fish was below the sustainable escapement goal range of 4 to 18 thousand index fish and was the third consecutive year below goal. The Cholmondeley Sound escapement index of 55,000 fish was above the upper bound of the sustainable escapement goal range. The Port Camden index of 2,220 fish was within the sustainable escapement goal range of 2 to 7 thousand index fish, and the Security Bay index of 3,000 fish was below the escapement goal range of 5 to 15 thousand index fish.

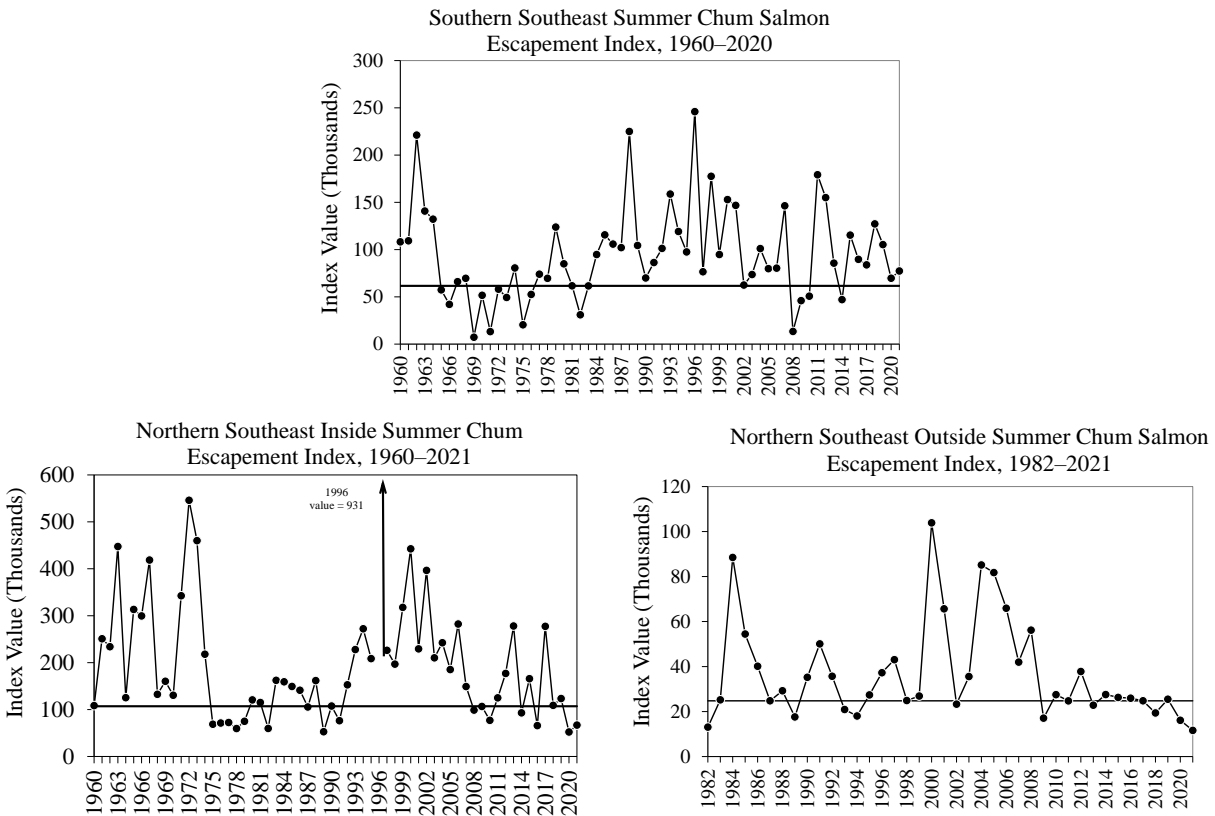


Figure 4.—Summer-run chum salmon escapement indices for the Southern Southeast subregion (1960–2021), Northern Southeast Inside subregion (1960–2021), and Northern Southeast Outside subregion (1982–2021), compared to the lower-bound sustainable escapement goal for each stock (solid horizontal lines).

Table 4.—Sustainable escapement goals and escapement indices for Southeast Alaska chum salmon (in thousands), 1990–2021.

Stock Enumeration Method	Southern Southeast	Northern Southeast Inside	Northern Southeast Outside	Cholmondeley Sound	Port Camden	Security Bay	Excursion River	Chilkat River
Run-type	Peak Index Summer	Peak Index Summer	Peak Index Summer	Peak Index Fall	Peak Index Fall	Peak Index Fall	Peak Index Fall	Estimated Escapement Fall
No. Streams	15	63	9	2	2	1	1	1
1990	70	107	35	30	4	20	5	275
1991	86	76	50	58	5	6	1	N/A
1992	101	153	36	37	5	19	3	N/A
1993	159	228	21	46	7	7	8	N/A
1994	119	272	18	43	5	5	4	30
1995	98	209	27	35	3	14	6	72
1996	246	931	37	62	5	19	9	66
1997	77	226	43	31	4	5	34	85
1998	178	197	25	59	6	32	8	127
1999	95	318	27	100	2	20	10	277
2000	153	443	104	36	3	13	17	245
2001	147	229	66	45		4	18	305
2002	63	397	23	39	0	6	5	206
2003	74	210	36	75	1	9	6	166
2004	101	242	85	60	3	13	5	329
2005	80	185	82	15	2	3	1	202
2006	80	282	66	54	2	15	2	689
2007	146	149	42	18	1	5	6	323
2008	13	99	56	50	1	12	8	441
2009	46	107	17	39	2	5	1	329
2010	51	77	28	76	5	7	6	89
2011	179	125	25	93	2	5	3	360
2012	155	177	38	54	4	10	2	287
2013	86	278	23	13	2	3	8	166
2014	47	91	28	48	4	6	11	142
2015	115	166	26	73	7	22	12	207
2016	90	66	26	30	5	14	1	218
2017	84	277	25	52	4	16	14	130
2018	127	109	19	70	1	6	6	ND
2019	105	123	25	20	5	14	4	224
2020	70	60	16	30	2	12	0	ND
2021	77	67	12	55	2	3	2	172
<b>Goal Range:</b>								
<b>Lower Bound</b>	<b>62</b>	<b>107</b>	<b>25</b>	<b>30</b>	<b>2</b>	<b>5</b>	<b>4</b>	<b>75</b>
<b>Upper Bound</b>				<b>48</b>	<b>7</b>	<b>15</b>	<b>18</b>	<b>250</b>

**SOCKEYE SALMON:**

In 2021, sockeye salmon escapement goals were met for at least 8 of the 12 sockeye salmon systems in the region that currently have escapement goals (Table 5; Figures 5–10). The McDonald Lake (current stock of concern) escapement of 44,500 was below goal range and has now been below goal range in six straight years.

Table 5.—*Preliminary* escapement estimates for Southeast Alaska sockeye salmon stocks with escapement goals, 2021.

Stock	Goal Type <sup>1</sup>	Estimated Escapement or Index	Escapement Goal Range	Comment	Enumeration Method
Hugh Smith Lake	OEG	3,200	8,000–18,000	Below Goal	Weir Count
McDonald Lake	SEG	44,500	55,000–120,000	Below Goal	Expanded Foot Survey
Stikine—mainstem	SEG	Made Goal	20,000–40,000		Run Reconstruction
Stikine—Tahltan	BEG	Not Available	18,000–30,000		Weir Count
Speel Lake	SEG	8,600	4,000–9,000		Weir Count
Taku—in-river	SEG	103,000	40,000–75,000	Above Goal	Mark-recapture
Redoubt Lake	OEG	60,000	7,000–25,000	Above Goal	Weir Count
Chilkoot Lake	SEG	98,700	38,000–86,000	Above Goal	Weir Count
Chilkat Lake	BEG	65,000	70,000–150,000	Below Goal	Weir/Sonar Count
Situk River	BEG	119,000	30,000–70,000	Above Goal	Weir Count
Klukshu River	BEG	26,400	7,500–15,000	Above Goal	Weir Count
East Alsek River	BEG	29,700	9,000–24,000	Above Goal	Peak Aerial Survey

<sup>1</sup> Goal types include optimal (OEG), sustainable (SEG), and biological (BEG) escapement goals.

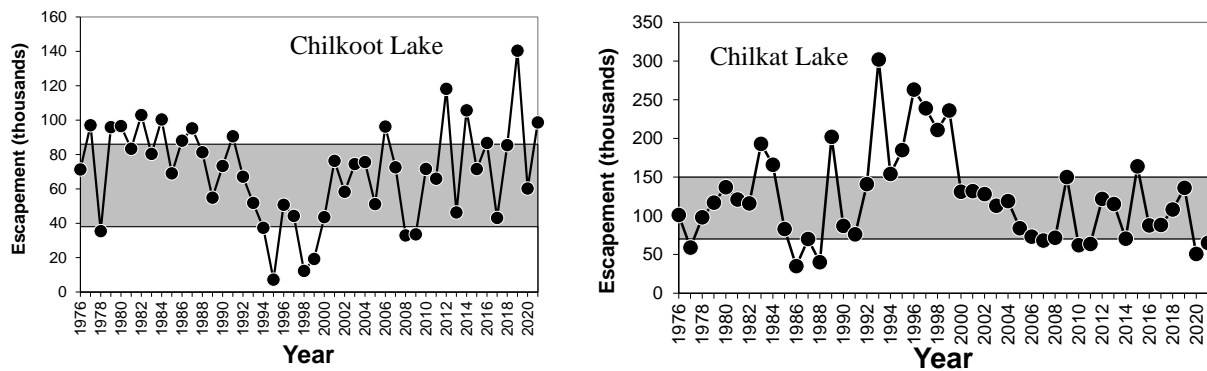


Figure 5.—Sockeye salmon escapements for Chilkoot Lake (left; weir counts) and Chilkat Lake (right; calibrated weir counts, 1976–1993; mark-recapture, 1994–2007, sonar counts 2008–2021). The shaded areas indicate the escapement goal range.

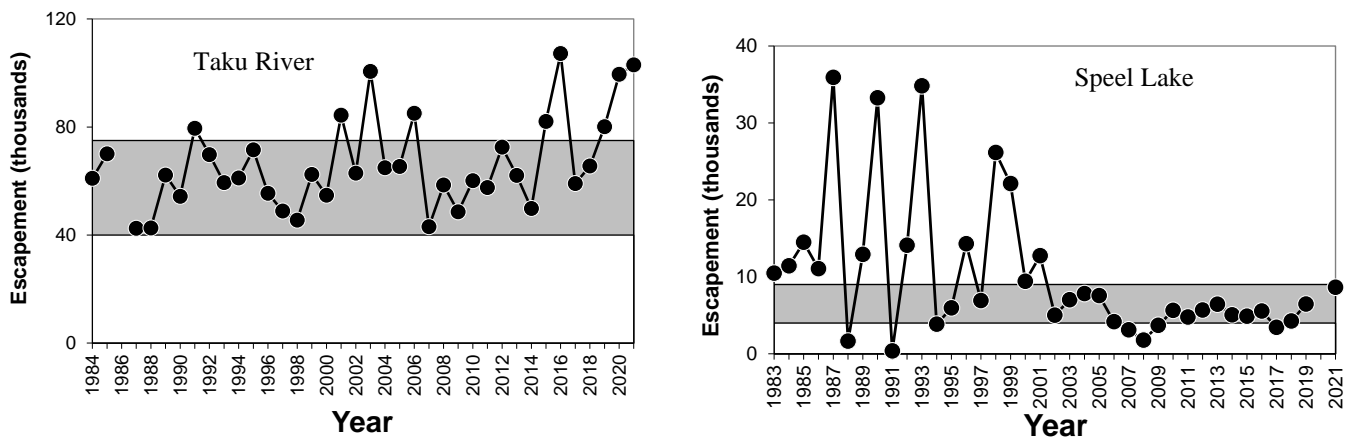


Figure 6.—Sockeye salmon escapements for Taku River (left; mark-recapture estimates) and Speel Lake (right; expanded weir count). No data in 2020 due to pandemic. The shaded areas indicate the escapement goal range.

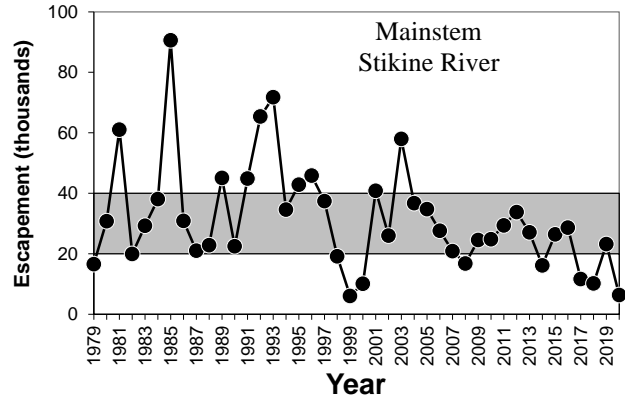
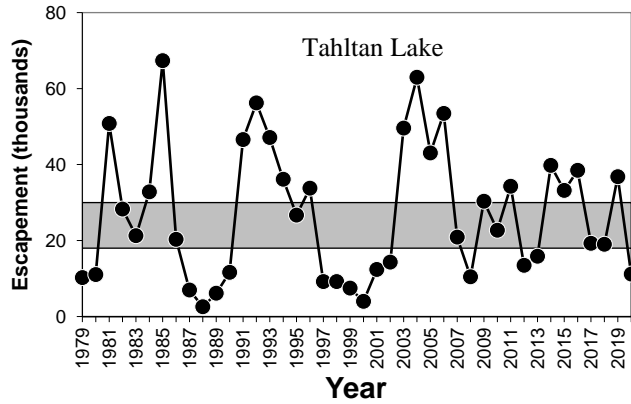


Figure 7.—Sockeye salmon escapements for Tahltan Lake (left; weir counts) and Mainstem Stikine River (right; estimated total escapement) through 2020; data for 2021 not available as of meeting time. The shaded areas indicate the escapement goal range.

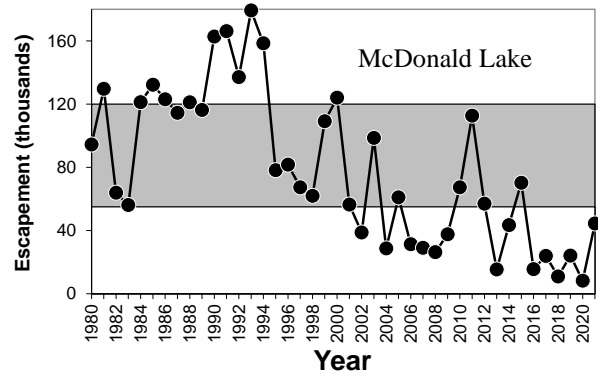
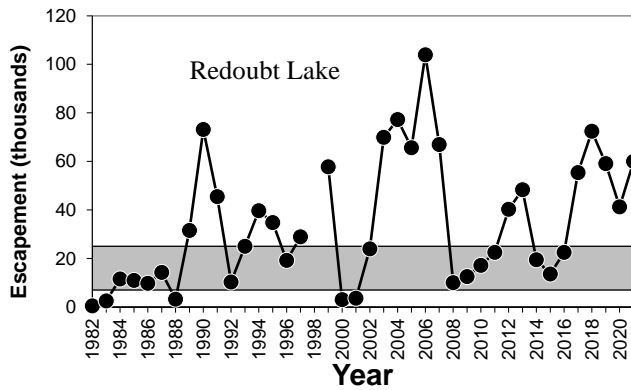


Figure 8.—Sockeye salmon escapements for Redoubt Lake (left; expanded weir counts) and McDonald Lake (right; expanded foot survey). The shaded areas indicate the escapement goal range.

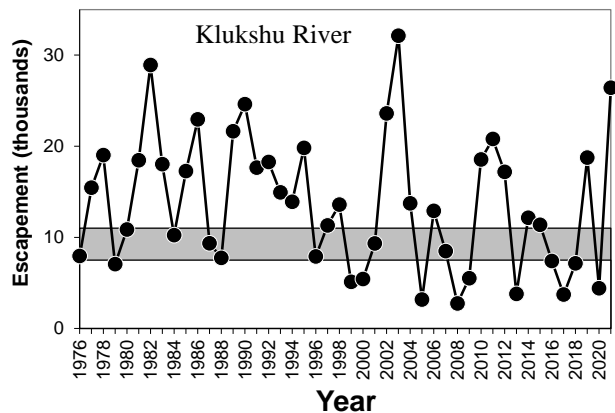
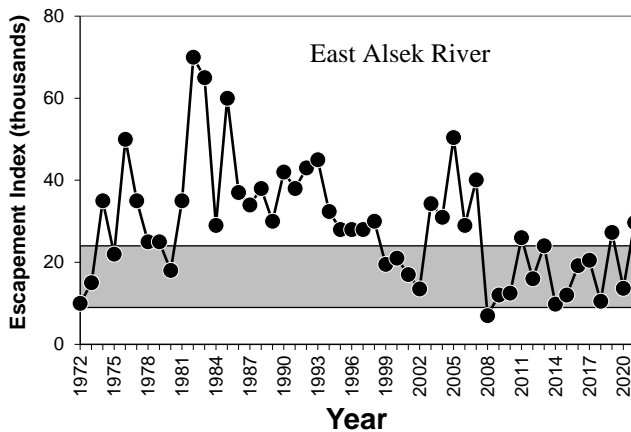


Figure 9.—Sockeye salmon escapements for the East Asek-Doame rivers (left; peak aerial surveys) and the Klukshu River (right; weir count). The shaded areas indicate the escapement goal range.



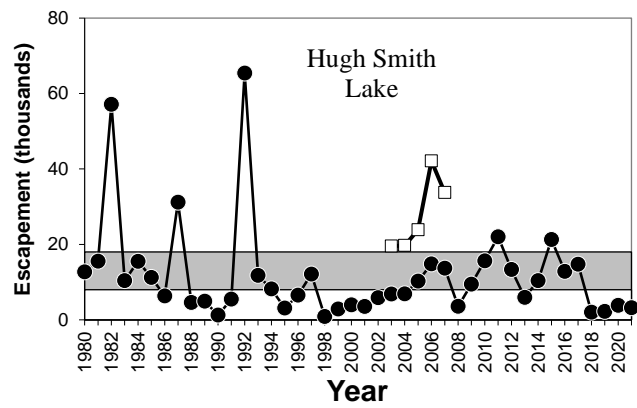
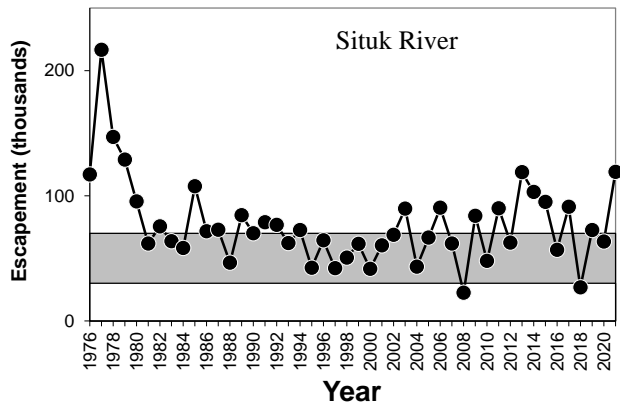


Figure 10.—Sockeye salmon escapements for the Situk River (left; weir count) and Hugh Smith Lake (right; weir counts). The shaded area indicates the optimal escapement goal range. For Hugh Smith Lake, the dots connected by the solid line are estimated escapements of naturally-spawned sockeye salmon. The open squares connected by the dashed line are the combination of escapements of both naturally spawned and hatchery stocked fish, from 2003 to 2007. The Optimal Escapement Goal includes both naturally-produced and stocked fish.

**COHO SALMON:**

Coho salmon escapements met or exceeded objectives for at least 7 of 12 currently monitored systems in the region with formal escapement goals (Table 6). No escapements were obtained at the Situk River, Tawah Creek, and Tsiu/Tsivat River in the Yakutat area due to consistent high water through the fall.

Table 6.—**Preliminary** escapement estimates for Southeast Alaska coho salmon stocks with escapement goals, 2001–2020.

<b>System</b>	<b>Hugh Smith Lake</b>	<b>Taku River</b>	<b>Auke Creek</b>	<b>Montana Creek</b>	<b>Peterson Creek</b>	<b>Ketchikan Survey Index</b>	<b>Sitka Survey Index</b>
Goal Range	500–1,600	50,000–90,000	200–500	400–1,200	100–250	4,250–8,500	400–800
Goal Type <sup>1</sup>	BEG	BEG	BEG	SEG	SEG	BEG	BEG
2001	1,580	104,394	842	1,119	106	11,267	1,515
2002	3,291	219,360	1,112	2,448	195	12,223	1,868
2003	1,510	183,112	585	808	203	11,899	1,101
2004	840	129,327	416	364	284	9,904	1,124
2005	1,732	135,558	450	351	139	14,840	1,668
2006	891	122,384	582	1,110	439	6,901	2,647
2007	1,244	74,369	352	324	226	4,316	1,066
2008	1,741	95,360	600	405	660	16,752	1,117
2009	2,282	103,950	360	698	123	8,710	1,156
2010	2,878	126,830	417	630	467	4,563	1,725
2011	2,137	70,745	517	709	138	5,098	2,222
2012	1,908	70,742	837	394	190	11,960	1,157
2013	3,048	68,118	736	367	126	11,295	1,414
2014	4,110	124,171	1,533	911	284	16,675	2,161
2015	956	60,178	577	1,204	202	10,032	2,244
2016	979	87,704	204	717	52	13,420	2,943
2017	1,266	57,871	283	634	20	11,557	1,280
2018	619	50,935	146	1,160	110	13,764	1,502
2019	1,235	82,909	345	203	No Data	7,916	1,480
2020	634	52,126	173	495	65	8,610	630
2021	903	75,532	322	392	15	21,006	1,486

<sup>1</sup>. Goal types include sustainable (SEG) and biological (BEG) escapement goals.

–continued–

Table 6.—Continued: coho escapement estimates.

<b>System</b>	<b>Berners River</b>	<b>Chilkat River</b>	<b>Tawah Creek</b>	<b>Situk River</b>	<b>Tsiu/Tsivat rivers</b>
Goal Range <sup>1</sup>	3,600–8,100	30,000–70,000	1,400–4,200	3,300–9,800	10,000–29,000
Goal Type	BEG	BEG	SEG	BEG	BEG
2001	19,290	107,697	3,190	5,030	17,000
2002	27,700	204,787	8,093	40,000	31,000
2003	10,110	133,109	5,907	6,009	35,850
2004	14,450	67,053	2,214	10,284	N/A
2005	5,220	34,575	1,241	2,514	16,600
2006	5,470	79,050	1,156	8,533	14,500
2007	3,915	24,770	1,751	5,763	14,000
2008	6,870	56,369	N/A	N/A	25,200
2009	4,230	47,911	3,581	5,814	28,000
2010	7,520	85,066	2,393	11,195	11,000
2011	6,050	61,099	1,221	3,652	21,000
2012	5,480	36,961	N/A	3,007	11,000
2013	6,280	51,319	2,593	14,853	47,000
2014	15,480	130,200	3,555	8,226	27,000
2015	9,940	47,342	9,092	7,062	19,500
2016	6,733	26,280	746	6,177	31,000
2017	7,040	34,742	1,455	4,122	38,000
2018	3,550	66,085	2,211	6,198	48,600
2019	9,405	34,779	1,866	10,381	No Data
2020	3,296	29,349	No Data	No Data	56,000
2021	5,933	55,220	No Data	No Data	No Data

<sup>1</sup>. Goal types include sustainable (SEG) and biological (BEG) escapement goals.

**CHINOOK SALMON:**

In 2021, Chinook salmon escapements were below goal for 4 of currently 11 monitored systems in the region with formal escapement goals (Table 7).

Table 7.—Southeast Alaska Chinook salmon escapement goals, 2016–2020, and preliminary 2021 escapements.

<b>System</b>	<b>Escapement Goal<sup>a</sup></b>	<b>Escapement<sup>b</sup></b>					
		<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020<sup>b</sup></b>	<b>2021<sup>b</sup></b>
Keta River	550–1,300	1,342	903	1,662	1,041	668	707
Blossom River	500–1,400	522	341	1,087	557	515	170
Chickamin River	2,150–4,300	964	722	2,052	1,610	2,280	2,404
Unuk River	1,800–3,800	1,463	1,203	1,971	3,115	1,135	2,667
Stikine River	14,000–28,000	10,554	7,335	8,603	13,817	9,753	9,034
Andrew Creek	650–1,500	402	349	482	698	470	530
King Salmon River	120–240	149	85	30	27	100	134
Taku River	19,000–36,000	9,177	8,214	7,271	11,558	15,593	11,341
Chilkat River	1,750–3,500	1,380	1,173	873	2,028	3,180	2,038
Alsek River	3,500–5,300	2,514	1,741	4,348	6,318	5,286	5,616
Situk River	450–1,050	337	1,190	421	620	1,197	1,064

*Note:* Gray cells indicate lower bound of the escapement goal not met.

<sup>a</sup> Goals and escapement numbers for Chinook salmon are for large fish ( $\geq 660$  mm mid eye to fork length, or fish age 1.3 and older), except Alsek and Klukshu goals which are germane to fish age 1.2 and older and can include fish  $< 660$  mm mid eye to fork length.

<sup>b</sup> Preliminary estimates pending publication of final report.