2009 SOUTHEAST ALASKA SALMON ESCAPEMENT SUMMARY

PINK SALMON:

The total 2009 pink salmon escapement index of 12.7 million ranked 14th since 1960—76% of the recent 10-year average of 16.6 million. Biological escapement goals were met for all three sub-regions in Southeast Alaska (Table 1) and escapements appeared to be well distributed across the region. Management targets for pink salmon were met for all 15 districts with management targets (Table 2) and, at a finer scale, for 41 of the 46 pink salmon stock groups (Table 3).

Table 1. Southeast Alaska pink salmon escapement indices and biological escapement goals by sub-region, 2009 (in millions).

Sub-region	2009 Pink Salmon Index	Biological Escapement Goal	
		Lower Bound	Upper Bound
Southern Southeast	7.2	3.0	8.0
Northern Southeast Inside	3.7	2.5	6.0
Northern Southeast Outside	1.8	0.75	2.50
Total	12.7		

Southern Southeast Sub-region: The Southern Southeast sub-region includes all of the area from Sumner Strait south to Dixon Entrance (Districts 1–8). The 2009 pink salmon harvest of 26.4 million was very close to the recent 10-year average (Figure 1). The escapement index value of 7.2 million fell within the escapement goal range of 3.0 to 8.0 million index fish. Escapement indices were within or exceeded management targets for all Districts and for 17 of 18 pink salmon stock groups within this sub-region.

Northern Southeast Inside Sub-region: The Northern Southeast Inside sub-region includes all of the area on the inside waters north of Sumner Strait (Districts 9–12, 13 inside, 14, and 15). The 2009 pink salmon harvest of 10.2 million was 35% below the recent 10-year average (Figure 2). The escapement index value of 3.7 million fell within the escapement goal range of 2.5 to 6.0 million index fish. Escapement indices were within or exceeded management targets for all Districts and for 17 of 21 pink salmon stock groups within this sub-region.

Northern Southeast Outside Sub-region: The Northern Southeast Outside sub-region includes all of the outer coasts of Chichagof and Baranof islands (District 13 outside). The pink salmon harvest of 1.4 million was 51% below the recent 10-year average (Figure 3). The escapement index value of 1.8 million fell within the escapement goal range of 0.75 to 2.50 million index fish, and escapement indices were within or exceeded management targets for all 7 pink salmon stock groups within this sub-region.

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, 2000–2009.

Sub-region	District	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Lower Management Target	Upper Management Target
SSE[1]	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[2]	109						+			-		0.63	1.50
NSEI	110				+					-		0.59	1.41
NSEI	111									-		0.27	0.65
NSEI	112			+	+	+	+			-		0.53	1.26
NSEI	113				+				+	-		0.32	0.76
NSEI	114	-	+		+		+		+	-		0.15	0.35
NSEI	115						+			-	+	0.03	0.07
NSEO[3]	113				+		+					0.75	2.50

[1] SSE = Southern Southeast sub-region.
[2] NSEI = Northern Southeast Inside sub-region.
[3] NSEO = Northern Southeast Outside sub-region.

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, 2000–2009.

Sub-region	District	Stock Group	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	Lower Management Target	Upper Management Target
SSE[1]	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[2]	109	E Baranof					+	+	+		-		0.09	0.21
NSEI	109	Eliza Harbor						+			-	-	0.14	0.33
NSEI	109	Saginaw Bay			+		+	+			-	-	0.13	0.30
NSEI	109	SE Baranof			-	-	-	+			-		0.07	0.16
NSEI	109	Tebenkof			+	+							0.21	0.50
NSEI	110	Farragut Bay				+	+				-		0.02	0.04
NSEI	110	Houghton				+					-		0.38	0.90
NSEI	110	Portage Bay					+		-		-		0.03	0.07
NSEI	110	Pybus/Gambier					+	+			-	-	0.17	0.40
NSEI[1]	111	Seymour Canal									-	-	0.16	0.40
NSEI	111	Stephens			+			+			-		0.11	0.25
NSEI	112	Freshwater Bay		+	+	+	+			+	-		0.08	0.18
NSEI	112	Kelp Bay		+		+		+	-	+		+	0.06	0.14
NSEI	112	Lower Lynn Canal		+		+		+	+		-	+	0.02	0.06
NSEI	112	SW Admiralty	+			+	+	+		+	-		0.10	0.25
NSEI	112	Tenakee		-	+			+			-		0.21	0.51
NSEI	112	W Admiralty	-			+	+	+	+		-		0.05	0.12
NSEI	113	Hoonah Sound				+				+	-		0.32	0.76
NSEI	114	Homeshore		+		+	+	+					0.03	0.07
NSEI	114	N Chichagof	-	+		+		+		+	-		0.12	0.28
NSEI	115	Upper Lynn Canal						+			-	+	0.03	0.07
NSEO[2]	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

[1] SSE = Southern Southeast sub-region.
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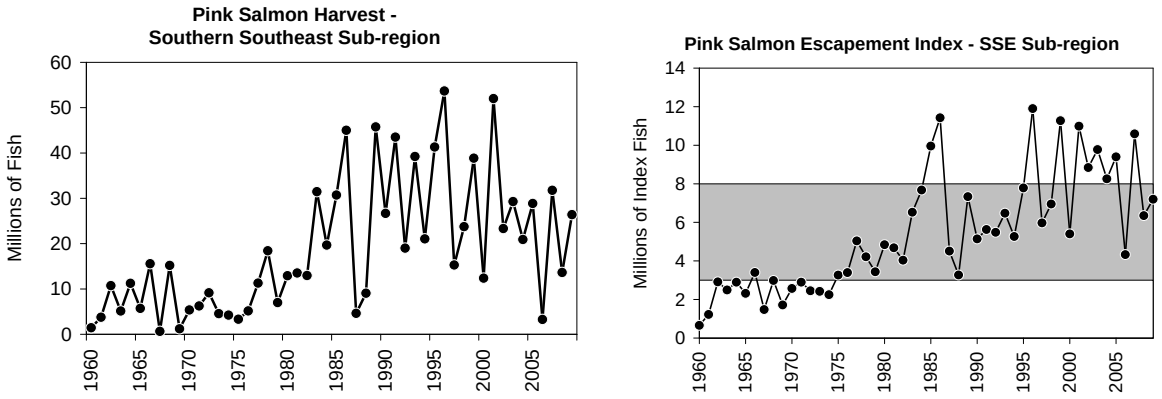

Figure 1. Annual pink salmon harvest and escapement index for the Southern Southeast sub-region, 1960–2009 (Districts 101–108). The shaded area indicates the escapement goal range of 3.0 million to 8.0 million index spawners.

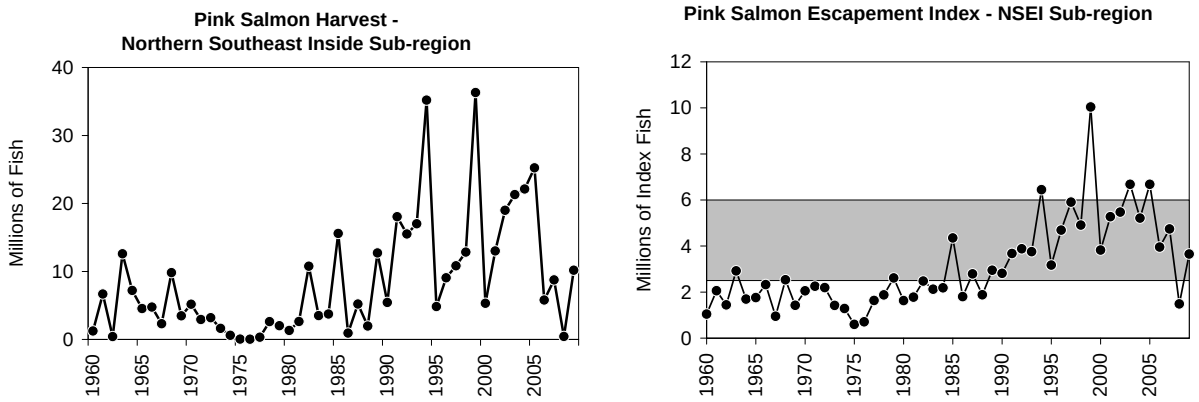

Figure 2. Annual pink salmon harvest and escapement index for the Northern Southeast Inside sub-region, 1960–2009 (Districts 109–112, 114–115, and 113 subdistricts 51–59). The shaded area indicates the escapement goal range of 2.5 million to 6.0 million index spawners.

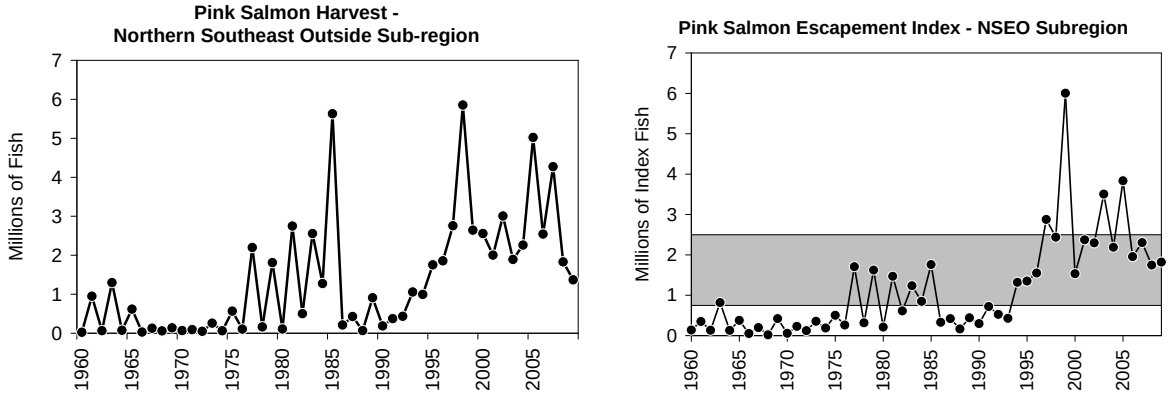

Figure 3. Annual pink salmon escapement index for the Northern Southeast Outside sub-region, 1960–2009 (District 113, subdistricts 22–44 and 62–96). The shaded area indicates the escapement goal range of 0.75 million to 2.50 million index spawners.

CHUM SALMON:

Summer chum salmon runs were poor over most of the region and sustainable escapement goals were not met in all three sub-regions in Southeast Alaska (Figure 4, Table 4). Fall chum salmon returns were generally weak to average, with the exception of the Chilkat River, where the escapement of 337,000 chum salmon was close to double the upper bound of the sustainable escapement goal range (Table 4). In 2009, ADF&G conducted the second year of a weir study at Disappearance Creek, in Cholmondeley Sound, to estimate the escapement of fall-run chum salmon. The preliminary total escapement estimate to Disappearance Creek was approximately 62,000, and the weir count of 55,000 was one of the largest counts at that location compared to weir counts from 1965 to 1984.

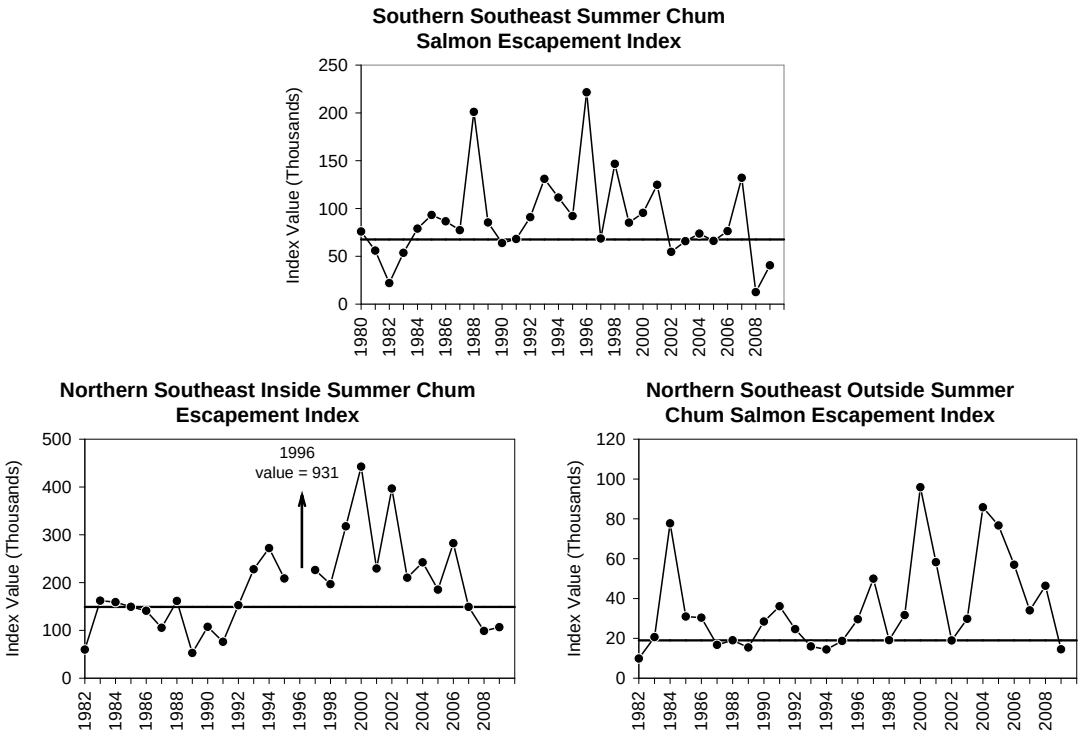

Figure 4. Wild summer-run chum salmon escapement indices for the Southern Southeast stock group (1980–2009), Northern Southeast Inside stock group (1982–2009), and Northern Southeast Outside stock group (1982–2009). The solid lines indicate the sustainable escapement goal threshold for each stock.

Table 4. Sustainable escapement goals and escapement indices for Southeast Alaska chum salmon (in thousands).

Stock	Southern Southeast	Northern Southeast Inside	Northern Southeast Outside	Cholmon-deley Sound	Port Camden	Security Bay	Excursion River	Chilkat River
Enumeration Method	**Peak Index**	**Peak Index**	**Peak Index**	**Peak Index**	**Peak Index**	**Peak Index**	**Peak Index**	**Estimated Escapement**
Run-type	**Summer**	**Summer**	**Summer**	**Fall**	**Fall**	**Fall**	**Fall**	**Fall**
No. Streams	**13**	**63**	**5**	**2**	**2**	**1**	**1**	**1**
1980	76	N/A	N/A	26	6	14	35	N/A
1981	56	N/A	N/A	26	7	4	34	N/A
1982	22	60	10	8	5	12	2	N/A
1983	54	162	21	15	1	5	3	N/A
1984	79	159	78	40	10	19	8	N/A
1985	93	149	31	40	12	21	4	N/A
1986	87	141	30	28	14	12	9	N/A
1987	77	106	17	46	9	11	2	N/A
1988	201	162	19	36	7	16	4	N/A
1989	85	53	15	35	7	8	2	N/A
1990	64	107	28	30	4	20	5	275
1991	68	76	36	58	5	6	1	N/A
1992	91	153	25	37	5	19	3	N/A
1993	131	228	16	46	7	7	8	N/A
1994	111	272	14	43	5	5	4	30
1995	92	209	19	35	3	14	6	61
1996	222	931	30	62	5	19	9	59
1997	69	226	50	31	4	5	34	88
1998	147	197	19	59	6	32	8	130
1999	85	318	32	100	2	20	10	283
2000	95	443	96	36	3	13	17	270
2001	125	229	58	45		4	18	312
2002	55	397	19	39	0	6	5	206
2003	66	210	30	75	1	9	6	166
2004	74	242	86	60	3	13	5	310
2005	66	185	77	15	2	3	1	202
2006	76	282	57	54	2	15	2	704
2007	132	149	34	18	1	5	6	331
2008	13	99	46	50	1	12	8	451
2009	41	107	15	39	2	5	1	337
Goal Range:								
Lower Bound	**68**	**149**	**19**	**30**	**2**	**5**	**4**	**75**
Upper Bound				**48**	**7**	**15**	**18**	**170**

SOCKEYE SALMON:

In 2009, sockeye salmon escapement targets were met for 7 of the 13 sockeye salmon systems in the region that currently have escapement goals (Table 5; Figures 5–9). The McDonald Lake sockeye salmon run was listed as a "stock of management concern" at the 2009 Board of Fisheries meeting and a new escapement goal range of 55,000 to 120,000 sockeye salmon was adopted at that time. The escapement at McDonald Lake in 2009 was under this new goal for the 4th consecutive year, but the final estimate of 51,000 fish was better than pre-season expectations that were based on the associated fall fry estimates. Escapements to Speel Lake and the Lost River were below the lower bound of their respective escapement goals for the third consecutive year.

Table 5. ***Preliminary*** escapement estimates for Southeast Alaska sockeye salmon stocks with escapement goals, 2009.

Stock	Goal Type[1]	Estimated Escapement or Index	Escapement Goal Range	Comment	Enumeration Method
Hugh Smith Lake	OEG	9,500	8,000–18,000		Weir Count
McDonald Lake	SEG	51,000	55,000–120,000	Under goal	Expanded Peak Survey
Stikine - mainstem	SEG	23,000	20,000–40,000		Estimated
Stikine - Tahltan	BEG	30,700	18,000–30,000		Weir Count
Speel Lake	BEG	3,700	4,000–13,000	Under goal	Weir Count
Taku - in-river	SEG	71,200	71,000–80,000		Mark-recapture
Redoubt Lake	OEG	13,000	7,000–25,000		Weir Count
Chilkoot Lake	SEG	34,000	38,000–86,000	Under goal	Weir Count
Chilkat Lake	BEG	153,000	70,000 to 150,000		Weir/Sonar Count
Situk River	BEG	84,000	30,000–70,000		Weir Count
Lost River	SEG	161	1,000	Under goal	Peak Foot or Boat Survey
Klukshu River	BEG	5,500	7,500–15,000	Under goal	Weir Count
East Alsek-Doame River	BEG	12,000	13,000–26,000	Under goal	Peak Aerial Survey

[1] Goal type includes optimal (OEG), sustainable (SEG), and biological (BEG) escapement goals.

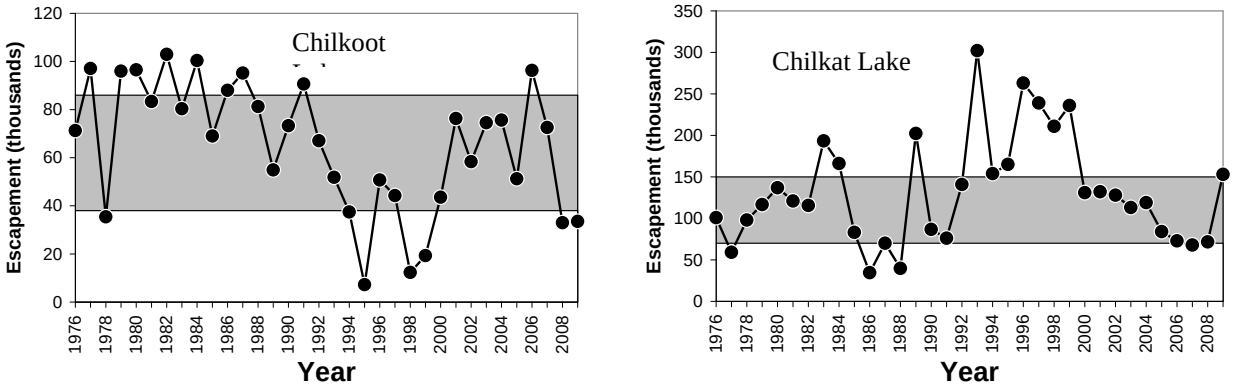

Figure 5. Escapements for Chilkoot Lake (left; weir counts) and Chilkat Lake (right; calibrated weir counts, 1976–1993; mark -recapture, 1994–2007, sonar counts 2008–2009) sockeye salmon. The shaded areas indicate the escapement goal range (see Table 4).

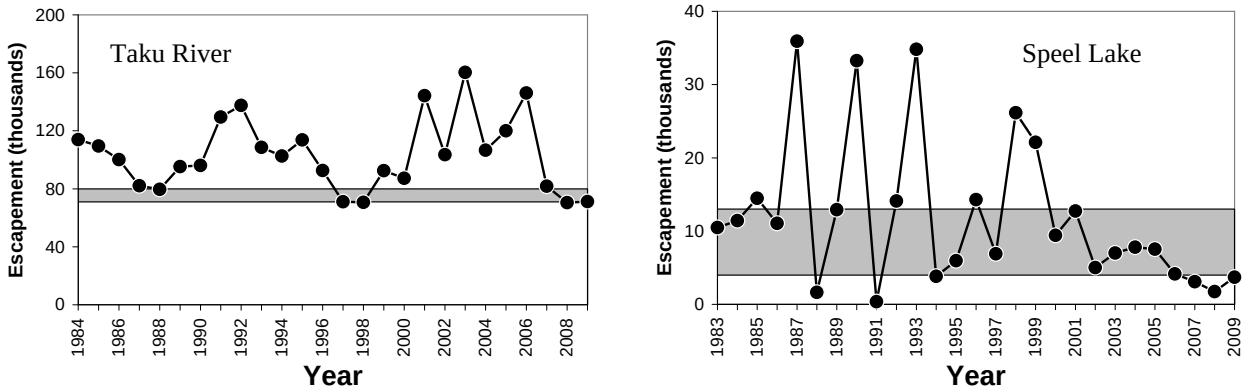

Figure 6. Escapements for Taku River (left; mark-recapture estimates) and Speel Lake (right; expanded weir count) sockeye salmon. The shaded areas indicate the escapement goal range (see Table 4).

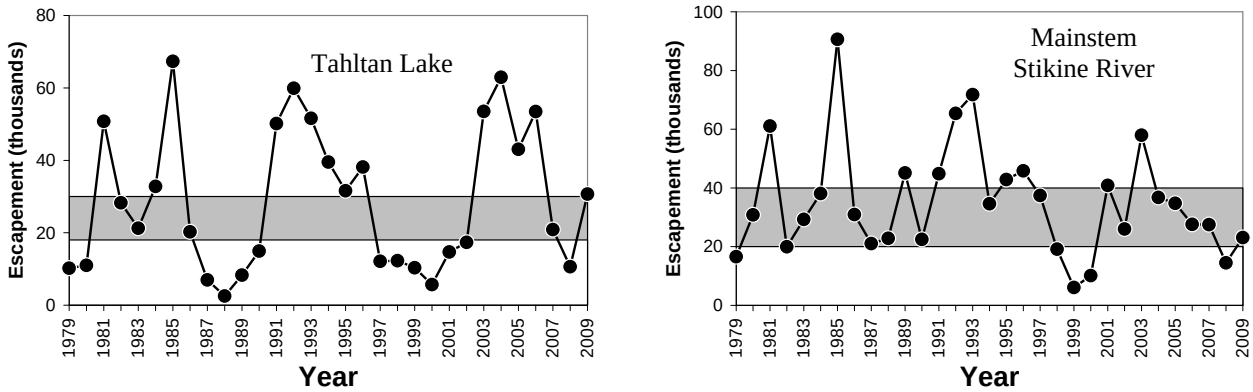

Figure 7. Escapements for Tahltan Lake (left; weir counts) and Mainstem Stikine River (right; estimated total escapement) sockeye salmon. The shaded areas indicate the escapement goal range (see Table 4).

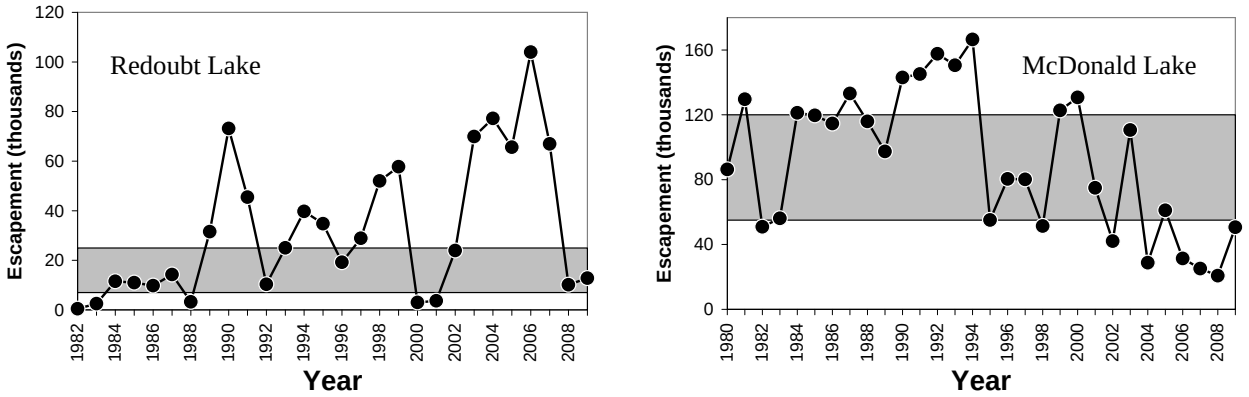

Figure 8. Escapements for Redoubt Lake (left; weir counts) and McDonald Lake (right; sockeye salmon. The shaded areas indicate the escapement goal range (see Table 4).

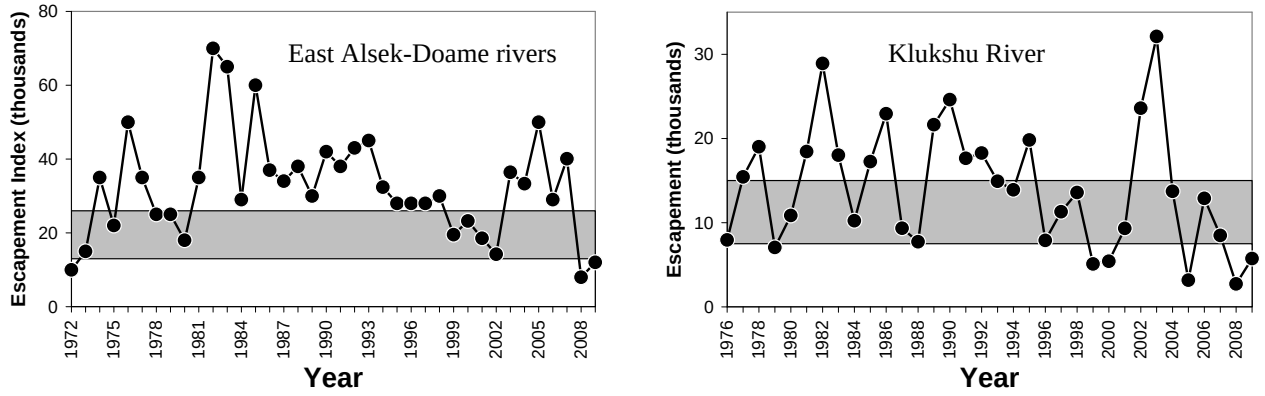

Figure 9. Escapements for the East Alsek-Doame rivers (left; peak aerial surveys) and the Klukshu River (right; weir count) sockeye salmon. The shaded areas indicate the escapement goal range (see Table 4).

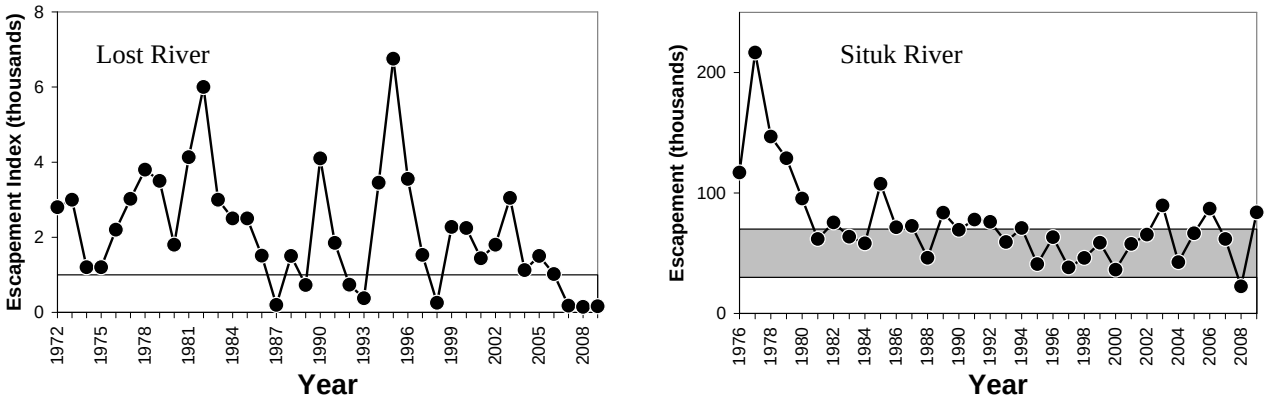

Figure 10. Escapements for the Lost River (left; peak foot or boat survey) and the Situk River (right; weir count) sockeye salmon. The horizontal black line shows the SEG threshold for Lost River and the shaded areas indicate the escapement goal range for the Situk River (see Table 4).

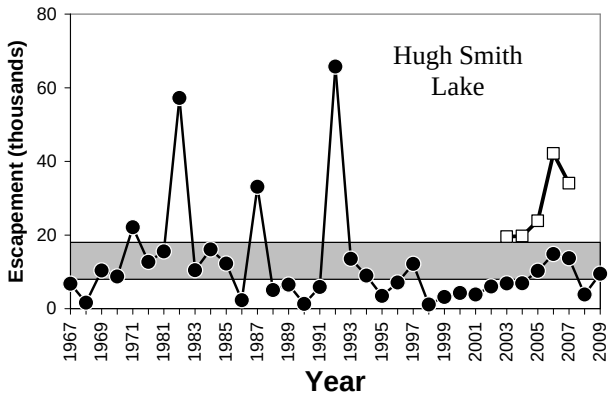

Figure 11. Escapements (weir counts) for Hugh Smith Lake sockeye salmon. The shaded area indicates the optimal escapement goal range of 8,000 to 18,000 spawners. The dots connected by the solid line are estimated escapements of naturally spawned sockeye salmon. The open squares connected by the dashed line are the combination of escapements of both naturally spawned and hatchery stocked fish, from 2003 to 2007. The escapement goal includes both naturally-produced and stocked fish. Note that no data are available from 1972 through 1979.

COHO SALMON:

Coho salmon escapements met or exceeded objectives for all systems in the region with formal escapement goals (Table 6). For the 11 systems with goal ranges, escapements were within goal for eight systems and above goal for three systems. Minimums were far exceeded for the two systems that have only threshold goals (Taku River and Lost River). Although goals were met or exceeded, escapements were below the 2001-2008 average for 11 of 13 systems and above-average for only two (Hugh Smith Lake and Tsiu River).

Table 6. Preliminary escapement estimates for Southeast Alaska coho salmon stocks with escapement goals, 2009.

System	Hugh Smith Lake	Taku River	Auke Creek	Montana Creek	Peterson Creek	Ketchikan Survey Index	Sitka Survey Index
Goal Range	500–1,600	>38,000	200–500	400–1,200	100–250	4,250–8,500	400–800
Goal Type[1]	BEG	Management Threshold	BEG	SEG	SEG	BEG	BEG
2001	1,580	104,394	842	1,119	106	11,475	1,515
2002	3,291	219,360	1,112	2,448	195	12,223	1,868
2003	1,510	183,038	585	808	203	11,859	1,101
2004	840	132,405	416	364	284	9,904	1,124
2005	1,732	91,830	450	351	139	14,840	1,668
2006	891	140,028	582	1,110	439	6,912	2,647
2007	1,224	49,632	352	324	226	4,488	1,066
2008	1,741	95,360	600	405	660	16,680	1,117
2009	2,282	104,320	360	698	123	8,226	1,156

[1.] Goal type includes optimal (OEG), sustainable (SEG), and biological (BEG) escapement goals.

–continued–

Table 6. Continued—coho escapement estimates.

System	Ford Arm Lake	Berners River	Chilkat River	Lost River	Situk River	Tsiu/Tsivat rivers
Goal Range[1]	1,300–2,100	4,000–9,200	30,000–70,000	2200	3,300–9,800	10,000–29,000
Goal Type	BEG	BEG	BEG	SEG threshold	BEG	BEG
2001	2,178	19,290	108,698	3,190	5,030	17,000
2002	7,109	27,700	205,429	8,093	40,000	31,000
2003	6,789	10,110	134,340	6394	6,009	35,850
2004	3,539	14,450	67,465	5047	10,284	na
2005	4,257	5,220	38,589	1241	2,514	16,600
2006	4,737	5,470	80,683	3,500	8,533	14,500
2007	2,567	3,915	25,493	2,542	5,763	14,000
2008	5,173	6,870	57,376	na	na	25,200
2009	2,164	4,230	47,548	3,581	5,814	28,000

[1.] Goal type includes optimal (OEG), sustainable (SEG), and biological (BEG) escapement goals.