



## MEMORANDUM

TO: Sam Rabung, Director, Division of Commercial Fisheries  
Israel Payton, Director, Division of Sport Fish

DATE: May 29, 2024

SUBJECT: Southeast Region Salmon Escapement Goal Memorandum

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This memorandum summarizes the Alaska Department of Fish and Game (department) review and associated findings regarding Southeast Alaska/Yakutat (Southeast) Region salmon escapement goals. The department recognizes the importance of releasing escapement goal findings on a schedule that allows the public to submit proposals prior to the April 10, 2024, deadline for the 2024–2025 Alaska Board of Fisheries (board) meeting cycle. An interdivisional review committee consisting of regional and statewide staff from the divisions of Commercial Fisheries and Sport Fish, met in February and August 2023 and January 2024 to review existing salmon escapement goals in the Southeast Region. These reviews were based on the *Policy for the Management of Sustainable Salmon Fisheries* (5 AAC 39.222) and the *Policy for Statewide Salmon Escapement Goals* (5 AAC 39.223). Escapement goals are classified as either biological or sustainable escapement goals as defined in the *Policy for the Management of Sustainable Salmon Fisheries*:

5 AAC 39.222 (f)(3) “biological escapement goal” or “(BEG)” means the escapement that provides the greatest potential for maximum sustained yield (MSY); and

5 AAC 39.222 (f)(36) “sustainable escapement goal” or “(SEG)” means a level of escapement, indicated by an index or an escapement estimate, that is known to provide for sustained yield over a 5- to 10-year period, used in situations where a BEG cannot be estimated or managed for.

The committee considered primarily those goals with recent information that could potentially result in a substantially different escapement goal from previous reviews (Heinl et al. 2014, 2017, 2021) and those goals that should be eliminated or established, given emerging information on stock status and management need. The committee determined the most appropriate method to evaluate escapement goals (e.g., spawner-recruit analysis, yield analysis, percentile approach) and determined the goal type (BEG or SEG) based on the quality and quantity of available data. The committee also considered management needs—how escapement goals were integrated into fishery management—and how well stocks performed relative to the escapement goal. The committee’s findings included revisions to 6 of 47 Southeast Region salmon escapement goals (Tables 1–5), as summarized below.

The Southeast Region escapement goal review will be detailed in a report to be published prior to the January 2025 Southeast and Yakutat regulatory meeting. In addition to providing methods and rationale used to evaluate escapement goals and document findings, the report will include brief overviews of stock assessment, escapement goal history, and escapement goal performance (through 2023) for all Southeast Region salmon escapement goals.

### **Stikine River sockeye salmon**

The Stikine River is a transboundary river system that originates in the Stikine plateau of northwestern British Columbia and terminates in the Pacific Ocean near Wrangell, Alaska. Canadian-origin Stikine River salmon runs are jointly managed by Fisheries and Oceans Canada (DFO), the Tahltan First Nation, and the department through Chapter 1, Annex IV of the Canada/U.S. Pacific Salmon Treaty (treaty). Provisions of the treaty establish conservation and harvest sharing objectives for Canadian-origin Stikine River sockeye salmon and escapement goals have been established for two stocks: Tahltan Lake and mainstem Stikine River (hereafter, references to Stikine River sockeye salmon and associated escapement goals refer specifically to fish of Canadian origin). Under the terms of the treaty, beginning in 2024, the total allowable catch of both natural and enhanced sockeye salmon will be allocated 57.5% U.S. and 42.5% Canada. The above border Stikine River sockeye salmon run (Tahltan Lake and mainstem stocks, combined) has averaged 95,000 fish since 1979 (1979–2022) and the terminal run, which includes marine harvest (in U.S. Districts 106 and 108), has averaged 132,000 fish (1979–2022). The harvest rate has averaged 50% (1979–2022), resulting in average spawning escapements of 29,000 fish at Tahltan Lake and 32,000 fish for the mainstem Stikine River.

The current BEG for the Tahltan stock is 18,000 to 30,000 sockeye salmon with a management objective of 24,000 fish. This goal accounts for 20,000 naturally spawning fish and up to 4,000 fish needed for broodstock to meet the objectives of the Canada/U.S. Stikine River enhancement program (TTC 1993). The current SEG for the mainstem stock is 20,000 to 40,000 with a management objective of 30,000 fish.

Escapement goal review: The escapement goal review committee reviewed the findings of the Pacific Salmon Commission (PSC) Transboundary Technical Committee Working Group regarding the Tahltan Lake and mainstem Stikine River stocks. The most appropriate model for both stocks uses a linearized Ricker spawner-recruit function with an autoregressive lognormal process error with a lag of one year using brood years 1983 to 2014. Both revised escapement goals are consistent with *Canada’s Policy for Conservation of Wild Pacific Salmon* and the *Alaska Policy for the Management of Sustainable Salmon Fisheries* and meet the treaty directive for establishing a maximum sustained yield escapement goal.

For the Tahltan Lake stock, the finding is to replace the current BEG with a BEG range of 11,000 to 25,000 sockeye salmon, a range that has an 80% probability of achieving  $\geq 80\%$  of maximum sustained yield at the lower and upper bounds. The mean spawner level that produces maximum sustained yield ( $S_{MSY}$ ) is estimated to be 18,600 spawners. The revised escapement goal range incorporates uncertainty about the true abundance and productivity of the stock.

For the mainstem Stikine River stock, the finding is to replace the current SEG with a BEG range of 13,000 to 33,000 sockeye salmon, a range that has an 80% probability of achieving  $\geq 80\%$  of maximum sustained yield at the lower and upper bounds. The mean spawner level that produces maximum sustained yield is estimated as 21,200 spawners. This range accounts for the uncertainty about the true abundance and productivity of the stock.

Escapement goal findings: The escapement goal review committee's findings are to revise the Tahltan Lake stock of Stikine River sockeye salmon BEG from 18,000 to 30,000 fish to a BEG of 11,000 to 25,000 fish. Additionally, the escapement goal review committee's findings are to revise the mainstem stock of Stikine River sockeye salmon SEG from 20,000 to 40,000 fish to a BEG of 13,000 to 33,000 fish.

### **Klawock River coho salmon**

The Klawock River is located on the west coast of Prince of Wales Island, near the town of Klawock, Alaska. In 1977 and 1978, the State of Alaska built a hatchery on the river, 300 m below Klawock Lake (Stopha 2016) and approximately 3.5 km above the estuary. The state operated the hatchery through the early 1990s; management of the hatchery was then transferred to the Prince of Wales Hatchery Association (1996–2015), followed by the Southern Southeast Regional Aquaculture Association (since 2016). Hatchery-produced coho salmon (Klawock Lake broodstock) have been released annually in the lake, river, and estuary since 1980; over the past decade, the hatchery released an average of 4.1 million coho smolt per year. A portion of the annual coho salmon escapement is allowed to pass into the lake to spawn naturally, while the remainder is used for broodstock and cost recovery. Otolith sampling conducted from 2013 to 2015 indicated that nearly all coho salmon that passed as escapement in those years were first generation hatchery fish (Stopha 2016).

Escapement goal review: Prior to 2007, an informal, maximum escapement target of 6,000 coho salmon was established for the Klawock River (Der Hovanisian 2013). An SEG range of 4,000–9,000 coho salmon was established in 2007 (though the goal was not formally adopted until 2013; Der Hovanisian 2013; and see Appendix E in Munro and Volk 2014). The annual hatchery management plan includes stipulations for the hatchery to operate the weir from early July through the end of November and includes a weekly escapement schedule with a target escapement of 6,500 coho salmon. Although “most of the run now comprises hatchery returns” (Stopha 2016), the purpose of the escapement schedule is to maintain the historical escapement timing of the run.

Escapement goal findings: Because the escapement consists primarily of hatchery fish, the escapement goal review committee's findings are to eliminate the formal escapement goal for Klawock River coho salmon. The existing escapement schedule, described in the Klawock River Hatchery Annual Management Plan, will be continued to maintain run timing and other stock characteristics for Klawock River coho salmon, to avoid overloading the spawning grounds, and to support fishery stability in the future.

### **Northern Southeast Inside Subregion summer-run chum salmon**

The Northern Southeast Inside Subregion includes summer-run chum salmon index streams located on the inside waters of Southeast Alaska north of Sumner Strait. The current lower-bound SEG is 107,000

chum salmon counted on peak surveys for the aggregate set of 63 index streams (Piston and Heintl 2017). Escapement indices were generally high in the 1960s, and then declined in the 1970s–1980s. The escapement index trended upward into the late 1990s, trended downward through 2010, and has fluctuated considerably since that time. Escapement indices were above the current escapement goal in three of the past five years, 2019–2023.

Summer-run chum salmon escapement goals provide an indication of management performance over broad areas of Southeast Alaska and management actions are generally not directed at meeting the broad aggregate goals, unless specific actions are identified due to multiple years of escapements below goal. Wild summer-run chum salmon are not targeted for harvest and are primarily incidentally caught in mixed stock commercial fisheries that are often distant from spawning grounds, and it is not possible to identify stream-specific harvests (Piston and Heintl 2020). Therefore, summer-run chum salmon stocks are assessed over broad subregions and goals are based on aggregates of peak counts from multiple index streams. Traditional purse seine fisheries are managed primarily for pink salmon. Hatchery produced summer chum salmon are a targeted species in traditional gillnet fisheries in the Northern Southeast Inside Subregion, but management during the summer is based primarily around major sockeye salmon stocks in the vicinity of the fisheries (e.g., Chilkat, Chilkoot, and Taku Rivers). (Thynes et al. 2021b). The harvest rate on wild summer-run chum salmon in traditional, mixed stock commercial net fisheries in the Northern Southeast Inside Subregion is assumed to be at least moderate (Eggers and Heintl 2008).

Escapement goal review: As in past escapement goal evaluations for Southeast Alaska chum salmon, the percentile approach was used (Clark et al. 2014), whereby the contrast of the escapement data, level of assessment error, and the exploitation rate of the stock were used to select percentiles of observed annual escapements to be used for estimating an SEG. For exploited stocks with high contrast ( $>8$ ), the lower bound of the escapement goal range was set at the 25th percentile as a precautionary measure for stock protection.

The escapement index was recalculated after removal of 13 index streams that had various data limitations; index streams were primarily removed due to factors making consistent chum salmon counts difficult. Factors for removing an index stream include: small chum salmon escapements in proportion to average pink salmon escapements in the same stream (masking the presence of chum salmon during aerial surveys); continued issues regarding visibility from the air (e.g., glacial water, tannic water, and extensive overhanging vegetation); and high proportions of stray hatchery chum salmon. Index streams removed due to the presence of high proportions of hatchery chum salmon in the escapement typically exceeded 50% hatchery salmon (Dry Bay Creek 56% in 2022 and 71% in 2023; Fish Creek range = 69–88%; Sawmill Creek range = 15–78%; Piston and Heintl 2012a; Piston and Heintl 2012b; Piston and Fish *In prep*; Josephson et al. 2021). Straying of hatchery-produced chum salmon into these streams is not necessarily an indicator of diminished wild chum salmon production in these drainages, but the presence of hatchery-produced fish makes it impossible to estimate the abundance of wild chum salmon from aircraft or foot surveys alone. Overall, these 13 streams represent a small proportion of total wild chum salmon production from the 63 total index streams in the subregion. The removal of the 13 index streams will not alter existing management strategies and is intended to ensure that the index more accurately tracks wild chum salmon escapement trends, which will help ensure fisheries are managed sustainably. A new project to assess chum salmon escapements using helicopter surveys will be implemented from 2024 to 2026, which may improve the department's ability to monitor chum salmon escapement in the long term.

Twenty-nine streams were identified in the index with survey counts during over half of the years between 1960 and 1981. This set of 29 index streams also accounted for a large percentage of the annual subregion escapement index from 1982 to 2016 (median = 74%), which was recommended as baseline years for recalculating escapement goals if changes to the indices occurred (Piston and Heintl 2017). Escapement indices were calculated for the years 1960–1981 by expanding this set of 29 index streams in three steps.

First, these 29 streams were grouped together, and missing values were imputed for the years 1960–1981 (18% of the data points). Second, annual surveys were summed to this set of 29 index streams. Finally, the total Northern Southeast Inside Subregion escapement index was estimated for 1960–1981, by dividing the annual sum-of-surveys to this set of 29 index streams by the median of 74%. These calculations provided annual escapement indices for the years 1960–2016. Given the high contrast (>8) in the entire 1960–2023 escapement series, and at least moderate exploitation rates, the 25th percentile of the escapement index was used from 1960 to 2016 (Piston and Heidl 2017) to calculate a lower bound SEG of 95,000 chum salmon counted on peak surveys to the 50 (63 original; 13 removed) index streams in this subregion.

Escapement goal findings: The escapement goal review committee’s findings are to revise the lower-bound SEG from 107,000 to 95,000 for Northern Southeast Inside Subregion summer-run chum salmon.

### **Northern Southeast Outside Subregion summer-run chum salmon**

The Northern Southeast Outside Subregion includes summer-run chum salmon index streams on the outside waters of Chichagof and Baranof Islands in northern Southeast Alaska. The current Northern Southeast Outside Subregion escapement goal is set at the 25th percentile of the annual sum of peak escapement survey data from nine index streams over the years 1982–2016 (Piston and Heidl 2017). Escapement indices were above the current escapement goal in most years through 2008 but have since declined and were below goal in four of the past five years (2020–2023).

Wild summer-run chum salmon are primarily harvested in mixed stock commercial fisheries that are often distant from spawning grounds, and it is typically not possible to identify stream-specific harvests (Piston and Heidl 2020). Therefore, summer-run chum salmon stocks are assessed over broad subregions and escapement goals are based on aggregates of peak counts from multiple index streams. Summer-run chum salmon in the Northern Southeast Outside Subregion are caught in traditional purse seine fisheries, which are managed primarily for pink salmon but occasionally, specific bays or inlets may be open to target summer chum salmon when there is an observed high abundance of summer chum salmon returning to a specific system (Thynes et al. 2021a). Harvests of summer-run chum salmon in this subregion were typically very low prior to the onset of hatchery runs in the area (Piston and Heidl 2020). Summer-run chum salmon escapement goals provide an indication of management performance over broad areas of Southeast Alaska. The harvest rate on wild summer-run chum salmon in traditional, mixed stock commercial net fisheries in the Northern Southeast Outside Subregion is assumed to be at least moderate (Eggers and Heidl 2008).

Escapement goal review: As in past escapement goal evaluations for Southeast Alaska chum salmon, the percentile approach was used, where the contrast of the escapement data, level of assessment error, and the exploitation rate of the stock were used to select percentiles of observed annual escapements to be used for estimating an SEG. For exploited stocks with high contrast (>8), the lower bound of the escapement goal range was set at the 25th percentile as a precautionary measure for stock protection. The escapement index was recalculated with the removal of the West Crawfish NE Arm Head index stream, which was removed due to recent high proportions of stray hatchery fish in the escapement (range = 59–80% since 2018) from the nearby Crawfish Inlet release site. In addition, in all recent years, numbers of presumed hatchery fish ranging from 1,500 to 20,000 were observed milling at the mouth of the creek in August making standard index counts of wild chum salmon impossible to obtain (Piston and Heidl 2020; Piston and Fish *In prep*). Straying of hatchery-produced chum salmon into this stream is not necessarily an indicator of diminished wild chum salmon production in this drainage, but as previously noted, the presence of hatchery-produced fish makes it impossible to estimate the abundance of wild chum salmon from aircraft or foot surveys alone. The removal of the West Crawfish index stream does not alter existing

management strategies and is intended to ensure that the index more accurately tracks wild chum salmon escapement trends, which will help ensure fisheries are managed sustainably. Interpolated counts for all streams in all prior years were recalculated with the West Crawfish NE Arm Head Stream removed.

Given the relatively high contrast (7) in the entire 1982–2023 escapement series, and at least moderate exploitation rate, the 25th percentile of the escapement index was used to calculate a lower-bound SEG of 19,500 chum salmon counted on peak surveys to the eight index streams in this subregion. For calculating the goal, only data from 1982 to 2016 was used, which was recommended as a baseline for summer-run chum salmon in this subregion (Piston and Heidl 2017), and to avoid simply lowering the goal during a period of poor escapements.

Escapement goal findings: The escapement goal review committee’s findings are to revise the lower-bound SEG from 25,000 to 19,500 for Northern Southeast Outside Subregion summer-run chum salmon.

### **Chilkat River fall-run chum salmon**

The Chilkat River drainage near Haines supports the largest fall chum salmon run in the region (Halupka et al. 2000). Most of the spawning takes place in the mainstem and side channels of the Chilkat River (ADF&G stream number 115-32-025) and its major tributary, the Klehini River (ADF&G stream number 115-32-046). Chilkat River fall-run chum salmon are primarily harvested in the Lynn Canal (District 115) commercial drift gillnet fishery, although harvest also occurs in other mixed stock fisheries prior to reaching Lynn Canal. Chilkat River fall chum salmon total runs averaged 298,000 fish since 1990, and the harvest rate in the Lynn Canal commercial drift gillnet fishery averaged 22% during 1990–2023.

The current Chilkat River fall-run chum salmon SEG of 75,000–250,000 fish or, equivalently, a fish wheel index catch of 1,160–3,875 chum salmon, was based on an updated spawner-recruit analysis of the 1994–2008 brood years (Piston and Heidl 2014).

Escapement goal review: The very poor relationship between fish wheel counts and mark–recapture estimates which were used to expand fish wheel counts to estimates of total escapement (expansion factors > 50), is one of the reasons the Chilkat fish wheel project is being discontinued beginning in 2024, and the escapement goal committee’s findings are to eliminate the goal and continue to manage the fishery based on fishery performance.

Escapement goal findings: The escapement goal review committee’s findings are to eliminate the escapement goal for Chilkat River fall-run chum salmon.

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Table 1.—Southeast Alaska Chinook salmon escapement goals and escapement performance 2018–2023, and 2024 escapement goal findings.

System	Assessment method	Goal type	Escapement goal <sup>a</sup>	Year established	Escapement						Escapement goal findings
					2018	2019	2020	2021	2022	2023	
Keta River	HS expansion	BEG	550–1,300	2018	1,662	1,041	668	707	689	759 <sup>b</sup>	No change
Blossom River	HS expansion	BEG	500–1,400	2018	1,087	557	515	170	395	670 <sup>b</sup>	No change
Chickamin River	HS expansion	BEG	2,150–4,300	2018	2,052	1,610	2,280	2,404	2,522	3,719 <sup>b</sup>	No change
Unuk River	HS/FS expansion	BEG	1,800–3,800	2009	1,971	3,115	1,135	2,666	1,304	2,072 <sup>b</sup>	No change
Stikine River	MR	BEG	14,000–28,000	2000	8,603	13,817	9,753	8,376	9,090	12,795 <sup>b</sup>	No change
Andrew Creek	AS/HS/FS expansion	BEG	650–1,500	1998	482	698	470	530	821	386 <sup>b</sup>	No change
King Salmon River	HS expansion	BEG	120–240	1997	30	27	100	134	123	68 <sup>b</sup>	No change
Taku River <sup>c</sup>	MR, HS expansion	BEG	19,000–36,000	2009	7,271	11,558	15,593	11,341	12,722	14,755 <sup>b</sup>	No change
Chilkat River	MR	Inriver <sup>d</sup>	1,850–3,600	2003	873 <sup>b</sup>	2,028 <sup>b</sup>	3,180 <sup>b</sup>	2,038 <sup>b</sup>	1,582 <sup>b</sup>	2,234 <sup>b</sup>	No change
	MR	BEG	1,750–3,500	2003	873 <sup>b</sup>	2,028 <sup>b</sup>	3,180 <sup>b</sup>	2,038 <sup>b</sup>	1,582 <sup>b</sup>	2,234 <sup>b</sup>	No change
Alsek River	Weir expansion	BEG	3,500–5,300	2013	4,348 <sup>b</sup>	6,319 <sup>b</sup>	5,330 <sup>b</sup>	5,562 <sup>b</sup>	3,351	4,185 <sup>b</sup>	No change
Situk River	Weir	BEG	450–1,050	2003	420 <sup>b</sup>	623 <sup>b</sup>	1,197 <sup>b</sup>	1,064 <sup>b</sup>	890	144 <sup>b</sup>	No change

Note: AS = aerial survey, FS = foot survey, HS = helicopter survey, MR = mark–recapture, BEG = biological escapement goal; 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 the Alsek River goal which is germane to fish age 1.2 and older and can include fish  $< 660$  mm mid eye to fork length.

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

<sup>c</sup> Estimates are based on mark–recapture studies.

<sup>d</sup> The Chilkat River Chinook salmon escapement is the mark–recapture estimate of inriver run minus reported subsistence harvest. The inriver goal of 1,850–3,600 (5 AAC 33.384) is directly measured through mark–recapture and is not discounted for inriver subsistence harvests that average  $< 100$  fish.

Table 2.—Southeast Alaska sockeye salmon escapement goals and escapement performance 2018–2023, and 2024 escapement goal findings.

System	Assessment method	Goal type	Escapement goal	Year established	Escapement						Escapement goal findings
					2018	2019	2020	2021	2022	2023	
Hugh Smith Lake	Weir	OEG <sup>a</sup>	8,000–18,000	2003	2,039	2,240	3,860	3,235	1,657	1,689	No change
McDonald Lake	FS expansion	SEG	55,000–120,000	2009	11,000	24,200	8,200	44,500	34,100	74,900	No change
Mainstem Stikine River	Run reconstruction	SEG	20,000–40,000	1987	12,159	23,174	7,126	31,896 <sup>b</sup>	45,250 <sup>b</sup>	18,060 <sup>b</sup>	<b>Change to BEG 13,000–33,000</b>
Tahltan Lake	Weir	BEG	18,000–30,000	1993	16,350	36,787	11,158	42,846 <sup>b</sup>	52,772 <sup>b</sup>	37,359 <sup>b</sup>	<b>Change to BEG 11,000–25,000</b>
Speel Lake	Weir	SEG	4,000–9,000	2015	4,244	6,447	NC	8,643	5,686	3,556	No change
Taku River <sup>c</sup>	MR	BEG	40,000–75,000	2022	65,540	80,205	99,508	161,348 <sup>b</sup>	90,396 <sup>b</sup>	101,518 <sup>b</sup>	No change
Redoubt Lake	Weir	OEG <sup>d</sup>	7,000–25,000	2003	72,409	59,106	41,289	60,004	85,451	153,406	No change
		BEG	10,000–25,000	2003	72,409	59,106	41,289	60,004	85,451	153,406	No change
Chilkat Lake	Sonar	BEG	70,000–150,000	2009	108,047	136,091	50,746	65,199	100,634	128,002	No change
Chilkoot Lake	Weir	SEG	38,000–86,000	2009	85,463	140,378	60,218	98,672	57,176	69,688	No change
East Alsek River	AS, IE	SEG	9,000–24,000	2018	10,500	27,300	13,670	29,700	23,800	19,300	No change
Klukshu (Alsek) River	Weir	BEG	7,500–11,000	2013	7,143	18,749	4,287	25,691 <sup>b</sup>	29,629 <sup>b</sup>	13,690 <sup>b</sup>	No change
Situk River	Weir	BEG	30,000–70,000	2003	26,704	72,530	63,343	119,072	90,369	127,873	No change

Note: AS = aerial survey, FS = foot survey, IE = index escapement, MR = mark–recapture, BEG = biological escapement goal, SEG = sustainable escapement goal, OEG = optimal escapement goal; gray cells indicate lower bound of the escapement goal not met.

<sup>a</sup> Hugh Smith Lake sockeye salmon OEG was set by the Alaska Board of Fisheries (5 AAC 33.390); the OEG is the same as the BEG (8,000–18,000 fish) but includes wild *and* hatchery-produced fish. No lake stocking has occurred since 2003.

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

<sup>c</sup> A revised BEG of 40,000–75,000 sockeye salmon was adopted by the Pacific Salmon Commission Transboundary River Panel in 2020 and the Alaska Board of Fisheries in 2021, which replaced the original SEG of 71,000–80,000 fish set in 1986.

<sup>d</sup> Redoubt Lake sockeye salmon OEG was set by the Alaska Board of Fisheries (5 AAC 01.760).

Table 3.—Southeast Alaska coho salmon escapement goals and escapement performance 2018–2023, and 2024 escapement goal findings.

System	Assessment method	Goal type	Escapement goal	Year established	Escapement						Escapement goal findings
					2018	2019	2020	2021	2022	2023	
Hugh Smith Lake	Weir	BEG	500–1,600	2009	619	1,239	634	903	892	2,207	No change
Klawock River <sup>a</sup>	Weir	SEG	4,000–9,000	2013	13,578	5,287	5,783	5,289	6,968	9,919	<b>Eliminate Goal</b>
Taku River	MR	BEG	50,000–90,000	2015	51,173 <sup>b</sup>	82,759 <sup>b</sup>	52,063 <sup>b</sup>	75,526 <sup>b</sup>	66,034 <sup>b</sup>	89,013 <sup>b</sup>	No change
Auke Creek	Weir	BEG	200–500	1994	146	345	173	322	449	759	No change
Juneau Roadside	Montana Creek	FS, IE	400–1,200	2006	1,161	203	495	391	NC <sup>c</sup>	NC <sup>c</sup>	No change
Index	Peterson Creek	FS, IE	100–250	2006	172	NC <sup>c</sup>	65	15	65	192	No change
Ketchikan Survey Index	HS, IE	BEG	4,250–8,500	2006	13,866	7,913	8,610	21,006	11,945	22,695	No change
Sitka Survey Index	FS, IE	BEG	400–800	2006	1,502	1,480	630	1,486	1,363	1,392	No change
Berners River	FS, HS, IE	BEG	3,600–8,100	2018	3,550	9,405	3,296	5,933	4,472	8,039	No change
Chilkat River	AS/FS, MR, IE	BEG	30,000–70,000	2006	65,749	34,779	28,802	53,597	42,452	70,881	No change
Tawah Creek (Lost River)	BS, IE	SEG	1,400–4,200	2015	2,211	1,866	NS	NS	NS	NS	No change
Situk River	BS, IE	BEG	3,800–9,600	2022	6,198	10,381	NS	NS	NS	9,841	No change
Tsiu-Tsivat rivers	AS, IE	SEG	10,000–29,000	2018	48,600	NS <sup>d</sup>	56,000	NS	NS	NS	No change

Note: AS = aerial survey, FS = foot survey, BS = boat survey, HS = helicopter survey, IE = index escapement, MR = mark-recapture, BEG = biological escapement goal, SEG = sustainable escapement goal, NC = no count; NS = no survey; gray cells indicate lower bound of the escapement goal not met.

<sup>a</sup> Klawock coho salmon escapement goal was officially adopted by the Alaska Board of Fisheries in 2013, but escapement was managed for this goal beginning in 2007.

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

<sup>c</sup> A coho salmon survey was conducted, however, river conditions precluded a valid count (index of escapement) from being obtained.

<sup>d</sup> In 2019, a peak index survey was unable to be conducted for Tsiu/Tsivat river coho salmon due to lack of available aircraft.

Table 4.–Southeast Alaska pink salmon escapement goals and escapement performance 2018–2023, and 2024 escapement goal findings.

System	Assessment method	Goal type	Escapement goal	Year established	Escapement						Escapement goal findings
					2018	2019	2020	2021	2022	2023	
Southern Southeast	AS, IE	BEG	3.0–8.0 million	2009	4.9 million	5.6 million	5.7 million	9.8 million	5.8 million	12.1 million	No change
Northern Southeast Inside	AS, IE	BEG	2.5–6.0 million	2009	1.4 million	1.7 million	2.3 million	3.9 million	3.2 million	7.4 million	No change
Northern Southeast Outside	AS, IE	BEG	0.75–2.5 million	2009	1.9 million	1.5 million	1.8 million	1.9 million	1.1 million	2.3 million	No change

Note: AS = aerial survey, IE = index escapement, BEG = biological escapement goal; gray cells indicate lower bound of the escapement goal not met.

Table 5.–Southeast Alaska chum salmon escapement goals and escapement performance 2018–2023, and 2024 escapement goal findings.

System	Assessment method	Goal type	Escapement goal	Year established	Escapement						Escapement goal findings	
					2018	2019	2020	2021	2022	2023		
<b>Chum salmon (summer run)</b>												
Southern Southeast	AS/FS/HS, IE	LB SEG	62,000	2015	127,000	105,000	70,000	77,000	136,000	276,000	No change	
Northern Southeast Inside	AS/FS, IE	LB SEG	107,000	2018	109,000	123,000	52,000	67,000	116,000	324,000	<b>Change to LB SEG 95,000</b>	
Northern Southeast Outside	AS/FS, IE	LB SEG	25,000	2015	19,400	25,500	16,100	11,600	18,000	14,600	<b>Change to LB SEG 19,500</b>	
<b>Chum salmon (fall run)</b>												
Cholmondeley Sound	AS, IE	SEG	30,000–48,000	2009	70,000	20,000	30,000	55,000	42,000	93,000	No change	
Port Camden	AS, IE	SEG	2,000–7,000	2009	1,000	4,800	1,500	2,200	700	800	No change	
Security Bay	AS, IE	SEG	5,000–15,000	2009	5,600	14,300	11,500	3,000	3,000	18,500	No change	
Excursion River	AS, IE	SEG	4,000–18,000	2009	6,200	3,600	200	1,900	800	7,700	No change	
Chilkat River	FW expansion	SEG	75,000–250,000	2015	NA <sup>a</sup>	224,000	23,000	169,000	343,000	751,000	<b>Eliminate Goal</b>	

Note: AS = aerial survey, FS = foot survey, HS = helicopter survey, IE = index escapement, FW = fish wheel, SEG = sustainable escapement goal, LB SEG = lower-bound SEG; gray cells indicate lower bound of the escapement goal not met.

<sup>a</sup> In 2018, Chilkat River fish wheel counts were unreliable due to extremely low water; fall chum salmon escapement estimate not available.