



THE STATE  
of **ALASKA**  
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Fish and Game**

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**MEMORANDUM**

TO: Jeff Regnart, Director  
Division of Commercial Fisheries

DATE: September 29, 2014

Charles O. Swanton, Director  
Division of Sport Fish

THRU: Lowell Fair, Regional Supervisor *LF*  
Division of Commercial Fisheries, Region 1

SUBJECT: Southeast Region  
Salmon Escapement  
Goal Review Memo

Brian Frenette, Regional Supervisor *[Signature]*  
Division of Sport Fish, Region 1

FROM: Steve Heintz, Regional Research Biologist *SHA*  
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The purpose of this memorandum is to inform you of our progress reviewing and recommending escapement goals for Southeast Alaska. Southeast Region escapement goals were last reviewed by the department during the 2011–2012 Alaska Board of Fisheries (board) cycle (Der Hovanisian et al. 2011; Shaul et al. 2011; Heintz et al. 2011; Piston and Heintz 2011a, 2011b). In addition, long-pending recommendations to modify escapement goals for transboundary Alsek and Klukshu river king (Bernard and Jones 2010) and sockeye (Eggers and Bernard 2011) salmon were adopted out of cycle by the Pacific Salmon Commission Transboundary River Technical Committee in 2013 (DFO 2011a, 2011b; TTC 2014; Munro and Volk 2014). As specified in the Pacific Salmon Treaty, escapement goals for transboundary river and king salmon stocks in Southeast Alaska are established through bilateral review of the Transboundary and Chinook technical committees of the Pacific Salmon Commission.

In February 2014, an interdivisional salmon escapement goal review committee consisting of regional staff from the divisions of Commercial Fisheries and Sport Fish, as well as statewide representatives, met to review existing escapement goals in Southeast Alaska. These reviews were

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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 were classified as either biological or sustainable escapement goals as defined in the Policy for the Management of Sustainable Salmon Fisheries (5 AAC 39.222) under section (f):

5 AAC 39.222 (f)(3) “*Biological Escapement Goal (BEG)*: the escapement that provides the greatest potential for maximum sustained yield (MSY);” and

5 AAC 39.222 (f)(36) “*Sustainable Escapement Goal (SEG)*: 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.”

A total of 50 existing escapement goals were evaluated in the Southeast Region. The committee determined the appropriate goal type (BEG or SEG) for each salmon stock with an existing goal. The committee also considered other monitored, exploited stocks without an existing goal. Based on the quality and quantity of available data, the committee determined the most appropriate methods to evaluate the escapement goals. Due to the thoroughness of previous analyses (cited above), the committee considered primarily those goals with recent information that could potentially result in a substantially different escapement goal from the last review, or those goals that should be eliminated or established. The committee also considered management needs—how goals were integrated into fisheries management and how well the goal performed.

The committee recommends, to the directors of the Divisions of Commercial Fisheries and Sport Fish, changes to seven existing goals:

- Change the Klukshu (Alsek) River king salmon goal from the current BEG range of 1,100–2,300 fish, to a BEG range of 800–1,200 fish;
- Change the Klukshu (Alsek) River sockeye salmon goal from the current BEG range of 7,500–15,000 fish, to a BEG range of 7,500–11,000 fish;
- Change the Speel Lake sockeye salmon goal from the current BEG range of 4,000–13,000 fish, to an SEG range of 4,000–9,000 fish;
- Change the Lost River coho salmon goal from the current lower-bound SEG of 2,200 fish, as counted in foot and boat surveys, to an SEG range of 1,400–4,200 fish counted in Tawah Creek (Lost River);
- Change the Southern Southeast summer-run chum salmon goal from the current lower-bound SEG of 54,000 fish, as counted in aerial and foot surveys, to a lower-bound SEG of 62,000 fish;
- Change the Northern Southeast Outside summer-run chum salmon goal from the current lower bound SEG of 19,000 fish, as counted in aerial and foot surveys, to a lower-bound SEG of 25,000 fish; and
- Change the Chilkat River fall-run chum salmon goal from the current SEG range of 75,000–170,000 fish, to an SEG range of 75,000–250,000 fish.

A summary of the region’s salmon escapement goals and recommended changes are presented in Tables 1–5. Note that due to the timing of this memo relative to the timing of escapements for some systems and species, information needed to determine if goals were met is not available for many stocks in 2014. Oral and written reports concerning Southeast Alaska escapement goals and specific recommendations will be presented to the board in February 2015. These reports will list

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all current and recommended goals for Southeast Alaska and provide details on the methods used to reach these recommendations.

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**Table 1.**–Southeast Region king salmon escapement goals and escapements, 2009–2014.

System	Assessment method	Goal type	Escapement goal	Year established	Escapement <sup>a</sup>					Escapement goal recommendation	
					2009	2010	2011	2012	2013		2014
Blossom River	AS, IE	BEG	150–300	2012	123	363	147	205	255	217	No change
Keta River	AS, IE	BEG	175–400	2012	219	475	223	241	493	439	No change
Unuk River	MR, AS	BEG	1,800–3,800	2009	3,157	3,835 <sup>b</sup>	3,195 <sup>b</sup>	956 <sup>c</sup>	1,135 <sup>c</sup>	1,691 <sup>c</sup>	No change
Chickamin River	AS, IE	BEG	450–900	1997	611	1,156	853	444	468	652	No change
Andrew Creek	AS,	BEG	650–1,500	1998	628	1,205	936	587	920	1,261	No change
Stikine River	MR, weir	BEG	14,000–28,000	2000	12,803 <sup>b</sup>	15,116 <sup>b</sup>	14,480 <sup>b</sup>	22,327 <sup>b</sup>	16,735 <sup>b</sup>	20,000 <sup>b</sup>	No change
King Salmon River	AS	BEG	120–240	1997	109	158	192	155	94	68	No change
Taku River	MR, AS	BEG	19,000–36,000	2009	29,797 <sup>b</sup>	28,769 <sup>b</sup>	27,523 <sup>b</sup>	19,429 <sup>b</sup>	18,002 <sup>b,c</sup>	11,944 <sup>b,c</sup>	No change
Chilkat River <sup>d</sup>	MR	BEG	1,750–3,500	2003	4,386	1,775	2,654 <sup>b</sup>	1,721 <sup>b</sup>	1,706 <sup>b</sup>	1,290 <sup>b</sup>	No change
Klukshu (Alsek) River <sup>e</sup>	Weir	BEG	1,100–2,300	1998	1,466	2,159	1,667	693 <sup>b</sup>	1,261 <sup>b</sup>	842 <sup>b</sup>	<b>Change to BEG 800–1,200</b>
Situk River	Weir	BEG	450–1,050	2003	902	166 <sup>f</sup>	240	322	912	475	No change

**Note:** AS = peak aerial survey, IE = index escapement, MR = mark-recapture, NA = not available; gray cells indicate lower bound of the escapement goal not met.

<sup>a</sup> Goals are for large (≥660 mm mid-eye to fork length, or fish age 1.3 and older) king salmon, except for the Klukshu (Alsek) River 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 final report publication.

<sup>c</sup> Estimates based on expanded aerial survey index because mark-recapture studies failed.

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

<sup>e</sup> The Klukshu (Alsek) River king salmon escapement goal (BEG 800–1,200) was bilaterally agreed upon (TTC 2014). Escapement is measured using an index weir operated at the Klukshu River and unlike all other Southeast escapement goals that are germane to large fish, includes smaller, age-1.2 fish.

<sup>f</sup> The Situk River weir compromised for a few days in 2010; however, the consensus is that the escapement was still below goal.

**Table 2.**–Southeast Region sockeye salmon escapement goals and escapements, 2009–2014.

System	Assessment method	Goal type	Escapement goal	Year established	Escapement						Escapement goal recommendation
					2009	2010	2011	2012	2013	2014	
Hugh Smith Lake	Weir	OEG <sup>a</sup>	8,000–18,000	9,483	15,646	22,029	13,353	5,946	MET	No change	
McDonald Lake	FS, MR Run reconstruction	SEG	55,000–120,000	51,000	72,500	113,000	57,000	15,400	NA	No change	
Mainstem Stikine River	reconstruction	SEG	20,000–40,000	24,575 <sup>b</sup>	25,185 <sup>b</sup>	33,569 <sup>b</sup>	32,752 <sup>b</sup>	32,689 <sup>b</sup>	NA	No change	
Tahltan Lake	Weir	BEG	18,000–30,000	30,323	22,702	34,248	13,687	15,828	MET	No change	
Speel Lake	Weir	BEG	4,000–13,000	3,689	5,640	4,777	5,681	6,426	MET	<b>Change to SEG 4,000–9,000</b>	
Taku River	MR	SEG	71,000–80,000	74,339	88,428 <sup>b</sup>	112,187 <sup>b</sup>	112,564 <sup>b</sup>	75,323 <sup>b</sup>	MET	No change	
Redoubt Lake	Weir	BEG	10,000–25,000	12,851	17,119	21,806	40,903	48,355	MET	No change	
Chilkat Lake	Sonar, MR	OEG <sup>c</sup>	7,000–25,000	12,851	17,119	21,806	40,903	48,355	MET	No change	
Chilkoot Lake	Weir, MR	SEG	38,000–86,000	33,705	71,657	65,915	118,166	46,140	MET	No change	
East Alsek/Doame River	AS, IE	BEG	13,000–26,000	12,000	19,500	27,300	21,500	26,500	NA	No change	
Klukshu (Alsek) River <sup>d</sup>	Weir	BEG	7,500–15,000	5,509	18,546	20,769	17,176	3,800	NA	<b>Change to BEG 7,500–11,000</b>	
Lost River	BS, IE	Lower-bound SEG	≥1,000	NA	1,525	1,006	453	587	NA	No change	
Situk River	Weir	BEG	30,000–70,000	83,959	47,865	89,943	62,500	118,635	102,318	No change	

**Note:** AS = peak aerial survey, FS = foot survey, BS = boat survey, IE = index escapement, MR = mark-recapture, NA = not available; gray cells indicate lower bound of the escapement goal not met.

<sup>a</sup> Hugh Smith Lake sockeye salmon optimal escapement goal (OEG) set by 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 final report publication.

<sup>c</sup> Redoubt Lake sockeye salmon optimal escapement goal (OEG) set by Alaska Board of Fisheries (5 AAC 01.760); the Redoubt Lake BEG is 10,000–25,000.

<sup>d</sup> A drainage-wide Alsek River sockeye salmon escapement goal (BEG 24,000–33,500) was also bilaterally agreed upon (TTC 2014); estimated escapements are pending analysis and not yet available.

**Table 3.**—Southeast Region coho salmon escapement goals and escapements, 2009–2014.

System	Assessment method	Goal type	Escapement goal	Year established	Escapement						Escapement goal recommendation
					2009	2010	2011	2012	2013	2014	
Hugh Smith Lake	Weir	BEG	500–1,600	2,281	2,878	2,137	1,908	3,048	MET	No change	
Klawock River	Weir	SEG	4,000–9,000	5,415	9,707	5,572	7,507	8,323	NA	No change	
Taku River <sup>a</sup>	MR	Manage. threshold	>70,000	103,950 <sup>b</sup>	126,830 <sup>b</sup>	70,745 <sup>b</sup>	70,742 <sup>b</sup>	68,118 <sup>b</sup>	NA	No change	
Auke Creek	Weir	BEG	200–500	360	417	517	837	736	NA	No change	
Juneau Roadside Index	FS, IE	SEG	400–1,200	698	630	709	394	367	NA	No change	
Peterson Creek	FS, IE	SEG	100–250	123	467	138	190	126	NA	No change	
Ketchikan Survey Index	AS, IE	BEG	4,250–8,500	8,226	4,656	5,202	11,950	11,549	NA	No change	
Sitka Survey Index	FS, IE	BEG	400–800	1,156	1,273	2,222	1,157	1,414	NA	No change	
Ford Arm Lake	Weir	BEG	1,300–2,900	2,181	1,610	1,908	2,282	1,573	NA	No change	
Berners River	FS, AS	BEG	4,000–9,200	4,230	7,520	6,050	5,480	6,280	NA	No change	
Chilkat River	AS/FS, MR, IE	BEG	30,000–70,000	48,867	89,124	66,557	38,677	51,324	NA	No change	
Lost River	FS, IE	Lower-bound SEG	≥2,200	3,581	2,393	1,221	2,200	2,593	NA	<b>Change to Tawah Creek (Lost River) goal</b>	
Tawah Creek (Lost River)	FS, IE			3,581	2,393	1,221	NA	2,593	NA	<b>Establish SEG 1,400–4,200</b>	
Situk River	BS, IE	BEG	3,300–9,800	5,814	11,195	3,652	3,007	14,853	NA	No change	
Tsui/Tsivat Rivers	AS, IE	BEG	10,000–29,000	28,000	11,000	21,000	10,500	47,000	NA	No change	

*Note:* AS = peak aerial survey, FS = foot survey, BS = boat survey, IE = index escapement, MR = mark-recapture, NA = not available; gray cells indicate lower bound of the escapement goal not met.

<sup>a</sup> For the Taku River stock of coho salmon, the management intent of the U.S. is to ensure an escapement of 70,000 fish as specified in the Pacific Salmon Treaty management plan (JTC 2014).

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

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**Table 4.**–Southeast Region pink salmon escapement goals and escapements, 2009–2014.

System	Assessment method	Goal type	Escapement goal	Year established	Escapement					Escapement goal recommendation	
					2009	2010	2011	2012	2013		2014
Southern Southeast	AS, IE	BEG	3.0–8.0 million	2009	4.3 million	10.6 million	6.3 million	7.2 million	5.9 million	NA	No change
Northern Southeast Inside	AS, IE	BEG	2.5–6.0 million	2009	4.0 million	4.7 million	1.5 million	3.7 million	3.2 million	NA	No change
Northern Southeast Outside	AS, IE	BEG	0.75–2.5 million	2009	2.0 million	2.3 million	1.7 million	1.8 million	2.0 million	NA	No change
Situk River	Weir, IE	Lower-bound SEG	≥33,000	2012	62,800	102,200	77,500	30,600	150,500	28,238	No change

*Note:* AS = peak aerial survey, IE = index escapement, NA = not available; gray cells indicate lower bound of the escapement goal not met.

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**Table 5.**–Southeast Region chum salmon escapement goals and escapements, 2009–2014.

System	Assessment method	Goal type	Escapement goal	Year established	Escapement						Escapement goal recommendation
					2009	2010	2011	2012	2013	2014	
Southern Southeast Summer-Run	AS/FS, IE	Lower-bound SEG	54,000	2012	41,000	47,000	157,000	144,000	84,000	NA	Change to lower-bound SEG 62,000
Northern Southeast Summer-Run	AS/FS, IE	Lower-bound SEG	119,000	2012	107,000	77,000	125,000	177,000	278,000	NA	
Northern Southeast Outside Summer-Run	AS/FS, IE	Lower-bound SEG	19,000	2009	15,000	24,000	23,000	28,000	18,000	NA	Change to lower-bound SEG 25,000
Cholmondeley Sound Fall-Run	AS, IE	SEG	30,000–48,000	2009	39,000	76,000	93,000	54,000	13,000	NA	
Port Camden Fall-Run	AS,IE	SEG	2,000–7,000	2009	1,711	5,400	1,800	3,750	2,000	MET	No change
Security Bay Fall-Run	AS,IE	SEG	5,000–15,000	2009	5,100	6,500	5,100	9,800	3,000	MET	No change
Excursion River Fall-Run	AS,IE	SEG	4,000–18,000	2009	1,400	6,100	3,000	2,000	8,000	MET	No change
Chilkat River Fall-Run	MR, FW	SEG	75,000–170,000	2009	326,000	88,000	356,000	284,000	165,000	NA	Change to SEG 75,000–250,000

*Note:* AS = peak aerial survey, FS = foot survey, IE = index escapement, MR = mark-recapture, FW = fish wheel index; NA = not available; gray cells indicate lower bound of the escapement goal not met.