2018 Escapement Plan Options

For 2018, the Department is seeking input on two escapement options and their components. The Department will consider all input provided during final escapement plan development. The final escapement plan may be different from the two options described here based on input received.

Table 13.5-10a & b describe the 2018 escapement plan options for the four management groups. The fishery reference points shown are evaluated for the stocks that have a long term stock-recruit relationship. For the Early Summers, Summers, and Lates, the fishery reference points are scaled up annually to account for the expected contribution of the unforecasted, or "miscellaneous", stocks to the run timing group at the p50 abundance forecast (see Table 13.5-7). In the case of Early Summers the reference points were scaled over the forecast range due to the significant change in proportion of the miscellaneous stocks over the forecast range.

Table 13.5-11a & b shows, at the management group level, the range of expected outcomes (e.g., exploitation rates, available harvest, management adjustments and expected numbers of spawners to the grounds) for the range of the abundance forecast and fisheries reference points for each escapement option. Note that these values do not take into account the pre-spawn mortality which can occur after adult salmon reach spawning grounds. We currently do not have any methods to predict pre-spawn mortality rates. Table 13.5-9 provides an example of descriptions of the information presented in Table 13.5-11a & b.

Table 13.5-1: Description example of information shown in Table 13.5-11.

From Escapement Options Table		Description
	p10	run size forecast probability level being used for calculations in this column
forecast	37,000	forecast associated with p-level (above) and this management group
TAM Rule (%)	0%	total allowable mortality (TAM) at this run size forecast
Escapement Target	37,000	escapement goal at this run size
MA	25,500	management adjustment (MA=pMA x escapement target)
Esc. Target + MA	62,500	adds up escapement target and management adjustment
LAER	10%	low abundance exploitation rate
Available ER at Return	0%	exploitation rate given TAM rule, run size, escapement target, & MA
Allowable ER	10%	larger of the values in the two previous rows
Allowable Harvest	3,700	harvest available for test fish, US, and Canada (=allowable ER x run size)
Performance		
Projected S (after MA)	19,600	projected adult spawners to the grounds (NOT accounting for pre-spawn mortality (PSM))
BY Spawners	68,613	number of adult spawners four years previous (compare to line above)
Proj. S as % BY S	29%	projected spawners as a percentage of brood year spawners
cycle avg S	33,275	average number of spawners on this cycle line (NOT accounting for PSM)
Proj. S as % cycle S	59%	projected spawners as a percentage of cycle line average spawners

Table 13.5-12a & b shows the projected escapement for each forecasted stock over the range of forecast probability levels (i.e. the "projected S (after MA)" from Table 13.5-11a & b are distributed to the component stocks). Note that this makes the additional assumption that the exploitation rate will be distributed evenly within a management group. As of 2018, these tables reflect stock-specific pDBEs for Pitt, Chilliwack, Harrison, and Birkenhead sockeye.

Table 13.5-2a: - Option 1 Adjusted 2014 (brood year) Fraser sockeye Escapement Plan

Management Unit	Harvest Rule Parameters Low Abundance ER (LAER)	TAM Cap	Lower Fishery Reference Point	Upper Fishery Reference Point
Early Stuart	10%	60%	108,000	270,000
Early Summer (w/o misc)	20%	65%	180,000	514,000
Summer (w/o misc)	20%	65%	1,020,000	2,914,000
Late (w/o misc)	20%-30%	65%	1,100,000	3,143,000

Table 13.5-3a: 2018 Option 1 Escapement Plan for the Fraser River Sockeye management groups over a range of preseason forecasts.

For description of the values in this table, refer to Table 13.5-9. The bolded columns represent the pre-season planning values that are anticipated to be used to start the season in 2018

Management Unit		**Pre-season Forecast Return**				
		p10	p25	**p50**	p75	p90
Early Stuart	forecast	37,000	54,000	**84,000**	133,000	199,000
	TAM Rule (%)	0%	0%	**0%**	19%	46%
	Escapement Target	37,000	54,000	**84,000**	108,000	108,000
	MA	25,500	37,300	**58,000**	74,500	74,500
	Esc. Target + MA	62,500	91,300	**142,000**	182,500	182,500
	LAER	10%	10%	**10%**	10%	10%
	Available ER at Return	0%	0%	**0%**	0%	8%
	Allowable ER	10%	10%	**10%**	10%	10%
	Allowable Harvest	3,700	5,400	**8,400**	13,300	19,900
	2018 Performance					
	Projected S (after MA)	19,600	28,700	**44,600**	70,600	105,700
	BY Spawners	68,613	68,613	**68,613**	68,613	68,613
	Proj. S as % BY S	29%	42%	**65%**	103%	154%
	cycle avg S	33,275	33,275	**33,275**	33,275	33,275
	Proj. S as % cycle S	59%	86%	**134%**	212%	318%

Management Unit		**Pre-season Forecast Return**				
		p10	p25	**p50**	p75	p90
Early Summer (w/o RNT)	*lower ref. pt. (w misc)*	267,500	294,300	**330,100**	312,600	316,200
	upper ref. pt. (w misc)	763,800	840,400	**942,700**	892,600	902,900
	forecast (incl. misc)	584,000	1,102,000	**2,155,000**	3,765,000	6,587,000
	TAM Rule (%)	54%	65%	**65%**	65%	65%
	Escapement Target	267,500	385,700	**754,250**	1,317,750	2,305,450
	MA	144,500	216,000	**422,400**	737,900	1,291,100
	Esc. Target + MA	412,000	601,700	**1,176,650**	2,055,650	3,596,550
	LAER	20%	20%	**20%**	20%	20%
	Available ER at Return	29%	45%	**45%**	45%	45%
	Allowable ER	29%	45%	**45%**	45%	45%
	Allowable Harvest	172,000	500,300	**978,400**	1,709,400	2,990,500
	2018 Performance					
	Projected S (after MA)	266,600	388,000	**757,500**	1,321,700	2,309,100
	BY Spawners	647,784	647,784	**647,784**	647,784	647,784
	Proj. S as % BY S	41%	60%	**117%**	204%	356%
	cycle avg S	330,355	330,355	**330,355**	330,355	330,355
	Proj. S as % cycle S	81%	117%	**229%**	400%	699%

Management Unit		Pre-season Forecast Return				
		p10	p25	**p50**	p75	p90
Summer	*lower ref. pt. (w misc)*	1,064,300	1,064,300	**1,064,300**	1,064,300	1,064,300
(w. RNT & Har)	*upper ref. pt. (w misc)*	3,040,700	3,040,700	**3,040,700**	3,040,700	3,040,700
	forecast	1,470,000	2,473,000	**4,344,000**	7,669,000	13,173,000
	TAM Rule (%)	28%	57%	**65%**	65%	65%
	Escapement Target	1,064,300	1,064,300	**1,520,400**	2,684,150	4,610,550
	MA	106,400	106,400	**152,000**	295,300	507,200
	Esc. Target + MA	1,170,700	1,170,700	**1,672,400**	2,979,450	5,117,750
	LAER	20%	20%	**20%**	20%	20%
	Available ER at Return	20%	53%	**62%**	61%	61%
	Allowable ER	20%	53%	**62%**	61%	61%
	Allowable Harvest	299,300	1,302,300	**2,671,600**	4,689,550	8,055,250
	2018 Performance					
	Projected S (after MA)	1,063,200	1,062,200	**1,515,300**	2,694,200	4,616,000
	BY Spawners	2,837,275	2,837,275	**2,837,275**	2,837,275	2,837,275
	Proj. S as % BY S	37%	37%	**53%**	95%	163%
	cycle avg S	815,485	815,485	**815,485**	815,485	815,485
	Proj. S as % cycle S	130%	130%	**186%**	330%	566%

Management Unit		Pre-season Forecast Return				
		p10	p25	**p50**	p75	p90
Late	*lower ref. pt. (w misc)*	1,105,200	1,105,200	**1,105,200**	1,105,200	1,105,200
(w/o Har)	*upper ref. pt. (w misc)*	3,157,900	3,157,900	**3,157,900**	3,157,900	3,157,900
	forecast	3,174,000	4,794,000	**7,398,000**	11,370,000	16,934,000
	TAM Rule (%)	65%	65%	**65%**	65%	65%
	Escapement Target	1,110,900	1,677,900	**2,589,300**	3,979,500	5,926,900
	MA	477,700	721,500	**1,113,400**	1,711,200	2,548,600
	Esc. Target + MA	1,588,600	2,399,400	**3,702,700**	5,690,700	8,475,500
	LAER	20%	20%	**20%**	30%	30%
	Available ER at Return	50%	50%	**50%**	50%	50%
	Allowable ER	50%	50%	**50%**	50%	50%
	Allowable Harvest	1,585,400	2,394,600	**3,695,300**	5,679,300	8,458,500
	2018 Performance					
	Projected S (after MA)	1,113,100	1,681,400	**2,595,200**	3,989,500	5,943,400
	BY Spawners	2,303,384	2,303,384	**2,303,384**	2,303,384	2,303,384
	Proj. S as % BY S	48%	73%	**113%**	173%	258%
	cycle avg S	2,652,186	2,652,186	**2,652,186**	2,652,186	2,652,186
	Proj. S as % cycle S	42%	63%	**98%**	150%	224%
Allowable Harvest (TF, US, CDN)		2,060,400	4,202,600	**7,353,700**	12,091,550	19,524,150
Total projected spawners		2,462,500	3,160,300	**4,912,600**	8,076,000	12,974,200

Table 13.5-4a: Projected spawners by forecasted stock over the forecast range, applying Option 1TAM rules and historical median pMAs.

Color code shows comparison of p50 abundance forecast outcomes compared to cycle average and brood year escapement (green = greater

Run timing group / Stocks	Total Escapement Cycle Ave	Total Escapement Brood Year	Comparisons @p10 Cycle Ave	Comparisons @p10 Brood Year	Comparisons @p25 Cycle Ave	Comparisons @p25 Brood Year	Comparisons @p50 Cycle Ave	Comparisons @p50 Brood Year	Comparisons @p75 Cycle Ave	Comparisons @p75 Brood Year
Early Stuart	**33,275**	**68,613**	**59%**	**29%**	**86%**	**42%**	**134%**	**65%**	**212%**	**103%**
Early Summer	**330,355**	**647,784**	**81%**	**41%**	**117%**	**60%**	**229%**	**117%**	**400%**	**204%**
Bowron	5,767	12,210	55%	26%	73%	34%	121%	57%	212%	100%
Upper Barriere	5,365	11,467	76%	36%	91%	43%	162%	76%	300%	140%
Gates	4,274	16,928	117%	30%	164%	41%	311%	79%	622%	157%
Nadina	4,127	61,389	492%	33%	686%	46%	1296%	87%	2464%	166%
Pitt	25,593	36,507	52%	36%	58%	41%	96%	67%	152%	107%
Scotch	141,006	135,134	29%	30%	41%	43%	82%	85%	186%	194%
Seymour	92,481	114,013	103%	83%	132%	107%	210%	170%	335%	272%
Misc (EShu)	43,798	252,793	192%	33%	332%	58%	763%	132%	1233%	214%
Misc (Taseko)	1,733	114	0%	0%	6%	88%	12%	175%	17%	263%
Misc (Chilliwack)	2,620	3,470	19%	14%	38%	29%	88%	66%	198%	150%
Misc (Nahatlatch)	5,324	3,873	26%	36%	45%	62%	85%	116%	163%	225%
Summer	**820,977**	**2,862,856**	**130%**	**37%**	**129%**	**37%**	**185%**	**53%**	**328%**	**94%**
Chilko	375,259	1,029,313	161%	59%	154%	56%	211%	77%	358%	131%
Late Stuart	36,661	50,691	109%	79%	117%	30%	191%	48%	372%	94%
Quesnel	211,016	832,835	100%	25%	103%	75%	142%	103%	242%	175%
Stellako	124,282	507,777	134%	33%	120%	29%	158%	39%	255%	62%
Harrison	63,070	399,557	12%	2%	18%	3%	38%	6%	100%	16%
Raft	5,197	17,102	279%	85%	258%	78%	323%	98%	531%	161%
Misc (N. Thomp. Tribs)	1,250	1,170	112%	120%	136%	145%	200%	214%	424%	453%
Misc (N. Thomp River)	3,121	21,602	580%	84%	689%	100%	942%	136%	1983%	287%
Misc (Widgeon)	1,121	2,809	54%	21%	62%	25%	71%	28%	152%	61%
Late	**2,647,383**	**2,297,272**	**42%**	**48%**	**64%**	**73%**	**98%**	**113%**	151%	174%
Cultus	14,602	4,411	1%	2%	1%	5%	3%	9%	6%	20%
Late Shuswap	2,438,497	2,208,177	44%	48%	65%	72%	99%	110%	150%	165%
Portage	13,650	24,275	56%	32%	113%	63%	262%	147%	601%	338%
Weaver	58,362	24,646	23%	54%	47%	111%	90%	213%	191%	452%
Birkenhead	122,272	35,763	18%	60%	31%	107%	56%	191%	100%	340%
Misc. non-Shuswap	4,803	6,112	77%	61%	137%	108%	267%	209%	510%	401%

than 125%, yellow = between 25% - 75%, red = less than 25%, no color = between 74% - 125%)

Table 13.5-5b: - Option 2 Adjusted 2010 (brood year) Fraser sockeye Escapement Plan

Management Unit	Harvest Rule Parameters Low Abundance ER (LAER)	TAM Cap	Lower Fishery Reference Point	Upper Fishery Reference Point
Early Stuart	10%	60%	108,000	270,000
Early Summer (w/o misc)	10%	60%	180,000	450,000
Summer (w/o misc)	10%	60%	1,020,000	2,550,000
Late (w/o misc)	20%	60%	1,100,000	2,750,000

Table 13.5-6b: 2018 Option 2 Escapement Plan for the Fraser River Sockeye management groups over a range of preseason forecasts.

For description of the values in this table, refer to Table 13.5-9. The bolded columns represent the pre-season planning values that are anticipated to be used to start the season in 2018

Management Unit		Pre-season Forecast Return p10	p25	**p50**	p75	p90
Early Stuart	forecast	37,000	54,000	**84,000**	133,000	199,000
	TAM Rule (%)	0%	0%	**0%**	19%	46%
	Escapement Target	37,000	54,000	**84,000**	108,000	108,000
	MA	25,500	37,300	**58,000**	74,500	74,500
	Esc. Target + MA	62,500	91,300	**142,000**	182,500	182,500
	LAER	10%	10%	**10%**	10%	10%
	Available ER at Return	0%	0%	**0%**	0%	8%
	Allowable ER	10%	10%	**10%**	10%	10%
	Allowable Harvest	3,700	5,400	**8,400**	13,300	19,900
	2018 Performance					
	Projected S (after MA)	19,600	28,700	**44,600**	70,600	105,700
	BY Spawners	68,613	68,613	**68,613**	68,613	68,613
	Proj. S as % BY S	29%	42%	**65%**	103%	154%
	cycle avg S	33,275	33,275	**33,275**	33,275	33,275
	Proj. S as % cycle S	59%	86%	**134%**	212%	318%

Management Unit		Pre-season Forecast Return p10	p25	**p50**	p75	p90
Early Summer (w/o RNT)	*lower ref. pt. (w misc)*	267,500	294,300	**330,100**	312,600	316,200
	upper ref. pt. (w misc)	668,700	735,800	**825,300**	781,500	790,400
	forecast (incl. misc)	584,000	1,102,000	**2,155,000**	3,765,000	6,587,000
	TAM Rule (%)	54%	60%	**60%**	60%	60%
	Escapement Target	267,500	440,800	**862,000**	1,506,000	2,634,800
	MA	144,500	246,800	**482,700**	843,400	1,475,500
	Esc. Target + MA	412,000	687,600	**1,344,700**	2,349,400	4,110,300
	LAER	10%	10%	**10%**	10%	10%
	Available ER at Return	29%	38%	**38%**	38%	38%
	Allowable ER	29%	38%	**38%**	38%	38%
	Allowable Harvest	172,000	414,400	**810,300**	1,415,600	2,476,700
	2018 Performance					
	Projected S (after MA)	266,600	443,400	**865,800**	1,510,600	2,639,000
	BY Spawners	647,784	647,784	**647,784**	647,784	647,784
	Proj. S as % BY S	41%	68%	**134%**	233%	407%
	cycle avg S	330,355	330,355	**330,355**	330,355	330,355
	Proj. S as % cycle S	81%	134%	**262%**	457%	799%

Management Unit		Pre-season Forecast Return				
		p10	p25	**p50**	p75	p90
Summer (w. RNT & Har)	*lower ref. pt. (w misc)*	1,064,300	1,064,300	**1,064,300**	1,064,300	1,064,300
	upper ref. pt. (w misc)	2,660,900	2,660,900	**2,660,900**	2,660,900	2,660,900
	forecast	1,470,000	2,473,000	**4,344,000**	7,669,000	13,173,000
	TAM Rule (%)	28%	57%	**60%**	60%	60%
	Escapement Target	1,064,300	1,064,300	**1,737,600**	3,067,600	5,269,200
	MA	106,400	106,400	**173,800**	337,400	579,600
	Esc. Target + MA	1,170,700	1,170,700	**1,911,400**	3,405,000	5,848,800
	LAER	10%	10%	**10%**	10%	10%
	Available ER at Return	20%	53%	**56%**	56%	56%
	Allowable ER	20%	53%	**56%**	56%	56%
	Allowable Harvest	299,300	1,302,300	**2,432,600**	4,264,000	7,324,200
	2018 Performance					
	Projected S (after MA)	1,063,200	1,062,200	**1,731,800**	3,079,100	5,275,300
	BY Spawners	2,837,275	2,837,275	**2,837,275**	2,837,275	2,837,275
	Proj. S as % BY S	37%	37%	**61%**	109%	186%
	cycle avg S	815,485	815,485	**815,485**	815,485	815,485
	Proj. S as % cycle S	130%	130%	**212%**	378%	647%

Management Unit		Pre-season Forecast Return				
		p10	p25	**p50**	p75	p90
Late (w/o Har)	*lower ref. pt. (w misc)*	1,105,200	1,105,200	**1,105,200**	1,105,200	1,105,200
	upper ref. pt. (w misc)	2,763,100	2,763,100	**2,763,100**	2,763,100	2,763,100
	forecast	3,174,000	4,794,000	**7,398,000**	11,370,000	16,934,000
	TAM Rule (%)	60%	60%	**60%**	60%	60%
	Escapement Target	1,269,600	1,917,600	**2,959,200**	4,548,000	6,773,600
	MA	545,900	824,600	**1,272,500**	1,955,600	2,912,600
	Esc. Target + MA	1,815,500	2,742,200	**4,231,700**	6,503,600	9,686,200
	LAER	20%	20%	**20%**	20%	20%
	Available ER at Return	43%	43%	**43%**	43%	43%
	Allowable ER	43%	43%	**43%**	43%	43%
	Allowable Harvest	1,358,500	2,051,800	**3,166,300**	4,866,400	7,247,800
	2018 Performance					
	Projected S (after MA)	1,272,000	1,921,700	**2,966,000**	4,559,400	6,792,400
	BY Spawners	2,303,384	2,303,384	**2,303,384**	2,303,384	2,303,384
	Proj. S as % BY S	55%	83%	**129%**	198%	295%
	cycle avg S	2,652,186	2,652,186	**2,652,186**	2,652,186	2,652,186
	Proj. S as % cycle S	48%	72%	**112%**	172%	256%
Allowable Harvest (TF, US, CDN)		1,833,500	3,773,900	**6,417,600**	10,559,300	17,068,600
Total projected spawners		2,621,400	3,456,000	**5,608,200**	9,219,700	14,812,400

Table 13.5-7b: Projected spawners by forecasted stock over the forecast range, applying Option 2TAM rules and historical median pMAs.

Color code shows comparison of p50 abundance forecast outcomes compared to cycle average and brood year escapement (green = greater than 125%, yellow = between 25% - 75%, red = less than 25%, no color = between 74% - 125%)

Run timing group / Stocks	Total Escapement		Comparisons @p10		Comparisons @p25		Comparisons @p50		Comparisons @p75	
	Cycle Ave	Brood Year	Cycle Ave	Brood Year	Cycle Ave	Brood Year	Cycle Ave	Brood Year	Cycle Ave	Brood Year
Early Stuart	**33,275**	**68,613**	**59%**	**29%**	**86%**	**42%**	**134%**	**65%**	**212%**	**103%**
Early Summer	**330,355**	**647,784**	**81%**	**41%**	**134%**	**68%**	**262%**	**134%**	**457%**	**233%**
Bowron	5,767	12,210	55%	26%	83%	39%	139%	66%	243%	115%
Upper Barriere	5,365	11,467	76%	36%	104%	49%	186%	87%	343%	160%
Gates	4,274	16,928	117%	30%	187%	47%	356%	90%	711%	180%
Nadina	4,127	61,389	492%	33%	783%	53%	1480%	100%	2816%	189%
Pitt	25,593	36,507	52%	36%	66%	47%	110%	77%	174%	122%
Scotch	141,006	135,134	29%	30%	47%	49%	93%	98%	212%	222%
Seymour	92,481	114,013	103%	83%	151%	122%	240%	195%	383%	310%
Misc (EShu)	43,798	252,793	192%	33%	379%	66%	872%	151%	1410%	244%
Misc (Taseko)	1,733	114	0%	0%	6%	88%	12%	175%	17%	263%
Misc (Chilliwack)	2,620	3,470	19%	14%	46%	35%	99%	75%	225%	170%
Misc (Nahatlatch)	5,324	3,873	26%	36%	53%	72%	98%	134%	188%	258%
Summer	**820,977**	**2,862,856**	**130%**	**37%**	**129%**	**37%**	**211%**	**60%**	**375%**	**108%**
Chilko	375,259	1,029,313	161%	59%	154%	56%	241%	88%	409%	149%
Late Stuart	36,661	50,691	109%	79%	117%	30%	218%	55%	426%	108%
Quesnel	211,016	832,835	100%	25%	103%	75%	163%	118%	277%	200%
Stellako	124,282	507,777	134%	33%	120%	29%	180%	44%	291%	71%
Harrison	63,070	399,557	12%	2%	18%	3%	44%	7%	114%	18%
Raft	5,197	17,102	279%	85%	258%	78%	369%	112%	606%	184%
Misc (N. Thomp. Tribs)	1,250	1,170	112%	120%	136%	145%	224%	239%	488%	521%
Misc (N. Thomp River)	3,121	21,602	580%	84%	689%	100%	1077%	156%	2265%	327%
Misc (Widgeon)	1,121	2,809	54%	21%	62%	25%	89%	36%	169%	68%
Late	**2,647,383**	**2,297,272**	**48%**	**55%**	**73%**	**84%**	**112%**	**129%**	172%	198%
Cultus	14,602	4,411	1%	2%	1%	5%	3%	9%	8%	25%
Late Shuswap	2,438,497	2,208,177	50%	55%	75%	82%	114%	126%	171%	189%
Portage	13,650	24,275	64%	36%	129%	73%	299%	168%	686%	386%
Weaver	58,362	24,646	26%	62%	53%	127%	103%	244%	218%	517%
Birkenhead	122,272	35,763	20%	69%	36%	122%	64%	218%	114%	389%
Misc. non-Shuswap	4,803	6,112	87%	69%	156%	123%	304%	239%	583%	458%

The differences between the two options are:

1. Early Stuart
    - The same fisheries reference points (FRP) are proposed for both option 1 and 2 and is consistent with the escapement plan for Early Stuarts since 2013.
2. Early Summer and Summer Run
    - Option 1 –is consistent with the escapement plan used in 2014 (brood year) with the exception that the LAER is proposed to increase from 10% to 20% to allow for additional harvest flexibility at low run sizes and high MAs. In 2014 the TAM cap was increased from 60% to 65% to provide some additional harvest opportunity should the return be near average or larger for the dominant cycle return.
    - Option 2 – is consistent with the escapement plan used in 2010 (2014 brood year). This escapement plan has more conservative to harvest at low run sizes (LAER 10%) and near average at large run sizes (TAM cap 60%). The reference points were selected in 2010 to provide additional protection to weaker stocks within the Early Summer and Summer run. Although harvest flexibility is reduced more fish are expected to reach the spawning grounds over the forecast range.
3. Late Run
    - Option 1 –is consistent with the escapement plan used in 2014 (brood year). The LAER of 20-30% allows for additional harvest flexibility at low run sizes and high MAs and the 65% TAM cap provides some additional harvest opportunity for most of the forecast range given returns are near average or larger for this dominant cycle return.
        - Option 2 – is consistent with the escapement plan used in 2010 (2014 brood year) with the exception that the LAER is proposed to decrease to 20%. In 2010 the reference points were selected to provide additional protection to weaker stocks within the Late run aggregate. This escapement plan is more conservative to harvest at low run sizes (LAER 20%) and at near average or large run sizes (TAM cap 60%). The 2018 Late run is dominated by one stock (Late Shuswap). Although harvest flexibility is reduced more fish are expected to reach the spawning grounds over the forecast range including the weaker stocks within this aggregate such as Cultus sockeye.

Although two options are provided the actual escapement plan may look different than either option based on consultations this spring. Some questions that may inform feedback on the proposed Options may be:

- ***Given recent returns and uncertainty in the forecast are there additional actions that should be considered to address returns at the lower end of the forecast?***
- ***Do you support an increase in LAERs for Early Summer and Summer run sockeye?***
- ***Are there additional measures that should be considered for specific stocks within the aggregates that are a concern as far as expected escapements, large or weak?***
- ***Given this is a dominant cycle outcomes from the plan may result in escapement levels above cycle average escapements for the aggregate and some individual stocks within. Should additional harvest in those terminal areas where surpluses are expected to occur be considered?***