

## 2014 Fraser sockeye escapement options evaluations

### using adjusted 2010 TAMs

pMAs are the medians to 2012 (Sco-Seymour cycle line medians for ESum & Dom-subdom for Lates)

Raft North Thompson & Harrison in Summer Run. Adjusted Early Stuart TAM & variable Late Run LAER.

Management Unit		Harvest Rule Parameters			Lower Fishery		Upper Fishery	Pre-season pMA
		Low Abundance	TAM Cap	Reference Point	Reference Point			
Early Stuart		10%	60%	108,000		270,000	0.67	
Early Summer (w/o misc)		10%	60%	180,000		450,000	0.23	
Summer (w/o misc)		10%	60%	1,020,000		2,550,000	0.10	
Late (w/o misc)		20-30%	60%	1,100,000		2,750,000	0.61	

  

Management Unit	Pre-season Forecast Return						
	forecast	p10	p25	p50	p75	p90	
Early Stuart		132,000	189,000	299,000	476,000	709,000	
TAM Rule (%)	18%	43%	60%	60%	60%	60%	
Escapement Target	108,000	108,000	119,600	190,400	283,600		
MA	72,400	72,400	80,100	127,600	190,000		
Esc. Target + MA	180,400	180,400	199,700	318,000	473,600		
LAER	10%	10%	10%	10%	10%	10%	
ER at Return	0%	5%	33%	33%	33%	33%	
Allowable ER	10%	10%	33%	33%	33%	33%	
TAC	13,200	18,900	99,300	158,000	235,400		
<u>2014 Performance</u>							
Projected S (after MA)	71,000	102,000	120,000	190,000	284,000		
BY Spawners	60,300	60,300	60,300	60,300	60,300		
Proj. S as % BY S	118%	169%	199%	315%	471%		
cycle avg S	36,500	36,500	36,500	36,500	36,500		
Proj. S as % cycle S	195%	279%	329%	521%	778%		

  

Management Unit	Pre-season Forecast Return						
	lower ref. pt. (w misc)	p10	p25	p50	p75	p90	
Early Summer (w/o RNT)		251,000	245,000	239,000	223,000	218,000	
upper ref. pt. (w misc)		628,000	613,000	597,000	557,000	544,000	
forecast (incl. misc)		730,000	1,741,000	4,126,000	8,470,000	16,805,000	
TAM Rule (%)	60%	60%	60%	60%	60%	60%	
Escapement Target	292,000	696,400	1,650,400	3,388,000	6,722,000		
MA	67,200	160,200	379,600	779,200	1,546,100		
Esc. Target + MA	359,200	856,600	2,030,000	4,167,200	8,268,100		
LAER	10%	10%	10%	10%	10%	10%	
ER at Return	51%	51%	51%	51%	51%	51%	
Allowable ER	51%	51%	51%	51%	51%	51%	
TAC	370,800	884,400	2,096,000	4,302,800	8,536,900		
<u>2014 Performance</u>							
Projected S (after MA)	292,000	696,000	1,650,000	3,388,000	6,722,000		
BY Spawners	1,524,700	1,524,700	1,524,700	1,524,700	1,524,700		
Proj. S as % BY S	19%	46%	108%	222%	441%		
cycle avg S	291,400	291,400	291,400	291,400	291,400		
Proj. S as % cycle S	100%	239%	566%	1163%	2307%		

  

Management Unit	Pre-season Forecast Return						
	lower ref. pt. (w misc)	p10	p25	p50	p75	p90	
Summer (w. RNT & Har)		1,119,000	1,119,000	1,119,000	1,119,000	1,119,000	
upper ref. pt. (w misc)		2,796,000	2,796,000	2,796,000	2,796,000	2,796,000	
forecast		2,127,000	3,393,000	5,699,000	10,116,000	17,781,000	
TAM Rule (%)	47%	60%	60%	60%	60%	60%	
Escapement Target	1,119,000	1,357,200	2,279,600	4,046,400	7,112,400		
MA	111,900	135,700	228,000	404,600	711,200		
Esc. Target + MA	1,230,900	1,492,900	2,507,600	4,451,000	7,823,600		
LAER	10%	10%	10%	10%	10%	10%	
ER at Return	42%	56%	56%	56%	56%	56%	
Allowable ER	42%	56%	56%	56%	56%	56%	
TAC	896,100	1,900,100	3,191,400	5,665,000	9,957,400		
<u>2014 Performance</u>							
Projected S (after MA)	1,119,000	1,357,000	2,280,000	4,046,000	7,112,000		
BY Spawners	3,757,100	3,757,100	3,757,100	3,757,100	3,757,100		
Proj. S as % BY S	30%	36%	61%	108%	189%		
cycle avg S	1,113,200	1,113,200	1,113,200	1,113,200	1,113,200		
Proj. S as % cycle S	101%	122%	205%	363%	639%		

  

Management Unit	Pre-season Forecast Return						
	lower ref. pt. (w misc)	p10	p25	p50	p75	p90	
Late (w/o Har)		1,105,000	1,105,000	1,105,000	1,105,000	1,105,000	
upper ref. pt. (w misc)		2,763,000	2,763,000	2,763,000	2,763,000	2,763,000	
forecast		4,322,000	7,574,000	12,886,000	22,338,000	37,224,000	
TAM Rule (%)	60%	60%	60%	60%	60%	60%	
Escapement Target	1,728,800	3,029,600	5,154,400	8,935,200	14,889,600		
MA	1,045,900	1,832,900	3,118,400	5,405,800	9,008,200		
Esc. Target + MA	2,774,700	4,862,500	8,272,800	14,341,000	23,897,800		
LAER	20%	20%	20%	30%	30%	30%	
ER at Return	36%	36%	36%	36%	36%	36%	
Allowable ER	36%	36%	36%	36%	36%	36%	
TAC	1,547,300	2,711,500	4,613,200	7,997,000	13,326,200		
<u>2014 Performance</u>							
Projected S (after MA)	1,729,000	3,030,000	5,154,000	8,935,000	14,890,000		
BY Spawners	7,788,900	7,788,900	7,788,900	7,788,900	7,788,900		
Proj. S as % BY S	22%	39%	66%	115%	191%		
cycle avg S	2,902,000	2,902,000	2,902,000	2,902,000	2,902,000		
Proj. S as % cycle S	60%	104%	178%	308%	513%		

  

Available Harvest (TF, US, CDN)	2,827,400	5,514,900	9,999,900	18,122,800	32,055,900
Total projected spawners	3,211,000	5,185,000	9,204,000	16,559,000	29,008,000
total escapement goal	3,247,800	5,191,200	9,204,000	16,560,000	29,007,600
implied total mortality	56%	60%	60%	60%	60%

## 2014 Projected Total Escapement

Run timing group Stocks	Total Escapement		Projected esc. across range of run size forecasts at specified TAM + MA					comparisons @p50	
	cycle yr	brood year	10%	25%	50%	75%	90%	to cycle	to BY
<b>Early Stuart</b>	<b>36,500</b>	<b>60,300</b>	<b>71,000</b>	<b>102,000</b>	<b>120,000</b>	<b>190,000</b>	<b>284,000</b>	329%	199%
<b>Early Summer</b>			292,000	696,000	1,650,000	3,388,000	6,722,000		
<b>(total excluding miscellaneous)</b>	<b>238,500</b>	<b>1,152,900</b>	<b>209,200</b>	<b>511,306</b>	<b>1,244,098</b>	<b>2,738,000</b>	<b>5,559,200</b>		
Bowron	5,400	9,000	3,200	6,000	12,000	24,000	45,200	222%	133%
Fennell (cycle avg since 1974)	6,300	10,700	3,600	5,200	9,600	16,400	27,200	152%	90%
Gates	2,800	15,800	12,400	18,800	31,600	52,400	91,200	1129%	200%
Nadina	4,900	26,100	10,400	20,400	43,600	93,200	184,000	890%	167%
Pitt	26,700	16,800	12,400	18,400	29,200	50,800	83,200	109%	174%
Scotch (cycle avg since 1966)	82,900	522,400	105,600	271,000	616,700	1,331,200	2,797,200	744%	118%
Seymour	109,500	552,100	61,600	171,500	501,500	1,170,000	2,331,200	458%	91%
Misc (EShu & Taseko) e									
Misc (Chilliwack) f									
Misc (Nahatlatch) f									
<b>Summer</b>			1,119,000	1,357,000	2,280,000	4,046,000	7,112,000		
<b>(total excluding miscellaneous)</b>	<b>1,113,200</b>	<b>3,757,100</b>	<b>1,052,186</b>	<b>1,259,414</b>	<b>2,079,165</b>	<b>3,630,841</b>	<b>6,311,245</b>		
Chilkco g	456,300	2,460,000	589,800	667,900	1,046,200	1,709,400	2,715,800	229%	43%
Late Stuart	45,500	75,200	48,400	68,800	131,600	268,800	523,200	289%	175%
Quesnel	405,100	250,700	245,700	338,000	609,700	1,179,900	2,345,500	151%	243%
Stellako	124,500	204,400	159,400	174,800	276,000	447,600	687,600	222%	135%
Raft h	5,800	5,100	8,900	10,000	15,600	25,200	39,200	269%	306%
Harrison h & i	76,000	761,700	62,100	91,200	189,200	392,000	755,200	249%	25%
Misc (N. Thomp. Tribs) h & j									
Misc (N. Thomp River) h & j									
<b>Late</b>			1,729,000	3,030,000	5,154,000	8,935,000	14,890,000		
<b>(total excluding miscellaneous)</b>	<b>2,870,500</b>	<b>7,775,300</b>	<b>1,721,799</b>	<b>3,016,798</b>	<b>5,130,002</b>	<b>8,893,401</b>	<b>14,815,998</b>		
Cultus (high hatchery contributions)	10,300	10,000	1,200	2,400	5,200	11,200	22,400	50%	52%
Late Shuswap	2,652,200	7,519,000	1,560,200	2,758,000	4,691,600	8,095,800	13,401,600	177%	62%
Portage	17,200	58,100	8,000	18,000	44,400	106,000	262,800	258%	76%
Weaver	66,300	59,900	70,400	114,000	191,600	348,000	609,600	289%	320%
Birkenhead	124,500	128,300	82,000	124,400	197,200	332,400	519,600	158%	154%
Misc. non-Shuswap k									

esc from catch&expl by stk.xls  
 misc ESum 52,900 371,800 <-incl. NThomp  
 misc Lates 31,500 13,600