

## Snake River sockeye salmon

	# smolts			LGR			
	estimated migrating from Sawtooth Valley	adult returns 2 yrs later	SAR	returns 2 yrs later	Valley to LGR SAR	percent transported	peak Q @ Salmon
1998	144,524	257	0.18%	337	0.23%	71.9%	7430
1999	51,577	26	0.05%	36	0.07%	75.3%	11900
2000	19,621	22	0.11%	55	0.28%	51.8%	6120
2001	32,501	3	0.01%	11	0.03%	95.0%	3300
2002	75,046	27	0.04%	113	0.15%	66.3%	7540
2003	31,068	6	0.02%	18	0.06%	75.8%	13000
2004	27,346	3	0.01%	17	0.06%	95.2%	3830
2005	161,939	4	0.00%	52	0.03%	85.9%	5490
2006	180,686	650	0.36%	909	0.50%	59.2%	14900
2007	143,547	833	0.58%	1,219	0.85%	53.2%	5270
2008	200,904					62.0%	9630
2009	210,336					65.4%	11500

The following preliminary information has been generated from our on-going sockeye salmon studies. We compared 2005 and 2007 because they are similar years in terms of flow and temperature. This preliminary information regarding smolt survival to LGR and make-up of the adults returning in 2009, allows us to consider SAR's for sockeye salmon relative to the percent transported as juvenile out-migrants. Although this data is preliminary it does raise concerns regarding the transportation of sockeye salmon smolts. Increased sockeye salmon marking has recently been implemented, and continuation of this study, including a 60,000+ mark group release planned for 2010 will increase the understanding of sockeye salmon survival and SAR.

For the 2005 outmigration the valley to valley SAR is 0.00%. The Valley to LGR SAR is 0.03% and using the IDFG<sup>1</sup> estimate of 68,885 smolts arriving at LGR in 2005, the LGR to LGR smolt-to-adult return is 0.08% for the 2005 outmigration.

For the 2007 outmigration, the valley to valley SAR is 0.58%, the valley to LGR SAR is 0.85% and using the IDFG<sup>1</sup> estimated 88,398 smolts arriving at LGR in 2007, the LGR to LGR smolt-to-adult return is 1.37%. This LGR to LGR SAR is calculated with the general assumption that 100% of the adult return of an outmigration year returns two years later. In 2009 we estimated that 78% (651) of the returning adults out-migrated in the 2007 juvenile migration. If we assumed the same proportion passed LGR (951) the LGR to LGR smolt-to-adult-return would be 1.08%.

With the large number of PIT tagged Snake River sockeye salmon smolts migrating in 2010 there is an opportunity to better evaluate different passage routes and corresponding adult returns if a spread the risk approach is used.

Sincerely,

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<sup>1</sup> IDFG data was provided by personal correspondence with Dan Baker