Unpublished Results from Dr. J. R. Irvine, DFO and S. Akenhead, The Ladysmith Institute, June 2011

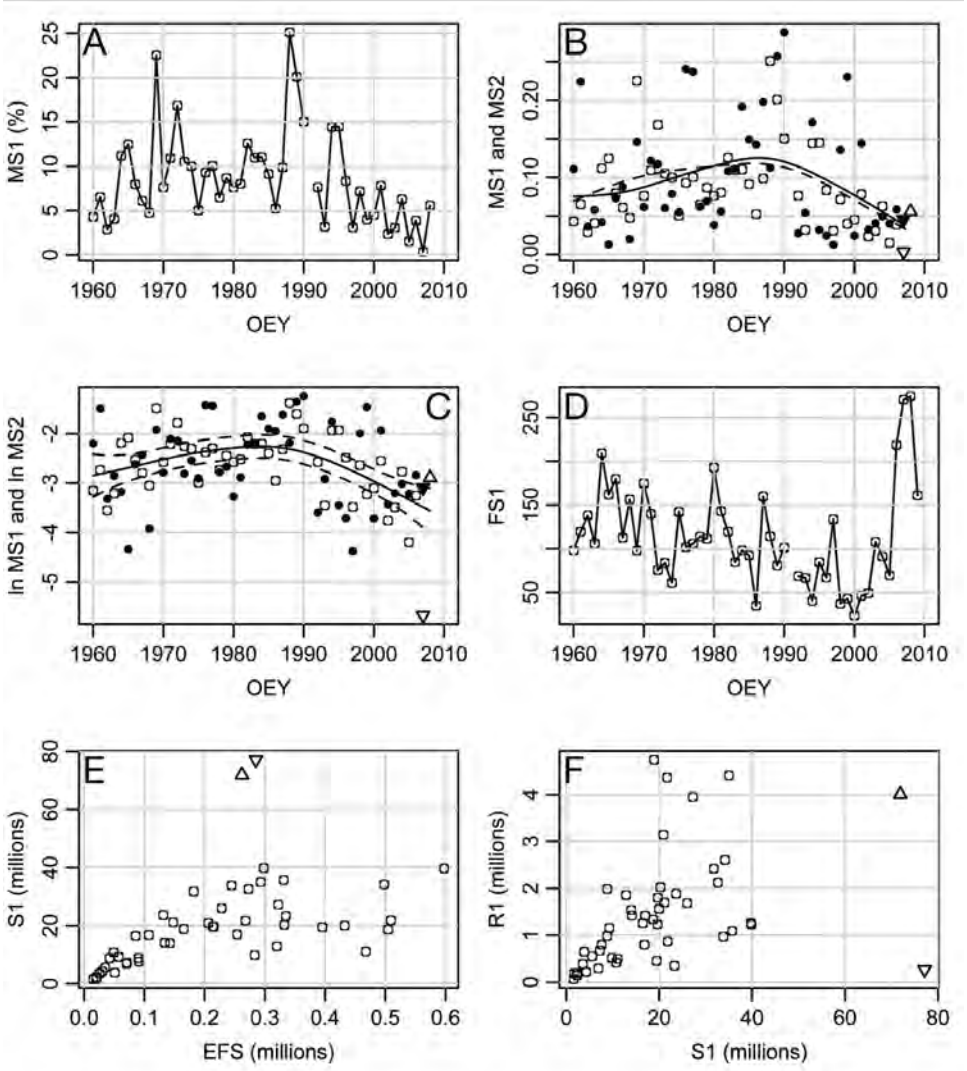

Figure. 1. Data points are open circles for age 1 smolts (S1) and filled circles for age 2 (S2). The latest survival data are highlighted as triangles pointing down for ocean entry year (oey) 2007 and up for oey 2008. **A**. Smolt-to-adult survival time series for age 1 smolts (MS1). **B.** Survival time series for age 1 and age 2 smolts with separate but similar GAM trend lines. **C.** Ln survival time series, separate GAM trend lines were not significantly different from the one line, displayed, for combined smolt ages. Dashed lines are ±2SE. **D.** Freshwater survival time series for each year for age 1 smolts only. Note high survivals post 2005 after a 40 year decline. **E.** Freshwater stock-recruit plot for S1 showing strong density dependence before anomalous 2007-2008 smolt production. **F.** Smolt-recruit plot for S1, showing oey 2007 (down facing triangle) as an outlier that would be interpreted as of density dependence, were it not for high returns from oey 2008 (up facing triangle).

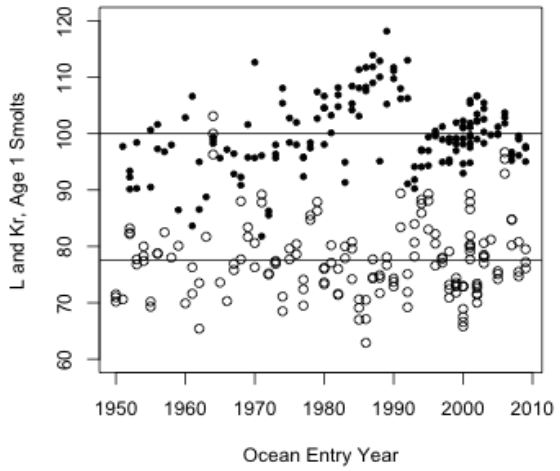

Figure 2. Annual means for condition from preserved samples, and for fresh fork length of measurements at the Chilko sockeye smolt fence. Horizontal lines are the mean over all years.

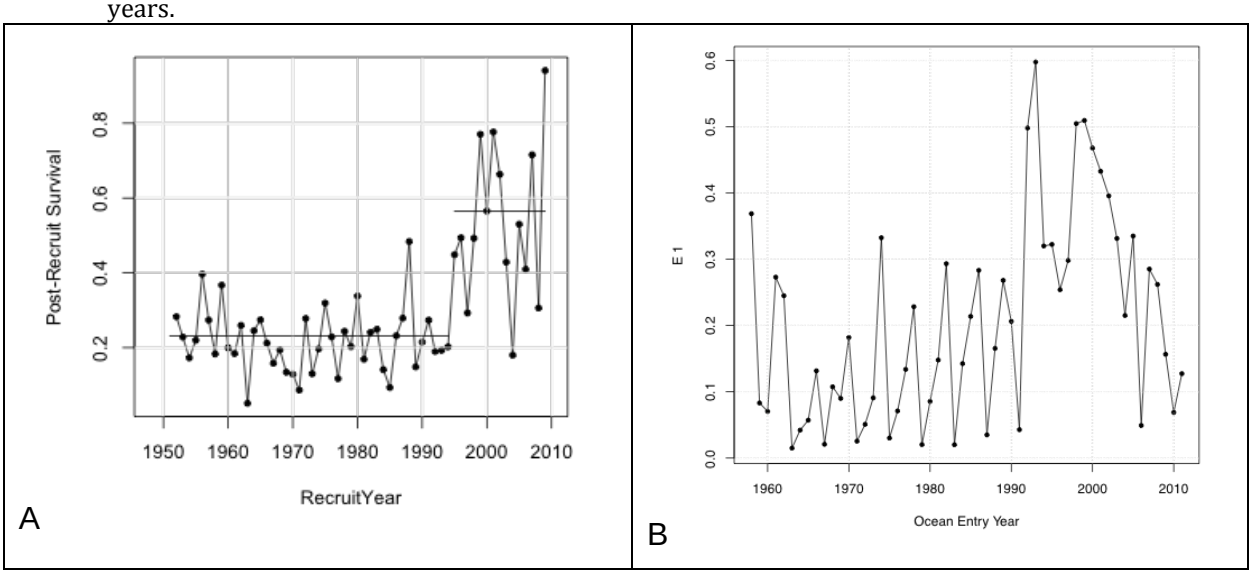

Figure 3. A. Fisheries exploitation (escapement/returns, the inverse of exploitation, shown) was lower, approximately 2X, after 1991. B. This resulted in a period of escapements that were 2X the preceding mean. In both plots, 2004 is an exception with high fishing mortality and low escapement since 1991.