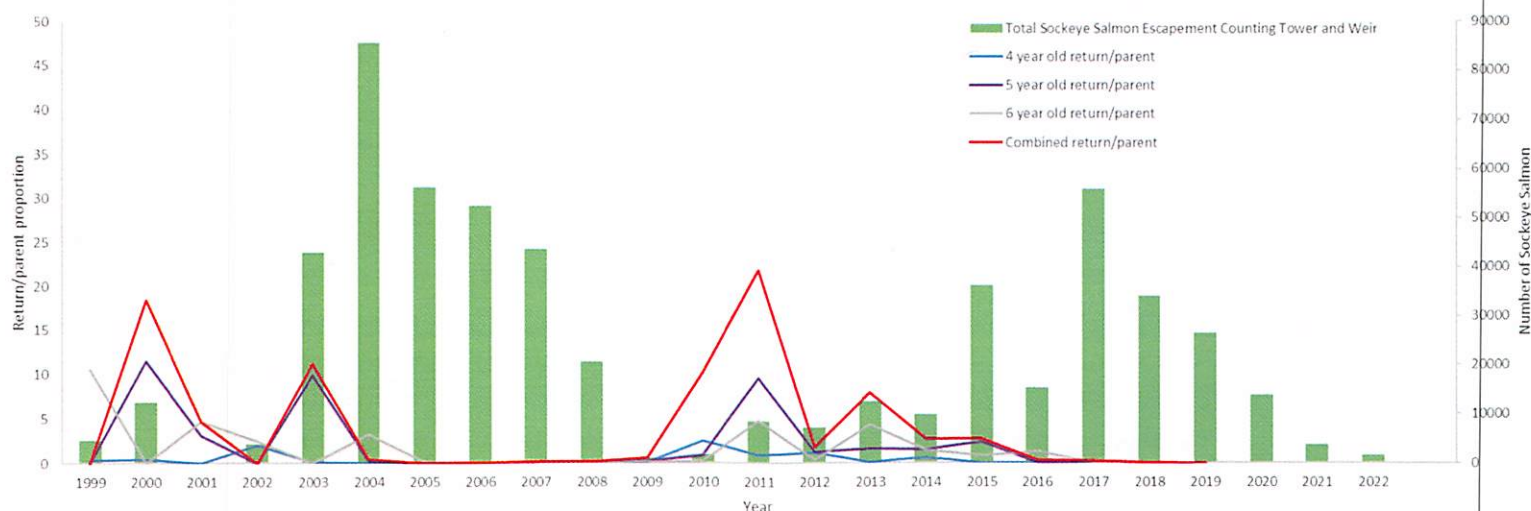


Comments in support of proposal #77

Proposal #77 suggests a reduction in the upper limit of the sockeye salmon escapement goal at Salmon Lake by using the OEG authority of the Board of Fisheries. This is intended to open a discussion of the management goal for this stock, which has been set using methodology intended to be solely reliant on a weak set of escapement data. This sockeye salmon stock not only has escapement data, but also data regarding smolt health at out-migration, age at return, and plankton or freshwater food data. This stock has one of the best tracking histories of all AYK salmon stocks, and certainly the best of any stock North of the Yukon River. This data was used by the Department Limnology Lab to project a reasonable carrying capacity for the system and to set the amount of fertilizer for supplementing nutrients to support plankton and rearing salmon. The current upper limit of the SET goal is twice the limnologist's recommendation which was first created two years ago.

Pilgrim River Sockeye Salmon Escapement vs return/parent proportion



The figure above shows the sockeye salmon escapements cyclic nature of returns for more than two decades in green. The cause of the vacillation is the boom and bust of the plankton rearing salmon feed on. Over-escapement in the lake results in the rearing juveniles over-cropping the plankton which in turn results in a drop in survival.

The red line seen above is the combined return per spawner from each parent year. This is the combination of the 4-, 5-, and 6-year-old returns. The best returns come from parent's year strengths of the proposal's recommended escapement range. Escapement from the parent years numbering 13,000 and above are poor with one exception, 2003. The plankton levels in 2003 were elevated due to several years of high rates of fertilization at the beginning of the fertilization rehabilitation of the stock. These levels of fertilization are no longer supported by the Department oversight.

Excessive escapements result in non-sustainable population swings. The discussion of management will need to consider actions needed to attenuate these swings of abundance. Tracking the return and responding with harvest management action should be considered as well as the escapement goal.