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Comments: I was disappointed not to see a more detailed discussion on the potential effects from this proposal on the basin's hydrograph. Specifically, I was hoped to see consideration of the recent increase in North Fork Stillaguamish flood magnitude and that flooding on the Federally ESA listed Chinook, steelhead and bull trout.

For those concern with the status of those ESA listed salmonids and basin flooding are fortunate that the USGS stream monitoring gauge on the North Fork Stillaguamish located near has a long and consistent record on monitoring the North Fork flows since 1929. That flow record shows that the 9 largest flood events in the basin have occurred this century (since 2001). T the 2004 Snohomish County report "Stillaguamish River Comprehensive Hazzard Management Plan" show that based on basin data from 1929 to 1998 100-year flood level was 41,200 cfs and the 500-year level of 45,300 cfs. Since that report the North Fork has seen 4 events greater than that 500-year flood events: 55,100 cfs in 2001, 49,400 cfs in 2009, 50,600 and 46,500 in 2016 (2 events).

On the Stillaguamish basin and a number of other Puget Sound River basins a strong negative relationship between flood level magnitude and the survival of Chinook eggs deposited in the gravel and the number of migrants collected in lower river smolt traps. The higher flow events during the period that eggs are in the gravel (October through February) the lower the portion of the eggs survive to hatch and ultimate make their journey to marine waters; a key component in the ability of the basin to produce fish. With the noted increased flooding since 2000 we would expect decreased Chinook production; especially given the importance of the North Fork Stillaguamish in the production of Chinook in the basin.

In the recently release co-managers draft 2022 Puget Sound Chinook Harvest Management Plan the Stillaguamish profile section there is a table with the run reconstruction for the Stillaguamish Chinook from 1990 to 2013 focusing on the number of spawners and the number of recruits (adults in absence of fishing) that would be produced. In the first decade (1990 to 1999) in 8 of 10 years the number of recruits produced was greater than their parent spawners with 10-year average recruits/spawners of 1.05. For the period ofr2000 to 2013 only 1 year produced more recruits than spawners and the average Recruits/spawners of 0.64. Clearly a Chinook population that on the average is only produced 2 adults for every 3 spawners cannot remain viable for any extended period of time.

We know that major of the North Fork basin land is forested with the USFS as a major landowner. Additionally timber harvest and the activities associated with that harvest has the potential to increase water discharge downstream.

I would think all the above argues strongly for the need for a full environmental statement with a robust discussion on the proposal's potential impacts on downstream flooding frequency and magnitude as well as that potential flooding impacts on the salmonid populations including the federal EAS listed species.

Curt Kraemer, May 22, 2022