Title:
The Influence of Reclamation Dam Operations on the Hyporheic Zone and Spring Chinook Egg Success.

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Summary of Presentation:
The US Bureau of Reclamation operates 5 dams in the Yakima River(WA, USA) watershed. Downstream of two of these dams (Keechelus and Cle Elum) we have investigated the influence of dam discharge on the hyporheic environment. In this presentation, we will report the results of this work. First we will discuss the relationship between surface discharge and hyporheic flow. We found that when discharge increased the hyporheic flow became more upwelling in spring chinook redds. In a different year, we found that when discharge decreased the hyporheic flow became less upwelling in spring chinook redds. Second, we intend to discuss the results of experiments we are currently conducting. In these experiments, we are investigating the influence on hyporheic flow on egg survival. We have installed egg plates (loaded with 32 spring chinook eggs) adjacent to 10 spring chinook redds and we have installed egg plates in another 10 locations that are not adjacent to the redds. We will discuss the physical and biological properties of these locations and the resulting egg survival in each.