**Anja Huff (WDFW)**

Title: Utilizing Models for Hatchery Program Evaluation

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Abstract Hatchery steelhead can present an ecological and genetic risk to wild steelhead populations and as such management agencies have adopted thresholds for acceptable levels of risk to wild Steelhead populations. In Washington State, the Statewide Steelhead Management Plan (SSMP) uses geneflow and the proportion of hatchery fish on the spawning grounds (pHOS) as the primary metrics for assessing genetic risk to wild Steelhead populations. However, due to high flows, turbidity and iteroparity, traditional carcass-based surveys are not effective at assessing pHOS and as such both geneflow and pHOS can be logistically challenging and costly to evaluate. As such, modeling provides an effective way to assess the relative impact of hatchery programs on wild populations. In recent years, WDFW has employed two modeling approaches, with the Demographic Geneflow Model used to evaluate segregated programs and the All-H-Analyzer for integrated programs. These models help the agency to understand geneflow and pHOS levels and prioritize actions to ensure the goals in the SSMP are met.