

Non-target Taxa Monitoring

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Salmon supplementation and reintroduction programs have the potential to negatively impact other valued fish taxa, which are not the target of enhancement (non-target taxa). We evaluated the impacts of spring Chinook salmon supplementation and coho salmon reintroduction (hereafter supplementation) to non-target fish taxa after stocking approximately one million yearling smolts annually in the upper Yakima Basin between 1999 and 2008. Field methods included backpack electrofishing and snorkeling in tributaries, and drift-boat electrofishing in the main stem. We used three sequential steps in our evaluation: First, we determined if spatial overlap occurred between supplementation fish and non-target taxa. Second, if overlap occurred, we determined if a decline in abundance, size, or biomass occurred during supplementation. Lastly, if a decline occurred, we determined if the change could be reasonably attributed to supplementation. Spatial overlap and changes in abundance, size, or biomass were determined to be significant if they exceeded containment objectives. Salmon rarely overlapped cutthroat and bull trout in tributaries, but some overlap of cutthroat occurred in relatively high elevations of the main stem, and considerable overlap with rainbow trout occurred in tributaries and the main stem. Salmon overlapped mountain whitefish and sucker species in the main stem, and dace and sculpin species in tributaries. With the exception of steelhead, the lower 90% confidence limit of abundance, size, and biomass was above the containment objective for non-target taxa that overlapped significantly with salmon. We used rainbow trout as an analog for steelhead. The lower 90% confidence limit of rainbow trout size in tributaries and in the main stem, were below our containment objectives. Comparisons of rainbow trout size in tributaries, and size in main stem sections with relatively high and low salmon abundance revealed that these changes were unlikely to be the result of supplementation (BACIP $P > 0.05$). Our data indicate that early stages of salmon supplementation have not impacted valued species in the upper Yakima Basin beyond predetermined containment objectives.