Restoration in Tepee Creek:
Lessons Learned and Looking Forward

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Abstract:

The first phase of in-stream restoration in Tepee Creek (the Tepee/IXL Meadows Restoration Project) was completed in August 2007 to address channel incision on an 1880' stream reach. Unlike traditional treatment approaches for incised reaches that involve excavation of new floodplain or the use of channel-spanning structures, the approach at Tepee Creek involved importing gravels to raise the bed elevation to raise the water table, enhance in-channel habitat conditions for rearing steelhead, and restore suitability of valley bottom for medicinal and traditional food plants

Two and half years of post-project monitoring have shown promising results including:

- maintaining perennial pools in all three years since construction within a reach that dried-up in 4 out of 5 years pre-project
- 60% increase in pools (from 15 pre-project to 23) with an average increase in residual depth >1.5
- a rise in the average annual water table between 1.3 and 2.4' and rise in the summer/fall water table of 3 to 4'
- rapid vegetative recovery, particularly where salvaged plant materials used
- six steelhead redds have been observed within the reach, and spawning densities roughly 5-10 times greater than adjacent reaches
- juvenile O. mykiss abundance double that of adjacent reaches

The talk will present construction techniques used and their effectiveness as well as, results of pool and groundwater monitoring data. It will also introduce the Phase 2 Tepee Creek project that is currently in the design stage for a 7850' reach immediately downstream of the IXL reach. Phase 2 has a more comprehensive effectiveness monitoring study design that incorporates fishery, food web, channel morphology, ground water, surface water, and vegetation components. Baseline data and hypotheses will be presented.