Abstracts

Biological Sciences - Aquatic

Whites Gulch Stream Stabilization and Fisheries Enhancement Project [AFS]

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In 1995, a portion of an Upper Missouri Westslope cutthroat (UMWCT) stream, currently one of the two remaining in the Big Belts Range east of Canyon Ferry Reservoir, Broadwater County, Montana, was reclaimed. Turn of the century ground sluicing followed by massive gold dredge operations in the mid-1 940's had left 3,000 feet of Whites Gulch perched in a ditch between some 100,000 cubic yards of overburden material and the north valley slope. The south side of the valley remained deeply excavated, filling with water and later, with brook trout (*Salvelinus fontinalis*). Thus, the hydrologic and ecological balance at the site remained precariously altered for years. The inevitable consequence was a massive headcut above the dredged valley triggered by springtime rainstorms in 1993. The result was 700 feet of deeply incised channel marked by 20 to 30 foot vertical walls that provided ponded nonnative brook trout direct access into cutthroat habitat immediately upstream. At this scale, reclamation planning and implementation demanded the combined resources of local, state, and federal agencies working in concert with private consultants. Recognizing the unstable conditions and on-going degradation in Whites Gulch and the value of local UMWCT, the only viable option was to restore long-term hydrologic stability by recreating the valley floodplain and channel to historic geomorphic conditions. To protect and preserve the remnant cutthroat (*Oncorhynchus clarki lewisi*) population from invasive brook trout, project planners had to include provisions for a barrier to segregate the two species. Valuable lessons in stream restoration planning and implementation are always in store for all parties involved in reclamation efforts at this level. Whites Gulch was not without its problems. More emphasis on building flexibility into construction scheduling including funding for post-construction design adjustments and maintenance are absolutely necessary to ensure that QC/QA considerations are met. However, determined efforts by all parties to reach well defined goals at Whites Gulch are paying off. Early monitoring indicates this project to be a conservation success for the physical and biological aspects in and above the project area.

Title footnote indicates organization, location and date presentation was made:

AFS *Montana Chapter of the American Fisheries Society Annual Meeting, Bozeman, MT, Feb. 5-6, 1997*
MAS *Montana Academy of Sciences Annual Meeting, Billings, MT, April 11-12, 1997*
TWS *Society of American Foresters Joint Annual Meeting with TWS as above.*
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