

West Plum Creek Stream Management Plan Phase I

Geographic Description: South Platte River Basin – West Plum Creek and tributaries from the National Forest boundary to the confluence with East Plum Creek

Size: 21 miles of the mainstem and 30 miles of tributaries

Project Homepage: <https://sites.google.com/peakfacilitation.com/westplumcreek/home>

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Planning Phase: Engage Stakeholders, Assess Conditions and Identify Risks, Select Objectives and Measurable Results

Status: Phase I (of II) in progress

Project Goals:

- Improve knowledge about creek characteristics including fish habitat quality, fish populations and locations, fish passage barriers, hydrology, riparian corridor quality, and stream bank conditions.
- Establish partnership between resource management agencies and landowners to build shared understanding of the conservation value of the creek and how land management practices impact creek health.
- Identify opportunities to improve stream conditions for native fish spawning/life cycles in terms of longitudinal connectivity, stream flow and velocity, substrate, cover, water depth, etc.
- Improve riparian habitat quality, including floodplain connectivity and reduction in noxious weeds.
- Create a replicable model for other area tributaries such as East Plum Creek.

Overview:

West Plum Creek is one of the last relatively unaltered transition zone streams on Colorado's Front Range, and is perhaps the best remaining example of this type of habitat. It is home to several declining eastern plains fish species, as well as the Northern Leopard Frog and the Preble's meadow jumping mouse. A Stream Management Plan is needed to assess native fish habitat, improve water quality, and better understand hydrology and opportunities in water management with water users. This project aims to build on years of aquatic data collection by Colorado Parks and Wildlife and other researchers to fully document existing conditions and identify risks to fish populations that may threaten the persistence of the State-listed species in the watershed, including Common Shiner, Iowa Darter, and Northern Redbelly Dace. Of primary importance is documenting fish passage barriers and understanding the hydrologic regime of the watershed, and how to maintain its integrity into the future.

Approach:

Phase I of this SMP will focus on stream condition assessment, development of objectives to reduce risk to native fish populations, identification of priority projects for fish passage, and landowner engagement. The project team will review existing data on fish habitat quality, native fish populations and locations, fish passage barriers, hydrology, water quality and riparian corridor/bank conditions in combination with newly collected field data to create a stream health assessment using the Colorado Stream Health Assessment Framework. A landowner engagement plan will be developed, as well as a water user needs assessment. The SMP will identify the primary stressors to native fish spawning and life cycles with the goal of ultimately developing recommendations for land management practices, creek restoration and fish passage barriers, and flow protection to reduce risk to native fish populations. A subsequent phase will identify and prioritize opportunities in water management, water quality, native fish conservation, and river/riparian restoration alongside landowners and water users. To prepare for Phase II, project partners will develop measurable conservation targets that rely on assessment data.

Budget: \$296,786

