

# Crystal River Restoration Project - 2018-current

**Owner:** Town of Carbondale

**Reference:** Kevin Schorzman, Public Works Director | (970) 510-1217 | kschorzman@carbondale.net

**Project Location:** Carbondale, CO | Crystal River

**Beginning/Ending Price:** \$200,000 / \$250,000 (change order due to additional fundraising tasks and extended schedule)

**Project Team Roles:** Quinn Donnelly, Project Manager and Alex Heller, Lead Designer

**Brief Description of Project:** RiverRestoration led a multi-disciplined team in the planning and design of the Crystal River Restoration Project in Carbondale, CO. The need for the project was identified in the stakeholder-driven 2016 Crystal River Management Plan and brings together several identified management priorities in a cohesive project that is both beneficial to its target reach and a replicable demonstration of multi-benefit restoration. The project reach was identified as impaired based on flow regime, sediment regime, riparian vegetation, debris supply, morphology, stability, physical structure, and biotic structure.

The project addresses many of these concerns by increasing aquatic habitat structure and in-stream

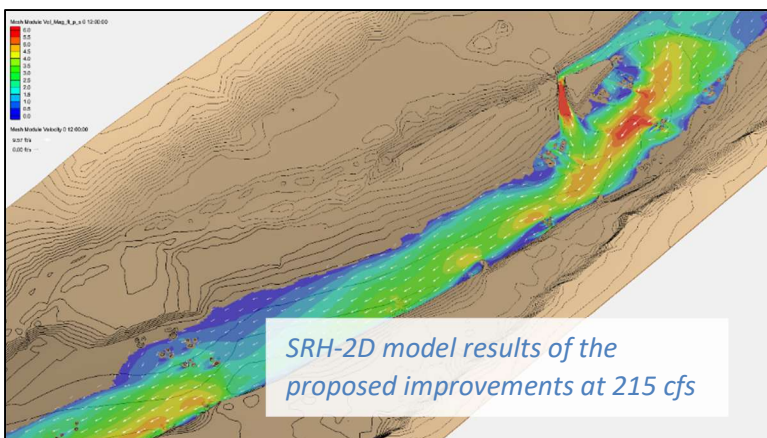
connectivity, improving channel and bank stability, and enhancing riparian buffers. The instream components include a reconfiguration of the Weaver Diversion, 900 feet of streambank stabilization, and a quarter mile of channel improvements to add aquatic habitat elements and a low flow thalweg. SRH-2D hydraulic modeling was used throughout the design process. Riparian improvements focus on retaining vegetation in functional habitat areas and removing invasive species. In addition, the improvements to Riverfront Park provide an accessible path to the river and floodplain bench, improve the rustic trail, add dedicated angler access points, and create a natural outdoor classroom space. The modifications to the park create the only opportunity for people of all abilities to access the Crystal River within the Town of Carbondale, providing a unique opportunity for all valley residents to experience the Crystal



*Pre-project reach with Weaver Diversion in foreground*



*Project reach looking upstream post in-channel construction*



*SRH-2D model results of the proposed improvements at 215 cfs*

River corridor and educate future river stewards on critical riparian and riverine functions and ways the community can protect these invaluable places.

The project work performed by the RiverRestoration team included project management, site assessment, hydrographic survey, alternatives development, multi-dimensional hydraulic analysis, public engagement, CWA 404 permitting, floodplain permit with the Town of Carbondale, extensive fund raising at the local, state, and federal level, construction documents, bid support, and construction observation. The in-channel portion of the project is complete and the plantings will be installed in the Spring of 2024.