

Town of Vail Flood Damage Assessment and Associated Projects, Vail, Colorado (2010-2014)

Name of project manager: Jason Carey, PE

Type of project: Planning, river engineering, riparian restoration, flood damage assessment

Name of client: Town of Vail

Brief description of project - A significant flood event occurred within the Town of Vail in June of 2010. RiverRestoration calculated that flows greater than the 100-year event occurred on the main channel and flows exceeded the 500-year event on several tributaries. This flooding significantly damaged property, infrastructure and the channel. Town of Vail requested a damage assessment and a prioritized restoration plan. The Town is highly sensitive to the environment and aesthetics and requested a restoration plan that could enhance the natural function of the channel while stabilizing the urban infrastructure.



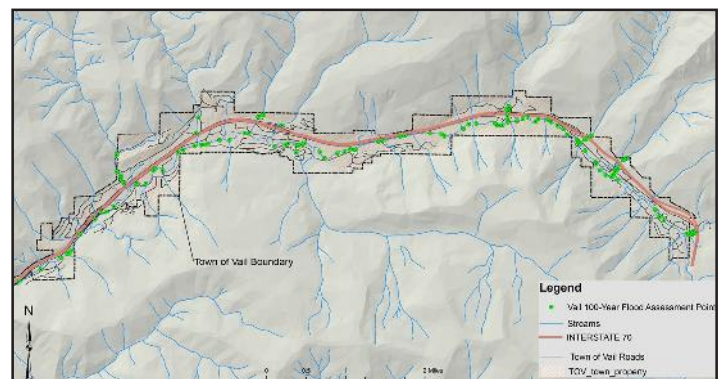
Stephen's Park bank stabilization and access.

RiverRestoration identified, categorized, and prioritized 64 projects for repair and restoration. Cost opinions and concepts for sustainable designs were scoped. RiverRestoration designed four top priority projects guided them through construction within 6 months. Twenty-Seven additional discrete projects have been designed by RiverRestoration and implemented since

2011. Improved flood conveyance, bank stability and infrastructure protection has been achieved at each project. These designs have accommodated habitat, morphology, and recreation while being aesthetically pleasing. As a part of this effort 12 parcels of Town stream tract have been reclaimed and restored with native riparian vegetation designed by RiverRestoration. The riverfront property values are a close second to the slope side valuations as the Gold Medal fishing and world class kayaking are creating year-round recreation demand in this mountain resort town.

Other pertinent information - In 2011, Gore Creek and one of its tributaries, Red Sandstone Creek, were added to the State of Colorado's 303(d) List of Impaired Waters. The listing was based on the absence of critical aquatic macroinvertebrates species. A subsequent study, the Town of Vail Water Quality Improvement Plan (WQIP) identified the loss of riparian buffers/habitat as one of the key causes of the impairment.

It is the goal of this project to re-establish vegetated buffers along Gore Creek by removing maintained turf areas, reducing "social" trails that trample vegetation and adding native vegetation to riparian and upland zones along the creek that will filter pollutants and improve streamside habitat. Another 3 miles of streambank are planned for restoration in the spring and summer of 2019.



RiverRestoration assessed over 12 miles of Gore Creek and its tributaries. A total of 64 specific projects were identified and prioritized as shown above.