

1.0 Executive Summary



Fish Creek Whispering Pines Dr. Home Damage



Fish Creek Road Damage

Introduction

With its tight link to Rocky Mountain National Park, the Estes Valley is a treasure of our state, drawing over 3 million visitors annually. The Fish Creek Corridor runs along the southeast end of Town, conveying flows from Twin Sisters Mountain and Lily Lake in the upper watershed, delivering to Lake Estes at the Town's down-valley limits. Although Marys Lake will drain to the Fish Creek Watershed in a severe dam breach event, for our planning purposes, Marys Lake will be treated as a part of the Big Thompson watershed as it has no surface connections to Fish Creek. The Fish Creek Corridor is critically important to and well-loved by the many people who live, work, and play along it. With so much development located in the river corridor, reducing flood risk and improving stream health is essential for successful coexistence with the river.

Fish Creek is a unique river system, with a challenging combination of steep gradients, a predominance of highly mobile sands in its upper soil layers, and extensive development along the creek and throughout the watershed. Stability in Fish Creek depends on intact native vegetation, with dense root matrices as "glue" for finer soils, as well as healthy beaver dam complexes that serve as regular "checks" along the channel to help hold the grade and dissipate energy during flood events.

In September 2013, Fish Creek experienced an extreme flood, with peak flow estimates at almost 2,000 cubic feet per second (cfs), which is larger than the peak flow predicted for the 500-year recurrence interval flood (1,400 cfs) (CDOT, 2014). Further, Fish Creek endured localized pulses resulting from numerous dam and culvert failures along the channel's length. It is likely the largest pulse of flow and sediment came from the dam break at Scott Ponds, though, additional pulses were caused when every culvert failed on Fish Creek during the September flood, the majority of these being undersized public and private crossings. Pre-flood beaver dams were also breached during the flood, but likely made the smallest contribution to larger pulse flows. Estimates of the larger pulses experienced locally are as high as 6,900 cfs (NRCS, 2013).

Without a doubt, the flood of 2013 and subsequent scientific and planning efforts showed that we still have much work to do in Fish Creek to achieve a healthy, resilient river system that protects both life and property during both large and small flood events.

With funding and technical support from the Colorado Water Conservation Board (CWCB) and the Office of Emergency Management (OEM), flood-affected communities were guided to create watershed coalitions and develop collaborative stream corridor Plans for Resiliency as the first critical step towards resiliency for our river systems, our economies, and our communities. The directive of the funding is to guide communities towards prioritization and implementation of flood recovery and stream restoration projects that protect life and property from hazards, while enhancing riparian ecosystems for wildlife and recreation.

In Estes Park, the **Fish Creek Corridor Plan for Resiliency** is the fruition of this directive and the first step in a decades-long journey of recovery and preparedness. The Plan is both a technical reference serving as a basis for final design, construction, and monitoring as well as a funding tool to support the grant writing process for flood recovery implementation funding.

The Fish Creek Plan is based on three base philosophies:

- Resiliency requires understanding the river and working with river processes, rather than forcing it into a mold of what we think it ought to be;

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- A risk-based approach to planning is the only way to fully accommodate the complexities of river systems and inter-relationships with our roads, homes, and infrastructure; and
- With so many people impacted by the September flood, resiliency planning can only be successful by engaging a broad range of public, private, and non-profit stakeholders and through widespread outreach and education to garner public support.

The Plan defines the vision for resiliency and identifies stepping stones to achieve the vision. Through education and outreach to date and critical ongoing education and outreach, the Plan fosters consensus driven and technically sound resiliency solutions that will be the foundation for project funding and implementation in both the short- and long-term.

Measures of success of the Fish Creek Plan include reduction of high risk areas for both flood and geomorphic hazards, community understanding of the river corridor and associated risks, increased resiliency for long-term support of recreational, educational, and correlated economic opportunities, and healthy and functional fish and wildlife communities and native riparian plant communities.

With this Plan and the formation of the Fish Creek Coalition, which has transitioned to the broader and permanent Estes Valley Watershed Coalition, the Estes Park community embarks on the critical next step in flood recovery *to build permanent recovery work on a foundation of strong science and engineering, vetted through the communities it will impact.*

We are on the path to resiliency for our river system, our economy, and our community.

