

## **Project Name:** Lake George Diversion Structure Removal and Lower Elevenmile Canyon Stream Restoration

### **Purpose and Need**

The South Park Ranger District (FS), in coordination with Colorado Springs Utilities (CSU) and the Coalition for the Upper South Platte (CUSP), proposes to remove a low head dam, which was previously used as a diversion structure by Colorado Springs Utilities prior to the early 1990s. The dam is located on the South Platte River at the mouth of Elevenmile Canyon near the town of Lake George, Colorado.

This proposed project involves the low-head diversion structure that is located at the entrance of Elevenmile Canyon, upstream from Lake George. The dam and associated pump house were constructed in 1952 and, according to the records available, CSU held a special use permit with the Forest Service from August 1970 until January 1991. At that time, there was an agreement between the FS and CSU that CSU would remove the pump house. The agreement stated that CSU could keep the dam in place providing they maintain a special use permit. In the early 1990s, there was some email exchange between CSU and the FS regarding transferring ownership, but no official documentation exists that the transfer took place. Currently there are no water or diversion rights associated with this structure. Additionally, there is not a FS special use permit in place.

Several key issues contribute to the need for the removal of the diversion dam at the entrance to Elevenmile Canyon. The structure is no longer operated and/or maintained and is no longer used, needed, or inspected by a specific entity. This lack of official, documented ownership of the structure places it in a situation where it will not be maintained for safety, causing increased risks of dam failure over time, which could cause a risk to public safety. Although the structure is of "low hazard" it requires inspections every two or three years, a cost that is not reasonable given its abandoned status. Maintenance has not been completed on this dam since CSU ended the special use permit. The dam is not impounding a significant amount of water; however, it does affect stream health and function.

Given the status and lack of ownership or necessity for the structure, there is a need to remove the abandoned dam. This would help to improve the condition of the associated watershed and expand fish passage within the South Platte River. The proposed project would recover overall aquatic habitat connectivity within a popular fishing destination, improve stream health and function by promoting sediment transport and hydrogeomorphic function, and reduce future cost and liability associated with aging infrastructure.

## **Project Description and Proposed Action**

The proposed action would use heavy equipment to remove the concrete structure and restore the channel to a natural flow pattern. To reduce impacts and complications due to stream flow, project activities would take place when stream flows are lower, typically between August 1 and November 30 each calendar year. Construction would occur in several stages and would require improving the former road leading from the parking area to the dam for construction equipment access and potentially removing the vault toilet temporarily for access. The parking area would serve as the construction staging area.

The proposed action would first require the removal of built-up sediment that has accumulated behind the dam before removal of the concrete structure. The excavated sediment would then be trucked to other locations nearby. Once the sediment is placed in the new location(s), it would be amended and seeded to blend it into the existing topography and settings. Removal of the sediment prior to removing the dam would ensure that the sediment stored behind the dam for the past fifty years would not flow downstream. Sediment would be trucked to up to three different locations in prioritized order; a large opening off of County Road (CR) 423, and/or CR 61 near its junction with NFSR 96/Elevenmile Canyon Road, and/or within the parking area/construction staging area adjacent to the Elevenmile Canyon Entrance Station. Removal of sediment would require multiple truck loads traveling to and from the dam location to the sediment disposal sites. Deposited sediment would be placed with measures to ensure that it would not erode back into the watershed and would be revegetated to avoid soil loss.

Sediment would be removed from behind the dam by diverting water around the dam, working in two stages. First, water would be diverted to the western side of the river to remove sediment from the exposed section. Second, water would be diverted on the opposite (eastern) side of the river to repeat that process. The concrete structure would be removed on each side once the sediment behind it has been removed during each stage. The concrete structure, including any unnatural riprap, would be broken apart and removed and hauled to an approved off-Forest disposal location.

Immediately following dam removal, the stream would be restored to a more natural state improving stream bed and bank stability. Natural stream channel structures would be used to stabilize the stream morphology to a more natural state and improve fish habitat. The proposed action includes adding features such as rock vanes, trees with rootwads anchored into the banks, sedge mats, and planting willows. After removing the dam, the stream gradient would be more gradual for fish passage. Placing natural stream channel structures above and below the dam location would support stability with natural stream processes. Any disturbed soil and sediment deposit areas would be amended and seeded with an approved Forest Service recommended seed mix. Seeded areas would be monitored for several years post-construction to ensure the absence of invasive species.

For the existing parking area and vault toilet to be retained, it would need to be operated under a fee system by the concessionaire who would assume responsibility for maintenance of the facilities.

