Glacier Creek Wetland Restoration in Rocky Mountain National Park

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Since 1954, Glacier Creek wetland has been heavily impacted by activities of a commercial horse livery that decreased water quality and degraded wildlife habitat for several species including the boreal toad (*Bufo boreas*), listed as endangered in Colorado. In 2002, Rocky Mountain National Park initiated a plan to restore 0.86 acres of the wetland with a goal that within 10 years following the restoration a self-sustaining wetland ecosystem would be intact. An analysis of soil types, hydrologic characteristics, and vegetation communities was performed to determine historic pre-livery wetland conditions. Removal of livery infrastructure included excavation of twelve to thirty-six inches of urine and fecal contaminated soils to expose the underlying hydric wetland soils buried by the continual filling of the stables. The hydric soils provided a planting medium for the 19,950 plants grown from native seed collected in the reference sites. Beaked sedge (*Carex utriculata*) and Canadian reed grass (*Calamagrostis canadensis*) comprised more than 80 percent of the total plants transplanted. The remaining 20 percent consisted of two other grass and grass like species, two shrub species, and three forbs. Five belt transects, representing approximately 3 percent of the total wetland, were installed to monitor the success of the restoration. Since 2005 there has been increase in survivability of all transplanted species along with colonization of twenty-seven native and seven exotic plant species. Annual monitoring indicates that Glacier Creek wetland is trending towards a self sustaining wetland with improved water quality and wildlife habitat.

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