

Biological and Ecological Benefits from Chatfield Reallocation Environmental Pool Increased Releases

Geographic Description: Metro Basin – Denver South Platte River

Size: About 40 river miles

Project Homepage: <https://chatfieldreallocation.org/overview/>

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Planning Phase: Assess Conditions and Identify Risks, Select Objectives and Measurable Results

Status: Initial evaluation completed in 2019; currently seeking project proponents and funding sources to move forward

Project Goals:

- Establish recommendations to maintain, protect, and enhance the biological and ecological functions of the South Platte River via increased flow releases from water available through the Chatfield Environmental Pool.
- Develop a decision-support system to determine specific timing and volume of water to be released from the Environmental Pool during low flow days.

Overview:

The population of Denver’s metro area is expected to increase from 2.6 million to 4.1 million residents by 2050, putting enormous stress on a limited water supply. This stress impacts agricultural users downstream from Denver’s metro area, who are unable to access their water rights during low flows. This work is intended to evaluate the existing hydrology of Denver’s South Platte River, characterize biological and ecological conditions, and evaluate opportunities to meet water supply gaps with a newly acquired 2,100 acre feet release from Chatfield Reservoir to benefit biological and ecological conditions. The environmental pool has the additional benefit of providing minimum flows to benefit downstream agricultural users.

Approach:

In response to increasing urban water needs, the U.S. Army Corps of Engineers determined that Chatfield Reservoir could accommodate an additional 20,600 acre feet of water without compromising its primary flood control function. Technical consultants conducted a hydrologic analysis of streamflow downstream from Chatfield Reservoir and a characterization of biological and ecological conditions as a function of stream flow to inform recommendations for the Chatfield Environmental Pool. Furthermore, an eDNA biodiversity sampling protocol is being employed to coincide with temperature measurements along the Denver South Platte. The eDNA is sequenced for fish and macroinvertebrates at the Texas A&M lab in Boulder. Watershed STEM students, as well as 11 agencies and stakeholders, are responsible for sample acquisition.

Outcomes:

This initial effort focused on the potential benefits of the Chatfield Environmental Pool through a 40-mile section of Denver’s South Platte. The final deliverable recommended a single project with the goal to further development to meet SMP goals. However, Denver Trout Unlimited is capacity-limited and therefore is seeking project proponents and funding sources to continue to move this project forward.

Budget: \$46,500

