Stream Management Plan Grantee Project Summary

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:
denvertu.org/environmental-pool-benefits/

Primary Contact:
Scott Schreiber
Denver Trout Unlimited
sschreiber@wrightwater.com

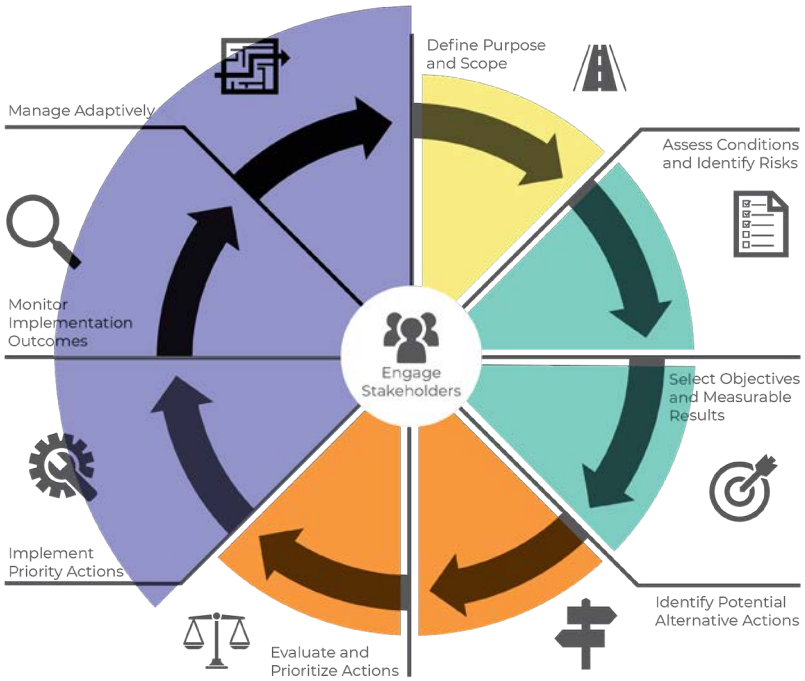
Project Timeline

Define Purpose and Scope	Assess Conditions and Select Objectives	Identify and Prioritize Actions	Implement and Monitor Actions
October 2016-June 2017	June 2017-January 2019	January 2019	February 2019-

Stakeholder Groups Involved in Planning Process

- Agricultural producers
- Riparian landowners
- Aquatic and riparian science
- Environmental advocacy
- Utilities or other water management
- Recreation & tourism
- Local government & land use planners
- State and federal agencies

Current Planning Phase



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COLORADO
Colorado Water Conservation Board
Department of Natural Resources

Project Goals

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

Overview

Geography:
The study area for Chatfield Reallocation Environmental Pool stream management plan is the South Platte River corridor through metro Denver and extends from Chatfield Reservoir downstream to the east side of the Denver metropolitan area at approximately 104th Avenue northeast of the city. The Denver South Platte is in the center of a highly urbanized environment and contains numerous local parks along its banks.

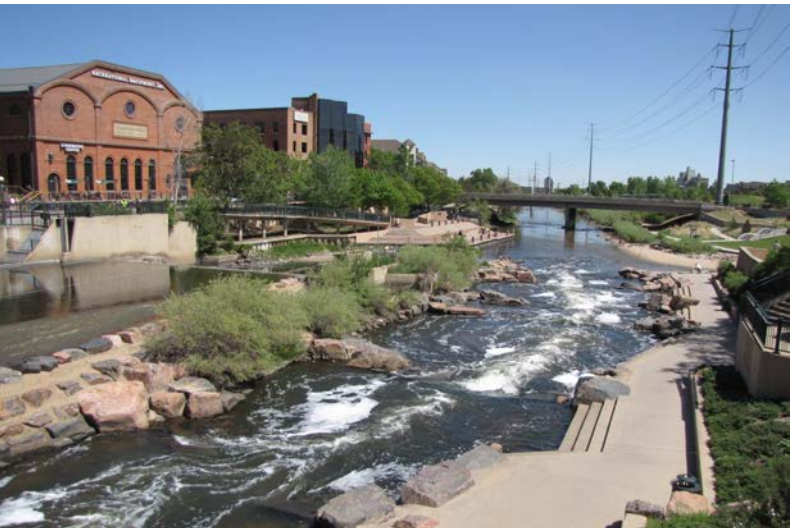
Users:
Colorado's Metro Basin, a subset of the South Platte Basin that overlays Denver's metro area, is home to over 2.6 million residents – about half of the state's total population. As a result, the South Platte through the Denver metro supports a wide variety of water users:

- Recreationalists, including anglers, bird watchers, trail users, boaters, etc.
- Denver Water and surrounding municipalities
- Industrial water users
- The Central Colorado Water Conservancy District and other downstream agricultural water users

Need for planning:
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 Plan is intended to evaluate the existing hydrology of Denver's South Platte, 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. The Chatfield Environmental Pool secures 2,100 acre feet of this water for environmental uses.



Denver Trout Unlimited undertook the leadership and project management of this study to inform the releases from the Chatfield Environmental Pool.

Colorado Trout Unlimited is supporting the local chapter with administrative duties as well as coordinating outreach and review with stakeholders. Miller Ecological Consultants, Inc. was the main technical consultant. Colorado Parks and Wildlife will lead management of Chatfield Environmental Pool Releases.

Four stakeholder meetings were held to engage the public to understand background information, identify interested stakeholders, educate stakeholders about findings from river health assessments, and present reports and recommendations for comments.

Miller Ecological Consultants conducted two parallel studies to inform recommendations for Chatfield Environmental Pool release flows and timing:

- Hydrologic analysis of streamflow downstream from Chatfield Reservoir.
- Characterization of biological and ecological conditions as a function of stream flow.

Outcomes

The studies conducted by Miller Ecological Consultants and subsequent recommendations will be used to facilitate the releases made by Colorado Parks and Wildlife from the Chatfield Environmental Pool to provide additional water during low flow days. This study equips Colorado Parks and Wildlife to better understand the range of flows that can be released and make decisions on how to manage a finite volume of water to benefit the environmental needs of Denver's South Platte.

This initial effort focused on the potential benefits of 2,100 acre feet in the South Platte through Chatfield Reservoir Environmental Pool releases. Denver Trout Unlimited hopes that momentum from this effort will be leveraged for further stream management planning to benefit the South Platte beyond the 40-mile project extent, exploring possibilities that water outside of Chatfield Reservoir might be used to benefit in-stream habitat.

Variables and Inventory Assessment Level

Depending on the purpose and scope determined by local stakeholders, assessments employ different methodologies to evaluate a suite of specific parameters related to stream health and ecosystem goods and services. The comprehensiveness of the data is will vary depending on what is needed to answer core questions addressed by the SMP, ranging from less precise (general, often anecdotal or third-party information) to more precise (data-driven, quantitative metrics). Miller Ecological Consultants assessed the following variables to evaluate watershed health and delivery of ecosystem services in the Denver South Platte.

	Variable	Assessment Level
Ecological Integrity:		
●	Existing Flow Regime	More Precise
●	Future Flow Regime	More Precise
	Sediment Regime	
●	Water Quality	More Precise
●	Network Connectivity	More Precise
●	Floodplain Hydrology	More Precise
●	Riparian Vegetation	Moderate
●	Stream Corridor Dynamics	Moderate
	Structural Complexity	
●	Temperature Regime	More Precise
●	Aquatic Biota	Moderate
Regulating and Maintenance:		
	Flood Regulation	
	Groundwater Recharge	
	Erosion Control	
	Pest Regulation	
	Regulatory Compliance	
Provisioning:		
●	Agricultural Production	Moderate
	Drinking Water Supply	
	Industrial Processing	
	Hydropower Production	
Cultural:		
●	Aesthetics and Intrinsic Values	Moderate
	Symbolic/Emblematic Species	
●	Boating Recreation	More Precise
●	Angling Recreation	More Precise

Budget

Contributing Entity	Amount and Form of Match
CWCB Watershed Restoration Fund	$20,500 cash
CWCB Water Supply Reserve Account Funding	$10,000 cash
Denver Trout Unlimited	$10,000 cash
Colorado Trout Unlimited Golmacheck Grant	$1,000 cash
In-kind match from Scott Schreiber and Bill Miller	$5,000 in-kind
Total	$46,500

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