

Fountain Creek Restoration in Manitou Springs, Colorado: Lessons in an Urban Fishery



2011 Sustaining Colorado Watersheds Conference
The First Drop Lands Here

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Rocky Mountain Field Institute
Stewardship. Education. Research.

Our Mission: Integrate environmental stewardship, education, and research through the exemplary restoration of key natural areas



Stewardship



Education

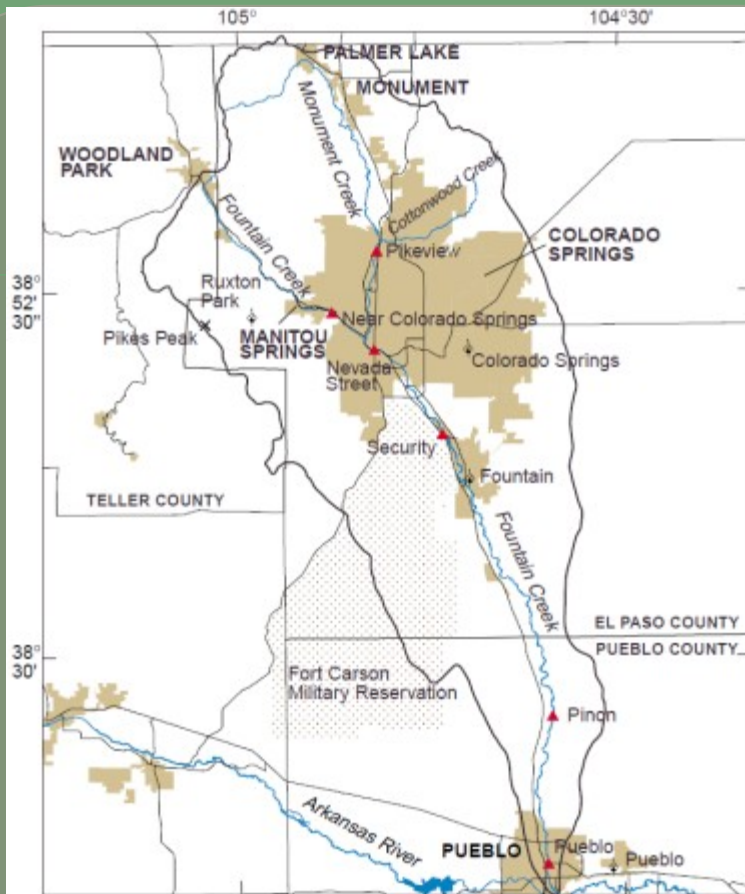


Research

WWW.RMFI.ORG

The Fountain Creek Watershed

The watershed drains 927 square miles of parts of Teller, El Paso, and Pueblo Counties in southeastern Colorado.

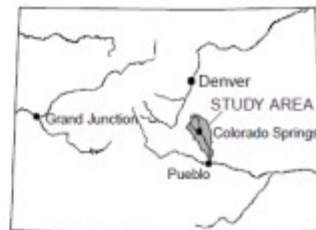


Base modified by Denver Water Board, 1998
From U.S. Geological Survey Digital Line Graphs, 100,000, 1981-1983
Roads and cities from Colorado Department of Transportation, 50,000, 1998.
Albers Equal-Area projection
Standard parallels 37°30' N and 40°30' N
Central meridian 105°30' W



EXPLANATION

- Fountain Creek watershed boundary
- ◆ Precipitation site and name
- ▲ U.S. Geological Survey streamflow site and name



COLORADO

Fountain Creek: Over a hundred years of encroachment in Manitou Springs



Another rustic bridge from the early 1870s that probably washed away in the one of the many floods of the early history of Manitou. Photo Courtesy Historic Manitou Springs, Inc.



This is a creek view of the bridge that led thousands of tourists from Manitou Avenue to the Manitou Soda Spring. Photo Courtesy Denver Public Library

Fountain Creek: Over a hundred years of encroachment



This view
Building a



View from the west of the west bridge to the
Manitou Spa Building. This view is probably
from the early 1920s. Photo Courtesy Manitou
Springs Historical Society

Fountain Creek: Manitou Springs



Aquatic Problem Conditions

Dozens of barriers due to critical infrastructure
Residual pool depths non existent
Laminar flows/ lack of complexity



Fountain Creek Restoration Committee

Initiated in 2006 when a group of concerned citizens, business owners, and watershed advocacy groups formed the Fountain Creek Restoration Committee (FCRC).

Mission Statement: To restore and revitalize the Fountain Creek ecosystem in Manitou Spring for fishing, recreation and wildlife habitat.

Vision Statement: Fountain Creek in Manitou Springs will be an sustainable fishery. A healthy riparian habitat for aquatic and other wildlife and an aesthetically pleasing natural environment for viewing wildlife and other recreational uses.



Fountain Creek Restoration Project

Goal: to implement strategies to restore Fountain Creek and improve the fishery from “Arch to Arch” within the city limits of Manitou Springs. Four project areas; Soda Springs, Memorial, Shryver, and Fields parks.

First major effort in the watershed to improve Fountain Creek involving many diverse members of the community.



Soda Springs Park



Fountain Creek Restoration

Soda Springs Park



- Improve channel stability
- Create scour pools



Fountain Creek Restoration

Soda Springs Park



Fountain Creek Restoration Soda Springs Park



Construction Phase



Stream stabilization and revegetation completed

Soda Springs Park



Biomass in the stream has increased by almost 50%

Challenges

The urban environment



“Bucket Biologists”

Challenges



Lessons Learned

Provide as wide a net as possible to inform the broader community about the project and goals. Educational opportunities at all phases of the project.

- Expect the unexpected. Lots of infrastructure found in-stream was not known. Survey!

- Difficult to entice recreational use to the stream yet maintain needed vegetation for slope stability. Provide the minimal number of access points required to meet goal.

- High sediment loads required modification of cross-vane structures to achieve optimal scour and channel stability.

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Second level

Third level

Fourth level

Fifth level

Thanks!

Any
questions?

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