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# BIG THOMPSON CONFLUENCE Mitigation Bank

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Restoring floodplain habitat to the confluence of the Big  
Thompson and South Platte Rivers

# OVERVIEW

Westervelt Ecological Services (WES) is managing the restoration and land stewardship of the Big Thompson Confluence Mitigation Bank. The project is situated at the confluence of the Big Thompson and South Platte Rivers in Weld County, Colorado. WES aims to reconnect a highly incised stretch of the Big Thompson River to its historical floodplain. The Bank is the first commercial mitigation bank approved in the Denver Metro area in 20 years, providing an historically under-served region with new, much-needed regulatory relief.

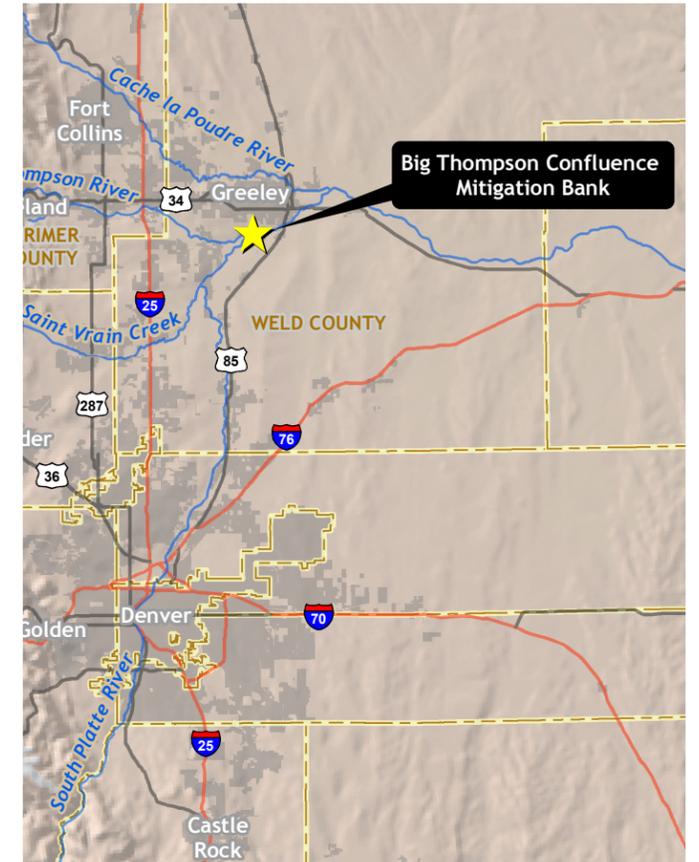


# MULTIPLE BENEFITS

The property was selected for floodplain restoration based on several key factors:

- Ecological Value**  
 Wetlands surrounding the confluence of river systems are not as common in the semi-arid west as they once were. Since the hydrography of each system will influence the function of the floodplain wetlands, the opportunity for restoration at this site is quite unique. This project is well positioned to provide ecological benefits to both systems simultaneously.
- Protection for Local Farm Communities**  
 This area was heavily damaged in the 2013 flood, leaving farms and communities devastated. Floodplain reconnection will help reduce water velocity during high flows, which reduces the problematic conditions during high water. By decreasing the impacts of flood events, the Big Thompson Confluence Mitigation Bank helps reduce the threat to public health and safety along this section of river.
- Allows for New Mitigation Options in the Region**  
 The bank offers a solution for 404 mitigation requirements that reduces the cost of compliance, protects natural resources, and reduces permitting time. The bank provides the first commercial credits available in two decades.

## PROJECT LOCATION



### WHAT

**72.4 acres** of restored floodplain

### WHERE

Confluence of the Big Thompson and South Platte Rivers in Weld County, CO

### WHEN

The Bank was approved for stream and wetland credits in **2019**

### WHY

To improve flood resiliency, increase floodplain connectivity, increase food web production, and ecosystem services

## PROJECT GOAL

The Big Thompson Confluence Mitigation Bank restores and protects the natural functions surrounding the Big Thompson and South Platte Rivers confluence, its associated floodplains, wetlands, and special status species habitat.



# SITE HISTORY

## Early History

The area was home to Native American tribes, such as the Arapaho, who were well established in Colorado and Wyoming. The tribes were well-known traders on the plains and Rocky Mountain foothills prior to the escalation of conflicts with Euro-American settlers.



## 1850s

Many settlers came to Colorado during the Gold Rush. The Union Colony was formed in the area surrounding the confluence to promote the establishment of agriculture at a time of substantial population increases. This colony is known for greatly advancing irrigation and cultivation practices to support crop yield in the semi-arid west.



## 1900s

As agriculture continued to thrive, irrigation infrastructure continued to expand and anthropogenic influences on river corridors became more apparent. Rivers became incised and disconnected from their historic floodplains, resulting in the loss of wetlands and wildlife.

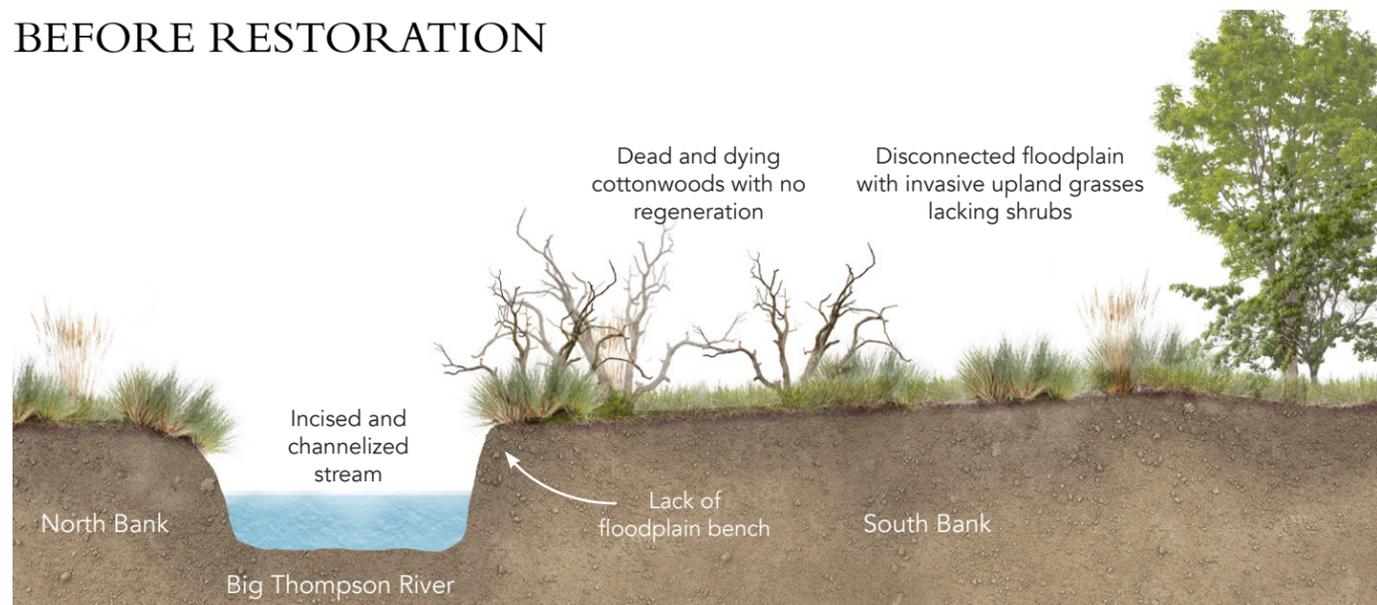


## 2013

In September 2013, the front range of Colorado saw three days of historic rainfall. Flood waters rushed down the mountains toward the plains, where it heavily impacted lower areas such as the South Platte River and the surrounding communities. President Barack Obama declared this event a National Disaster, and recovery continues to be an ongoing effort.



## BEFORE RESTORATION



# RESTORATION DESIGN

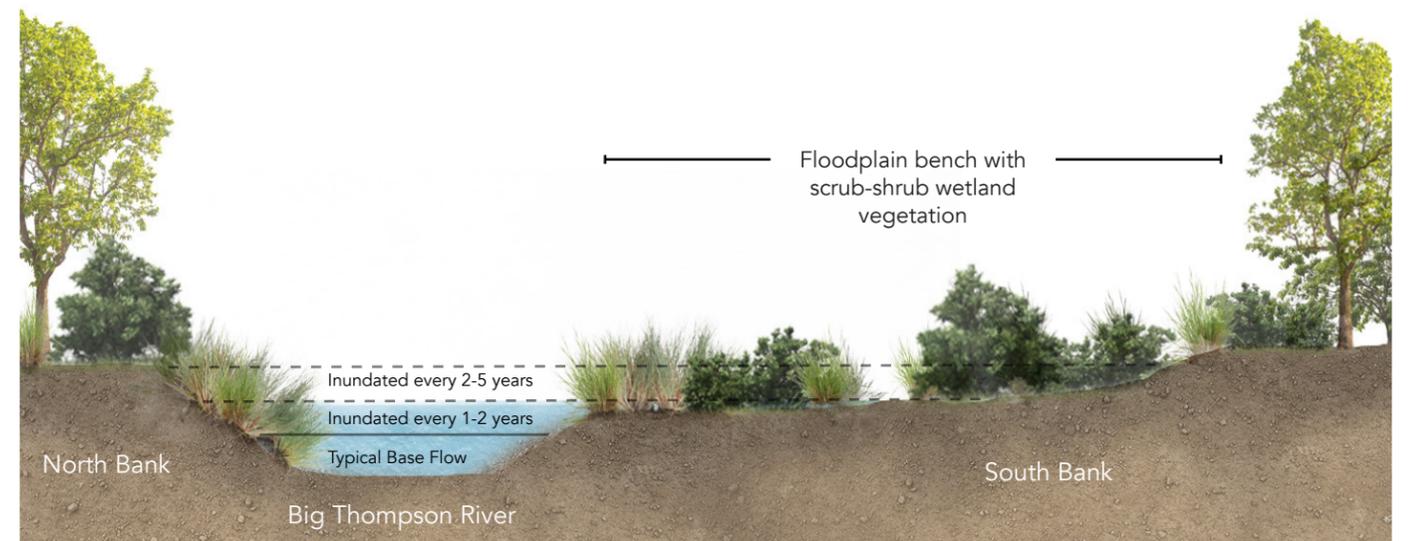
The restoration design reconnects the Big Thompson River with its historical floodplain by recreating floodplain benches, restoring backwater channels, reestablishing seasonal floodplain wetlands, and improving stream function. As designed, the floodplain benches will create a much larger channel cross section to carry peak flows, reducing the overall velocity of these high flows, and allowing for sediment and nutrient deposition. Backwater channels will mimic the historical floodplain connections. Variations in water levels, based on in-river flows, will facilitate the re-creation of historical ecology as water intermittently reaches different sections and elevations of the adjacent wet meadow wetlands.



## Benefits of the design:

- Floodplain benches increase the ability of the river system to withstand high water events by decreasing the velocity of the water as it moves through the landscape.
- Decreased velocity, in addition to the native wetland plants, helps reduce soil erosion.
- Properly functioning wetlands support microbes, plants, and wildlife that are all part of important water, nitrogen, and nutrient cycles.

## AFTER RESTORATION



# LONG TERM STEWARDSHIP



Looking toward the future, WES has partnered with Colorado Open Lands and the National Fish and Wildlife Foundation to ensure the protection and management of the land in perpetuity. Colorado Open Lands has a permanent conservation easement on the property, while the National Fish and Wildlife Foundation holds the long-term endowment. WES has established funds for future site management.



# SENSITIVE SPECIES



**Preble's Meadow Jumping Mouse**  
Status: Federally Threatened



**Golden Eagle**  
Status: Protected under the Bald and Golden Eagle Protection Act and Migratory Bird Treaty Act



**Bald Eagle**  
Status: Protected under the Bald and Golden Eagle Protection Act and Migratory Bird Treaty Act



**Orangespotted Sunfish**  
Status: State designated Tier 1 Species of Greatest Conservation Need

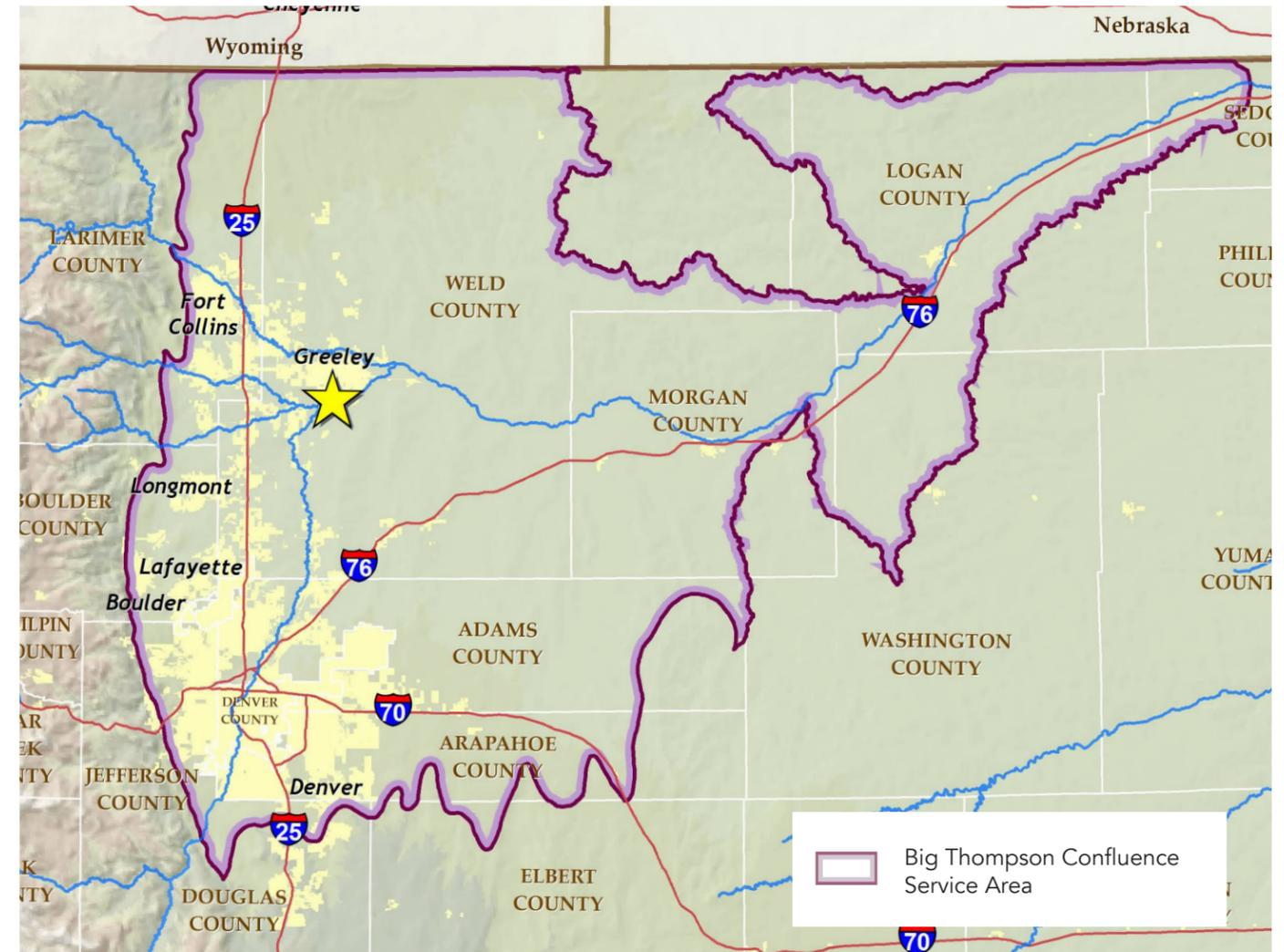
# SERVICE AREAS

Because of its location at the confluence of two rivers, the Bank straddles two 8-digit Hydrologic Unit Codes (HUC): the Big Thompson and the Middle-South Platte - Cherry Creek. Therefore, the general service area for streams and wetlands for the Bank includes all portions of the Middle South Platte - Cherry Creek 8-digit HUC and the Big Thompson 8-digit HUC, as well as all portions of adjoining 8-digit HUCs within the USEPA Level III High Plains Ecoregion and USACE Omaha District Regulatory Boundaries in the state of Colorado. Use of the Bank for mitigation in all other areas will be considered on a case-by-case basis by the Omaha District Engineer.

Westervelt is eager to answer all your questions related to compensatory mitigation. Whether you have questions related to service areas, credit types, mitigation ratios, or agency approvals - we are here to help!

## CONTACT INFORMATION

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For Additional  
Project  
Information



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## Regional Offices

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