



GRAND COUNTY

**WATERSHED  
RECOVERY**

# **Water Impacts and Recovery Efforts East Troublesome Fire**

**September 2, 2021**

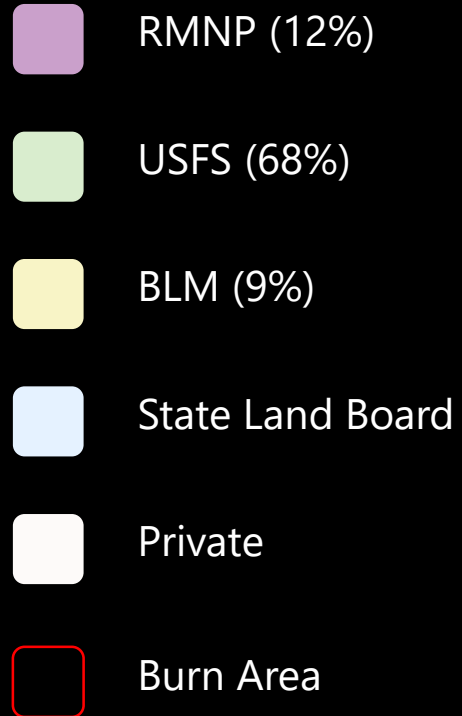
**Wildfire Matters Review Committee**



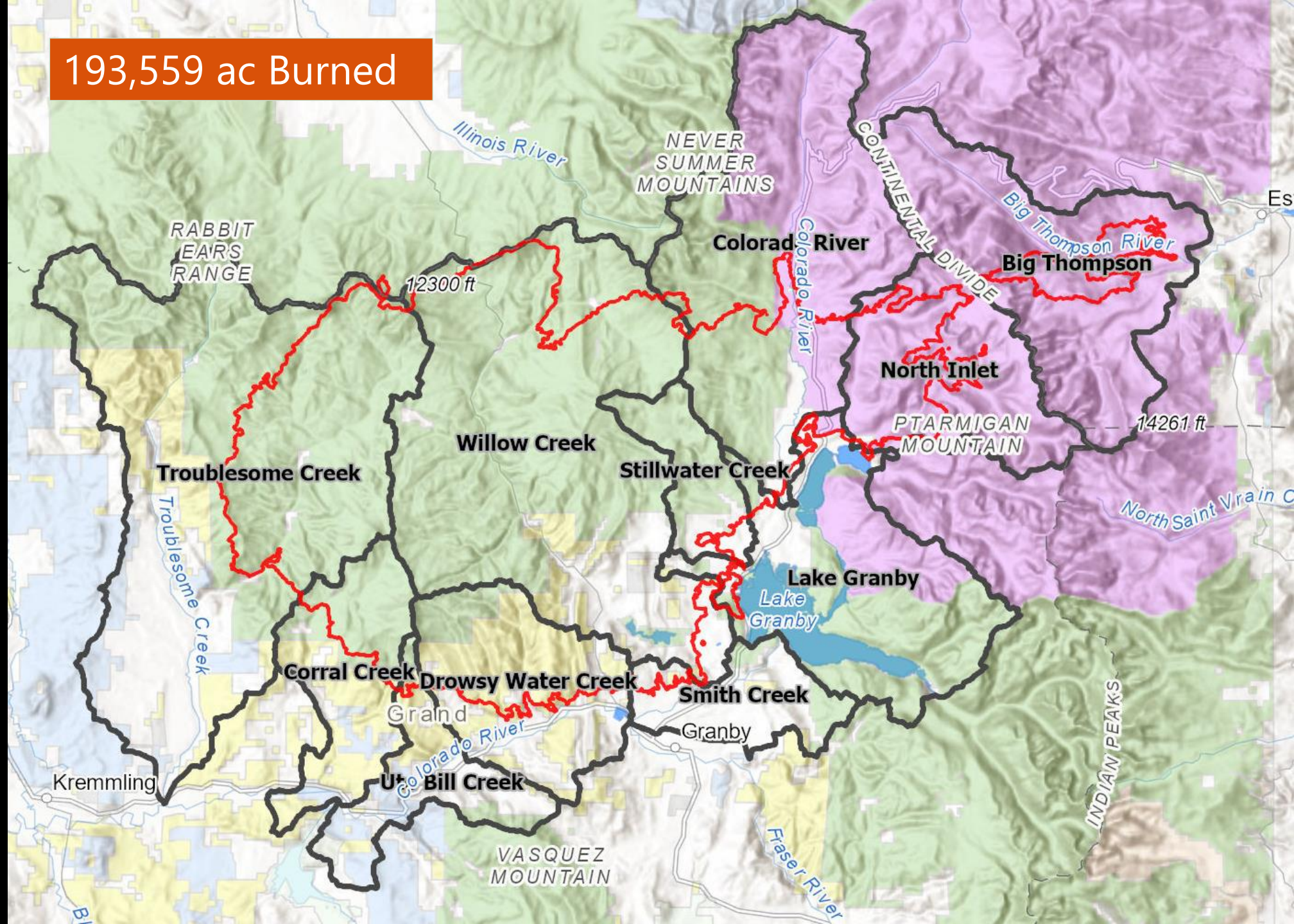
PRIVATE LAND  
19,757 ac (10%)

FEDERAL LAND  
168,908 ac (90%)

### Land Ownership



193,559 ac Burned



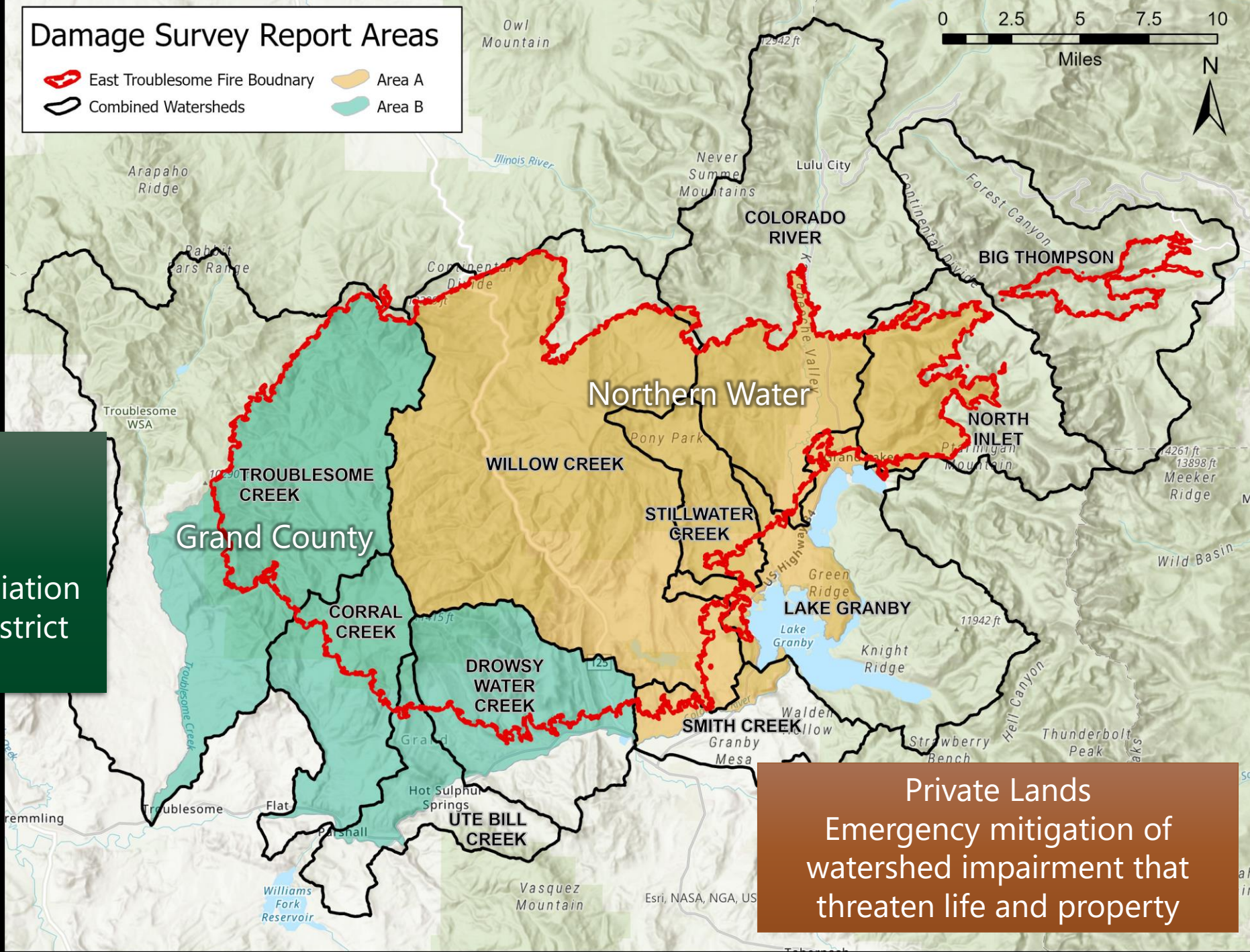


# Emergency Watershed Protection Program Sponsorship

## Partners

**Northern Water**  
**Grand County**

Three Lakes Watershed Association  
Middle Park Conservation District  
River District



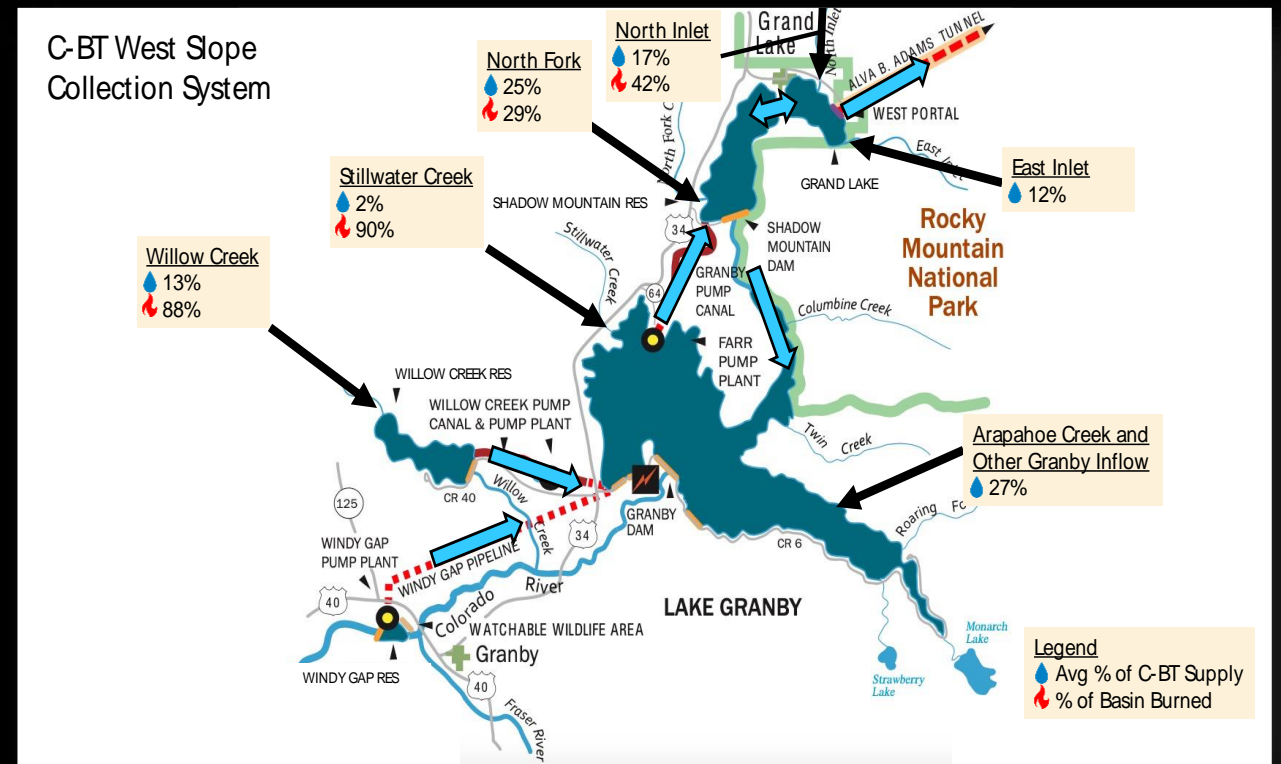
Private Lands  
Emergency mitigation of  
watershed impairment that  
threaten life and property







# Post Wildfire Impacts



## SEDIMENTATION



# DEBRIS FLOWS



# HARMFUL ALGAE BLOOMS

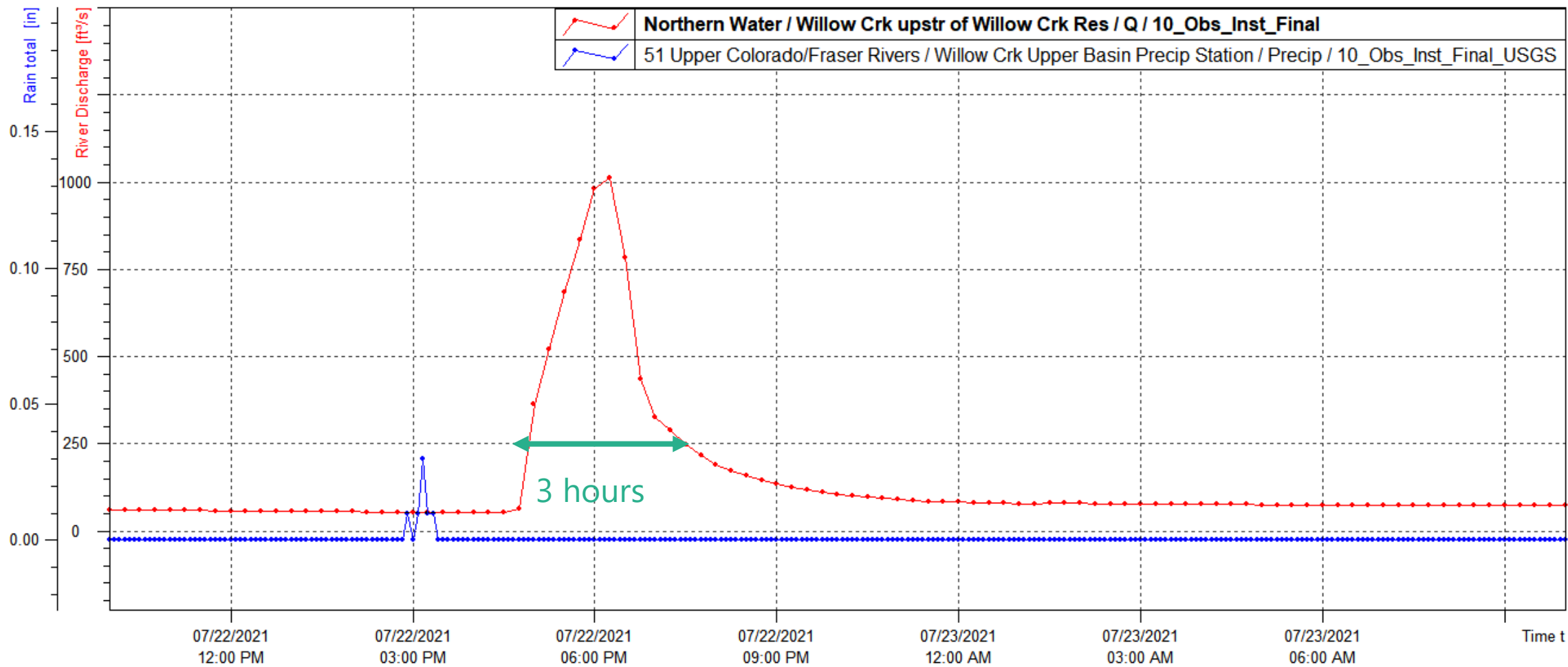


# WATER TREATMENT



## FLASH FLOOD









# WILLOW CREEK UPSTREAM OF WILLOW CREEK RESERVOIR

July 22, 2021







Jul 7, 2021 Hwy 125 - Mudslides









Willow Creek @ C-Lazy U Ranch – July 22, 2021





Highway 125 along Willow Creek – July 27, 2021





August 4, 2021

# Highway 125 Willow Creek Bridge



July 5, 2021



August 5, 2021  
Willow Creek Reservoir Inlet





# Willow Creek Reservoir

August 9, 2021







August 17, 2021  
Willow Creek Reservoir Debris Removal





# DANGER

## LAKE IS CLOSED TO FULL-BODY CONTACT

**Toxic algae may be present!** Water contact can cause illness

- ▶ Keep kids out
- ▶ No pets in water (death may occur)
- ▶ Do not drink water
- ▶ No water recreation (swimming, skiing, paddle-boarding, wading, etc.)
- ▶ If exposed, shower immediately

Fishing permitted - rinse fish with clean water and properly dispose guts  
Boating permitted - avoid algae

  If you or your animals have nausea, vomiting, diarrhea, rash, irritated eyes, seizures or breathing problems, call Poison Control: **1-800-222-1222**





Polestar 2  
100% electric



YOUR AD HERE »

## Potential algae bloom prompts closure of Willow Creek Reservoir in Grand County

News [FOLLOW NEWS](#) | August 2, 2021



Staff report  
SkyHi News

GRAND COUNTY — U.S. Forest Service officials have closed Willow Creek Reservoir in Grand County because of a potential blue-green algae bloom.

Willow Creek Reservoir, which is north of Summit County, is normally open to non-motorized recreation. The Forest Service says it is working with county officials, Colorado Parks and Wildlife, the Bureau of Reclamation, Northern Water and others to try to keep the public safe and assess when the area can reopen.

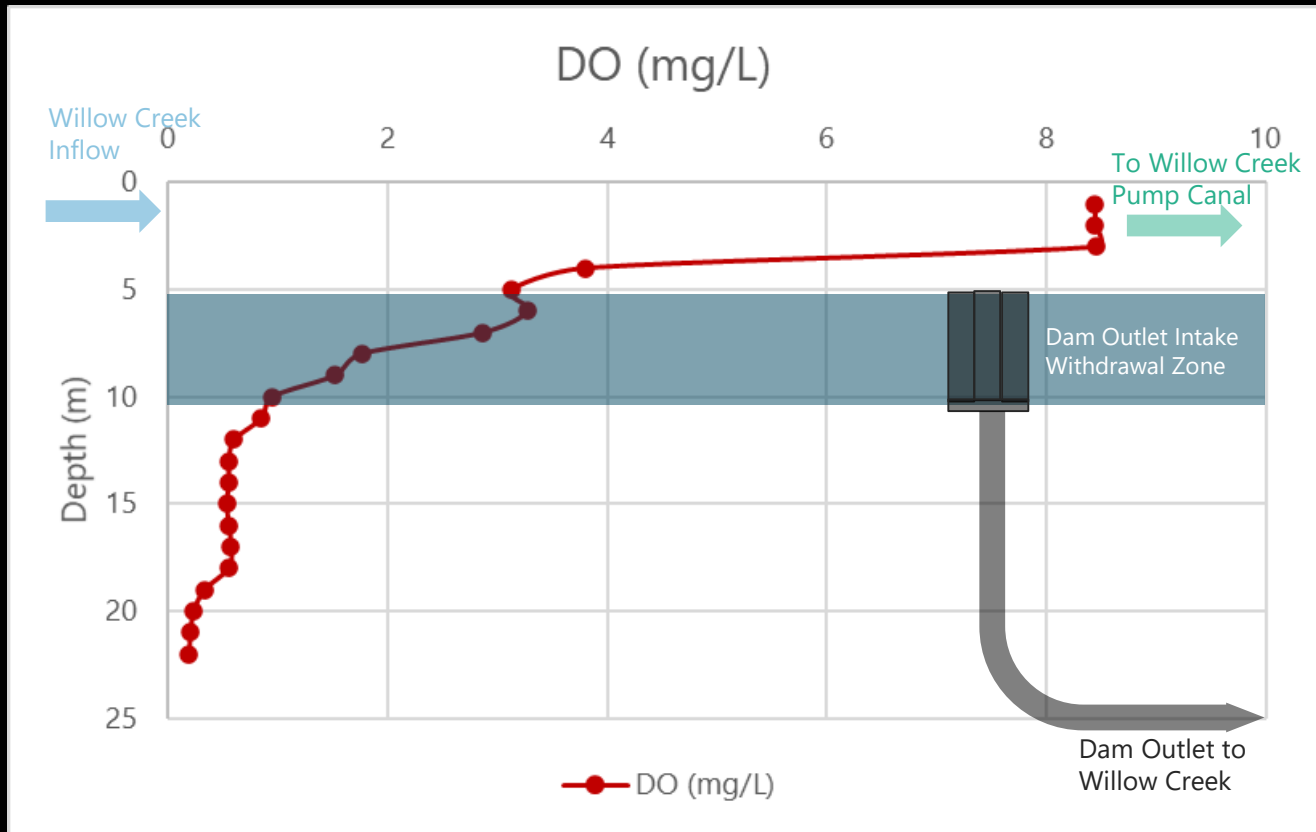
Some types of blue-green algae can produce toxins that may be harmful to humans and pets at elevated concentrations.



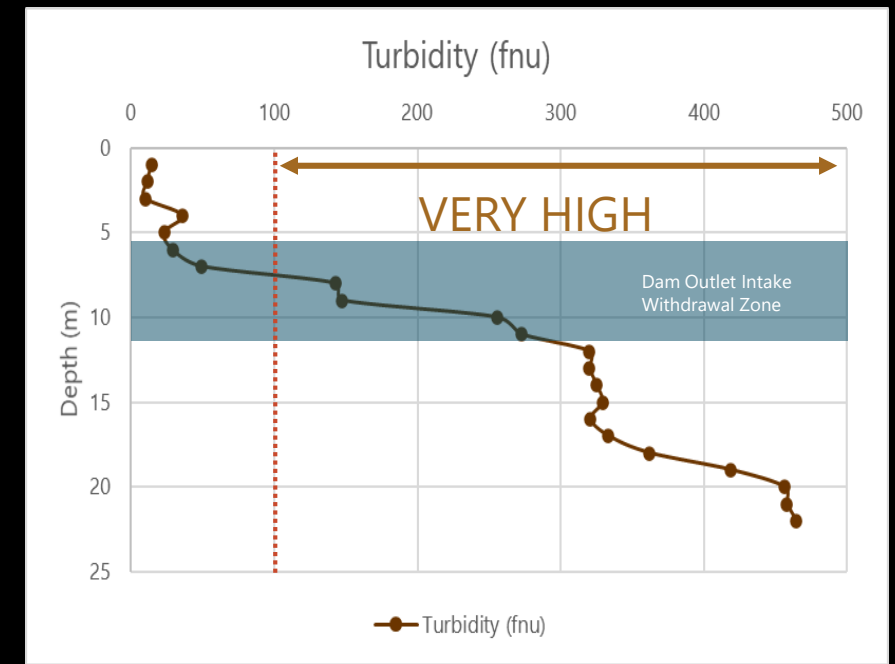


Willow Creek Reservoir - July 27, 2021





Dissolved Oxygen < 6 mg/L  
= Impacts to Aquatic Life







North Inlet  
Aug 3, 2021



North Inlet Samples,  
Aug 4, 2021



Aug 4, 2021  
Grand Lake Beach



A helicopter is shown in the upper left, dropping a large bucket of water. The bucket is suspended by a cable and is positioned over a field. The sun is visible on the horizon, creating a warm glow. The background features rolling hills and a clear sky. The text "Fire Recovery" is overlaid in the center, and "Progress Update" is below it.

# Fire Recovery

Progress Update



# Debris Booms

Grand Lake

West Portal  
Completed

Willow Creek Reservoir

Willow Creek Canal  
Completed

Willow Creek Inlet  
Completed







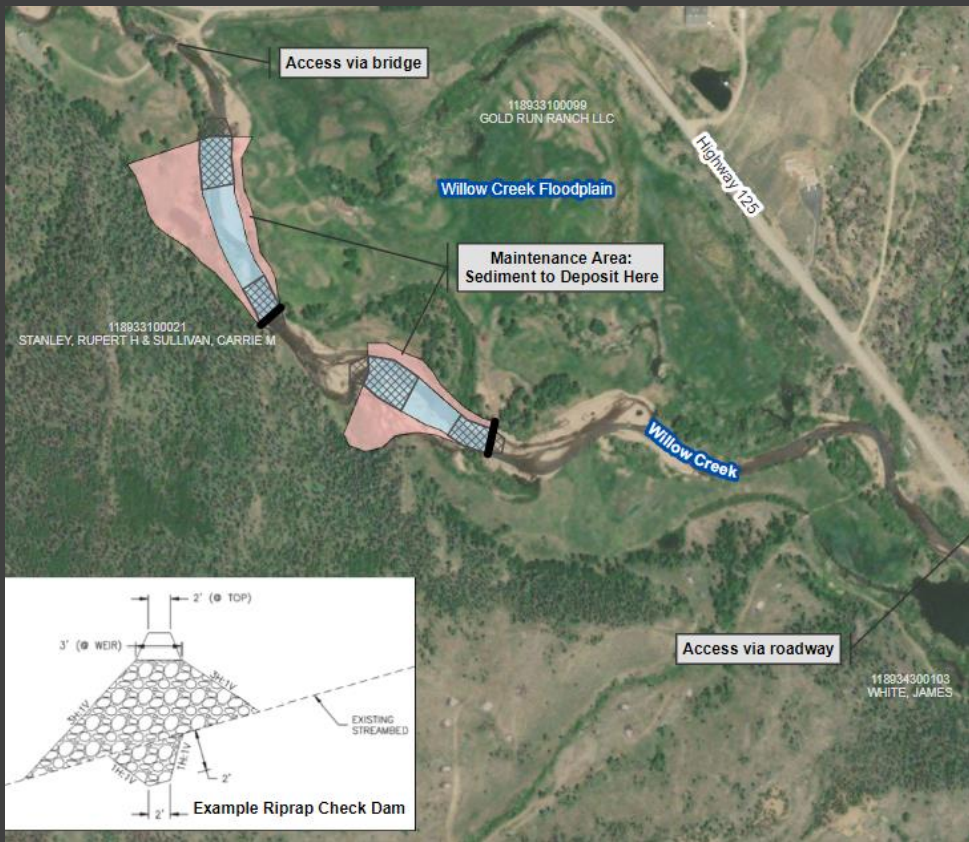
LEGEND

Active Debris Removal at Existing Riprap Check Structure



# Pre-Existing Debris Removal





# Sediment Management





Photo 1. Willow Creek Hillslope 1



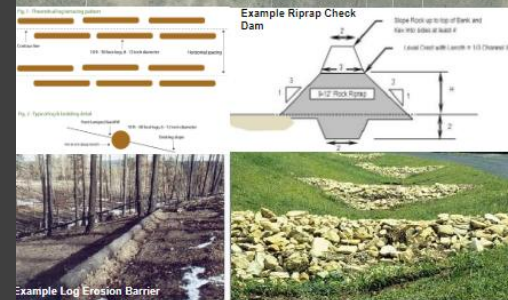
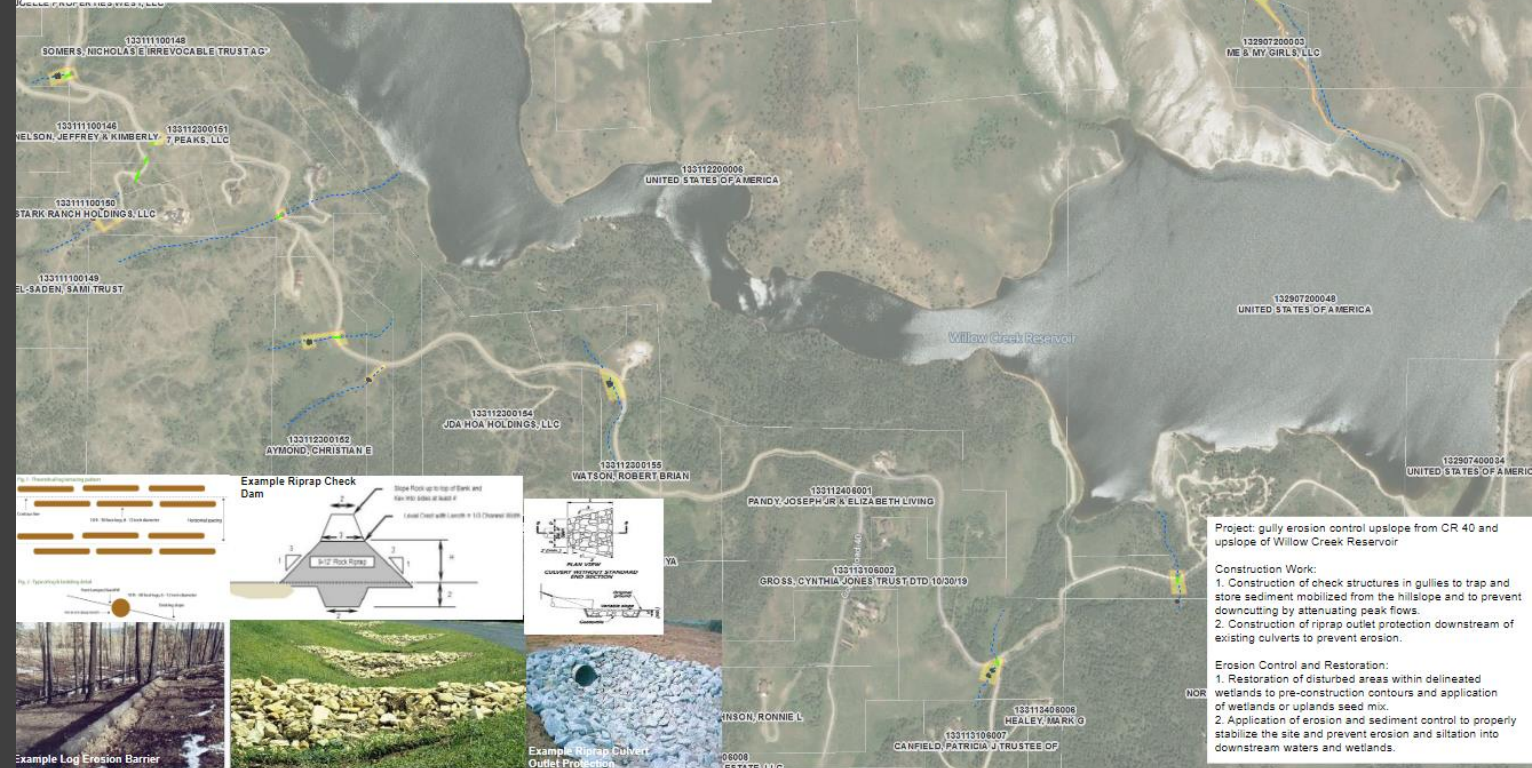
Photo 2. Willow Creek Hillslope 2



Photo 3. Heritage Ranch Hillslope 1



Photo 4. Heritage Ranch Hillslope 2



**Project:** gully erosion control upslope from CR 40 and upslope of Willow Creek Reservoir

**Construction Work:**

1. Construction of check structures in gullies to trap and store sediment mobilized from the hillslope and to prevent downcutting by attenuating peak flows.
2. Construction of riprap outlet protection downstream of existing culverts to prevent erosion.

**Erosion Control and Restoration:**

1. Restoration of disturbed areas within delineated wetlands to pre-construction contours and application of wetlands or uplands seed mix.
2. Application of erosion and sediment control to properly stabilize the site and prevent erosion and siltation into downstream waters and wetlands.



# Hillslope/Gully Erosion Control





New Debris Removal





2,318 ACRES



361 SEMI  
LOADS



24 DAYS



\$5.2 MILLION



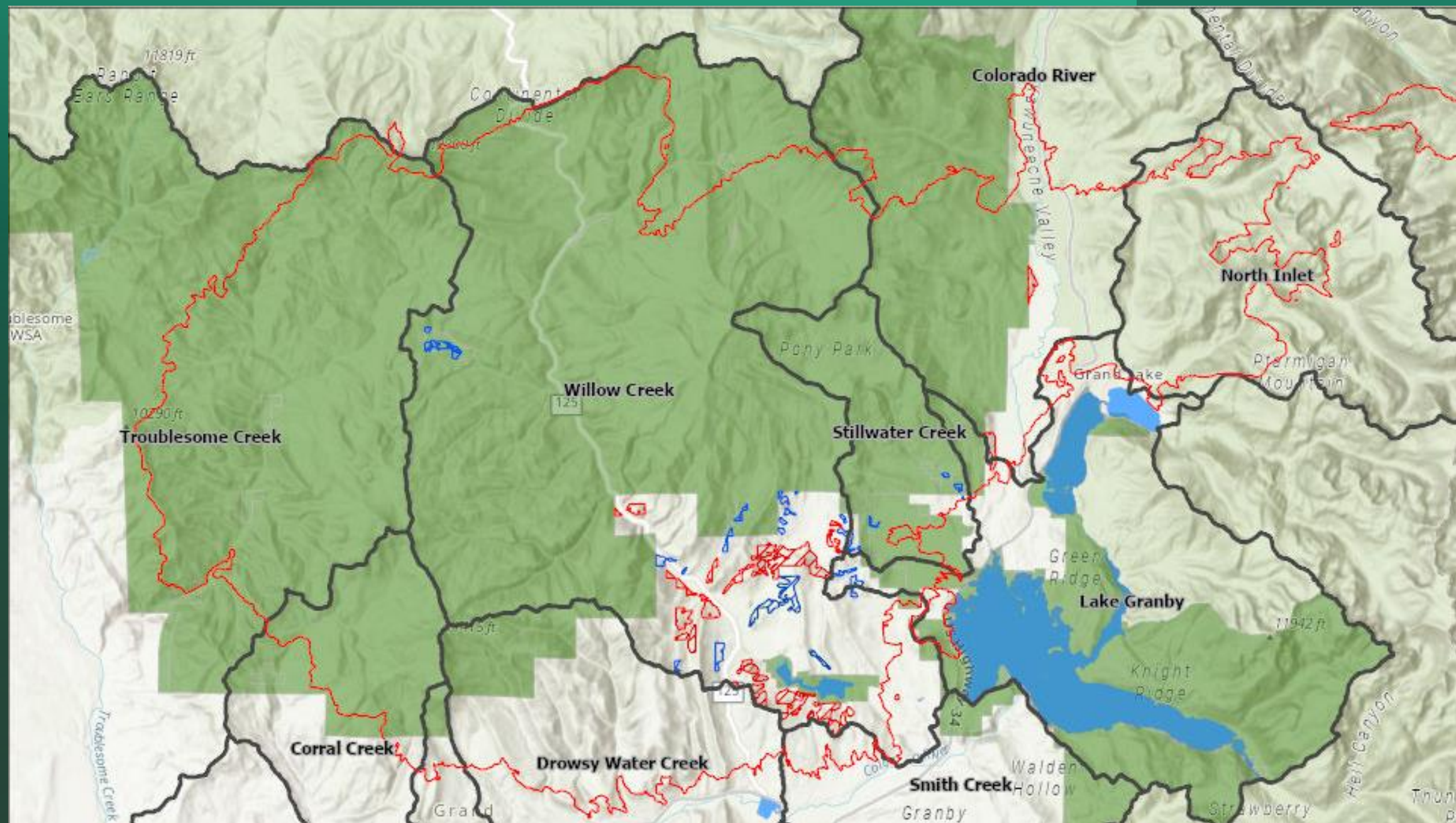
7,137 DROPS







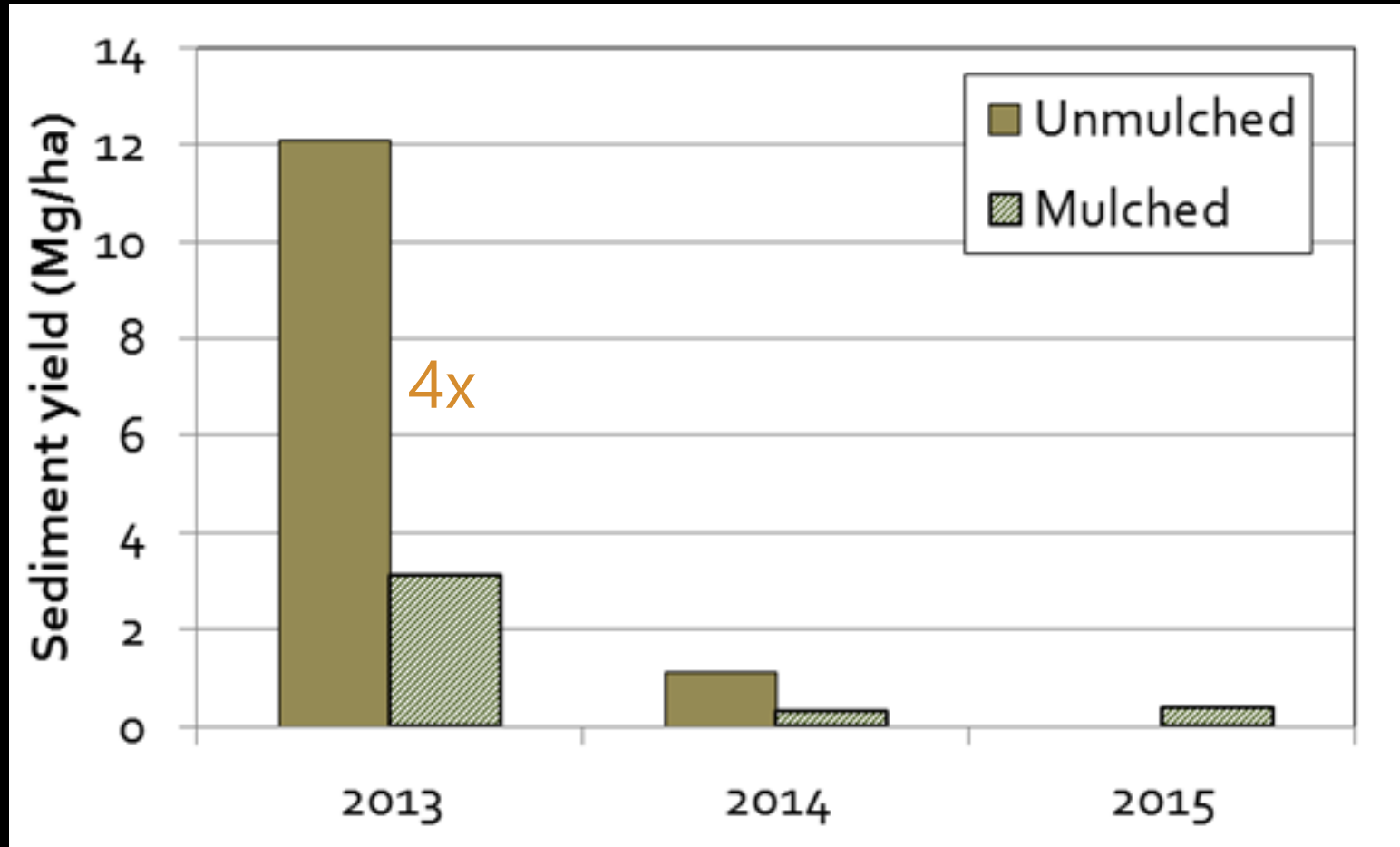






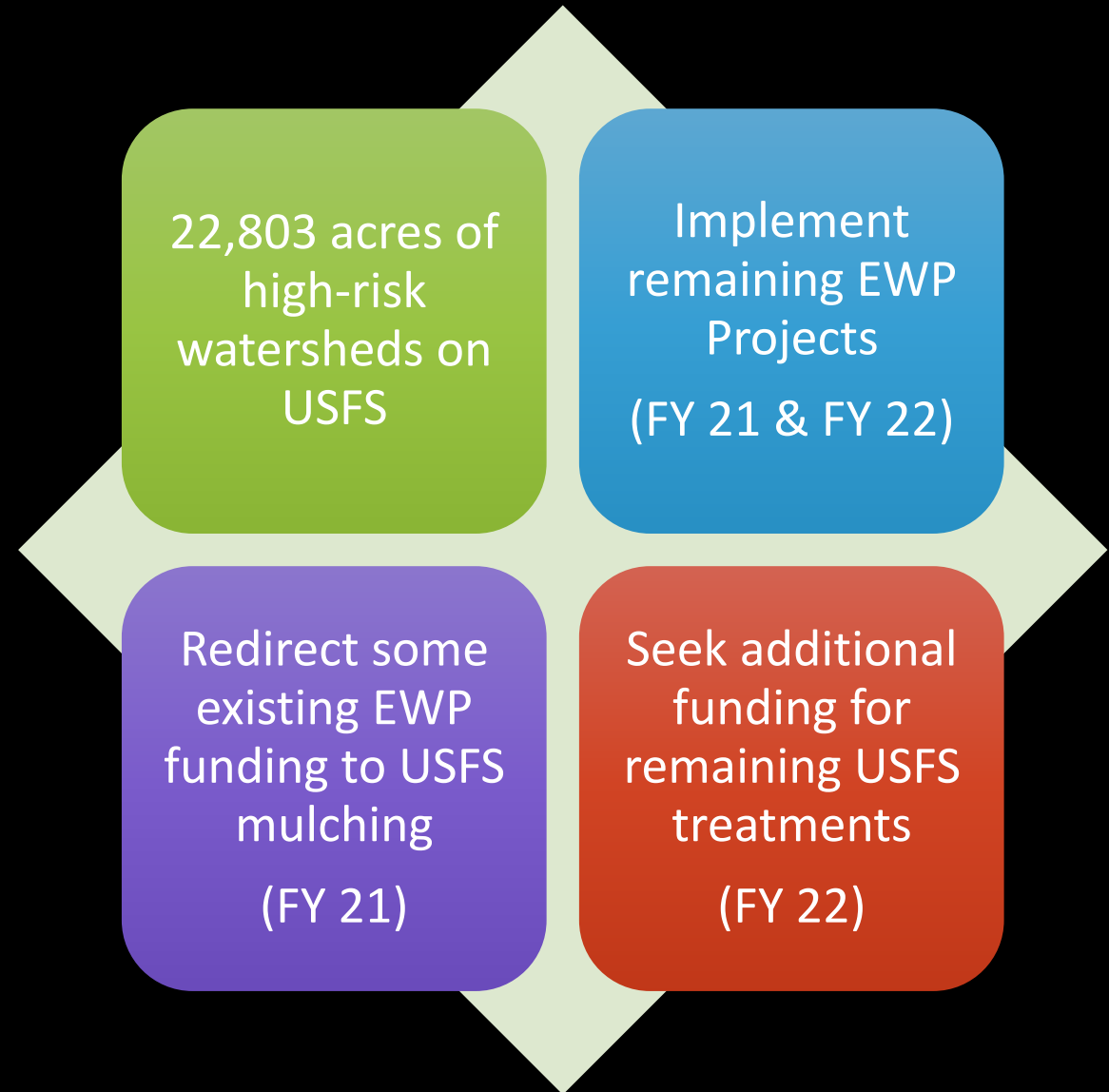
# 2012 High Park Fire Study Sites

Mulching  
Works!!!!



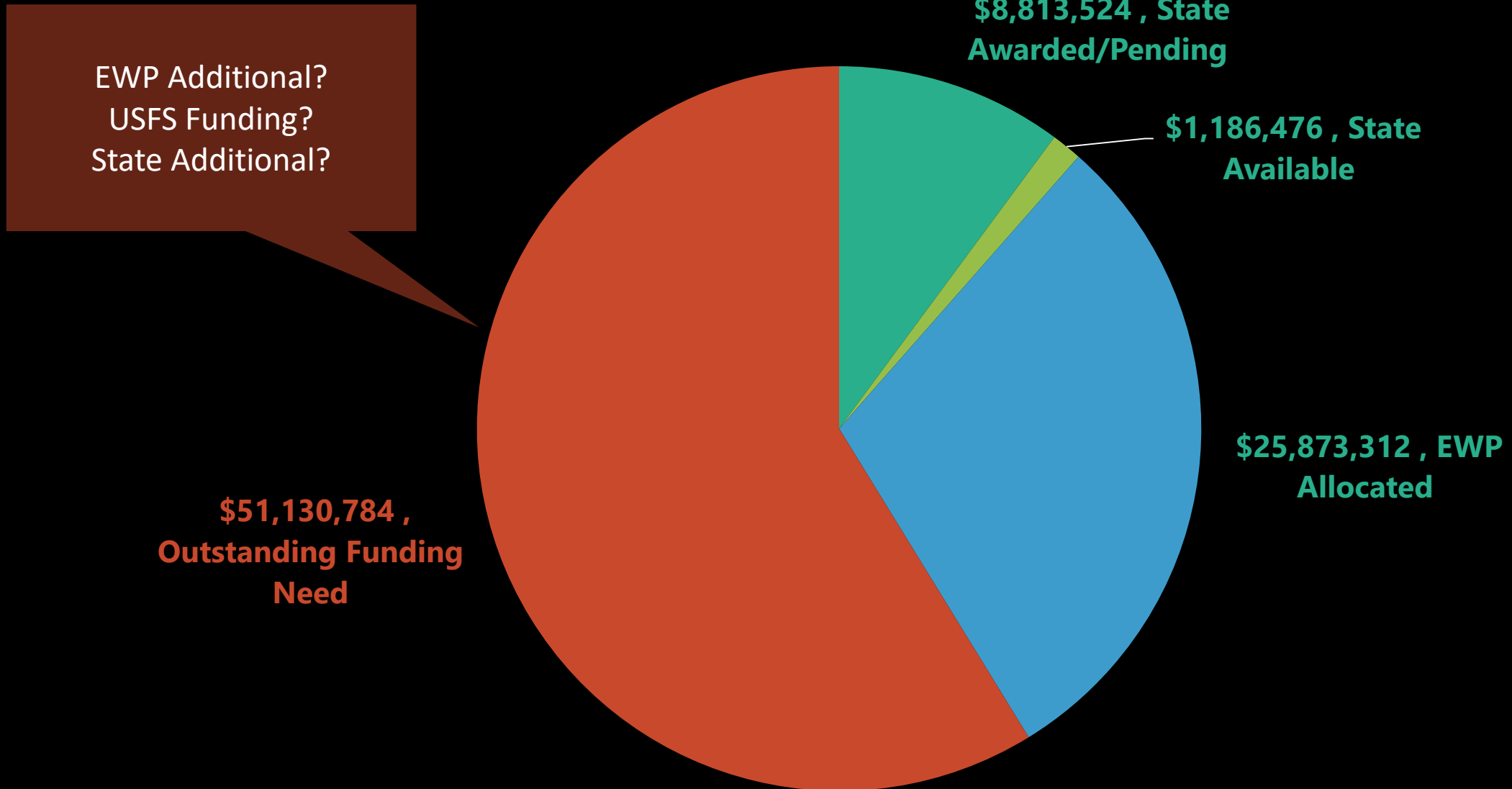


# Watershed Restoration Moving Forward





# WILDFIRE RECOVERY FUNDING NEEDS EAST TROUBLESOME







# Questions & Comments

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