

Waldo Canyon Fire Post-Fire Flash Flood Recovery



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El Paso County Disaster Recovery OVERVIEW

Declared Disasters:

- June 2012 - Waldo Canyon Fire
- June 2013 - Black Forest Fire
- September 11, 2013 - Flooding Event
- May-June, 2015 – Flooding Event

Undeclared Disasters:

- July 2013 Flooding
- August 2013 Flooding
- *There were 80 line items (grants) within these categories to manage*

History of the Waldo Canyon Fire

- June 23, 2012:
near Colorado Springs in
western El Paso County
- Two people killed
- 18,247 acres burned,
mostly mountainous,
steep terrain
- 347 homes destroyed
and over \$400 million
insured loss
- More than \$50 million
expended on area efforts
for fire recovery & flood
mitigation



Waldo Canyon Fire Funding

Federal

- Federal Emergency Management Agency (FEMA)
- Natural Resources Conservation Services (NRCS)

State

- Colorado Dept. of Homeland Security
- Governor's Office
- Colorado Water Conservation Board
- Colorado Dept. of Agriculture

Local

2012 Fire Fund

Red Cross

El Pomar

Pikes Peak Regional Building Department

Watershed Assessment of River Stability and Sediment Supply (WARSSS):
study funded by El Paso County, City of Colorado Springs, City of
Manitou Springs, Colorado Springs Utilities, Colorado Water
Conservation Board, CO DHS/Office of Emergency Management

Recovery Specific to Incident

Recovery Efforts Depend on:

- Population Impacted
- Topography of Area
- Size and Extent of Disaster
- Homes Damaged/Destroyed
- Businesses Damaged/Destroyed
- Infrastructure Damage/Destroyed
- Utilities Damaged/Destroyed
- Jurisdictions
- Public Health Concerns
- Citizen & Volunteer Reponse
- Funding Resources



Waldo Canyon - Above Cascade

Work on private property:

- Debris removal
- Structure protection
 - Gabions
 - TRAP bags
 - Sand bags & berms
- Channel improvements



Above Cascade

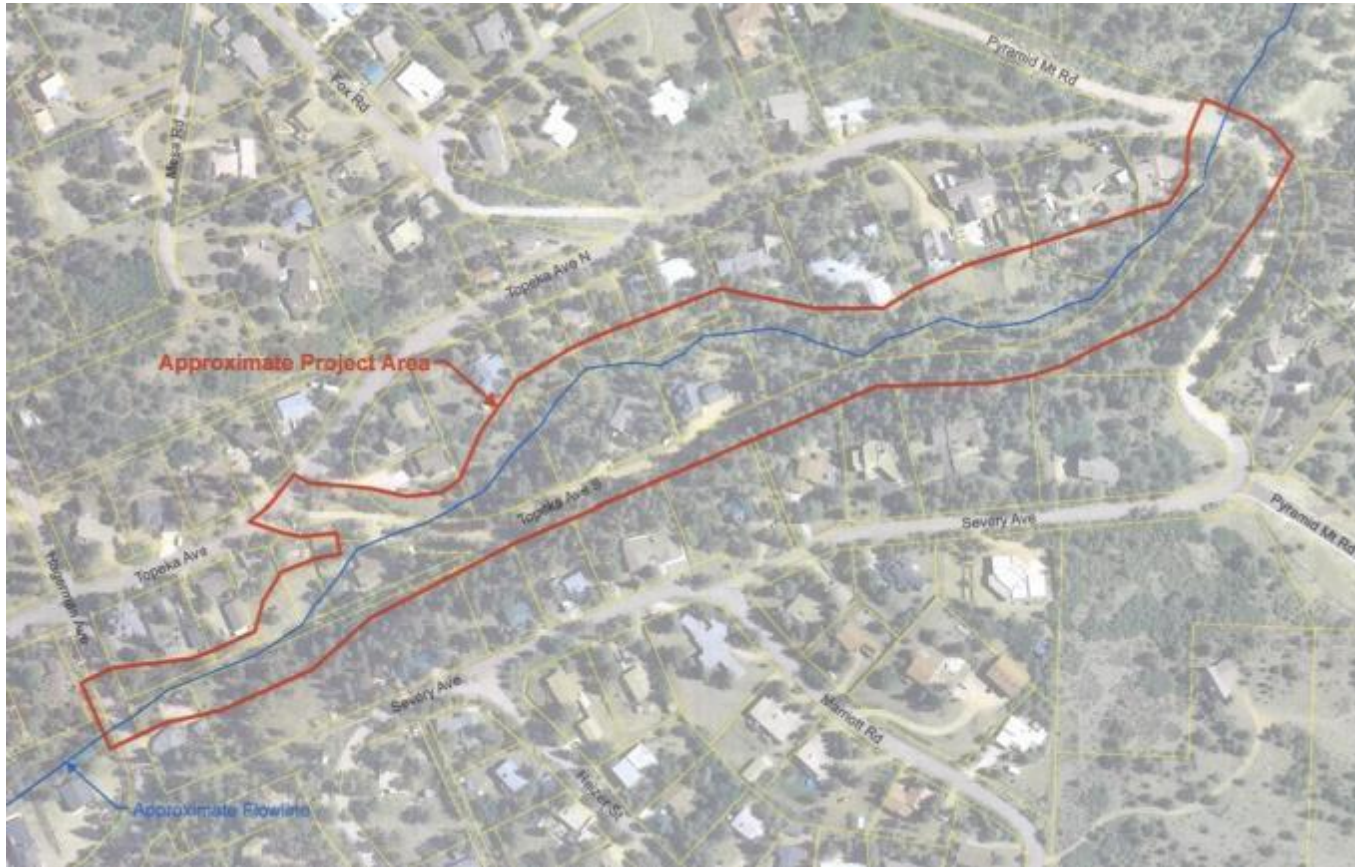
HMGP, CDBG, State, County acquisition partnership

Gabions



TrapBags

Cascade Middle Channel



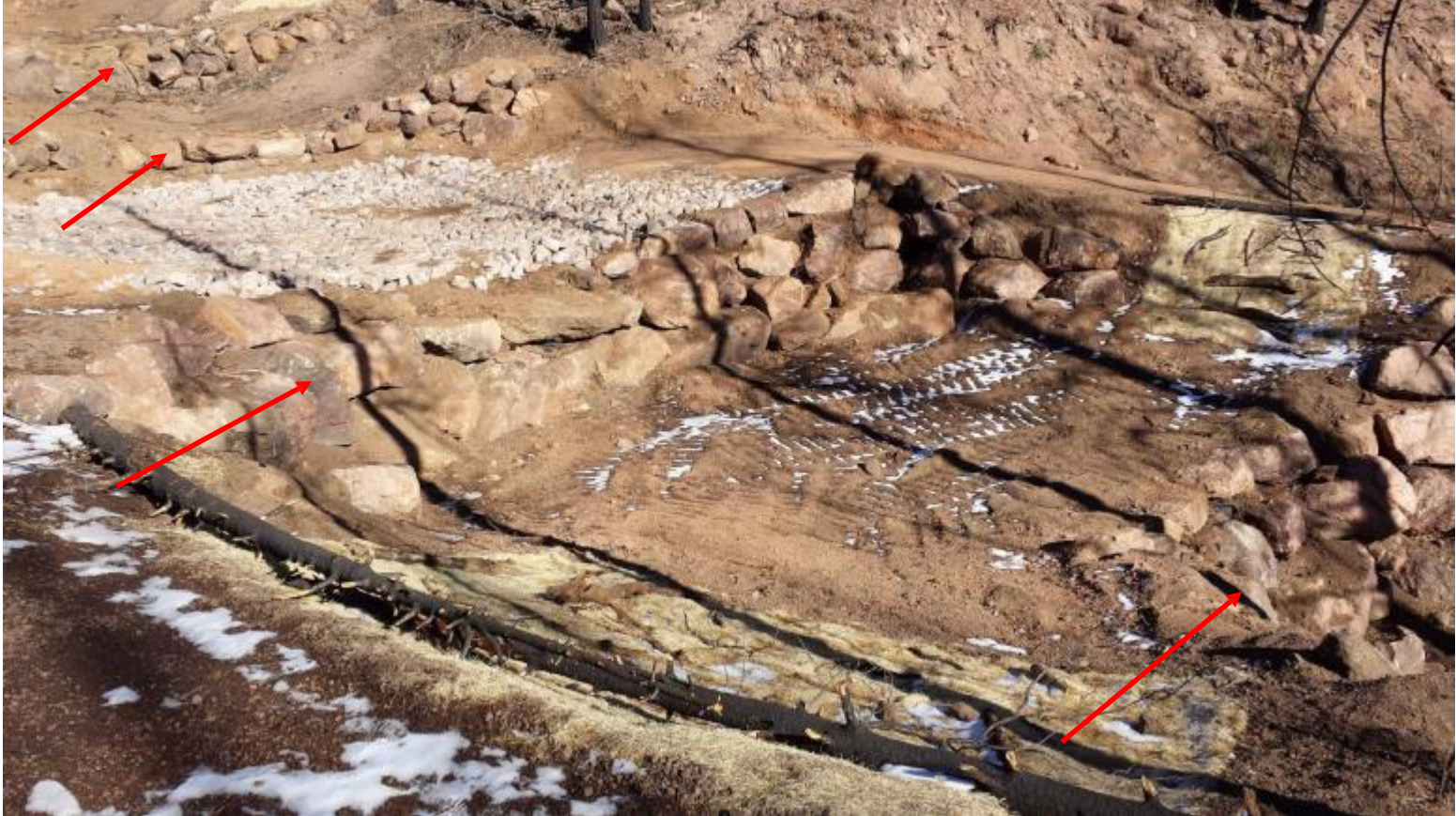
- Sediment removal & channel stabilization
- Grade control structures & catchment basins
- Low water crossings

Grade Control

- Purpose: slow water down
- Achieved by use of several techniques:
 - Sills
 - Crib walls
 - Energy dissipation
 - Basins
 - Erosion control matting



Grade Control



- Rock check dams in series for grade control
- Rock-lined low water crossing to protect road from erosion

Catchment Basins



- Used to catch sediment and reduce peak flows

Riprap Rundown



- Flow across cul-de-sac is channeled into opening between RIBS bags
- Rock sill at bottom dissipates energy
- Channel is covered in reinforced erosion matting
- Re-graded side slopes are seeded and matted

Riprap Rundown



Rainbow Falls Sediment Catchment



- Used existing structure built in 1934 by Civilian Conservation Corps
- Removed 3,400 cubic yards of decomposed granite
- Achieved approximately 3 acre-feet of storage

Rainbow Falls Pond (after)



- Three to five feet of sediment removed from pond area
- Approximately 50 trees removed

Williams Canyon (Above Manitou Springs)



- Evaluated canyon from old entrance gate to Forest Service boundary:
 - Temporary access road
 - Rosgen structures
 - Debris removal
 - Decommission road upon completion
 - Channel improvements

Williams Canyon (Above Manitou Springs)

- Very limited access in upper reach (from falls to USFS boundary, walk in only)
- Varied geology in middle stretch (in red)
- Inadequate space available for catchments/no access for maintenance
- Archeological clearances require removal of old road and wall
- Not cost effective

Recovery:

Public Communication Efforts

Public Meetings in impacted areas to address

- Post fire public safety risks: restoration of Utilities, Flash Flooding, Dead Trees, Infrastructure damage/repair
- Insurance Advocacy – Consider Non-Profit like United Policyholders
- Recovery projects updates and timelines
- Communicate clearly funding requirements and efforts
- Interagency responsibilities and cooperation
- Non-profit resources
- Non-stop press releases, email blasts, social media, recovery information web page, etc – use all avenues

Recovery Collaboration

Identified Partners and Responsibilities and Recurring Meetings Throughout Process

Government Agencies



- County
- Cities & Towns
- Utilities
- State Department of Local Affairs
- State & Local Office of Emergency Management
- U.S. Forest Service
- Natural Resources Conservation Service (NRCS)
- U.S. Congressional representation
- State Department of Transportation
- Army Corps of Engineers
- Water Quality: State and County Health Dept.
- U.S. Weather Service
- Other Jurisdictional Agencies
- Private property owners and Non-profit agencies

Recovery Collaboration

Partners and Responsibilities

Coordinated participation at a Disaster Assistance Center

Non Profits & Disaster Assistance

- Goodwill
- United Way
- Red Cross
- United Policyholders
- Insurance Agencies
- Food Banks
- Faith Based Organizations
- Environmental Organizations
- Mental Health Organizations
- Local Agencies that can help with funding, volunteers, food, clothing, health care, home building organizations, etc.



Recovery Collaboration

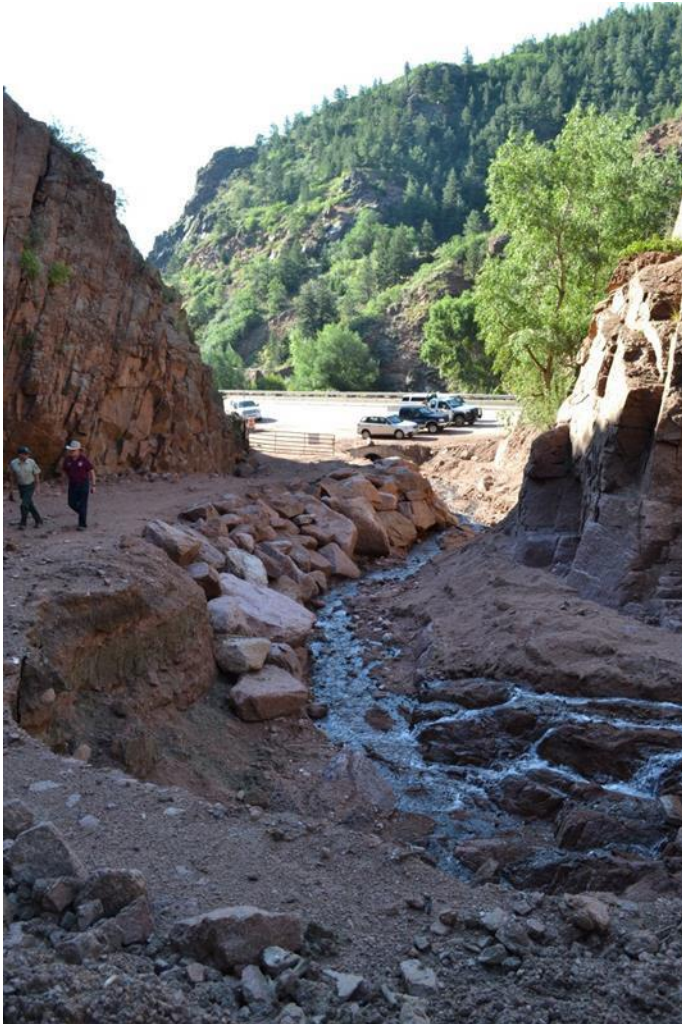
Coordinate for participation at a Disaster Assistance Center



County & Affiliated Agencies

- Budget & Finance (FEMA)
- Transportation/Fleet
- Engineering
- Assessor
- Human Services
- Public Health
- Regional Building
- Environmental Services
- Sheriff's Office
- Office of Emergency Management
- Public Information
- Workforce Center
- Small Business Development Center

Prevention is Critical



- The same conditions that contributed to the Waldo Canyon Fire and subsequent flooding exist in lands adjacent to the burn scar
 - Major population centers and life safety at risk
 - Communities and critical U.S. highway connecting the Front Range to the mountains

Prevention is Critical

- Healthy forest management is a fraction of the cost of fighting and recovering from forest fires and floods.
 - A healthy forest has 100 trees per acre; a typical acre in Pike National Forest has 1,000 trees
 - Forestry projects that prevent catastrophic forest fires are key to limiting lasting regional economic impact from fires and flash floods
 - There is approximately 212,000 acres of Pike National Forest in El Paso and Teller Counties; 18,000 acres burned in the Waldo Canyon Fire
 - National Forest officials say all acreage needs active management



Needs for Current & Future Projects

- Emergency Watershed Protection Program funds to initiate and complete projects and expand mitigation.
- Funds to restore healthy forests to prevent catastrophic wildfires and damage to watersheds and communities.
- Funds needed for hazardous fuel reduction to aid in healthy forests.
- Continuation of Good Neighbor Authority and Forest Stewardship Program under the Farm Bill critical in current and future forest fire mitigation projects.
- Funds (Hazard Mitigation Grant Program) needed to purchase private property that is repeatedly flooded to reduce long-term risk and insured losses.

Legislative & Funding Needs

- U.S. Forest Service Healthy Forest Initiatives
- Natural Resources Conservation Service (EWP)
- National Flood Insurance Program and Flood Insurance Affordability Act
- FEMA –Hazard Mitigation Grant Program (HMGP)
- Community Development Block Grant (CDBG) flexibility
- Stafford Act changes to include post-fire floods
- Army Corps of Engineers (Sec. 205 assistance)
- Department of Defense support for forest mitigation near Cheyenne Mountain and Air Force Academy
- EPA and watershed restoration and protection
- Emergency Planning/Pre-Disaster Mitigation Funding
- Transportation funding for needed mitigation

A photograph of a residential neighborhood with a large fire in the background under a dark, stormy sky. The fire is visible as a bright orange and yellow glow in the distance, with thick black smoke rising into the dark, overcast sky. The foreground shows several houses with dark roofs and light-colored walls, some with trees in front of them. A speed limit sign for 40 mph and a no parking sign are visible in the lower left. A sign for 'Inspired Design Luxurious Living' is visible in the lower right.

**Collaboration
and Working
Together is the
Key to Recovery.**

Questions ?