

# Wildfire, Flash Flood Mitigation and Water Resource Protection

New Partners for Smart Growth Conference

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# Presentation OVERVIEW

## Declared Disasters:

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

## Undeclared Disasters:

- July 2013, August 2013 Flooding

## Response by El Paso County:

- 64 grant funded projects

## Senate Bill 15-212

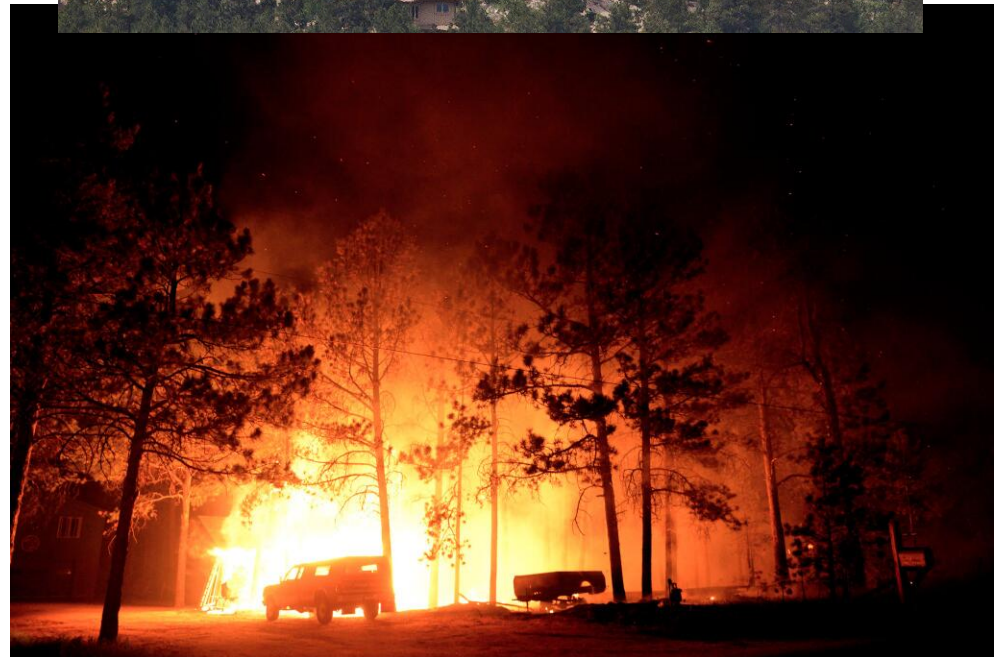
# Waldo Canyon Fire

- June 23, 2012:  
near Colorado Springs in  
western El Paso County
- Two people killed
- 18,247 acres burned,  
mostly mountainous,  
steep terrain located  
upstream to the west of  
population center
- 347 homes destroyed
- More than \$40 million  
spent on fire recovery  
and flood mitigation to  
date



# Black Forest Fire

- June 11, 2013: north of Colorado Springs in unincorporated El Paso County
- Two people killed
- 14,000 acres burned, heavily forested area located upstream to the north of the population center
- 488 homes destroyed
- More than \$16 million spent on fire recovery and flood mitigation to date



# September 11, 2013 flood event



- Catastrophic flooding occurred along Colorado's front range from Colorado Springs north to Fort Collins.
- The Governor declared a disaster emergency on September 12, 2013
- FEMA Declaration approved Individual Assistance (IA) and Public Assistance (PA)
- The State agreed to pay half of the County match reducing the County match on Federal dollars from 25% to 12.5%
- To date \$4.5 million spent of flood recovery and mitigation work.



# May / June 2015 Flooding events



- Multiple rain events May 4 – June 16, 2015
- FEMA Public Assistance (PA) Declaration.
- Initial County Infrastructure Damage Estimate \$7.2 million dollars.
- Landslides continue to occur today associated to these storms



# Funding and In-kind Resources

- Federal Emergency Management Agency (FEMA)

Public Assistance Categories:

A- Debris Removal, B-Emergency Protective Measures, C- Roads and Bridges, D- Water Control Facilities,  
E-Buildings and Equipment, F- Utilities, G – Parks.

- Hazard Mitigation Grant Program (HMGP) - Acquisition and demolition of damaged homes / buildings that pose ongoing threat.
- Fire Management Assistance Grant Program (FMAG)
- **Natural Resources Conservation Service – Emergency Watershed Protection (NRCS – EWP) – Primary funding source for flood mitigation projects.**
- Community Development Block Grant – Disaster Recovery (CDBG-DR)
- Department of Local Affairs (DOLA) – State
- Great Outdoors Colorado (GOCO) – funded by lottery proceeds
- Pikes Peak Rural Transportation Authority (PPRTA) – Funded by Sales Tax
- Coalition for the Upper South Platte (CUSP) – provides project planning, monitoring, and in kind volunteers.

# 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 Response
- Funding Resources





# Recovery Collaboration

*Identify Partners and Responsibilities now...*



## **Government Agencies**

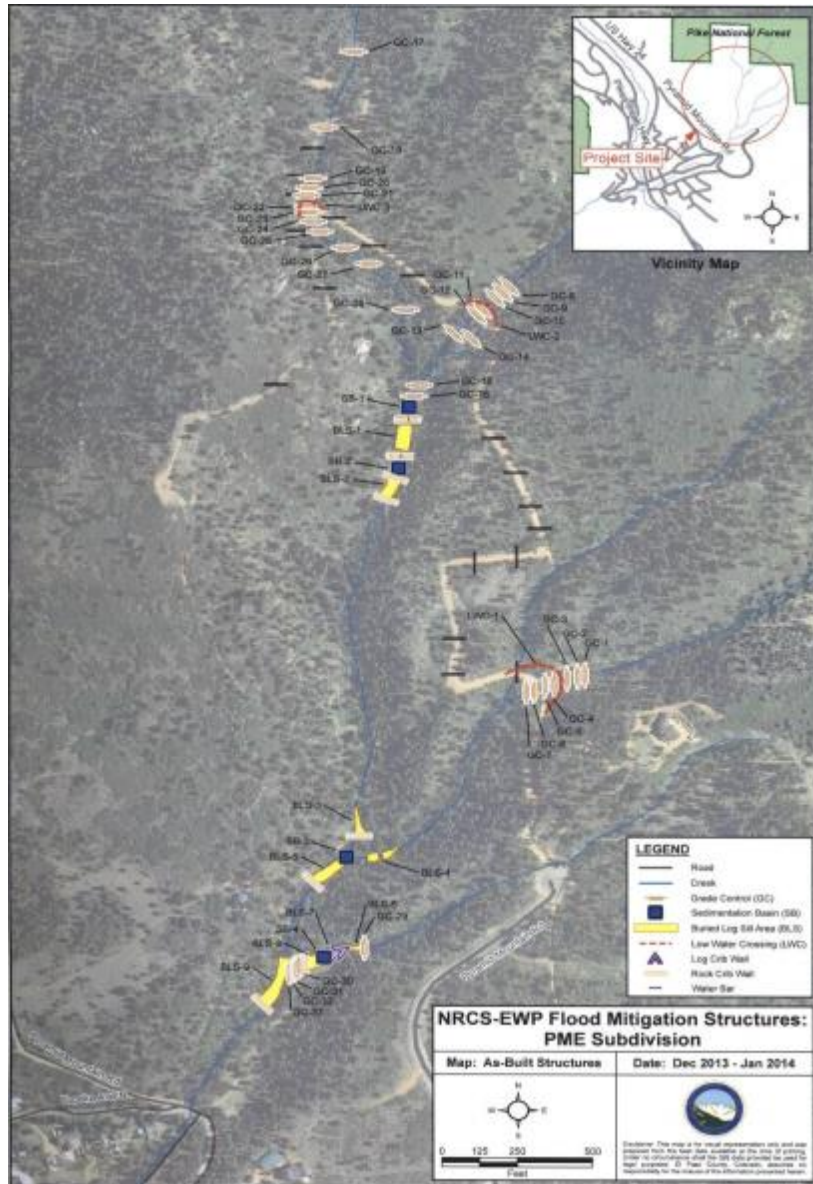
- County
- Cities & Towns
- Utilities
- State Department of Local Affairs
- Office of Emergency Management
- U.S. Forest Service
- Natural Resources Conservation Service (NRCS)
- U.S. Congressional representation
- State Department of Transportation
- Army Corps of Engineering
- Water Quality: State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

# Post Fire Watershed Impacts



Loss of vegetation leads to increased erosion and sediment transport down hill to creeks, streams and reservoirs = impacted source water quality.

# Example Projects



## Watershed Protection Projects:

- Grade control
- Catchment basins
- Log crib walls
- Rock crib walls
- Riprap run downs
- Road water bars
- Erosion control logs
- Erosion control matting
- Revegetation



# Example Projects

## Grade Control Structures:

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





# Debris/Flow Catchment Funded by NRCS - EWP



# Debris/Flow Catchment



Drain pipe

2014 9 30

# Waldo canyon fire – federal funding – NRCS, EWP

Rainbow Falls  
Basin Cleanout



Pictures show project  
completed

# Water Rights and Post-Fire Emergency Flood Protection

In November 2014, El Paso County and others received notice from State Engineer:

- Structure negatively impact downstream water right holders
- Structure require a well permit
- Structures require an Augmentation Plan/  
Substitute Water Supply Plan



# Regulatory Remedy

- Senate Bill 15-212
  - Stormwater Detention Required by MS4 permits
  - Added Post-Wildland Fire Facilities
    - Temporary by design
    - Located on non-perennial streams
    - Solely for mitigation of post fire flood impacts

*“essential for the protection of public safety and welfare, property, and the environment.”*

# Colorado Revised Statute 37-92-602 (8)

A Determination that Water Detention Facilities  
Designed to Mitigate the Adverse Effects of  
Stormwater Runoff Do Not Materially Injure  
Water Rights.

# Additional Legislative Needs

- U.S. Forest Service Healthy Forest Initiatives
- Natural Resources Conservation Service (EWP)
- Biggert Waters Act & NFIP insurance premiums
- FEMA – National Flood Insurance Program & HMGP
- Community Development Block Grant 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
- USEPA funding for watershed restoration and protection

# Lessons Learned

- **Clear Communication is Key on all levels, during a disaster, and through the recovery process.**
- **State and Federal agencies need a good early “on the ground” understanding of the situation to make good program decisions. Understanding all of the needs goes beyond the immediate destruction.**
- **Damage may not be recognized until after the declaration process.**
- **Multiple agencies are responsible for different parts of the recovery effort. Understanding what to do, what resources to utilize are important.**
- **Major funding sources are complex, and errors can result in loss of funding. Administration can be burdensome to already strained local resources.**
- **Federal and State response teams come with various experience levels. It is important to match the experience / capacity of the response team to the community.**
- **Have your team in place. After a disaster, it becomes difficult to find qualified applicants for recovery positions, due to demand for resources.**
- **Federal grant programs have different rules than some day to day activities. Understanding proper procurement is key to avoiding most back end audit issues.**
- **Look at permanent repair work with an eye to resiliency. FEMA is looking more to replacing with permanent work, than putting it back the way it was. Several alternate projects to enhance resiliency in storm channels, culverts, etc. withstood the recent**

# Questions

