



# Denver Water Post-Fire Lessons Learned

September 2, 2021

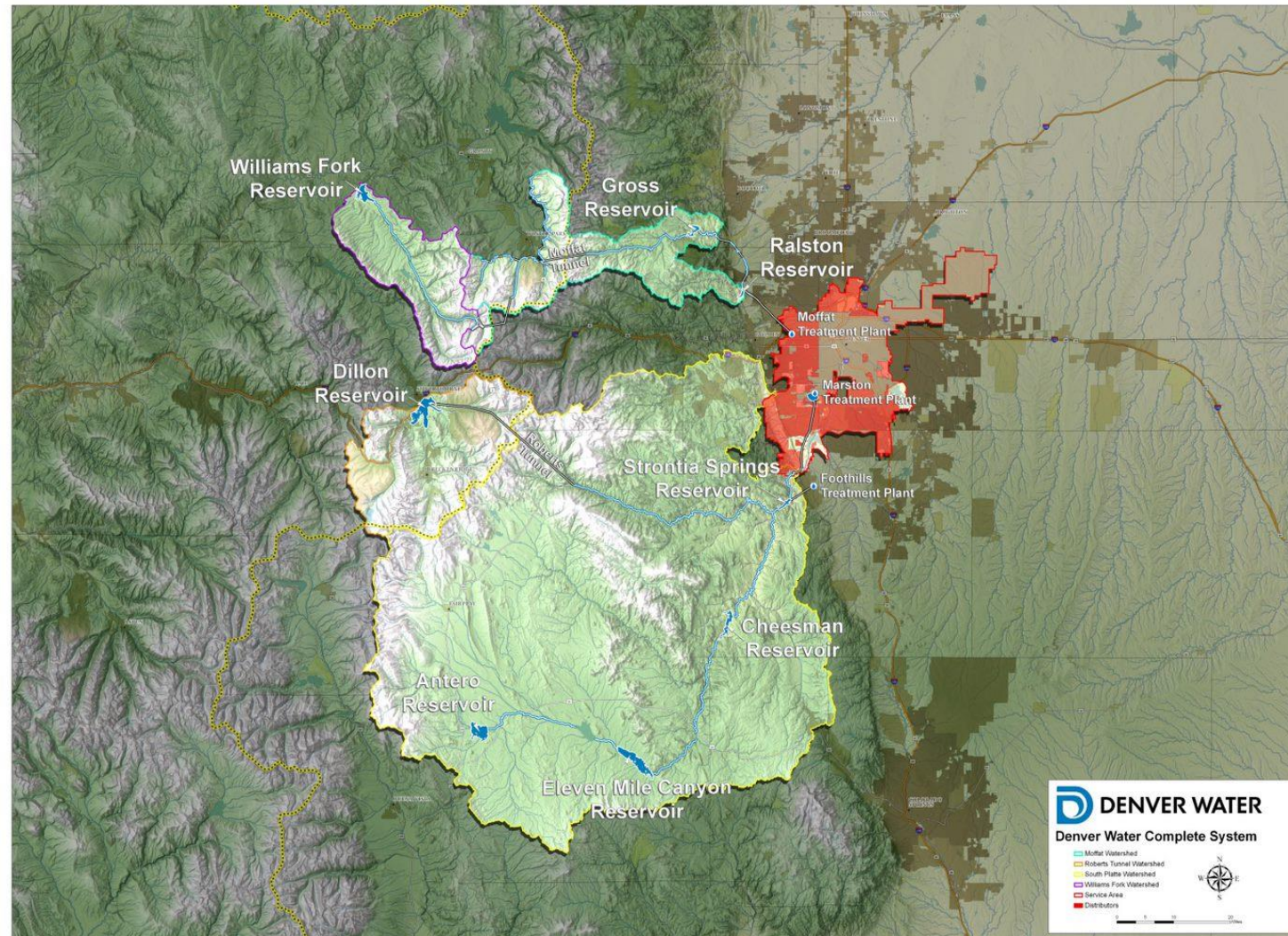




# Denver Water lessons learned: presentation outline

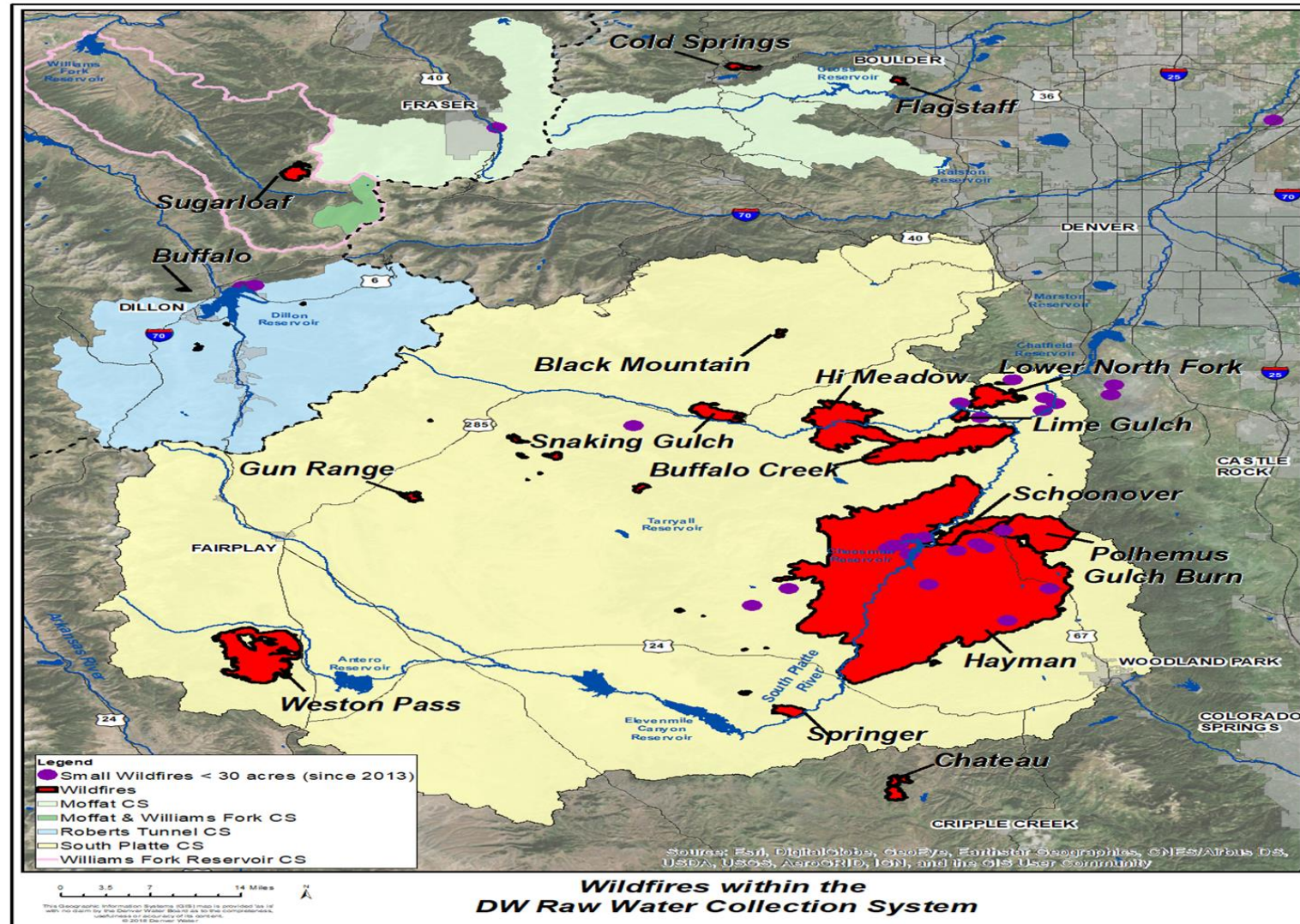
1. **Costs and recovery from past fires**
  - Buffalo Creek fire in 1996 and Hayman fire in 2002
2. **Proactive forest and watershed investments**
  - From Forests to Faucets Partnership
3. **2020 wildfire season**
  - Williams Fork fire
4. **Recommendations and opportunities**

Forested watersheds: where Denver's water supply originates  
 healthy forests = healthy watersheds





# Past fires – prior to 2020





## Post-fire lessons learned: let's go out in the field!





## Buffalo Creek Fire – May 18, 1996





## Buffalo Creek post-fire sediment





## Post-fire debris and sediment impacts to Strontia Springs





Water quality impacts: turbidity, metals, carbon, nutrients





# Hayman Fire 2002

Cost of reacting: \$28M and still recovering today





# Post-fire recovery: project implementation

1. Upstream watershed sediment management projects
  - Sediment traps, straw bales, seeding, mulching
2. Maintenance of sediment traps
  - Cost of dredging sediment traps
3. Cost of dredging Strontia Springs Reservoir - \$18.5M
  - Still in recovery today
  - Return on investment if we prevent as little as 5% of sediment out of Strontia
4. Long-term strategy for proactive forest and watershed investments



## Upstream sediment management: sediment traps



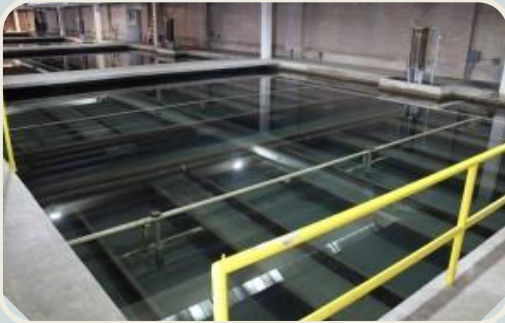


## Upstream sediment management: sediment trap maintenance





## Long-term strategy: watershed health investments



### **Drinking Water Treatability**

*Provide high quality  
water at an affordable  
rate*



### **Infrastructure Protection**

*Protect collection  
system, watershed  
assets, and access to  
assets*



### **Community & Environmental Stewardship**

*Foster partnerships to  
sustain healthy and  
resilient watersheds*



## From Forests to Faucets Partnership

1. Partners include Denver Water, US Forest Service, Natural Resources Conservation Service, and Colorado State Forest Service
2. \$66M investment since 2010, of which Denver Water committed \$33M
3. Goal to improve the health and resiliency of forests in watersheds that are critical for water supply for the Denver Metro area
4. Denver Water Lands Agreement with Colorado State Forest Service



# From Forests to Faucets project examples



Before: 2007 White River National Forest in Summit County



# From Forests to Faucets project examples



After: 283 acres treatment in 2013



# From Forests to Faucets project examples



Before: 2009 White River National Forest in Summit County



# From Forests to Faucets project examples



After: 98 acres treatment in 2013



## Buffalo Mountain Fire: \$1 Billion saved





## Success story: North Fork Complex fire in 2020 and 64A fire in 2018





# Williams Fork Fire



- Started Aug 14, 2020 and contained on Nov 30, 2020
- Burned 14,609 acres.
- Burned through a one-foot snowstorm.
- 8 Incident Management Teams assigned to the fire.
- The Williams Fork Reservoir is located approximately 11 miles downstream of the burn scar.



# Implementation

## Denver Water Staff

1. Road treatments
2. Storm inspection

## Rocky Mountain Youth Corps

1. Log erosion barriers
2. Hazard tree removal
3. Rock lining culverts
4. Slash removal around structures





# Post-fire recommendations and opportunities

1. Recovery is long-term and likely on-going, therefore sustainable investments needed
  - Phases of Emergency Management Cycle: Pre-fire Mitigation, Response, Recovery
2. Defining clear roles and responsibilities for post-fire recovery engagement at the State level
  - Build upon Shared Stewardship to include post-fire
  - Statewide spatial tool for data viewing and sharing
3. Capacity constraints - opportunities for Youth Corps
4. Funding flexibility and consistent sources
  - State funds on federal land.



Contact info: please reach out!

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Check out TAP for info on Denver Water's forest and watershed investments:  
[denverwater.org/TAP](https://denverwater.org/TAP)