

Integrating Source Water Protection and Wildfire Risk in Colorado

John M. Duggan CDPHE-WQCD

Colorado's Data Refinement Work Group



Protecting Critical Watersheds in Colorado from Wildfire: A Technical Approach to Watershed Assessment and Prioritization

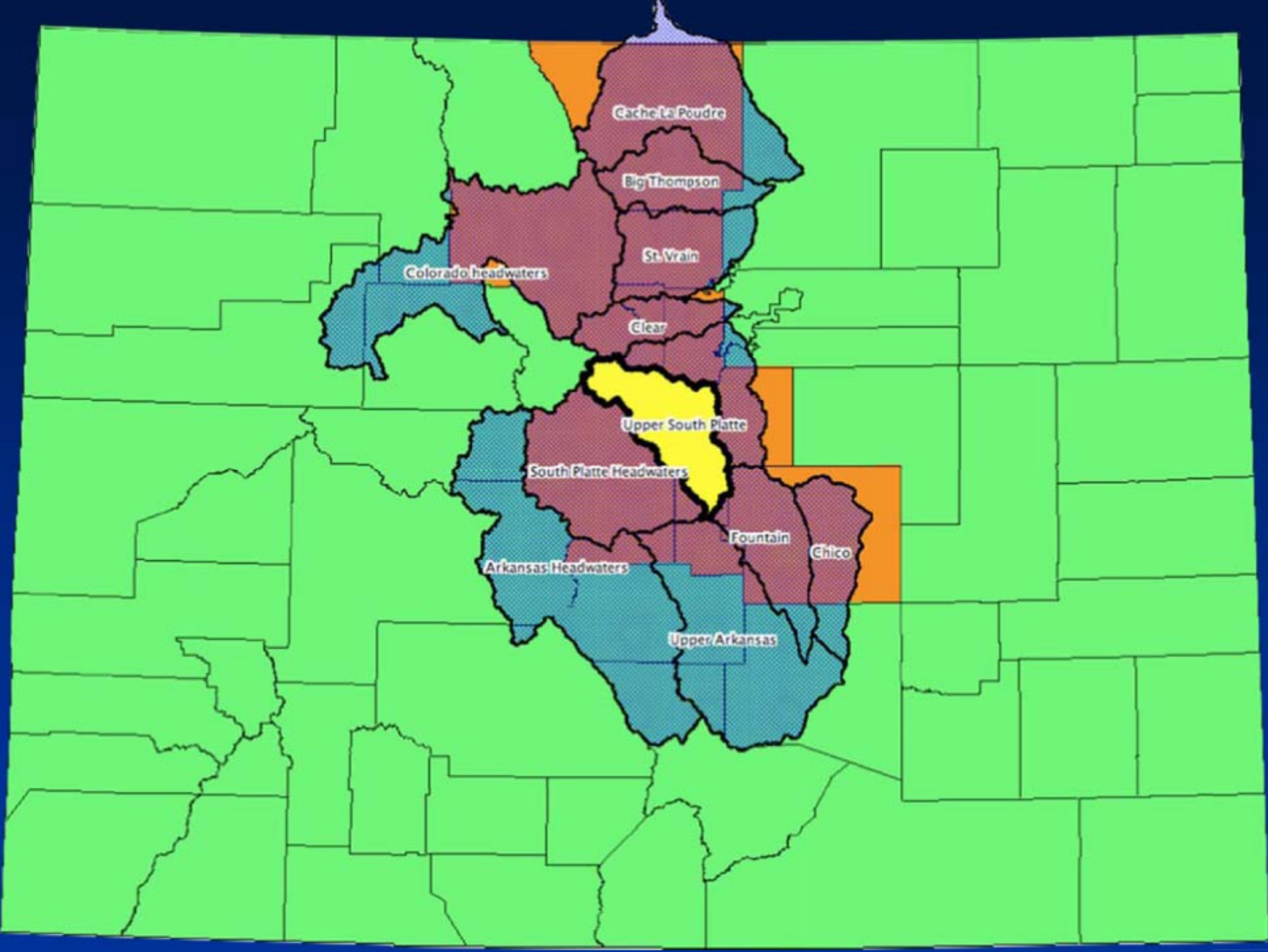
Colorado's Data Refinement Work Group Purpose

- Watershed assessment template and common assessment methodology
- Identify critical watersheds that supply municipal water
- Prioritize and recommend measures to protect those watersheds
- Adverse effects of post-wildfire hydrologic changes, including flooding, erosion, and deposition.

Data Refinement Work Group Goal

1

- Identify 6th level watersheds that are important /essential critical watersheds for water supply.



Upper South Platte 6th Level Watersheds



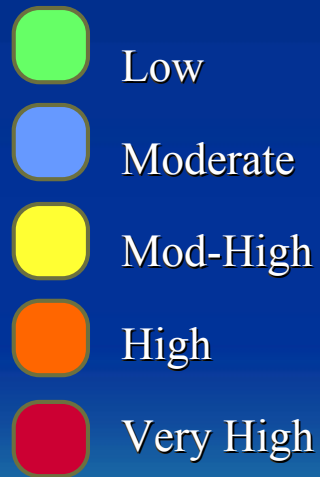
Components

- Wildfire Risk
- Flooding or Debris Flow Risk
- Soil Conditions
- Water Uses

1. Wildfire Risk

- Pinchot Report Analysis
- Western Colorado Wildfire Risk Assessment

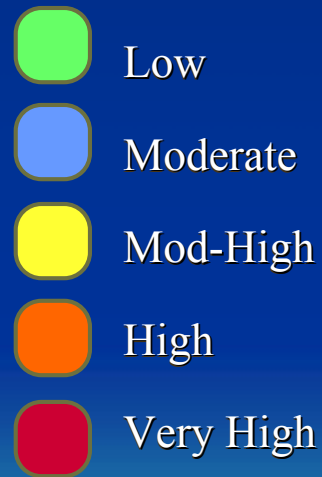
Upper South Platte Watershed Pinchot Wildfire Risk



2. Flooding or Debris Flow Risk

- Ruggedness or Slope
- Road Density

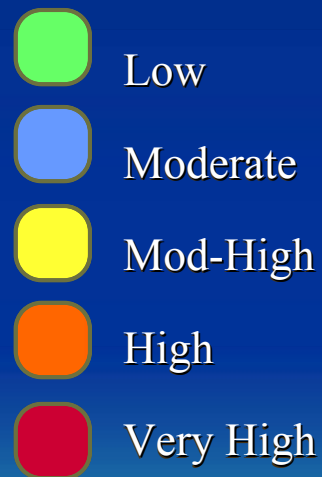
Upper South Platte Watershed Flooding/Debris Flow Risk



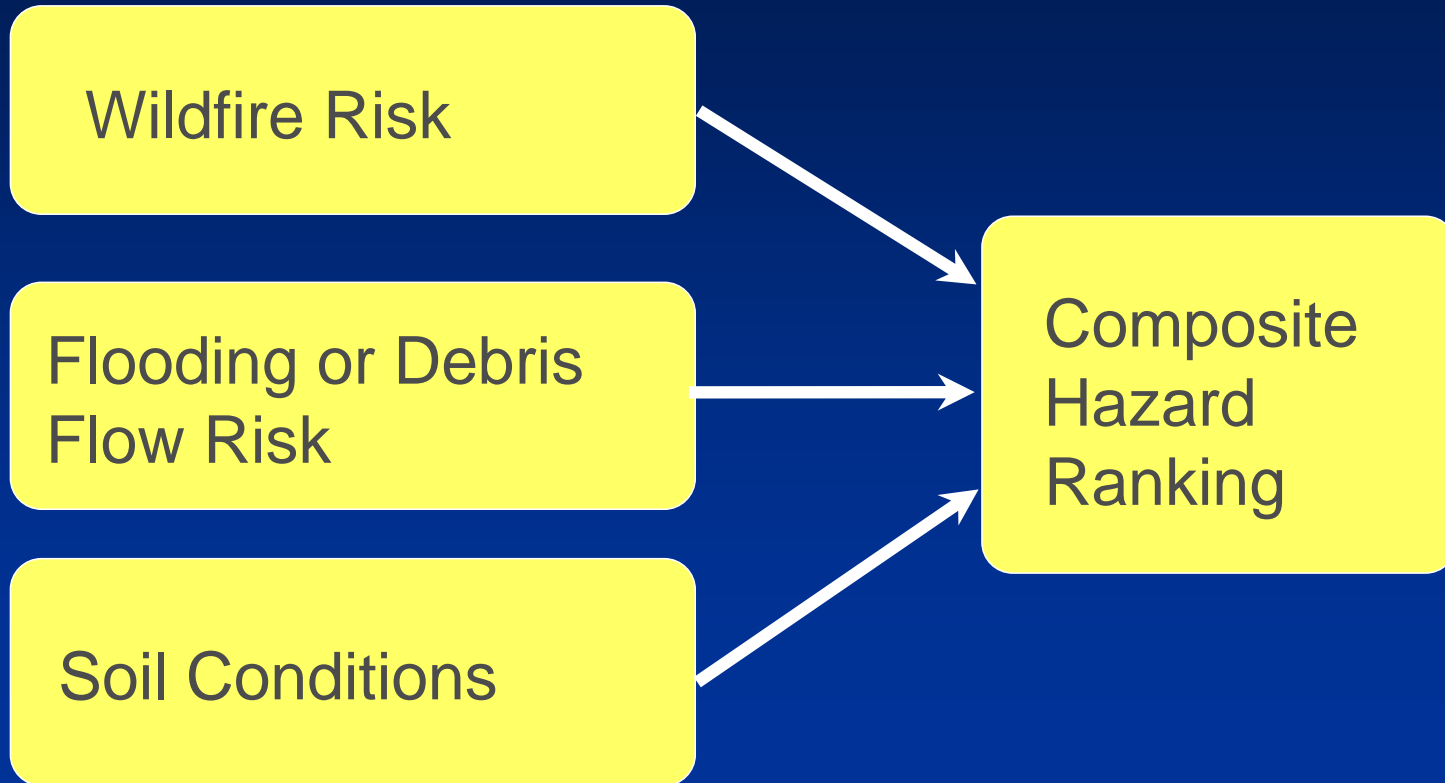
3. Soil Conditions

- SSURGO or STATSGO
- K factor and slope
- Adjusted for geology

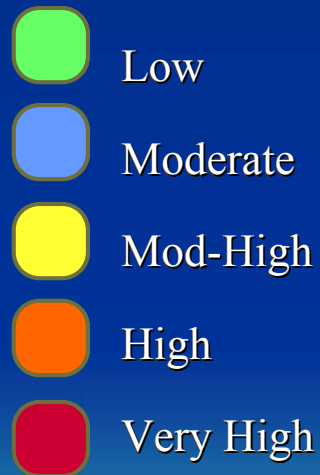
Upper South Platte Watershed Soil Erosion Risk



Composite Ranking



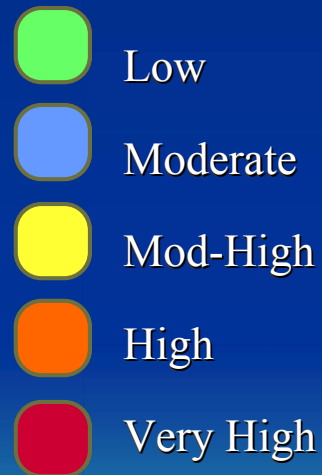
Upper South Platte Watershed Composite Hazard



4. Water Uses

- Nodes - Reservoirs, Diversions and Sources
- Source Water Assessment Areas
- Water Supply Reservoirs

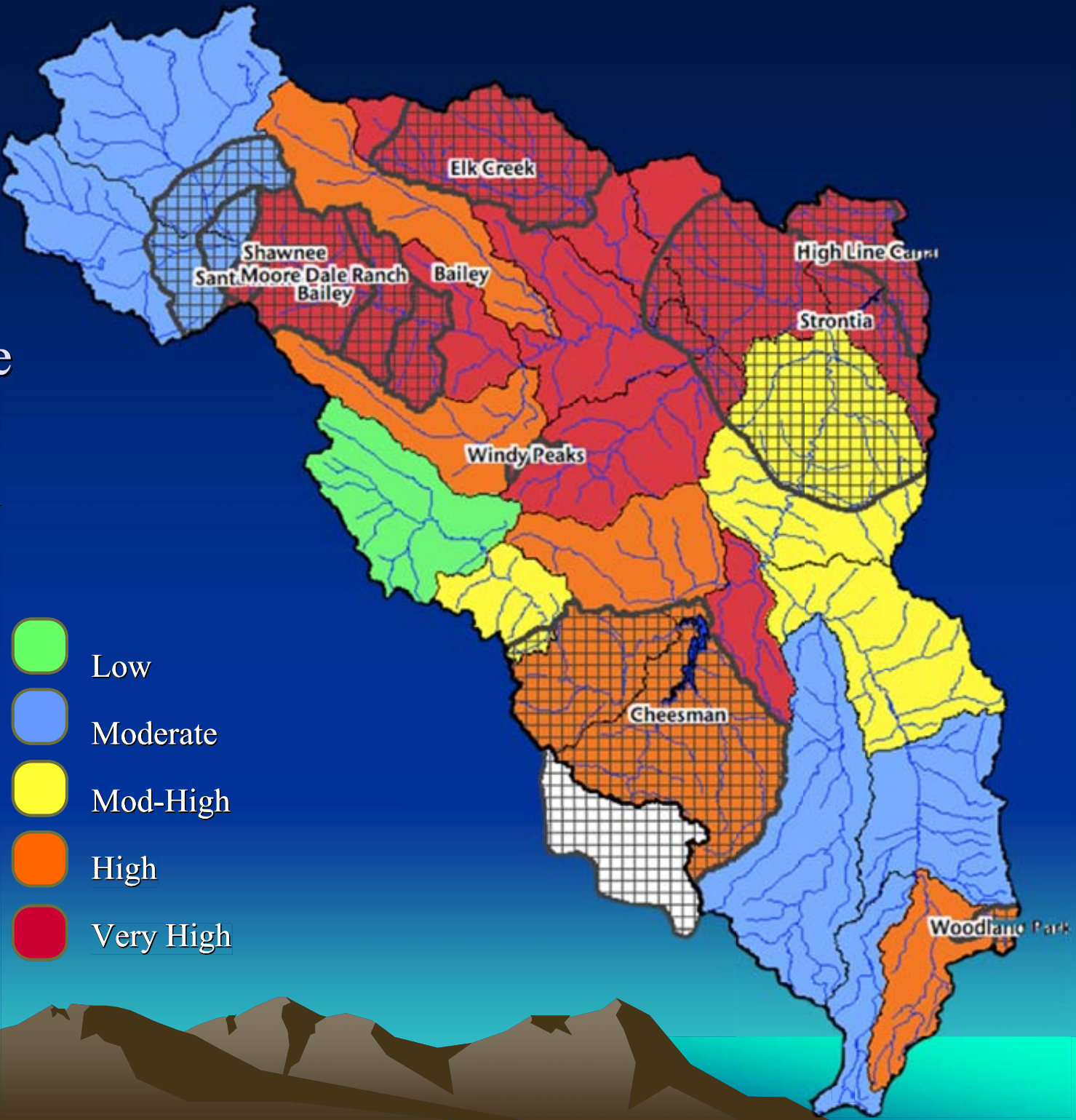
Upper South Platte Watershed Final Priority



Zones of Concern

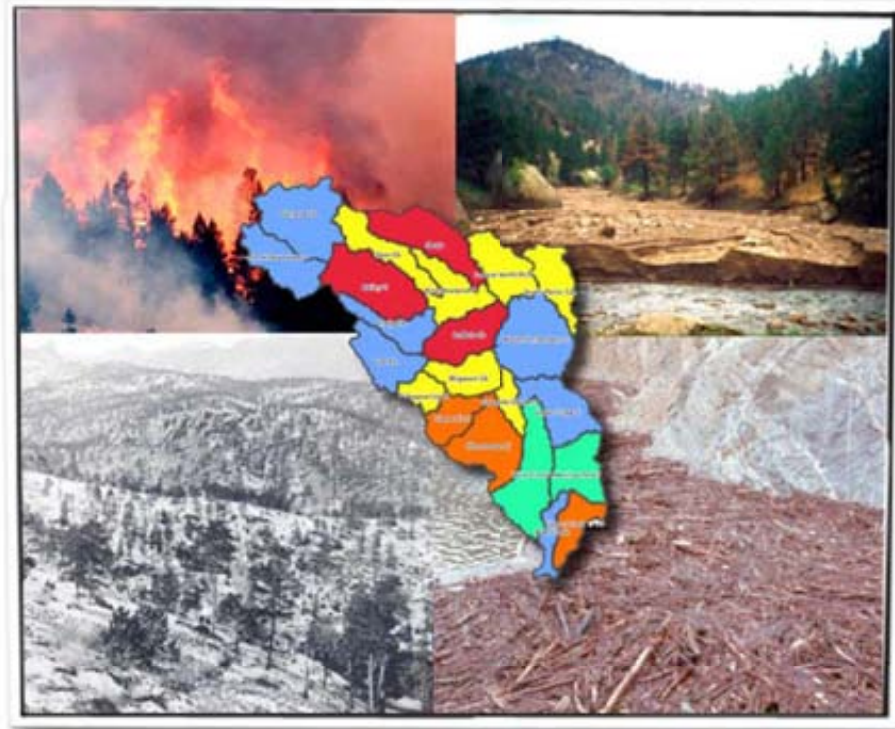
- 5 stream miles based on State Statute
- 11 stream miles based on Buffalo Creek experience
- 15 radial miles based on SWAP
- RiverSpill model results

Upper South Platte Watershed Final Priority with Zones of Concern



FRONT RANGE WATERSHED PROTECTION
DATA REFINEMENT WORK GROUP

PROTECTING CRITICAL WATERSHEDS IN COLORADO
FROM WILDFIRE: A TECHNICAL APPROACH TO
WATERSHED ASSESSMENT AND PRIORITIZATION



DECEMBER 2008

Website Information:
www.jw-associates.org

Community Wildfire Protection Plans (CWPPs)

- Recognized under the Healthy Forests Restoration Act (2003)
- Vehicle for communities to provide input, direction and their priorities to Federal agencies about needed fuels treatments

*Critical Community Watershed
Wildfire Protection Plan*

= CCWWPP

= (CWP)²

Colorado's Integration of SWAP and Wildfire Risk

- Development of **(CWP)²**
- Promoting **(CWP)²** along with development of source water protection plans
- Finalizing a MOU with the USFS to recognize SWPP and **(CWP)²**
- Consistent treatment approaches statewide



Contact Information

- John M. Duggan: 303-692-3534:
john.duggan@state.co.us
- Methodology Documents Website:
www.jw-associates.org
- Colorado's SWAP Website:
www.cdphe.state.co.us/wq/sw/swaphom.html