

# Boulder County's Collaborative Approach to Grasslands Management and Wildfire Preparedness



Boulder County Nature Association Symposium-  
March 15, 2025



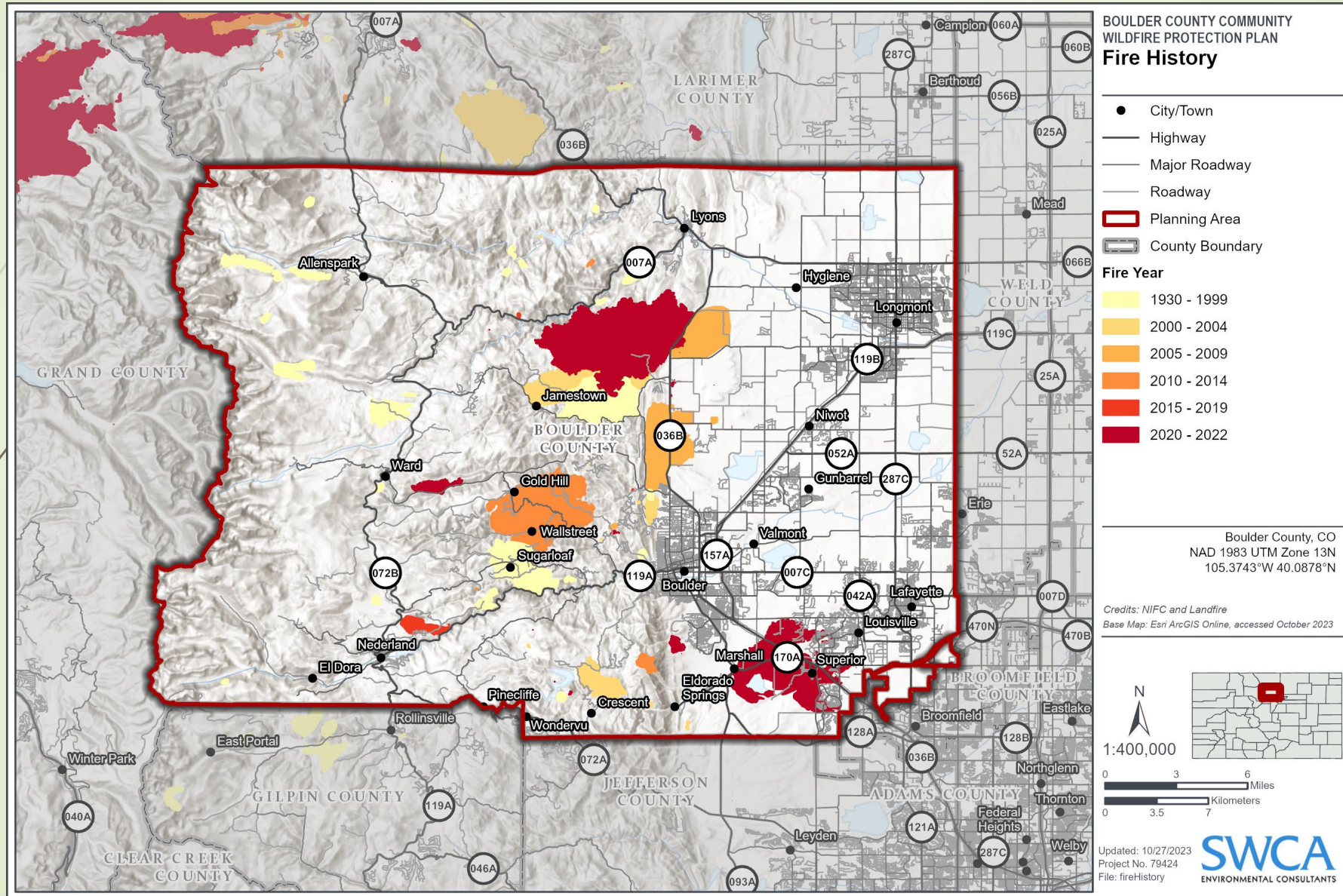
# Set the Stage

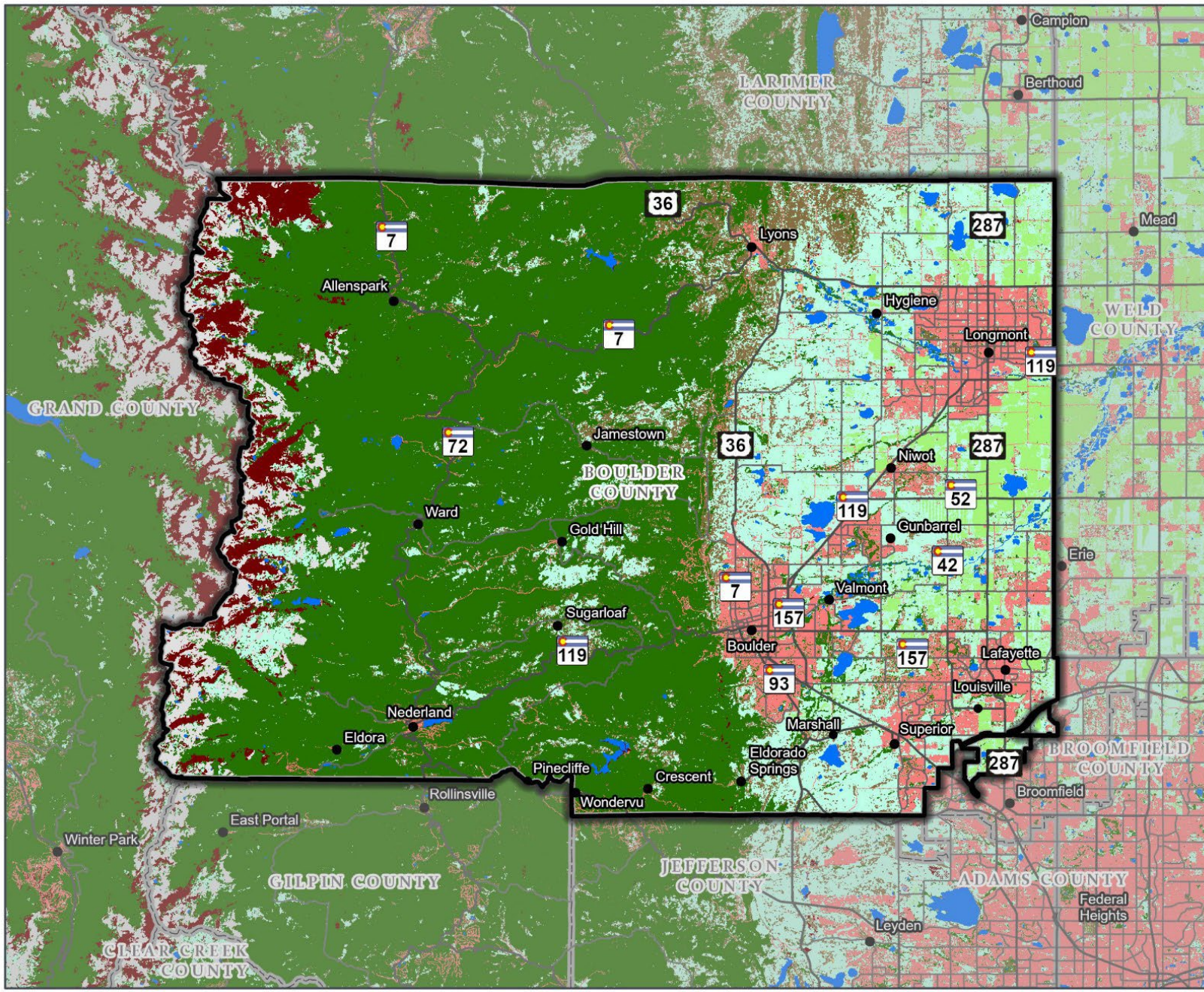
# Marshall Fire Facts

- ▶ Dec. 30, 2021 (Fire Start approximately 11:41 a.m.)
- ▶ Fueled by drought, hurricane-force winds, and abundant fuels
- ▶ Main fuel source was grasslands
- ▶ Transitioned into built environment
- ▶ Homes became the main source of fuel
- ▶ Created an Urban Conflagration



# Fire History of Boulder County





**BOULDER COUNTY COMMUNITY WILDFIRE PROTECTION PLAN**  
**Vegetation**

- City/Town
- Highway
- Major Roadway
- ▭ Planning Area
- ▭ County Boundary

**Vegetation Classification**

- Agriculture
- Barren
- Developed
- Herbaceous
- Shrub
- Snow-Ice
- Sparse
- Tree
- Water

Boulder County, CO  
 NAD 1983 UTM Zone 13N  
 105.3743°W 40.0878°N

*Credits: LANDFIRE (2022 Dataset)*  
*Base Map: Esri ArcGIS Online, accessed May 2024*

1:400,000

0 3 6 Miles  
 0 3.5 7 Kilometers

Updated: 5/17/2024  
 Project No. 79424  
 File: vegetation

**SWCA**  
 ENVIRONMENTAL CONSULTANTS

- County Open Space
- City Open Space
- Municipal Parks and Open Space
- Agriculture
- Developed Areas
- Utilities- electric/water

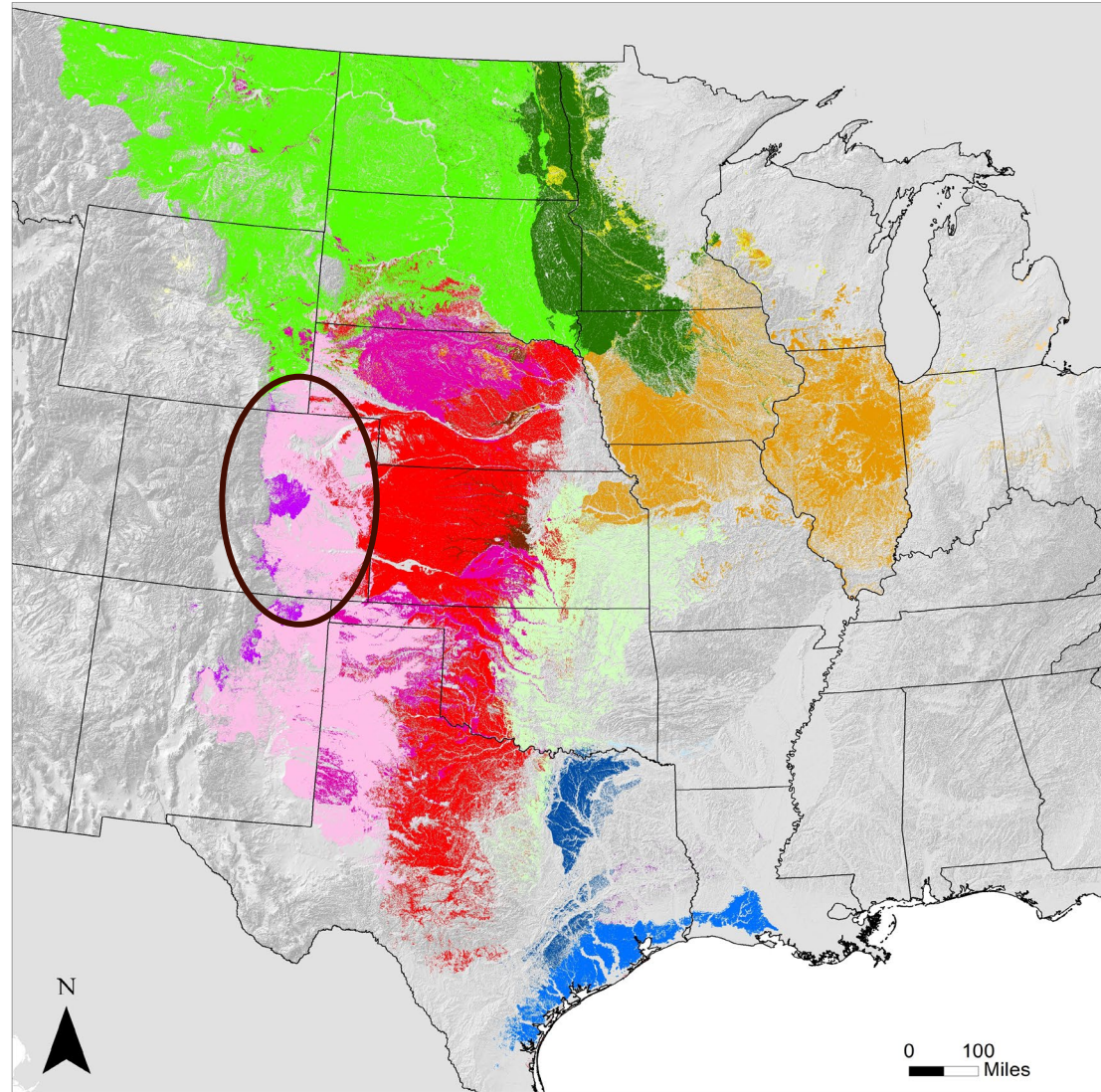


Biophysical Settings data layers (LANDFIRE 2008) used to create this map were accessed at <http://www.landfire.gov>, November 2012.

States

**Biophysical Settings**

-  Central and Upper Texas Coast dune and coastal grassland (series 143700)
-  Central mixedgrass prairie (series 11320)
-  Central tallgrass prairie (series 142100)
-  Great Lakes wet-mesic lakeplain prairie (series 14110)
-  North-Central Interior sand and gravel tallgrass prairie (series 14120)
-  Inter-Mountain Basins semi-desert grassland (series 11350)
-  Northern tallgrass prairie (series 14200)
-  Northwestern Great Plains mixedgrass prairie (series 11410)
-  Southeastern Great Plains tallgrass prairie (series 14230)
-  Southern Blackland tallgrass prairie (series 14220)
-  Texas-Louisiana coastal prairie (series 14340)
-  West Gulf Coastal Plain northern calcareous prairie (series 14280)
-  West Gulf Coastal Plain southern calcareous prairie (series 14290)
-  Western Great Plains foothill and piedmont grassland (series 11470)
-  Western Great Plains sand prairie (series 11480)
-  Western Great Plains shortgrass prairie (series 11490)
-  Western Great Plains tallgrass prairie (series 11500)





Post-  
Marshall Fire:  
Challenges  
we  
Immediately  
Faced

- **Social Aspect:**
  - Residents wanted swift management actions
  - Mow & graze acres of grasslands
  - Mitigate all ditches leading up to communities
  - Residents lacked resources and knowledge
  - Residents felt we lacked science and research
  - Thinking fuels mitigation was the silver bullet
- **Open Space Managers have multi-use management** objectives on a mosaic of different land ownership:
  - Grassland ecosystem health
  - Wildlife
  - Recreation
  - Wildfire
  - Invasive plants and weeds
  - Agricultural
  - Croplands

# Multi-Use Management








## ➤ Resource Challenges

- Firefighting tactics for Urban Conflagrations vs. Wildland Fires
- Balancing diverse user needs
- Densely populated areas near open space lands
- Limited resources
- Available and most recent science
- Continuing work and do research at the same time
- Agencies and partners getting on the same page for messaging and priorities

- 
- **Grassland management vs. forest management** for wildfire is vastly different.

Varying fuel types and fire behavior characteristics

### Grasslands

- Prone to rapid, wind-driven fires (Fine Fuels)
- Vegetation return intervals-**rapid**
- Historical fire regimes
  - Frequent, low-intensity fires, with return interval ranges of 1 to 35 years
- Often intermixed with densely populated areas

### Forests

- Greater potential for large, intense wildfires (trees and woody vegetation)
- Vegetation return intervals-**slower**
- Historical fire regime:
  - Frequent, low-moderate severity, return intervals of 7-50 years \*\*\*fire behaves in different forest types
- Now higher severity fires



How are we meeting the  
challenges and  
demands?

# Collaborative Approach to meet the challenges

- Organized a **Grasslands Workgroup** through our BOCO Fireshed group:
  - Diverse group:
    - Local knowledge
    - Science based expertise:
      - Grasslands Fire Use and History
      - Grasslands Ecology
      - Grasslands Research
      - Grasslands Management:
        - Grazing, Mowing, Prescribed Fire
  - Grasslands expertise outside of Colorado (i.e., The Great Plains Science Network)

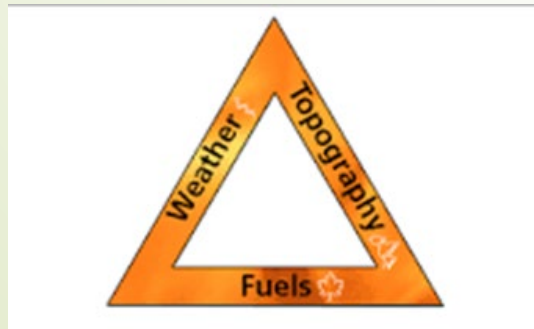


# Things we “know” and “don’t know”

## “Know”



- Fire is natural and often beneficial for a healthy habitat
- Climate Change is a factor
- Common Grass ecosystem functions and life cycles
- Common management practices in grasslands
- Community Preparedness



## “Unknowns”

- How to best manage grasslands to protect communities
- How to be strategic and effective in our management actions
  - Are we implementing management actions that are effective?
  - What management strategies do we use to meet multiple objectives
- How to engage Communities to be prepared



# Mitigation Strategies Options



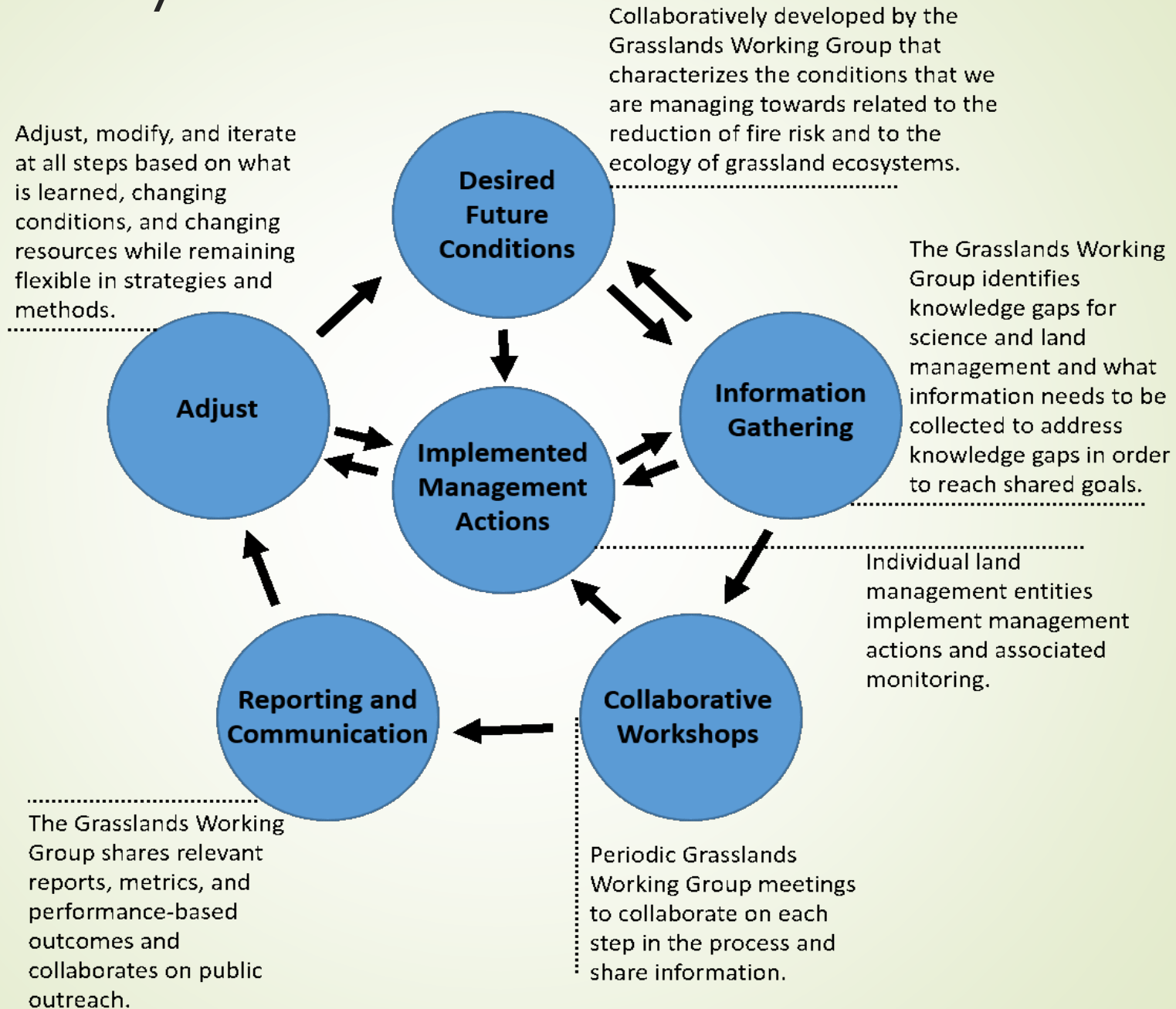


# Priorities and Deliverables

- ▶ Quick and easy resource for the residents
  - ▶ Provide basic grasslands ecology
  - ▶ Wildfire and grasslands
  - ▶ Management strategies
  - ▶ Actions residents and communities can take\*\*\*
  - ▶ Research
  - ▶ Resources
  - ▶ References

# Grasslands Story

## Map





# Grasslands Story Map 2023

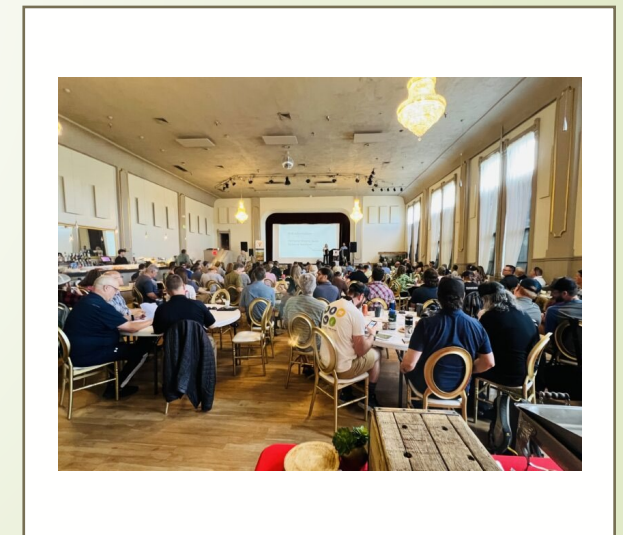
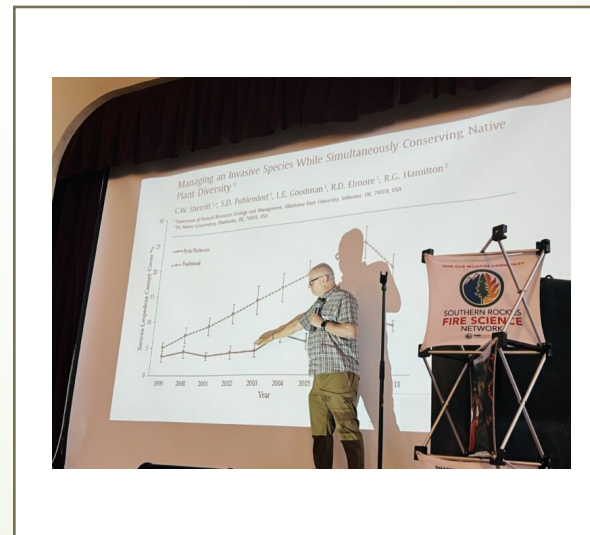


- ▶ Grassland Management in Boulder County
- ▶ Challenges and opportunities following the Marshall Fire
  
- ▶ By The Watershed Center in collaboration with the Boulder County Fireseeded Grasslands Working Group

<https://storymaps.arcgis.com/stories/62435c5cd6554d4d8143dd0c967fc2d3>



# Front Range Grasslands Workshop in 2024



# Ongoing Collaboration for Research and Science

- ▶ **Colorado State Forest Service (CSFS)**-fire modeling for the eastern plains and urban areas
- ▶ **Colorado State Forest Service:** Wildfire Fuels Management in Grass-Dominated Landscapes
- ▶ **University of Colorado:** Grasslands Fuels and Wildfire Risk (Jonathan Henn)
- ▶ **Collaborative effort to develop a Front Range Wildfire Mitigation Guidance Document:**
  - ▶ Front Range Counties, local Fire Protection Districts, Colorado State Forest Service, Boulder County, Open Space managers, conservation districts etc.
- ▶ **Butterfly Pavilion Monitoring:** plant surveys conducted by the Butterfly Pavilion to measure the effects of goat grazing (browsing)



# Boulder County Wildfire Partners Efforts and Collaboration



- Wildfire Partner Programs: <https://wildfirepartners.org/>
- Partnering with local watershed groups:
  - The Watershed Center
  - The Boulder Watershed Collective
- Boulder County Parks and Open Space hired a new Ditch Program Manager

# Key Take Aways



- ▶ It takes collaboration and partners to meet the challenges and demands
- ▶ We must continue to share and deliver consistent messaging
- ▶ It is a “partnership” with not only land managers, fire districts, researchers and scientists but also with residents and communities
- ▶ Our work is never done
- ▶ We must learn to Live with Wildfire
- ▶ Become involved:
  - ▶ Attend grassland field trips
  - ▶ Attend Open Space Advisory meetings
  - ▶ Workshops



# Thank You! Questions?

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# Resources and Links

- ▶ **Boulder County Fireshed Grasslands Story Map:**  
**<https://storymaps.arcgis.com/stories/62435c5cd6554d4d8143dd0c967fc2d3>**
- ▶ **Boulder County CWPP:**  
**<https://bouldercounty.gov/disasters/wildfires/mitigation/community-wildfire-protection-plan/>**
- ▶ **<https://cslc.colorado.edu/events-blog/wildfire-management-on-boulders-open-space-lands>**
- ▶ **Great Plains Science Exchange:** **<https://gpfirescience.org/>**
- ▶ **City of Boulder Wildfire Resilience:** **<https://bouldercolorado.gov/guide/wildfire-resilience-city-boulder-open-space>**
- ▶ **Colorado State Forest Service:** **<http://csfs.colostate.edu/wildfire-mitigation/grasslands/>**