



COLORADO

Department of Natural Resources

SB21-258 Rapid Fuels Reduction Assessment Team and Strategic Focus Areas White Paper November 15, 2021

Background

The passage of Senate Bill 21-258 (SB21-258) during the 2021 Colorado legislative session provided funding for the Colorado Strategic Wildfire Action Program (Program), administered by the Colorado Department of Natural Resources (DNR) in coordination with the Colorado State Forest Service (CSFS) and the Division of Fire Prevention and Control (DFPC) in the Department of Public Safety. The Program supports increasing Colorado's capacity and workforce to conduct critical forest restoration and wildfire mitigation work that will increase community resilience and protect life, property and infrastructure.

SB21-258 required initiating a federal National Incident Management Organization (NIMO) comprehensive risk analysis by June 15, 2021, to identify the most strategic landscapes in the state for wildfire mitigation and fuel reduction projects. A NIMO team was not available from the USDA Forest Service (USFS), but Region 2 of the USFS made subject matter experts available to work with the DNR, CSFS and the DFPC to fulfill this obligation. The Colorado Rapid Fuels Reduction Assessment (RFRA) team formed as a result, composed of wildfire risk modeling and fuels management staff from state and federal agencies (see details below).

The RFRA team represents a Shared Stewardship approach, where the USFS and state partners set priorities together and combine mutual skills and assets to achieve cross-boundary outcomes. Goals of the RFRA team:

- Complete a comprehensive fire/fuels data analysis of all lands in Colorado
- Identify Strategic Focus Areas across the state for implementation of the Program

Rapid Fuels Reduction Assessment Team Approach

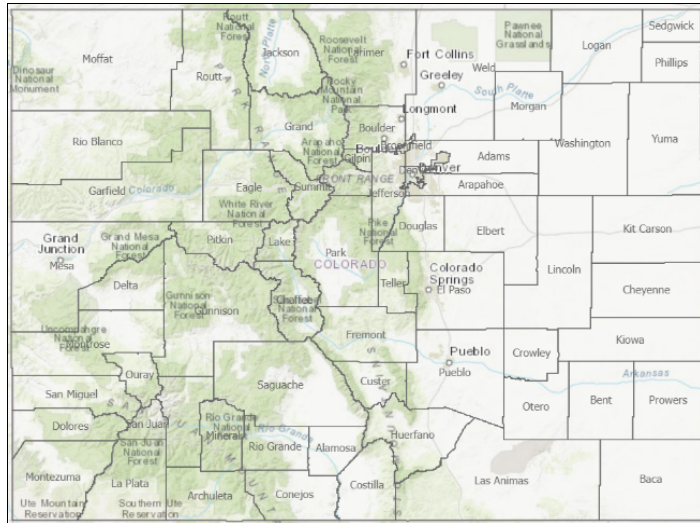
A data team was formed with representatives from USDA Forest Service (USFS), Division of Fire Prevention and Control (DFPC), Colorado State Forest Service (CSFS), Colorado Department of Natural Resources (DNR), US Department of Interior Bureau of Land Management (BLM), US Department of Interior Bureau of Indian Affairs (BIA), US Department of Interior National Park Service (NPS), US Department of Interior National Fish and Wildlife Service (FWS), and the Colorado Forest Restoration Institute (CFRI). Representatives looked at existing datasets within each agency and outside sources that would apply to Colorado.

Once the data was compiled a core team of decision makers and subject matter experts from DNR, CSFS and DFPC determined how to best use the data to direct Program funding. Through careful deliberation and consideration of legislation, the group chose to focus on two comparable datasets: the USFS Wildfire Risk to Communities (national dataset) and the Colorado Wildfire Risk Assessment (CO-WRA). The CO-WRA is parameterized for conditions specific to Colorado while the national datasets are not as refined on a state scale.

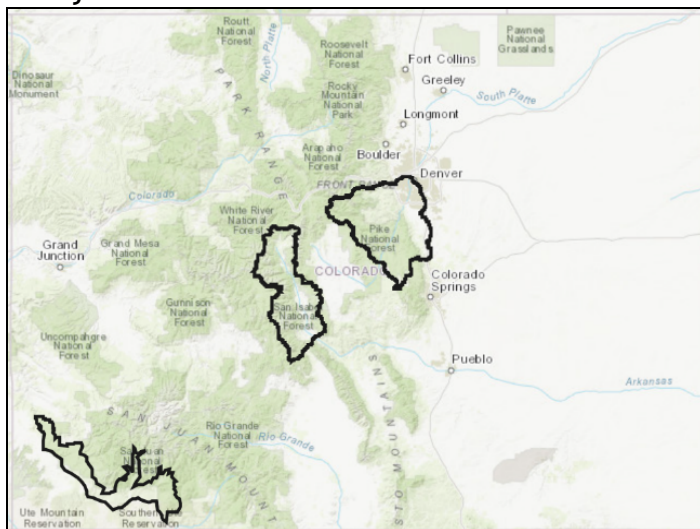
Data Layers

The RFRA team compiled the following data layers into a comprehensive online map viewer:

Colorado Counties Layer



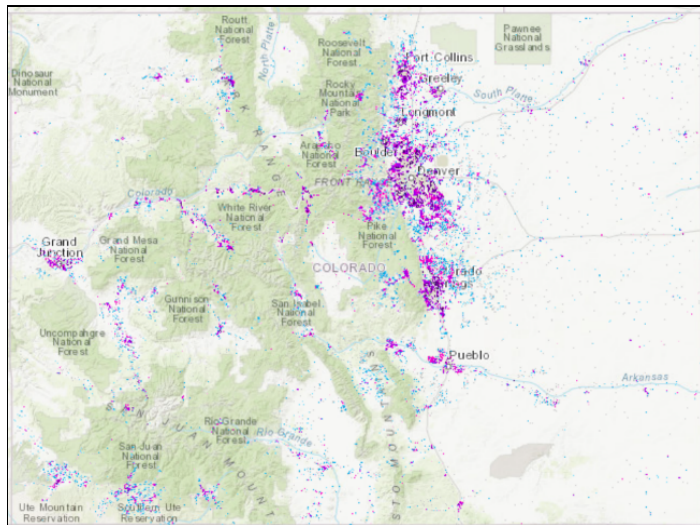
Rocky Mountain Restoration Initiative Focal Areas



More information:

<https://restoringtherockies.org/#maps>

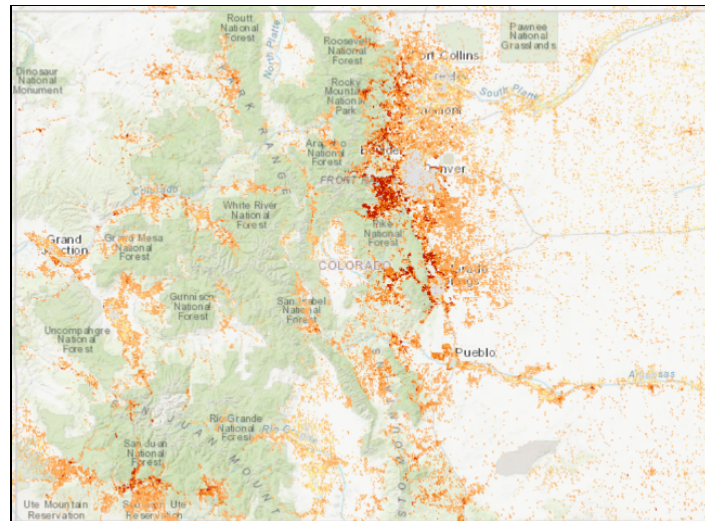
Colorado State Forest Service CO-WRA Wildland-Urban Interface (WUI) Risk Index



More information:

https://co-pub.coloradoforestatlas.org/docs/CSFS-Wildfire_Risk_Public_Viewers_Map_Theme_Description.pdf

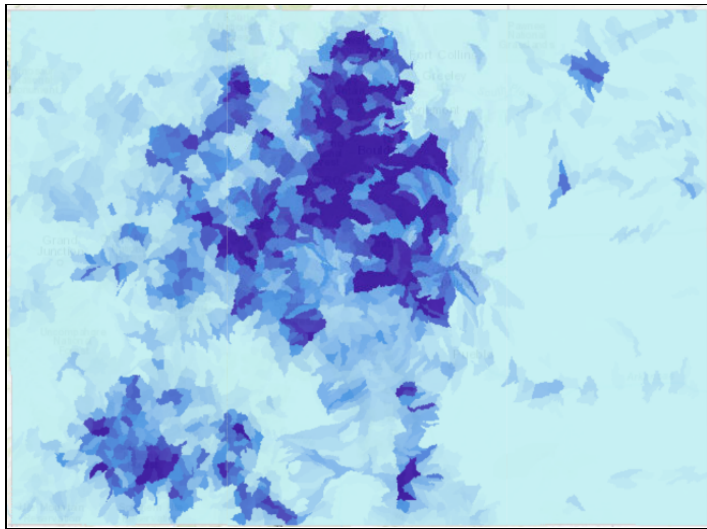
USDA Forest Service Wildfire Risk to Communities Expected Annual Relative HU Risk (EAHURisk)



More information:

<https://wildfirerisk.org/download/>
<https://www.fs.usda.gov/rds/archive/catalog/RDS-2020-0016>

Colorado State Forest Service Watershed Protection Theme (2020 Colorado Forest Action Plan)



More information:

<https://csfs.colostate.edu/forest-action-plan/>

Rapid Fuels Reduction Assessment Team Analysis

The primary analysis was based on the following two data sets:

1. **USFS Wildfire Risk to Communities:** Expected Annual Relative HU Risk (EAHUrisk) by county
 - a. Webpage: <https://wildfirerisk.org/explore/0/08/>
 - b. The USFS Wildfire Risk to Communities layer comprises many data sets. The RFRA team chose to focus on the Expected Annual Relative Housing Unit Risk (EAHUrisk) as the data that best represents risk to communities and is the most comparable of these datasets to the CSFS CO-WRA WUI Risk Index.
 - c. The EAHUrisk is the expected annual relative housing-unit risk for a summary polygon. It is an index of the expected damage to, or loss of, housing units within a summary polygon due to wildfire in a year. This is a long-term annual average and not intended to represent the actual losses expected in any specific year.
 - d. EAHUrisk is sensitive to the mean Risk to Potential Structures (RPS) and the number of exposed housing units for a summary polygon. Mean RPS is a function of mean Burn Probability (BP) and mean Conditional Risk to Potential Structures (CRPS), so this measure incorporates all four components of risk—likelihood and intensity of wildfire, and exposure and susceptibility of housing units.
 - e. This data is focused on housing units at risk.
2. **CSFS CO-WRA WUI Risk Index:** County Population Analysis
 - a. Webpage: <https://fap2020.coloradoforestatlas.org/#/>
 - b. The WUI Risk index rates the potential impact of a fire to people and their homes. Similar to the EAHUrisk, it incorporates all four components of risk.

- c. This data is focused on populations in high WUI risk categories, areas with high housing and population density and high potential flame lengths.
- d. The RFRA team chose to analyze the data by population in 'high risk' WUI areas.
- e. Datasets: Total population (county CO-WRA/WUI data) and County population in high WUI risk categories (7-9) .

The RFRA team focused on analyzing and comparing the top 10% of counties with the greatest housing-unit and population risk from both the USFS Wildfire Risk to Communities and the CSFS WUI Risk Index data sets, in addition to the Rocky Mountain Restoration Initiative focal areas.

1. USFS Wildfire Risk to Communities:

- a. The top 10% was chosen to focus efforts on areas of highest risk based on housing units. Using the EAHUrisk the top 10% of the counties with the greatest housing unit risk in the state are:
 - i. Jefferson
 - ii. El Paso
 - iii. Boulder
 - iv. Larimer
 - v. Douglas
 - vi. Teller

2. Colorado State Forest Service- WUI Risk Index:

- a. Using the county population in high risk categories (7-9) the top 10% to focus efforts on highest risk are:
 - i. El Paso
 - ii. Douglas
 - iii. Jefferson
 - iv. Larimer
 - v. Boulder
 - vi. La Plata

Determination: CSFS County population focuses on areas where there is a greater population density at high risk. This is consistent with the USFS EAHUrisk information. When compared to the USFS EAHUrisk county list Teller is the only county that is not included. The RFRA team agreed both datasets are in alignment from a housing unit and population standpoint and therefore the county selection was justified based on the data analyzed.

3. Rocky Mountain Restoration Initiative (RMRI)

- a. The RFRA analysis included adding RMRI landscapes in the Strategic Focus Areas due the stakeholder-driven approach to identifying areas for landscape scale fuels treatment efforts.
- b. The Rocky Mountain Restoration Initiative (RMRI) is a stakeholder-driven collaborative initiative aimed at increasing the resilience of our forests, wildlife habitats, communities, recreation opportunities, and water resources across all lands in the Rocky Mountains. RMRI was co-convened by the US Forest Service and the National Wild Turkey Federation. The initiative is taking the

groundbreaking approach of tasking a diverse group of partners from Colorado to identify important landscapes, shared interests and potential strategies where a collective effort has the potential to make transformational changes in the health and resiliency of the ecosystem. RMRI has chosen to initially focus resources on three landscapes having the greatest impact on Colorado to reach a scale comparable to the needs on the ground. (Reference:

<https://restoringtherockies.org/>)

- i. SW Colorado
- ii. Upper Arkansas
- iii. Upper South Platte

Rapid Fuels Reduction Assessment Team Recommendation

The RFRA team selected a targeted approach to implementing SB21-258 by selecting the following Strategic Focus Areas for landscape scale wildfire mitigation projects and Colorado Youth Corps projects. DNR will offer Department of Corrections-State Wildland Inmate Fire Team crews to the entire state on a competitive basis. The Department of Corrections has mitigation crews stationed out of their Rifle, Buena Vista and Canon City locations.

Strategic Focus Areas: Seven Counties and Three Rocky Mountain Restoration Initiative Focal Areas

1. Use top 10% counties from USFS EAHUrisk and CSFS County Population in High Risk Categories for list of counties. This will address housing unit risk (property/infrastructure) and population (life).
 - a. Jefferson
 - b. El Paso
 - c. Boulder
 - d. Larimer
 - e. Douglas
 - f. Teller
 - g. La Plata
2. Rocky Mountain Restoration Initiative (RMRI) priority area boundaries. RMRI areas were chosen to continue to build off existing collaborative efforts supported on a state-wide basis by USFS, CSFS, DNR, and DFPC, along with dozens of external partners. The focus is landscape scale treatments and creating opportunities to leverage diverse resources.
 - a. SW Colorado (Dolores, Montezuma, La Plata, Archuleta)
 - b. Upper Arkansas (Lake and Chaffee)
 - c. Upper South Platte (Park, Jefferson, Douglas, Arapaho, Clear Creek, Teller)

Data Notes:

1. The top 10% selected counties along with RMRI areas contain 45% of statewide higher priority sub-watersheds (From the Watershed Protection Theme of the 2020 Colorado CSFS Forest Action Plan). This theme map prioritizes sub-watersheds based on their

importance to protection of watershed infrastructure, which aligns with the intent of SB21-258.

2. The SB21-258 initiative is currently a 3-year program. If the program continues beyond June 30, 2024, updated watershed mapping from SB21-240 will be included in future Strategic Focus Areas.

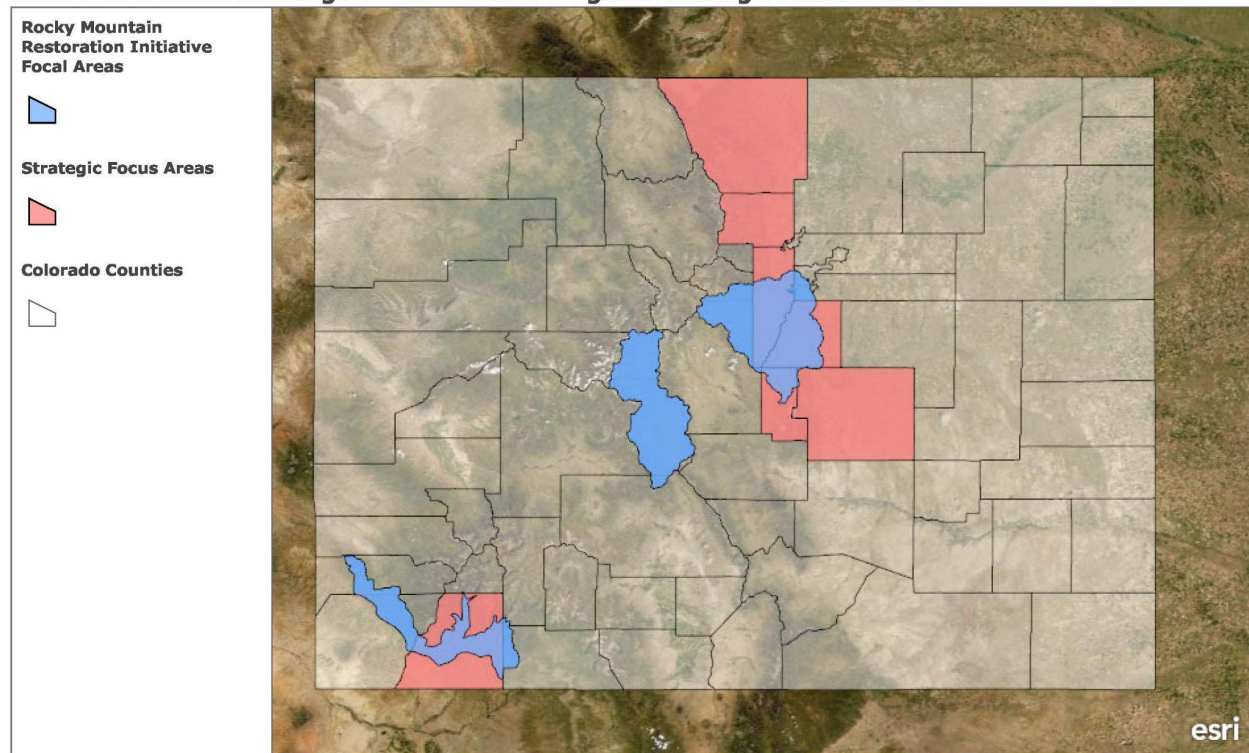
References:

1. Colorado Shared Stewardship MOU
 - a. Webpage: <https://www.fs.usda.gov/sites/default/files/MOU-CO-USDA.pdf>
2. 2020 Colorado Forest Action Plan
 - a. Webpage: <https://csfs.colostate.edu/forest-action-plan/>
3. Colorado Forest Atlas
 - a. Webpage: <https://coloradoforestatlas.org/>

Appendix:

A. SB21-258 Strategic Focus Areas Map

SB21-258 Colorado Strategic Wildfire Action Program: Strategic Focus Areas



B. RFRA Metadata Spreadsheet:

<https://dnr.colorado.gov/sites/dnr/files/documents/RFRA%20Data%20Spreadsheets%20%5BRead-Only%5D.xlsx>