

# **Community Wildfire Protection Plan**



**ARAPAHOE COUNTY**

**June 2022**

## Plan Approval

Nancy Gachsm 12/06/22  
Arapahoe County Commissioners, Chair Date

[Signature] 09/21/22  
Arapahoe County Sheriff Date

Allen Robinson 9/21/22  
Aurora Fire Chief Date

E.R. Ch 8-3-22  
Bennett-Watkins Fire Chief Date

[Signature] 8-3-22  
Byers Fire Chief Date

[Signature] 7-19-2022  
Colorado State Forest Service, FRFO Supervisory Forester Date

[Signature] 9/19/2022  
Deer Trail Fire Chief Date

[Signature] 8/3/22  
Sable-Altura Fire Chief Date

[Signature] ACTING 7/20/22  
South Metro Fire Chief Date

[Signature] 8/3/22  
Strasburg Fire Chief Date

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## **Overview**

Community Wildfire Protection Plans (CWPP) are authorized and defined in Title I of the *Healthy Forests Restoration Act (HFRA)* passed by Congress on November 21, 2003 and signed into law by President Bush on December 3, 2003.

HFRA places renewed emphasis on community planning by extending a variety of benefits to communities with a wildfire protection plan in place. Critical among these benefits are: 1) The option to establish localized definitions and boundaries for areas having high Risk (potential), Hazards (fuels) and Values; and 2), The opportunity to help shape management priorities for federal and non-federal lands within the planning area.

The CWPP, as described in the Act, brings together diverse local interests to discuss their mutual concerns for public safety, community sustainability and natural resources. It offers a positive, solution-oriented environment in which to address challenges such as local firefighting capacity, the need for defensible space around homes (and areas of value), and where and how to prioritize land management. (Colorado State Forest Service, 2005. Community Wildfire Protection Plans: Guidelines for Implementation.)

In 2009, the Colorado General Assembly passed SB 09-001 requiring counties to complete a CWPP for identified fire hazard areas within the unincorporated areas of the county. The CWPP must meet the minimum standards set forth by the State Forester.

The purpose of this document is to provide stakeholders and those living in eastern Arapahoe County with an overview of the wildland fire risks, hazards and values within the planning area, recommend possible courses of action to reduce the impacts of wildfire in the planned area, and to develop an implementation plan. The CWPP is not intended to identify parcel level specifics, nor does it identify individual community fuels treatment priorities. These items are to be evaluated and included in a local-level CWPP.

## **Background**

Partners and stakeholders in the Arapahoe County Community Wildfire Protection Plan include the Arapahoe County Sheriff's Office, South Metro Fire Rescue, Aurora Fire Rescue, Buckley SFB Fire Department, Sable-Altura Fire Protection District, Bennett-Watkins Fire Rescue, Strasburg Fire Department, Byers Fire Protection District, Deer Trail Rural Fire Protection District, the Colorado State Forest Service Franktown Field Office, property owners, and residents of Arapahoe County.

## **Participants/Process**

Participants in the CWPP process through direct meeting participation include the Arapahoe County Sheriff's Office (OEM), and representatives from South Metro Fire Rescue, Aurora Fire Department, Buckley SFB Fire Department, Sable-Altura Fire Protection District, Bennett-



Watkins Fire Rescue, Strasburg Fire Department, Byers Fire Protection District, and Deer Trail Rural Fire Protection District. These agencies, along with the Colorado State Forest Service (CSFS), comprise the Core Team.

Local government participation included Parker-Jordan Centennial Open Space, Arapahoe County Open Space, Centennial City Council, and the City of Columbine Valley. Private HOAs and other community organizations that were presented to and input was solicited from include the Villas on Caley, the 20<sup>th</sup> Hole on Caley, Windmill Creek #1, Windmill Creek #2, Valley Estates, Sanctuary on the Park, Highland River II, Orchard Valley, CenCon, the Highline Canal Conservancy, Walnut Hills, Windemere, and Lake Point Estates. State partners in addition to CSFS that have participated over time include the Colorado State Land Board, the Colorado Department of Transportation, Cherry Creek State Park and the Colorado Division of Wildlife. The Arapahoe County Mapping Section and the CSFS assisted with the maps.

Three Core Team meetings were held January-June, 2022 via Microsoft Teams to review maps of the County, determine hazard areas, review the components of the CWPP, and provide input on various areas of the plan. Agendas and attendance rosters from the meetings are shown in Appendix A. Meeting minutes are on file with the Arapahoe County OEM.

## **Plan Components**

### **A. Wildland Urban Interface (WUI)**

According to HFRA, the wildland urban interface (WUI), *or grassland urban interface (GUI) defined locally*, is considered “any area within or adjacent to an at-risk community that is identified in recommendations to the Secretary of Agriculture in a Community Wildfire Protection Plan.” Communities have the ability to establish the definition and boundary of a localized WUI. Community-established WUI boundaries can help meet local management needs, can include both public and private land, and can help improve access to funding sources.

For the purposes of this CWPP, the WUI/GUI boundary is drawn around those areas within both incorporated and unincorporated portions of Arapahoe County where hazard conditions exist. According to the Colorado State Forest Service, the WUI comprises 91,782 acres (143 square miles) within the County. With the inclusion of the additional GUI, the total hazard area is 213,760 acres (334 square miles). All communities within the WUI/GUI boundary are listed in Appendix B. Any new communities since the approval of this plan are automatically included and covered by the CWPP. The WUI/GUI boundary is show in Figure 2: Arapahoe County CWPP Wildfire Risk Map. Adjacent counties are Douglas and Elbert to the south, Jefferson County to the west, Adams County to the north, and Washington County to the east.

Land ownership within the CWPP planning area includes private and county (parks and open space) land. In the Dove Valley Metro District and surrounding areas there are a number of notable parks and open space, including: Lone Tree Creek Trail (11 acres), Arapahoe Trailhead (12 acres), Broncos Parkway Trailhead (7 acres), Happy Canyon Trail and Green Acres (15 acres), and 17-Mile House Farm and Open Space (55 acres). Within the 4-Square Mile area, there is the Cherry

Creek Greenway (18 acres), and seven other areas ranging up to two acres each. In the eastern portion of the County, east of Gun Club Road, there are six county parks/open spaces including: Arapahoe County Fairgrounds (225 acres), No Name Open Space near the Fairgrounds (29 acres), Kiowa Creek Open Space (753 acres), Bijou Basin Open Space (2,808 acres), Mule Gulch Open Space (929 acres), and Richmil Ranch Open Space (352 acres). There are ten additional Conservation Easements including: Coal SENAC Creek in (316 acres), Bennett Regional Park (193 acres), Home Ranch (4,951 acres), Last Partners (1,073 acres), West Bijou L&L Hasenbalg (931 acres), West Bijou A&R Hasenbalg (437 acres), Mule Gulch (948 acres), Plains Conservation Center-Bijou Canyons (106 acres), Plains Conservation Area-West Bijou (2,564 acres), and Middle Bijou Creek (68,011 acres).

Finally, there are two federally owned properties managed by the State within the County, including: Cherry Creek State Park (3,346 acres) and the Former Lowry Bombing and Gunnery Range (59,000 acres).

Due to the dispersion of suppression resources, extended response times and limited water availability, Arapahoe County's area of highest concern is the eastern part of the County defined as east of Gun Club Road. Communities and developed areas near the Former Lowry Bombing Range, Colorado Interstate Gas Latigo storage field, Union Pacific Rail Road, Arapahoe County Fairgrounds and Open Spaces, Excel Energy high voltage transmission line rights-of-way, solar farms, and the High Plains Raceway represent a partial list of particular areas of concern.

Per the 2020 Decennial Census, communities in the western portion of the County which are much more urban as they are closer to the metro area include: Sheridan (population 6,261), Englewood (population 33,659), Cherry Hills Village (population 6,442), Bow Mar (population 930), Columbine Valley (population 1,538), Littleton (population 45,652), Greenwood Village (population 15,691), Centennial (population 108,418), Foxfield (population 761), and unincorporated Arapahoe County. Eastern communities which are mostly rural include: Strasburg (population 3,307), Bennett (population 2,862), Watkins (population 670), Byers (population 1,322), Deer Trail (population 1,068), and unincorporated Arapahoe County. Due to the rural nature of the eastern area of the County, there are scattered homes on parcels over 35 acres. These municipal populations represent an overall 12% increase in Arapahoe County over the past 10 years. An overall population of 655,070 makes Arapahoe County the third largest populated County in the state behind only Denver and El Paso Counties.

Additional demographics include the following:

- 246,302 households. Since 2010, the population of persons 65 and over living alone in Arapahoe County has grown by 30%.
- 36.7 years is the median age in the County. This is an increase of 1.0 years since 2010.
- \$82,710 is the median household income - \$5,600 higher than that state-wide median income.
- 92.5% of Arapahoe County residents are high school graduates or higher.
- 43.8% have a bachelor's degree or higher – a 6% increase since 2010.
- 257,364 housing units in the County, of which 65.5% are owner occupied.

The eastern part of the County is rural with population centers that have developed in the incorporated communities. Several major state highways cross the county east to west (Interstate 70, U.S. Highway 36 and U.S. Highway 40). The Union Pacific (UP) Railroad also runs through the County east to west and runs parallel to Interstate 70. Several Petroleum lines intersect the County to include an interstate high pressure gas line passing somewhat diagonally through the County. The Colorado Interstate Gas plant has a significant station within the County. Additional gas commodity lines are listed below. Creeks include East, West and Middle Bijou; Coal; Box Elder; West Sand Creek; Kiowa; Wolf; Comanche; Rattlesnake; and Muddy.

The eastern portion of Arapahoe County has multiple high pressure gas and gas by-product underground lines located throughout the jurisdiction. The companies include:

- *Colorado Interstate Gas*
- *ConocoPhillips Pipeline – Colorado*
- *DCP Midstream*
- *Enterprise Products*
- *Magellan Pipeline Company*
- *NuStar Logistics*

## **B. Preparedness to Respond to Wildland Fire**

South Metro, Aurora, Buckley, Sable-Altura, Bennett-Watkins, Strasburg, Byers, and Deer Trail Fire Departments/Protection Districts serve and protect approximately 655,000 residents and 805 square miles within the county. The County utilizes a central dispatch center with Enhanced 911 services (E-911).

All eight districts have signed a mutual aid agreement with all involved districts.

Arapahoe County has signed an Agreement for Cooperative Wildfire Protection with the Colorado Division of Fire Prevention and Control, and has an Annual Fire Operating Plan (AOP)

Arapahoe County has an Open Burning Ban Ordinance. The Arapahoe County Sheriff has the authority to initiate open burning bans as appropriate. Some incorporated communities have agreed to be a part of the overall county fire ban placement and rescission process.

South Metro Fire Rescue operates 15 stations within Arapahoe County, and staffs a combination of 12 Type 6 and Type 3 engines and six tenders within its wildland fire program. The department has earned a Public Protection Classification rating of 1 from the Insurance Services Office (ISO 1) which represents the best fire protection available and a lower wildland fire risk within its district.

Aurora Fire Rescue currently operates 13 stations within Arapahoe County, and staffs one Type 3 engine, four Type 6 trucks, and one 1,500 gallon tactical tender within its wildland fire program. AFR has a 30 person NWCG deployable wildland team and two stations specifically dedicated to wildland fire response, requiring a minimum of six NWCG Red Card certified firefighters per shift.

Buckley SFB Fire Department currently operates out of one station with a 4,000 gallon tender and a 4x4 Type 1 engine. All crews are NWCG trained and 10 members are Red Card certified.

Sable-Altura Fire Protection District currently operates out of one station with one Type 6 and one Type 3 engines, and a 4,000 gallon tender. All crews are NWCG trained and eight members are Red Card certified.

Bennett-Watkins Fire Rescue currently operates 4 Type 5 brush trucks, one of which has 1000 gallon capacity. They also operate two tenders that contain 3000 gallons of water each, one of which can pump and roll. BWFR will have all career staff trained to at minimum NWCG FFT2 standards by EOY 2022. The department has earned a Public Protection Classification rating of 2 from the Insurance Services Office (ISO 2) which represents a lower wildland fire risk within its district. Bennett also would like to see more water sites in Arapahoe County including cisterns strategically located to help with response times for tenders.

Strasburg Fire Protection District currently operates out of one station with two Type 6 and one Type 3 engines within its wildland fire program. By the end of 2022, the department's goal is to have all career members trained to NWCG FFT2 at a minimum. It will be increasing its participation in the state's cooperator program with a dedicated Type 6 engine and would like to see the formal creation of the "East Metro Strike Team" as has been discussed along the corridor. Like other corridor departments, Strasburg would like to see more water sites made available to accommodate the planned new developments.

Byers Fire Protection District currently operates one station within Arapahoe County and staffs two Type 6 and one Type 3 engines. It also operates a Type 2 engine with pump and roll capabilities and a 4,000 gallon tender. BFPD has five members that are NWCG Red Card certified and is looking to increase these numbers within the department.

Deer Trail Rural Fire Protection District is staffed by all volunteers and currently operates out of one station with one Type 6 and one Type 3 engines. It also operates one tender that can hold 4,000 gallons of water. Deer Trail is in the process of adding an additional Type 3 engine and would like to provide more wildland training for its personnel.

The Arapahoe County Sheriff's Office Wildland Fire Team currently operates three Type 6 engines. The team also operates a 3,000 gallon tactical tender, two ATVs, a Type 7 UTV, and is Drone capable. All team members are NWCG Red Card certified and the team wants to continue to provide training to its personnel and explore working with new oil companies to prevent wildland fires. The team also wishes to continue the Ready, Set, Go! program for community

members. The Arapahoe County Sheriff's Office plans to work with all fire departments/protection districts in the area by assisting with training and requests for assistance.

### C. Community Risk Analysis

As part of the CWPP process, a community risk analysis was completed as part of the 2021 All-Hazards Mitigation Plan to determine the wildfire hazards for the area. The purpose of the hazard analysis is to raise awareness of the potential wildfire hazards that exist based on hazard, risk, and values within the planning area.

Three factors were examined to determine the wildfire hazard ratings for areas within the WUI boundary: Hazard (fuels), risk (ignition method), and values (structures). The hazard ratings indicate the level of risk to catastrophic wildland fire in the interface.

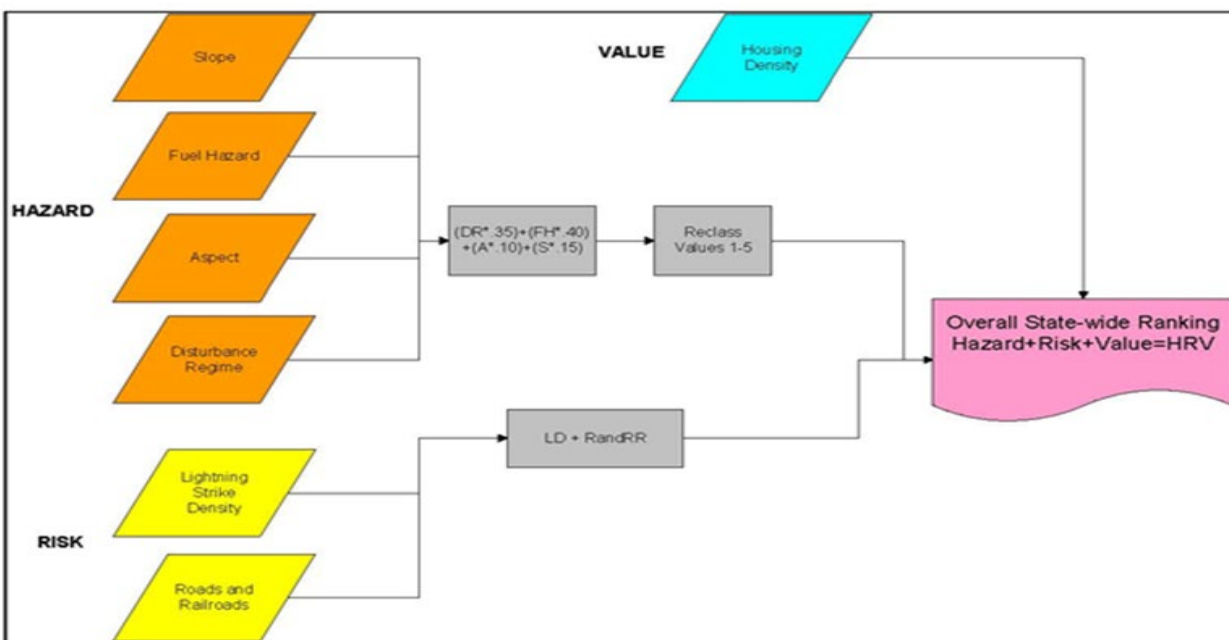


Figure 1: Wildfire Hazard Assessment Methodology

The Assessment produced a map that displays areas of concern that are at risk of catastrophic wildland fire. The Assessment included the eastern plains and after overlaying current address points on the hazard map the hazard areas/ratings were still valid with the 2017 model. More information on the methodology for the Assessments can be found in the References section. The assessment does not take into account details such as defensible space, construction materials, ingress/egress routes etc. Consequently, inferences toward defensibility or hazard level of individual homes, lots, or parcels should never be made based solely on this assessment. Arapahoe County asks individuals and communities to analyze their specific wildland threats and create defensible spaces and emergency egress routes to create their own tailored wildfire action plan. The Arapahoe County CWPP Wildfire Risk Map is shown below in Figure 2.

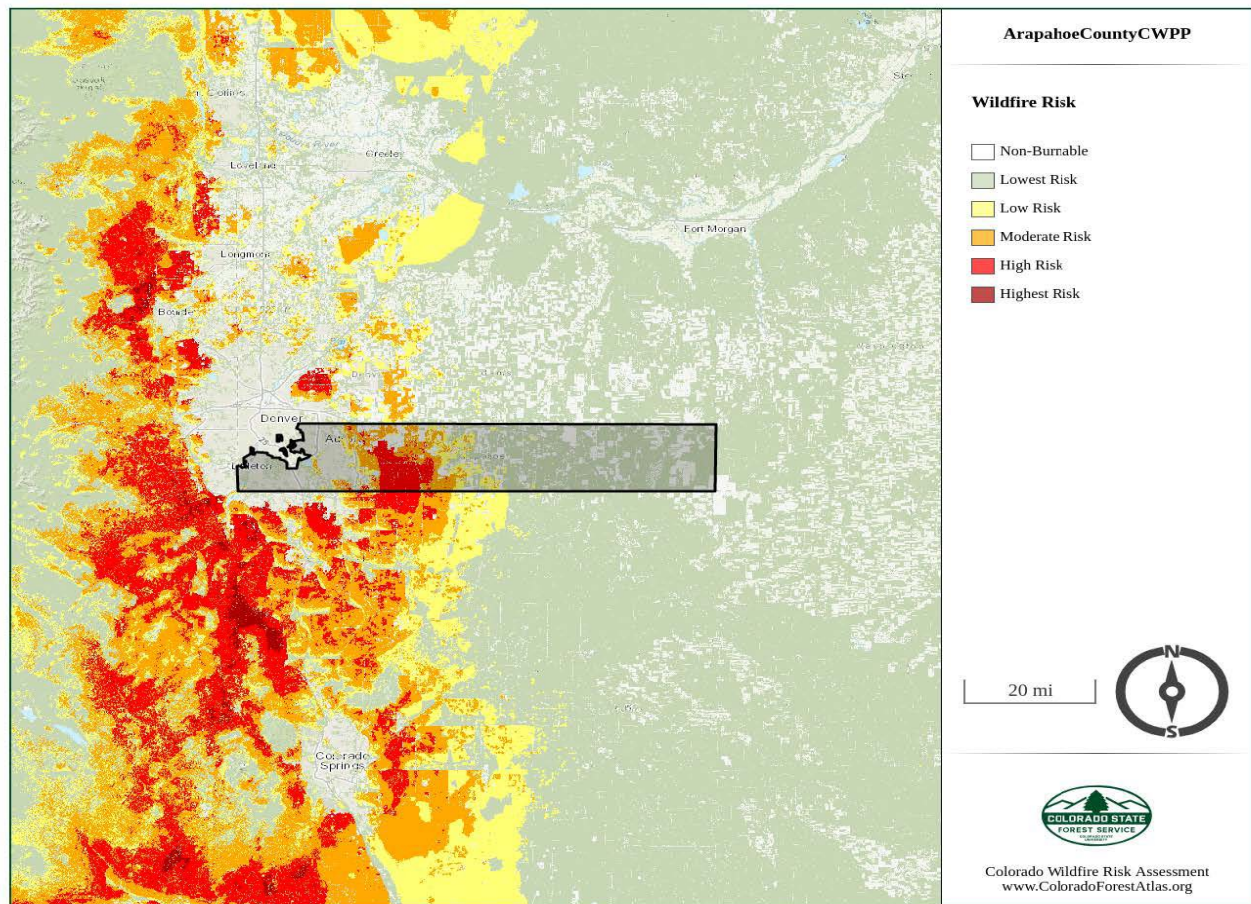


Figure 2: Arapahoe County CWPP Wildfire Risk Map

## Hazards

Hazards refer to the fuels or vegetation and topological features (slope and aspect) that are present within the planning area that affects fire intensity and rate of spread. Wildland fire fuels can be divided into four categories: grazing land, cultivated agricultural land, forested lands, and miscellaneous. Grazing lands are primarily made up of sandhill steppe and prairie, and exhibit rather predictable seasonal burning characteristics. Cultivated agricultural land includes irrigated and non-irrigated crop land and has very dynamic burning characteristics and seasons. Forested land includes the riparian forest, windbreaks, shelterbelts, living snow fences, and urban forests in the WUI. Miscellaneous areas include transportation rights-of-way, fence lines, disturbed areas, and other areas that contain tumbleweeds, grasses, wild sunflowers, and other weeds.

The prairie contains native mixed grasses, small brush, and some introduced grass species. It is generally described as “short grass” and other types of prairie. In many areas, livestock grazing maintains a rather sparse fuel load.

Sandhill steppe is a conglomerate of sand sage and mixed grasses, generally including some introduced grass species. Although grazed by livestock, the fuel load on these lands is moderate to heavy. Very large fires have occurred with this fuel type, especially during times of high winds prevalent in the spring.

The cultivated agricultural land is used to produce various crops including; corn, winter wheat, sugar beets, onions, grass hay, alfalfa hay, carrots, beans, cabbage, sunflowers, millets, and others. Of these, the crops of concern as wildland fire fuel are dormant stands of winter wheat, wheat stubble, mature corn, corn stubble, grass hay, and mature millets and sorghum. Each of these crops is available as fuel during a specific season of the year. These seasons can differ widely. Also, the fields may contain different crops from year to year. The dynamic nature of the fuel locations and seasons of availability adds considerably to the challenge of suppression preparedness.

The forested lands are located along rivers, seasonal water courses, ponds, and lakes; scattered across the county as windbreaks, shelterbelts, living snow fences, and in the vicinity of farmsteads and urban areas in the WUI. In most cases, the forest includes a surface cover of grass and brush, which is the primary carrier of the fire. The tree species of concern in the windbreaks, shelterbelts, and living snow fences are primarily Eastern Red Cedar, Rocky Mountain Juniper, and Ponderosa Pine. Examples of shrub species include Caragana, Cotoneaster, Chokecherry, Native Plum, Sumac (Skunk Bush), Sandcherry, Nanking Cherry, European Sage, Buffaloberry, and Four-wing Saltbush. In many instances, these species; along with other trees such as Cottonwood, Siberian Elm, Bur Oak, and Hackberry have been planted near homes and outbuildings.

Wildland Fire Fuels' Normal Season of Availability in NE Colorado												
Fuel Type	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Prairie												
Sandhill Steppe												
Dormant Winter Wheat												
Wheat Stubble												
Mature Corn												
Corn Stubble												
Mature Millets & Sorghum												
Forest												
Miscellaneous Areas												

Table 1: Fuel Availability



In eastern Colorado, the long-term weather patterns have flowed as a series of years of “normal” precipitation, followed by a series of drought years. Wildfires can occur throughout the year, especially in drought years and in high winds. There is usually a season of spring moisture and “green-up” from April to early June. A period of high winds and an abundance of dried fuels from the previous year have produced extreme fire behavior in early March. Beginning in late May or early June the cool season grasses such as Downy Brome (cheatgrass) cure out and become available as fuel. In late June, wheat begins to cure with harvest beginning in July. This harvest may last three to four weeks and fires can occur in these fields. The wheat stubble left on some fields may remain as fuel throughout the winter. Corn begins curing out in October and is available as fuel until harvest is completed by late November. Corn stubble may remain on the field and be available as fuel until spring tillage begins. The rangeland fuels are available throughout the year, but most prevalent in March and from mid-June through November. Forest fuels include the grasses, brush, trees, and the dead leaves and woody material on the forest floor. These fuels are available year-around in drought years, and from March through November in years of “normal” precipitation.

Within the Arapahoe County CWPP planning area, there are seven vegetation types present. These vegetation types are listed in order of abundance. (Shown in Figure 3: Arapahoe County CWPP Vegetation Map).

- Dryland crops (Agriculture)
  - Examples: Wheat, crested wheatgrass
- Short-grass prairie (Grassland)
  - Examples: Blue gramma, buffalo grass
- Mid-grass prairie (Grassland)
  - Examples: Western wheatgrass, needle and thread
- Tall-grass prairie (Grassland)
  - Examples: Big and little blue stem
- Forest dominated (Riparian)
  - Locations: East Bijou Creek, West Bijou Creek, Wolf Creek, Kiowa Creek, and Coal Creek
- Irrigated crops (Agriculture)
  - Examples: Row crops, alfalfa, irrigated pasture
- Graminoid and forb dominated (Riparian)
  - Locations: Middle Bijou Creek



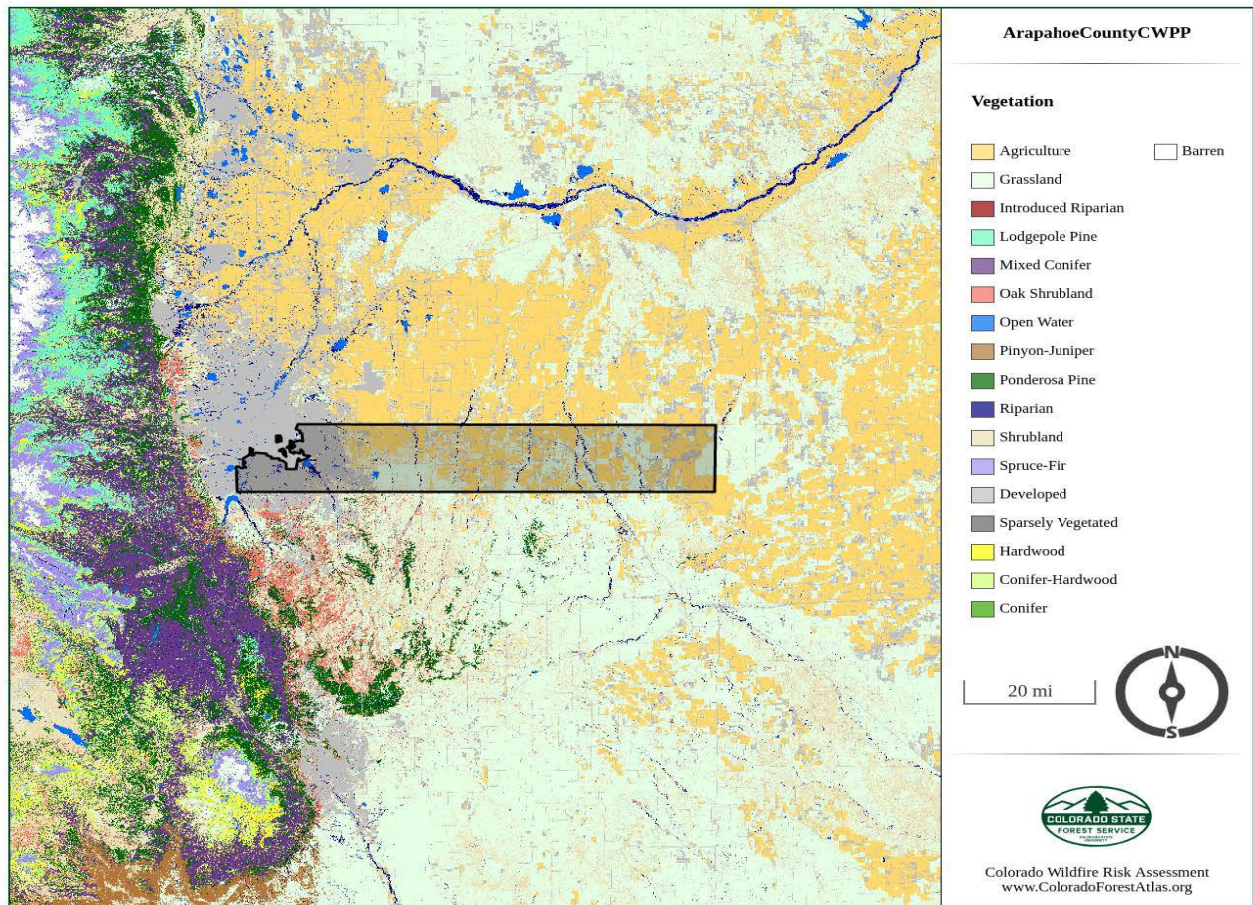


Figure 3: Arapahoe County CWPP Vegetation Map

### Fire Behavior

Wildland fires have been studied in great detail to help predict fire behavior. Predicting a fire's intensity, rate of spread, duration, direction, and spot-fire production is important for firefighter safety and is the basis for tactical decisions made during the suppression of a fire.

Three factors affect wildland fire behavior in the WUI:

1. Fuels: The type, continuity and density of surrounding vegetation and, sometimes, flammable structures, provide fuel to keep the fire burning.
2. Weather: Wind, relative humidity and atmospheric stability all affect potential fire behavior.
3. Topography: The steepness and direction of slopes, and building-site location in relation to topography are features that affect fire behavior.

The only factor that we can have direct influence over is fuel. Fuels are defined as anything that burns in a fire and were described at the beginning of this section.

### ***Weather***

Weather is the major factor that affects fire behavior and is highly variable in terms of time, intensity and location.

**Wind:** Surface winds are the most important element in determining fire direction and rate of spread. Wind pushes flames into adjacent fuels, facilitating rapid ignition, and tends to be the common theme in large fire events. High-velocity, warm, dry, down-slope winds, such as a Chinook, can cause fuels to dry rapidly, resulting in extreme fire behavior.

**Relative Humidity (RH):** RH is a measure of how much moisture is in the air compared to the maximum amount of moisture the atmosphere can hold at that temperature. RH has a major influence on the moisture content of dead fuels. The smaller the dead fuel, the faster it will react to a change in the RH. Cured grass can dry out in less than 15 minutes when a dry air mass moves into an area. Firefighters generally monitor RH on an hourly basis when fighting a fire.

**Temperature:** Before combustion can occur, fuels must reach ignition temperature (approximately 450° F); fuels heat up and reach ignition temperature more quickly on hot days. In addition, when fuels are preheated, fire expends less energy and will burn at a higher intensity.

### ***Topography***

**Slope:** Defined as the angle of the ground relative to the horizon, slope commonly is measured in degrees or as a percent. On calm days, heated air, including flames, rises and preheats the fuels upslope, which causes an increase in fire spread. On gentle slopes, this has little effect on fire behavior, but on steep slopes, the effect can be significant. During summer months, preheating generally causes winds to blow upslope. The combined effect of slope and wind results in rapid fire spread.

**Aspect:** Aspect is the direction the slope faces. South and southwest aspects are warmer and drier than north and northeast aspects. South, southwest and west aspects generally have lighter fuels and are more susceptible to fast-moving fires. North, northeast and east aspects tend to have heavier fuels and, under normal conditions, have slow-moving surface fires. Under extreme conditions, these aspects can burn with high intensity and fires can be difficult or impossible to control.

**Climate:** Fire seasons in Colorado's high country and on the Western Slope tend to last from late spring until mid-autumn. Fire seasons on the Front Range and Eastern Plains tend to be split, with most large fires occurring in the spring or fall. It's important to keep in mind that these are generalizations and that large fires can occur anytime conditions are right.

## Risk

Risk is defined as the probability of ignition from various sources. In Arapahoe County the primary ignition sources are roads (I-70), railroads, debris burning, powerlines, electric fences, and equipment sparking on rocks. Roads and railroads are shown in Figure 3: Arapahoe County Road and Railroad Hazard Map. The Wildfire Hazard Map that was used for this analysis used lightning strike density and road buffers of 100m for roads and railroads to determine risk.

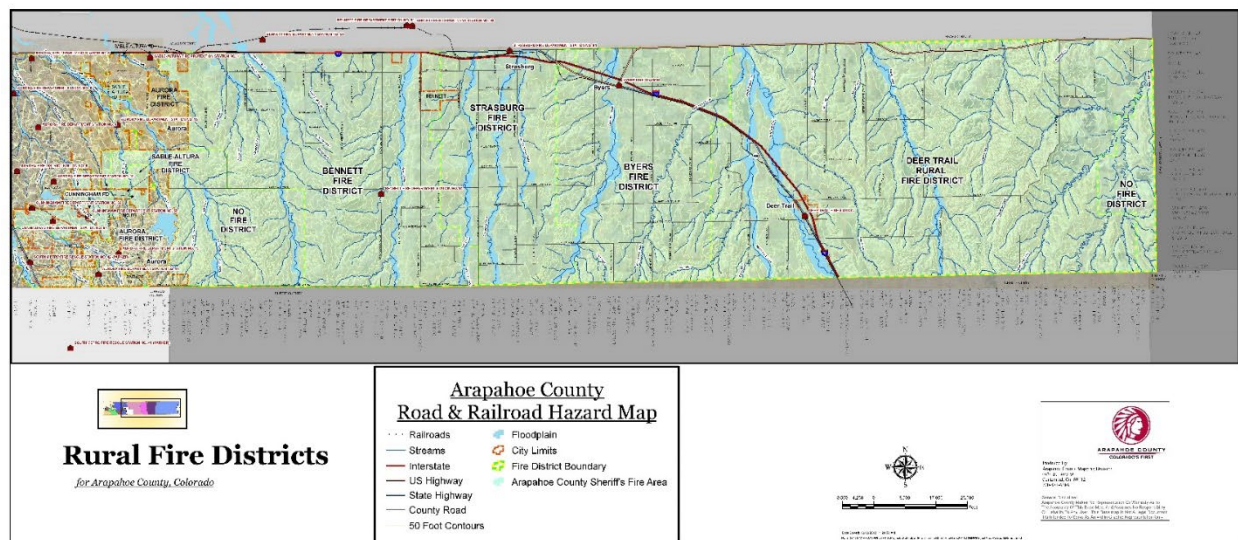


Figure 4: Arapahoe County Road and Railroad Hazard Map

## Values

Values are defined as homes for this analysis. Other values at risk include windbreaks, livestock, infrastructure (buildings), wildlife habitat, range, watersheds/riparian areas.

## Hazard Ratings

After the hazard, risk, and values were analyzed using the Wildfire Hazard Assessment Methodology (Figure 1) a Risk map was produced (Figure 2). The majority of the planning area is rated at a low-moderate hazard rating primarily due to the dominant vegetation present (dryland crops) and limited concentration of homes. There are areas where the wildfire hazard ratings increase to moderate-high, primarily where communities and/or concentrations of homes are located. Within the moderate-high hazard areas there will be areas of high and low-moderate hazards mixed in due to the proximity of vegetation to homes. County-owned lands are rated a low hazard for the majority of areas except for Kiowa Creek North, which rated at a high hazard.

Wildfires can be devastating with long-term impacts. Direct financial costs include such things as fire suppression efforts, evacuation, property loss, insurance, and restoration and rehabilitation efforts. Indirect costs and effects include risk to life and property, loss of cultural landmarks, recreation, wildlife, aesthetics, soil erosion, and air and water quality. For those who live on the plains, fires can cause loss of grazing lands, crops, etc., thus having a huge financial impact.



## **D. Structural Ignitability Reduction Discussion**

Efforts to reduce structural ignitability can be separated into regulations governing development designs, building materials and vegetation management (defensible space around structures). Public education campaigns designed to raise awareness and move those who are aware to action to reduce hazardous fuel loads within the home ignition zones and beyond complement the regulatory efforts.

In order to identify and understand methods for increasing a structure's ability to survive a wildfire it is important to first understand how structures burn during a wildland fire. Homes ignite and burn by meeting the parameters for ignition and combustion (Cohen 2008). Homes in the WUI are fuel. Structures may be ignited by firebrands, which are embers that are lofted through the air from a moving flame front or by radiant or convection heating. Firebrands can ignite structures by landing on flammable materials either on or surrounding a structure. Firebrands are particularly detrimental to structures with flammable building materials including wood shake roofs. Accumulations of flammable materials in roof valleys, in gutters, or directly adjacent to the structure can significantly increase a structure's vulnerability.

The two main factors affecting a structure's ability to survive a wildfire are the exterior building materials and the amount of defensible space surrounding the structure within 100 feet to 200 feet of the structure, known as the *Home Ignition Zone* (Cohen 2008). The home ignition zone typically is located on private property, which requires property owners to recognize the hazards, take ownership and responsibility of the hazards, and mitigate the hazardous fuels to a level that will increase the survivability of the structure.

Construction materials within the CWPP planning area include roofs made of wood shingles, asphalt, and clay tile. Decks are comprised of wood and composite material. Siding is composed of Hardiplank, vinyl and wood.

Examples of mitigating efforts include:

### **Building Materials**

- Replace older shake roofs with those of a higher fire resistive rating including asphalt composition, tile or metal roof assembly
- Replace wood siding with a more fire resistive cement product including cement, stucco, cement plank siding, stone, or masonry
- Screen attic, roof, foundation, and eve vents openings with 1/8" metal screens
- Enclose areas under decks completely
- Windows should be double-paned or tempered glass

For more information visit <https://www.nfpa.org/Public-Education/Fire-causes-and-risks/Wildfire/Firewise-USA>

## **Defensible Space**

Defensible space is the area around a home/structure where vegetation has been reduced and/or altered, breaking up its continuity. This will slow the rate and intensity of an advancing wildfire and create an open area where firefighters can safely work to protect your home. You can reduce your wildfire risks by following these defensible space guidelines:

- Defensible space dimensions are subjective and differ upon site and vegetation characteristics. However, defensible space on flat sites should typically extend a minimum of 100 feet around your home.
- Create a zone within the initial 5 feet surrounding home and structures by clearing all flammable vegetation. Thin out continuous tree and brush cover, and remove any existing ladder fuels. Plants should be manicured and grasses mowed. Routinely maintain your safety zone by removing dry and dead vegetation.
- Prune tree branches 10 feet from the ground or 1/3 the height of the tree, whichever is less. Remove dead branches that extend over roofs and keep roof gutters clean of any leaves or debris.
- Dry grasses and weeds should be mowed to a maximum of six inches within 30 feet of all structures.
- Trees and shrubs should be thinned accordingly beyond the initial 15-foot zone. A good rule of thumb is 10-15 foot crown spacing with occasional clumps of two or three trees.
- Stack firewood at least 15 feet away and uphill from the house.
- Maintain a 10-foot area free of all vegetation around grills, burn barrels, and propane tanks. Non-flammable screens should be placed over grills and burn barrels.
- All LPG tanks (butane and propane) should be located at least 30 feet away from any structure, and surrounded by a 10-foot area free of all vegetation.
- Never store flammable material (chemicals, fuel, lumber, slash etc.) in an open exposed area. Store neatly in a garage or barn where it will not be vulnerable to heat or open flame.
- Skirting material around mobile homes can prevent burning debris from blowing and spreading fire under your home; it also protects kids and pets from exposed gas lines and wiring underneath.
- Move combustible yard furniture away from your home.
- Keep trash cleared from around barns and outbuildings and remove infringing vegetation away from these areas.
- Break up haystacks, and manure and disperse any other type of combustible fuel.

- Establish and maintain a fuel-break around windbreaks and snow fences by mowing grasses and vegetation to a maximum 3 inches in height; keep these areas cleared of trash and dead vegetation.
- Keep grasses and vegetation mowed in areas where you park vehicles and equipment. This will reduce the risk of hot exhaust systems coming in contact with vegetation, thus igniting grass fires.

### **Burning Trash and Ditches**

- Know and follow local burning regulations and procedures — you may have to notify local authorities that you are burning (or before you burn). Refer to Colorado Air Pollution and Control Division website for more information on prescribed burning: <http://www.colorado.gov/cdphe/smoke>
- Delay outdoor burning until your area greens up and weather permits. Never burn on hot, dry, or windy days. (To get a detailed fire weather forecast go to: [https://www.weather.gov/bou/fwf\\_combiner](https://www.weather.gov/bou/fwf_combiner))
- When debris burning is allowed, always burn trash in a barrel or metal receptacle covered with wire mesh to contain burning embers. Place burn barrel on bare mineral soil in an area free of vegetation. Never leave your fire unattended and make sure it is completely extinguished before you leave.
- Before ditch burning make sure to contact your local sheriff's department and/or fire protection district to notify them of your burning. Inquire whether or not burn bans are in place and if a permit is required prior to burning.

### **E. Recommended Fuel Treatments and Methods**

Because of the rural nature of the planning area landscape scale treatments were not feasible. The Core Team determined that it was more effective for landowners to focus on creating defensible space around their homes, outbuildings, and windbreaks to be most effective in reducing wildfire hazards.

### **Fuel Treatment Priorities**

- Create defensible space around homes, barns, and other infrastructure following the guidelines referenced in section *D. Structural Ignitability Reduction Discussion*. Work can be accomplished by using mowers, weed trimmers, chainsaws, and chippers.
- Mow around structures/windbreaks.
- CDOT and Arapahoe County Road and Bridge mow the medians and shoulders of the roads within the WUI at least once a year for weed control.
- Union Pacific railroad conducts regular weed control using herbicides on their railroad line that bisects the WUI.
- Arapahoe County Open Space regularly mows their parks to include the Fairgrounds. They mow along the perimeter and on either side of the trails. A large firebreak/mow line is mowed along Quincy Ave. on the north end of the Fairgrounds property to prevent any

fires from expanding that start along the roadway. Open Space tries to mow 2-3 times a year and also mow just before fair at the Fairgrounds.

## **F. Outreach and Education Activities**

Fire protection districts, communities, and other agencies utilize various wildfire mitigation education programs including Ready, Set, Go!, Are You FireWise?, and FireWise Communities.

### **Ready, Set, Go!**

The Ready, Set, Go! Program utilizes firefighters to teach individuals who live in high risk wildfire areas and the wildland-urban-interface (WUI) how to best prepare themselves and their properties against fire threats. Ready, Set, Go! works in complimentary and collaborative fashion with FireWise and other existing wildland fire public education efforts. It amplifies their messages to individuals to better achieve the common goal we all share of fire-adapted communities.

*The RSG program provides the implementation guidance; background knowledge; and presentation tools to assist fire departments in delivering the program message:*

- Ready – Preparing for the Fire Threat: Take personal responsibility and prepare long before the threat of a wildfire so your home is ready in case of a fire. Create defensible space by clearing brush away from your home. Use fire-resistant landscaping and harden your home with fire-safe construction measures. Assemble emergency supplies and belongings in a safe spot. Make sure all residents residing within the home are on the same page and plan escape routes.
- Set – Situational Awareness When a Fire Starts: Pack your vehicle with your emergency items. Stay aware of the latest news from local media and your local fire department for updated information on the fire.
- Go – Leave early! Following your Action Plan makes you prepared and firefighters are now able to best maneuver the wildfire and ensuring you and your family's safety. (www.wildlandfirersg.org, 2012)

Arapahoe County is a participant in this program and more information can be found at [https://www.wildlandfirersg.org/s/?language=en\\_US](https://www.wildlandfirersg.org/s/?language=en_US)

### **Are You FireWise?**

The CSFS, in partnership with Larimer County and Poudre Fire Authority, developed Colorado's Are You FireWise? guidelines. Subsequently, these guidelines were adapted for homeowners and landowners living on Colorado's plains.

*Many people don't realize that they face serious wildfire danger. But if you live in the foothills, grasslands or mountains of Colorado, you are at risk! Compounding the problem is the exploding population in once-rural areas surrounding municipalities. The result is that more homes and more lives are potentially threatened by wildfire every year.*

*To be FireWise, you must carry out certain fire-protection measures before a fire even starts. By following the fire-safety guidelines listed here, your home will have a chance to survive while firefighters work to bring the wildfire under control. Remember, a fire department's effectiveness in battling a wildfire starts with YOU!*

### **FireWise Communities**

The National Fire Protection Association's (NFPA) FireWise Communities program encourages local solutions for wildfire safety by involving homeowners, community leaders, planners, developers, firefighters, and others in the effort to protect people and property from the risk of wildfire. The program is co-sponsored by the USDA Forest Service, the US Department of the Interior, and the National Association of State Foresters.

To save lives and property from wildfire, NFPA's FireWise Communities program teaches people how to adapt to living with wildfire and encourages neighbors to work together and take action now to prevent losses. We all have a role to play in protecting ourselves and each other from the risk of wildfire. For more information on becoming a FireWise community, visit: <https://csfs.colostate.edu/wildfire-mitigation/colorado-firewise-communities/>

## **G. Implementation Plan**

### **Education/Outreach Activities**

Ongoing education and outreach is an integral part to a successful CWPP especially given the area covered by this CWPP. The most effective community outreach will take place through the individual fire departments, county-wide efforts, and individual HOAs. Monthly board meetings, annual meetings, newsletters, and email contact lists are avenues to get information out to local residents.

Priorities include:

- Continue promoting the Ready, Set, Go! Program by the Arapahoe County Sheriff's Department. Target audiences include communities and rural landowners.  
**Responsibility: Arapahoe County Sheriff Office, Fire Departments/Protection Districts**  
**Timeframe: Ongoing**
- Develop communications plan for outreach activities.  
**Responsibility: Arapahoe County Sheriff Office**  
**Timeframe: 2022**
- Initiate county-wide information outreach (Examples: FireWise and Fire Bans) through public radio announcements, Arapahoe County web-site alerts, newspaper articles, highway signage, county fair booth participation, local event opportunities, (Fire Prevention Week, annual volunteer displays, Senior Citizen events, community events, etc.).  
**Responsibility: Arapahoe County Sheriff Office, Fire Departments/Protection Districts and HOAs**



**Timeframe: Ongoing**

- Provide educational material including FireWise booklets and/or handouts for local events and schools.

**Responsibility: Arapahoe County Sheriff Office, Fire Departments/Protection Districts**

**Timeframe: Ongoing**

- Provide FireWise presentations to interested homeowners and volunteer groups/clubs to support public awareness.

**Responsibility: Arapahoe County Sheriff Office, Colorado State Forest Service, Fire Departments/Protection Districts**

**Timeframe: Ongoing**

### **Fire Department Training**

Fire departments can contact the Colorado Division of Fire Prevention and Control (DFPC) for more information on receiving NWCG training in wildland fire and are encouraged to train with mutual aid partners.

### **Fire Equipment**

The Volunteer Fire Assistance (VFA) grant program targets assistance to rural fire departments in the areas of training, equipping, and organization. VFA exists to increase the ability to respond to wildland fire and to cooperate and communicate with federal wildland fire agencies. Equipment and training that supports wildland fire response and cooperation and communication are the priority. Funds are distributed annually to selected applicants according to established priorities and program guidelines. Large equipment such as fire trucks are discouraged because the cost significantly exceeds available grant funding. This would be a program for the departments to look into for wildland hose, personal protective equipment, radios (VHF), and NWCG training.

The Federal Excess Personal Property Program (FEPP) provides retired vehicles from the Department of Defense and other federal entities, which become property of the U.S. Forest Service and are loaned to rural fire departments. Together, the DFPC and USFS absorb nearly all costs of the engine fleet program to ensure that fire departments around the state have the necessary equipment to fight fires. The DFPC fire equipment shop converts the vehicles to functional fire engines and provides ongoing major vehicle maintenance on the fleet. Recipient fire departments are only required to contribute \$200 annually to help cover travel costs for DFPC fire shop mechanics, who must complete annual inspections on the vehicles.

Fire departments can contact the Colorado Division of Fire Prevention and Control (DFPC) for more information on the VFA and FEPP programs.

### **Next Steps**

As the Arapahoe County CWPP process evolves it has become clear the best option to continue forward momentum and collaboration is to provide some uniformity throughout the County on

implementing the recommendations in this plan. As with any CWPP, the plan should be reviewed annually, and updated every five years and approved by the Core Team.

## References

Anderson, H. E. (1982). Aids to determining fuel models for estimating fire behavior. USDA For. Serv. Gen. Tech. Rep. INT-122.

Colorado State Forest Service (November 2018). Colorado Wildfire Risk Assessment Final Report. A final report developed by CSFS and Technosylva Inc. (La Jolla, CA) documenting the technical methods and results for the Colorado wildfire risk assessment update project.

Colorado State Forest Service (July 2018). Fuels Calibration Final Report. A final report developed by CSFS and Technosylva Inc. (La Jolla, CA) documenting the technical methods and results for the Colorado fuels calibration project.

Colorado State Forest Service (2012). Colorado Wildfire Risk Assessment 2012 Final Report. A final report developed by CSFS and DTS (Fort Collins, CO) documenting the technical methods and specifications for the Colorado WRA project.

National Wildfire Coordinating Group (NWCG). (2008). Glossary of Wildland Fire Terminology. Publication Management System document PMS-205.

National Wildfire Coordinating Group (2004). Fireline Handbook. NWCG Handbook 3. PMS 410-1. NFES 0065. National Interagency Fire Center. Boise, Idaho 83705.

Scott, J. H., & Burgan, R. E. (2005). Standard Fire Behavior Fuel Models: A Comprehensive Set for Use with Rothermel's Surface Fire Spread Model. Ft. Collins, CO, Rocky Mountain Research Station: USDA Forest Service, Gen. Tech. Rpt. RMRS-GTR-153.

Scott, J. H., & Reinhardt, E. D. (2001). Assessing the Crown Fire Potential by Linking Models of Surface and Crown Fire Behavior. Ft. Collins, CO, Rocky Mountain Research Station: USDA Forest Service, Research Paper RMRS-RP-29.

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## **Appendix A: CWPP Meeting Agendas**

Agenda  
Community Wildfire Protection Plan (CWPP)  
Working Group Meeting  
Wednesday, January 19, 2022  
9:00 am – 10:00am

Location: MS Teams

- I. Introductions
  - A. ‘Round the horn
  - B. CWPP Working Group Roster
- II. Purpose
  - A. Establish Definitions and Boundaries
  - B. Establish Local, State, Federal and NGO Relations
  - C. Develop Mapping for Vegetation Managements, Values, Risks, and Funding Strategies
  - D. Engage State Leadership to establish Priorities for Action
- III. Review of CSFS Minimum Standards doc.
  - A. Plan Participants
  - B. Plan Components
  - C. Level of Specificity
  - D. Adapting Existing Plans
  - E. Approval Process
- IV. Review of E. Arapahoe County CWPP (v.1)
  - A. Section headings
  - B. WUI/GUI defined
  - C. Mapping by CSFS and AC GIS
- V. Discussion on partner contributions
  - A. Provide known HOAs within your jurisdictions (pg. 5)
  - B. Confirm Mutual-aid Agreements (pg. 7)
  - C. Update agency capabilities (pg. 7-8)
  - D. Commitment to outreach programs (pg. 18)
  - E. Commitment to outreach implementation (pg. 19-20)
  - F. Update communities within districts (pg. 28-29)
  - G. Mapping recommendations (throughout)
  - H. Provide Track-Changes (throughout)
- VI. Discussion on way ahead/next steps
  - A. Mapping suggestions due 1/21
  - B. Track-changes due 1/26
  - C. Next meeting 2/2

## MS TEAMS Attendance Roster

Date: 1/19/22

Time: 9:00 – 10:30

### Sign-in Roster:

	Time In/Out
1. Kim Spuhler	8:47 – 10:18
2. Halford, Meg	8:47 – 10:29
3. Steven Peck	8:48 – 10:29
4. Anthony Zarrella	8:49 – 10:01
5. Nathan Fogg	8:51 – 09:02
6. Dan Gordon	8:56 – 10:19
7. Mike Disher	8:59 – 10:18
8. Franks, Eric	8:59 – 10:02
9. Everett Mansfield	9:00 – 10:19
10. Josh Nowak	9:23 – 10:19

(Meeting minutes on file with Arapahoe County Office of Emergency Management)

Agenda  
Community Wildfire Protection Plan (CWPP)  
Working Group Meeting  
Wednesday, February 2, 2022  
9:00 am – 10:30am

Location: MS Teams

- I. Introductions
  - A. New attendees
  - B. CWPP Working Group Roster
- II. Review of E. Arapahoe County CWPP (v.2)
  - A. All inclusive
  - B. Pending partner contributions
- III. Community engagement ideas
  - A. Survey link
  - B. Community groups
  - C. Government groups
- IV. Discussion on way ahead/next steps
  - A. Mapping development 2/8
  - B. Final inputs due (2/9)
- V. Next meeting (TBD)

MS TEAMS Attendance Roster:

Date: 2/2/22

Time: 9:00-10:30

Sign-in Roster:

	Time In/Out
1. Halford, Meg	8:45 – 10:14
2. Kim Spuhler	8:55 – 10:16
3. Anthony Zarrella	8:57 – 10:16
4. Dan Gordon	8:57 – 10:16
5. Gretchen Ricehill	8:57 – 10:16
6. Steven Peck	9:05 – 10:16
7. Jackie Erwin	9:16 – 10:16

(Meeting minutes on file with Arapahoe County Office of Emergency Management)



Agenda  
Community Wildfire Protection Plan (CWPP)  
Working Group Meeting  
Wednesday, June 15, 2022  
9:00 am – 10:30am

Location: MS Teams

- I. Introductions
  - A. CWPP Working Group Roster
  - B. Review of work progress
- II. Review of Arapahoe County CWPP (v.3)
  - A. Final clarifications
    - 1. Local private community organizations (pg. 5)
    - 2. Conservation Reserve Program mapping (pg. 17)
    - 3. Attendance rosters (Append. A)
    - 4. Mapbook (Append. C)
  - B. Pending partner endorsement
- III. Open discussion
- IV. Way ahead/next steps
  - A. Final edits by AC OEM
  - B. Routing for agency/departments approval
  - C. Distribution of CWPP FINAL

MS TEAMS Attendance Roster:

Date: 6/15/22

Time: 9:00-10:00

Sign-in Roster:

	Time In/Out
1. Steven Peck	8:56 – 09:24
2. Anthony Zarrella	8:58 – 09:23
3. Jackie Erwin	8:59 – 09:26
4. Weston, Spencer	9:01 – 09:23

(Meeting minutes on file with Arapahoe County Office of Emergency Management)

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## **Appendix B: CWPP Community List**

**Aurora Communities**

Heritage Eagle Bend  
Whispering Pines  
Blackstone Country Club  
Tallyns Reach  
Tallyns Reach North  
Serenity Ridge  
Southshore  
Beacon Point  
Saddle Rock Golf Club - North, South and East (3 separate)  
Forest Trace  
Wheatlands  
Sorrel Ranch  
Tollgate Crossing  
Cornerstar  
Valley Country Club  
Arapahoe Crossing (Regis Jesuit High School)  
Pioneer Hills  
East Quincy Highlands  
Conservatory  
Murphy Creek  
Murphy Creek East  
Murphy Creek North  
Villages at Murphy Creek  
Waterstone  
Side Creek  
Tollgate Overlook  
Sand Creek Ranch  
Harmony  
Sun Meadow  
Adonea  
Traditions  
Cross Creek  
Aurora Public School Educational Campus  
Horizon Uptown  
Kirkegaard Acres  
Centretech  
City Center North  
Laredo Highline  
Chamber Heights  
Summer Valley  
Prides Crossing  
Summer Lake  
Summer Valley Park  
Pioneer Hills

Park Villas  
Heather Gardens  
Meadowood  
Seven Hills  
Kingborough  
Horseshoe Park  
Lakeshore  
Aurora Highlands  
Rocky Ridge  
Utah Park  
Highline Villages  
Lyn Knoll  
Chambers Heights

**Bennett Communities**

Antelope Hills  
Valla Halla Estates  
Jacob's Farm  
Box Elder Estates  
Thunder Ranches  
Watkins Farm  
Sky Ranch

**Byers Communities**

Town of Byers  
Bradbury Estates  
Bijou Valley Estates  
Grand View Estates  
Bijou Knolls

**Deer Trail Communities**

Town of Deer Trail  
Cottonwood Estates  
Latigo Ranch

**Sable Altura Fire District Subdivisions**

Gunclub Estates  
Thunderbird Estates  
New World  
Fox Ridge Farms

**South Metro Fire Rescue**

Bow Mar  
Columbine Valley  
Littleton

4 Square Mile  
Cherry Hills Village  
Greenwood Village  
Centennial  
Foxfield  
Fairgrounds  
Fox Hill  
Tuscany  
Piney Creek  
Spring Creek Meadows  
Copperleaf  
Saddle Rock  
Trail Ridge  
Willow Trace  
Park View Meadows  
Park View Terrace  
Parkborough  
Parkview Heights  
Parkview Commons  
Smoky Ridge  
Mesa  
Hampden Villas  
Jackson Farm  
Saddle Rock Highlands  
Smoky Hill  
Dove Hill

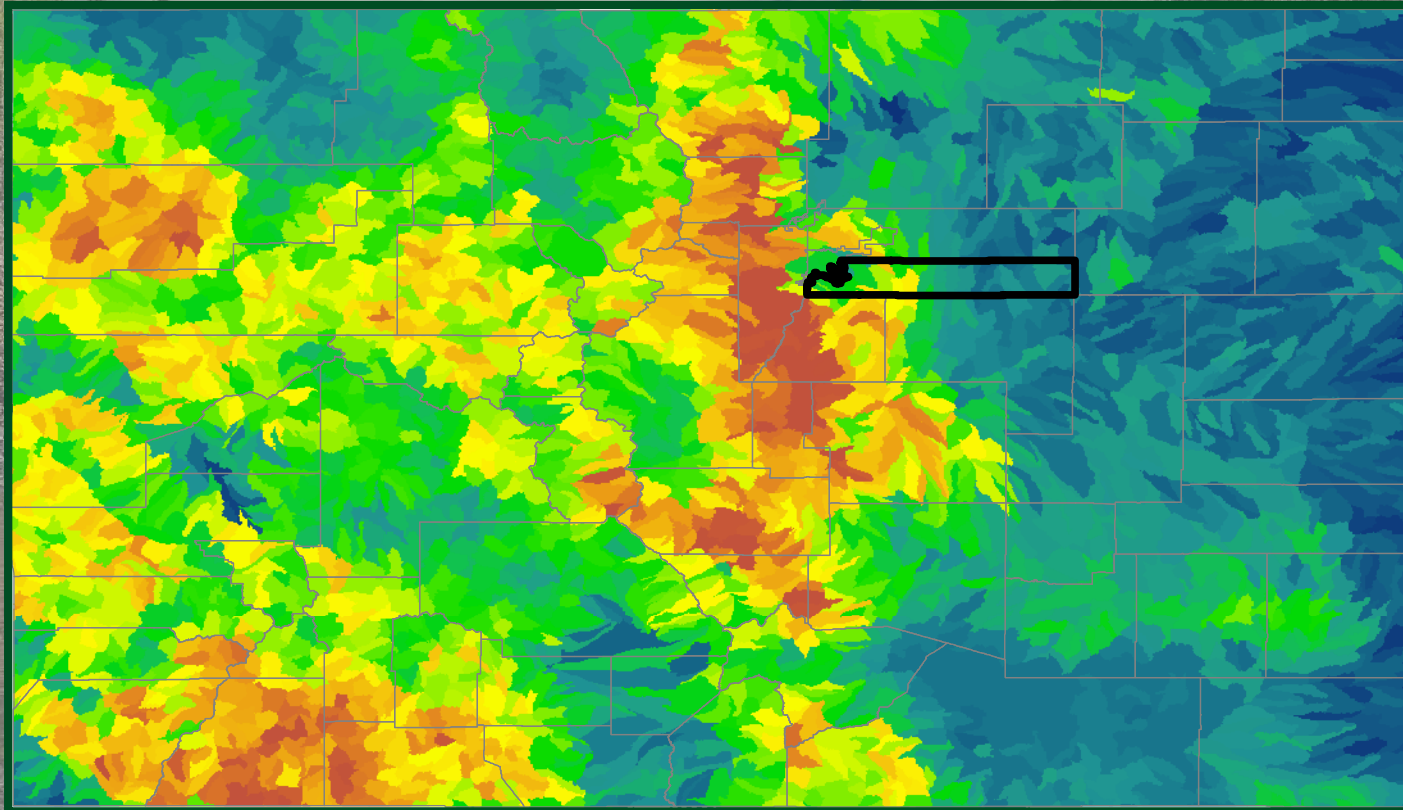
**Strasburg Communities**

Town of Strasburg  
Commanche Crossing  
Junes Country gardens  
Strasburg Heights

## **Appendix C: Colorado Forest Action Plan Mapbook**

# Arapahoe County

## Mapbook



# Colorado Forest Action Plan

2020

The Colorado State Forest Service is a steward of the state's forestlands, committed to the challenge of creating and maintaining healthy, resilient forests for generations to come.





## Composite Map

The CSFS action plan team consulted with external partners and stakeholders to determine forest stewardship goals that fall under the national priorities of CONSERVE, PROTECT, and ENHANCE.

### National Action Plan Priorities



**CONSERVE**  
working  
forestland



**PROTECT**  
forests  
from harm



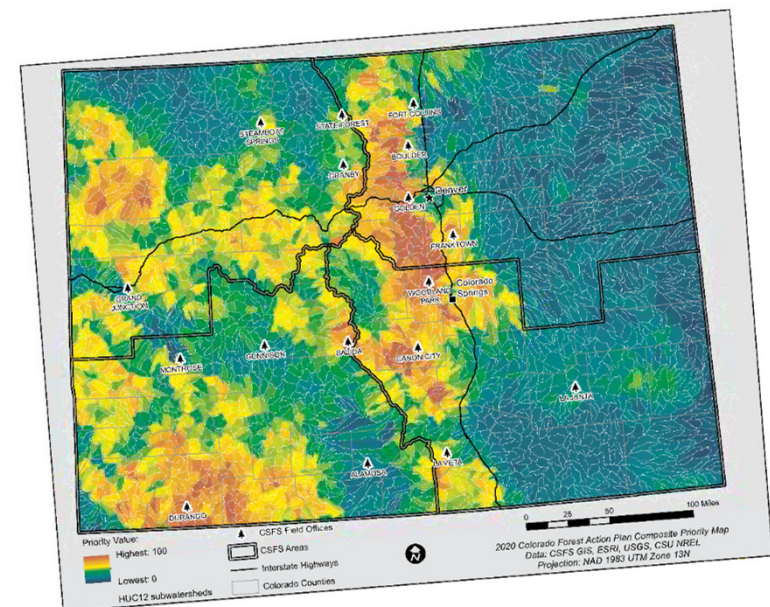
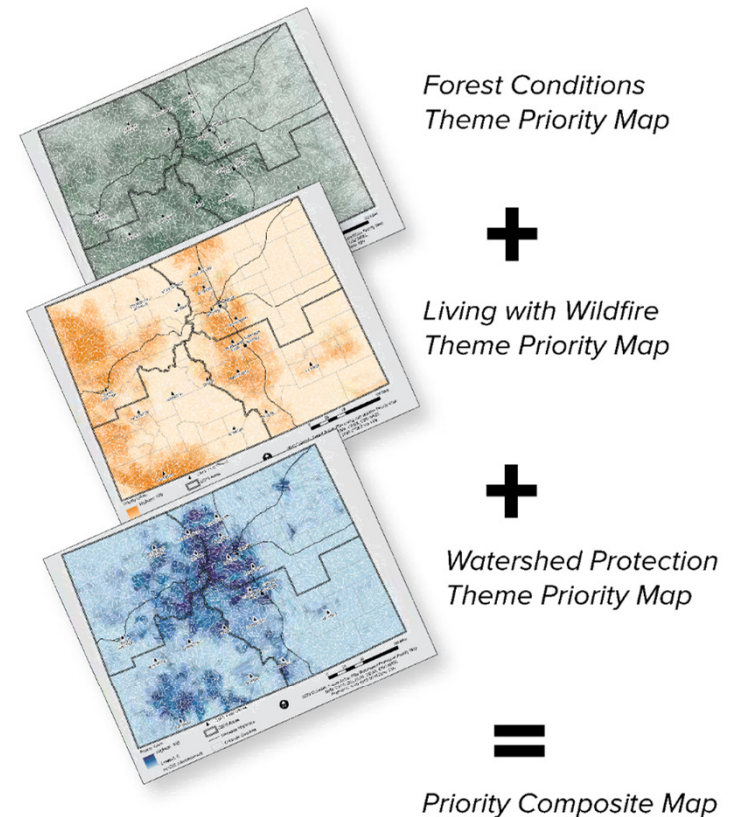
**ENHANCE**  
public benefits from  
trees and forests

The high-priority areas identified in the action plan composite map are sub-watersheds where goals from the forest conditions, living with wildfire, and watershed protection themes can be achieved on the same management footprint by a project or activity.

The Composite Map was derived from a combination of the Forest Conditions, Living with Wildfire, and Watershed Protection Theme Priority Maps.

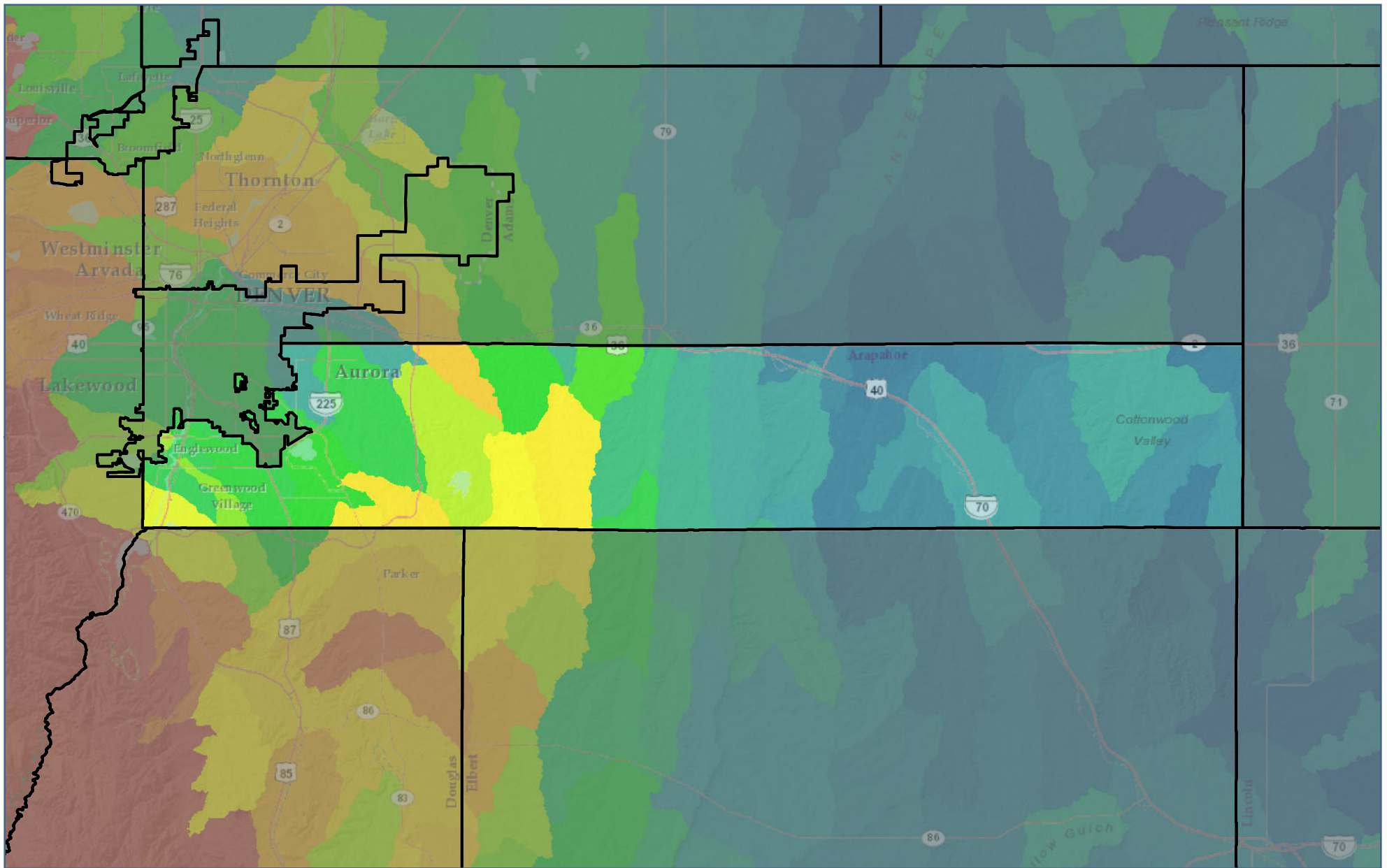
For more information, please visit:  
[csfs.colostate.edu/forest-action-plan](https://csfs.colostate.edu/forest-action-plan)

**FIGURE I**  
**PRIORITY MAP:**  
**LAYER INCLUSIONS**



# Composite Map

# Arapahoe County



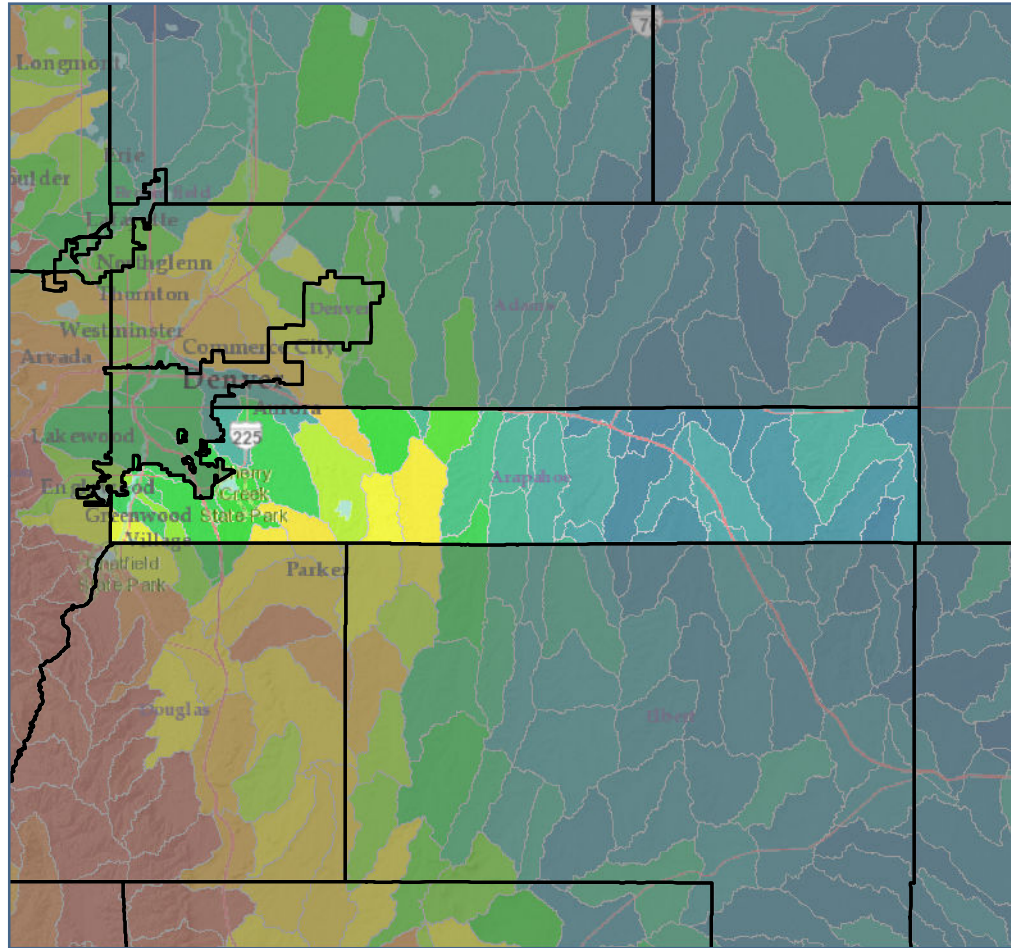
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# Composite Map

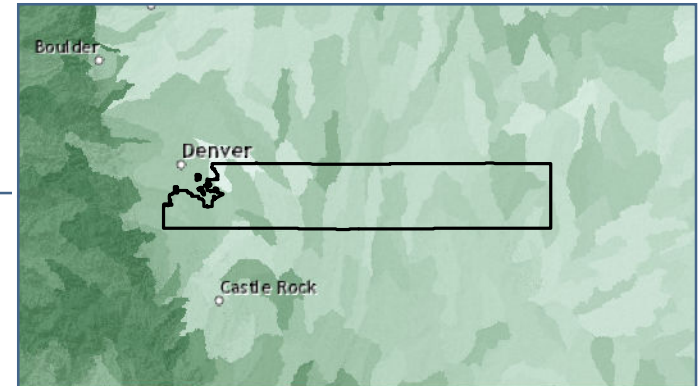
## Arapahoe County



**Relative Priority Value**

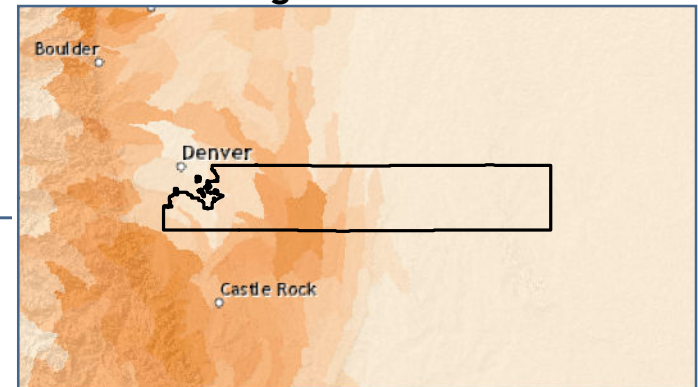
Lowest      Highest

### Forest Conditions



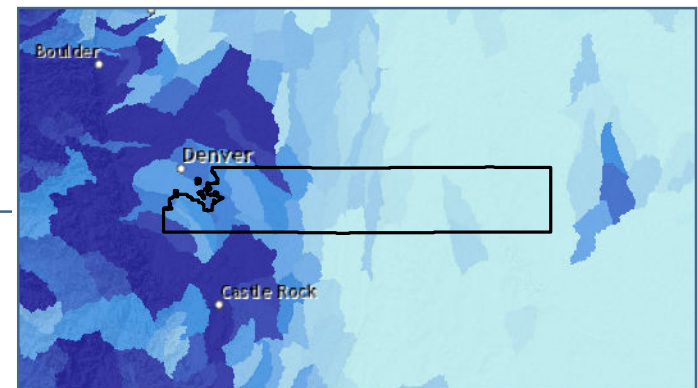
2x

### Living with Wildfire



1x

### Watershed Protection



1x



For more information, please visit:  
[csfs.colostate.edu/forest-action-plan](https://csfs.colostate.edu/forest-action-plan)







# Forest Conditions

## Goal 1: Keep Forests as Forests



**CONSERVE**  
working  
forestland



**PROTECT**  
forests  
from harm

## Goal 2: Improve Forest Productivity



**PROTECT**  
forests  
from harm



**ENHANCE**  
public benefits from  
trees and forests

## Goal 3: Promote Adaptive Management



**CONSERVE**  
working  
forestland



**ENHANCE**  
public benefits from  
trees and forests

*For more information, please visit:  
[csfs.colostate.edu/forest-action-plan](https://csfs.colostate.edu/forest-action-plan)*

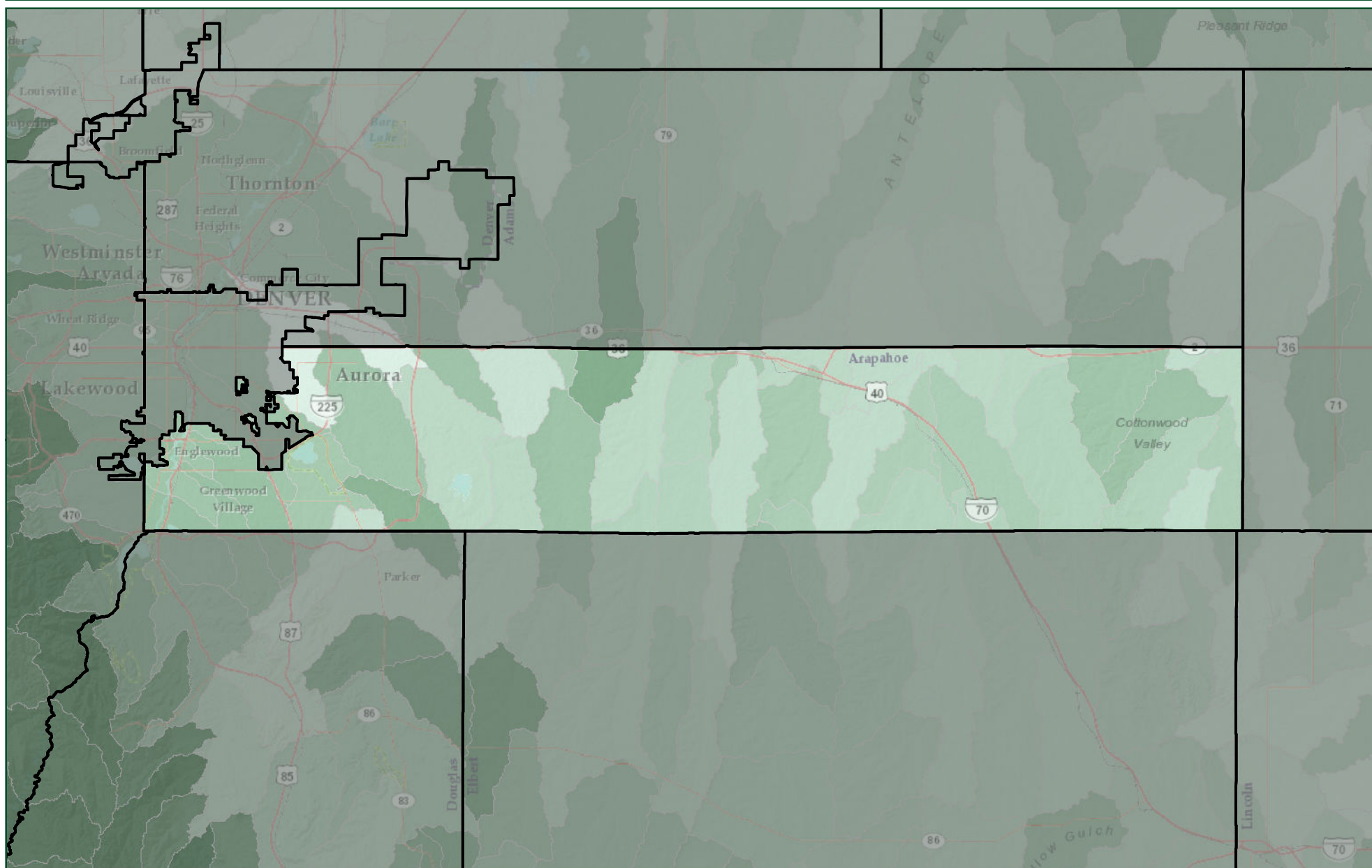






# Forest Conditions

# Arapahoe County



For more information, please visit:  
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**Relative Priority Value**

Lowest     Highest

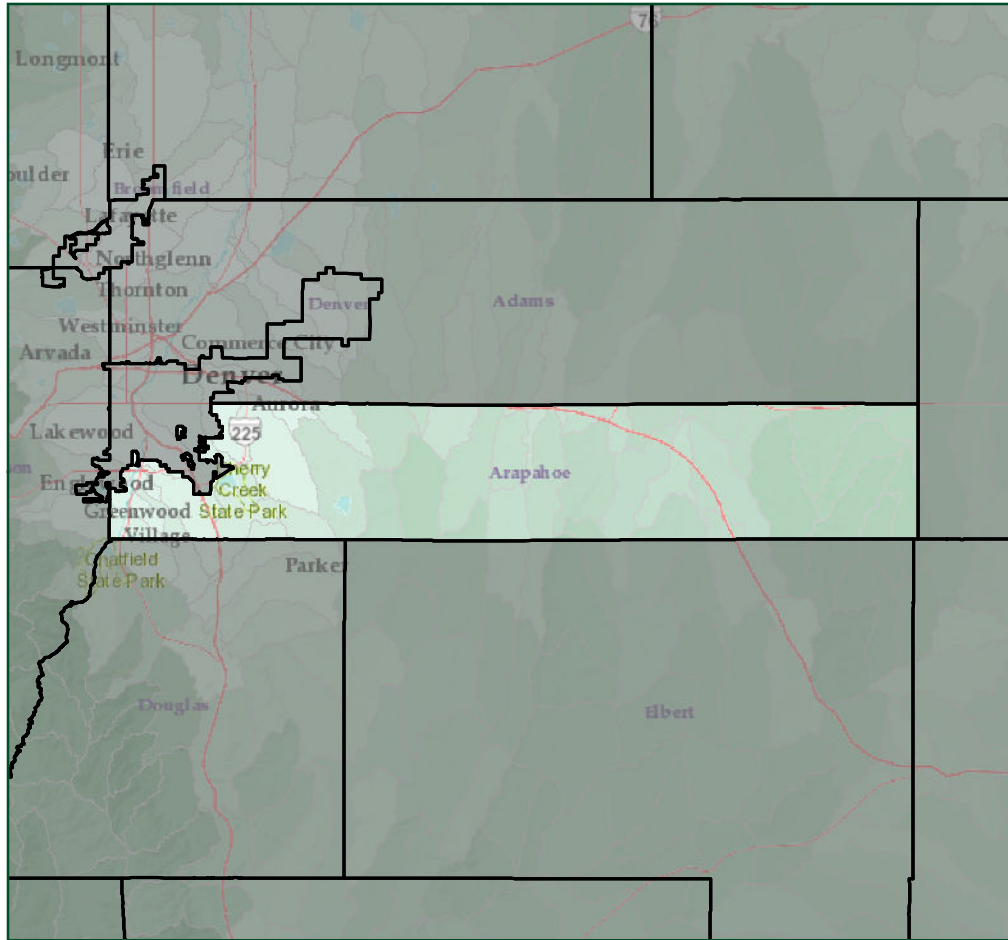


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Miles



# Forest Conditions

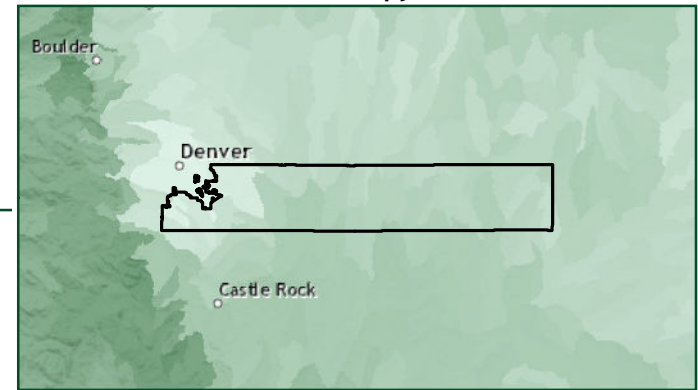
## Arapahoe County



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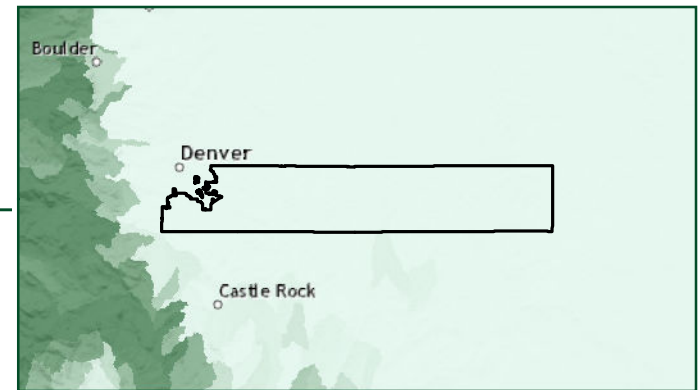
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Potential for Canopy Fire in 2017



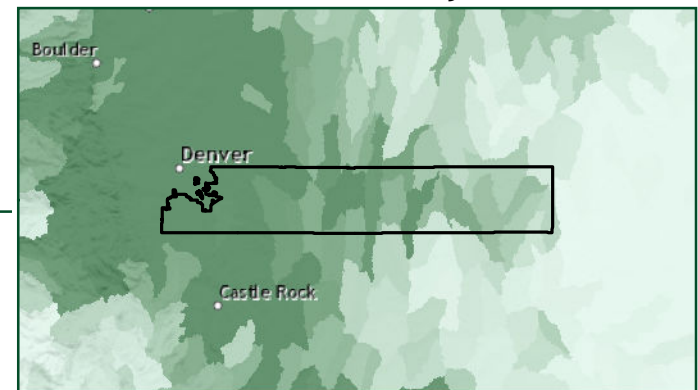
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Basal Area (Density) Loss Projected Based on Potential Insect & Disease Disturbance Through 2027



2x

Wildland Urban Interface Projected to 2040



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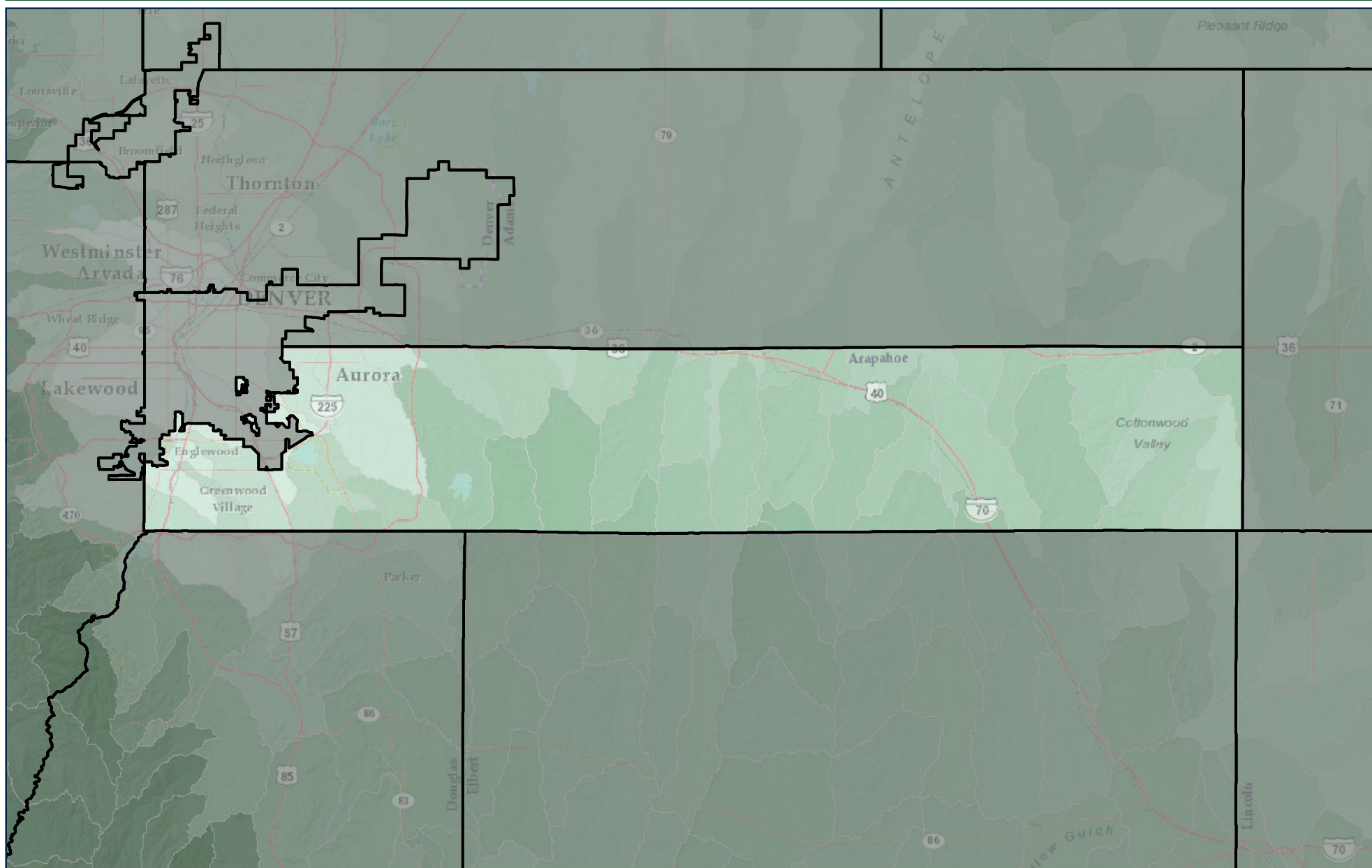
For more information, please visit:  
[csfs.colostate.edu/forest-action-plan](https://csfs.colostate.edu/forest-action-plan)





# Forest Conditions Potential for Canopy Fire in 2017

## Arapahoe County



For more information, please visit:  
[csfs.colostate.edu/forest-action-plan](https://csfs.colostate.edu/forest-action-plan)

**Relative Priority Value**

Lowest     Highest



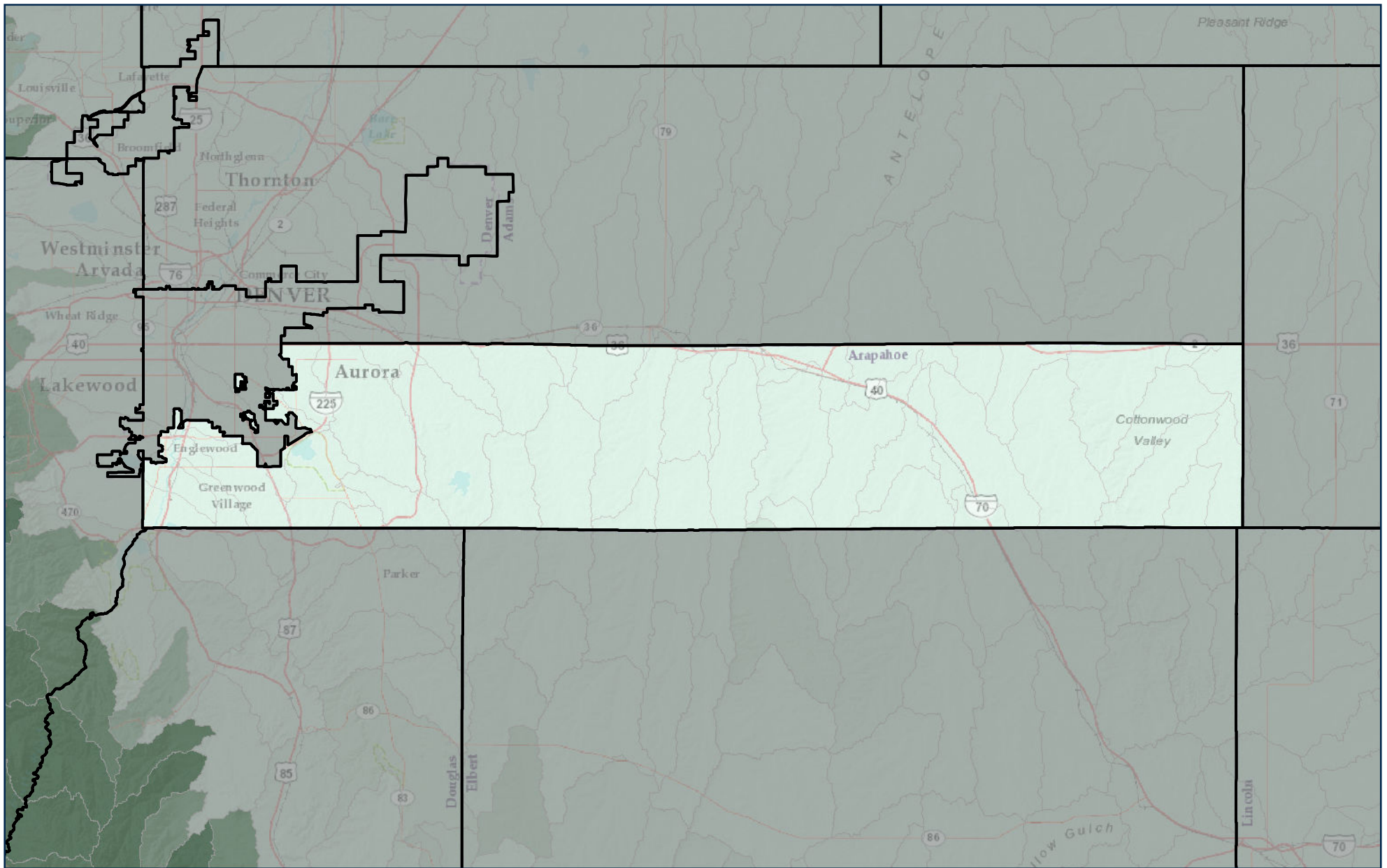
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# Basal Area (Density) Loss Projected Based on Potential Insect & Disease Disturbance Through 2027

## Arapahoe County



For more information, please visit:  
[csfs.colostate.edu/forest-action-plan](https://csfs.colostate.edu/forest-action-plan)

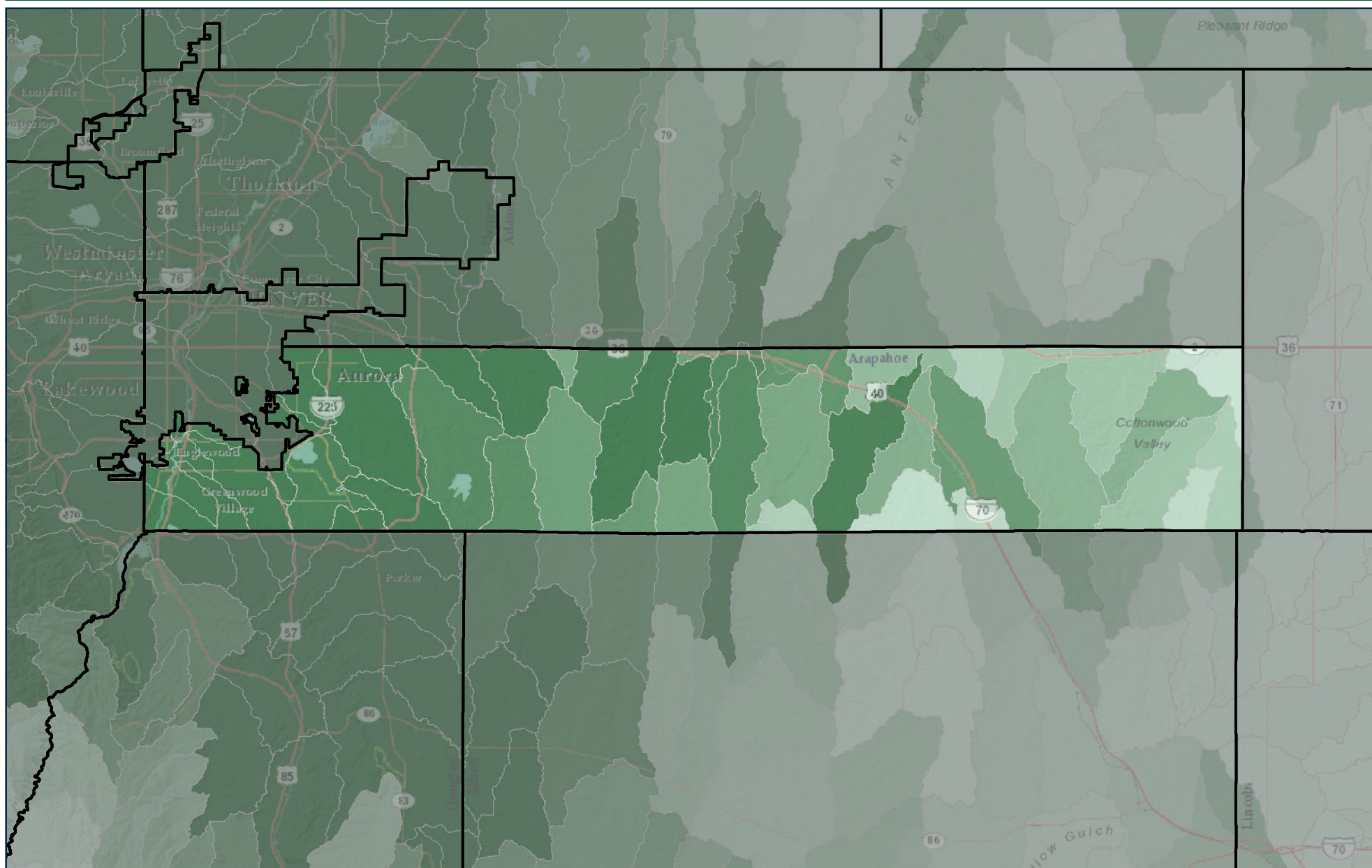






# Forest Conditions Wildland Urban Interface Projected to 2040

## Arapahoe County



For more information, please visit:  
[csfs.colostate.edu/forest-action-plan](https://csfs.colostate.edu/forest-action-plan)

**Relative Priority Value**

Lowest    Highest



0 5 10 20  
Miles





# Living with Wildfire

## Goal 1: Promote Community Fire Adaptation



**PROTECT**  
forests  
from harm



**ENHANCE**  
public benefits from  
trees and forests

## Goal 2: Reduce the Risk of Uncharacteristic Wildfire



**CONSERVE**  
working  
forestland



**PROTECT**  
forests  
from harm



**ENHANCE**  
public benefits from  
trees and forests

## Goal 3: Promote the Role of Fire in Ecological Processes

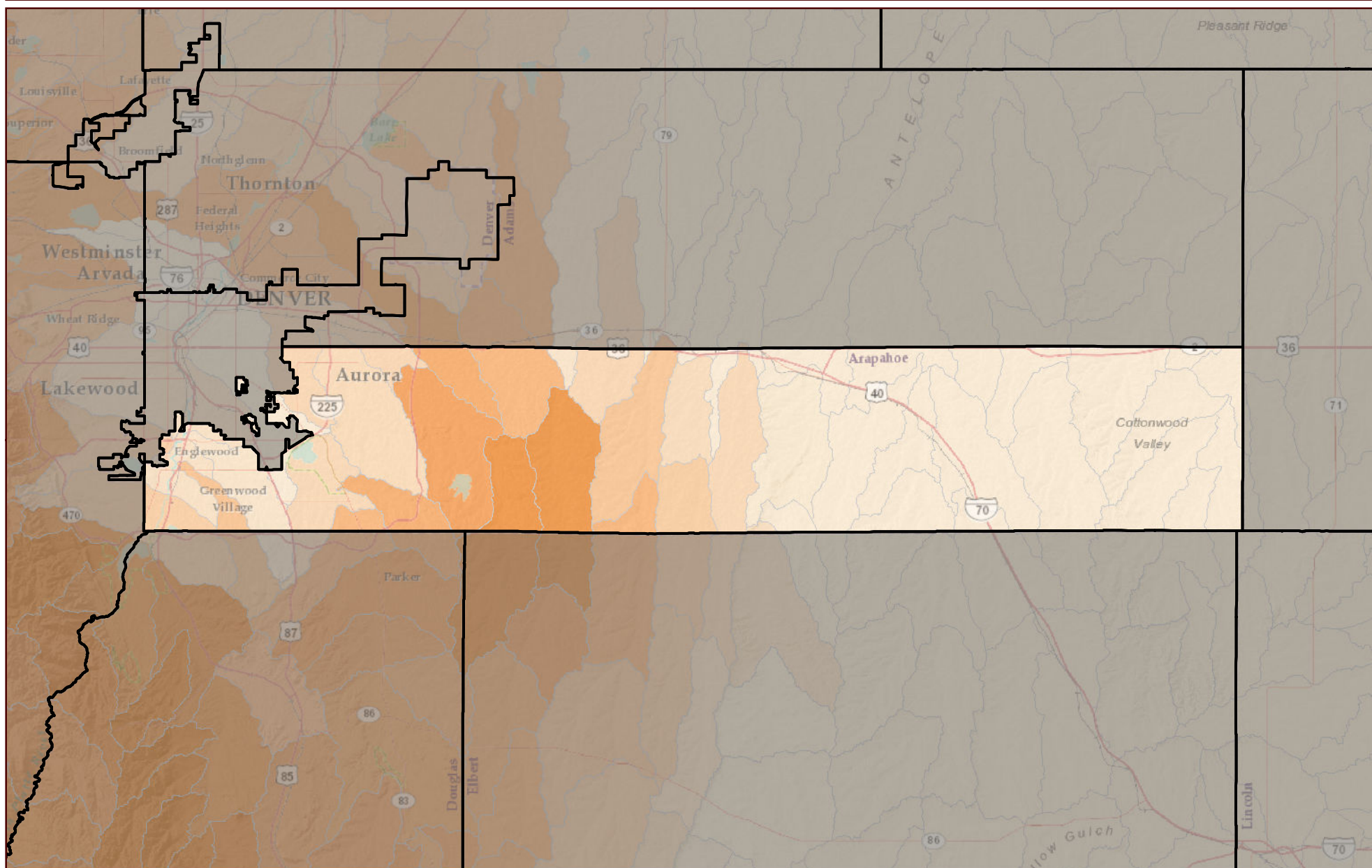


**ENHANCE**  
public benefits from  
trees and forests

*For more information, please visit:  
[csfs.colostate.edu/forest-action-plan](https://csfs.colostate.edu/forest-action-plan)*







For more information, please visit:  
[csfs.colostate.edu/forest-action-plan](http://csfs.colostate.edu/forest-action-plan)

**Relative Priority Value**

Lowest					Highest



0 5 10 20  
Miles





# Watershed Protection

## Goal 1: Improve and Maintain Water Quality and Quantity



**CONSERVE**  
working  
forestland



**PROTECT**  
forests  
from harm



**ENHANCE**  
public benefits from  
trees and forests

## Goal 2: Improve Resiliency of Critical Water Infrastructure

## Goal 3: Sustain or Restore Fundamental Ecological Functions for Watershed Health



**PROTECT**  
forests  
from harm

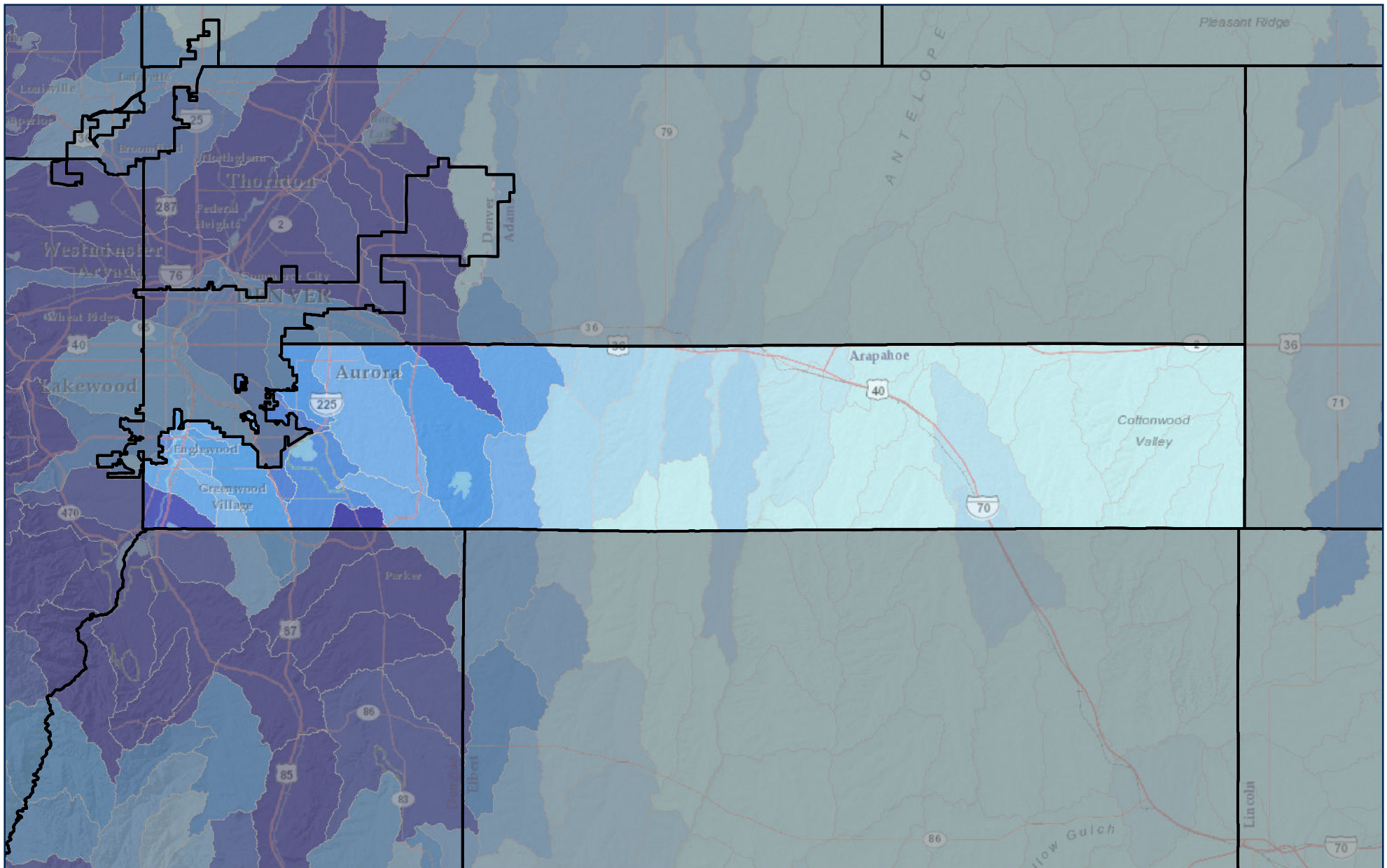


**ENHANCE**  
public benefits from  
trees and forests

*For more information, please visit:  
[csfs.colostate.edu/forest-action-plan](https://csfs.colostate.edu/forest-action-plan)*





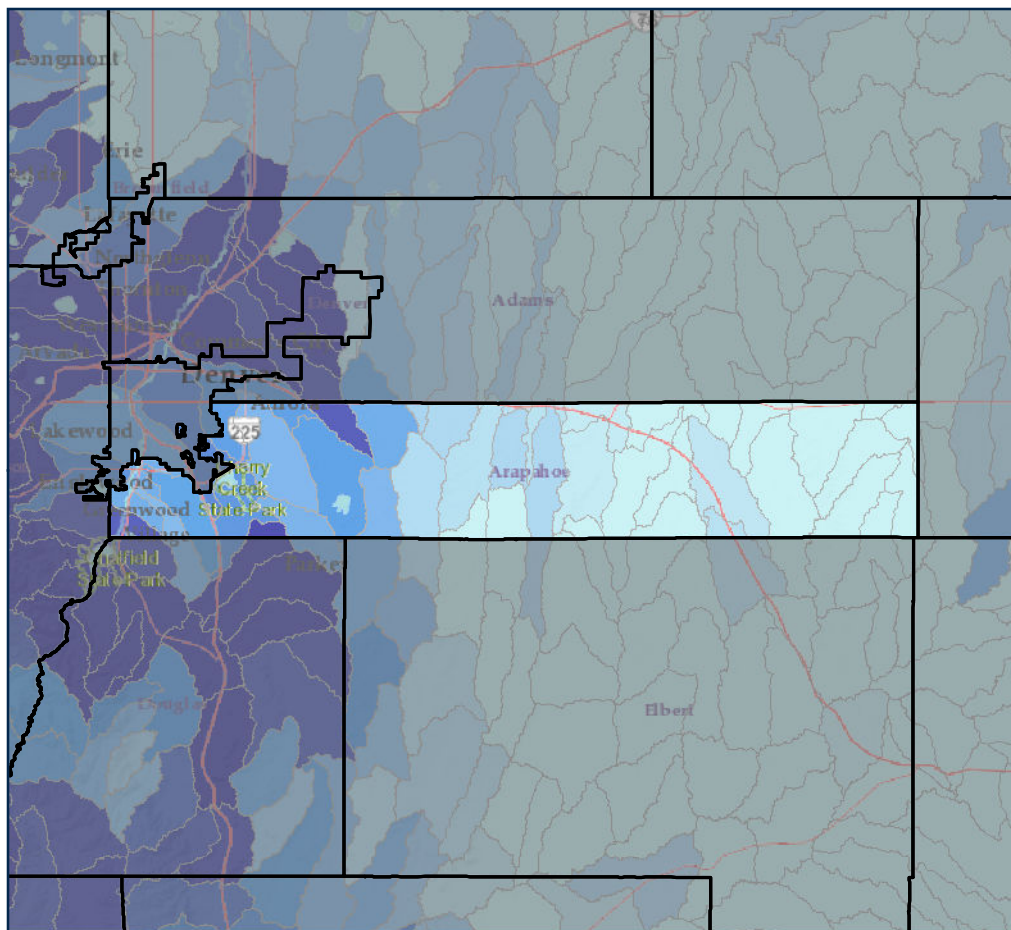


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## Arapahoe County

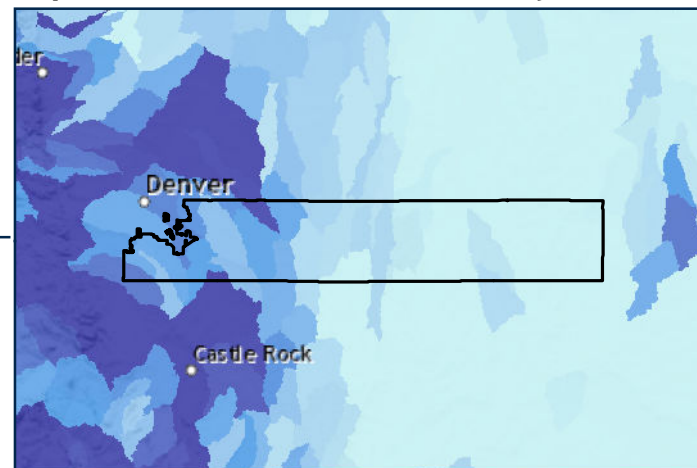


0 12.5 25 50  
Miles

### Relative Priority Value

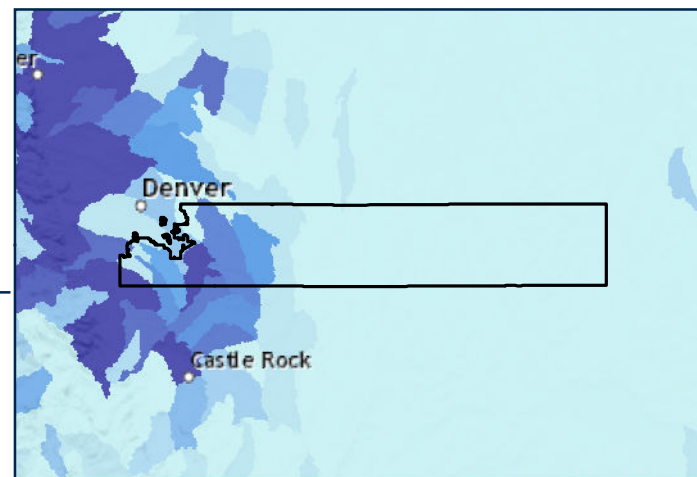
Lowest     Highest

### Improve & Maintain the Quality of Water



2x

### Protect Water Infrastructure



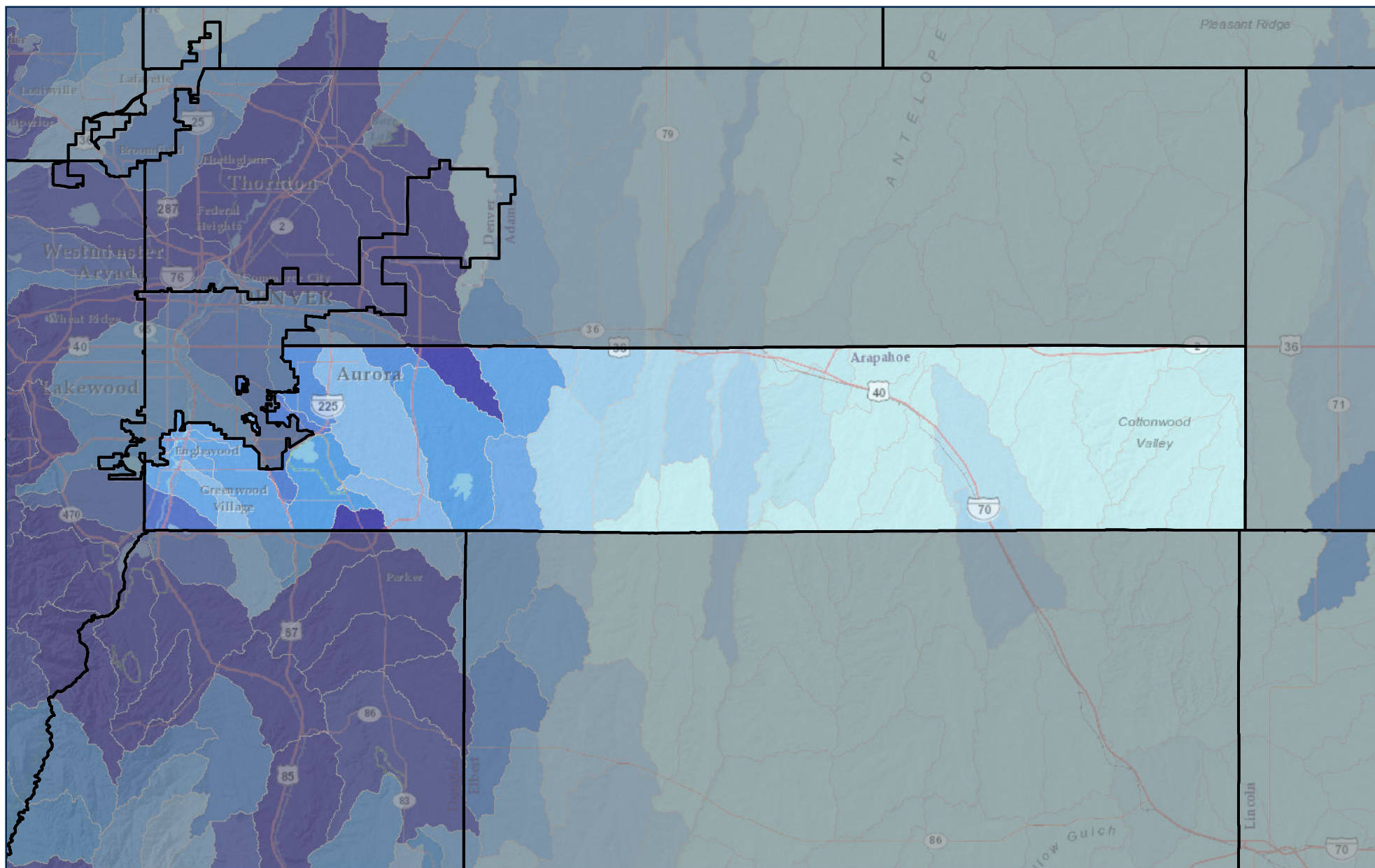
1x



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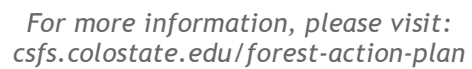


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# Arapahoe County



### Relative Priority Value

Lowest  Highest







## Forest Wildlife

### Goal 1: Conserve, Enhance, and Protect Critical Habitat



**CONSERVE**  
working  
forestland



**PROTECT**  
forests  
from harm



**ENHANCE**  
public benefits from  
trees and forests

### Goal 2: Integrate Habitat Considerations into Forestry Activities



**PROTECT**  
forests  
from harm



**ENHANCE**  
public benefits from  
trees and forests

### Goal 3: Increase Public Understanding of the Connections Between Forestry and Habitat

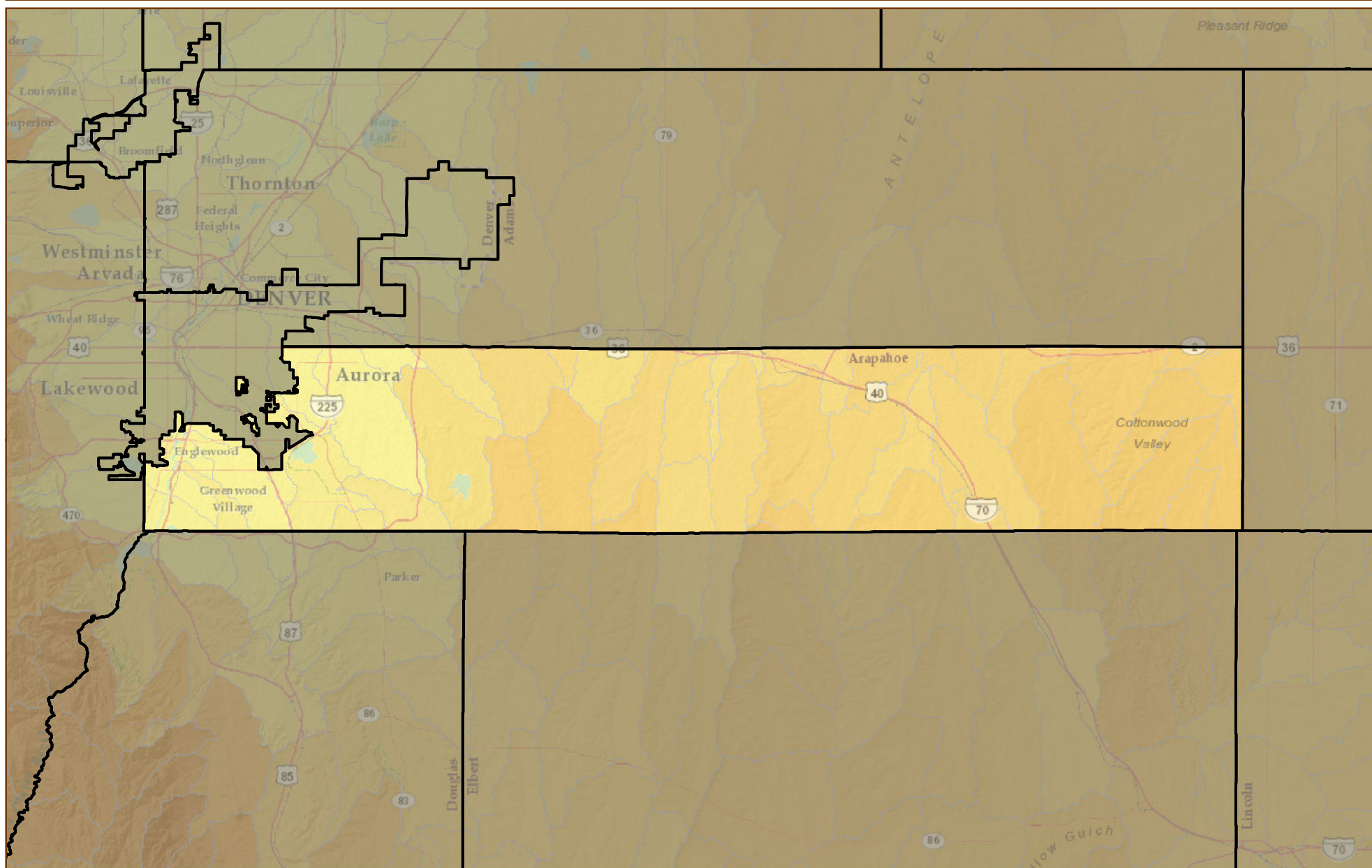


**ENHANCE**  
public benefits from  
trees and forests

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**Relative Priority Value**

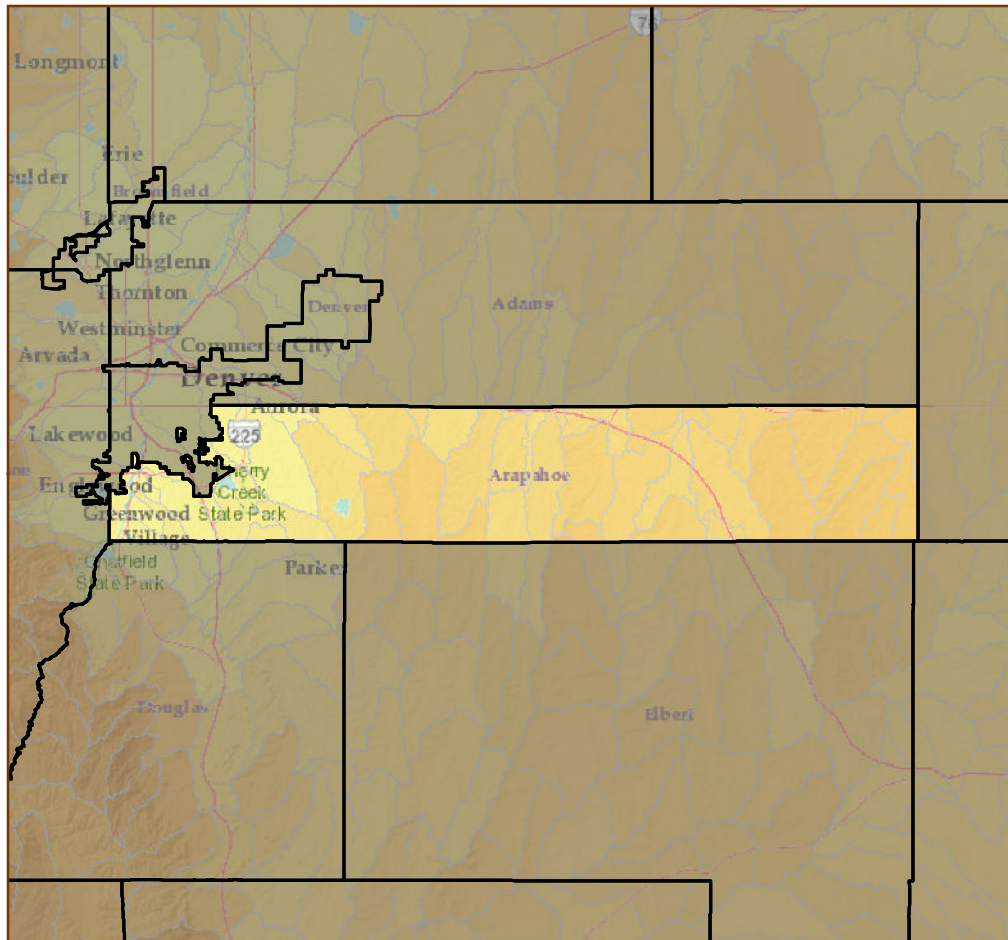
Lowest					Highest



0 4.25 8.5 17  
 Miles



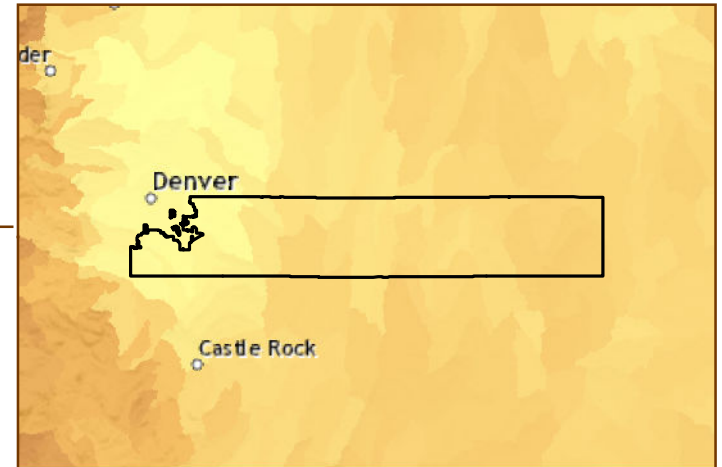
## Arapahoe County



**Relative Priority Value**

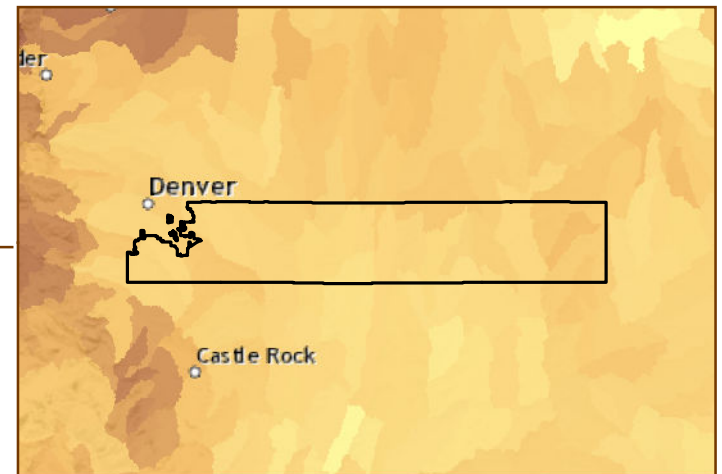
Lowest     Highest

### Habitat Quality and Connectivity



2x

### Wildlife Distribution



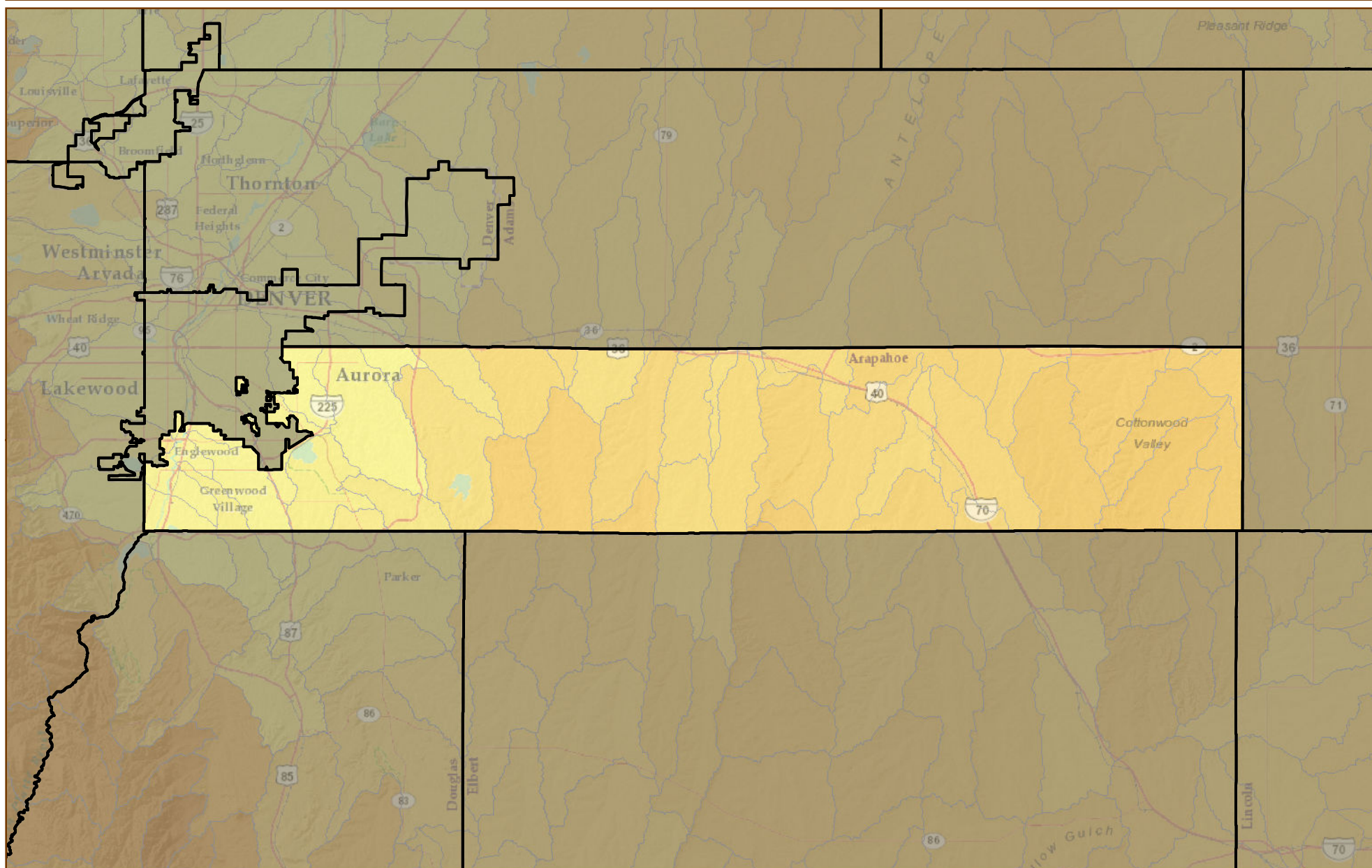
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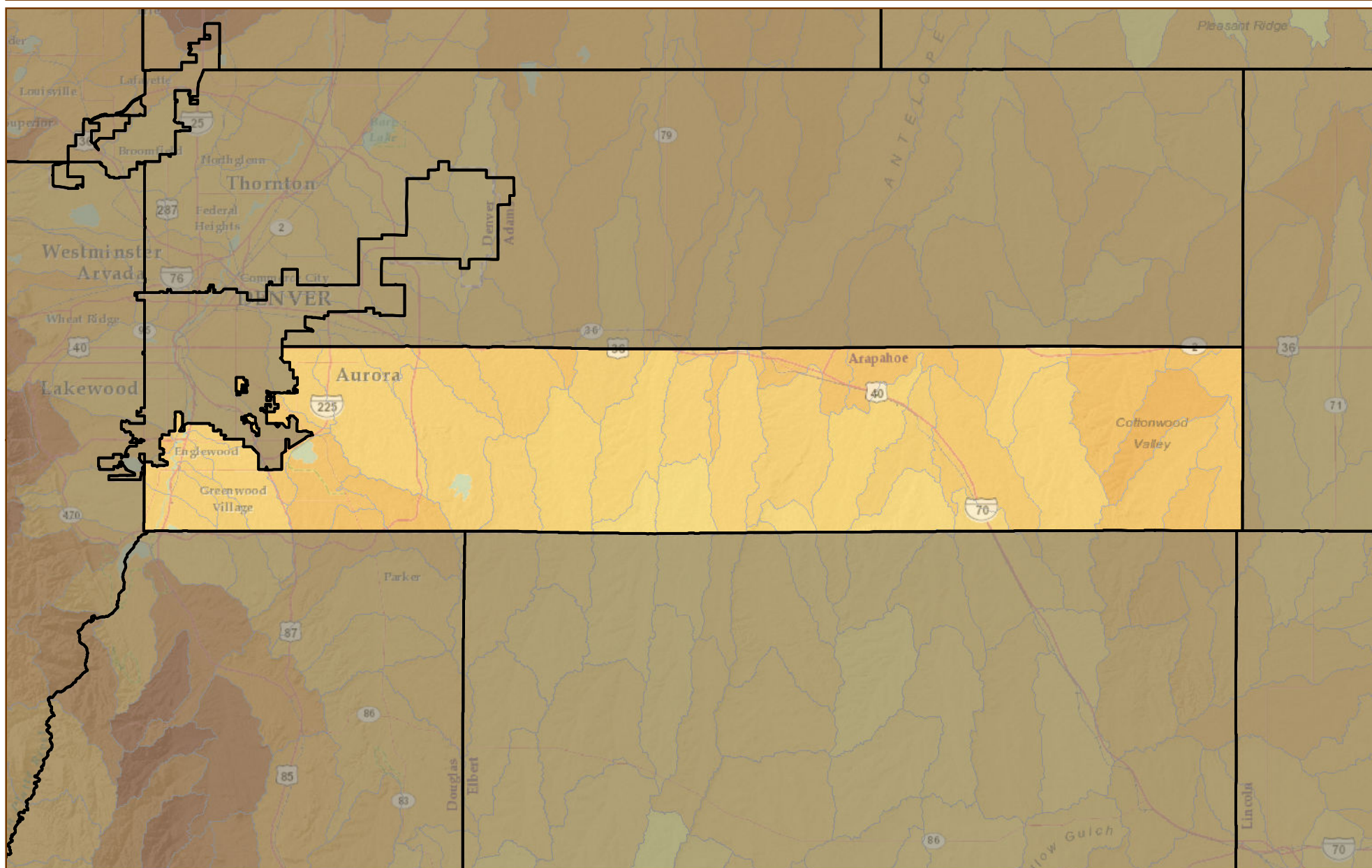


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**Relative Priority Value**  
Lowest     Highest



0 4.25 8.5 17  
Miles



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**Relative Priority Value**  
Lowest     Highest



0 4.25 8.5 17  
Miles