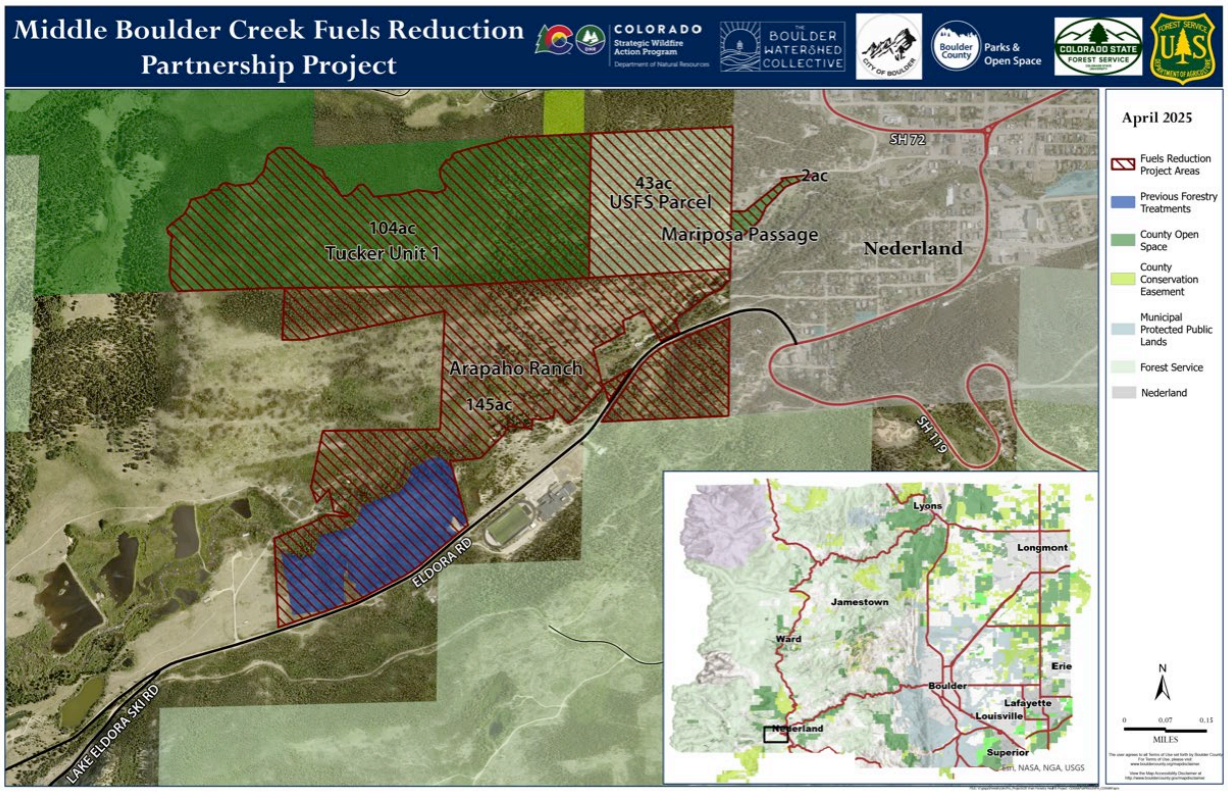
Middle Boulder Creek Fuel Reduction Partnership Project FAQ

General Project Description

Is this the same project as the "Tucker Property Forestry Management"?

Yes, the Middle Boulder Creek (MBC) Fuels Reduction Partnership Project includes portions of Tucker Ranch, but will also include project areas in Elk Draw, Arapaho Ranch, and potentially parts of US Forest Service (USFS) land adjacent to Tucker Ranch. Both Tucker Ranch and Elk Draw are Boulder County Parks & Open Space (BCPOS) properties. Arapaho Ranch is privately owned land and will be managed through this project in partnership with the Boulder Watershed Collective (BWC). Project organizers are currently pursuing Good Neighbor Authority (GNA) with the USFS to treat portions of USFS land adjacent to the Tucker Ranch property, though that work won't happen this year.



Who is leading the project?

Boulder County is managing the project and providing contractor oversite, while working in partnership with BWC to help manage the project on private lands, and to provide community engagement support. This is a collaborative project, addressing multiple values at risk, that has many partners and stakeholders, including the Nederland Fire Protection District, Colorado State

Forest Service, City of Boulder - Utilities Department, Colorado Department of Natural Resources, and Boulder County Wildfire Partners, among others.

What are the goals and objectives for the MBC Fuel Reduction Partnership Project?

This project has multiple objectives. The primary goal is to reduce fuel loads to support fire mitigation and enhance forest resilience. Secondary objectives include promoting aspen regeneration, protecting water quality, and maintaining essential ecosystem services.

The eastern portion of the project area is within ¼ mile of the Nederland town limits, is designated Wildland Urban Interface and a first priority project in the 2024 Nederland and Timberline Community Wildfire Protection Plan (CWPP), and lies within City of Boulder's Source Water Protection Plan area. The project is immediately upstream from the drinking water supplies for the Town of Nederland and City of Boulder. Reducing fuel load in this area can modify fire behavior and may provide an opportunity for firefighters to engage directly with a fire. Reduced fire intensities can reduce sediment and debris runoff into local drinking water sources, thereby protecting water quality, while also providing ecological benefits to the local ecosystem.

The project area also includes lodgepole pine stands of declining vigor, as well as areas impacted by bark beetles and dwarf mistletoe - a native parasitic plant. Appropriate management in these areas can reduce the spread of insects and disease, increase forest resilience, and reduce tree mortality. In addition, suppressed aspen and limber pine are present on the property. Removing competition around these two species can allow them to thrive and continue to provide food sources to wildlife.

It is important to understand that fuel reduction treatments are not guaranteed to achieve any specific goal under extreme fire weather conditions. They are still an important tool to protect life, property, and other values-at-risk during a wildfire, and can be improved when combined with other wildfire resilience actions, such as home hardening, defensible space, and wetland restoration, which are all part of the 2025 Nederland Wildfire Resilience Initiative.

How many acres does the project cover? Will all of those acres be treated?

The project boundary, including private land and the future possibility of a Good Neighbor Authority on USFS land, covers 170 acres. Not all of these acres will be treated by cutting. Treatments will occur on the top of Park Hill, and on parts of Arapaho Ranch. Some of that acreage is existing openings, aspen stands, and dense refuge areas that will not be cut, or only see minimal treatment.

When will the project take place?

This project is funded through the 2024 Colorado Strategic Wildfire Action Plan through the Colorado Department of Natural Resources, which provides funding for projects in 3-year cycles. This project is currently in the planning and community input phase, which started in March and

will continue through the end of summer 2025. The planning phase includes drafting a scope of work and receiving input from Boulder County Parks and Open Space Staff Resource Specialists, including: forestry/fire, wildlife, plant ecology, cultural resources, and invasive weeds, among others. Public outreach and input solicitation will occur this spring and summer. The scope of work for the prescription will be finalized later this summer, and then on-site project layout will begin. The work contract will be put out to bid this fall, and work will occur over the winter 2025-2026. After the project is completed, there will be opportunities for local community members to participate in weed management to promote the return of native plants, and continued monitoring of the project area.

Will prescribed fire be part of the project?

Prescribed broadcast fire is not currently a part of this project, **but Boulder County would like to have the opportunity to reintroduce and manage fire in the future.** Conducting a prescribed broadcast burn in this area would require community buy-in and tolerance of short-term smoke, as well as having fire personnel comfortable with burning in the fuels loads and conditions. Boulder County Parks and Open Space is weighing all aspects and considering if it is ecologically appropriate, operationally feasible, and publicly supported for future application. **Pile burning, which is also a type of prescribed fire, will likely be used in some locations on the western side of the project. These piles will be burned in the winter by the Boulder County Sheriff's Office Wildland Fire Crew as conditions allow.**

Is Wildfire Partners' home mitigation service a part of this project? How can I reduce wildfire risk to my own home?

Wildfire Partners is a partner for the Nederland Wildfire Resilience Initiative and is working on individual and community mitigation projects in the Nederland area this summer. Many Nederland residents have already completed or signed up for an Individual Home Assessment, and Old Town Nederland has applied for a Community Mitigation Planning site visit and technical report. Additionally, Wildfire Partners is also providing Youth Corps services for a community mitigation event in the Big Springs neighborhood.

While fuel reduction projects can reduce the risk of a wildfire impacting your home, it is ultimately the responsibility of each homeowner to prepare for wildfire. Take advantage of the many resources available to support you in preparing for wildfire. Sign up to receive a free Home Assessment from Wildfire Partners to learn how you can prepare your home against fire. Take advantage of Wildfire Partners' free Chipping Program, or the $500 rebate when you take certain home hardening actions to prepare your home for fire.

Also consider making an Emergency Plan. Remember, it is your responsibility to prepare for wildfire, but you do not have to act alone. Talk to your neighbors about wildfire and consider participating in community mitigation events and other wildfire preparedness activities hosted through Wildfire Partners, the Boulder Watershed Collective, and other project partners.

Community Engagement

Will there be opportunities for the public to learn more about the project, and to give comments?

Yes, there are three public events that Nederland residents and other community members are encouraged to attend to learn more about the project and share their questions and concerns.

- May 17, 10:30 a.m. - noon: Site visit open to the public to walk the property. Main Goal: for local community members and the public to learn about forest management and fire behavior in general and ask initial questions about the MBC project.
- June 12, 6-7:30 p.m.: Community meeting at the Nederland Community Center; Main Goals: for practitioners to help answer FAQs, and to provide community members and general public with facilitated opportunities to provide more comments, specific input, and ask questions.
- July 31 6-7:30pm: Final community meeting at the Nederland Community Center; Main Goal: to explain the project prescription before tree marking begins and go over how public feedback was incorporated into project planning.

Community members can also reach out to Julien@boulderwatershedcollective.org with their questions, or leave comments through the County website: https://bouldercounty.gov/open-space/management/middle-boulder-creek/

How will public feedback be incorporated into the project plan?

Community members are encouraged to engage by participating in the three public meetings. They may also submit comments through the Boulder County website between now and the final public meeting: https://bouldercounty.gov/open-space/management/middle-boulder-creek/
These comments will be compiled and incorporated into project planning where possible and appropriate. Boulder County and the Boulder Watershed Collective will address common themes from the comments, and how feedback was incorporated, at the public meetings.

Not all comments and recommendations from the community can be incorporated into project planning, for a couple of reasons. First, this project has been developed based on recommendations from the 2024 Boulder County CWPP Update and the 2024 Nederland and Timberline CWPP Update. The MBC project area was identified as a priority area for wildfire mitigation through the wildfire risk modeling and extensive community engagement that occurred during the CWPP update process. Secondly, the MBC project objectives are to reduce fuel loads and increase forest resilience in the Tucker Ranch and Elk Draw area, and project planning and implementation must follow the best available science to achieve those goals and fulfill the CWPP recommendations. **Keeping that in mind, Boulder County and BWC will continue to incorporate community input in the planning phase where possible in order to develop the most effective treatment plan.**

Will there be more educational opportunities to learn about forest ecology, fire science, and other relevant environmental science topics?

A variety of land managers, fire personnel, science communicators, and other specialists will attend the various public meetings. These people are happy to answer any questions.
The Boulder Watershed Collective has partnered with Nederland's Wild Bear Nature Center to plan three educational events over the summer, including a forest science talk at the Wild Bear Nature Center on Sunday June 22nd at 3pm, and two plant walks in June and August. Other volunteer and community engagement events hosted through the Boulder Watershed Collective and Boulder County may also occur when the time comes to thin lodgepole saplings, maintain treatments, and pull invasive weeds. For a full list of events and opportunities occurring this year and beyond, visit BWC's Nederland CWPP Implementation Page, to see the Nederland Wildfire Resilience Initiative engagement plan.

Ecology & Fire Science

Why is Fuel Reduction recommended for this project?

Wildfire is a natural part of ecological systems, and in all likelihood a wildfire will occur on the project area in the future. Fire intensity is created through many factors, including vapor pressure, humidity, high winds, but especially fuel loads. While land managers can't alter wind speeds or humidity, fuel loading can be managed to effectively alter fire behavior. The Middle Boulder Creek project area lies within a half mile of the Town of Nederland, where reductions in fuel loads can have a significant impact on the amount of time and the ability that firefighters have to defend the town from wildfire.

Cutting is currently the best tool available for removing fuels from the project area. Prescribed fire is not an option for this project at the moment due to the fuel load and proximity of fuels to the town. If the public were receptive to prescribed fire, and willing to tolerate short-term smoke impacts, fire would be the ideal method of surface fuel reduction after cutting in the future.

It is also important to consider that "no action" is still an active choice that has consequences on both the health and longevity of the forest ecosystem, watershed, source water quality, and the level of risk that the Town of Nederland faces. As land managers and public agencies, Boulder County has a responsibility to act following the weight of evidence to reduce the risk to life safety and protect important values-at-risk.

Does "Fuel Reduction" reduce wildfire risk? How will this project impact fire behavior?

Yes, fuel reduction projects can reduce the risk of intense wildfire. In project planning, Boulder County and BWC are guided by the best available science agreed upon by the wider scientific community, and management actions are based on weighted evidence. Specifically, Boulder County and BWC rely on applied research from Colorado Forest Restoration Institute, Rocky

Mountain Research Station, Colorado State Forest Service, Boulder County Species Conservation Plans, and independent researchers. This project will also strictly adhere to the Best Management Practices provided by the Colorado State Forest Service.

This project will aim to alter fire behavior by removing some of the trees that act as fuel during a wildfire. Removals will target smaller and suppressed trees that can carry fire from the ground up into the canopy of the forest. The treatment will also create gaps between groups of trees to make it harder for a canopy fire to travel across the stand, and bring a crown fire to the ground, facilitating first responder access. Actions like these do not aim to stop a fire in its tracks and are not guaranteed to provide any specific results under extreme conditions. However, this treatment can act as a speed bump to a progressing fire and may provide an opportunity for fire fighters or air support to engage directly with a wildfire, while also reducing ember casts. A "fire break," in the sense of a wide swath devoid of vegetation, is not being considered at this time. Boulder County and BWC instead propose to strategically place some small patch cuts and heavier thinning on the eastern property edge closest to town to allow greater potential for firefighting personnel to engage with fire safely in those areas.

What is the difference between forest restoration and forest resilience?

Forest restoration refers to forest management that aims to "restore" historical characteristics of a forest that has been altered by land use change or human intervention. It is often used to describe management of ponderosa forests along the Front Range that aims to restore ponderosa forests to a density and structure that more closely aligns with historic conditions.
Forest resilience refers to the ability of a forest ecosystem to receive and recover from natural disturbances, such as wildfire. This project aims to improve forest resilience by reducing the risk of a catastrophic wildfire, allowing the forest to receive less-intense wildfire and recover after fire.

Boulder County Parks and Open Space applies concepts of forest restoration in lower montane and foothills forests where science has shown that forests and fire regimes are significantly altered from natural cycles that occurred before European American colonization in this region. The assessment of whether or not upper montane forests are significantly altered from historical cycles (often called the historic range of variability) is less clear because fire intervals are much longer in the upper montane region. Therefore “restoration” is not the correct term to apply to forest management in the upper montane.

Instead of looking backwards to historical conditions and cycles, more land managers and scientists are looking forward to what patterns and conditions might occur in the future with climate change increasing temperatures and altering precipitation patterns. Therefore, the goal in the upper montane is to build resilience to future challenges and disturbances, since the historic range of variability may no longer resemble expected future conditions as a result of climate change and landscape-scale disturbance events.

What is a "patch cut?" Why are they used for forest management?

A patch cut is a forest management action that removes all the trees within a small, defined area. Patch cuts are typically used in lodgepole pine stands, which do not respond well to thinning due to their ecology and growth patterns. Lodgepole pine stands regenerate in similar aged cohorts following disturbance, and this close, dense growth prevents the individual trees from becoming "wind firm" a term which describes a tree's ability to remain standing during strong wind events. Thinning in a lodgepole stand removes this group support and may cause the remaining lodgepole trees to blow down. For this reason, patch cuts, not thinning, is the preferred management action in dense lodgepole. Patch cuts introduce age class diversity into similarly aged stands, stimulate dormant/suppressed aspen clones, emulate natural disturbance patterns, as well as help reduce the overall severity of crown fires and insect damage. With recent observations showing an increase in mountain pine beetle activity, this can be a proactive strategy to jumpstart a new successional stage in the event of mass beetle kill which targets older, stressed trees.

Patch cuts will NOT be the primary treatment method used on this project. While a few small (0.5 to 3 acre) patch cuts may be used in dense lodgepole stands, most of the project is expected to involve thinning of the mixed conifer forest. This thinning would target smaller diameter (<16 inches DBH) and suppressed trees with the goal of maintaining species diversity and increasing spatial diversity. By breaking up vertical continuity (from the forest floor to tree canopies) and horizontal continuity (continuous canopy cover) fire behavior may be altered enough to allow fire personnel to engage a wildfire directly.

Project Details

Will the U.S. Forest Service land be included in this project?

The current concept involves treating approximately 20 acres of USFS land through a Good Neighbor Agreement (GNA) to be administered by the Colorado State Forest Service (CSFS) and funded by a Boulder County COSWAP grant. The USFS, CSFS, and Boulder County are currently in planning discussions to determine next steps. Implementation of this phase of the project will likely occur at a later date than the Tucker and Arapaho Ranch properties.

Will this project incorporate a "fire break"?

A "fire break," in the sense of a wide swath devoid of vegetation, is not being considered at this time. Boulder County and BWC instead plan to strategically place some small patch cuts and heavier thinning on the eastern property edge closest to town to allow greater potential for firefighting personnel to engage with fire safely in those areas.

How do you plan on protecting local vegetation and wildlife habitat during project implementation?

Boulder County has completed/is completing vegetation mapping by plant ecology staff, wildlife surveys conducted by wildlife staff, and cultural resources surveys contracted out by cultural resources staff for the County owned land. All forestry projects on Boulder County land are

proposed to an internal Interdisciplinary Team for approval. This team consists of specialists in wildlife, plant ecology, invasive weeds, cultural resources, trails/recreation, and resource protection. These specialists provide input on avoidance areas, timing restrictions, and other specific mitigation measures. Boulder County has been in conversation with Colorado Parks and Wildlife about this project and they do not foresee conflict with known elk migration patterns due to the timing of winter operations.

How will significant trees be protected from accidental removal?

Any old, ecologically important trees, and any trees that could feasibly be culturally modified trees, will be marked with specific flagging tape to prevent accidental removal. Limber pine will also be flagged to prevent removal since it is a species of special concern within Boulder County.

How do you determine which trees to cut?

The project Scope of Work is still in development. The current preference is to conduct thinning in the mixed conifer stands (which includes mostly ponderosa pine, Douglas-fir, and subalpine fir, with some lodgepole pine, blue spruce, Engelmann spruce, aspen, and limber pine). Thinning would break up stand homogeneity, leaving some patches of denser forest and some more open areas. Cutting would focus on the removal of smaller and suppressed trees, as well as trees impacted by insect and disease issues. Preference is to retain larger, more fire-resistant and legacy trees, as well as standing dead trees which are essential for wildlife. Some small (0.5-3 ac) patch cuts may be used in denser lodgepole stands. **No trees larger than 16 inches diameter measured at 4.5ft above ground level will be removed, and no limber pine will be cut.**

What will be done with felled trees, and how will slash be managed?

Some trees will be utilized as biomass to heat the Boulder County Parks and Open Space Building and the Boulder County Jail, but most will be chipped and disposed of offsite. All materials will be utilized to its highest potential value to minimize unnecessary waste. Considering the small diameter cut limit, the trees that will be removed in this area have little to no commercial value.

Most slash will be chipped along with the rest of the tree for disposal. Some slash piles may be constructed on the west side of the project where removal is more difficult. **The piles on Boulder County Parks and Open Space land will be burned by the Boulder County Shariff's Office Wildland Fire Crew the following winters, as conditions allow.**

Can the cutting be carried out manually instead? What is being done to reduce the impact of heavy machinery on the landscape?

Work will occur during winter when the ground is frozen, and ideally snow-covered. This minimizes ground and soil disturbance from heavy machinery since it is operating on solid ground with a cushion of snow, rather than soft soil. Some hand cutting may be used in difficult to reach areas.

An exclusively manual hand-cut operation would be much slower and more expensive for this project. A longer duration on site would also be needed to complete the work by hand, meaning that the human disturbance to wildlife and vegetation would be greater since the work would have to extend into other less-dormant seasons of the year. An exclusively manual operation would also prevent this project from removing the amount of material needed to accomplish the stated goals.

How will you minimize the impact from unauthorized use by the public?

Boulder County Parks & Open Space is aware that unapproved use and trail building is occurring on the property and is utilizing resource protection staff to address the issue. The Mariposa Passage property is currently closed to the public in an attempt to limit illegal access from the private road. Boulder County Parks and Open Space will continue to enforce appropriate passive recreation regulations on the property. Any reports of unapproved recreational use can be sent to posinfo@bouldercounty.gov. Including photos or maps in the email will help Boulder County Resource Protection staff in their enforcement.

Will you be building roads to enter the project area? Will you be driving over the project area in trucks/with heavy machinery?

No new roads will be built, and the main access road will be improved and maintained to minimize erosion. Forestry equipment will utilize existing roads and designated skid trails approved by resource specialists. Operations will be conducted in winter when the ground is frozen or has sufficient snowpack and plants are dormant in order to minimize ground disturbance.

Project Maintenance & Monitoring

What does future management and maintenance look like? What will be done for management after the cutting happens?

After the operations have concluded, a post-treatment forest inventory will be conducted in 2026 to see if project objectives were met. In addition, Boulder County Parks and Open Space invasive weeds crew will continue to monitor the site to address any weed issues that may arise. Ground impacts should be minimal with operations occurring in winter, but any ground disturbance will be rehabilitated and seeded as soon as snow melts. The area will be regularly monitored and revisited annually by forestry staff, and if maintenance cutting or re-entry is needed in the future then that can be conducted as needed, ideally with lower intensity methods while trees are still small. Maintenance with prescribed fire would be ideal but would need to be addressed through a separate project including extensive community engagement.

Will the effectiveness of this project be studied in the event of fire?

Forestry, plant ecology, wildlife, and cultural resource surveys will all be completed on Boulder County Parks and Open Space land before operations begin. Forestry post treatment data collection occurs on BCPOS land within one year after the treatment to see if objectives have been met. Similar forest data collection would occur post-fire if/when wildfire occurs and would be used to inform departmental knowledge and adaptive management decisions. Boulder County is not a research institute, and any peer reviewed studies would be conducted by outside researchers.

How will weeds be managed?

Various invasive weeds have already been recorded on site and Boulder County Parks and Open Space has a dedicated Invasive Weeds Management Team that has already taken some action to control them. Forestry equipment is required to be cleaned and inspected before entering the property and before leaving the property. Following operations, the BCPOS Invasive Weed Management team will monitor the Boulder County project area for weeds for a minimum of 5 years and will apply appropriate species-specific management practices. BCPOS also hopes to host some volunteer pulling and Weed Warrior public events to help with the ongoing battle against invasive weeds.

Further Reading

Nederland_Timberline_Joint_2024_CWPP_Update.pdf
Community Wildfire Protection Plan
BMP_WaterQuality_2023_Web_CMP.pdf
Home Ignition Zone Guide
Adapting western North American forests to climate change and wildfires: 10 common questions
Identification and ecology of old ponderosa pine trees in the Colorado Front Range
City of Boulder Source Water Protection Plan
Rhea_F2F_Communication_CFRI_2415.pdf
The Resist-Accept-Direct (RAD) Framework | U.S. Geological Survey
The Society for Conservation Biology
Principles and practices for the restoration of ponderosa pine and dry mixed-conifer forests of the Colorado Front Range
How effective are landscape scale fuel treatments?
Buma2022FinalReport_NoLineNum.pdf
What do we know about forest treatments and fire? Photos and long-term studies help us understand
Can Fuel Treatments Change How a Wildfire Burns Across a Landscape?