



**Parks & Open Space Advisory Committee
AGENDA**

February 25, 2021
6:30 p.m.

Virtual Meeting

Suggested Timetable

6:30 Call to Order

Approval of the January 28, 2021 Meeting Minutes

ACTION REQUESTED: Minutes Approval

Presentations

6:35 Real Estate Division's Strategic Plan

ACTION REQUESTED: None, Information item only

PRESENTER: Janis Whisman, Real Estate Division Manager and Melissa Arnold, Conservation Easement Program Manager

7:05 Project Management & Design Strategic Plan Overview

ACTION REQUESTED: None, Information item only

PRESENTER: Sean Reynolds, Project Manager

7:20 Species Conservation and Recovery Plans

ACTION REQUESTED: None, Information item only

PRESENTER: Susan Spaulding, Stefan Reinold, and David Hirt

7:50 The Northern Redbelly Dace Recovery Project

ACTION REQUESTED: None, Information item only

PRESENTER: Mac Kobza, Wildlife Biologist

8:20 Calwood Fire and Recovery Measures

ACTION REQUESTED: None, Information item only

PRESENTER: Stefan Reinold and David Hirt

8:50 Director's Update

9:00 Adjourn

DRAFT

**Parks & Open Space Advisory Committee
MINUTES**

January 28, 2021
6:30 p.m.

Virtual Meeting

Call to Order

The meeting was called to order at 6:30 p.m. by James Krug

Members:

Scott Miller
Heather Williams (arrived 6:43 p.m.)
James Krug
Jenn Archuleta
Paula Fitzgerald
Steven Meyrich
Trace Baker
Ann Obenchain
Tony Lewis

Staff:

Eric Lane
Therese Glowacki
Janis Whisman
Ernst Streng
Renata Frye
Vivienne Jannatpour
Nik Brockman
Jeff Moline
Tina Nielsen

Approval of the December 17, 2020 Meeting Minutes

ACTION REQUESTED: Minutes Approval

ACTION: Fitzgerald moved approval of item. Baker seconded the motion.

VOTE: **AYES:** Miller, Krug, Archuleta, Fitzgerald, Meyrich, Baker, Obenchain, Lewis; **ABSENT:** Heather Williams;

Presentations

2020 Closings Summary

ACTION REQUESTED: None, Information item only

PRESENTER: Janis Whisman, Real Estate Division Manager

Attachment: Jan. 28 Minutes (4689 : Approval of the January 28, 2021 Meeting Minutes)

Resource Management 2020 Accomplishments

ACTION REQUESTED: None, Information item only

PRESENTER: Therese Glowacki, Resource Management Division Manager

Public Comment: Galen Davis, She spoke out against the plans for the proposed compost facility on Hwy 287.

Parks & Open Space Internal Strategic Plan

ACTION REQUESTED: None, Information item only

PRESENTER: Ernst Streng, Senior Planner

Director's Update

Eric Lane spoke more about the department's Strategic Plan and that Parks & Open Space workgroups have been engaged since early 2019 to help build the foundation for this work.

Adjourn

The meeting was adjourned at approximately 8:31 PM

Video recordings of all POSAC meetings are available at boco.org/posac



Parks & Open Space

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PARKS & OPEN SPACE ADVISORY COMMITTEE MEETING

Time/Date of Meeting: 6:30 p.m., Thursday, Feb. 25, 2021

Location: Virtual Meeting

| | |
|---------------------------|--|
| TO: | Parks & Open Space Advisory Committee |
| FROM/PRESENTER: | Janis Whisman, Melissa Arnold, and Sean Reynolds |
| AGENDA ITEM TITLE: | Strategic Plan Overview: Real Estate Division and Project Management and Design Workgroup |
| PRESENTERS: | Janis Whisman and Melissa Arnold (Real Estate/Conservation Easements), Sean Reynolds (Project Management & Design) |
| ACTION REQUESTED: | Information Only |

Background

In 2019, staff embarked on an internal planning process to ensure that our work reflects strategic priorities and moves us toward our desired future conditions and goals. The result of this work is an internal strategic plan for each workgroup in the Parks & Open Space Department that sets forth Desired Future Conditions (DFCs), Goals, Strategies, and near term specific, measurable, achievable, relevant, and timebound (SMART) Objectives.

An overview of the strategic plan was provided at the January POSAC meeting, including process, themes, principles, and how this framework will help inform the Department's priorities going forward. Throughout the remainder of 2021, staff from each workgroup will provide an overview of their 2021 SMART objectives to POSAC.

In February, presentations will be from the Real Estate Division (including the Conservation Easement Workgroup) and the Project Management & Design workgroup, which is in the Recreation and Facilities Division. The remainder of this memo provides a summary of strategic plan information for each of these groups for your reference.

Real Estate Division Desired Future Conditions

All real estate interests desired by the county for open space purposes have been acquired, the values of county open space real estate interests are protected, and related data is maintained and accessible.

Real Estate Division Goals

1. Determine desired real estate interests, including land, water, and trail connections.
2. Acquire desired properties from willing landowners.
3. Minimize third-party takings and impacts to maintain open space values.
4. Maintain real estate data to serve and educate both staff and the public.

Real Estate 2021 Objectives

- Throughout the year (and continuing annually), update priority acquisition data with input from BCPOS staff, POSAC, the County Administrator, the BOCC, and municipal partners.
- Implement software for managing priority acquisition property outreach by the end of 2021, pending support from the county's Information Technology department.
- By the end of 2021, complete initial outreach to every property on the acquisition priorities list and maintain established landowner relationships thereafter.
- Complete the Bald Mountain State Land Board acquisition, or delay closing if the State Land Board cannot resolve a title issue in 2021.

- Continue daily efforts to minimize impacts to open space from oil and gas activities, condemnations/takings for utilities and road widenings, and other non-open space uses.
- Complete Land and Water Information System database improvements by the end of 2021, pending support from the county's Information Technology department.

Conservation Easement Desired Future Condition

The conservation values that each conservation easement (CE) intends to preserve are protected in partnership with CE landowners.

Conservation Easement Goals

1. Prevent and remedy violations on all CE properties.
2. Monitor every CE on an annual basis.
3. Partner with staff and CE landowners on proactive stewardship activities that maintain or enhance conservation values.
4. Maintain CE stewardship data to serve and educate both staff and the public.

Conservation Easement 2021 Objectives

- For each CE monitored in 2021, reach out to landowners at least twice vs. once.
- Expand stewardship newsletter with landowner resources by April 2021.
- Create action plan for each CE violation identified in field season by end of 2021.
- Track State legislative process to ensure that by end of 2021 session, new bills do not adversely impact county CEs.
- Monitor more CEs each year, with goal of an annual monitoring cycle by 2024.
- Advocate for 3 dedicated seasonal monitors a year.
- Recruit 4 more volunteers to increase properties they monitor from 30 to 40 or more.
- Pilot CE landowner educational workshop (pending COVID restrictions).
- Identify CE management plans in need of updating or creation after each site visit in 2021.
- Improve data transparency by converting CE field files to digital (pending COVID restrictions).
- Complete Stewardship Database improvements by the end of 2021, pending support from the county's Information Technology department.

Conservation Easement 2021 Stewardship Fund Award

The Conservation Easement Program was awarded \$42,130 to hire two seasonal CE Monitor positions for the 2021 field season. This one-time award will allow staff to increase CE properties monitored this year from approximately 300 to 600, out of 850 CE properties that require monitoring. The award will fund two positions and related computer and monitoring equipment needs. These two positions will help achieve CE Program Strategic Plan goals #1 and #2, and staff anticipates that an increased monitoring presence on the ground this year will help prevent more violations before they occur, improve landowner relationships, identify areas for resource improvement, and allow us to come closer to meeting national standards for CE monitoring.

Project Management & Design (PM&D) Desired Future Condition

High quality, timely, and fiscally responsible design and construction projects are delivered that meet the intended purpose and goals of the project, while preserving the natural, cultural, and aesthetic values of the landscape, minimizing long-term maintenance commitments, and promoting the needs and wellbeing of all community members.

Project Management & Design Goals and Objectives

1. Design and manage projects through effective internal and external collaboration.

- **Objective:** Ensure participation in all management planning efforts that will or may directly affect PM&D work plans by actively reaching out to the planning department on a monthly basis to determine and document involvement throughout 2021.
 - **Objective:** Document all management plan communications involving PM&D staff using meeting notes, meeting minutes or web-based communications throughout 2021.
 - **Objective:** Provide proper outreach to involved stakeholders for projects input by scheduling & implementing design charettes that include public involvement when necessary in design phase for all 2021 work plan projects.
2. Complete projects on time and within budget.
 - **Objective:** Develop an accurate Critical Path Schedule (CPS) prior to the start of the project for all 2021 work plan projects & incorporate into new project charter process.
 - **Objective:** Develop an accurate budget estimate prior to the start of the project for all 2021 work plan projects incorporating the new project charter process.
 - **Objective:** Track both CPS schedule and budget weekly through the duration of project using Microsoft project and Oracle/Excel spreadsheets for all 2021 work plan projects.
 - **Objective:** Implement a new design and construction model that mirrors the contractor processes for internal POS projects in 2021.
 3. Ensure construction and maintenance standards are documented, implemented and advancing as best practices.
 - **Objective:** Annually review Construction & Maintenance Handbook for any needed changes on information, methodology and policy to reflect an evolution in construction design and maintenance practices and follow up on revisions by the end of 2021.
 4. Integrate ongoing maintenance needs, sustainable materials, and climate considerations into the built environment.
 - **Objective:** Evaluate and incorporate sustainable maintenance considerations into planned construction projects in 2021 by including input during design phase from work groups responsible for ongoing maintenance of new facilities.
 - **Objective:** Develop a system to source and track sustainable materials used in design and construction on work plan projects in 2021.
 5. Create design projects that promote visitor interaction, connectivity, and stewardship.
 - **Objective:** Complete and implement ADA access designs at Walker Ranch that improve visitor interaction and stewardship (2021).
 - **Objective:** Manage contract trail construction at Tolland Ranch project that will provide needed connectivity and encourage stewardship for community use (2021).
 - **Objective:** Finalize and implement English/Spanish sign plan in 2021, reflecting policy direction from the new *Cultural Responsiveness and Inclusion Strategic Plan*.

POSAC Action Requested

This item is for your information; no action requested. We welcome your questions, comments and feedback.



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PARKS & OPEN SPACE ADVISORY COMMITTEE MEETING

Time/Date of Meeting: 6:30 p.m., Thursday, Feb. 25, 2021

Location: Virtual Meeting

| | |
|--------------------------|---|
| TO: | Parks & Open Space Advisory Committee |
| FROM/PRESENTER: | Susan Spaulding, Senior Wildlife Biologist; David Hirt, Senior Plant Ecologist/Restoration Ecologist; Stefan Reinold, Senior Forestry Resource Specialist |
| AGENDA ITEM: | Species Conservation and Recovery Plans |
| ACTION REQUESTED: | Information Only |

The Planning Commission adopted a complete update to the Environmental Resource Element (ERE) of the Boulder County Comprehensive Plan on October 14, 2014. The update included language addressing the county's responsibility for sustaining naturally occurring ecosystems and their dependent species through conservation and recovery planning for prioritized Species of Special Concern.

That language reads, “*Acknowledging our responsibility to ensure that naturally occurring ecosystems and their native species populations continue to exist and flourish in Boulder County, Boulder County will develop conservation and recovery plans for priority Species of Special Concern*”. This established the requirement that BCPOS commit to writing Species Conservation and Recovery Plans (SCRPs).

Staff will present a sub-set of SCRPs completed by several different resource specialists at BCPOS. These plans apply to the entire county, including BCPOS lands, and can assist private landowners steward their own property.

Attachment: Species Conservation Recovery Plans Packet (4692 : Species Conservation and Recovery Plans)

Abert's Squirrel



Boulder County
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Species Description

The Abert's squirrel is a large tree squirrel with a long, full tail. It has long ear tufts during most of the year, but tufts are usually lacking on adults during July, August, and September.

Their body color can range from gray to brown to black. The predominant color along the Front Range is black. Most brown squirrels have been reported from central Colorado in Elbert, El Paso, and Jefferson Counties. All three color phases can occur in a single litter. In southwestern Colorado, almost all squirrels are salt-and-pepper gray.

Look Alikes: Pine Squirrel

Habitat: Abert's squirrels live in forests of ponderosa pine with minimal understory. High quality habitat for Abert's squirrels consists of an open forest with 150 to 250 trees of various sizes per acre, with connected canopies for aerial movement of the squirrels.

Background

Abert's squirrels rely on ponderosa pine for most of their life requirements, including food, nesting sites, travel and escape routes. They are co-evolved with ponderosa pine forests. Good habitat for Abert's squirrels contains open, uneven-aged stands, with clusters of even-aged groups connected by canopy corridors to provide secure travel routes. Abert's squirrels promote forest health by dispersing spores of underground fungi that facilitate water and nutrient uptake by the trees and, therefore, increase seedling survival and enhance forest regeneration and growth.

Distribution & Range



<https://nhpbs.org/natureworks/abertssquirrel.htm>

Threats

- *Habitat loss/alteration:* Habitat alteration due to logging, grazing and high intensity wildfires.
- *Climate change:* This is a complicated correlation. Heavy snow cover can be a cause of increased mortality and may be improved by warming trends. However, global warming is also contributing to the loss of quality ponderosa pine habitat due to increased wildfire intensity.
- *Direct predation:* Increased predation can be a result of alteration of habitat (stands with large distances between trees).
- *Forest Practices:* Fuels-reduction treatments often do not account for the habitat requirements of Abert's squirrels. This can be easily accommodated with communication and pre-planning.



Photo credit: BCPOS employee

Management Considerations

Habitat preservation:

- Maintain healthy forests and protect against large catastrophic fires. Ensure connected canopies for travel.

Mapping:

- Identify existing populations.

Prescription for forest restoration:

- Stand densities of 300 to 600 trees per hectare (150-250 per acre), mostly >30 cm (>12 in.) dbh.
- Thinning from below strategies that remove smaller trees and retain larger diameter trees.
- Trees clustered into small, even-aged groups (0.1 to 0.5 ha in size) in uneven-aged forest.
- Stringers of canopy cover between tree clusters to give protection for escape and travel.
- Protection of all existing nest trees within groups of adjacent taller trees.
- Protection of 20 trees per ha used for bark feeding (defined as >20 twigs and clusters on ground under tree).
- Retention of areas of dense canopy cover to form habitat on ground for truffle production.
- Protection of groups of cone-producing trees especially those >19' dbh.

Disclaimer: This summary is not a complete guide to conservation and/or recovery of the species. For more information please read the full report on our website.

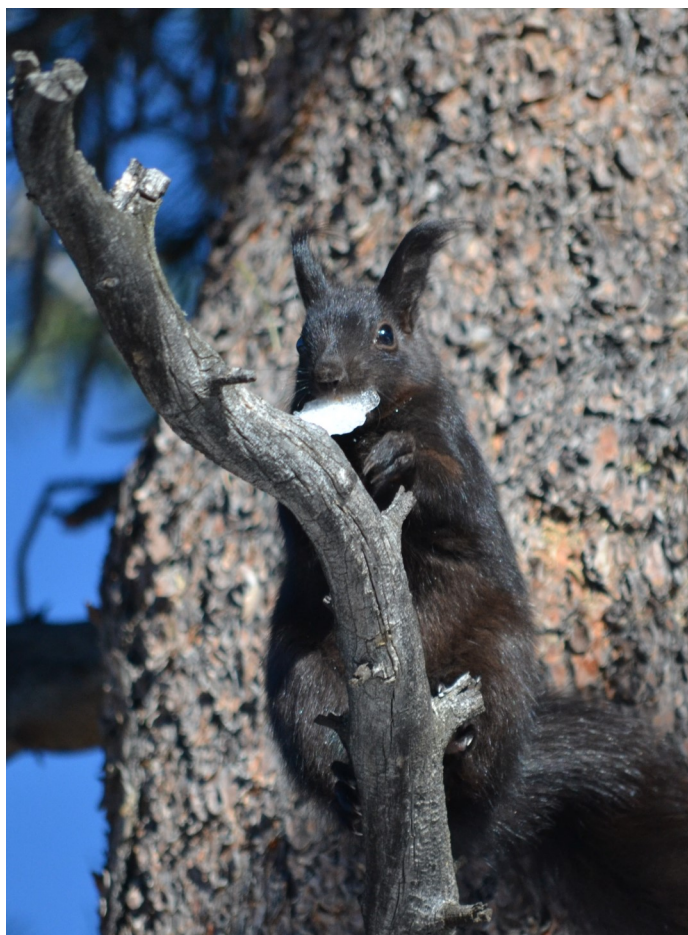


Photo credit: BCPOS employee

Antelope Bitterbrush Complex



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Photo Credit: BCPOS Employee

Community Description

Consists of: Antelope Bitterbrush (*Purshia tridentata*), Fringed Sagebrush (*Artemisia frigida*), Needle-and-Thread Shrubland (*Hesperostipa comata*)

Antelope Bitterbrush (*Purshia tridentata*), Mountain Muhly Shrubland (*Muhlenbergia montana*).

Designation: The Colorado National Heritage Program classifies the Antelope Bitterbrush/ Mountain Muhly Shrubland as G2/S2 and the Antelope Bitterbrush/ Prairie Sagewort/ Needle-and-Thread Shrubland as G1/S1S2.

Biotic: Antelope bitterbrush is the dominant shrub in these rare communities, with fringed sagebrush, needle-and-thread grass, and/or mountain muhly present as codominant species.

Abiotic: These communities usually occur on south-facing slopes in an elevational range between 5,800 – 9,000 ft. Soils where these two communities are present are loamy and sandy in texture, and there is usually a moderately rocky surface.

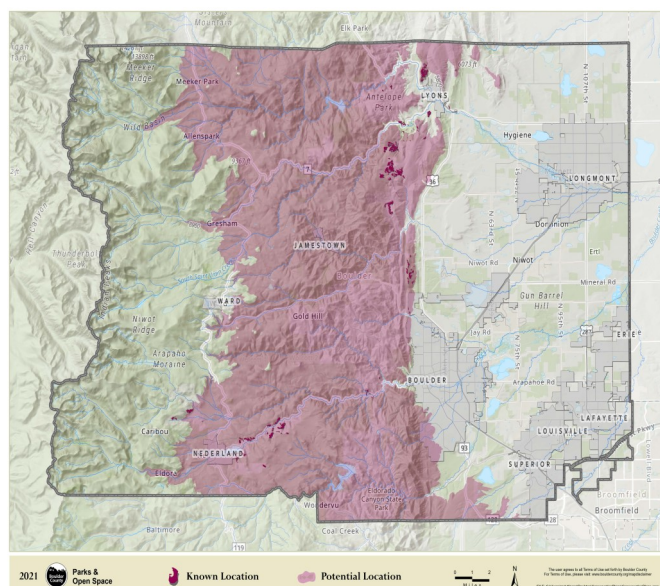
Vital processes: While not much is known about the processes that influence these communities, fire and grazing have historically provided important disturbance pressures. Bitterbrush provides important food material for wildlife.

Background

The Antelope Bitterbrush/ Fringed Sagebrush/ Needle-and-Thread Shrubland and the Antelope Bitterbrush/ Mountain Muhly Shrubland are two rare shrubland communities found in the foothills of Boulder County. They have been designated as either imperiled or critically imperiled and are threatened by continued habitat degradation resulting from development, climate change, overgrazing, and the spread of invasive species.

Distribution & Range

The Antelope Bitterbrush Complex is limited to eastern slopes of the northern Front Range in Colorado in Boulder and Larimer Counties. No out-of-state-locations have been documented. On Boulder County Parks & Open Space (BCPOS), remnants of this significant natural community complex can be found in Hall Ranch, Steamboat Mountain, Caribou Ranch, and Heil Valley Ranch.



Threats

Invasive Species: Cheatgrass and Japanese brome reduce water availability and alter natural fire regimes. Invasive forbs, like Canada thistle, also compete heavily against the native plants in this community.

Overgrazing: Antelope bitterbrush is only moderately tolerant of grazing. Overgrazed stands increase the likelihood of invasive species establishing. Excessive trampling could affect the establishment of seedlings.

Loss/alteration of vital processes: Fire and grazing are natural and necessary components of this community complex. However, unburned, decadent bitterbrush plants with more dead wood are more likely to burn completely and be unable to resprout after an intense fire.

Climate Change: Alterations in local climate have the potential to limit or change reproductive capability of key species by altering the timing of a species' phenology or by affecting animals responsible for pollination and/or seed dispersal.

Development: The Antelope Bitterbrush Complex occurs only in the foothills of the Colorado Front Range. As a result, large swaths of land containing these rare significant natural communities have been eliminated. Remaining populations are fragmented across protected areas.



Antelope bitterbrush complex photo taken by BCPOS staff.



Antelope bitterbrush complex photo taken by BCPOS staff.

Management Considerations

Coordinate management actions with

BCPOS: Potential locations can be reported to BCPOS to help with planning and conservation. BCPOS can help with:

- ***Documentation:*** If stands of the Antelope Bitterbrush Complex are identified, landowners should map or monitor these areas with BCPOS.
- ***Agriculture/grazing:*** Grazing by livestock should be excluded from stands. However, if stands are heavily decadent, short-term grazing could be considered as a targeted management approach to improve the health of the community.
- ***Invasive Plant Management:*** If possible, mechanical removal of invasive species (i.e. hand-pulling or using hand tools to remove invasive species) is ideal for the Antelope Bitterbrush Complex. BCPOS can give advice for applications of herbicide and strategies for re-seeding.
- ***Fire Management:*** BCPOS can help determine if fire management would be an effective tool to fight invasion species.

Disclaimer: This summary is not a complete guide to conservation and/or recovery of the species. For more information please read the full report on our website.

Bell's Twinpod



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Photo credit: BCPOS employee

Species Description

Description: Bell's twinpod is a perennial forb and a member of the mustard family. It forms a basal floret of hairy, silvery-green leaves from which several to many stems emerge. These stems bear a cluster of yellow flowers generally arranged circularly around the plant. The fruit is a small (4–6 mm), inflated silique consisting of two valves, each of which can hold a maximum of two seeds. Flowers April through June, fruits July through August.

Look Alikes: Roundtip twinpod (*Physaria vituliflora*) has larger, fiddle shaped leaves, and the constriction separating the locules of the fruit is much deeper above than below.

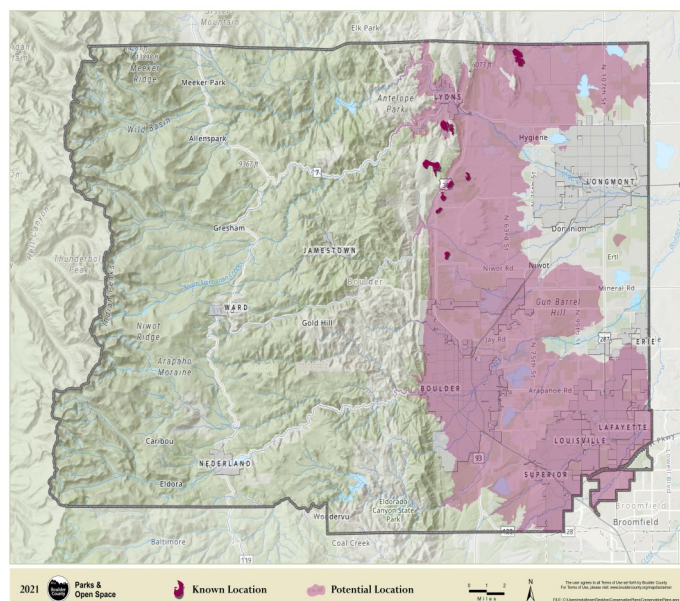
Habitat: The plant is found on limestones and shales barrens, and along natural outcrops, such as ridge crests. Generally, they can be found in loose, gray shale washes, slopes of hogbacks, sloping down to grassy meadows containing some scattered seeps.

Background

Bell's twinpod (*Physaria bellii*) is a rare perennial mustard native to Colorado and found only in Boulder, Larimer, and Jefferson Counties. This species is found in association with grassland and shrubland habitats, in rocky areas and road cuts. This species has been declared a Species of Special Concern by Boulder County and has been given S2S3 status by the state of Colorado and G2G3 status by CNHP due to its threats and limited range.

Distribution & Range

Bell's twinpod has a limited range but is locally abundant. It grows along the Front Range foothills in shale and limestone outcrops. There are 28 extant documented populations with a total of approx. one million individual plants.



Threats

- *Habitat loss & fragmentation:* Development and limestone mining are the main threats.
- *Invasive Species:* Cheatgrass, smooth brome, and knapweed are the main threats.
- *Grazing:* This is minimal threat as the habitat it prefers is not conducive to grazing.
- *Recreation:* Trampling and soil compaction from recreational users.
- *Road maintenance:* Roadside activities, such as grading,, mowing and herbicide application.



Photo credit: BCPOS employee

Management Considerations

- *Habitat preservation:* Prior to any construction or maintenance in potential Bell's twinpod habitat, land owners and managers should assess the planned work area to determine if this rare plant is present.
- *Invasive plant management:* Herbicide applications should be kept at least 200 m (650 ft) from known populations, unless specifically targeting encroachment that threatens habitat integrity.
- *Fire management:* : The response of Bell's twinpod to fire is not well known and should be avoided.
- *Restoration:* Any revegetation that is to be undertaken near or in Bell's twinpod habitat should include a very low rate of select native plants, including Indian ricegrass (*Achnatherum hymenoides*), New Mexico feathergrass (*Hesperostipa neomexicana*), or shortstem buckwheat (*Eriogonum brevicaule*). Seed mixes should contain no non-native species, or even aggressive native species such as western wheatgrass.



Photo credit: BCPOS employee

Disclaimer: This summary is not a complete guide to conservation and/or recovery of the species. For more information please read the full report on our website.

Bristlecone Pine



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Rocky Mountain bristlecone pine is a conifer most often found at higher elevations on ridges and mountain tops.

Photo credit: BSPOS employee

Species Description

Tree: Trees rarely exceed 50 ft. in height and often occur as single stems; however multi-stemmed growth is not uncommon.

Needles: Needles occur in bundles of 5 and are clustered at the end of branches, giving a “bottlebrush” appearance. The needles produce small specs of sap that can be used as a distinguishing characteristic from the similar looking limber pine.

Cones: Female cones produce a spike or bristle on the end of each scale and mature in fall of their second year. Winged seeds drop from the cones soon thereafter.

Look Alikes: Limber pine

Habitat: Occurs at high elevations on ridges and mountain tops; elevations in Colorado range between 7,000-13,000 ft.

Background

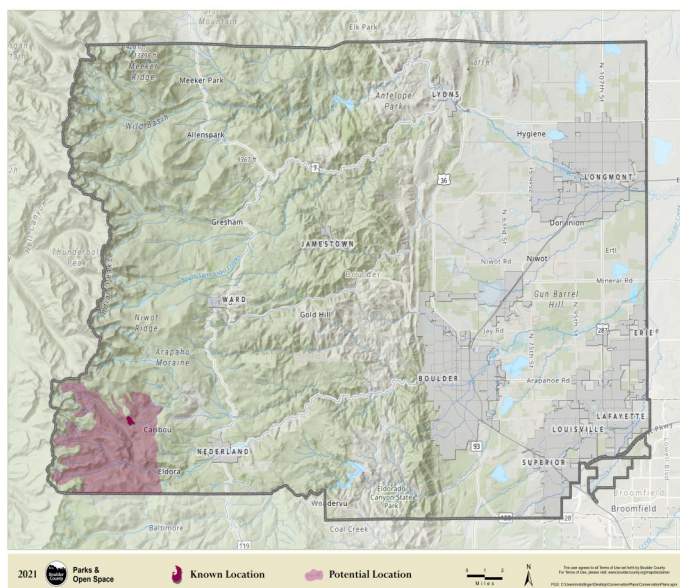
Bristlecone Pines belong to the Family Pinaceae.

In Boulder County, bristlecone is listed as a species of special concern. The northern most extent of Rocky Mountain bristlecone pine occurs in Boulder County, 3 1/2 miles northwest of the Eldora townsite.

Because of its ability to survive in the sub-alpine and alpine environments, it is often referred to as a high-elevation pine. Like other high-elevation pines, bristlecones are ecologically important and provide valuable ecosystem services, such as soil stabilization, snow retention, controlled water runoff, and high elevation biodiversity .

Distribution & Range

Rocky Mountain bristlecone pine is endemic to the southern Rockies, occurring from central Colorado south to northern New Mexico with an outlying population in northern Arizona.



Threats

- *White pine blister rust (WPBR)*: WPBR on Rocky Mountain bristlecone pine is not widespread, with the only known occurrence observed near the Great Sand Dunes.
- *Climate change*: With a changing climate, we can expect Rocky Mountain bristlecone pine populations to shift their distributions in response to these changes.
- *Wildfire*: Fires alone do not threaten long-term survival; however a changing climate could increase the size and frequency of wildfires, which could threaten certain populations that previously were not subject to this disturbance.



Photo credit: BSPOS employee



Photo credit: BSPOS employee

Management Considerations

- *Mapping*: Continue to locate unmapped populations, both County wide and on Boulder County Parks & Open Space (BCPOS) properties.
- *Monitoring*: Monitor existing populations for WPBR, Dwarf Mistletoe, and Mountain Pine Beetle.
- *Coordinate management actions with BCPOS*:
 - Collect cones and have seed grown out to test for WPBR resistance.
 - Report any existing populations.

Disclaimer: This summary is not a complete guide to conservation and/or recovery of the species. For more information please read the full report on our website.

Limber Pine



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Limber pine (*Pinus flexilis*) is a long lived, five-needle white pine widely distributed in western North America.

Photo taken by BCPOS Staff.



Photo of a limber pine taken by BCPOS Staff.

Species Description

Needles: Needles are yellow-green, 1 ½ – 2 ½ in. long and occur in bundles of five.

Cones: Cones are light brown and 3 - 6 in. long.

Trunk: Mature bark is a brownish to silver/grey and covered in ridges. It is considered a small- to medium-sized tree. As the species name suggest, branches tend to be pliable and can withstand high winds and heavy snow loads.

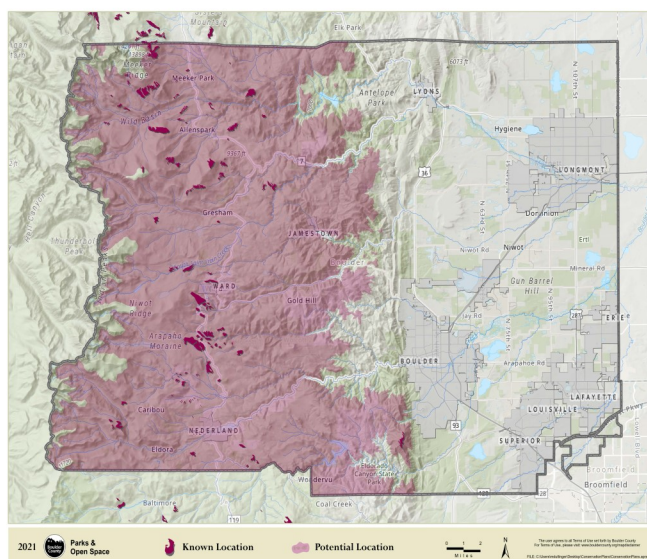
Background

Limber pine belongs to the Pinaceae family.

In Boulder County, limber pine is a very minor forest component below 8000' elev. and is usually restricted to very dry and windy sites. Above 8000' it is more common. While not economically important, limber pine serves many functional roles in the ecosystem including soil stabilization, snow retention, controlled water runoff, and high elevation biodiversity.

Distribution & Range

Occurs across a broad elevation gradient; elevations in Colorado range between 5,200-11,000 ft. Individuals occupying dry, high elevation sites can be extremely long lived, with the oldest trees exceeding 1000 years in age. These inhospitable sites can produce odd growth forms in the tree, from low growing krummholz to gnarled, wind-battered individuals.



Threats

White pine blister rust (WPBR): WPBR is a fatal disease of five-needle white pines caused by *Cronartium ribicola*, a fungus native to Asia. The fungus eventually forms perennial cankers on branches and/or stems. Continued growth of these cankers kills living tree tissue.

Dwarf mistletoe (DM): Limber pine DM (*Arceuthobium cyanocarpum*) is parasitic in nature, using its host to provide food and other nutrients to itself. DM causes stress in trees which can stunt growth, reduce cone production, and cause death.

Mountain Pine Beetle (MPB): Native to the Colorado, MPB populations are ever present at endemic levels but, given the right climatic and forest stand conditions, can reach epidemic levels, resulting in massive tree loss.

Wildfire: Limber pine has thin bark and so it can tolerate only low-severity fires.

Climate Change: With a changing climate, we can expect limber pine populations to shift their distributions in response to these changes. Warming trends could increase the size and frequency of wildfires. The warming climate can also increase the length of the season that insect outbreaks can occur.

Limber pine infected with limber pine dwarf mistletoe.

Photo taken by BCPOS Staff.



Management Considerations

Mapping: Continue locating unmapped populations both County wide and on Boulder County Parks & Open Space (BCPOS) properties.

Monitoring: Monitor existing population for WPBR, DM, and MPB.

Coordinate management actions with BCPOS:

- Report any existing populations.
- Collect cones and have seeds grown out to test for WPBR resistance.



Both photos show limber pine infected with white pine blister rust.

Photo taken by BCPOS Staff.



Disclaimer: This summary is not a complete guide to conservation and/or recovery of the species. For more information please read the full report on our website.



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Long-Legged Myotis

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USFWS/Bekee Hotze

Long-legged myotis (*Myotis volans*)

Background

The long-legged myotis is typically dependent on wooded habitats, usually at elevations below 9,000 feet. They rely on large trees with suitable bark (peeling) for roosting. They forage over ponds, streams, and in forest clearings, often on moths.



J. SCOTT ALTENBACH

Species Description

Description: The largest-bodied myotis species in Boulder County, this bat is brown and relatively nondescript. It is mostly confused with little brown bats (*Myotis lucifugus*) but can be distinguished by its keeled calcar.

Look Alikes: Little Brown Bat (*Myotis lucifugus*.)

Habitat: Forages within forest canopies. Roosts in trees, rock crevices, and buildings. Hibernates in caves/ mines. Only one maternity roost known for Boulder County.



Distribution & Range

Source: Bat Conservation International

Threats

Human Disturbance: It has been noted that this species does not form colonies in occupied human dwellings, suggesting that it is intolerant of human activity around its roosts.

Large-scale forest disturbance: The long-legged myotis is a forest-reliant bat for roosting and foraging, so large-scale changes in forest structure pose a threat.

Oil & Gas Development: Developments pose threats to populations. Studies have shown that the long-legged myotis, *in general*, avoided active well pads.

Mining: This species is known to use abandoned mines. Any abandoned mines in Boulder County should be examined for use by bats and protected, if so.

Wind Energy: Wind turbines have dire consequences for many bats, especially migratory species. This species can be killed from flying into or being struck by the moving propeller blade and by barotrauma caused by low pressure pockets near the turbines.

Climate Change: The long-legged myotis is known for being active in cooler climates. With the warming climate we can expect them to move to higher elevations. They appear to be the most sensitive of the myotis species in Boulder County to high summer temperatures.

Pesticides: Insectivorous bats are highly susceptible to pesticide poisoning due to their high trophic positions in food webs and high metabolic rates.



Photo Credit: Michael Durham

Management Considerations

Secure water sources in Boulder

County: Securing water sources where bats can drink to replenish daily evaporative water losses is critical to reproductive success in most, if not all, Boulder County bats.

Temper forest stand disturbances in high

activity area: The long-legged myotis is a relatively agile species that forages in ponderosa pine as well as douglas fir and lodgepole pine stands. It appears to prefer stand densities that provide relative cover but also foraging pathways that are not too dense.

Survey abandoned mines and cliff-faces

for bat roosts: Any abandoned mines should be monitored for bat species activity in the autumn and summer.

Limit the use of pesticides in areas with

suitable bat habitat: It is highly recommended that pesticides be continuously researched for potential impacts and not be applied in areas where foraging bats and other wildlife species may come into contact.

Disclaimer: This summary is not a complete guide to conservation and/or recovery of the species. For more information please read the full report on our website.

Needle and Thread Complex



Parks & Open Space

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Background

Both vegetation associations, the Needle-and-Thread - Blue Grama Mixedgrass Prairie and the Needle-and-Thread Colorado Front Range Grassland, are native, rare grassland communities found within Boulder County. The significant plant associations in this complex occur on Colorado's Front Range and have been degraded by human activities such as development, heavy livestock grazing, invasive weeds, a perturbed fire regime, and climate change. The Needle-and-Thread Complex is critically imperiled in the State of Colorado.

Distribution & Range

The Needle-and-Thread Complex is found at lower elevations along the eastern slope of the Rocky Mountains and in northeastern Colorado. Much of this community in the Front Range has been eliminated through agriculture and urban sprawl. On Boulder County Parks & Open Space (BCPOS), remnants of this significant, natural community complex can be found in the Northern Foothills properties

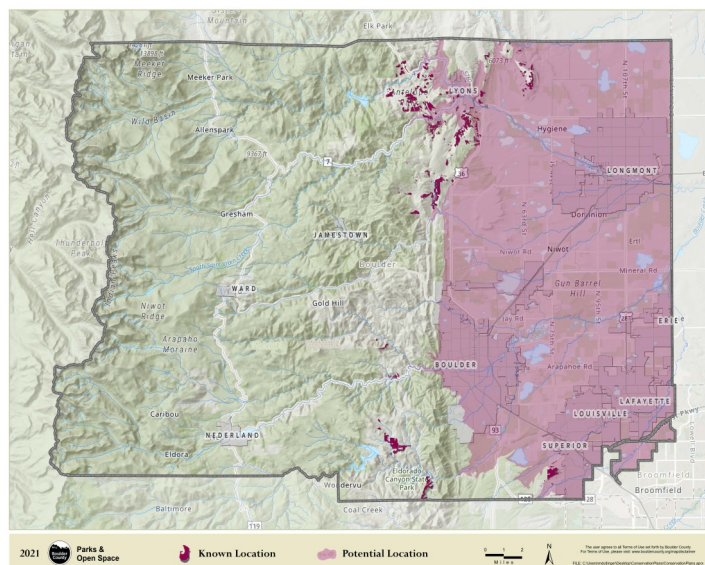


Photo credit: © Dustin Chavez-Davis, some rights reserved (CC-BY-NC)

Community Description

Biotic: Needle-and-thread grass is a dominant or codominant perennial species in this community complex, with blue grama and threadleaf sedge codominant in some associations. Western wheatgrass and thickspike wheatgrass are also present but not dominant. Woody species comprise less than five percent of vegetative cover. Several forbs like globemallow, goldenaster, plains pricklypear, and prairie coneflower can be present.

Abiotic: Common on north- and east-facing slopes, especially rock outcrops and hogback slopes. Occurs on rolling topography with deep sandy loam to loam coarser-textured soils, and soils derived from sandstone or limestone. Annual rainfall averages between 10-20 in.



Threats

- *Invasive species*: Cheatgrass, which outcompetes and replaces native plants in this complex, also contributes to secondary effects such as decreased tolerance to grazing and drought, and alteration of the natural fire regime.
- *Overgrazing*: Although limited grazing is beneficial to this community complex, overgrazing can result in poor root growth and plant mortality if timing coincides with unfavorable environmental conditions, such as drought.
- *Climate Change*: Some dominate plants in these associations suffer from higher annual precipitation, and warming nighttime temperatures favor only some cool-season grasses at the expense of warm-season grasses, altering community composition and dynamics.
- *Wildfire*: Fire is a natural and necessary components of this community complex. However, fire-return intervals have been lengthened due to fire suppression, leading to intense wildfires.



Photo credit: BCPOS employee

Management Considerations

- *Agriculture/Grazing*: This community benefits best from rotational, short-term grazing, ideally in non-summer months. Continuous grazing strategies are not recommended, and no grazing until at least one year after fire.
- *Invasive species management*:
 - If possible, mechanical removal of invasive species is ideal.
 - If mechanical treatment is not feasible, post-emergent applications of herbicide should be considered for these communities, with a re-seeding strategy planned.
 - Cheatgrass infested communities that would be treated with Esplanade, a pre-emergent herbicide, should be surveyed for rare or sensitive plants.
- *Coordinate management actions with BCPOS*:
 - Existing communities on private and public land should be mapped and documented.
 - Restoration efforts, including prescribed fire, herbicide treatment, mechanical removal of invasive species, grazing management should be considered along with re-introduction of native species and responsible re-seeding efforts.
 - *Fire management*: Fall is the best season for controlled burns for the community, coordinate with BCPOS.

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Ute Ladies'-Tresses Orchid



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Ute Ladies'-Tresses Orchid (*Spiranthes diluvialis*) is a rare orchid found throughout the interior west in riparian and wetland habitats.

Photo by USFWS, Endangered Species on flickr, credit Bekee Hotze/USFWS.

Species Description

Description: Ute Ladies'-Tresses Orchid is a long-lived, perennial forb that is 20-50 cm tall, with narrow leaves up to 28 cm long and one cm wide. Its flowers grow in a loose, spiraling spike. They are white in color and stout in appearance, separating from the stem at a 90-degree angle.

Phenology: This plant flowers from late July to August.

Look Alikes: Hooded Lady's Tresses (*Spiranthes romanzoffiana*) are more common with some of the same distribution and characteristics as the Ute Ladies'-Tresses. This look-alike orchid has a much tighter arrangement of flowers, however.

Habitat: Occurs in both riparian and wetland habitats, at elevations between 4,200-7,000 ft., in flat areas with a high water table not dense in vegetation. The orchid can be found in altered wetland and in ditches, berms, and irrigated meadows. The orchid is shade intolerant and is found in clayey, silty and sandy soils.

Background

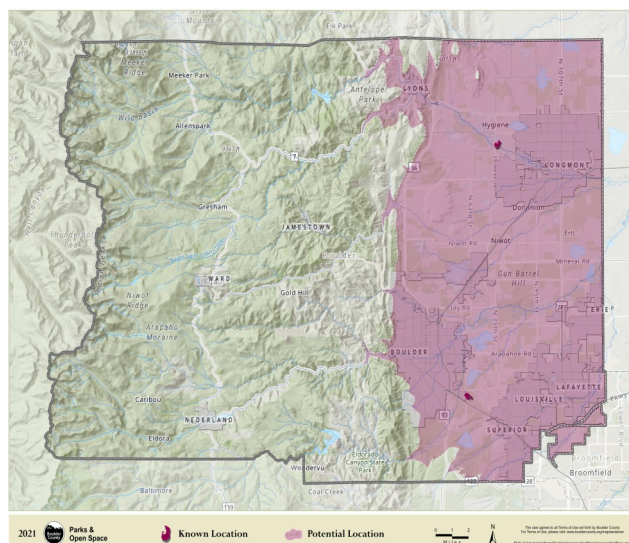
Ute Ladies'-Tresses belongs to the Orchidaceae family. There are several populations of Ute Ladies'-Tresses that occur within Boulder County and on Boulder County managed land.

Distribution & Range

Ute Ladies'-Tresses are found throughout the intermountain west. In Boulder County, it is found within the South Boulder Creek floodplain.



Photo taken from i_Naturalist © afid, some rights reserved (CC-BY-NC)



Threats

Habitat loss & degradation: As more of Boulder County is developed to accommodate our rapidly growing population, habitat for Ute Ladies'-Tresses is degraded or lost. Some impacts include increased recreation activities and public infrastructure development and repair.

Invasive species: Invasive species found in riparian and wetland habitats, such as Canada Thistle (*Cirsium arvense*) and Common Teasel (*Dipsacus fullonum*), have the ability to crowd out native species through aggressive reproductive strategies and a lack of natural predators.

Grazing: Grazing is detrimental if livestock overgraze the site, if grazing occurs while the plant is flowering, and if grazing leads to the site being thoroughly trampled.

Climate change: Climate change poses a complex, multi-pronged threat to Ute Ladies'-Tresses. The impacts can be broadly categorized in two ways: climatic alterations and human response to climatic alterations. On one hand, it is unknown how the species will respond to climate change from a phenological context. On the other, as the climate gets hotter and drier, human demand on water resources will increase and could result in changes to riparian and wetland habitat.



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Ute Ladies'-Tresses (*Spiranthes diluvialis*) habitat.
Photo Credit: BCPOS Staff

Management Considerations

Policy & planning: Try to identify possible habitat and look for Ute Ladies'-Tresses before working on or altering that habitat. Avoid changing hydrologic systems in order to prevent habitat degradation. Identify areas that could be strong candidates for future reintroduction and/or habitat restoration efforts.

Invasive plant management: If chemical control is required, use a chemical that will not impact Ute Ladies'-Tresses. The applicator should follow the manufacturer's label and material safety data sheets. It is important to note that Ute Ladies'-Tresses, and other forbs that support pollinators that the orchid relies on are vulnerable to broadleaf herbicides.

Agriculture: Agricultural activities, such as grazing, mowing, or haying, should occur before the start of the flowering period in July or after the plant has gone to seed in October. If agricultural operations inside this seasonal window cannot be avoided, then the area should be kept to a maximum of one operational disturbance per year. The area should also be allowed at least one year of inactivity every five years, which will allow for seed development and dispersal.

Disclaimer: This summary is not a complete guide to conservation and/or recovery of the species. For more information please read the full report on our website.



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www.BoulderCountyOpenSpace.org

5.a

PARKS & OPEN SPACE ADVISORY COMMITTEE MEETING

Time/Date of Meeting: 6:30 p.m., Thursday, Feb. 25, 2021

Location: Virtual Meeting

| | |
|--------------------------|---|
| TO: | Parks & Open Space Advisory Committee |
| FROM/PRESENTER: | Mac Kobza |
| AGENDA ITEM: | The Northern Redbelly Dace Recovery Project |
| ACTION REQUESTED: | Information Only |

The northern redbelly dace is a native fish which is listed as endangered in Colorado. It is also a CPW species of greatest conservation need, and a Boulder County Species of Special Concern. A once wide-ranging front range species, it now occurs naturally in only one drainage called Plum Creek. A coalition of partners being led by BCPOS has launched an unprecedented effort to recover this species back into the St. Vrain and Lefthand Creek watersheds. We have partnered with the CPW Native Aquatic Species Restoration Facility in Alamosa which holds some of the last threatened fish species in the state.

Students and teachers from the St. Vrain Valley School District and staff from Ocean First Institute, along with CPW and BCPOS biologists, are leading the charge to breed these fish in classrooms and release the young into local ponds, including Webster Pond at Pella Crossing. The first goal is to stock ponds containing these fish and secure the future of the species in Colorado. The second goal is to take fish from these ponds and release them back into the watersheds from which they have been lost. This project is perhaps the first of its kind to raise an endangered Colorado fish in the classroom, train high school students in applied conservation biology, and serve to recover a county Species of Special concern back into habitat supported by county open space.

Mac will present some examples of the successes we have had during the first year of the project.

Attachment: Dace Memo 02-25-2021 (4693 : The Northern Redbelly Dace Recovery Project)



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6.a

PARKS & OPEN SPACE ADVISORY COMMITTEE MEETING

Time/Date of Meeting: 6:30 p.m., Thursday, Feb. 25, 2021

Location: Virtual Meeting

| | |
|--------------------------|---------------------------------------|
| TO: | Parks & Open Space Advisory Committee |
| FROM/PRESENTER: | David Hirt and Stefan Reinhold |
| AGENDA ITEM: | Calwood Fire and Recovery Measures |
| ACTION REQUESTED: | Information Only |

The Calwood Fire burned 10,112 acres, becoming the largest fire in recent Boulder County history. Twenty homes were destroyed, and three additional damaged. Nearly 45% of the burned acreage was on the Heil Valley Ranch Open Space complex, and an additional 2,100 acres were on private lands, 1,400 acres of which were under BCPOS conservation easements.

Stefan will present preliminary information on how past forest mitigation projects on Heil Valley Ranch affected fire behavior during the Calwood Fire.

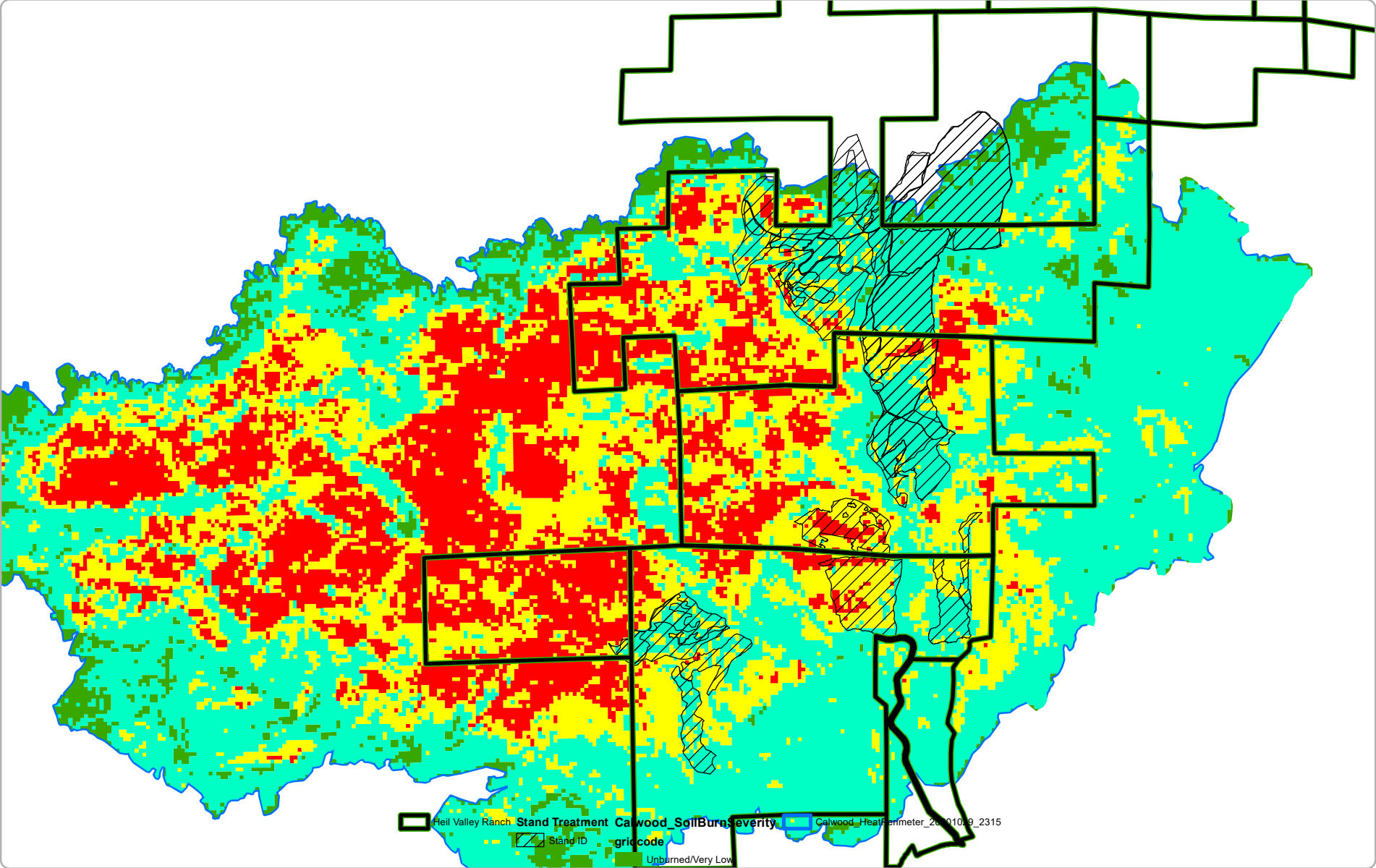
David will present information regarding post fire hazards and risks, what BCPOS is doing to address those concerns, and an update on funding from the Natural Resources Conservation Service (NRCS) Emergency Watershed Protection (EWP) program.

Attachment: Calwood Fire Memo packet (4694 : Calwood Fire and Recovery Measures)

Heil Valley Ranch: Forestry Treatments



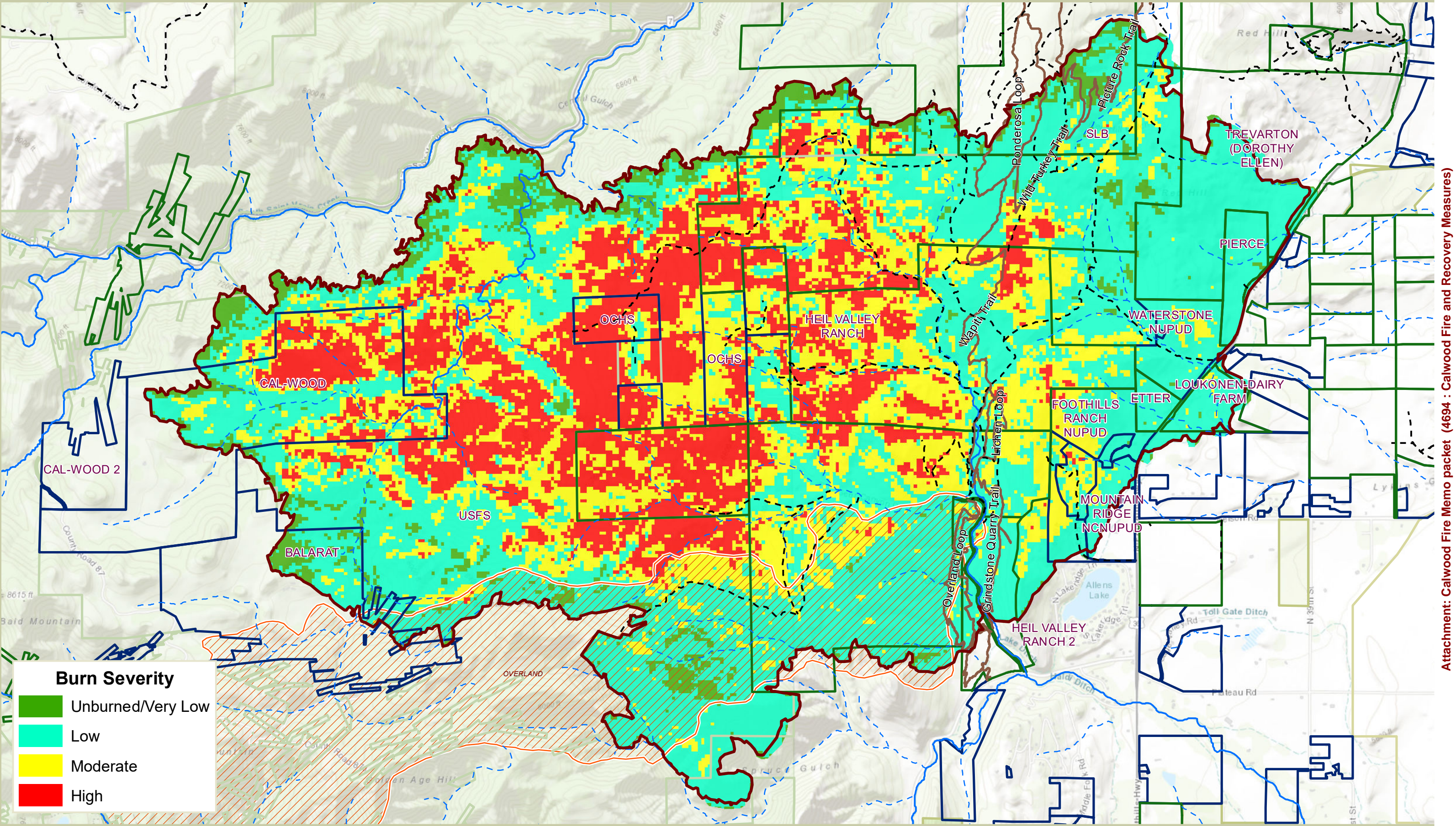
**Parks &
Open Space**



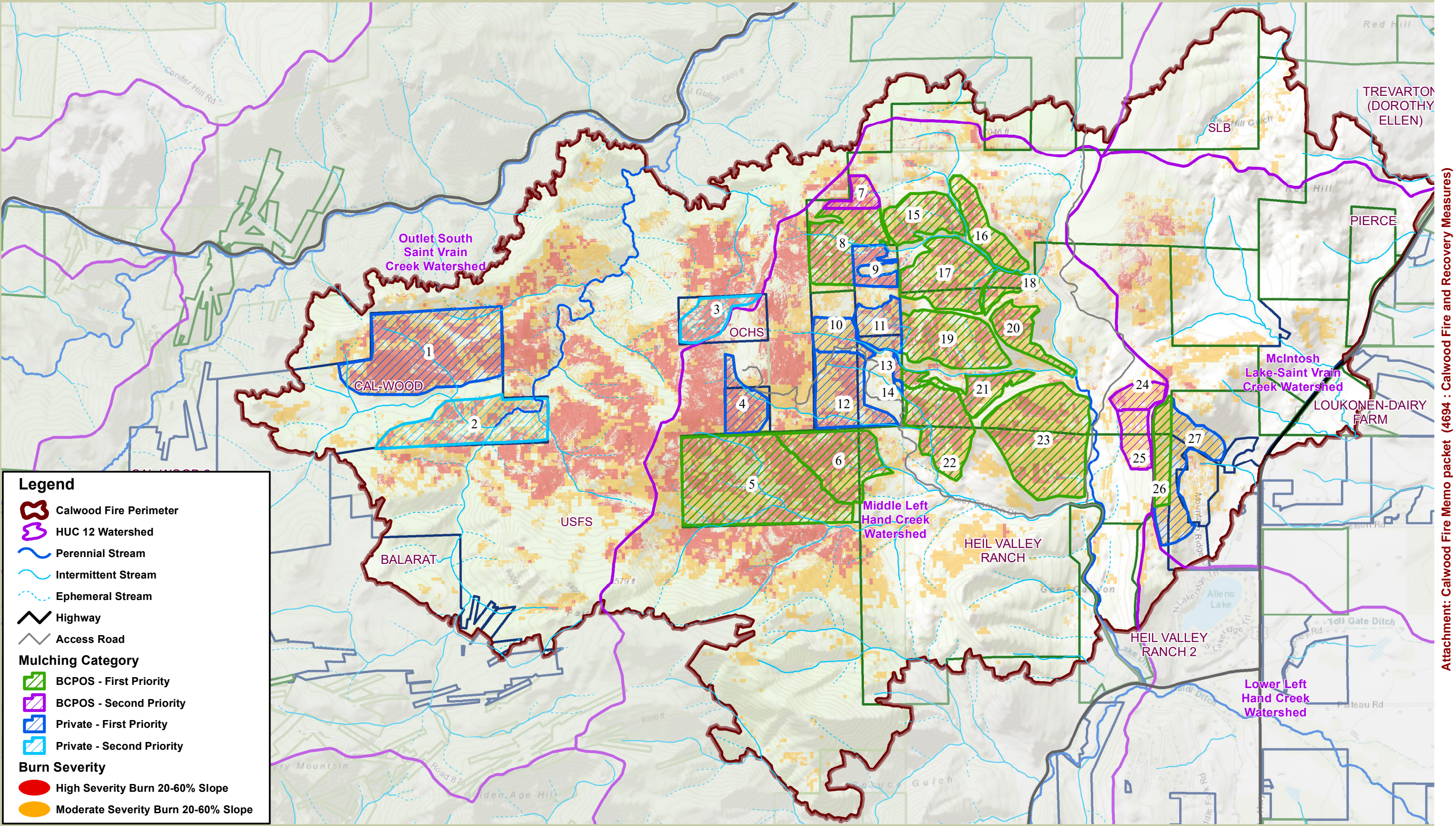
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Attachment: Calwood Fire Memo packet (4694 : Calwood Fire and Recovery Measures)

Calwood Fire Rehab: Soil Burn Severity



Calwood Fire Rehab: Potential Mulching Areas and Fire Severity on 20-60% Slopes



| Mulching Area (Number) | Acres | Ownership & Priority | Watershed or Sub Watershed |
|-------------------------------|--------------|---|-----------------------------------|
| 1 | 218.7 | Private – 1 st Priority | South Saint Vrain Creek |
| 2 | 122.3 | Private – 2 nd Priority | South Saint Vrain Creek |
| 3 | 37.7 | Private – 2 nd Priority | South Saint Vrain Creek |
| 4 | 42.1 | Private – 1 st Priority | North Upper Geer Canyon |
| 5 | 238.5 | Boulder County – 1 st Priority | South Upper Geer Canyon |
| 6 | 95.1 | Boulder County – 1 st Priority | North Upper Geer Canyon |
| 7 | 18.7 | Boulder County – 2 nd Priority | Marietta Canyon |
| 8 | 83.4 | Boulder County – 1 st Priority | Marietta Canyon |
| 9 | 23.8 | Private – 1 st Priority | Marietta Canyon |
| 10 | 31.9 | Private – 1 st Priority | Plumley Canyon |
| 11 | 38.8 | Private – 1 st Priority | Plumley Canyon |
| 12 | 81.5 | Private – 1 st Priority | North Upper Geer Canyon |
| 13 | 3.5 | Private – 1 st Priority | Plumley Canyon |
| 14 | 1.4 | Private – 1 st Priority | Plumley Canyon |
| 15 | 57.2 | Boulder County – 1 st Priority | Marietta Canyon |
| 16 | 49.9 | Boulder County – 1 st Priority | Marietta Canyon |
| 17 | 99.3 | Boulder County – 1 st Priority | Marietta Canyon |
| 18 | 22.4 | Boulder County – 1 st Priority | Marietta Canyon |
| 19 | 95.9 | Boulder County – 1 st Priority | Plumley Canyon |
| 20 | 39.4 | Boulder County – 1 st Priority | Marietta Canyon |
| 21 | 40.6 | Boulder County – 1 st Priority | Plumley Canyon |
| 22 | 87.5 | Boulder County – 1 st Priority | North Upper Geer Canyon |
| 23 | 179.2 | Boulder County – 1 st Priority | Marietta Canyon |
| 24 | 23.6 | Boulder County – 2 nd Priority | Marietta Canyon |
| 25 | 32.1 | Boulder County – 2 nd Priority | Marietta Canyon |
| 26 | 33.0 | Boulder County – 1 st Priority | Saint Vrain Creek |
| 27 | 69.3 | Private – 1 st Priority | Saint Vrain Creek |