



**Open Space & Recreation Advisory Committee Meeting Agenda  
Tuesday, May 5, 2026, at 9:00 AM  
Council Chambers - Eagle Town Hall  
200 Broadway Eagle, CO 81631**

*This agenda, meetings, and information about the Committee can be viewed at [www.Townofeagle.org](http://www.Townofeagle.org).*

**OSRAC MEETING ACCESS INFORMATION**

This will be an in-person meeting with access via Microsoft Teams. First-time users of Microsoft Teams will need to download the free app before joining the meeting.

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**9:00 a.m. CALL TO ORDER AND ROLL CALL**

**9:05 a.m. PUBLIC COMMENT** (Non-Agenda Items; 3-Minute Limit Please)

**9:10 a.m. ADOPTION OF THE AGENDA**

**9:13 a.m. APPROVAL OF THE APRIL MINUTES**

**9:15 a.m. DISCUSSION / BUSINESS ITEMS**

9:15 a.m. (15 min) Manager Update

9:25 a.m. (60 min) Phase 2 Trail Proposal

**10:25 a.m. FUTURE BUSINESS ITEMS**

**10:30 a.m. ADJOURN**



**Open Space & Recreation Advisory Committee Meeting Agenda  
Unapproved Meeting Minutes  
Tuesday, April 7, 2026, at 9:00 AM  
Council Chambers - Eagle Town Hall  
200 Broadway Eagle, CO 81631**

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**OSRAC MEETING ACCESS INFORMATION**

This will be an in-person meeting with access via Microsoft Teams. First-time users of Microsoft Teams will need to download the free app before joining the meeting.

**9:00 a.m. CALL TO ORDER AND ROLL CALL**

- Members present: Ernest Sager, Roger Mitchell, Phillip Kirkman, Dan Lambert, Chris Cohen (online), Chris Kehoe (online), Ryan Gilmer (online).
- Members absent: Jessica Foulis
- Town Council Representative: Jamie Woodworth Foral
- Staff Present: Alex Smiley, Open Space and Trails Manager

**9:05 a.m. PUBLIC COMMENT (Non-Agenda Items; 3-Minute Limit Please)**

- Concerns about electric powered vehicles on TOE open space during closures.
- Comments about TOE Council meeting 3/24/26 and e-bike support letter

**9:10 a.m. ADOPTION OF THE AGENDA**

- Motion: Phil Kirkman
- Second: Dan Lambert
- Vote: Passed unanimously

**9:13 a.m. APPROVAL OF THE MARCH MINUTES**

- Motion: Dan Lambert
- Second: Roger Mitchell
- Vote: Passed unanimously

**9:15 a.m. DISCUSSION / BUSINESS ITEMS**

9:15 a.m. (15 min) Manager Update

- Restoration work
- Dog park fence
- Volunteer opportunities
- Draft seasonal closure signage

9:25 a.m. (60 min) Trail Proposal – School House Rock to Kill Bill Connector

- Staff presented background, environmental review findings, and relationship to adopted plans.
- Committee discussed potential benefits related to trail connectivity and management of unauthorized use.
- Concerns were raised regarding wildlife impacts, seasonal use, proximity to neighborhoods, and enforcement capacity.
- Available recreation use data tools were reviewed, with limitations noted.
- Committee agreed additional information was needed prior to making a recommendation.
- Site visit and coordination with CPW identified as next steps.

**10:25 a.m. FUTURE BUSINESS ITEMS**

- Continued trail proposal discussion
- Arroyo Trailhead crack sealing and Rec Path maintenance

**10:30 a.m. ADJOURN**

- Motion: Ernest Seager
- Second: Dan Lambert
- Vote: Passed unanimously



**To:** Open Space and Recreation Advisory Committee

**From:** Alex Smiley, Open Space and Trails Manager

**Date:** May 1, 2026

**Agenda Item:** Hardscrabble Trails Coalition Phase 2 Trail Proposal – System Review

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### **Request**

Staff requests that the Open Space and Recreation Advisory Committee (OSRAC) review the Hardscrabble Trails Coalition (HTC) Phase 2 Trail Proposal and provide high-level, system-oriented feedback to:

1. Inform the Town of Eagle's response to the Bureau of Land Management (BLM) National Environmental Policy Act (NEPA) scoping process; and
2. Provide general policy direction on prioritization of Town funding for potential trail construction associated with the proposal.

OSRAC is not being asked to approve or deny trail alignments.

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### **Background**

The 2022 Open Space and Trails Master Plan identifies conceptual trail connections intended to improve connectivity, expand recreation opportunities, and balance recreation with environmental and wildlife considerations.

HTC is advancing a proposed system of approximately 11 miles of new trail construction and reroutes across Town of Eagle open space and adjacent BLM-managed lands. The majority of the proposed trail mileage is located on BLM land and will be evaluated through the BLM NEPA Environmental Assessment process. Trail segments located on Town-owned open space will require separate Town review and approval.

The applicable BLM Resource Management Plan (RMP) designates this area as a Special Recreation Management Area (SRMA) and includes planning-level guidance supporting trail connectivity and loop development. The RMP references an estimated range of 12–15 miles of new trail development within the area; however, all proposed trails must undergo site-specific environmental review prior to approval and construction.

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## **Analysis**

The Phase 2 proposal represents a system-level expansion of the existing trail network. At this stage, staff believes the proposal is best evaluated based on overall tradeoffs among recreation access, habitat protection, and long-term management rather than individual trail alignments.

Baseline environmental studies, including botanical and cultural surveys, have already been completed to support the BLM NEPA process. These studies identify sensitive resources and inform potential mitigation measures and alignment refinement. The analysis below summarizes key considerations relevant to OSRAC's advisory role.

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## **Purpose and Need**

The proposal is intended to:

- Improve trail connectivity and loop opportunities
- Formalize areas currently experiencing unmanaged or informal recreational use
- Reroute failing trails away from watersheds to reduce sedimentation.

At the same time, the proposal introduces new trail mileage into some areas that currently function with lower levels of recreation infrastructure and disturbance.

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## **Wildlife and Habitat Considerations**

The Hardscrabble and East Eagle areas provide important habitat for mule deer and elk, including designated winter range.

Information from Colorado Parks and Wildlife (CPW) indicates that recreation-related impacts are cumulative and may influence habitat use, energy expenditure, and reproductive success. The proposed system would increase overall trail density and expand recreation into areas that currently experience lower levels of disturbance. While some segments may consolidate existing use, others would introduce new recreational activity into less-developed portions of the landscape.

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## **Environmental Considerations**

Botanical surveys identified:

- One Special Status Plant Species (*Harrington penstemon*)
- Sensitive plant communities and soil types, including gypsum soils and riparian areas
- Generally intact native plant communities with limited weed presence

Preliminary analysis indicates that impacts may be minimized through alignment adjustments, field-fitting, and implementation of best management practices. Additional site-specific evaluation and mitigation will be addressed through the BLM NEPA process.

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### **Trail Density and Spatial Impacts**

Staff analysis of trail density indicates that the proposal would:

- Increase overall trail density
- Expand recreation into areas that currently function as lower-density habitat
- Concentrate changes within specific portions of the landscape

Research and agency guidance suggest that increased trail density may expand the effective area of disturbance due to overlapping zones of influence, particularly within wildlife habitat.

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### **System-Level Tradeoffs**

The proposal presents a clear and intentional tradeoff between:

#### Recreation Benefits

- Improved connectivity and access
- Expanded loop opportunities
- Increased trail diversity

#### Constraints and Considerations

- Increased trail density and disturbance footprint
- Habitat impacts and fragmentation
- Long-term maintenance, monitoring, and enforcement needs

The BLM NEPA process will further evaluate these tradeoffs at a landscape scale and identify appropriate mitigation measures.

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### **Funding and Staff Impact**

The Town has allocated \$160,256 to support potential trail construction associated with the Hardscrabble trail system.

As discussed in prior staff analysis related to the School House Rock / Kill Bill (SH/KB) Connector, the Town's initial funding strategy has prioritized near-town trail segments, with a focus on:

- High-use areas

- Improved access and connectivity
- Addressing existing impacts such as social trails

Under this approach:

- The SH/KB Connector would remain a primary funding priority, pending approval
- Subsequent funding would focus on additional near-town segments, particularly within East Eagle

At this time:

- Final trail alignments and approvals remain subject to the BLM NEPA process
- Construction sequencing has not yet been finalized

This raises key policy questions for OSRAC's consideration, including:

- Whether to continue prioritizing near-town and high-use trail segments
- Whether to expand funding to support more remote trail development, restoration, or reroutes

Additional trail development may also increase long-term staff responsibilities related to maintenance, seasonal closures, public education, and monitoring.

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### **Strategic Plan Alignment**

The proposal is generally consistent with the 2022 Open Space and Trails Master Plan's goals related to improving connectivity and expanding trail opportunities.

At the same time, both the Master Plan and the Park Management Plans emphasize protecting wildlife habitat, minimizing fragmentation, and balancing recreation with conservation. OSRAC's feedback will help inform how these objectives are weighed at a system level.

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### **Recommended Action**

Staff recommends that OSRAC provide high-level feedback on:

- Key considerations to inform the Town's response to the BLM NEPA scoping process
- General priorities for potential Town funding of trail construction
- Any major system-level concerns related to recreation demand, trail density, and habitat impacts

Staff further recommends a site visit to proposed trail areas prior to OSRAC making a formal recommendation.

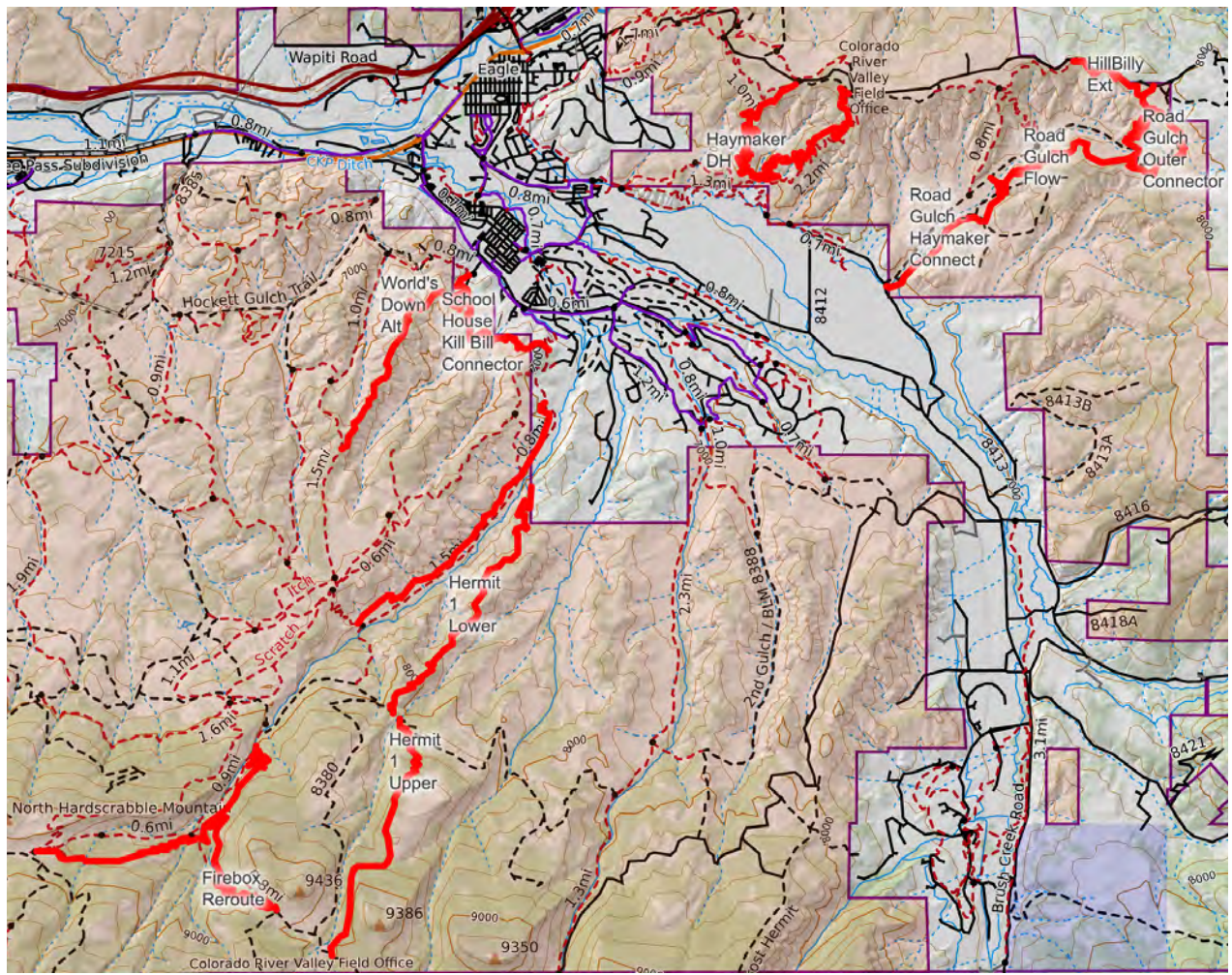
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## **Attachments**

1. Hardscrabble Trails Coalition Phase 2 Proposal
2. HTC Presentation Materials
3. Colorado Parks and Wildlife Presentation
4. Botanical Survey Report
5. Cultural Survey Report

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## HARDSCRABBLE TRAILS COALITION



Studied Trail Alignments

Hardscrabble SRMA Trail Proposal

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## EXECUTIVE SUMMARY

### Objective

Hardscrabble Trails Coalition, in partnership with Vail Valley Mountain Trails Alliance, is proposing 11 miles of new singletrack trails and reroutes in Town of Eagle open space and adjacent lands managed by the Bureau of Land Management (BLM). The plan is based on trail concepts approved in the Town of Eagle Open Space and Trails Master Plan. The public engagement process for the Town of Eagle's Open Space and Trails Master Plan was extensive, inclusive, and guided by a desire to balance recreation and conservation. It included a roundtable meeting with key stakeholders (such as CPW, BLM, Eagle Valley Land Trust, Eagle County, VVMTA, HTC and others), a community visioning open house attended by 50–60 people, and an online survey with 234 responses. Input was also gathered through focus groups on open space and trails, targeted outreach with community organizations, and multiple public meetings during draft review.

These efforts highlighted the community's strong values around trail connectivity, open space preservation, maintaining existing infrastructure and wildlife conservation. The public supported new trails focused on improving the trail system opportunities and connections, while expressing concerns about impacts to wildlife and a desire for responsible recreation planning. In finalizing the concepts, additional input from the Town of Eagle, CPW, BLM and user groups (trail runners, hikers, bicyclists, motorized, equestrian users) was solicited and incorporated into the plan.

### Goals

- A sustainable trail system to meet the needs of the community for the next 20+ years. Balance recreation, wildlife and environment by placing trail concepts in areas with existing impact.
  - Ecological improvements to the Hernage Creek and Abrams Creek watersheds.
  - Maintain open blocks of land to minimize fragmented wildlife habitat.
  - Maximize new trail experiences with limited new mileage.
  - Improve existing trails to provide better access.
  - Provide different types of trail experiences for all users and abilities.
  - Limit trail expansion in the southern portion of the East Eagle SRMA to preserve wildlife migration corridors.
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## Proposed Trails

### East Eagle

- **Pool/Ice Alternate Downhill** - Proposed with the downhill experience in mind. Intermediate to advanced to allow progression from Pool & Ice. Natural and built features used to create a new, challenging experience.
- **Haymaker to Boneyard** Proposed with the uphill experience in mind. Provides direct beginner to intermediate access from Haymeadow and the surrounding area to support growth. Alleviates pressure from Boneyard Trail.
- **Hillbilly Extension** Adds longer loop options while keeping trail within the existing impact of Road Gulch. Intermediate/Advanced, technical rocky experience.
- **Road Gulch Tech** Proposed for a technical blue/black singletrack with options for alternate black/double black lines. This alignment is intended to make use of the natural character of the terrain.
- **Road Gulch Outer Loop** Proposed with multi-directional use and focusing on views and backcountry experience. Will also provide looping options with Road Gulch Tech, Belly Up, Will's Thrill and all the trail in East Eagle.
- **Road Gulch Flow** Proposed to improve the user experience from existing double track. A blue flow/jump trail with small-medium tabletops, berms, and opportunities for progression.

### West Eagle

- **School House/Kill Bill Connector** Multi-use, multi directional trail built to provide connections to downtown and parking, close hiking/dog walking loop, consolidate social use and increase looping options with existing trails
  - **Abrams Gulch Reroute** By re-routing Abrams Gulch we can improve and provide desired, easier area access without a new trail, improve the trail experience all while reduce grazing and watershed impacts.
  - **Hermit Trail** Epic backcountry, technical trail offering a technically challenging downhill experience containing natural landing jumps/drops and steep/technical rocky sections for the upper section of the trail. The lower section will offer scenic, natural feeling singletrack.
  - **World's Greatest Alternative** Proposed as a blue flow trail that traverses a ridge line. Serves as an alternative to World's Greatest and provides a new descending experience.
  - **Deadcow & Firebox Reroutes** Re-routes provide motorized & non-motorized access supported by RMSR, watershed improvements, significantly better access to Mike's Night Out and Hermit Trail with limited new impact.
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## BUDGET

The Hardscrabble SRMA Trail Improvement Project will improve soft surface trail experiences in and around Eagle for generations to come. The new trail construction budget estimate is between \$1.2-1.8 million dollars depending on trail building timing and the balance between professional builders and volunteer efforts.

## PRIORITIZATION

The highest priority for construction has been given to trails that are close to town, will receive the most use and that will help take pressure off of existing trails that already see heavy use.

Feasibility of this timeline will be dependent on fundraising efforts, builder availability and the timing of approval from BLM

### **Phase 1**

Haymaker Uphill  
Hillbilly Extension  
Road Gulch Tech  
Road Gulch Outer Flow to Haymaker  
School House/Kill Bill Connector  
World's Greatest Alt

### **Phase 2**

Hermit 1  
Dead Cow Reroute  
Firebox Reroute

### **Phase 3**

Haymaker DH  
Abrams Gulch Reroute

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# HTC/VVMTA BLM Trail Proposal

- HTC/VVMTA are planning to propose to BLM approximately 11 miles of new multi-use singletrack trails in the Special Recreation Management Zones (SRMA's) surrounding Eagle
- BLM will review this proposal via an Environmental Assessment
  - All trail proposed will be subject to the BLM's process requiring NEPA studies, public input and thorough environmental reviews
- Trails adjoining Town of Eagle land will also be subject to NEPA
  - Kill Bill/School House Connector
  - Reroute of Lower Abrams Gulch



# How Did We Get Here?

- 2015 BLM finalized their Resource Management Plan
  - Designated BLM land surrounding Eagle as SRMA's
    - RMZ 1 & 2 management plan allow for construction of (estimated 12-15 miles) new single-track mountain bike trails to create loop trails, link existing trails, reduce the amount biking on roads and create trail connections to new access points. Construction of new trails would not be emphasized until the majority of trail reroutes have been completed.
    - West Eagle also has an SRMA managed for motorized use




# EA 1

- Emphasis on trail reroutes, decommissioning unauthorized trails and making navigation easier
  - Projects and accomplishments included
    - The Good Bit (beginning of Boneyard) to get people off the road and improve the trail experience
    - Created 2 Trail Hubs in West Eagle to improve route finding and improve connectivity
    - Dirt Surfer 2.0 - reroute to make trail more sustainable, eliminate motorized use and improve experience
    - Rerouting the top of Abrams Gulch and Mikes Night Out
    - Decommissioning 15.63 miles of unauthorized trails and rehabilitating 3.85 miles of social trails



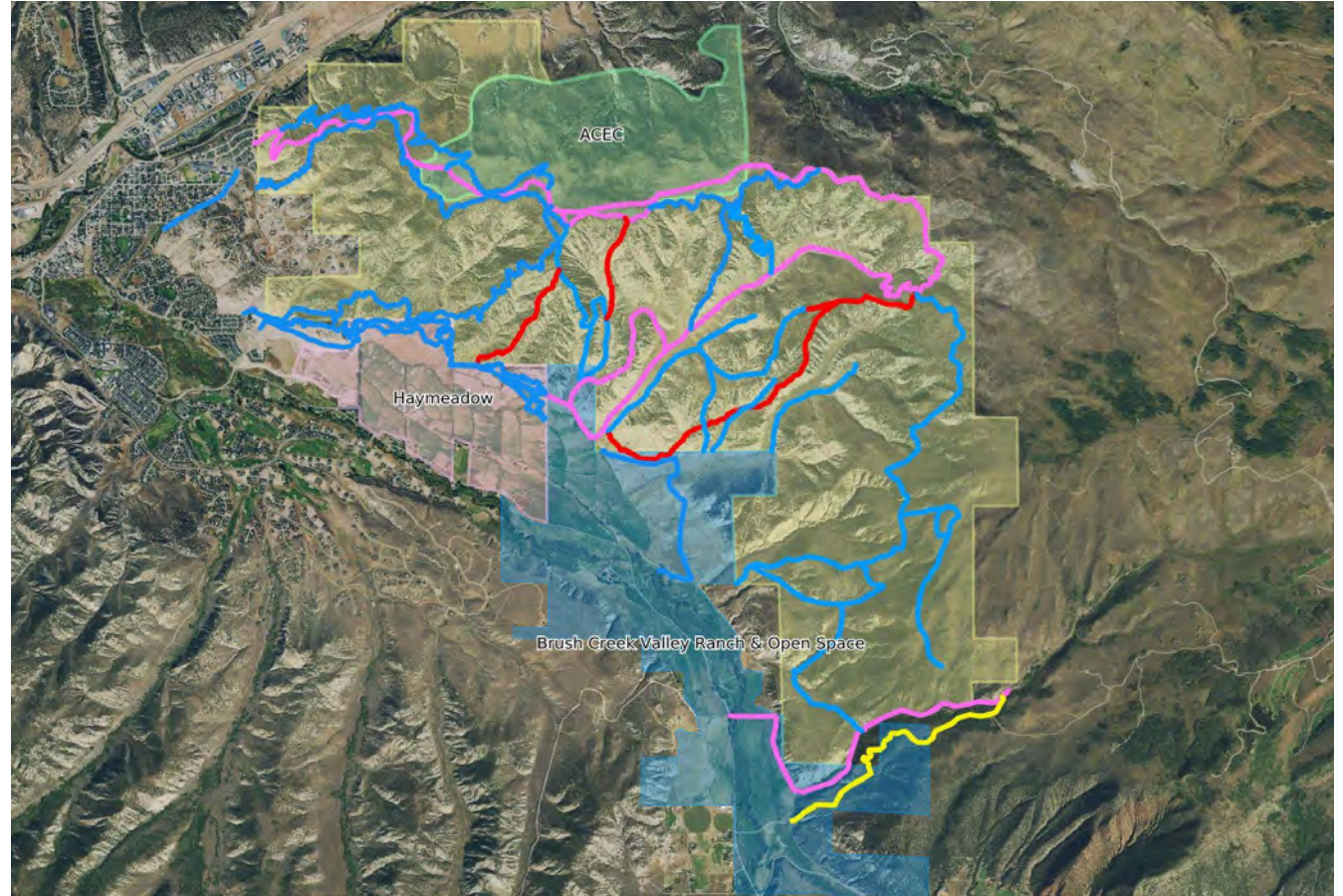
## EA2 - Goals

- As stated in the BLM SRMA-RMZ management plan the goal is to create loop trails, link existing trails, reduce the amount biking on roads and create trail connections to new access points
- To utilize the goals and priorities defined in the Town of Eagle Master Plan to guide trail building based on community input and create diverse high quality trail experiences
- Address future needs of trail users for population growth and different user experiences



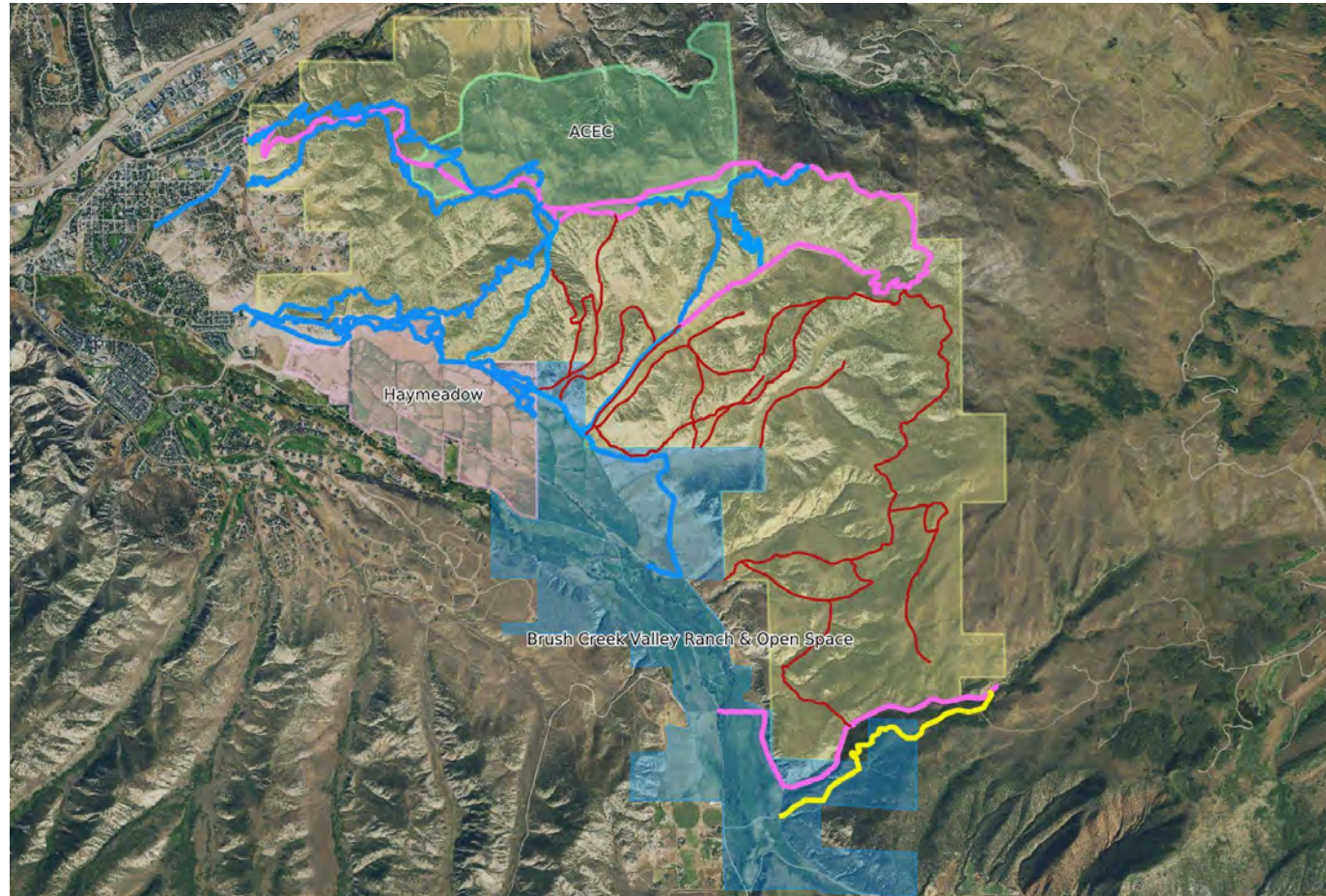
# Map - Pre EA 1 East Eagle

Blue - Legal  
Mechanized  
Pink - Road  
Red - Social/Illegal  
Yellow - Hiking only



Map -  
EA 1  
Improvements  
East Eagle

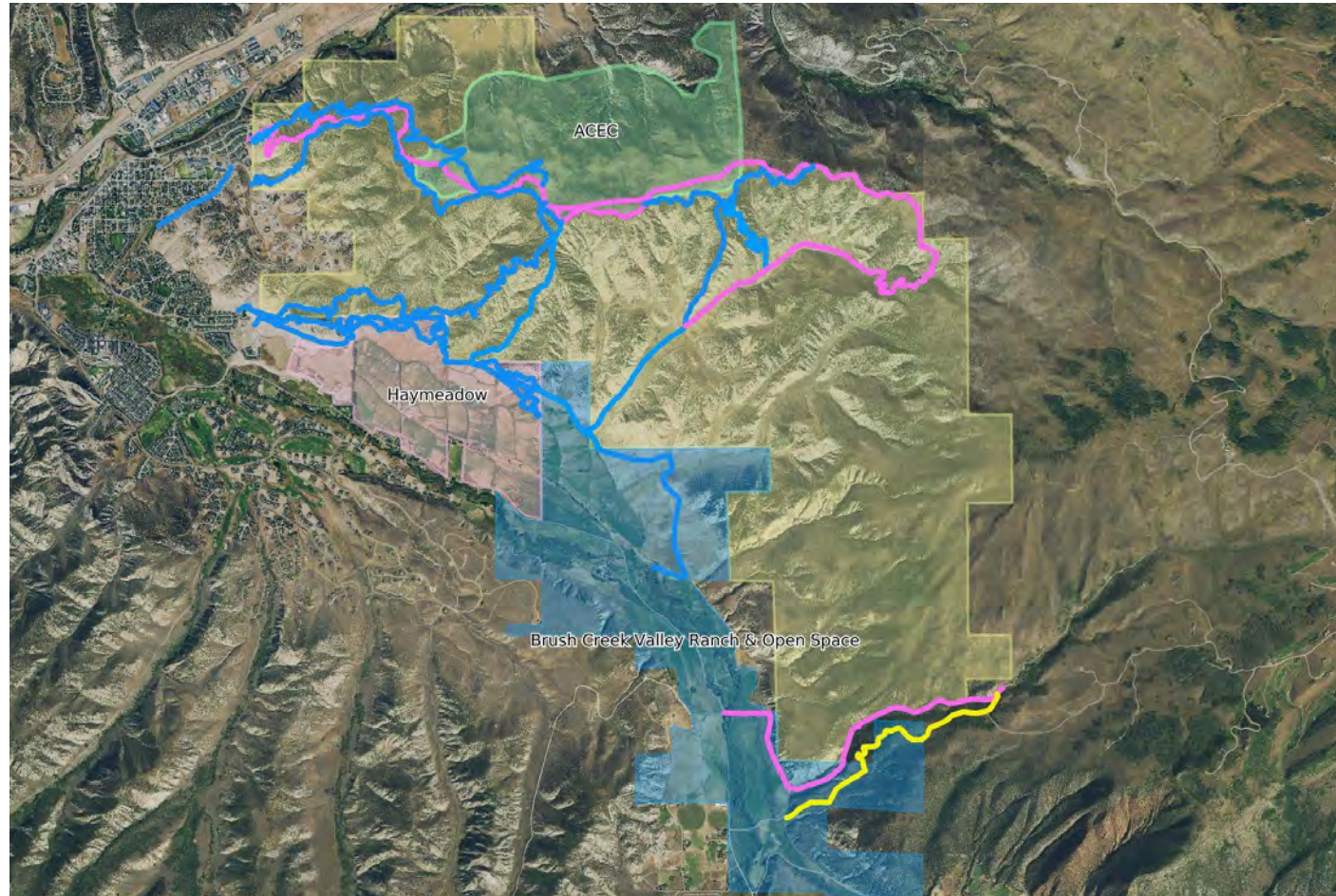
Blue - Legal  
Mechanized  
Pink - Road  
Red - Decommissioned  
Yellow - Hiking only





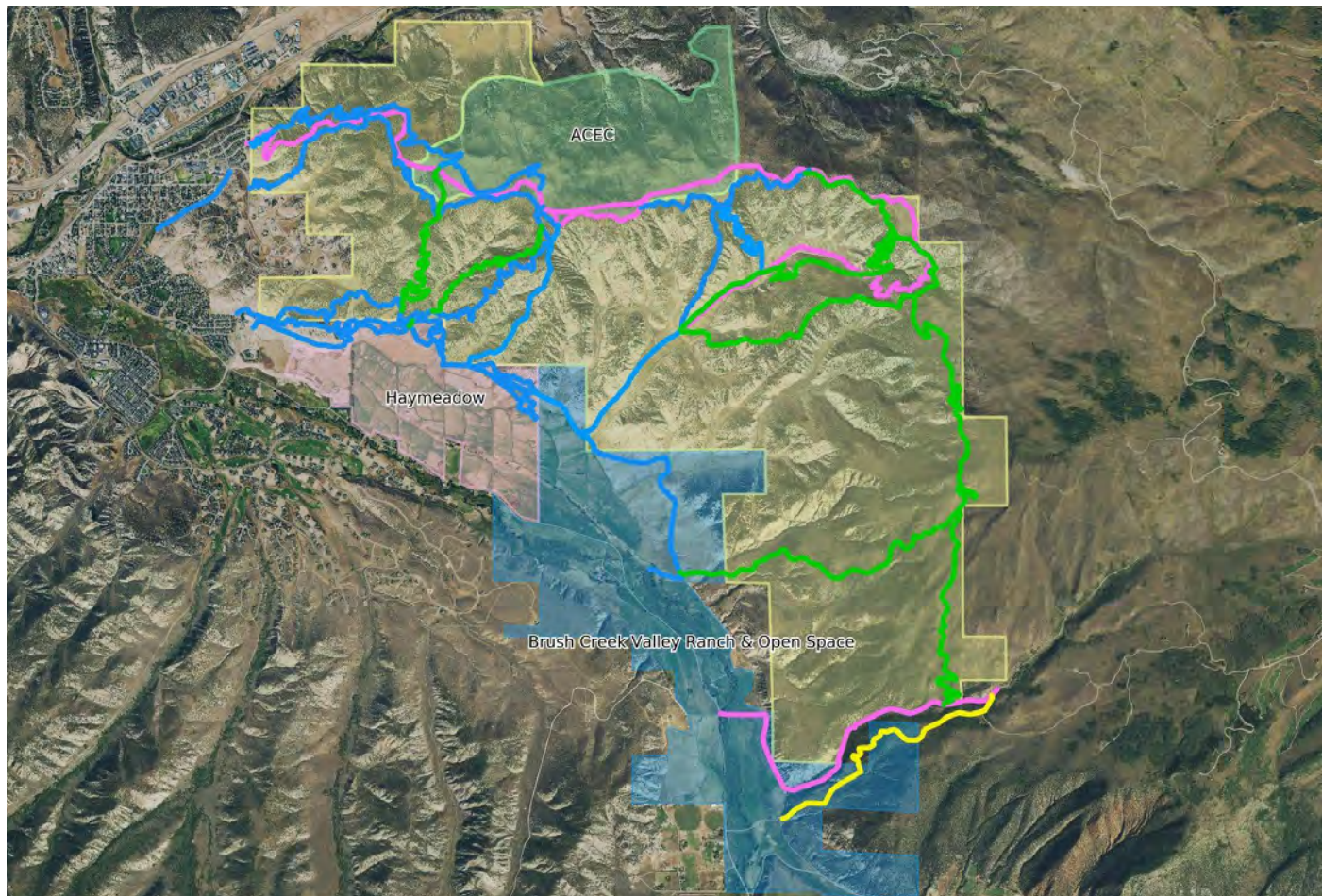
## Current Conditions East Eagle

Blue - Legal  
Mechanized  
Pink - Road  
Yellow - Hiking only



EA 2 -  
Concepts  
East Eagle

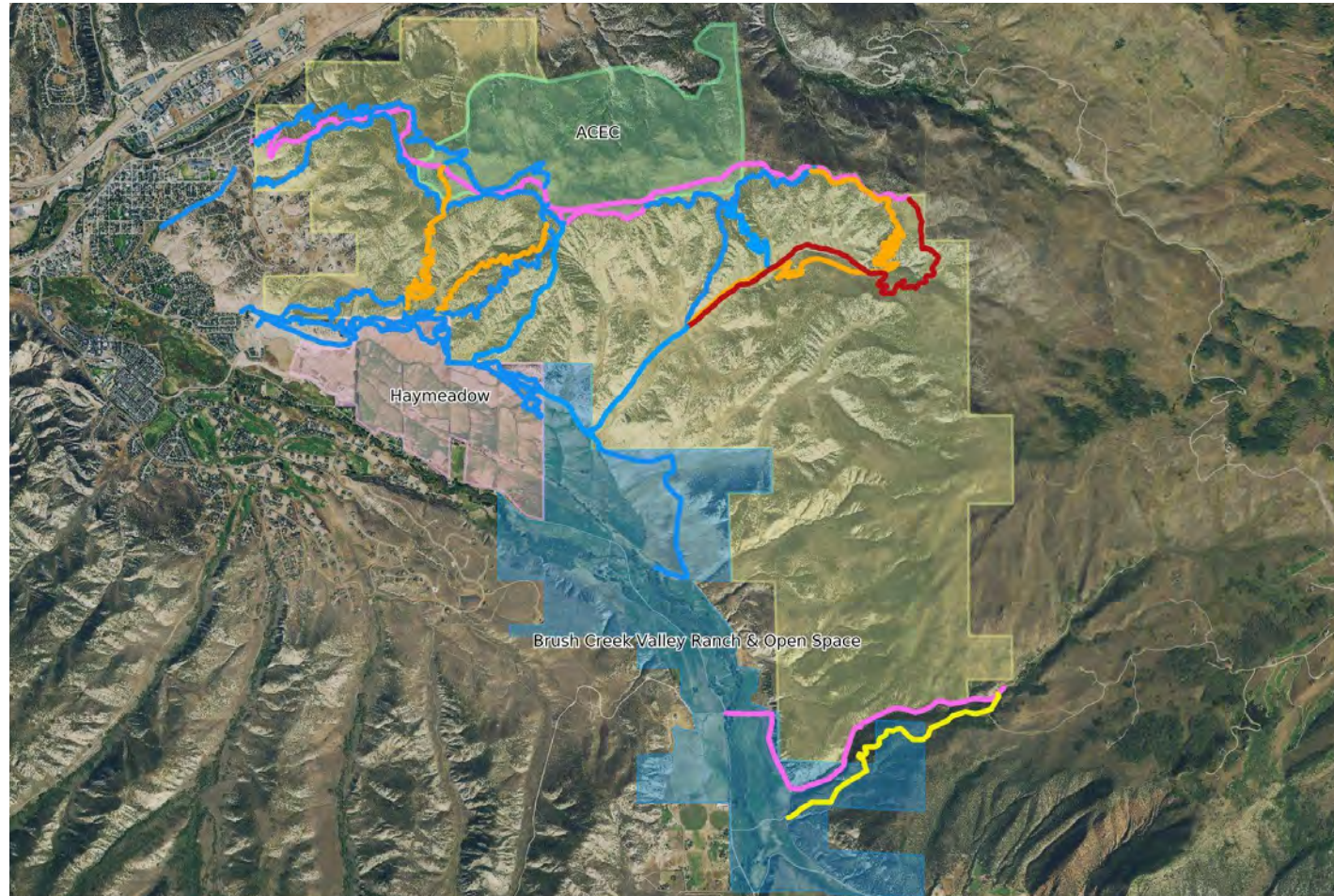
Blue - Legal  
Mechanized  
Pink - Road  
Green - Concepts  
Yellow - Hiking only





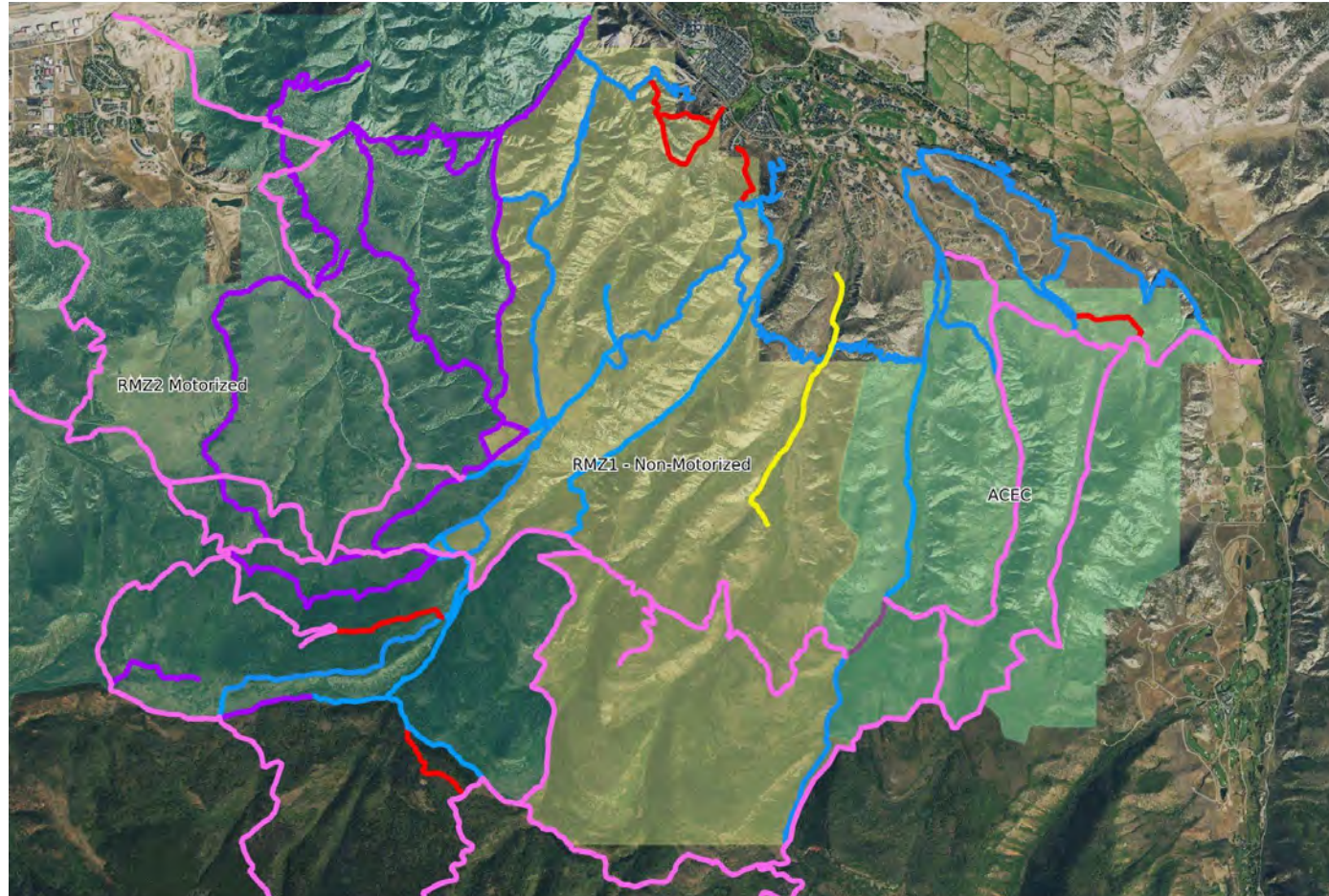
# EA 2 - Alignments to Propose East Eagle

- Blue - Legal  
Mechanized
- Pink - Road
- Orange - EA2 Propose
- Yellow - Hiking only



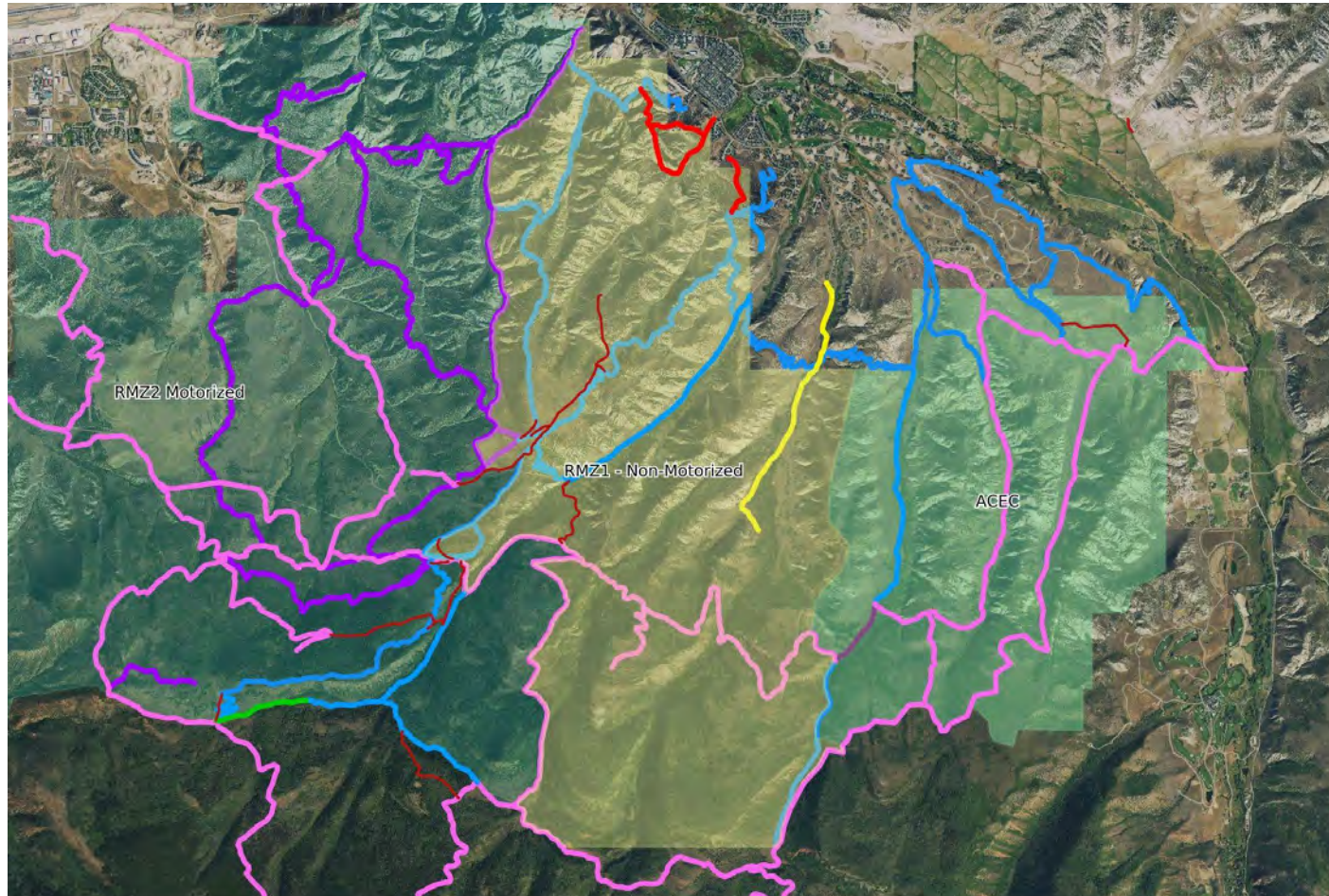
Map -  
Pre EA 1  
West Eagle


Blue - Legal  
Mechanized  
Pink - Road  
Red - Decommissioned  
Yellow - Hiking only



Map -  
EA 1  
Improvements  
West Eagle

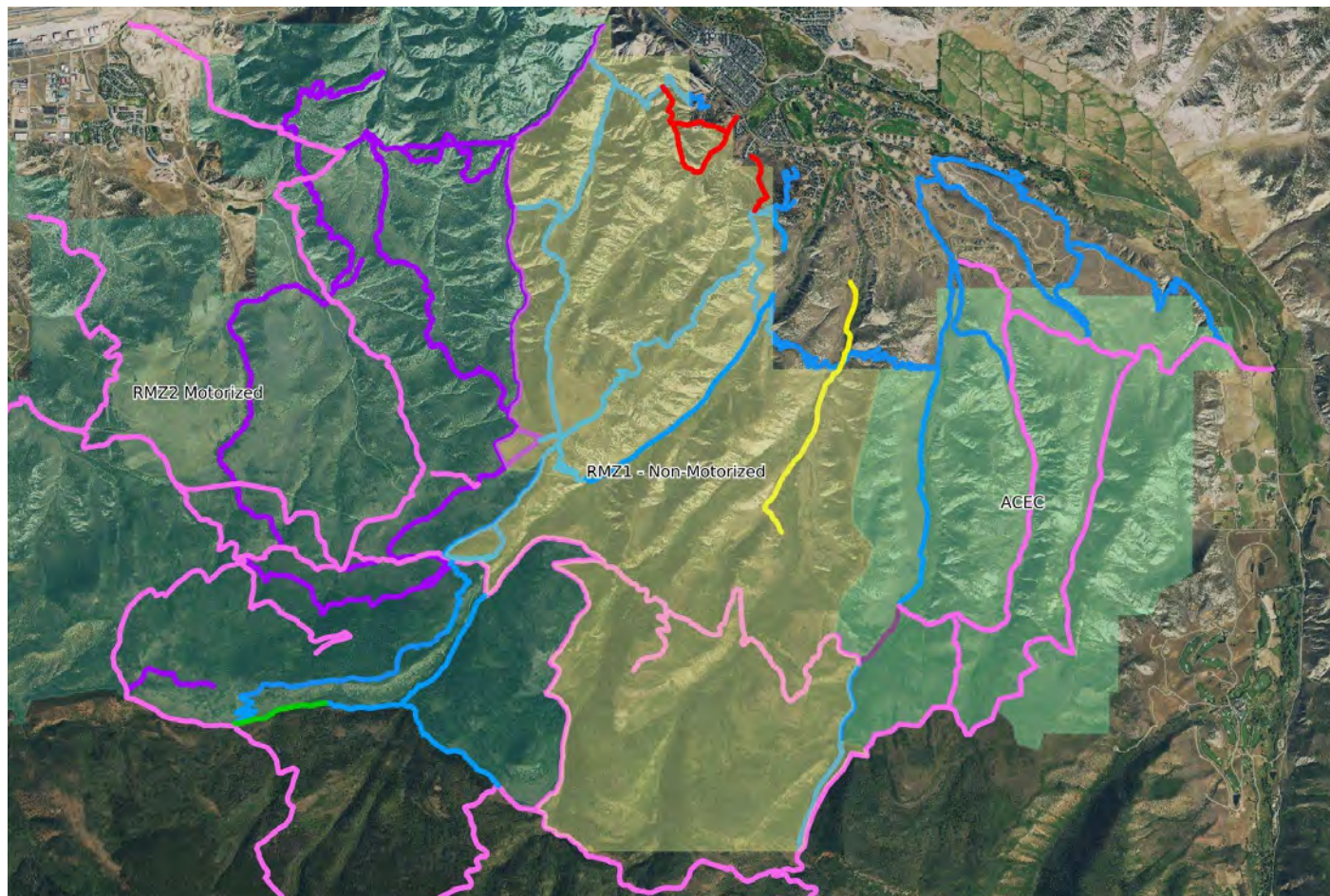
- Blue - Legal Mechanized
- Pink - Road
- Purple - Motorized
- Dark Red - Decommissioned
- Red - Identified Social
- Yellow - Hiking only





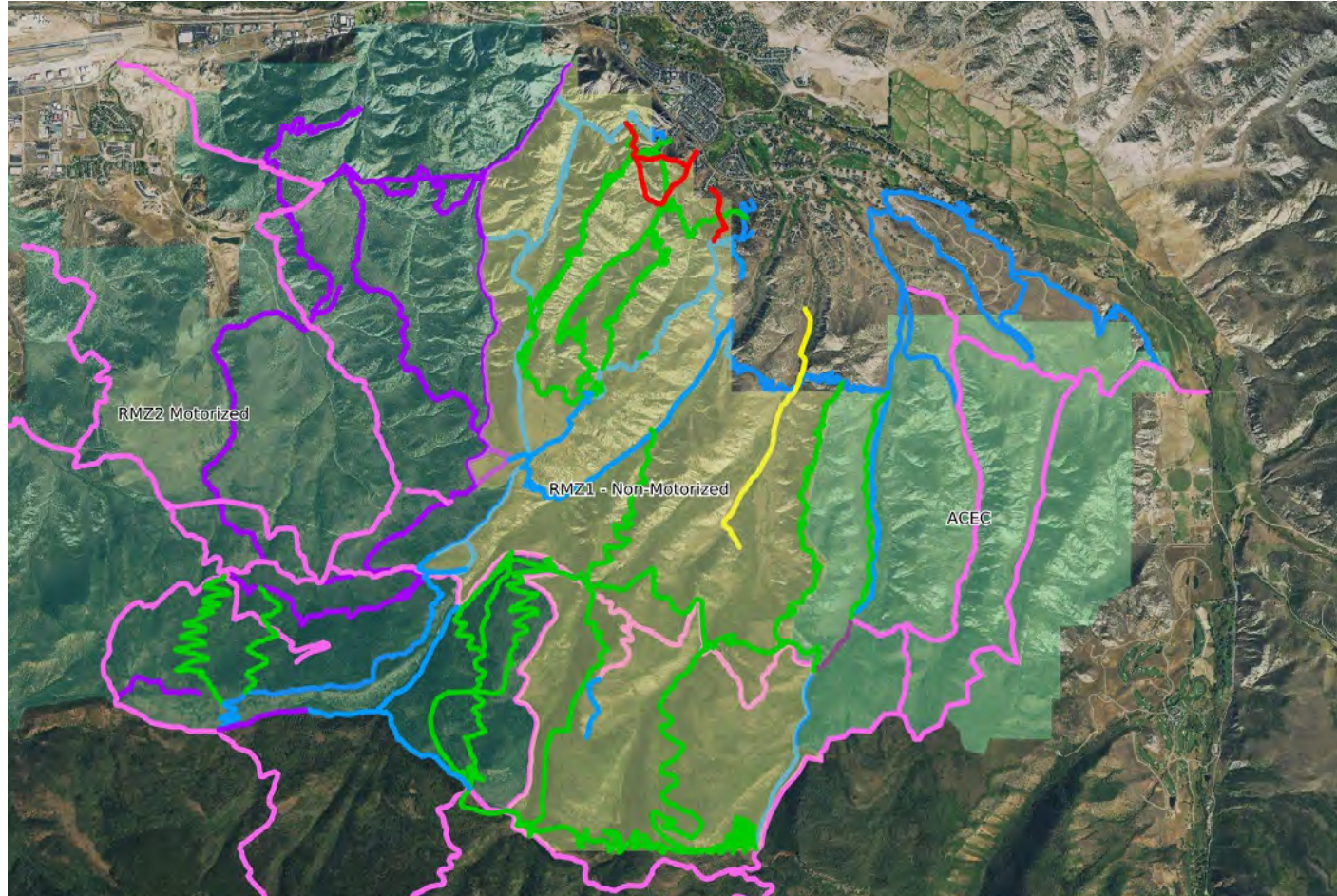
## Current Conditions West Eagle

Blue - Legal  
Mechanized  
Pink - Road  
Red - Identified Social  
Purple - Motorized  
Yellow - Hiking only



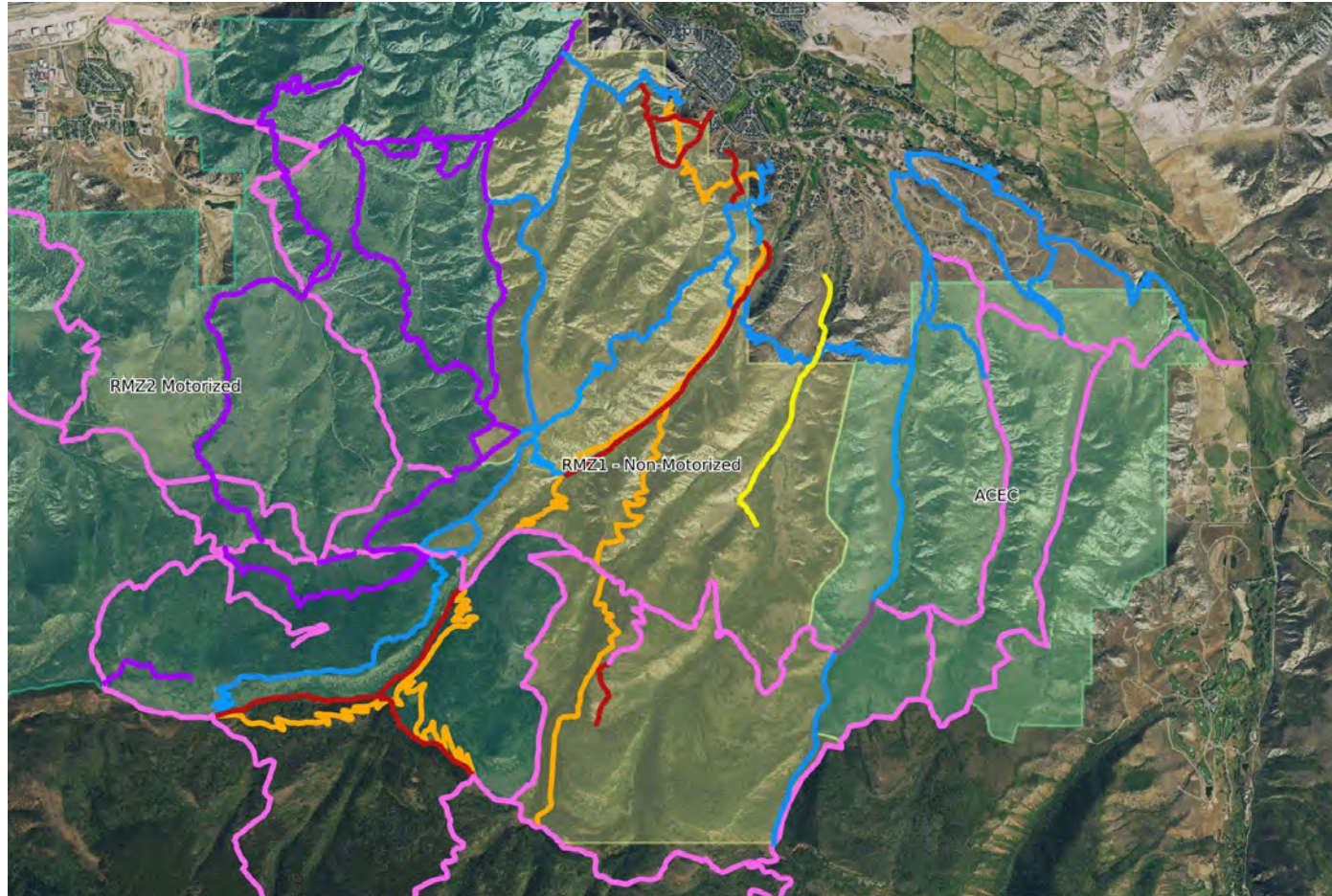
EA 2 -  
Concepts  
West Eagle

- Blue - Legal Mechanized
- Pink - Road
- Red - Identified Social
- Purple - Motorized
- Green - Concepts
- Yellow - Hiking only

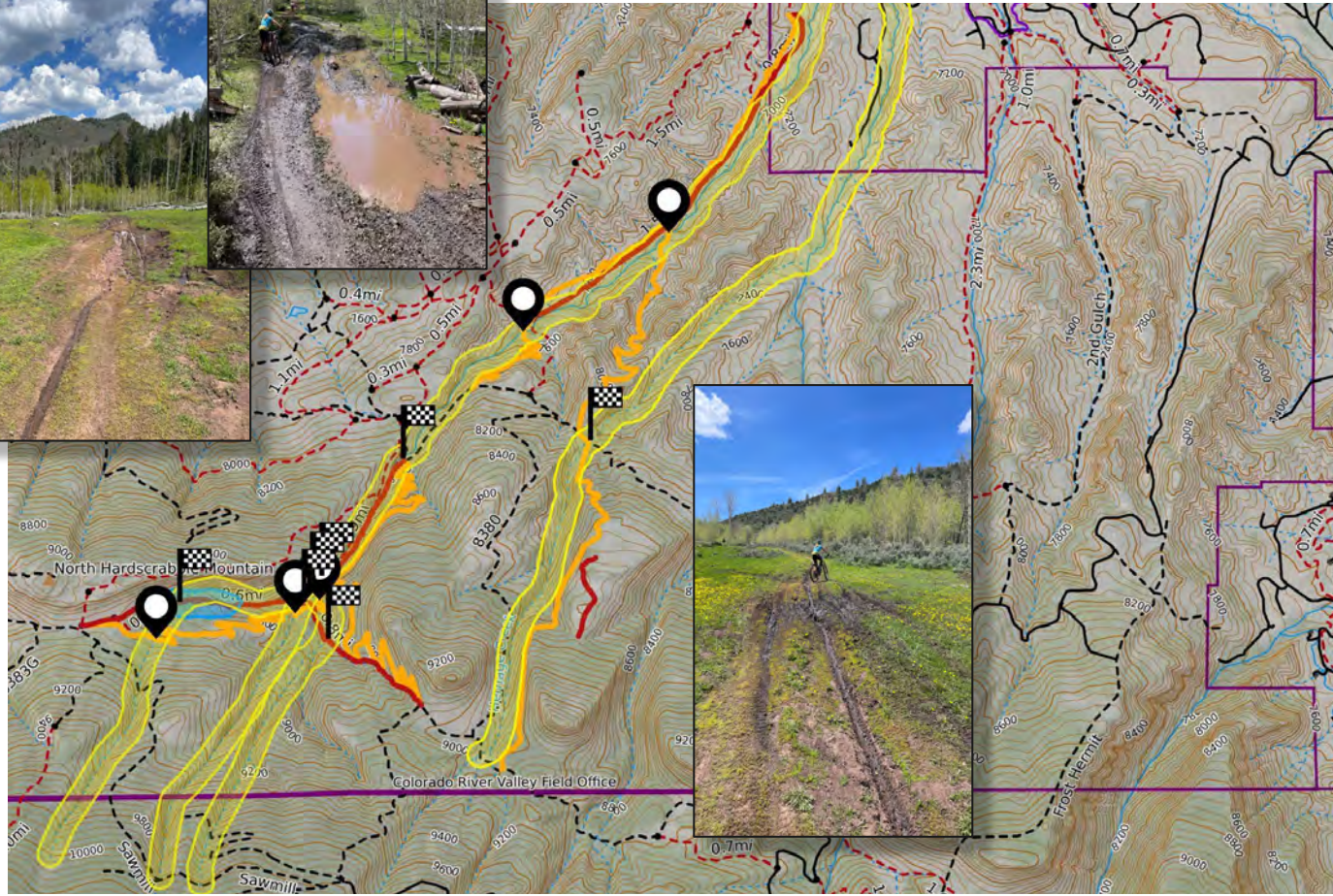


**EA 2 -  
Alignments to  
Propose  
West Eagle**

- Blue - Legal  
Mechanized
- Pink - Road
- Dark Red - to  
Decommission
- Purple - Motorized
- Orange - EA2 Propose
- Yellow - Hiking only



# EA 2 - West Eagle Watershed Improvements





## EA 2 - Why These Trails?

- Trail alignments were all identified in a very community driven, thorough, and thought out process as part of the Open Space & Trails Master Plan process. Final determination of the 11 miles is not decided from one source, such as the open house at Mountain Pedaler, it is the combined feedback over many years and sources including the open space/trails master plan, open house, meetings with land managers, partners, and other stakeholders.
  - Input from CPW, Eagle County, Town of Eagle, BLM, and the trail using community
- Something for everyone
  - Some trails close to town, some 'epic day' opportunities
  - Lots of different route options
  - Connectivity with existing network
  - Stacked loop system



# Community Input

- Alignments asked about
  - **Hermit 1**
  - Hermit 2
  - Hermit Traverse
  - **School House Ridge**
  - **School House/Kill Bill Connector**
  - **Hillbilly Extension & Rim**
  - Pool/Ice Alt Downhill
  - **Haymaker to Boneyard**
- Re-Routes
  - Abrams Gulch
  - 3rd Gulch



# Trail Breakdown - New

## East Eagle

- Pool/Ice Alt DH 1.25 Miles
- Haymaker to Boneyard 1.75 Miles
- Hillbilly to Road Gulch/Will's Extension 2.57 Miles

## West Eagle

- School House/Kill Bill Connector 1.25 Miles
- Hermit 1 3.76 Miles



## Trail Breakdown - Reroutes

- Abrams Gulch - move trail to west side of barbed wire fence to reduce impacts on the watershed and avoid grazing conflicts
- Dead Cow - partnership with RMSR for access to Hermit 1 and improved trail experience
- Firebox - partnership with RMSR for access to Hermit 1 and improved trail experience



# Guidance from Town

- School House/Kill Bill Connector
  - Connection from Newquist & Seabry?
    - Public access from each that would meet and connect to SH/KB connector in one spot (Y Connection)
  - Option to decommission social trails and access and have the only access to the trail be from existing locations on Horton Street and off of Kill Bill
- Abrams Gulch Reroute (lower)
  - .28 miles to move the trail west to avoid old double track and improve experience



## EA 2 - Next Steps

- Present the EA to stakeholders
- Finalize alignments and have surveys scheduled
- Submit to the BLM



**Thank You!**

# Hardscrabble and East Eagle Recreation



June 3rd, 2025  
District Wildlife Manager Layton Stutsman

# Discussion Items:

- Hardscrabble/East Eagle Importance
- State of Wildlife
- Recreation Impacts
- Rec ZOI
- County Survey
- What next?

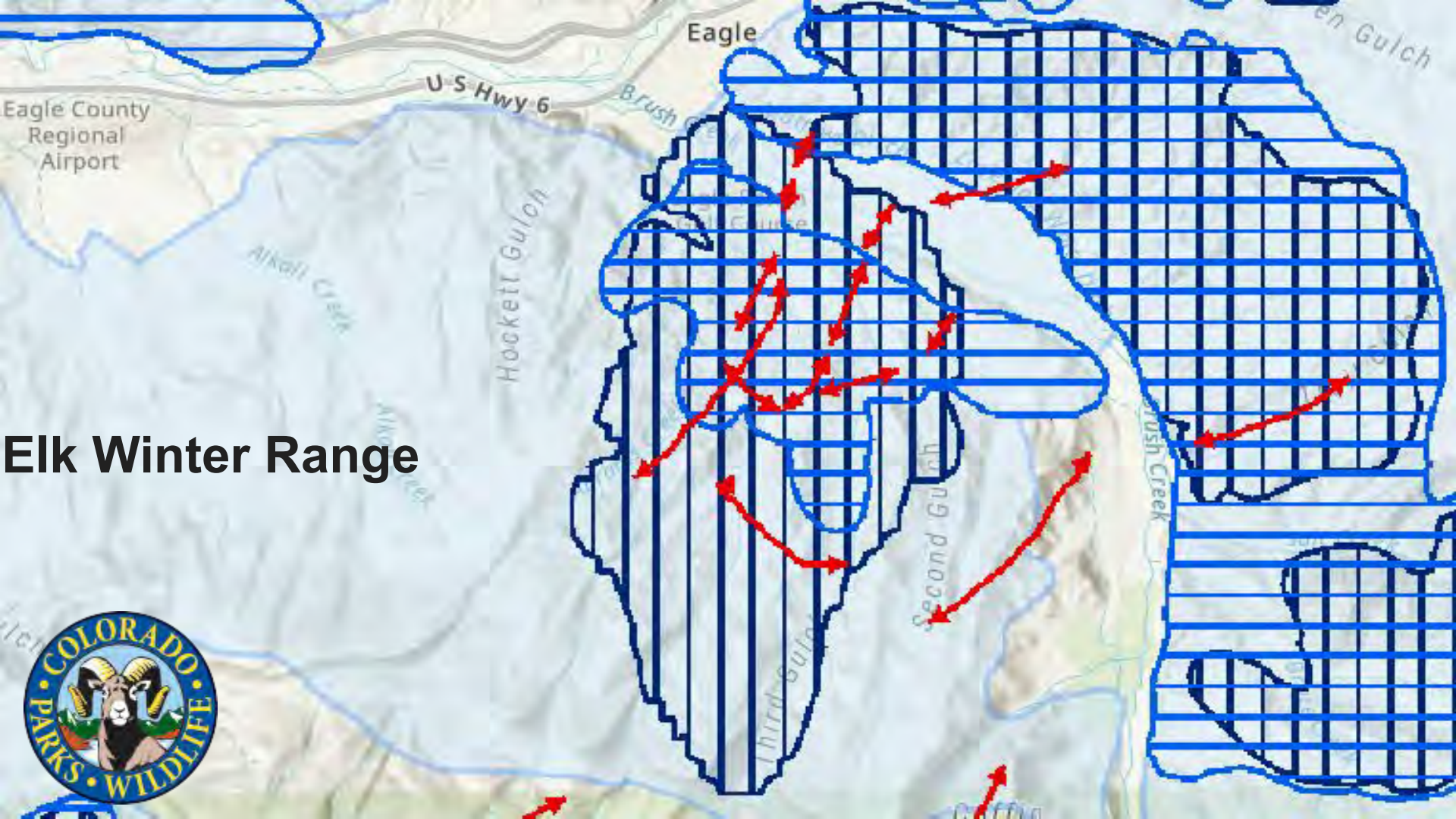


# Why is Hardscrabble/East Eagle Important?

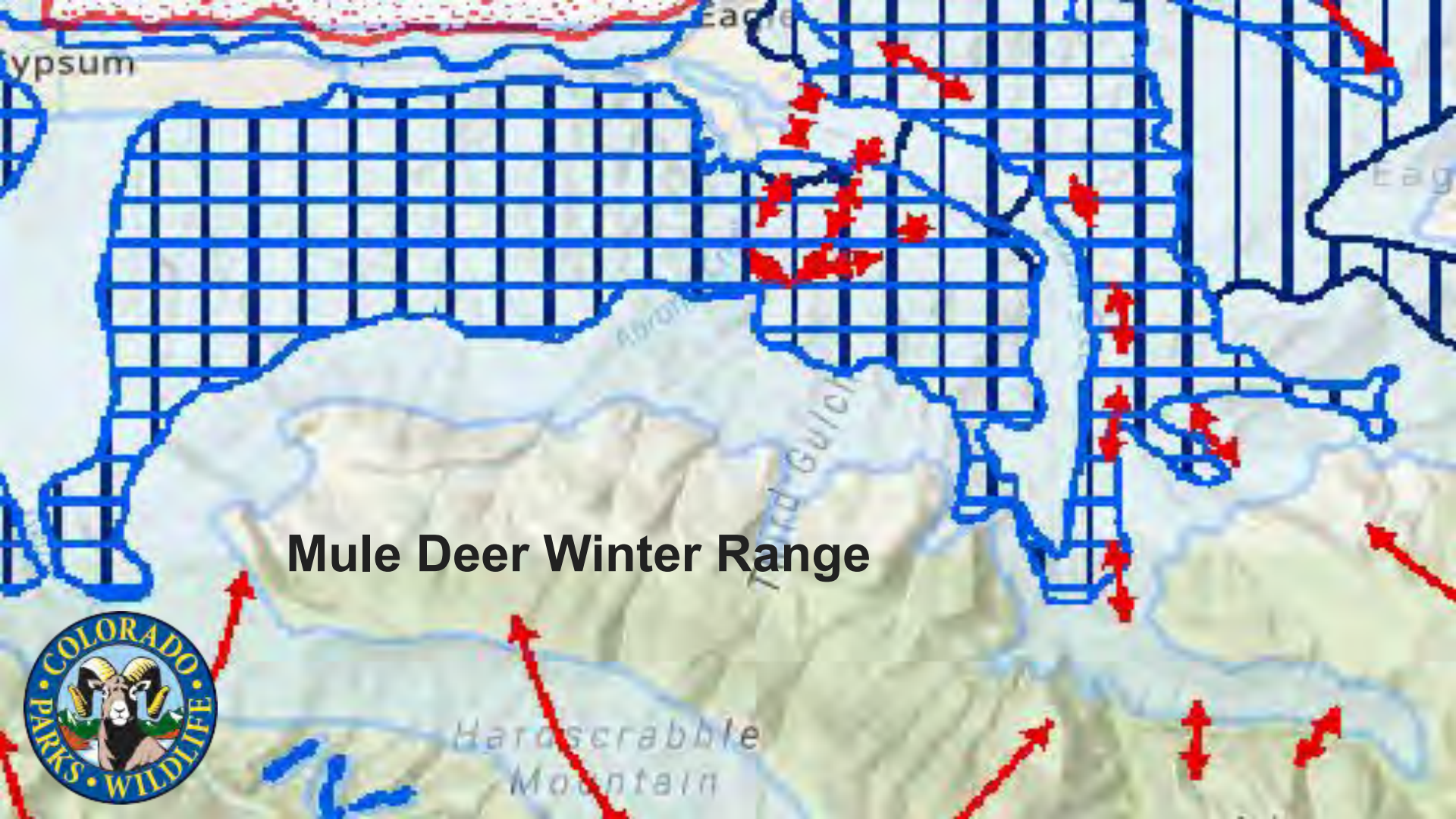
- Geography
- Topography
- Habitat Types
- Recreational Value (Hunting as well)



# Elk Winter Range



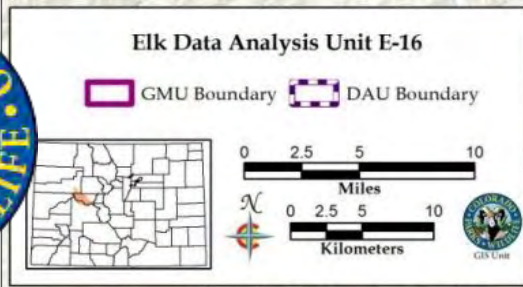
# Mule Deer Winter Range



# Current State of Wildlife in Eagle

- Deer and Elk serve as “Umbrella Species” or other species of wildlife.
- Deer and Elk within Population Objective
- **Calf:cow ratios** remain low
  - Hunting has little effect
  - Density dependent influences not apparent
- **~99%** reduction in limited elk licenses for 5+ years
- Deer populations stable, but have decreased significantly since 1980’s
- CPW looks at wildlife impacts cumulatively, not just wildlife vs recreation. (Severe weather, disease, development, roadkill, habitat quality, etc.)





**Frying Pan River Elk Herd (DAU E-16)** GMUs: 44, 45, 47, 444

Post-hunt population:

Current (2013 plan) Population Objective: 5,500-8,500 elk

Post-hunt 2023 Population Estimate: 9,820 elk

Approved New Population Objective: status quo (5,500-8,500 elk)

Post-hunt Sex Ratio (Bulls:100 Cows):

Current (2013 plan) Expected Sex Ratio: 18-30 bulls:100 cows

Most Recent 3-year Average of Observed Sex Ratio: 22 bulls:100 cows

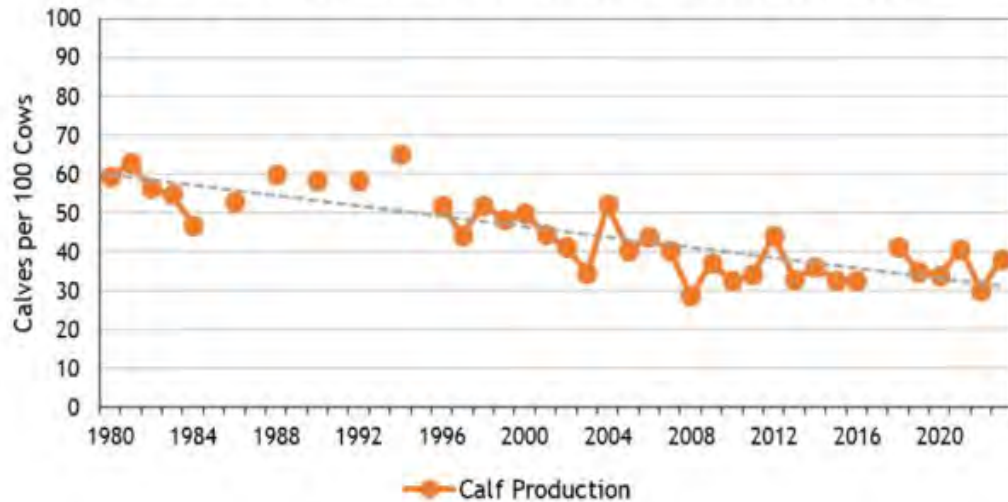
Ratio:

Approved New Expected Sex Ratio Objective: 17-29 bulls:100 cows

# E-16

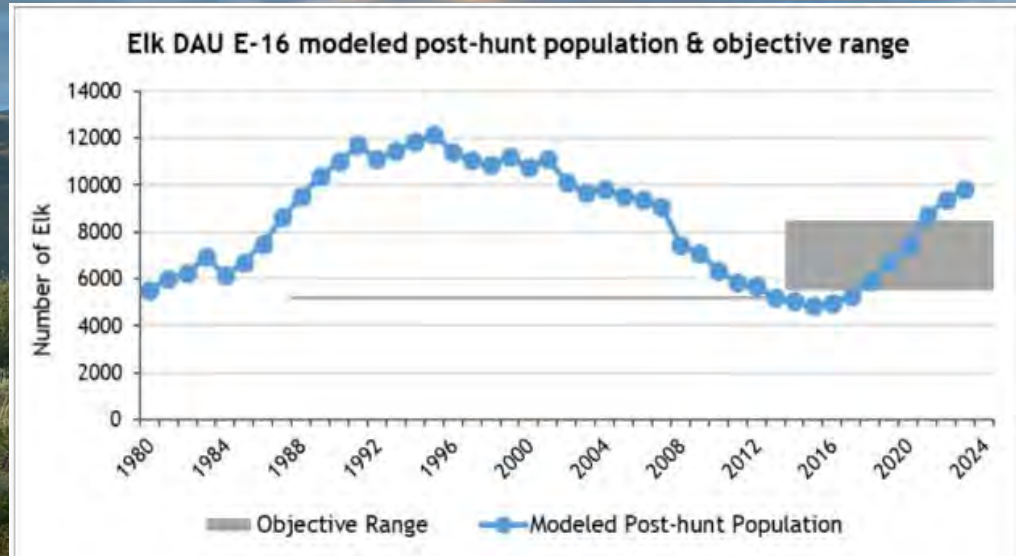
Winter calf:cow ratios, which represent a measure of calf recruitment and the herd's productivity, have declined by 6.6% each decade over the past 40+ years, meaning that E-16's potential for population growth and its resilience to environmental and ecological stressors have steadily diminished as the landscapes of the Eagle River Valley and Roaring Fork Valley have changed. Over the past 10 years (2014-2023), winter calf:cow ratios in E-16 have averaged 36 calves:100 cows, compared to 56 calves:100 cows in the 1980s.

Elk DAU E-16 Observed Winter Calf:Cow Ratios, 1980-2023

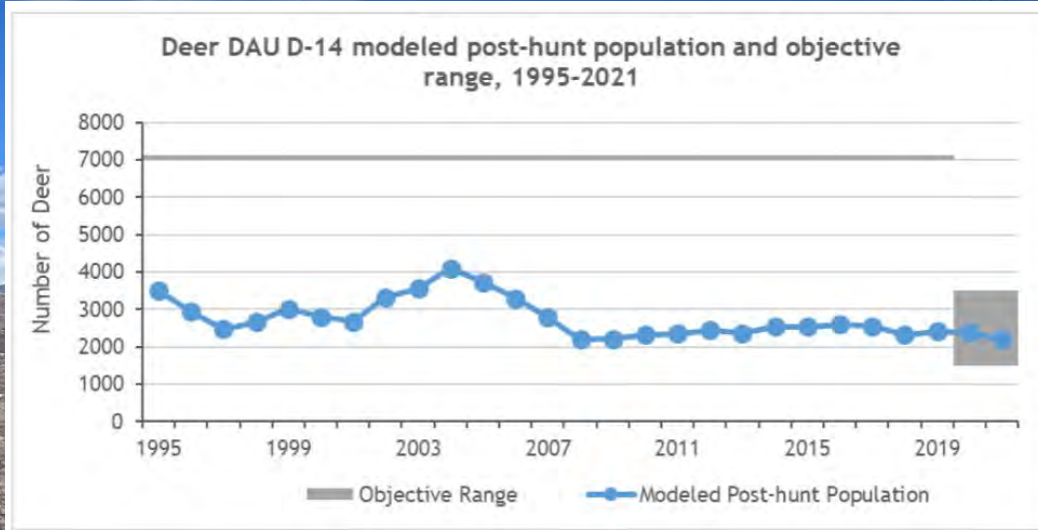


# E-16

CPW's goal though is not to eliminate cow harvest perpetually, but rather to offer sufficient opportunities to the public to harvest both cow and/or bull elk by managing for a population size slightly below ecological and social carrying capacity.



# D-14



This DAU has been managed to provide the highest quality buck hunting experience, defined as accessibility to public land with very low hunting pressure and a higher opportunity to harvest a mature animal. Drawing a 3rd or 4th season buck license in this unit is often perceived as a once-in-a-lifetime” hunt opportunity.

# Recreation Impacts

- **Decrease** in wildlife abundance or density
- **Calories expended** during critical seasons
- **Vigilance vs. Time Feeding**
- **Fight or Flight vs. Time Resting**
- **Separation** from young
- **Compromised body condition** prior to calving
  - Calf Weight **>35lbs** = **90%** chance of survival
  - Calf Weight **<25lbs** = **less than 50%** chance of survival
- **Reduced reproductive and/or recruitment success**



# Recreation/Wildlife Research

- Research has shown that the addition of 10 disturbances during calving season produced a **population growth rate of 0%**, and more than 10 disturbances produced a **negative population growth rate** (Phillips, Et. Al, 2000)
- Deer and Elk in winter are in a consistent state of nutrient deprivation, so they rely on their protein and fat stores to account for lack of forage quality and availability, regulation of body temperature in cold weather, and for energy expenditure from predator avoidance, human avoidance, and more.
- Ordinary winters have been associated with up to a **20% percent loss of total body weight** in Mule Deer. (K. Ferguson) Elk commonly **lose 1-1.5 pounds per day** during the winter. (J. Knight) Increased winter severity and human disturbance can exacerbate loss of body weight in deer and elk, which decreases their chance of surviving the winter and spring.
- The health and survival of calves and fawns is highly dependent upon the health of the cow or doe during pregnancy.
- Nutritional status and predation are the primary causes of mortality for fawns and calves. (Forester, et al. 2002) Studies in CO have found mean **winter survival rates of only 44%** for fawns. (Unsworth, et al. 1999)



# ZOI:

Author	Species	Motorized	Non-Motorized
Rogala et al (2011)	Elk	51-800	
Citui et al (2012)	Elk	500	
Preisler et al (2013)	Elk	1000	200-500
Wisdom et al (2018)	Elk	558-879	558-879
Wisdom (2005)	Elk	1500	500-1500
Taylor and Knight (2003)	Deer		390
Edge (1982)	Elk	750	
Sawyer (2009)	Deer	2610	
Wisdom (2018)	Elk	500-1500	
<b>Average (meters)</b>		<b>970</b>	<b>646</b>



Literature review regarding the observed Zone of Influence (ZOI) from motorized and non-motorized trails for mule deer and elk (*all results in meters*).

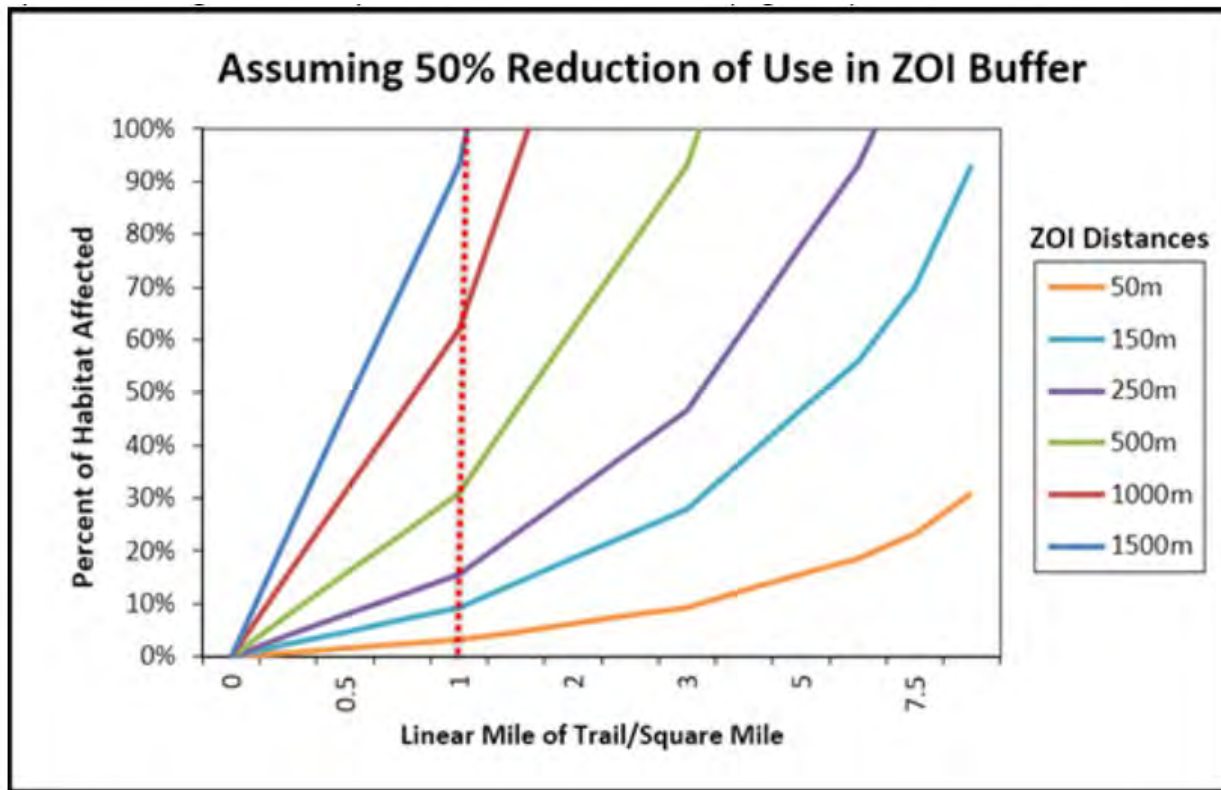


Figure 1. Adapted from Hebblewhite (2008), this chart shows the relationship between increasing trail density and increasing areas of avoidance from trails based on available literature, with the percent of available habitat that is affected by indirect impacts.



### 150 Meter Zone of Influence (ZOI)

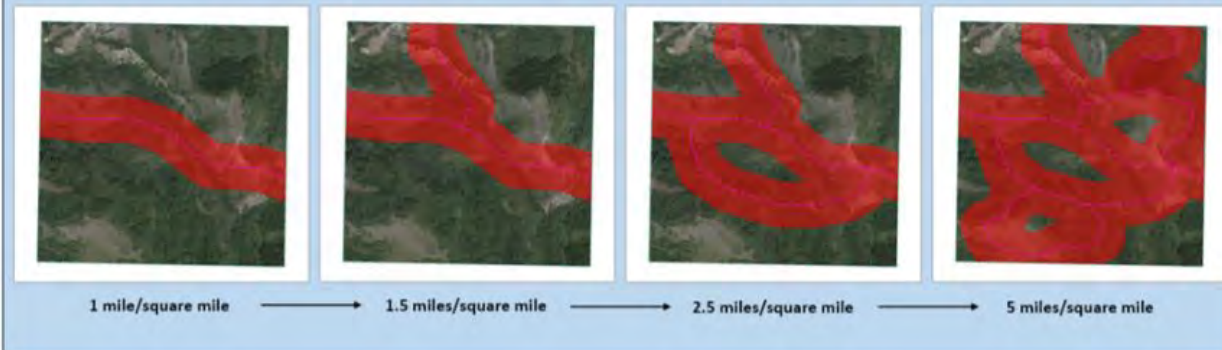
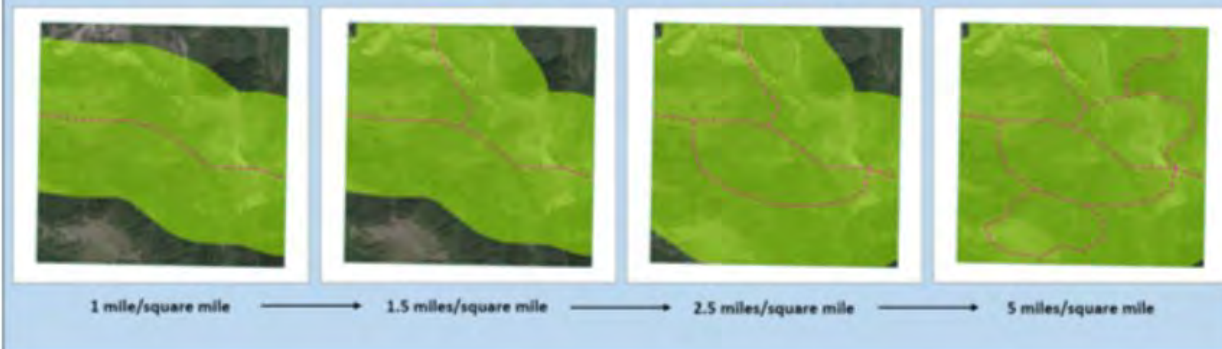


Figure 2. Examples of increasing trail densities with 150 meter and 500 meter zones of influence surrounding the trail footprint.

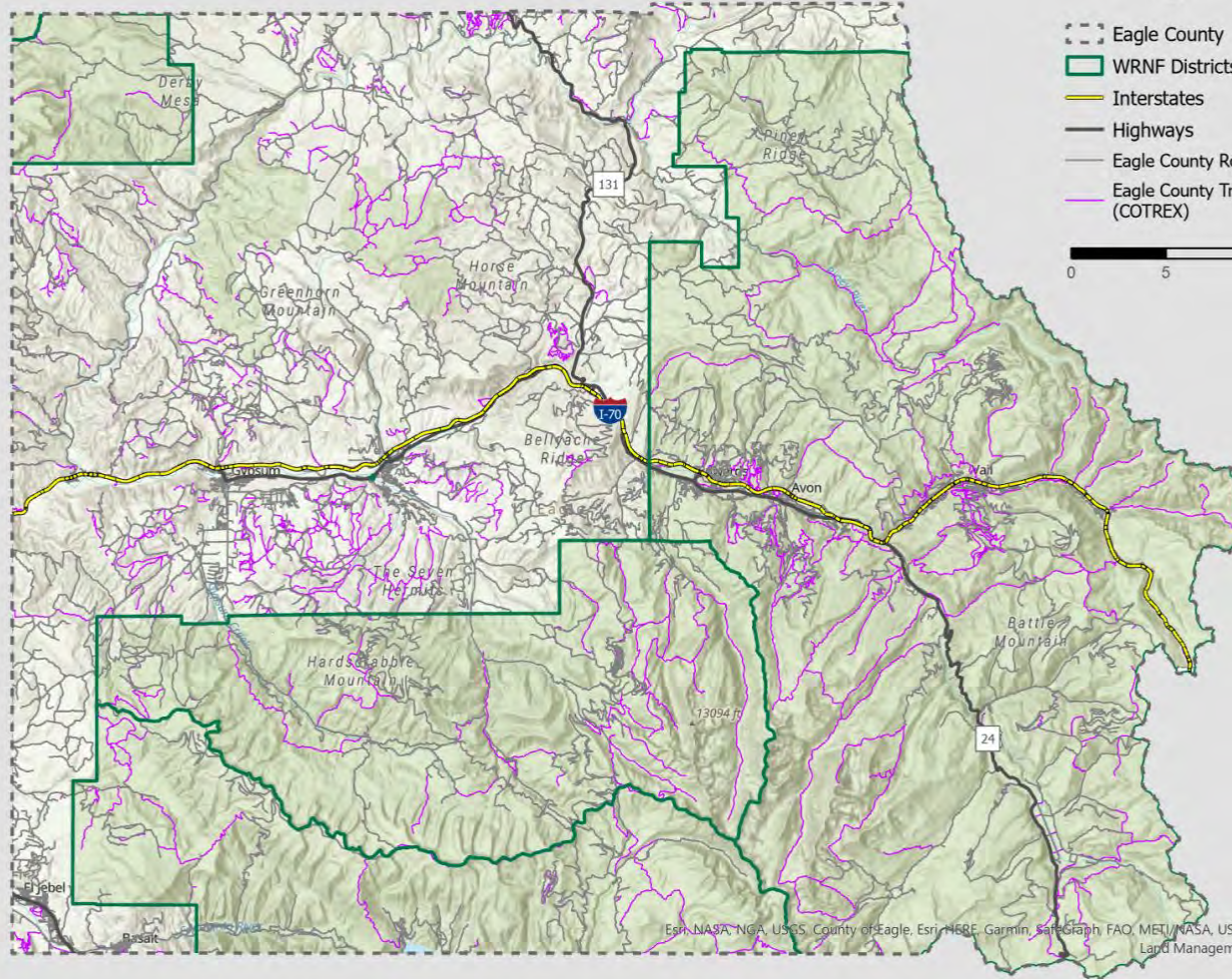
### 500 Meter Zone of Influence (ZOI)



# Eagle County Roads & Trails Map

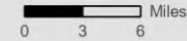
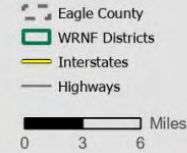
## Legend

- Eagle County
  - WRNF Districts
  - Interstates
  - Highways
  - Eagle County Roads
  - Eagle County Trails (COTREX)
- Miles  
0 5 10

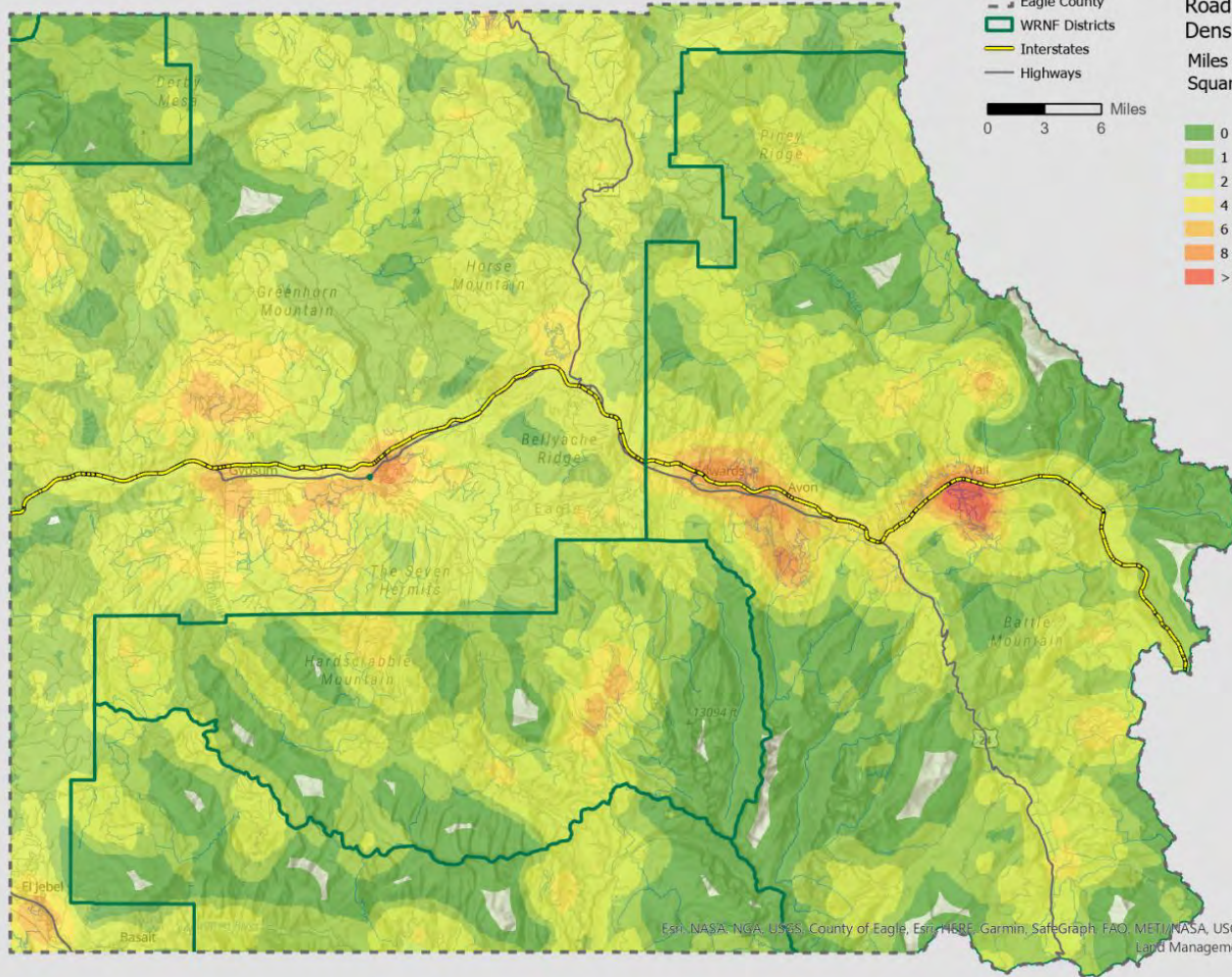
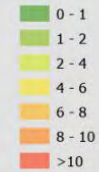


# Eagle County Road and Trail Density Analysis

## Legend



Road & Trail Density  
Miles of Route per Square Mile:



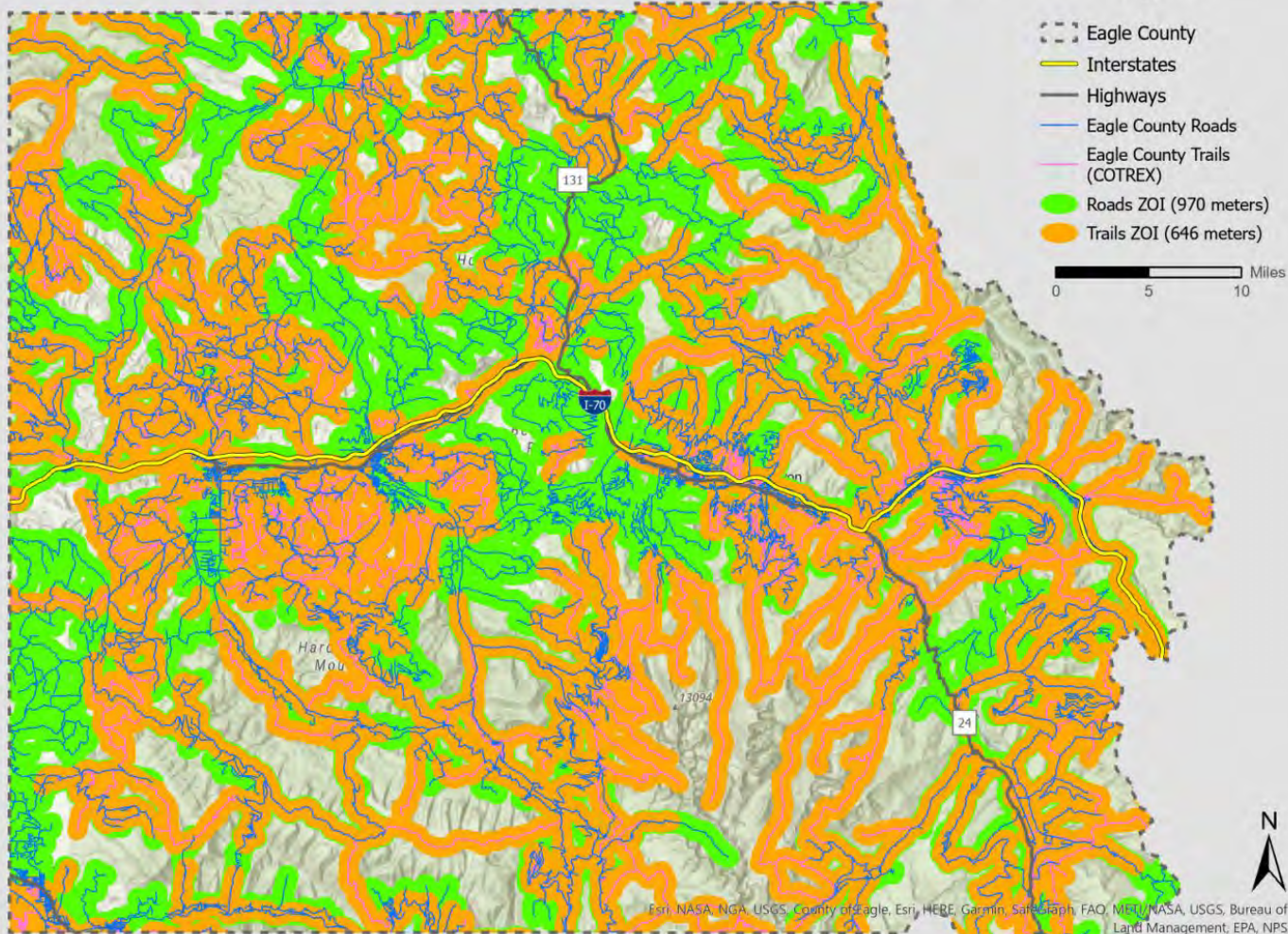
Esri, NASA, NGA, USGS, County of Eagle, Esri, HSBF, Garmin, SafeGraph, FAO, METI, NASA, USGS, Bureau of Land Management, EPA, NPS



# Eagle County Roads & Trails Zone of Influence for Wildlife

## Legend

- Eagle County
  - Interstates
  - Highways
  - Eagle County Roads
  - Eagle County Trails (COTREX)
  - Roads ZOI (970 meters)
  - Trails ZOI (646 meters)
- 0 5 10 Miles



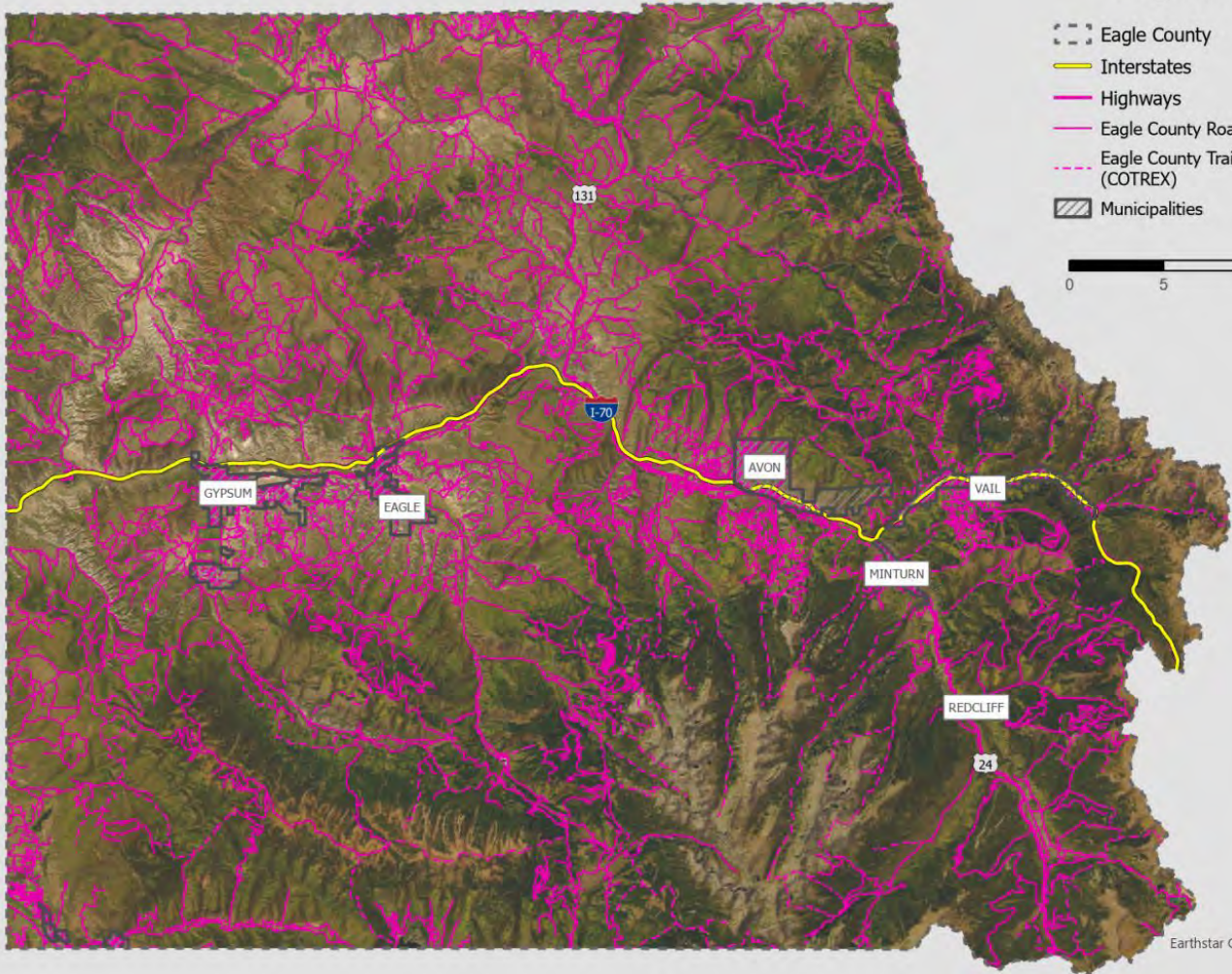
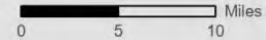
From: NASA, NGA, USGS, County of Eagle, Esri, HERE, Garmin, Safe Software, FAO, Mapbox, NASA, USGS, Bureau of Land Management, EPA, NPS



# Eagle County Existing Roads & Trails

## Legend

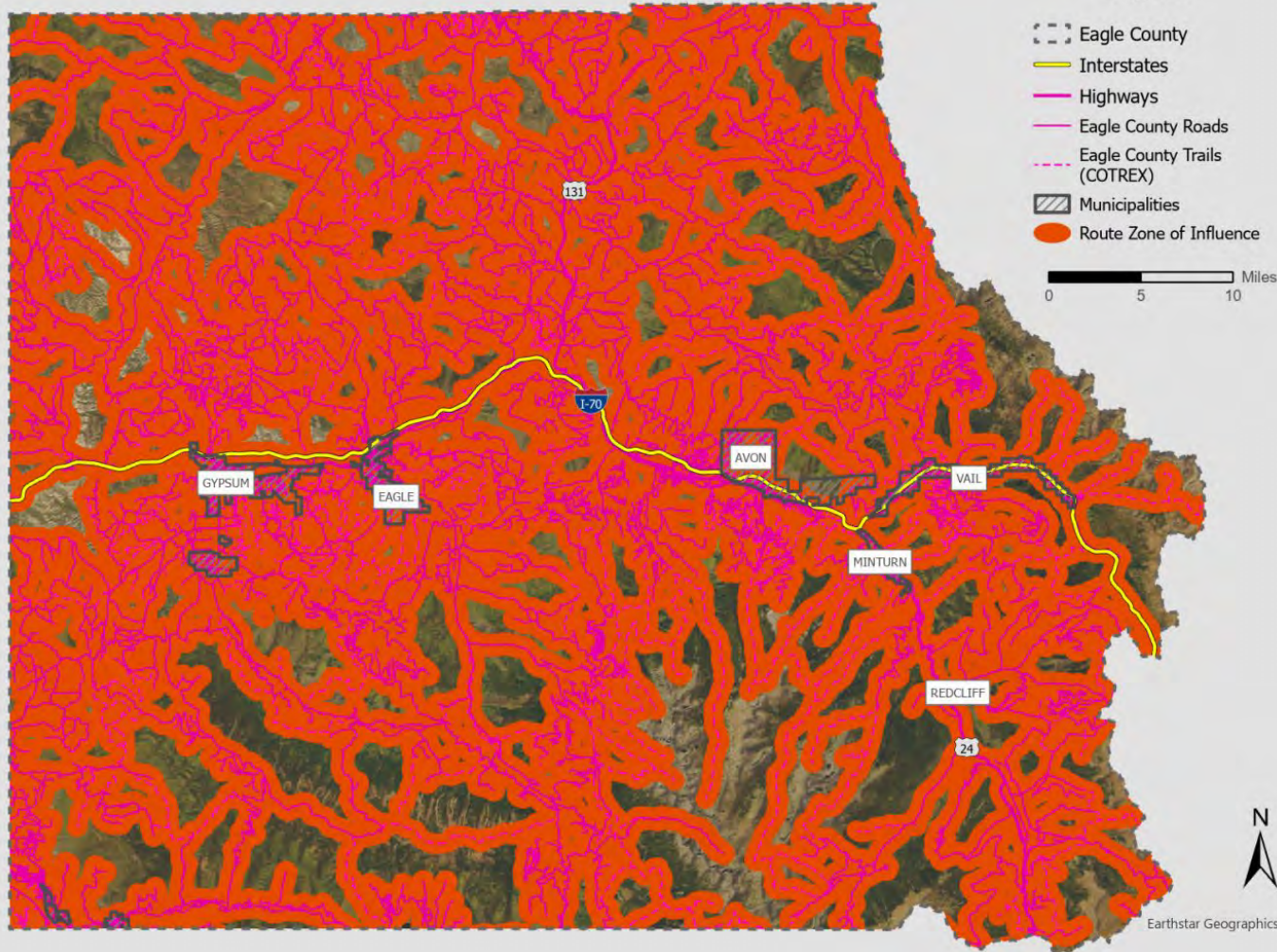
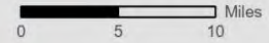
-  Eagle County
-  Interstates
-  Highways
-  Eagle County Roads
-  Eagle County Trails (COTREX)
-  Municipalities



# Eagle County Routes Zone of Influence (ZOI)

## Legend

- Eagle County
- Interstates
- Highways
- Eagle County Roads
- Eagle County Trails (COTREX)
- Municipalities
- Route Zone of Influence




Earthstar Geographics



# Existing Trails



# Colorado's Planning Trails with Wildlife in Mind BMP's

	Avoidance	Minimization	Mitigation
 <p><b>Big Game Species</b></p> <p>Bighorn Sheep, Elk, Deer, Pronghorn, and Mountain Goats</p>	<ul style="list-style-type: none"> <li>Avoid locating new trails within CPW-mapped production areas, migration corridors, and winter range habitats.</li> </ul>	<ul style="list-style-type: none"> <li>Limit trail densities (including existing trails) to less than one linear mile of trail per total square mile, within production areas, migration corridors, and winter range habitats.</li> <li>For trails within production areas or winter range habitats, implement seasonal timing restrictions for all trail users.</li> <li>For trails within winter range, production areas, summer concentration areas, and in moose habitat, restrict dogs or implement and enforce year-round dog-on-leash restrictions.</li> <li>Post signage to prohibit feeding and harassment of big game.</li> <li>Within moose habitat, post signage to protect human safety.</li> </ul>	<ul style="list-style-type: none"> <li>Decommission and reclaim routes in sensitive habitats</li> <li>Perform habitat enhancement projects.</li> <li>Remove and/or replace old fencing that is hazardous to wildlife.</li> </ul>



**Figure 6.** The spatial component of trail density. These two images have identical trail densities. The image on the right shows how consolidating trails can be an important consideration to achieve the goal of minimizing habitat fragmentation.



Conservation at the intersection:  
Examining residents' perceptions of and  
preferences for wildlife, outdoor  
recreation, and development

TECHNICAL PUBLICATION NUMBER 60 • JULY 2022



# Eagle County Survey

- Conducted in late 2021, report and findings complete in 2022.
- Written and implemented by CPW Social Dimensions Scientists (Dr. Mike Quartuch and CSU graduate team).
- Relative to other surveys in the valley?
- What was found?...
- Significant county-wide wildlife concerns

## ■ *Land use preferences and tradeoffs*

- ▶ The majority of Eagle County residents would like to see open spaces be a top priority for the county.
  - More than three-quarters (77%) of respondents believed that acquiring, maintaining, and preserving open space over the next 5-10 years should be a high priority and 18% would prefer it be a medium-level priority.
- ▶ Overall, respondents prefer seeing wildlife habitat protected even if that limits future land use development projects or outdoor recreation opportunities.

➡ • About 82% of mail and 75% of telephone survey respondents agreed with statements prioritizing the protection of wildlife habitat even if doing so restricts future land use development projects.

➡ • More than three-quarters (77%) of mail respondents agreed that wildlife habitat should be protected even if doing so limited future outdoor recreation opportunities compared to 73% of telephone respondents.

• Similarly, the majority of mail survey respondents (77%) would prefer more outdoor recreation opportunities even if doing so limits future development projects. Fewer (64%) telephone respondents agreed with this statement.



# What now?

- What currently exists in the Town of Eagle area and Eagle County?
- What are future demands from Developments, e-bikes, etc.
- **Need vs. Want**



- Hardscrabble/East Eagle
- Meadow Mountain
- Vail Resorts (Vail Mtn, Beaver Creek, Bachelor Gulch, Arrowhead)
- Town of Eagle Open Space
- Town of Avon Preserve
- Eagle County Open Space
- Bike Parks
- Other public trails on USFS, BLM, etc.



# BOTANICAL SURVEY REPORT

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VAIL VALLEY MOUNTAIN TRAILS ALLIANCE PROPOSED TRAILS  
Hardscrabble Zone 1 Non-Motorized SRMA  
Eagle County, Colorado



*submitted to:*

**BLM COLORADO RIVER VALLEY FIELD OFFICE**  
2300 RIVER FRONTAGE ROAD, SILT, CO 81652

*on behalf of:*

**VAIL VALLEY MOUNTAIN TRAILS ALLIANCE**  
P.O. BOX 3986, AVON, CO 81620

*prepared by:*

**BIRCH ECOLOGY, LLC**  
710 TENACITY DR, SUITE 101, LONGMONT, CO 80504



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**BIRCH ECOLOGY**

SEPTEMBER 2025

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## 1.0 INTRODUCTION

Vail Valley Mountain Trails Alliance (VVMTA) has submitted a request to the Bureau of Land Management's (BLM) Colorado River Valley Field Office (CRVFO) to establish mountain bike trails within the Hardscrabble Zone 1 Non-Motorized Special Recreation Management Area (SRMA) surrounding the Town of Eagle, in Eagle County, Colorado. Specifically, the project area is located within Sections 1 - 3, 8, 9, 16 - 20, 29, 31 of Township 5 South and Range 84 West; Section 36 of Township 4 South and Range 84 West; and Section 6 of Township 5 South and Range 83 West (Figure 1). There are 16 proposed trail alignments, totaling ± 24.58 miles (Table 1). Figure 2 is a detail of the West Eagle Trails and Figure 3 is a detail of the East Eagle Trails.

In support of BLM's environmental review, Birch Ecology conducted botanical inventories for the proposed trail corridors on June 9<sup>th</sup>, 10<sup>th</sup>, and 19<sup>th</sup> of 2025. This report describes the project area and survey methods; documents the survey results for Special Status Plants, Significant Plant Communities, State-Listed Noxious Weeds, and wetlands; and provides maps and photographs of the project area.

The survey results and maps in this report can be used to facilitate BLM's required environmental review as well as develop final trail alignments, which can be adjusted to avoid the highest-quality habitats with Special Status Plants and Significant Plant Communities. Section 5.0 includes a summary and discusses recommended mitigation measures. Please note, all Figures are included in Section 6.0, Tables are in Section 7.0, and Photos are in Section 8.0.

## 2.0 ENVIRONMENTAL SETTING

The survey area within the Hardscrabble Zone 1 Non-Motorized SRMA is characterized by a mosaic of mixed mountain shrublands, pinyon-juniper woodlands, sagebrush shrublands, aspen-mixed conifer forest, and occasional gypsum barrens. In addition, riparian wetland habitat occurs along Abrams Creek, a perennial stream. Hernage Creek, an intermittent stream, and Road Gulch, an ephemeral drainage are also within the survey area.



The landscape surrounding the proposed trails is already popular for non-motorized recreation and there are many designated trails and OHV roads surrounding the survey area. As discussed above, VVMTA hopes to add 16 additional trail alignments that would connect to these pre-existing trails in the Hardscrabble Zone 1 Non-Motorized SRMA. Elevations of the trails range greatly, from a high of approximately 9,090 ft on the eastern end of Firebox Trail, to a low of 6,760 ft at the northwest end of the Schoolhouse / Kill Bill Connector trail.

## 2.1 Soils

Figures 4 and 5 illustrate the NRCS Soil Map Units for the survey area. The dominant soil types within the survey corridor include the Gypsum land-Gypsiorthids complex, 12 to 65% slopes; Almy loam, 1 – 6% slopes; as well as the Tridell - Brownsto stony sandy loams, 12 – 50% slopes, extremely stony. Certain areas within the Gypsum land-Gypsiorthids complex contain delicate gypsum barren slopes and cryptobiotic soil that area easily damaged by trampling. To see a detailed layout of the soil types covering the trail corridor, refer to Figures 4 and 5.

## 3.0 SURVEY METHODS

A botanical survey of the proposed trail areas was conducted in accordance with the BLM Colorado River Valley Field Office (CRVFO) Standards for Contractor Inventories for Special Status Plants, Significant Plant Communities, and State-Listed Noxious Weeds (March 2013) as well as the updated BLM Colorado Special Status Plant Species Guide (March 2020). Based on a review of the habitat type and range for all listed Special Status Plants, Harrington Penstemon (*Penstemon harringtonii*) was identified as the only species likely to occur in the survey area. Therefore, this botanical inventory specifically assesses the potential presence of Harrington penstemon, a Special Status Plant Species listed as Sensitive by the BLM. In addition, this report documents populations of state-listed noxious weeds and other aggressive non-native plants; evaluates riparian wetland plant communities to determine if they are potentially regulatory waters of the U.S., and whether the area supports any of the Significant Plant Communities listed by the BLM in the 2013 guidelines.



Botanical surveys of the proposed trail alignments were completed by Heather Houston, Kaitlyn Barthell, and April Phinney of Birch Ecology. The surveys were completed on June 9<sup>th</sup>, 10<sup>th</sup>, and 19<sup>th</sup> of 2025, during the blooming period for Harrington penstemon. Intuitively spaced transects were walked within a minimum 40-meter (~ 130-foot) corridor centered along the proposed trail segments, with special attention given to those areas that opened

into sagebrush shrubland (a preferred habitat for Harrington penstemon). The Vascular Plant Species List can be found in Table 1.

The occurrences of Harrington penstemon were distinguished by examining the flowers to confirm the presence of two exerted stamens. This feature distinguishes Harrington penstemon from the more common Osterhout penstemon (*Penstemon osterhoutii*), which is very similar in its appearance and can overlap in range. When Harrington penstemon plants were identified, a waypoint was recorded with a hand-held GPS and the number of plants that corresponded to each waypoint was recorded. In addition, the phenological stage of the plant was recorded (bud, flower, fruit). Wherever possible, dried flowers were used to identify fruiting plants. The number of plants was determined by counting either a group of basal leaves for young plants, or the number of clumps for older, more robust plants.

The location, species, and abundance of any Colorado State Listed Noxious Weeds or other aggressive introduced plants were recorded when they were encountered during the botanical survey. In addition, Significant Plant Communities were and wetlands were mapped and described in accordance with the CRVFO Standards for Contractor Inventories (Bureau of Land Management, 2013).

## 4.0 SURVEY RESULTS

### 4.1 Vegetation Types

The surveyed area is primarily composed of mixed mountain shrublands, sagebrush shrublands, and pinyon-juniper woodlands with occasional gypsum barrens. In addition, aspen-mixed conifer forests were found at higher elevations on the West Eagle trails and there are riparian wetlands along Abrams Creek and a perennial tributary stream. Table 2 is a list of the plant species encountered during the survey.

#### 4.1.1 Mixed Mountain Shrublands

Mixed mountain shrublands are one of the most common vegetation types within the survey area. In this community, the shrub species composition is variable, corresponding to changes in soil moisture related to slope and aspect.

Northern aspects with higher soil moisture are characterized by a dense shrubby overstory. Tall stands of Gambel's oak (*Quercus gambelii*) grow with abundant Utah serviceberry (*Amelanchier utahensis*), mountain mahogany (*Cercocarpus montanus*), round-leaved snowberry (*Symphoricarpos rotundifolius*), green rabbitbrush (*Chrysothamnus viscidiflorus*) and mountain big sagebrush (*Artemisia tridentata* var. *vaseyana*) (Photo 1). Within the understory, dominant species included Junegrass (*Koeleria macrantha*), needle and thread (*Stipa comata*), bluebunch wheatgrass (*Pseudoroegneria spicata*), muttongrass (*Poa fendleriana*) and a diversity of forbs such as Watson's penstemon (*Penstemon watsonii*), silvery lupine (*Lupinus argenteus*), bastard toadflax (*Comandra umbellata*), Pale agoseris (*Agoseris glauca*), New Mexico groundsel (*Packera neomexicana* var. *mutabilis*), Nuttall's larkspur (*Delphinium nuttallianum*), Long's phlox (*Phlox longifolia*), Oregon grape (*Mahonia repens*), pearly pussytoes (*Antennaria anaphaloides*), and western wallflower (*Erysimum capitatum*).

#### 4.1.2 Sagebrush Shrublands

The mixed mountain shrublands transition to sagebrush-dominated communities on hillsides and ridgetops where soil moisture is reduced. The shrub layer is dominated by mountain big sagebrush with occasional Pinyon pine (*Pinus edulis*) and Utah juniper (*Juniperus osteosperma*) (Photo 2). Common species in the herbaceous understory include junegrass (*Koeleria macrantha*), Bluebunch wheatgrass (*Pseudoroegneria spicata*), muttongrass, needle and thread, arrowleaf balsamroot (*Balsamorhiza sagittata*), sulfur flower buckwheat (*Eriogonum umbellatum*), mat penstemon (*Penstemon caespitosus*) yellow Indian paintbrush (*Castilleja flava*), desert paintbrush (*Castilleja chromosa*), tapertip hawksbeard (*Crepis acuminata*), hollyleaf clover (*Trifolium gymnocarpon*), and Engelmann's fleabane (*Erigeron engelmannii*). In addition, this is the most common community to find Harrington penstemon, as discussed below in Section 4.2.1.

A second type of sagebrush shrublands occurs in the drainage bottoms, where basin big sagebrush (*Artemisia tridentata* var. *tridentata*) becomes the dominant shrub. In higher quality occurrences, basin wild rye (*Leymus cinereus*) grows between the sagebrush – and this is listed as a Significant Natural Community as discussed below in Section 4.2.2.

#### 4.1.3 Pinyon-Juniper Woodlands

The Pinyon-juniper woodlands are characterized by an overstory of pinyon pine (*Pinus edulis*) and Utah juniper (*Juniperus osteosperma*) with low vegetation cover in the understory (Photo 3). Herbaceous species commonly found in this habitat type included Indian ricegrass (*Oryzopsis hymenoides*), Osterhout's penstemon (*Penstemon osterhoutii*), bastard toadflax (*Comandra umbellata*), scarlet gilia (*Ipomopsis aggregata*), and bluebunch wheatgrass (*Pseudorigaria spicata*). Pinyon-juniper woodlands are not a preferred habitat type for Harrington penstemon, but a few plants can be found in these areas.

#### 4.1.4 Aspen-Mixed Conifer Forest

Aspen-mixed Conifer Forests occur at higher elevations in the West Eagle survey area. This community is characterized by a variable overstory of aspen-dominated stands mixed with scattered conifers, primarily Douglas fir (*Pseudotsuga menziesii*), with a lower abundance of blue spruce (*Picea pungens*) and white fir (cf. *Abies concolor*). In other areas the conifers are dominant, and this represents a later successional stage. The shrub layer has a diversity of shrubs and forbs. The dominant shrubs include common juniper (*Juniperus communis*), round-leaved snowberry, saskatoon serviceberry (*Amelanchier alnifolia*), mountain maple (*Acer glabrum*), and Wood's rose (*Rosa woodsii*). In the herbaceous understory, common forbs include silvery lupine (*Lupinus argenteus*), Richardson's geranium (*Geranium richardsonii*) rock clematis (*Clematis columbiana*), yarrow (*Achillea millefolium*), and mountain strawberry (*Fragaria virginiana*) (Photos 4 & 5). Graminoids include Geyer sedge (*Carex geyeri*), blue wildrye (*Elymus glaucus*), Idaho fescue (*Festuca idahoensis*) and fringed brome (*Bromus ciliatus*).

#### 4.1.5 Gypsum Barrens

Gypsum barrens within the survey area had a sparse and unique cover of vegetation. Some of the common species in these areas include Indian ricegrass, needle-and-thread grass (*Hesperostipa comata*), bluebunch wheatgrass (*Pseudoroegneria spicata*), snowball

sand verbena (*Abronia fragrans*), winterfat (*Krascheninnikovia lanata*), rayless tansyaster (*Machaeranthera grindelioides*), roughseed cryptantha (*Oreocarya flavoculata*), and ballhead ipomopsis (*Ipomopsis congesta*) (Photo 6). Areas of cryptobiotic soil were mapped in several areas along the West Eagle Trails, as shown on Figure 10 and Photo 7. In particular, the World's Greatest Downhill Alt trail has many areas which would be crossed by the proposed trail.

#### **4.2 Special Status Plant Species and Significant Plant Communities**

Based on a review of the habitat types and documented occurrence ranges for species on the BLM's list of Special Status Plant Species (March 2013), Harrington penstemon was identified as the only listed species with the potential to occur within the survey area. Documenting the occurrence and habitat preference of this species was the focus of this rare plant survey. Harrington penstemon is listed as a Sensitive Species by the BLM.

##### **4.2.1 Harrington Penstemon**

Figures 6 & 7 illustrate the survey results for Harrington penstemon. This species prefers open, gentle, northwest facing sagebrush slopes with open canopy and sparse vegetation in the sagebrush and mixed mountain shrubland habitat (Photo 8). Within the sagebrush shrublands, Harrington penstemon was often found co-occurring with sulfurflower buckwheat (*Eriogonum umbellatum*), bluebunch wheatgrass, arrowleaf balsamroot (*Balsamorhiza sagittata*), yellow Indian paintbrush (*Castilleja flava*), mat penstemon (*Penstemon caespitosus*), and rayless tansyaster.

For the West Eagle Trails (Figure 6), Harrington penstemon was abundant along the eastern section of the Schoolhouse / Kill Bill Connector. A few scattered individuals were also located along the northern part of the Abrams Gulch Reroute and at the northern tip of the Hermit #1 Lower trail. No Harrington penstemon occurred along the other West Eagle Trails.

In East Eagle (Figure 7), Harrington penstemon was more common. There were many areas of the plant identified along the Road Gulch Flow and the northern half of the Road Gulch / Haymaker Connector. Scattered populations were also found along the Road Gulch Outer Connector, Road Gulch Upper Climb, the Road Gulch Lower Connector, and the Hillbilly Extension. Only a few plants were located along Haymaker Downhill, Haymaker Uphill, and at the top of the Road Gulch Technical Downhill.

##### **4.2.2 Significant Plant Communities**

Three Basin Big Sagebrush (*Artemisia tridentata* ssp. *tridentata*) / Basin Wildrye (*Leymus cinereus*) communities were identified within the West Eagle Trails (Photo 9). These communities were located in drainages along a edge of a switchback on the Lower Hermit Alt Trail, along Abram's Gulch Reroute Trail, and along Schoolhouse / Kill Bill Connector Trail (Figure 10). This is a Significant Plant Community listed in Appendix C of the CRVFO Standards for Contractor Inventories (BLM, 2013). The BLM may recommend adjusting the trail alignments to avoid this plant community.

### 4.3 Noxious Weeds

Overall, the plant communities along the proposed trails are dominated by desirable native species and have limited weed establishment. Figures 8 and 9 display distribution of noxious and aggressive non-native weeds within the survey area.

State of Colorado Noxious Weeds found along the proposed trails included houndstongue (*Cynoglossum officinale*), cheatgrass (*Bromus tectorum*), white top (*Lepidium draba*), Russian thistle (*Salsola tragus*), Canada thistle (*Cirsium arvense*), musk thistle (*Carduus nutans*), and plumeless thistle (*Carduus acanthoides*). As shown by Figure 8, houndstongue is problematic in the moist soil at higher elevations along the Firebox Trail and Hermit #1 Upper. Cheatgrass is most common along the Schoolhouse / Kill Bill Connector. Figure 9 shows the locations of whitetop and Russian knapweed in East Eagle. During trail construction, it will be important to prevent the spread of these species through trail crew awareness and integrated weed management techniques.

Other aggressive, non-native weeds found in the area included yellow sweetclover (*Mellilotus officinalis*), alysium (*Alyssum simplex*), and pennycress (*Thlapsi arvense*). Note that alysium was abundant throughout all dry sagebrush habitats along the proposed trails and is not displayed on the map.

### 4.4 Wetlands & Aquatic Habitats

#### West Eagle

1. Abrams Creek Tributary / Firebox Trail

A perennial tributary to Abrams Creek flows adjacent to Firebox Trail. The proposed trail alignment does not cross the creek.

This tributary is likely a jurisdictional Water of the United States. The channel is between 3-5 feet wide in this location and supports riparian wetlands (Photo 10). This is within the aspen-mixed conifer forest. Douglas fir and bush honeysuckle (*Distegia involucrata*) are common. Wetland species in the understory include cow parsnip (*Heracleum sphondylium*), monkshood (*Aconitum columbianum*), arrowleaf groundsel (*Senecio triangularis*), stinging nettle (*Urtica dioica*), and brook saxifrage (*Micranthes odontoloma*). We recommend following the proposed trail alignment to avoid disturbance to this riparian wetland.

2. Abrams Creek Stream Crossing / Hermit #1 Lower Alt Trail

The bottom of the proposed Hermit #1 Lower Alt Trail crosses well-developed riparian wetlands Abrams Creek (Photo 11). The creek channel in this location is approximately ± 3 ft wide, and the wetland corridor is about 20 feet wide.

The riparian overstory contains narrowleaf cottonwood (*Populus angustifolia*), sandbar willow (*Salix exigua*), Bebb's willow (*Salix bebbiana*), and Pacific willow (*Salix lasiandra*). Common understory species in this area include reed canarygrass (*Phalaris arundinacea*), woolly sedge (*Carex pellita*), field horsetail (*Equisetum arvense*), scouring rush (*Equisetum hyemale*), water hemlock (*Cicuta maculata*), and goldenglow (*Rudbeckia ampla*).

Abrams Creek is a jurisdictional stream. Depending on the type and design of the crossing, a formal wetland delineation and permitting with the U.S. Army Corps of Engineers may be required.

3. Hernage Creek Intermittent Drainage / Hermit #1 Upper and Lower Trails

An intermittent drainage and a stock pond are located between Hermit #1 Upper and Lower Trails. The proposed trails tie into an existing jeep trail, and do not intersect with the drainage. At the time of the survey, both the drainage and the stock pond were dry (Photo 12).

Based on recent changes to the definition of Waters of the United States, Hernage Creek may no longer be a jurisdictional stream. However, we recommend continuing to tie into the existing jeep trail to avoid any new disturbance to the drainage.

East Eagle

No wetlands were encountered while surveying the East Eagle trails. Many eroded gullies without a high water mark cross the proposed trails. These areas were dry at the time of the survey and they are not jurisdictional streams.

## 5.0 SUMMARY & RECOMMENDATIONS

The proposed trails would connect pre-existing trails and roads within the Hardscrabble Zone 1 Non-Motorized SRMA. The surveyed area is composed of mixed mountain shrublands and sagebrush shrublands intermixed with pinyon-juniper woodlands and occasional gypsum barren slopes. Aspen-mixed conifer forest occurs at higher elevations of the West Eagle Trails and there are riparian wetlands along streams.

Harrington Penstemon

Harrington penstemon was the only Special Status Plant Species found along the proposed trail corridors. Plants were found scattered on several gentle, open slopes vegetated by mountain big sagebrush and mixed forbs, as shown in Figures 6 and 7. Field-fitting can be used during project construction to minimize impacts to areas with a higher concentration of Harrington Penstemon. We recommend taking extra care to avoid Harrington Penstemon along the eastern section of the Schoolhouse / Kill Bill Connector, the northern part of the Abrams Gulch Reroute, the northern tip of the Hermit #1 Lower trail, as well as all Road Gulch Trails in East Eagle.

Gypsum Barrens & Cryptobiotic Soil

The gypsum barren slopes along the trail corridor are characterized by low vegetation cover and in many areas they support cryptobiotic soil. These areas could be susceptible to erosion from trail construction and use. Additionally, these areas support unique native plant communities that could be affected by the construction of the trail. It may be advisable to minimize crossings of these exposed gypsum slopes where possible.

### Significant Plant Communities

Three Basin Big Sagebrush (*Artemisia tridentata ssp. tridentata*) / Basin Wildrye (*Leymus cinereus*) communities were identified along drainage bottoms within the West Eagle Trails, as shown by Figure 10. This is a Significant Plant Community listed in Appendix C of the CRVFO Standards for Contractor Inventories (BLM, 2013). The BLM may recommend adjusting the trails to avoid this plant community. It should be noted this vegetation type is fairly common in the Eagle valley.

### Noxious Weeds

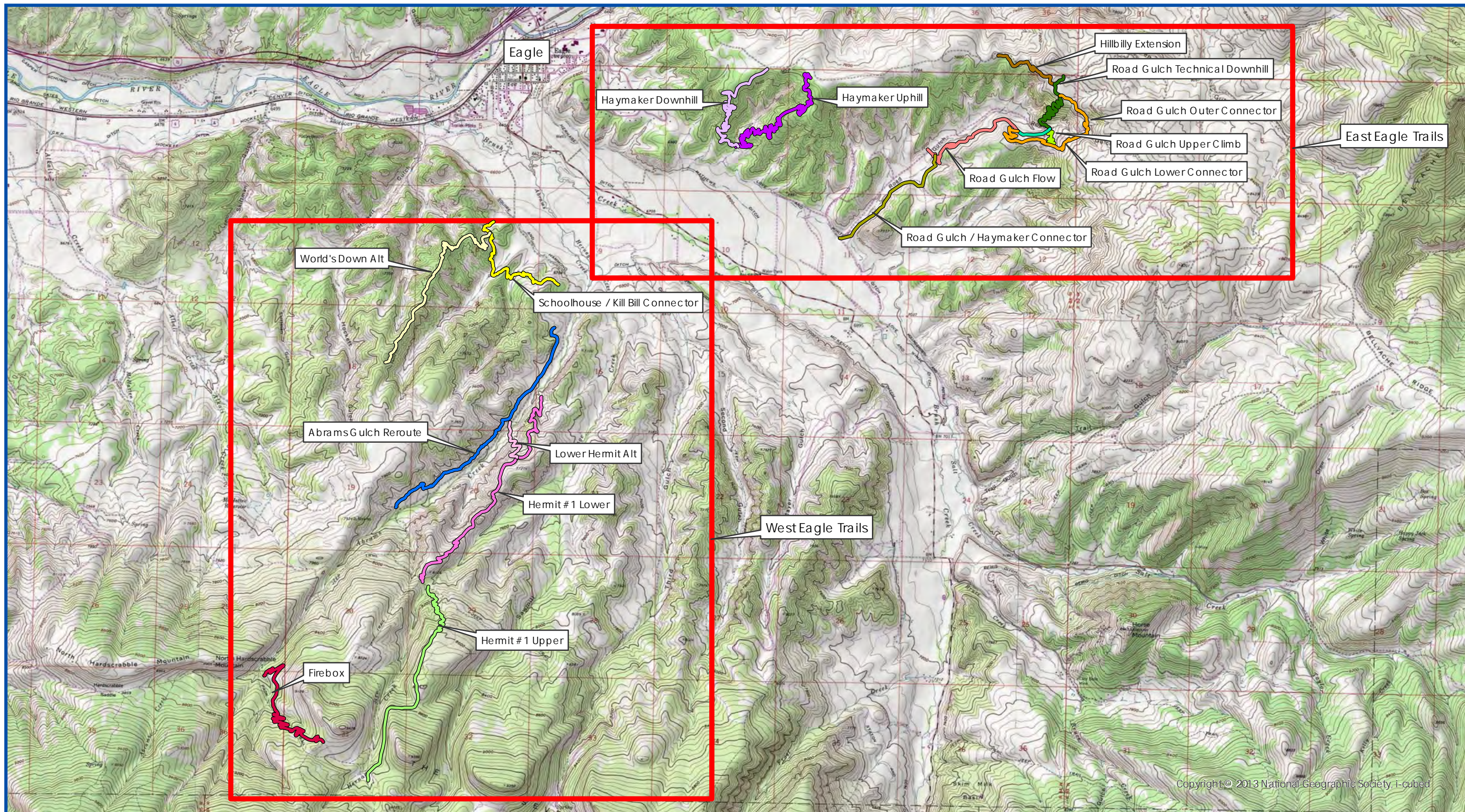
Overall, the plant communities along the proposed trails are dominated by desirable native species and have limited weed establishment. As displayed in Figures 8 and 9, noxious and undesirable weeds were found scattered in relatively small numbers throughout the proposed trails. Higher use of trails and new trail construction have the potential to spread these noxious and undesirable weeds. Integrated weed management techniques should be used to control these species to limit their spread and protect the quality of the native plant communities.

### Wetlands & Aquatic Habitat

As detailed in Section 4.4, the bottom of the Hermit Lower Alt Trail would cross Abrams Creek, a perennial stream with riparian wetlands (Figure 10). This is a jurisdictional stream that is classified as Waters of the United States. Depending on the design of the crossing, a formal wetland delineation and permit coordination with the U.S. Army Corps of Engineers may be required.

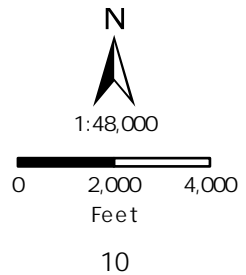
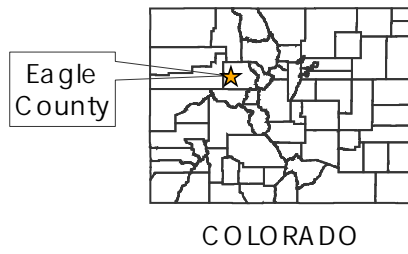
The Firebox Trail does not cross riparian habitat but comes close to a perennial tributary of Abrams Creek. Additionally, the connection between Hermit #1 Upper and #1 Lower ties in near an existing crossing of Hernage Creek. We recommend keeping the current proposed trail alignments in these areas to avoid any additional wetland disturbance.

**6.0 FIGURES**



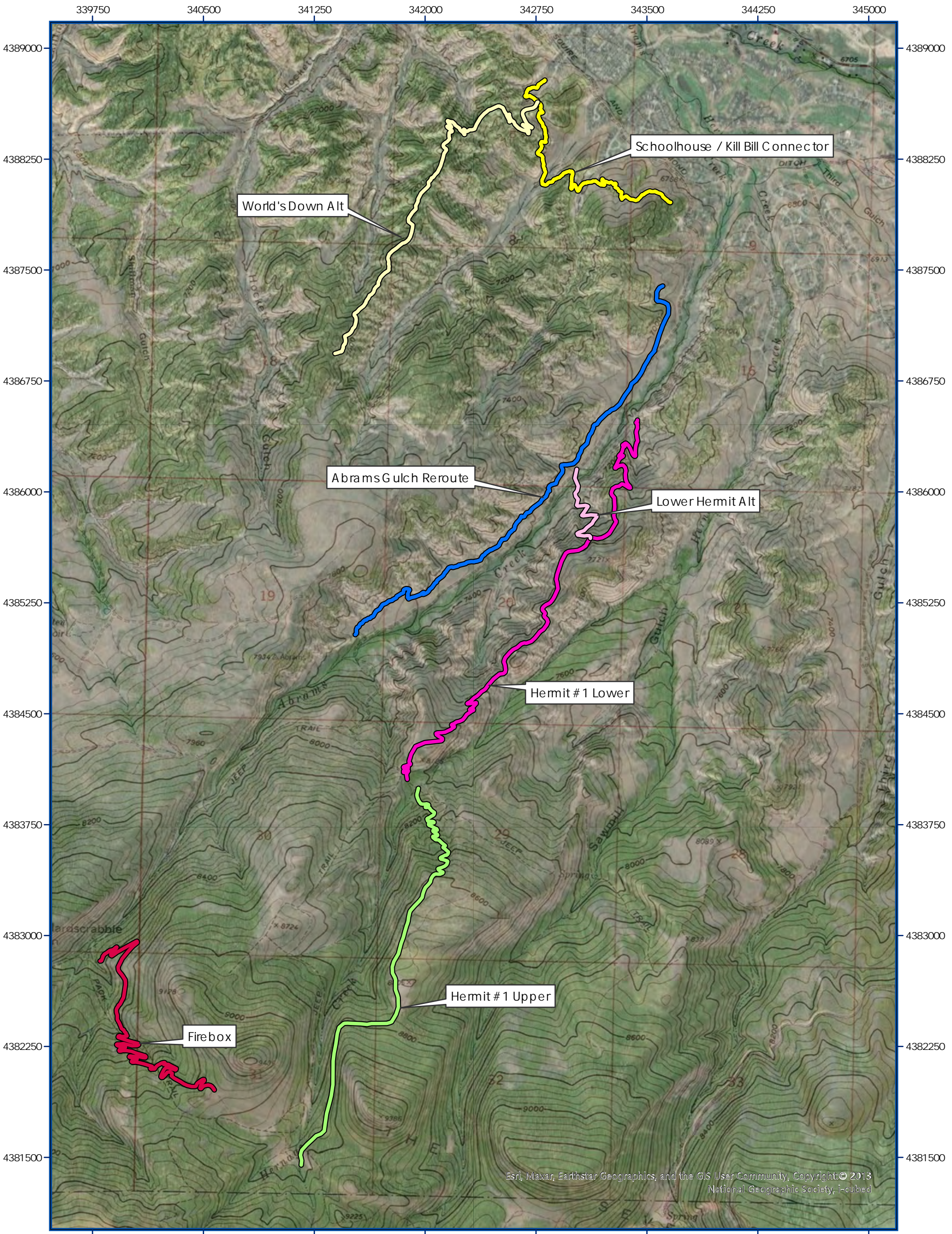
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FIGURE 1. PROJECT LOCATION MAP OVERVIEW  
 VVMTA BOTANICAL SURVEY  
 SEPTEMBER 2025  
 EAGLE COUNTY, CO



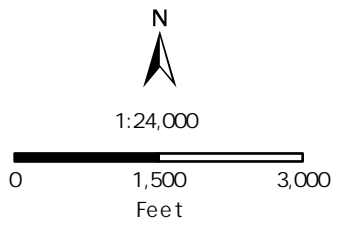
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 710 Tenacity Drive  
 Suite 101  
 Longmont, CO 80504  
 (720) 350-2530  
 www.birchecology.com

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**LEGEND**

- Schoolhouse / Kill Bill Connector
- Abrams Gulch Reroute
- Firebox
- Hermit # 1 Lower
- Hermit # 1 Upper
- Lower Hermit Alt
- World's Down Alt

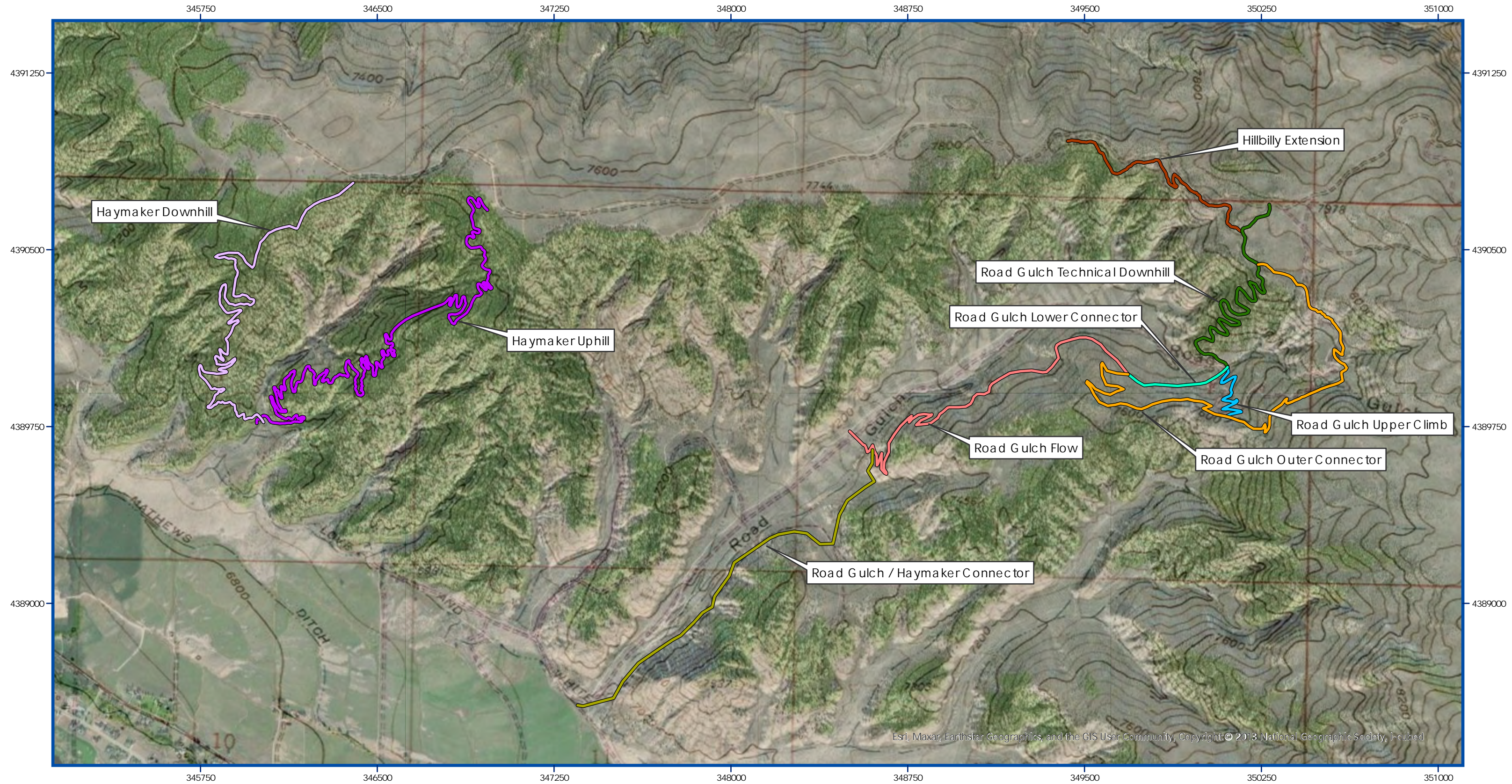


**FIGURE 2. WEST EAGLE TRAILS  
VVMTA BOTANICAL SURVEY  
SEPTEMBER 2025  
EAGLE COUNTY, CO**

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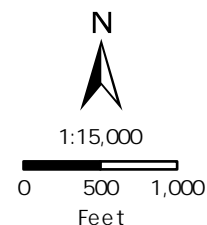


Birch Ecology LLC  
710 Tenacity Drive  
Suite 101  
Longmont, CO 80504  
(720) 350-2530  
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**LEGEND**

- Hillbilly Extension
- Road Gulch Tech Downhill
- Road Gulch Outer Connector
- Road Gulch Lower Connector
- Road Gulch Upper Climb
- Road Gulch Flow
- Road Gulch / Haymaker Connector
- Haymaker Uphill
- Haymaker Downhill

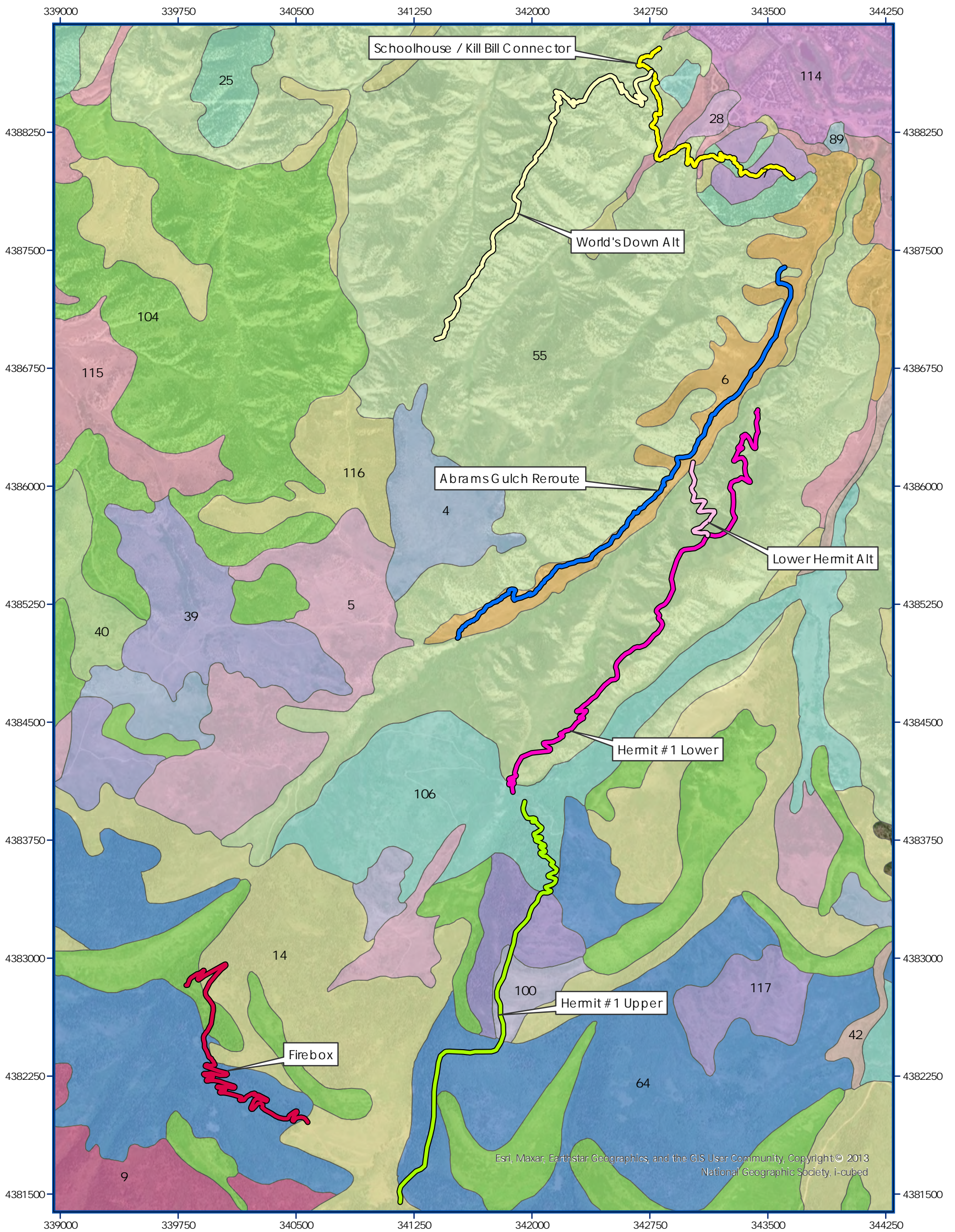


**FIGURE 3. EAST EAGLE TRAILS  
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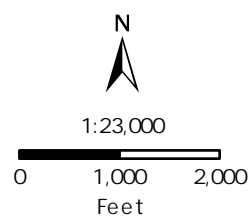


**LEG END**

**NRC S Map Units**

- 6: Almy loam, 1 - 12% slopes
- 7: Almy loam, 12 - 25% slopes
- 14: Callings-Yeljack complex, 25 - 65% slopes
- 25: Cushool-Rentsac complex, 15 - 65% slopes
- 28: Dahlquist-Southace complex, 25 - 50% slopes
- 55: Gypsum land-G ysiorthids complex, 12 - 65% slopes
- 64: Jerry loam, 25 - 65% slopes
- 100: Starley-Staman very channery loams, 3 - 25% slopes
- 104: Torriorthents-Camborthids-Rock outcrop complex, 6 - 65% slopes
- 106: Tridell - Brownstony sandy loams, 12 - 50% slopes, extremely stony
- 115: Yamo loam, 6 - 12% slopes
- 116: Yamo loam, 12 - 25% slopes
- 117: Yeljack-Callings complex, 12 - 25% slopes

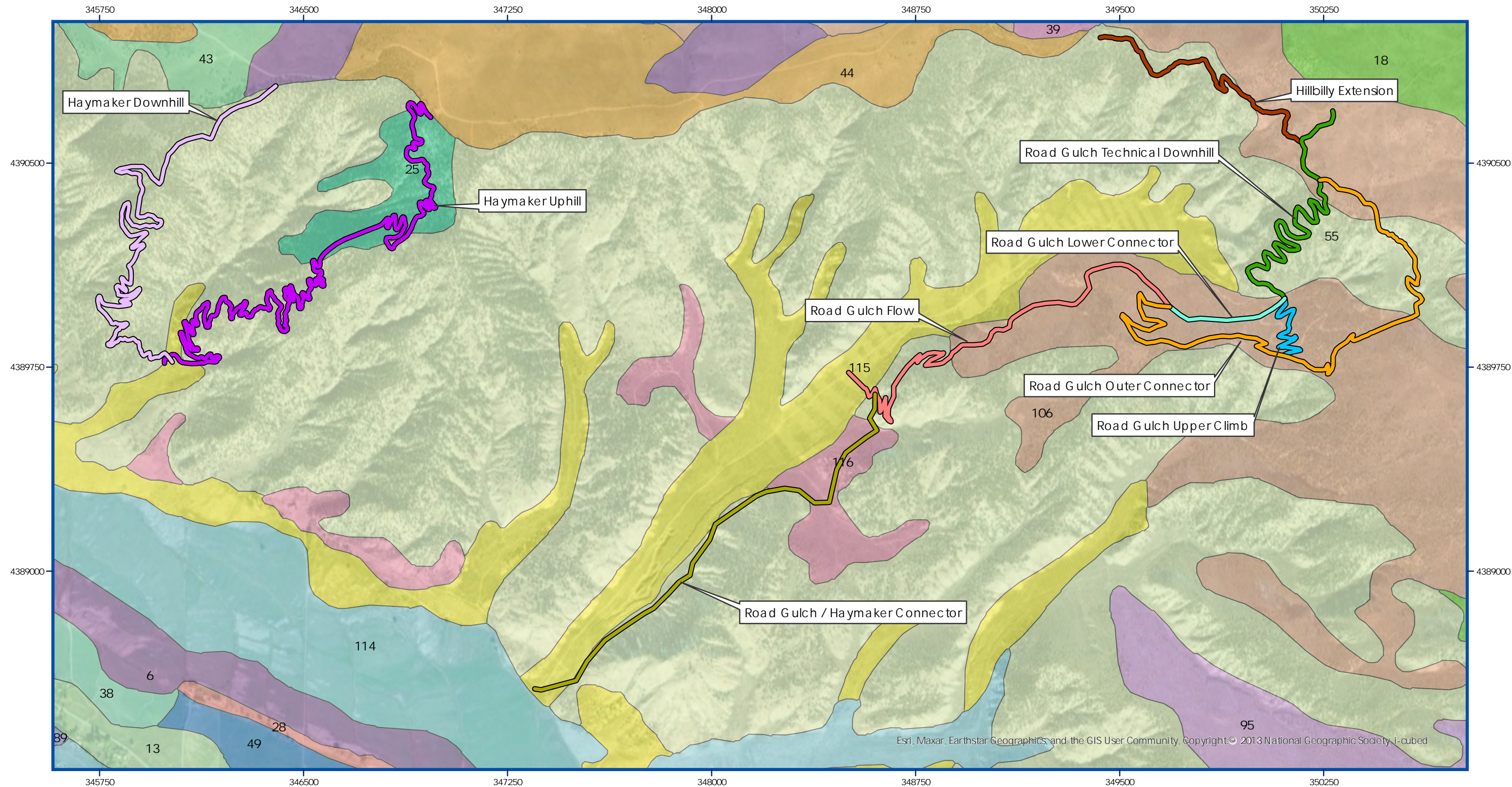
**FIGURE 4. NRC S SOIL MAP - WEST EAGLE TRAILS  
VVMTA BOTANICAL SURVEY  
SEPTEMBER 2025  
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**LEGEND**

- Hillbilly Extension
- Road Gulch Tech Downhill
- Road Gulch Outer Connector
- Road Gulch Lower Connector
- Road Gulch Upper Climb
- Road Gulch Flow
- Road Gulch / Haymaker Connector
- Haymaker Uphill
- Haymaker Downhill

**MUSYM**

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li><span style="color: purple;">■</span> 6: Almy loam, 1 - 12% slopes</li> <li><span style="color: lightgreen;">■</span> 13: A tencio-Azeltine complex, 3 - 6% slopes</li> <li><span style="color: green;">■</span> 18: Coche topa -Antrobusa association, 12 - 25% slopes</li> <li><span style="color: cyan;">■</span> 25: Cushool-Rentsac complex, 15 - 65% slopes</li> <li><span style="color: pink;">■</span> 28: Dahlquist-Southace complex, 25-50% slopes</li> <li><span style="color: lightblue;">■</span> 38: Evanston loam, 1 - 6% slopes</li> <li><span style="color: lightgreen;">■</span> 39: Evanston loam, 6 - 25% slopes</li> <li><span style="color: green;">■</span> 43: Forelle-Brownsto complex, 6 - 12% slopes</li> </ul> | <ul style="list-style-type: none"> <li><span style="color: orange;">■</span> 44: Forelle-Brownsto compled, 12 - 25% slopes</li> <li><span style="color: blue;">■</span> 49: Goslin fine sandy loam, 3 - 6% slopes</li> <li><span style="color: lightgreen;">■</span> 55: Gypsum land-Gypsiorthids complex, 12 - 65% slopes</li> <li><span style="color: purple;">■</span> 89: Mussel loam, 1 - 6% slopes</li> <li><span style="color: lightpurple;">■</span> 95: Showalter-Morval complex, 15 - 25% slopes</li> <li><span style="color: lightblue;">■</span> 106: Tridell-Brownsto stony sandy loams, 12 - 50% slopes, extremely stony</li> <li><span style="color: lightblue;">■</span> 114: Yamo loam, 1 to 6% slopes</li> <li><span style="color: yellow;">■</span> 115: Yamo loam, 6 - 12% slopes</li> <li><span style="color: pink;">■</span> 116: Yamo loam, 12 - 25% slopes</li> </ul> |
|---|---|

FIGURE 5. NRC'S SOIL MAP - EAST EAGLE TRAILS  
 VVMTA BOTANICAL SURVEY  
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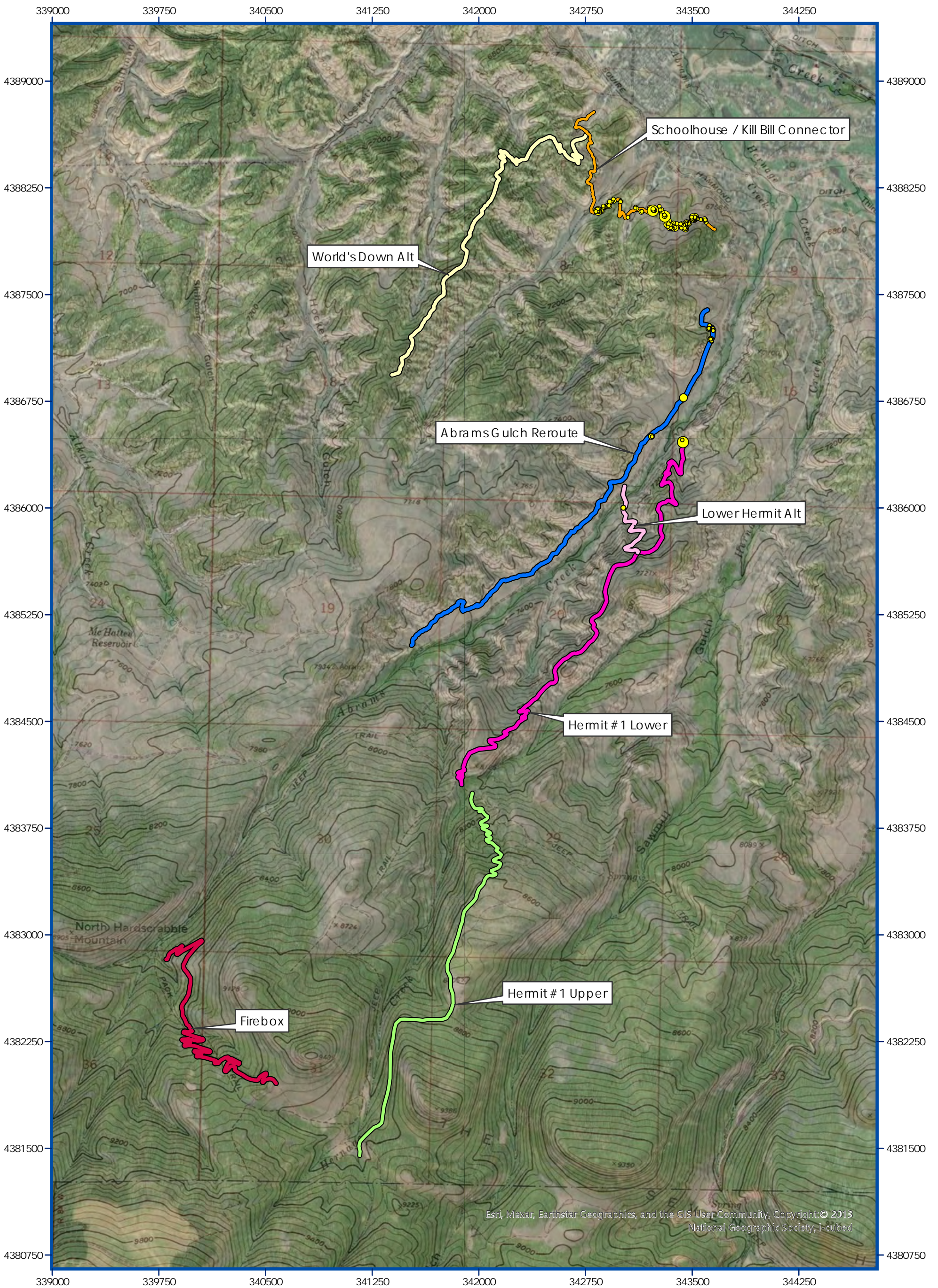
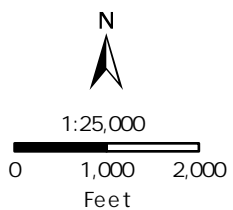


FIGURE 6. HARRINGTON PENSTEMON MAP - WEST EAGLE TRAILS  
 VVMTA BOTANICAL SURVEY  
 SEPTEMBER 2025  
 EAGLE COUNTY, CO

**LEGEND**

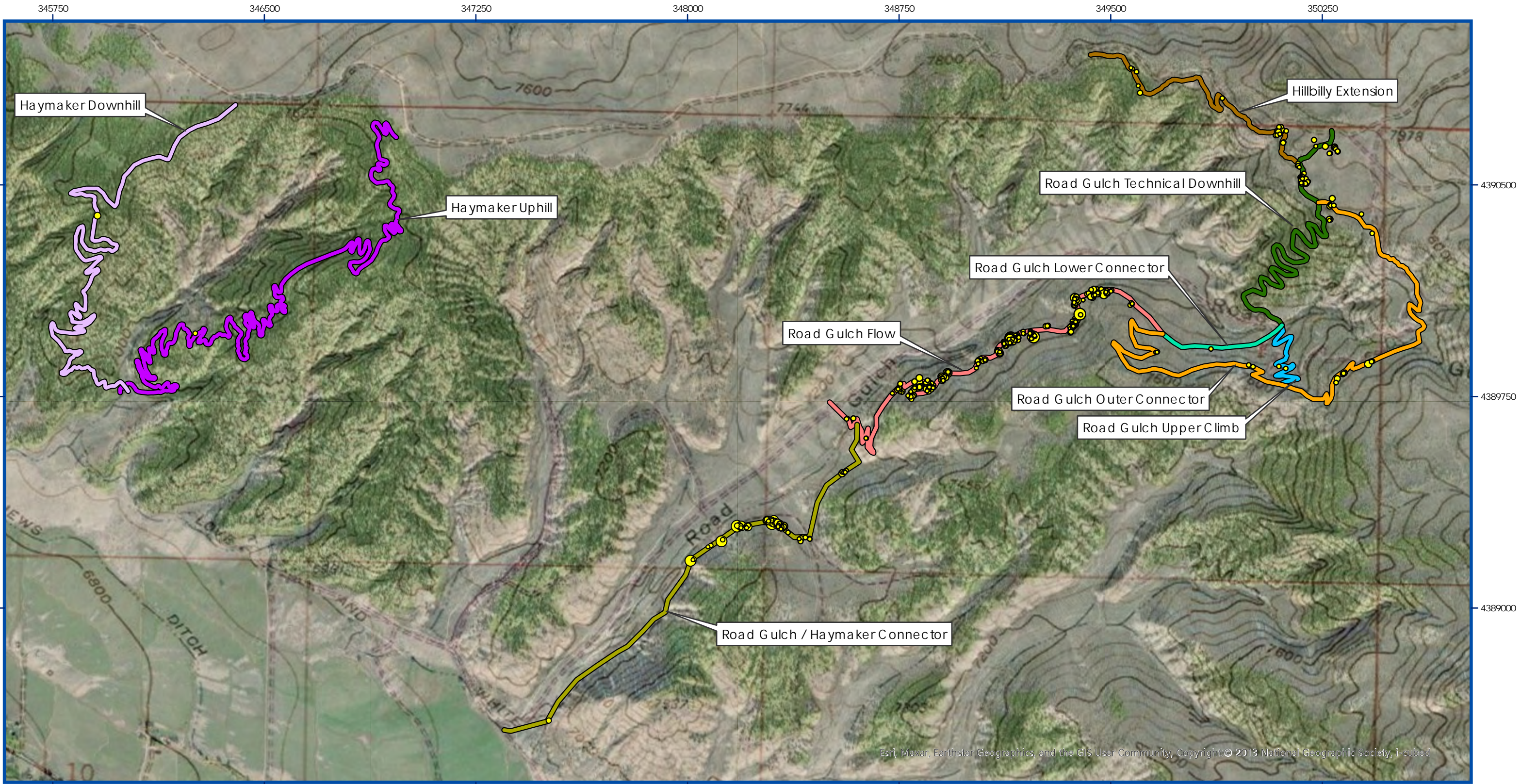
- |                           |                                    |
|---------------------------|------------------------------------|
| Harington Penstemon Count | School House / Kill Bill Connector |
| 1                         | Abrams Gulch Reroute               |
| 5                         | Firebox                            |
| 10                        | Hemit #1 Lower                     |
|                           | Hemit #1 Upper                     |
|                           | Lower Hermit Alt                   |
|                           | World's Down Alt                   |











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Birch Ecology LLC  
 710 Tenacity Drive  
 Suite 101  
 Longmont, CO 80504  
 (720) 350-2530  
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**LEGEND**

- |   |   |
|---|---|
|  Road Gulch Tech Downhill        |  Hillbilly Extension |
|  Road Gulch Outer Connector      |  Haymaker Uphill     |
|  Road Gulch Upper Climb          |  Haymaker Downhill   |
|  Road Gulch Flow                 |   |
|  Road Gulch / Haymaker Connector |   |




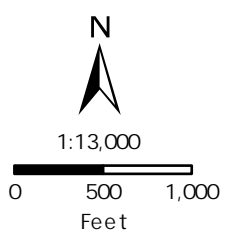
- Harington Penstemon Count
-  1
  -  5
  -  10

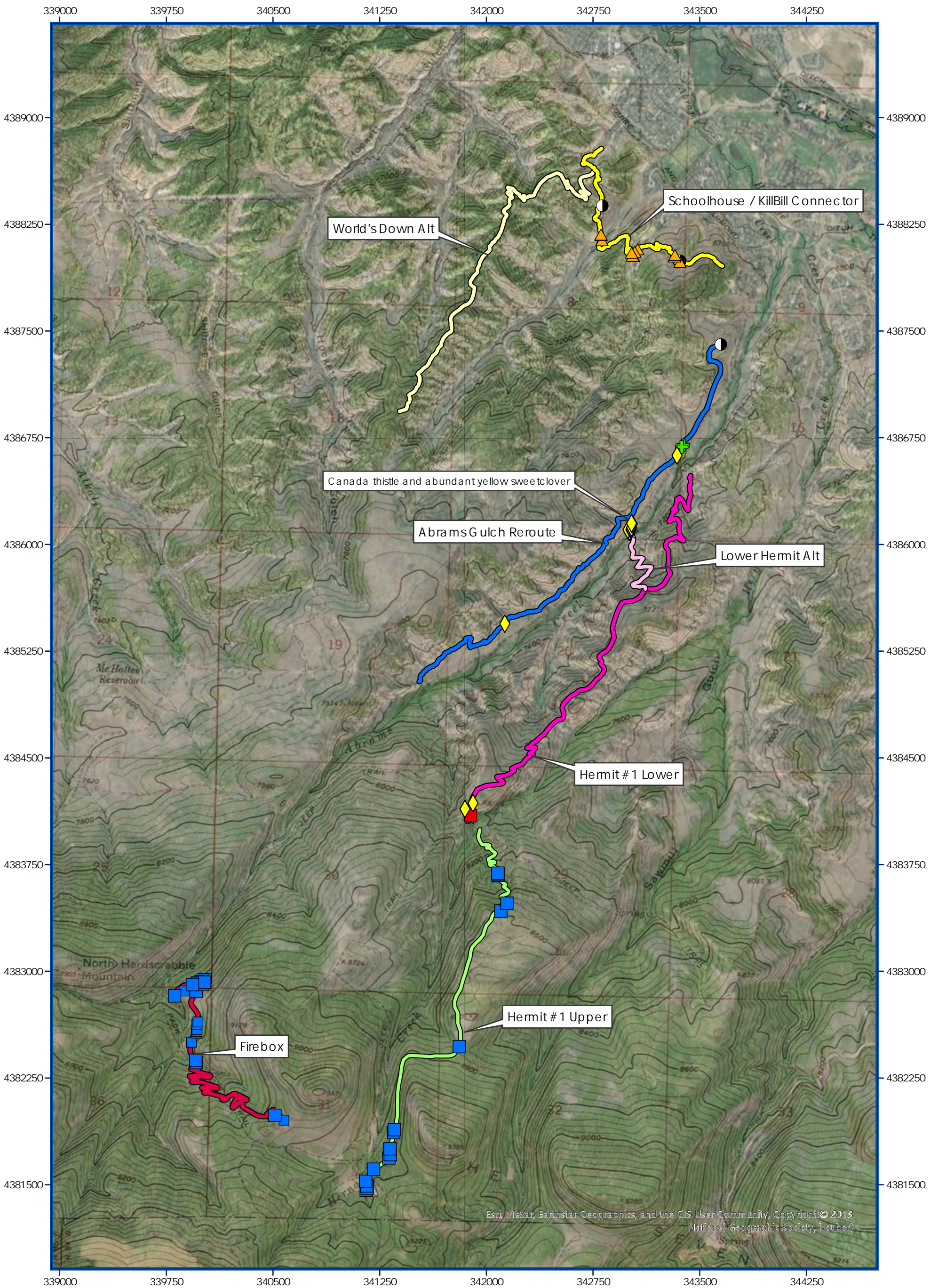
FIGURE 7. HARRINGTON PENSTEMON MAP - EAST EAGLE TRAILS  
 VVMTA BOTANICAL SURVEY  
 SEPTEMBER 2025  
 EAGLE COUNTY, CO



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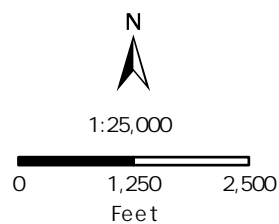
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**LEG END**

- |                                    |                    |
|------------------------------------|--------------------|
| Abrams Gulch Reroute               | Russian Thistle    |
| Firebox                            | White Top          |
| Hemit #1 Lower                     | Houndstongue       |
| Hemit #1 Upper                     | Yellow Sweetclover |
| Lower Hemit Alt                    | Musk Thistle       |
| World's Down Alt                   | Canada Thistle     |
| School House / Kill Bill Connector | Cheatgrass         |

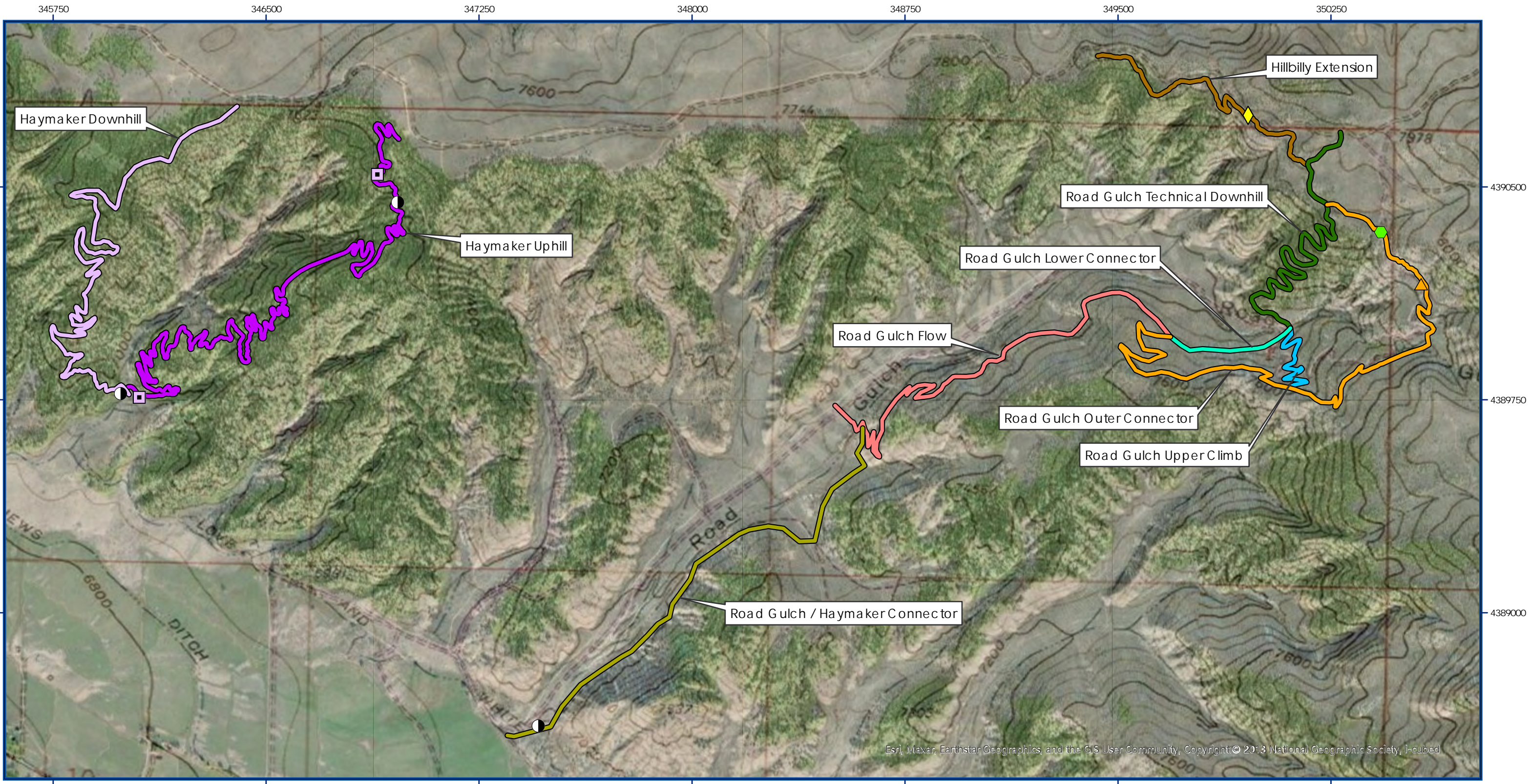


**FIGURE 8. WEED MAP - WEST EAGLE TRAILS**  
VVMTA BOTANICAL SURVEY  
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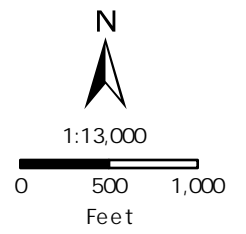
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710 Tenacity Drive  
Suite 101  
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**LEGEND**

Hillbilly Extension	Road Gulch Flow	Cheatgrass	Russian Knapweed
Road Gulch Tech Downhill	Road Gulch / Haymaker Connector	Pennycress	White Top
Road Gulch Outer Connector	Haymaker Uphill	Yellow Sweetclover	
Road Gulch Lower Connector	Haymaker Downhill		
Road Gulch Upper Climb			

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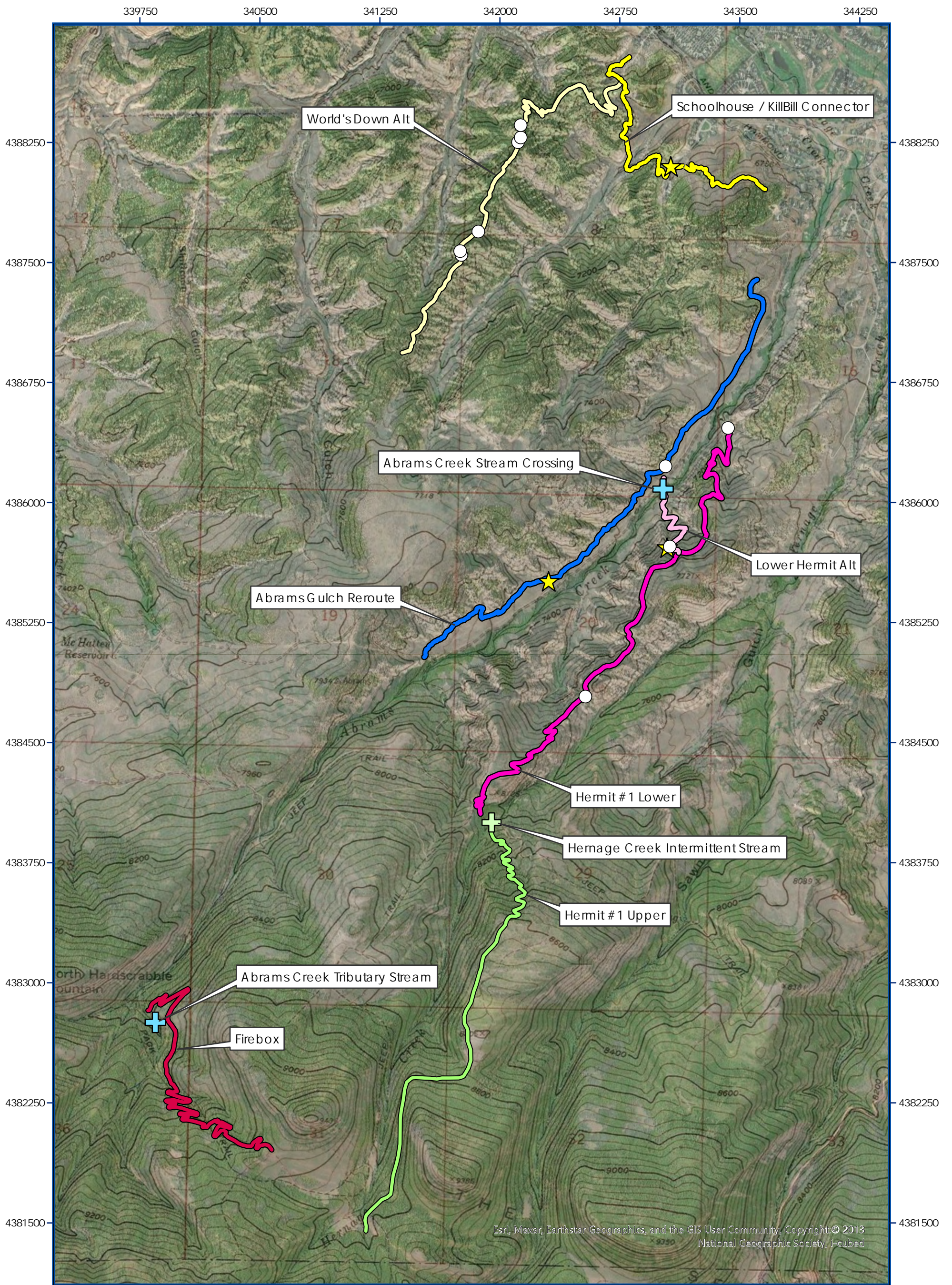


**FIGURE 9. WEED MAP - EAST EAGLE TRAILS**  
 VVMTA BOTANICAL SURVEY  
 SEPTEMBER 2025  
 EAGLE COUNTY, CO

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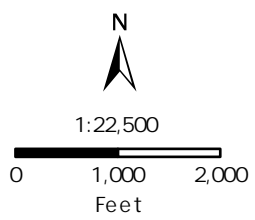
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FIGURE 10. SIGNIFICANT PLANT COMMUNITIES MAP  
WEST EAGLE TRAILS  
VVMTA BOTANICAL SURVEY  
SEPTEMBER 2025  
EAGLE COUNTY, CO

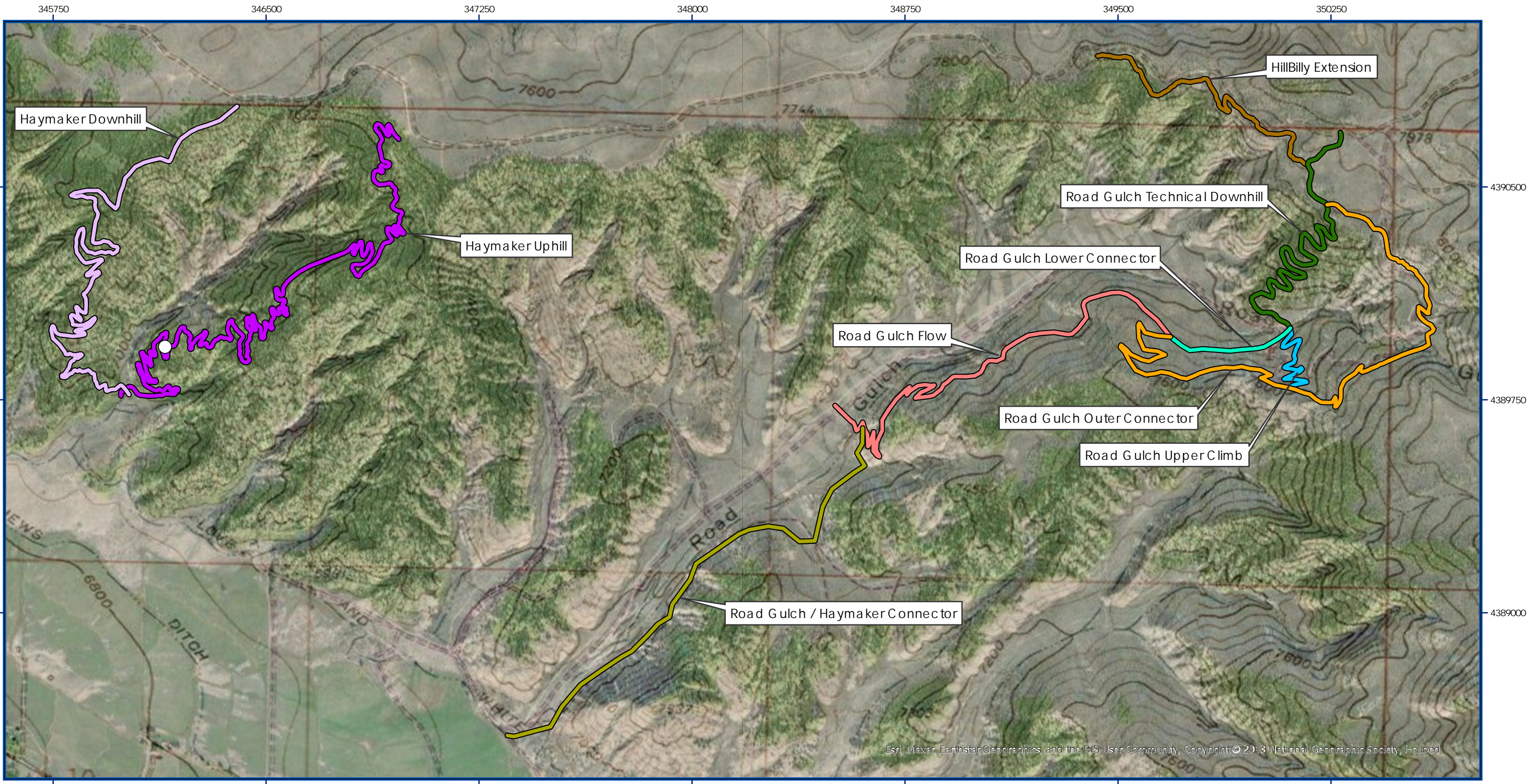
- LEGEND**
- Abrams Gulch Reroute
  - Firebox
  - Hemit # 1 Lower
  - Hemit # 1 Upper
  - Lower Hemit Alt
  - World's Down Alt
  - School House / Kill Bill Connector
  - + Perennial Stream
  - + Intermittent Drainage
  - ★ Basin Wildrye / Big Basin Sagebrush
  - Sensitive Gypsum Barren / Cryptobiotic Soil



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710 Tenacity Drive  
Suite 101  
Longmont, CO 80504  
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**LEGEND**

-  HillBilly Extension
-  Road Gulch Tech Downhill
-  Road Gulch Outer Connector
-  Road Gulch Lower Connector
-  Road Gulch Upper Climb
-  Road Gulch Flow
-  Road Gulch / Haymaker Connector
-  Haymaker Uphill
-  Haymaker Downhill
-  Gypsum Barens

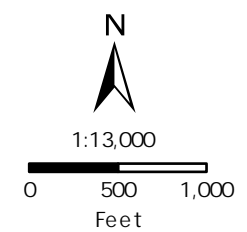


FIGURE 11. SIGNIFICANT PLANT COMMUNITIES MAP  
 EAST EAGLE TRAILS  
 VVMTA BOTANICAL SURVEY  
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 710 Tenacity Drive  
 Suite 101  
 Longmont, CO 80504  
 (720) 350-2530  
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## 7.0 TABLES

**TABLE 1**  
**Proposed Trail Alignments List**  
**2025 VVMTA Botanical Survey**

<u>Name</u>	<u>Length (mi)</u>
<b>East Eagle</b>	
Haymaker Downhill	1.87
Haymaker Uphill	2.85
Hillbilly Extension	.71
Road Gulch Flow	1.28
Road Gulch / Haymaker Connector	1.18
Road Gulch Lower Connector	.29
Road Gulch Outer Connector	1.69
Road Gulch Technical Downhill	1.10
Road Gulch Upper Climb	.35
<b>West Eagle</b>	
Abrams Gulch Reroute	2.31
Firebox	1.98
Hermit #1 Lower	2.60
Hermit #1 Upper	2.25
Lower Hermit Alt	.51
Schoolhouse / Kill Bill Connector	1.53
World's Down Alt	2.08
<b>TOTAL</b>	<b>24.58</b>

**TABLE 2**  
**Vascular Plant Species List**  
**2025 VVMTA Hardscrabble Zone 1 Non-Motorized SRMA Botanical Survey**

<u>WER Species</u>	<u>Common Name</u>	<u>Family</u>	<u>Origin*</u>
<b>Trees</b>			
<i>Abies concolor</i>	White fir	Pinaceae	N
<i>Juniperus scopulorum</i>	Rocky Mountain juniper	Cupressaceae	N
<i>Picea pungens</i>	Blue spruce	Pinaceae	N
<i>Pinus contorta ssp. latifolia</i>	Lodgepole pine	Pinaceae	N
<i>Pinus edulis</i>	Pinyon pine	Pinaceae	N
<i>Populus angustifolia</i>	Narrowleaf cottonwood	Salicaceae	N
<i>Populus tremuloides</i>	Aspen	Salicaceae	N
<i>Pseudotsuga menziesii</i>	Douglas fir	Pinaceae	N
<b>Shrubs</b>			
<i>Acer glabrum</i>	Mountain maple	Aceraceae	N
<i>Amelanchier alnifolia</i>	Serviceberry	Rosaceae	N
<i>Amelanchier utahensis</i>	Utah serviceberry	Rosaceae	N
<i>Artemisia tridentata var. tridentata</i>	Big sagebrush	Asteraceae	N
<i>Artemisia tridentata var. vaseyana</i>	Mountain big sagebrush	Asteraceae	N
<i>Cercocarpus montanus</i>	Mountain mahogany	Rosaceae	N
<i>Chrysothamnus parryi</i>	Parry's rabbitbrush	Asteraceae	N
<i>Chrysothamnus viscidiflorus</i>	Green rabbitbrush	Asteraceae	N
<i>Gutierrezia sarothrae</i>	Snakeweed	Asteraceae	N
<i>Juniperus communis</i>	Common juniper	Cupressaceae	N
<i>Krascheninnikovia lanata</i>	Winterfat	Chenopodiaceae	N
<i>Prunus virginiana</i> var. <i>melanocarpa</i>	Choke cherry	Rosaceae	N
<i>Purshia tridentata</i>	Bitterbrush	Rosaceae	N
<i>Quercus gambelii</i>	Gambel's oak	Fagaceae	N
<i>Ribes cereum</i>	Wax currant	Grossulariaceae	N
<i>Rosa woodsii</i>	Woods' rose	Rosaceae	N
<i>Salix bebbiana</i>	Bebb's willow	Salicaceae	N
<i>Salix exigua</i>	Sandbar willow	Salicaceae	N
<i>Salix lasiandra</i>	Pacific willow	Salicaceae	
<i>Symphoricarpos occidentalis</i>	Western snowberry	Caprifoliaceae	N
<i>Symphoricarpos rotundifolius</i>	Round-leaved snowberry		
<b>Perennial Graminoids</b>			
<i>Bromus marginatus</i> ( <i>Ceratochloa carinata</i> )	Mountain brome	Poaceae	N
<i>Carex lanuginosa</i>	Woolly sedge	Cyperaceae	N
<i>Carex sp.</i>	Sedge	Cyperaceae	
<i>Dactylis glomerata</i>	Orchard grass	Poaceae	I
<i>Elymus cinereus</i>	Basin wild rye	Poaceae	N
<i>Elymus elymoides</i>	Squirrel tail	Poaceae	N
<i>Elymus glaucus</i>	Blue wildrye	Poaceae	N

<i>Festuca spp.</i>	Fescue	Poaceae	-
<i>Hesperostipa comata</i>	Needle-and-thread grass	Poaceae	N
<i>Koeleria macrantha</i>	Junegrass	Poaceae	N
<i>Oryzopsis hymenoides</i>	Indian ricegrass	Poaceae	N
<i>Poa compressa</i>	Canada bluegrass	Poaceae	I
<i>Phalaris arundinacea</i>	Reed canarygrass	Poaceae	I
<i>Psathyrostachys juncea</i>	Russian wildrye	Poaceae	I
<i>Pseudoroegneria spicata</i>	Bluebunch wheatgrass	Poaceae	N

### Perennial Forbs

<i>Abronia elliptica</i>	White sand verbena	Nyctaginaceae	N
<i>Achillea millefolium</i>	Yarrow	Asteraceae	N
<i>Acroptilon repens</i>	Russian knapweed	Asteraceae	I+
<i>Androsace septentrionalis</i>	Rock jasmine	Primulaceae	N
<i>Antennaria rosea</i>	Rosy pussytoes	Asteraceae	N
<i>Arnica cordifolia</i>	Heartleaf arnica	Asteraceae	N
<i>Artemisia frigida</i>	Fringed sage	Asteraceae	N
<i>Astragalus convallarius</i>	Lesser rushy milkvetch	Fabaceae	N
<i>Astragalus sp.</i>	Milkvetch	Fabaceae	-
<i>Balsamorhiza sagittata</i>	Arrowleaf balsamroot	Asteraceae	N
<i>Boechera sp.</i>	Rockcress	Brassicaceae	
<i>Calochortus gunnisonii</i>	Mariposa lily	Calochortaceae	N
<i>Cardaria draba</i>	White top	Brassicaceae	I+
<i>Castilleja chromosa</i>	Red desert paintbrush	Orobanchaceae	N
<i>Castilleja flava</i>	Yellow Indian paintbrush	Fabaceae	N
<i>Cicuta maculata</i>	Water hemlock	Apiaceae	N
<i>Cirsium arvense</i>	Canada thistle	Asteraceae	I+
<i>Clematis columbiana</i>	Rock clematis	Ranunculaceae	N
<i>Comandra umbellata</i>	Bastard toadflax	Santalaceae	N
<i>Echinocereus viridiflorus</i>	Hedgehog cactus	Cactaceae	N
<i>Eriogonum umbellatum</i>	Wild buckwheat	Polygonaceae	N
<i>Euphorbia brachyceras</i>	Horned spurge	Euphorbiaceae	N
<i>Fragaria virginiana</i>	Mountain strawberry	Rosaceae	N
<i>Galium boreale</i>	Northern bedstraw	Rubiaceae	N
<i>Geum triflorum</i>	Prairie smoke	Rosaceae	N
<i>Hedysarum boreale</i>	Utah sweetvetch	Fabaceae	N
<i>Heuchera parvifolia</i>	Littleleaf alumroot	Saxifragaceae	N
<i>Hymenopappus filifolius</i>	Fineleaf hymenopappus	Asteraceae	N
<i>Ipomopsis aggregata</i>	Scarlet gilia	Polemoniaceae	N
<i>Ipomopsis congesta</i>	Ballhead ipomopsis	Polemoniaceae	N
<i>Linum usitatissimum</i>	Common blue flax	Linaceae	I
<i>Lithospermum ruderales</i>	Western stoneseed	Boraginaceae	N
<i>Lupinus argenteus</i>	Silvery lupine	Fabaceae	N
<i>Machaeranthera grindelioides</i>	Rayless tansyaster	Asteraceae	N
<i>Mahonia repens</i>	Oregon grape	Berberidaceae	N
<i>Maianthemum stellatum (Smilacina stellata)</i>	Starry false Solomon seal	Convallariaceae	N

<i>Oenothera caespitosa</i>	Tufted evening primrose	Onagraceae`	N
<i>Oenothera coronopifolia</i>	Crownleaf evening primrose	Onagraceae	N
<i>Opuntia fragilis</i>	Brittle pricklypear	Cactaceae	N
<i>Opuntia polyacantha</i>	Prickly Pear	Cactaceae	N
<i>Oreocarya flavoculata</i>	Roughseed cryptanth	Boraginaceae	N
<i>Oxytropis lambertii</i>	Purple locoweed	Fabaceae	N
<i>Pediocactus simpsonii</i>	Ball cactus	Cactaceae	N
<i>Penstemon caespitosus</i>	Mat penstemon	Plantaginaceae	N
<i>Penstemon harringtonii</i>	Harrington penstemon	Plantaginaceae	N
<i>Penstemon osterhoutii</i>	Osterhout's penstemon	Plantaginaceae	N
<i>Penstemon watsonii</i>	Watson's penstemon	Plantaginaceae	N
<i>Phlox hoodii</i>	Hood's phlox	Polemoniaceae	N
<i>Physaria floribunda</i>	Point-tip twinpod	Brassicaceae	N
<i>Physaria sp.</i>	Bladderpod	Brassicaceae	N
<i>Potentilla pulcherrima</i>	Beautiful cinquefoil	Rosaceae	N
<i>Rudbeckia ampla</i> ( <i>R. laciniata</i> var. <i>ampla</i> )	Cutleaf coneflower	Asteraceae	N
<i>Sphaeralcea coccinea</i>	Scarlet globemallow	Malvaceae	N
<i>Stanleya pinnata</i>	Desert prince's plume	Brassicaceae	N
<i>Taraxacum officinale</i>	Dandelion	Asteraceae	I
<i>Tetradymia canescens</i>	Spineless horsebrush	Asteraceae	N
<i>Trifolium repens</i>	White Dutch clover	Fabaceae	I
<i>Trifolium sp.</i>	Clover	Fabaceae	--
<b>Ferns and Fern Allies</b>			
<i>Equisetum arvense</i>	Field horsetail	Equisetaceae	N
<i>Equisetum hyemale</i>	Scouring rush	Equisetaceae	N
<b>Annual/Biennial Forbs</b>			
<i>Bromus tectorum</i>	Cheatgrass	Poaceae	I+
<i>Alyssum simplex</i>	Alyssum	Brassicaceae	I
<i>Camelina microcarpa</i>	False flax	Brassicaceae	I
<i>Carduus nutans ssp. macrolepis</i>	Musk thistle	Asteraceae	I+
<i>Chaenactis douglasii</i>	Douglas' dustymaiden	Asteraceae	N
<i>Corydalis aurea</i>	Golden smoke	Fumariaceae	N
<i>Cynoglossum officinale</i>	Houndstongue	Boraginaceae	I+
<i>Descurainia incana</i>	Tansy mustard	Brassicaceae	N
<i>Erigeron flagellaris</i>	Trailing fleabane	Asteraceae	N
<i>Melilotus officinalis</i>	Yellow sweet clover	Fabaceae	I
<i>Salsola australis</i> ( <i>S. iberica</i> )	Russian thistle	Chenopodiaceae	I
<i>Thlaspi arvense</i>	Pennycress	Brassicaceae	I

\* Origin: N = Native; I = Introduced; I+ = Colorado State-Listed Noxious Weed

## 8.0 PHOTOS



**Photo 1.** Mixed mountain shrublands are a dominant vegetation type within the survey area. (6/19/25).



**Photo 2.** Mountain big sagebrush shrublands are a preferred habitat type for Harrington penstemon. (6/19/25).



**Photo 3.** Pinyon Pine - Utah Juniper Woodlands are common in the survey area and have a sparse understory. (6/9/25).



**Photo 4.** Aspen-mixed conifer forest is present along the higher elevation trails in the West Eagle survey area. (6/19/25).



**Photo 5.** Stands of Douglas fir occur within the aspen-mixed conifer forest at higher elevations along the West Eagle Trails. (6/9/25).



**Photo 6.** Gypsum barrens are characterized by a low vegetation cover of specialized plants. (6/9/25).



**Photo 7.** Areas of cryptobiotic soil could be sensitive to trampling. (6/19/25).



**Photo 8.** Harrington penstemon was most common in areas with a reduced cover of shorter-stature mountain big sagebrush. (6/9/25).



**Photo 9.** Basin Big Sagebrush (*Artemisia tridentata* ssp. *tridentata*) / Basin Wildrye (*Leymus cinereus*) community along the Abrams Gulch Reroute. (6/19/25).



**Photo 10.** A perennial tributary of Abrams Creek is located near the proposed Firebox Trail. The trail alignment avoids this wetland. (06/19/25).



**Photo 11.** The Lower Hermit #1 Alt Trail crosses well-developed riparian wetland habitat along Abrams Creek. (06/19/25).



**Photo 12.** Dry seasonal stock pond along Hernage Creek near an existing trail crossing. Using the existing crossing will avoid additional disturbance to the creek. (06/19/25).

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**FOR OFFICIAL USE ONLY: DISCLOSURE OF SITE LOCATIONS IS PROHIBITED (43 CFR 7.18)**

**CLASS III CULTURAL RESOURCE INVENTORY  
REPORT OF THE VAIL VALLEY MOUNTAIN TRAILS ALLIANCE  
PROPOSED EAGLE TRAILS PLAN #2 IN  
EAGLE COUNTY, COLORADO**

BLM-CRVFO ##### / OAHP #EA.LM.R270

CASI Project No. 2025-02  
15 September 2025

Prepared for  
Vail Valley Mountain Trail Association

Prepared by  
Nicole Inman, Principal Investigator

**✦ Chipeta Archaeological Site Investigations, LLC ✦**  
1518 O Road  
Loma, Colorado 81524  
BLM Antiquities Permit No. COCO106307344

Submitted to

The Bureau of Land Management  
Colorado River Valley Field Office  
2300 River Frontage Road  
Silt, Colorado 81652

## **ABSTRACT**

Chipeta Archaeological Site Investigations, LLC (CASI) was contracted by Vail Valley Mountain Trails Alliance to complete an intensive Class III cultural resources inventory for the proposed Vail Valley Mountain Trails Alliance Eagle Trails Plan (21.6 miles). Routes were buffered from 100-to-200-feet in width, depending on planning needs. The survey consisted the intensive inventory of 272 acres of Bureau of Land Management lands and 134 acres of private lands in Eagle County, Colorado. The proposed project is the construction of a non-motorized, single-track trail approximately 36-72 in wide. The surface will become hard packed dirt, portions of which will be excavated to create a flat trail on side-slopes. The cultural resources inventory was conducted by Nicole Inman, Principal Investigator, under Bureau of Land Management (BLM) Antiquities Permit No. COCO106307344. William Campbell assisted with field work.

Three linear cultural resources were reevaluated: 5EA520, 5EA.3670, and 5EA.3847 and one site, 5EA.4319, a prehistoric open camp, and two isolated finds, 5EA.4320 and 5EA.4321 were newly recorded. Segment 5EA.520.3 is supporting of the site's overall eligibility. Given that the proposed work is a non-motorized route, there is no expected impacts to the motorized two track. Segments 5EA.3670.4, 5EA.3847.8 are non-contributing elements to the overall eligibility of the sites. As well, the prehistoric site, 5EA.4319, and isolated finds 5EA.4320 and 5EA.4321, are evaluated as not eligible for listing on the NRHP. No further work is recommended for these.

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History Colorado-Office of Archaeology and Historic Preservation  
**COLORADO CULTURAL RESOURCE SURVEY**  
 Cultural Resource Survey Management Information Form

**I. PROJECT SIZE**

Federal acres of potential effect/project:	<u>272</u>	Acres surveyed:	<u>272</u>
State acres of potential effect/project:	<u>134</u>	Acres surveyed:	<u>134</u>
Private acres of potential effect/project:	<u>          </u>	Acres surveyed:	<u>          </u>
TOTAL:	<u>406</u>	TOTAL:	<u>406</u>

**II. PROJECT LOCATION\***

County(ies):	<u>Eagle</u>			
USGS Quad Map(s):	<u>Eagle, Wolcott, The Seven Hermits</u>			
Principal Meridian(s):	<u>6th</u>			
Township <u>4S</u>	Range <u>84W</u>	Section <u>34</u>	<u>SE ¼</u>	<u>SE ¼</u>
Township <u>4S</u>	Range <u>84W</u>	Section <u>36</u>	<u>Lot</u>	<u>16</u>
Township <u>4S</u>	Range <u>84W</u>	Section <u>36</u>	<u>Lot</u>	<u>17</u>
Township <u>5S</u>	Range <u>84W</u>	Section <u>06</u>	<u>NW ¼</u>	<u>NW ¼</u>
Township <u>5S</u>	Range <u>84W</u>	Section <u>06</u>	<u>NW ¼</u>	<u>SW ¼</u>
Township <u>5S</u>	Range <u>84W</u>	Section <u>06</u>	<u>SW ¼</u>	<u>NW ¼</u>

\*CONTINUED ON ADDITIONAL PAGES

**III. SITES**

Smithsonian Number	Resource Type				Eligibility					Effect			Management Recommendations						
	Prehistoric	Historic	Paleontological	Unknown	Eligible	Not Eligible	Need Data	Contributes to a District	Supporting Segment	N/A (not a hist. prop.)	No Adverse Effect	Adverse Effect	No Further Work	Preserve/ Avoid	Monitor	Test	Excavate	Archival Research	Other
5EA.520.3		X			X				X					X					
5EA.3670.4		X			X				X					X					
5EA.3847.8		X			X					X			X						
5EA.4319	X					X				X			X						

**IV. ISOLATED FINDS**

Smithsonian Number	Resource Type			
	Prehistoric	Historic	Paleontological	Unknown
5EA.4320	X			
5EA.4321	X			

Smithsonian Number	Resource Type			
	Prehistoric	Historic	Paleontological	Unknown

6th P.M. T. 5S., R. 84W., Section 01 NESW  
6th P.M. T. 5S., R. 84W., Section 01 NWSW  
6th P.M. T. 5S., R. 84W., Section 01 SESW  
6th P.M. T. 5S., R. 84W., Section 01 SWSW  
6th P.M. T. 5S., R. 84W., Section 01 Lot 10  
6th P.M. T. 5S., R. 84W., Section 01 Lot 11  
6th P.M. T. 5S., R. 84W., Section 01 Lot 12  
6th P.M. T. 5S., R. 84W., Section 01 Lot 13  
6th P.M. T. 5S., R. 84W., Section 01 Lot 14  
6th P.M. T. 5S., R. 84W., Section 01 Lot 15  
6th P.M. T. 5S., R. 84W., Section 01 Lot 16  
6th P.M. T. 5S., R. 84W., Section 01 Lot 5  
6th P.M. T. 5S., R. 84W., Section 01 Lot 6  
6th P.M. T. 5S., R. 84W., Section 01 Lot 9  
6th P.M. T. 5S., R. 84W., Section 02 NWNW  
6th P.M. T. 5S., R. 84W., Section 02 SESE  
6th P.M. T. 5S., R. 84W., Section 02 SWNW  
6th P.M. T. 5S., R. 84W., Section 03 NENE  
6th P.M. T. 5S., R. 84W., Section 03 NENW  
6th P.M. T. 5S., R. 84W., Section 03 NESE  
6th P.M. T. 5S., R. 84W., Section 03 NWNE  
6th P.M. T. 5S., R. 84W., Section 03 SENE  
6th P.M. T. 5S., R. 84W., Section 03 SENW  
6th P.M. T. 5S., R. 84W., Section 03 SWNE  
6th P.M. T. 5S., R. 84W., Section 03 Lot 7  
6th P.M. T. 5S., R. 84W., Section 03 Lot 8  
6th P.M. T. 5S., R. 84W., Section 07 SESE  
6th P.M. T. 5S., R. 84W., Section 08 NESW  
6th P.M. T. 5S., R. 84W., Section 08 NWSE  
6th P.M. T. 5S., R. 84W., Section 08 NWSW  
6th P.M. T. 5S., R. 84W., Section 08 SENW  
6th P.M. T. 5S., R. 84W., Section 08 SESE  
6th P.M. T. 5S., R. 84W., Section 08 SWNW  
6th P.M. T. 5S., R. 84W., Section 08 SWSE  
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6th P.M. T. 5S., R. 84W., Section 08 Lot 3  
6th P.M. T. 5S., R. 84W., Section 09 Lot 1  
6th P.M. T. 5S., R. 84W., Section 11 NENE  
6th P.M. T. 5S., R. 84W., Section 11 NWNE  
6th P.M. T. 5S., R. 84W., Section 11 Lot 2  
6th P.M. T. 5S., R. 84W., Section 16 Lot 3  
6th P.M. T. 5S., R. 84W., Section 16 Lot 4  
6th P.M. T. 5S., R. 84W., Section 17 NESE  
6th P.M. T. 5S., R. 84W., Section 17 NWNW  
6th P.M. T. 5S., R. 84W., Section 17 SESE  
6th P.M. T. 5S., R. 84W., Section 17 SWSE  
6th P.M. T. 5S., R. 84W., Section 18 NENE  
6th P.M. T. 5S., R. 84W., Section 18 SENE

6th P.M. T. 5S., R. 84W., Section 19 NESE  
6th P.M. T. 5S., R. 84W., Section 19 SENE  
6th P.M. T. 5S., R. 84W., Section 20 NENE  
6th P.M. T. 5S., R. 84W., Section 20 NENW  
6th P.M. T. 5S., R. 84W., Section 20 NESW  
6th P.M. T. 5S., R. 84W., Section 20 NWNE  
6th P.M. T. 5S., R. 84W., Section 20 NWSE  
6th P.M. T. 5S., R. 84W., Section 20 NWSW  
6th P.M. T. 5S., R. 84W., Section 20 SENE  
6th P.M. T. 5S., R. 84W., Section 20 SENW  
6th P.M. T. 5S., R. 84W., Section 20 SESW  
6th P.M. T. 5S., R. 84W., Section 20 SWNE  
6th P.M. T. 5S., R. 84W., Section 20 SWNW  
6th P.M. T. 5S., R. 84W., Section 20 SWSE  
6th P.M. T. 5S., R. 84W., Section 21 NWNW  
6th P.M. T. 5S., R. 84W., Section 29 NENW  
6th P.M. T. 5S., R. 84W., Section 29 NESW  
6th P.M. T. 5S., R. 84W., Section 29 NWNW  
6th P.M. T. 5S., R. 84W., Section 29 NWSW  
6th P.M. T. 5S., R. 84W., Section 29 SENW  
6th P.M. T. 5S., R. 84W., Section 29 SWNW  
6th P.M. T. 5S., R. 84W., Section 29 SWSW  
6th P.M. T. 5S., R. 84W., Section 31 NENE  
6th P.M. T. 5S., R. 84W., Section 31 NESE  
6th P.M. T. 5S., R. 84W., Section 31 NWSE  
6th P.M. T. 5S., R. 84W., Section 31 SENE  
6th P.M. T. 5S., R. 84W., Section 31 Lot 7  
6th P.M. T. 5S., R. 84W., Section 31 Lot 8  
6th P.M. T. 5S., R. 84W., Section 32 NWNW  
6th P.M. T. 5S., R. 84W., Section 32 SWNW

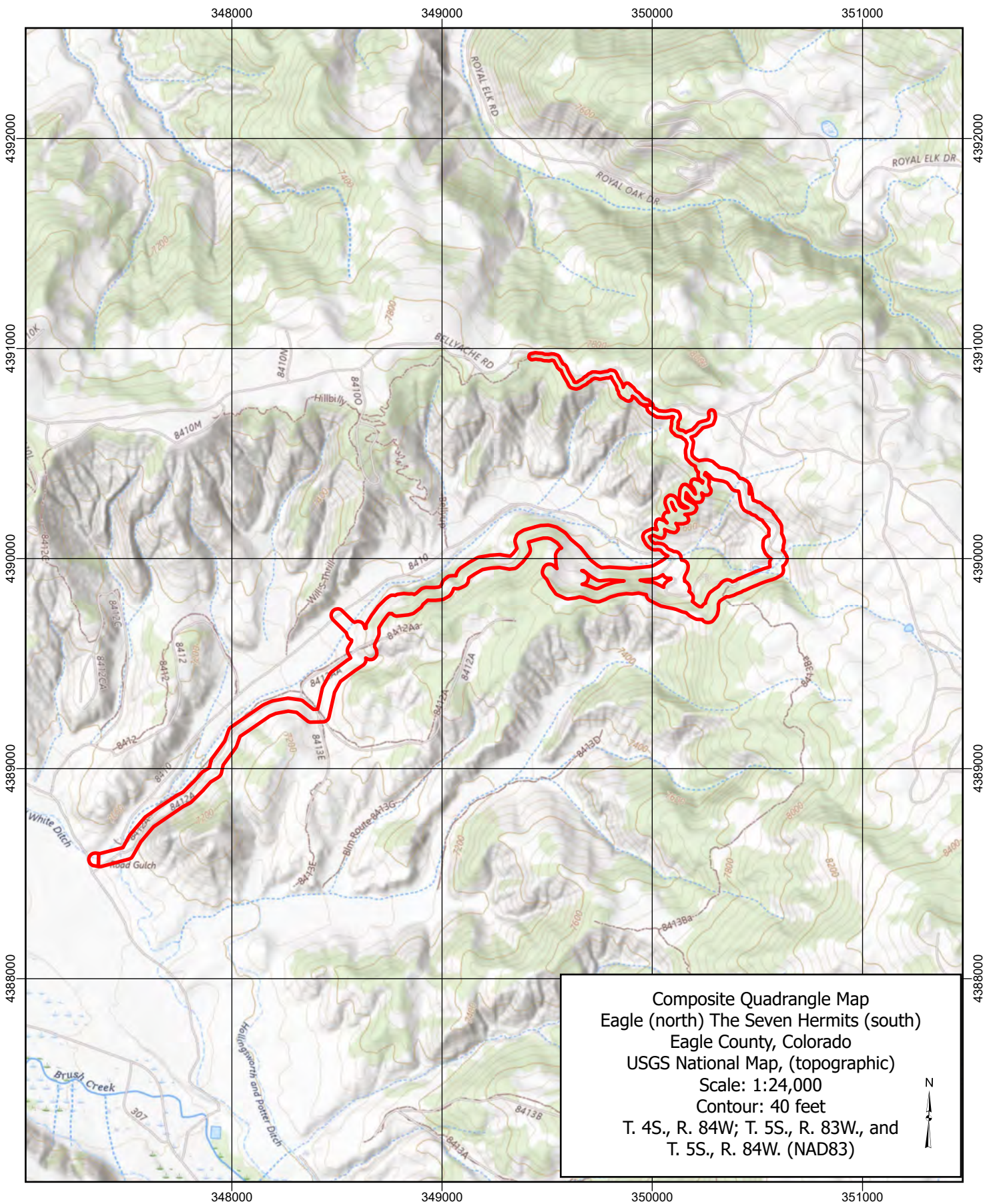


Figure 1. Project location map for the Class III Cultural Resources Inventory Report of the Vail Valley Mountain Trails Alliance Proposed Eagle Trails Plan #2 in Eagle County, Colorado [CASI Project No. 2025-2, BLM No. #####, OAHP Project No. EA.LM.R270].

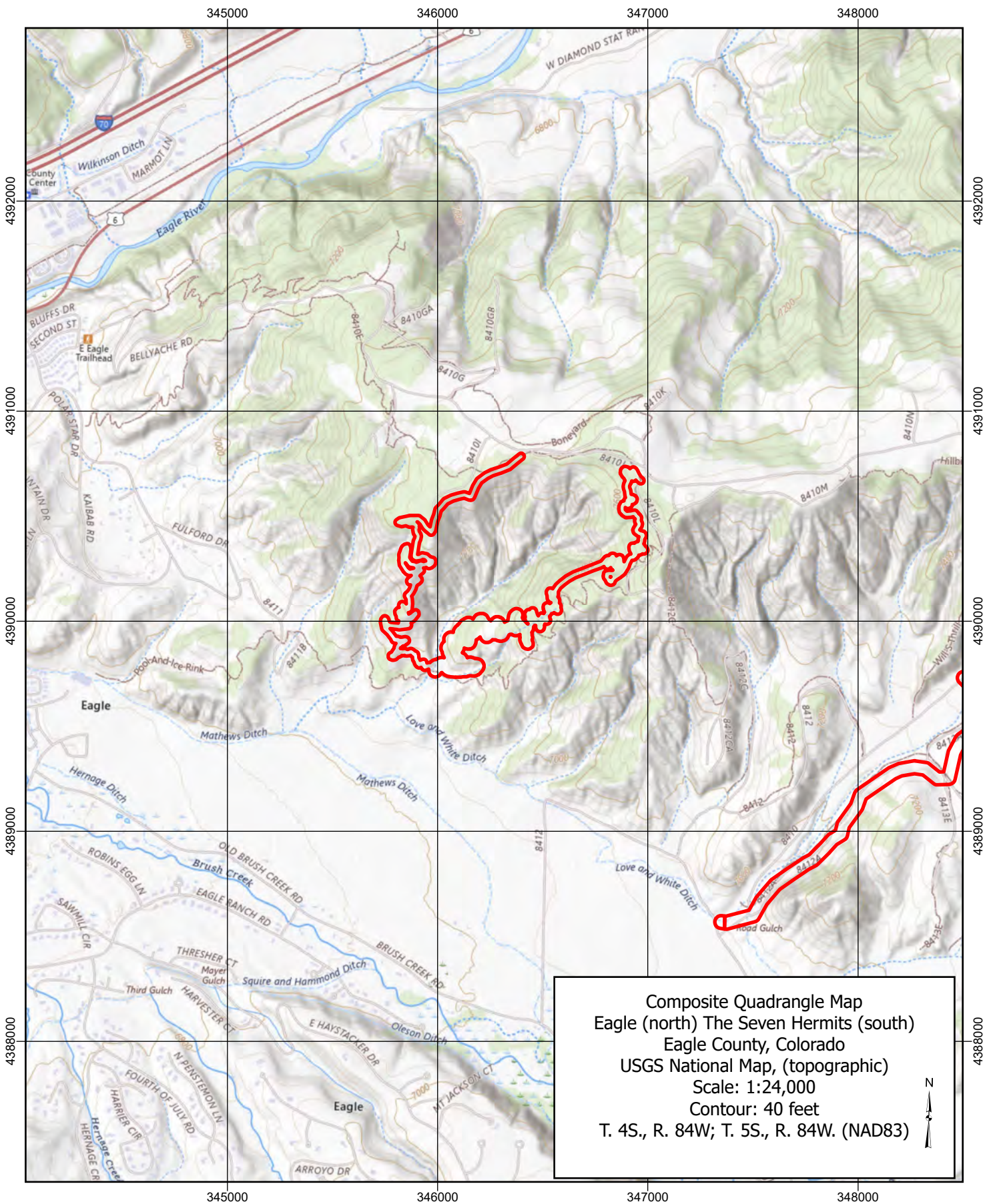


Figure 2. Project location map for the Class III Cultural Resources Inventory Report of the Vail Valley Mountain Trails Alliance Proposed Eagle Trails Plan #2 in Eagle County, Colorado [CASI Project No. 2025-2, BLM No. #####, OAHF Project No. EA.LM.R270].

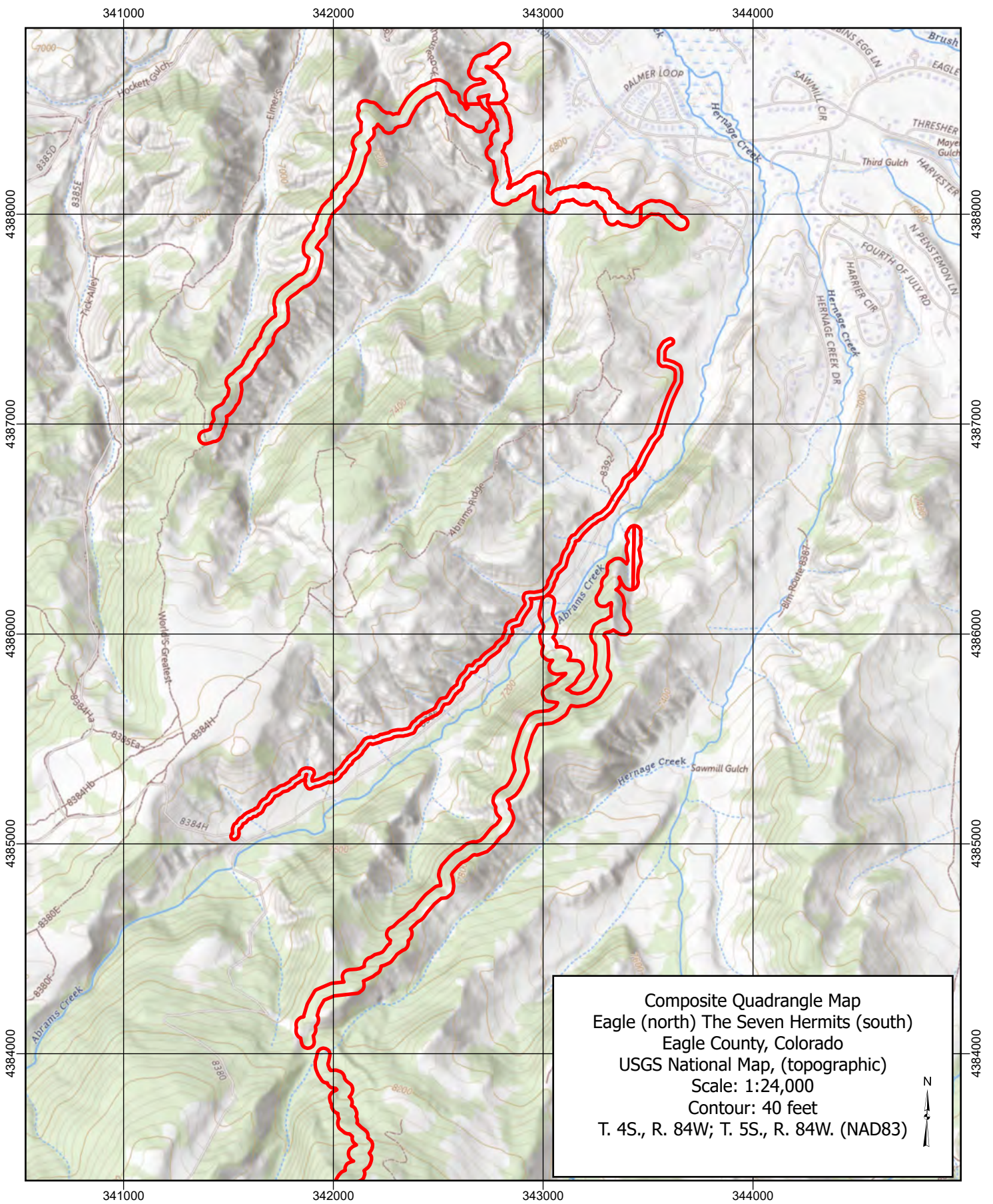


Figure 3. Project location map for the Class III Cultural Resources Inventory Report of the Vail Valley Mountain Trails Alliance Proposed Eagle Trails Plan #2 in Eagle County, Colorado [CASI Project No. 2025-2, BLM No. #####, OAHF Project No. EA.LM.R270].

## **1.0 INTRODUCTION**

Chipeta Archaeological Site Investigations, LLC (CASI) was contracted by Vail Valley Mountain Trails Alliance to complete an intensive Class III cultural resources inventory for the proposed Vail Valley Mountain Trails Alliance Eagle Trails Plan (21.6 miles). Routes were buffered from 100-to-200-feet in width, depending on planning needs. The survey consisted of the intensive inventory of 272 acres of Bureau of Land Management lands and 134 acres of private lands in Eagle County, Colorado. The proposed project is the construction of a non-motorized, single-track trail approximately 36-72 in wide.

For federally funded or licensed projects, such studies are done to meet requirements of Section 106 (54 U.S.C. § 306108) of the National Historic Preservation Act (54 U.S.C § 300101 et seq.), the National Environmental Policy Act of 1969 (42 U.S.C. 4321), Executive Order 11593 (36 F.R. 8921), the Historical and Archaeological Data-Preservation Act of 1974 (16 U.S.C. 469), the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701), and the Archaeological Resources Protection Act of 1979 (16 U.S.C. 470aa et seq., as amended). These laws are concerned with the identification, evaluation, and protection of fragile, non-renewable evidence of human activity, occupation, and endeavor reflected in districts, sites, structures, artifacts, objects, ruins, works of art, architecture, and natural features that were of importance in human events. Such resources tend to be localized and highly sensitive to disturbance.

Files searches occurred on 25 June 2025 through the BLM Colorado River Valley Field Office and the Colorado Historical Society's Office of Archaeology and Historic Preservation (OAHP). These indicated that 11 cultural resources had been previously recorded within the present study boundaries. Of these, eight were previously evaluated officially not eligible and not considered as part of the current project per directive from BLM CRVFO. Eighteen previous inventories overlap the present study boundary. Fieldwork for cultural resources was performed on 4 and 11 August 2025. The inventory was conducted by Nicole Inman, Principal Investigator, under Bureau of Land Management (BLM) Antiquities Permit No. COCO106307344. William Campbell assisted with the field work.

## **2.0 LOCATION OF THE PROJECT AREA**

The project area is located southwest and northeast of Eagle Valley, and south of the I-70 corridor, in Eagle County, Colorado. Specifically, the study area lies within T. 4S., R. 84W., Section 34, 36; T. 5S., R. 83W., Section 6; T. 5S., R. 84W., Section 1-3, 7-9, 11, 16-21, 29, 31, 32; 6<sup>th</sup> PM (Figure 1-4).

## **3.0 ENVIRONMENT**

The project area is within the southern portion of the Sand Wash Basin. The basin, which comprises some 4000 square miles in the north central portion of Colorado and is an extension of the Wyoming Basin Province, was formed in Late Cretaceous or early Tertiary times. It subsided sufficiently to accumulate nearly 9000 feet of Cenozoic wind and freshwater deposits. The higher elevations of the basin are supported by older rocks of Mesozoic and Paleozoic sediments, or Tertiary intrusions (Young and Young 1977:51-52). The topography of the area has been

modified by the Eagle River and its tributaries. West of the town of Eagle is the confluence of the Colorado and the Eagle rivers. The Eagle River drains much of the landscape of the region; major tributaries of the Eagle River include Gypsum, Gore and Brush Creeks.

Northwest of the town of Eagle is capped by Tertiary-age basalt flows and Pennsylvanian-age evaporitic facies. To the west, Jurassic and Cretaceous sediments occur. South of Eagle, red and orange sandstone and shale of the Triassic, Permian, and Pennsylvanian ages blanket Hardscrabble Mountain (Reed et al 2008:3). Within the study area routes, six geologic deposits are present: Quaternary gravel and alluvium; Pennsylvanian-age Eagle Valley Evaporite and Minturn Formation, Jurassic Era Morrison Formation, Triassic Era siltstone and sandstone of the Chinle Formation, and Cretaceous Era Dakota sandstone.

Soils within the project area consist of fifteen different soil types. These are Almy loam, 1 to 12 percent slopes; Almy loam, 12 to 25 percent slopes; Callings-Yeljack complex, 25 to 65 percent slopes; Cushool-Rentsac complex, 15 to 65 percent slopes; Dahlquist-Southace complex, 25 to 50 percent slopes; Forelle-Brownsto complex, 12 to 25 percent slopes; Gypsum land-Gypsiorthids complex, 12 to 65 percent slopes; Jerry loam, 25 to 65 percent slopes; Starley-Starman very channery loams, 3 to 25 percent slopes; Torriorthents-Camborthids-Rock outcrop complex, 6 to 65 percent slopes; Tridell-Brownsto stony sandy loams, 12 to 50 percent slopes, extremely stony; Yamo loam, 1 to 6 percent slopes; Yamo loam, 6 to 12 percent slopes; Yamo loam, 12 to 25 percent slopes; and Yeljack-Callings complex, 12 to 25 percent slopes (Natural Resources Conservation Services, Web Soil Survey 2025).

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The proposed route is located on slopes southwest and northeast of Brush Creek. The elevation range is between 6920 and 9000 feet. The topography is composed of steep slopes within a brushy mountain ecological site which exhibits dense vegetation communities of oakbrush, mountain mahogany, and serviceberry and other mountain brush, as well as mountain pinyon and juniper communities with sagebrush and rabbitbrush. These communities support a variety of wildlife species although the intensive development activities of the area and the proximity of Interstate 70 have pushed most to surrounding mountains. Mule deer, elk, coyote, and black bear are common, as are cottontail rabbits, beavers, and various rodents. Mountain lions, bobcats, foxes, skunks, badgers, and weasels are also likely inhabitants. Bird species observed in the area include the jay, raven, red-shafted flicker, long-eared owl, golden eagle and various other raptors.

These mid-range elevations are host to a cool semi-arid climate where temperatures tend to be highly variable. In Eagle, Colorado, at an elevation of 6,535 feet, there is a mean maximum temperature of 61 degrees F and a mean minimum temperature of 25.3 degrees F. The town receives an average of 10.7 inches of annual precipitation, which includes an average of 47.4 inches of snow. The surrounding higher elevations are characterized as cooler and moister. Annually, the high mountain temperatures could average 5 degrees cooler and the precipitation as much as 14 inches greater than the surrounding low elevations. The higher elevations of nearby Hardscrabble Mountain may receive 40 inches of precipitation per year. Over the winter months,

snow accumulates without completely melting, above approximately 8,000 ft (Reed et al. 2008:4).

#### **4.0 CULTURAL HISTORY**

Local and regional archaeological studies indicate nearly continuous human occupation of northwest Colorado for the past 12,000 years. Manifestations of the Paleoindian Era, big-game hunting peoples (ca. 11,500 - 6400 BC); the Archaic Era hunter/gatherer groups (ca. 6500 - 400 BC); the Formative Era horticulturalist/forager cultures (ca. 400 BC- AD 1300); the Protohistoric Era [Late Prehistoric] pre-horse hunter/gatherers (Early Numic [Ute, Shoshone, Comanche], ca. AD 1300 - AD 1650) and historic horse-riding nomads (Late Numic, ca. AD 1650 - AD 1881) have been documented. An overview of the prehistory of the region is provided in a document published by the Colorado Council of Professional Archaeologists entitled *Colorado Prehistory: A Context for the Northern Colorado River Basin* (Reed and Metcalf 1999).

Historic records suggest occupation or use by EuroAmerican trappers, settlers, miners, and ranchers as well. An overview of the historical record is found in the Bureau of Land Management's publication *Frontier in Transition* (O'Rourke 1980). Additional data can be found in the historical context published by the Colorado Council of Professional Archaeologists entitled *Colorado History: A Context for Historical Archaeology* (Church et al. 2007).

Eagle County, formed in 1883, covers 1,692 square miles of mountainous terrain in northwest Colorado. It is named for the Eagle River, which begins in the county's southeast corner, flows westward alongside Interstate 70, and meets the Colorado River near the small community of Dotsero on the county's western edge (Colorado Encyclopedia n.d.).

Eagle and Gypsum were first settled in 1882. According to the Colorado Encyclopedia,

By 1884, there were thirty-one ranches in Gypsum, near the west end of the Eagle valley at the confluence of Gypsum Creek and the Eagle River. Farther east, Eagle struggled to stay afloat in the early years. The town's continuous name changes after 1882 reflected an identity struggle; the name "Eagle" became prominent in 1896 and was finally chosen in 1905. In the late 1890s Eagle served as a supply center for the mining camp of Fulford to the south, but cattle ranching and farming, particularly of potatoes and lettuce, proved to be the mainstay of the local economy thereafter (ibid).

#### **5.0 SUMMARY OF FILES SEARCH**

Files searches occurred on 25 June 2025 through the BLM Colorado River Valley Field Office and the Colorado Historical Society's Office of Archaeology and Historic Preservation (OAHP). These indicated that 11 cultural resources had been previously recorded within the present study boundaries. Of these, eight were previously evaluated officially not eligible and not considered as part of the current project per directive from BLM CRVFO. Eighteen previous inventories overlap the present study boundary. An overview of these, as well as resources and projects located within 1 mile of the project area are located in Appendix A.

Bureau of Land Management General Land Office (GLO) records and historic survey plat maps for the area were reviewed. Township 4 South, Range 84 West and Township 5 South, Range 83 West did not show any cultural manifestations within the survey areas. The 1882 survey plat of Township 5 South, Range 84 West Sections 1, 2, and 11 show a trail up Road Gulch in the vicinity of the historic Redcliff to Dotsero Road (5EA.520). No additional information was found. The USGS Mineral Resources Data System (MRDS), was culled for pertinent information. No mining activity was noted in the area.

## **6.0 STUDY OBJECTIVES**

The proposed project is the construction of a non-motorized, single-track trail approximately 36-72in wide. The surface will become hard packed dirt, portions of which will be excavated to create a flat trail on side-slopes. The purposes of the inventory were to conduct an intensive archaeological survey of areas subject to direct impact from surface disturbance activities; to identify and accurately locate archaeological sites and/or districts and isolated finds; to evaluate these surface finds for inclusion on the National Register of Historic Places (NRHP); to determine the potential effect of the project on all NRHP-eligible resources; and, to make recommendations for the mitigation of the adverse effects on those cultural resources. The presence of cultural resources was considered likely given the number of previously recorded sites in the vicinity.

## **7.0 INVENTORY FIELD METHODS**

An intensive Class III cultural resource inventory was conducted for the linear acres. An intensive inventory was conducted by walking zigzag transects to cover the inventory corridor to a width of 100-200 feet. The survey consisted of a survey of 272 acres of Bureau of Land Management lands and 134 acres of private lands. The archaeologist utilized a USGS 7.5-minute topographic quadrangle map as a guide during the survey as well as flagged lines.

Cultural resources were sought as surface exposures and were to be characterized as sites or isolated finds. A site is the locus of previous human activity (50 year minimum) at which the preponderance of evidence suggests either a one-time use or repeated use over time, or multiple classes of activities. For example: a) Isolated thermal features such as hearths are to be designated as sites, due to the interpretable function of such utilization and the potential for chronometric and economic data of recovery, b) Single element rock art panels are to be designated as sites due to the interpretive nature of such an event and the potential diagnostic value of the motif, c) Similarly, isolated human burials are to be designated as sites, or d) Loci exhibiting ground stone and flake stone in association.

An isolate refers to one or more culturally modified objects not found in the context of a site as defined above. Note that this definition makes no reference to an absolute quantitative standard for the site/isolate distinction. For example: a) A discrete concentration of flakes from the same material regardless of the number of artifacts present likely represents a single, random event and is properly designated as an isolate, or b) Similarly, a ceramic pot bust is to be recorded as an isolate, regardless of the number of shards that remain.

Environmental constraints which might be expected included previous ground disturbance

that has modified the surface so extensively that the likelihood of finding cultural resources is negligible; human activity within the past 50 years that has created a new land surface such that all traces of cultural resources have been eradicated; natural environmental characteristics that are unfavorable to the presence of historic properties; and slopes greater than 30% where no potential for rock shelter, rock art, or other cultural properties associated with rock faces or ledges exist. All cultural resources that qualified as sites, such as prehistoric open camps, lithic scatters, occupied overhangs, rockshelters, and evidence of historic occupation, were recorded as they were encountered to standards set by the BLM and the OAHP.

Sites were to be recorded using the following methods of mapping and note taking. The basic approach to the data collection was the continuous mapping of observed artifacts and features by recording UTM coordinates (NAD 83 Datum) using a Trimble Geo XT. Site maps were to be created using differentially corrected GPS data and ArcMap. Photographs were to be taken at each site and include general overviews and specific artifacts or features. Digital photographs are submitted to the BLM. No artifacts were collected.

## **8.0 CULTURAL RESOURCES INVENTORY RESULTS**

Three linear cultural resources were reevaluated: 5EA520, 5EA.3670, and 5EA.3847 and one site, 5EA.4319, a prehistoric open camp, and two isolated finds, 5EA.4320 and 5EA.4321 were newly recorded. The resources are described below, and location data is provided in Appendix B on Figure B-1, a 7.5-minute series quadrangle map that shows the resources in relation to the proposed project areas. Additional detailed information is provided on the attached OAHP Resource Forms, Appendix B (available at the BLM and OAHP). The survey was limited by areas of exceptionally dense vegetation and steep slopes.

### **8.1 SITE SIGNIFICANCE**

The National Historic Preservation Act of 1966 (NHPA) directs federal agencies to ensure that federally-initiated or authorized actions do not inadvertently disturb or destroy significant cultural resource values. Significance is a quality of cultural resource properties that qualifies them for inclusion in the NRHP. The statements of significance included in this report are field assessments to support recommendations to the BLM and State Historic Preservation Officer (SHPO). The final determination of site significance is made by the controlling agencies in consultation with the SHPO and the Keeper of the Register. The eligibility determination and consultation process is guided by Section 106 of the NHPA (36 CFR 60, 63, and 800). Inventory to identify, evaluate, and mitigate potential effects to cultural resources affected by an undertaking is the first step in the Section 106 process. Title 36 CFR 60.4 establishes the measure of significance that is critical to the determination of a site's NRHP eligibility, which is used to assess a site's research potential:

*The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of State and local importance that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and a) that are associated with events that have made a significant contribution to the broad patterns of history; or b) that are associated with the lives of persons significant in our past; or c) that embody the distinctive characteristics of a type, period,*

*or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or d) that have yielded, or may be likely to yield, information important in prehistory or history.*

## 8.2 CULTURAL FINDINGS

Site **5EA.520**, the Redcliff to Dotsero Road, was originally recorded in 1982 by Sally Crum with Grand River Institute. It was originally described as follows:

Site is an historic stage road built in 1883 to connect the towns of Redcliff and Dotsero, located at opposite ends of the Eagle River Valley. The stage road reportedly began at Redcliff, turned up Squaw Creek, followed it to the confluence of Penney Gulch (or "Ole's Gulch"), then followed the gulch approximately 0.9 mile to a tributary entering from the northwest. (It was here, Ray Beardon of Burns reports, that this great-grandmother, Mrs. Ram, lived at the turn of the century; however, no evidence of an historic site remains today.) At this confluence, a deep rut is visible to the west of the present-day jeep road; Ray Beardon claims this is the result of the old stage road. From here, the stage road continued up the tributary canyon, crossed Bellyache Ridge, then descended Warren Gulch approximately 0.8 miles to the Howe Place. According to the "Bearcat" Beardon, a spring at the ridgetop used by the stage horses was so cold that many, after drinking it too fast, would "keel over and die". Pete DeGraw, who homesteaded on Bellyache Ridge in the 1920s, claims there was an alkali spring at the Howe Place in Warren Gulch out of which passengers would drink, even though told not to by the drivers. Mr. DeGraw says the water would make them ill, hence the name of "Bellyache Ridge".

From the Howe Place, DeGraw reports that the stage road ran due south 0.7 miles past the Cowden Place, then turned west-southwest over a ridge and down Road Gulch to Brush Creek. Turning northwest at the base of the hills and paralleling the course of the present-day Love and White Ditch, the stage road followed the valley northwest to Eagle.

Constructed in 1883, the stage line was operated by John H. Shippee of Redcliff (Knight and Hammock 1965:35). Apparently, the interest in mining carbonate from the volcano north of Dotsero prompted construction of the road. Another branch of the stage followed Gypsum Creek south, then over Cottonwood Pass to Glenwood and Aspen (Bacon 1920s-1930s). In 1887, the construction of the Denver and Rio Grande Railroad made the stage line unprofitable to operated and it was used thereafter only by local residents.

An account written in the 1940s claims, "Over this road traveled the Carson Stage and covered wagons of the later settlers. The Carson Stage stopped at noon at the Frank Allen Place at the mouth of Squaw Creek. This ranch house was known as the Half-way House" (Eagle County History 1940s:108) (5EA.520 site form).

Site segment **5EA.520.3** was originally recorded in 1985 by Brian P. O'Neil and Marcia J. Tate with Powers Elevation. The segment was described as follows:

One cultural resource, an extension of a previously recorded site was observed within the surveyed project area. This site is the remnant of the 1880s era Redcliff-Dotsero Stage Line. That portion of the site associated with this project consists of the road bed marked as an unimproved road which trends NE-SW up Road Gulch.... Given the poor preservation and lack of integrity of this portion of the site, a field evaluation of not eligible to the NRHP is proposed (5EA.520.3 site form).

Bellyache Ridge is named for the alkaline nature of the water, which gave people a "bellyache" when they drank it.

The current project extended segment 5EA.520.3 to the southwest and northeast. Vegetation is pinyon and juniper with serviceberry, rabbitbrush, sagebrush, snakeweed, and grasses. Soils are Yamo loam, 1 to 6 percent slopes; Tridell-Brownstone sandy loam, 12 to 50 percent slopes, extremely stony; and Gypsum land-Gypsiorthids complex, 12 to 65 percent slopes. These soils form on mountainflanks and side slopes and are formed from alluvium and colluvium derived from sandstone, shale, or gypsum, mixed colluvium, and/or mixed residuum (NRCS 2025).

The total length of the segment is 4.8km (3 miles) and is approximately 6m wide. Elevation is 6920 to 7720 feet. The segment is graded as it descends the hillslope from the northeast and declines into a two track in the bottom of the gulch. No unique features were noted, and no indication of an older route was found. The route is passable with a 2WD vehicle. It appears that the Love and White Ditch overlap the bottom portion of the roadway.

The segment retains much of the integrity including location, design, and workmanship (it follows the same general alignment). The setting and feeling are generally similar to how it would have looked during the period of significance, reflecting the undeveloped, agricultural nature of the area. Materials were largely absent. Association is present in the historical record, however, the route in general does not appear to be known as the Redcliff to Dotsero Road; nor does it function as such presently.

#### Evaluation and Management Recommendation

The site was important route for only a brief time between 1883 and 1887. After that period, it was used by local residents. The site was previously evaluated as needs data. The entire route has not been fully documented and the eligibility has been updated to current standards which evaluates fully undocumented resources as eligible until they are completely recorded (Criterion D). The current project field reevaluated the segment as contributing to the overall eligibility of the site. The road will be avoided by the current project.

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Site **5EA.3670**, Bellyache Ridge Road, is located on the ridge above Brush Creek.

Elevation of the site is 6760 - 7960ft. Vegetation is pinyon and juniper, serviceberry, rabbitbrush, snakeweed, and short grasses. Soils are Tridell-Brownstone sandy loam, 12 to 50 percent slopes, extremely stony and Gypsum land-Gypsiorthids complex, 12 to 65 percent slopes. These soils form on mountainflanks and side slopes and are formed from alluvium and colluvium derived from sandstone, shale, or gypsum, gypsiferous material, mixed colluvium, and/or mixed residuum.

The road appears to be an access route for Bellyache Ridge, from the valley on the west side to its intersection with Warren Gulch Road, which appears to have been the former Redcliff to Dotsero Road. The approximate length is 9.4km (5.8 miles). Historic maps were culled to determine the approximate date of the road construction. The road is not present on General Land Office patent maps. The road is present on the Leadville 1:250,000 scale topographic map, ca. 1957 as well as the Wolcott 1:24,000 scale quadrangle map ca. 1962. Both maps show the current alignment. Newspaper mentions indicate the route has been in use since the early 1930s (*The Eagle Valley Enterprise* 1931:1). A mention of the road in a 1957 newspaper indicates traveling "the Old Bellyache Road when that now deserted country was well populated with farmers" (*The Eagle Valley Enterprise* 1957:1). The period of use appears to have been most prominent between 1931 and 1957.

Segment **5EA.3670.4** was recorded with the current project. It should be noted that none of the previous segments have been turned into either History Colorado or BLM CRVFO. Elevation of the segment is 7800-7960ft. The segment recorded with the current project measures 1.2km (0.7 miles) in length and is about 4m wide. The route has been graded and is suitable for a passenger car. It lacks any historic characteristics. No historic artifacts or features were found in association.

The segment retains much of the integrity including location, design, and workmanship (it follows the same general alignment). The setting and feeling are generally similar to how it would have looked during the period of significance, reflecting the undeveloped, agricultural nature of the area. Materials were absent. Early association with specific events or historic local figures is missing.

#### Evaluation and Management Recommendation

Despite the roadway having a site number with three segments, no forms have been completed or turned in as of this project and previous assessments for eligibility are unknown. The road is apparently not significant for any association with the broad pattern of history (Criterion A), nor is it associated with the lives of persons significant in our past (Criterion B). It does not embody distinctive characteristics of a type, period, or method of construction (Criterion C). It is not likely to yield additional information important to the history of the area. Until the entire route can be ground-truthed, the site is field evaluated as eligible for listing on the NRHP. The current segment is field evaluated as supporting the overall eligibility. The road will be avoided by the current project.

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Site **5EA.3847**, The Love and White Ditch (Priority No. 83, Case No. CA0294), was appropriated on July 31, 1889, and first adjudicated in December 17, 1889. Water is taken from

Brush Creek in Eagle County, Colorado, within Township 5 South, Range 84 West, Section 13. According to a decree filed in 1940,

Said ditch is numbered 53. Under former decrees of the Court it has been awarded Priority No. 83 for 2.2 cubic feet of water per second of time relating back to and dating from the 31st day of July, A.D. 1889, under and by virtue of First Enlargement, Priority No. 134 and 2.6 cubic feet of water per second of time relating back to and dating from the 1st day of February, A.D. 1883 under and by virtue of the Original Construction, and also Priority No. 176 for 5.7 cubic feet of water per second of time relating back to and dating from the 10th day of June, A.D. 1897, under and by virtue of the Second Enlargement.

Said ditch is under this decree entitled to Priority No. 455 PP for 9.7 cubic feet of water per second of time relating back to and dating from the 1st day of September, A.D. 1923, under and by virtue of the Third Enlargement.

The claimants of said ditch are Edna L. Chambers, Ray Chatfield, Alex Macdonell, Frank L. Newcomer, Ethlind B. Newcomer, Rose Sproule and the Estate of Mrs. Emma Steacy.

Said Ditch is used for irrigation purposes and takes its supply of water from Brush Creek, in Eagle County, Colorado. The headgate is located on the north bank of said creek at a point whence the Northeast Corner of the Southeast quarter of Section 14, Township 5 South, Range 84 west of the 6th P.M., bears North 30 East about 350 feet.

An application was submitted by the Town of Eagle to change the water rights for the Love and White Ditch Second Enlargement (Ditch No. 53; Priority No. 176) under a plan of augmentation for municipal purposes (*The Daily Sentinel* 1977:13). The Love and White Ditch had historically been used for the irrigation of approximately 150 acres. This application proposed to cease using the share of "Love and White Ditch Second Enlargement water rights for irrigation and release the amount of water supply in Brush Creek to enable diversions to the Gravity Water System to be made when diversions could not otherwise be made because of legitimate demands of other water users" (ibid). The ditch is presently mapped from the headgate to the confluence with a drainage system in Section 3, which is a distance of 5.3km (3.2 miles).

The ditch was likely constructed by John Love. While no early decrees were found to directly associate the ditch with the original builder, the decree published in 1940 indicated one of the owners was Frank L. Newcomer, who was stepson of John W. Love. According to the Eagle County Historical Society: "...Agriculture came to Eagle County in November 1880, when Park County rancher John Love hired two cowboys, Webb Frost and George Wilkerson, to drive 400 head of cattle to the Brush Creek valley" (Eagle County Open Space 2018:4). After a difficult first winter, agriculture became a driving factor in Eagle County's economy for the next 80 years. The document goes on to state,

By 1899, stockman John Love (the money man who first brought cattle to Eagle

County) had established a 640-acre ranch on the property. A brief biography of Love published in 1899 reported that the property "has an abundance of mountain water for irrigation, is improved with a neat residence, good barns, etc." The report also notes, "When he came here the land was raw, but under his supervision it has been brought under excellent cultivation and is now very valuable." Love served on the school board and was elected county commissioner in 1887. That same year, he paid the largest amount of property taxes on Brush Creek. The flat parcel of land above the ranch headquarters was long known as "Love Mesa."

There is a small cemetery on the property that is of particular interest to the Historical Society. Among the people buried there are John Love's first wife, Ellen, and that early-day cowboy, Webb Frost. The Historical Society considers this small graveyard to be significant.

John Love's second wife was Angelina Newcomer, the widow of an early settler from the Burns area in northwest Eagle County. When John Love retired to town (Eagle) in the early 1900s, his stepson, Frank Newcomer, took over the ranching operation. The Hardscrabble Ranch property eventually became known as the Newcomer Ranch (a consolidation of numerous smaller ranches) (Eagle County Open Space 2018:5-6).

Segment **5EA.3847.8** of the Love and White Ditch was documented for the current project. It should be noted that none of the previous segments have been turned into either History Colorado or BLM CRVFO. The segment recorded with the current project measures 112m in length and is about 0.8m in width. The segment consists of a dry ditch located on the west side of a ridge that makes up the east side of a drainage tributary of Brush Creek. Elevation is 6920. Vegetation is occasional juniper trees, sagebrush, and greasewood. Soils are Gypsum land-Gypsiorthids complex, 12 to 65 percent slopes. These are formed from gypsiferous material and mixed colluvium and/ mixed residuum found on mountains, hills, and drainageways.

The ditch drops off the hillslope into the drainage area and disappears due to disturbance of the ground surface within the past 50 years. While additional portions of the ditch may have once been located within the project area, they have been obfuscated by vegetation and other uses of the area such as roads, animal trailing, and recreational activities. In general, this entire area is full of routes with no discernable points of beginnings or destinations, rendering accurate mapping of the ditch alignment nearly impossible, given the lack of use and regular maintenance. It is possible that unnamed ditch alignments may have once been channeled runoff into this ditch system.

The alignment of the ditch generally matches the 1962 Eagle, CO 7.5' quadrangle map and as such, the segment retains integrity of location. This segment was abandoned at some point and infrastructure has been removed, indicating a loss of integrity of design, materials, workmanship, feeling, setting, and association. The current alignment is located within the agricultural fields southwest of the project area.

#### Evaluation and Management Recommendation

The entire ditch is field evaluated as eligible under Criterion B, due to its association with an early prominent resident, John W. Love, of Eagle, Colorado. The ditch is secondarily eligible under Criterion A, for its contribution to the broad pattern of history as an early water project in the Eagle Valley area. Through its use, agricultural development flourished in the first half of the 20th century. The segment evaluated with this project is a non-contributing element of the entire resource due to the lack of integrity. No further work is recommended.

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Site **5EA.4319**, a prehistoric open camp, is located along a south facing slope of Bellyache Ridge. Elevation is 7380 feet. Vegetation is pinyon and juniper forest with sagebrush, prickly pear cactus, and short grasses. Soils are Gypsum land-Gypsiorthids complex, 12 to 65 percent slopes are formed from gypsiferous material and mixed colluvium and/ mixed residuum found on mountains, hills, and drainageways.

Cultural materials are located in an area measuring 11m east-west by 38m north-south. A concentration of 10+ pieces of fire-cracked rock was found. No indication of charcoal or dateable materials was present on the surface, and the likelihood of subsurface materials is low due to shallow soils in this area. Two manos were found. Both are quartzitic manos exhibiting unifacial grinding and weathering. One of these shows evidence of heat reddening. The other may have been used as a hammerstone. Flaked tools include a quartzite, snub-nosed end scraper and a quartzite chopper. Debitage was absent from the site, however, a quartzite core fragment was noted, as well as a heated quartzite cobble.

The site has been disturbed by a modern trail and is lacking most elements of integrity. It lacks association, design, workmanship, and materials. Location has been impacted by the trail. The environment around the site appears much as it would have during the time the site was occupied, retaining both setting and feeling.

#### Evaluation and Management Recommendation

The site is not associated with events that have made a significant contribution to the broad pattern of history; nor is it associated with the lives of persons significant in our past; nor does it embody distinctive characteristics of a type, period, or method of construction; nor has it yielded and is not likely to yield additional information important to the prehistory or history of the area. Accordingly, it is field evaluated as not eligible for listing on the NRHP. No further work is recommended.

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Isolate **5EA.4320** is located along the southeast flank of Abrams Ridge, overlooking Abrams Creek. Elevation is 7160 feet. Vegetation is pinyon and juniper trees with sagebrush, rabbitbrush, and short grasses. Soils are Almy loam, 1 to 12 percent slopes are formed from alluvium derived from calcareous sandstone and/or shale and are found on hills and alluvial fans. Seven flakes are scattered in an area measuring 40m east-west by 70m north-south. Six of these flakes are white chert and the remaining flake is red. All are interior and they range in size from small (9-18mm) to medium (19mm-35mm) in size. There is no indication of buried remains or

features.

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Isolate **5EA.4321** is located off the southwestern flank of Bellyache Ridge. Elevation is 7600 feet. Vegetation is pinyon and juniper with sagebrush and short grasses. Soils are Cushool-Rentsac complex, 15 to 65 percent slopes are composed of alluvium derived from sandstone and shale (Cushool) and residuum derived from residuum weathered from sandstone (Rentsac). Both are found on mountainflanks. The isolate consists of a knife tip fragment of gray quartzite. It measures 2.5 x 2 x 0.3cm.

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## **9.0 DISCUSSION**

As expected, and based on previous finds in the vicinity, cultural resources were encountered. Cultural sites are often found on similar ridges and bench edges in the Colorado River valley, and just as often their remains have been altered by previous artifact and fence post collections. The prehistoric sites are usually camps located in pinyon/juniper forest. They are generally small sites that represent short-term camps related to main trail routes. These ephemeral camps are characterized by little cultural material and low archaeological visibility. Historic facilities were also located that confirm the presence of early homesteaders in the region.

## **10.0 MANAGEMENT SUMMARY**

The eligibility determination and consultation process is guided by Section 106 of the NHPA (36 CFR 60, 63, and 800). Inventory to identify, evaluate, and mitigate potential effects to cultural resources affected by an undertaking is the first step in the Section 106 process. Final determinations of NRHP eligibility and effect should be sought from the controlling federal agencies in consultation with the State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation.

Files searches occurred on 25 June 2025 through the BLM Colorado River Valley Field Office and the Colorado Historical Society's Office of Archaeology and Historic Preservation (OAHP). These indicated that 11 cultural resources had been previously recorded within the present study boundaries. Of these, eight were previously evaluated officially not eligible and not considered as part of the current project per directive from BLM CRVFO. Eighteen previous inventories overlap the present study boundary. Fieldwork for cultural resources was performed on 4 and 11 August 2025. The inventory was conducted by Nicole Inman, Principal Investigator, under Bureau of Land Management (BLM) Antiquities Permit No. COCO106307344. William Campbell assisted with the field work.

Three linear cultural resources were reevaluated: 5EA520, 5EA.3670, and 5EA.3847 and one site, 5EA.4319, a prehistoric open camp, and two isolated finds, 5EA.4320 and 5EA.4321 were newly recorded. Segment 5EA.520.3 is supporting of the site's overall eligibility. Given that the proposed work is a non-motorized route, there is no expected impact to the motorized two track. Segments 5EA.3670.4, 5EA.3847.8 are non-contributing elements to the overall eligibility of

the sites. Also, the prehistoric site, 5EA.4319, and isolated finds 5EA.4320 and 5EA.4321, are evaluated as not eligible for listing on the NRHP. No further work is recommended for these.

## 11.0 REFERENCES

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Eagle County Open Space

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## **APPENDIX A: DOCUMENTATION OF FILES SEARCHES**

**Table A-1.** List of projects overlapping the project areas.

OAHP No.	Reference
MC.LM.R413	Title: A Cultural Resource Management Survey Within The Eagle Planning Unit, Colorado Part I (S# 444) Author: Lutz, Bruce J., William J. Hunt And Cheryl Muceus Date: 01/1979 Contractor: University Of Northern Colorado
EA.LM.NR10	Title: A Cultural Resource Inventory Of The Hardscrabble Cooperative Timber Sale Near Eagle, Colorado Author: Kight, William H. Date: 03/04/1985 Contractor: Bureau Of Land Management Glenwood Springs Resource Area
EA.LM.NR152	Title: 20 Eagle County Livestock Reservoirs And 2200 Foot Pipeline, Eagle County, Colorado Author: McGuire, Mike Date: 09/10/1990 Contractor: Range Conservationist For The Bureau Of Land Management Glenwood Springs Resource Area
MC.LM.R85	Title: Class III Cultural Resource Inventory For The BLM Portions Of The Proposed Rifle-To-Avon Pipeline In Garfield And Eagle Counties, Colorado Author: Conner, Carl E. Date: 11/15/1993 Contractor: Grand River Institute
EA.LM.R54	Title: Diamond S Ranch Land Exchange, Cultural Resource Inventory Of A 160 Acre Block Plus Two Linear Tracts In Eagle County, Colorado Author: Graham, Carole And Sally J. Metcalf Date: 07/03/1998 Contractor: Metcalf Archaeological Consultants Inc.
EA.LM.NR130	Title: Abrams Creek Trail Reopen & Closure Of Existing Trail Cultural Resource Survey In Eagle County, Colorado Author: Hayes, Michael Date: 11/19/1999 Contractor: Bureau Of Land Management Glenwood Springs
EA.LM.R103	Title: Intensive Cultural Resource Survey Of The East Eagle Unit, Eagle County, Colorado Author: Reust, Thomas P. And James M. Brechtel Date: 07/2002 Contractor: James Enterprises Inc.

EA.LM.NR163	Title: Cultural Resource Inventory Of Two Trespass Backhoe Trenches In Eagle County, Colorado (GSFO #1003-5) Author: Harrison, Cheryl Date: 12/18/2002 Contractor: Bureau Of Land Management Glenwood Springs Resource Area
EA.LM.R221	Title: Class III Cultural Resource Inventory Report Of The Hardscrabble/Tenderfoot Travel Inventory In Eagle County, Colorado (Original And Addendum) Author: Pennefather-O'Brien, Elizabeth Date: 01/2003 Contractor: Metcalf Archaeological Consultants, Inc.
EA.LM.R144	Title: Class III Cultural Resource Inventory Report Of Five Trail Segments In The East Eagle Planning Unit In Eagle County, Colorado Author: O'Brien, Patrick And Erin Salisbury Date: 04/2004 Contractor: Metcalf Archaeological Consultants
EA.LM.R149	Title: Class III Cultural Resource Inventory Of Five Trail Segments In The Hardscrabble Tenderfoot OHV Area, Eagle County, Colorado Author: O'Brien, Patrick Date: 05/17/2005 Contractor: Metcalf Archaeological Consultants
EA.LM.R166	Title: Class III Cultural Resource Inventory Report Of 13.5 Miles Of Trail In The Hardscrabble/Tenderfoot OHV Area, Eagle County, Colorado Author: Barnes, Zonna And Elizabeth Pennefather-O'Brien Date: 6/2005 Contractor: Metcalf Archaeological Consultants
EA.LM.R167	Title: Class III Cultural Resource Inventory Of The West Hardscrabble Ponds (5) Hockett Gulch Area, Eagle County, Colorado (GSFO 15805-2) Author: O'Neil, Brian Date: 06/09/2005 Contractor: Dominquez Archaeological Research Group For The BLM, Glenwood Springs Field Office
EA.LM.R180	Title: Town Of Eagle Bureau Of Land Management Habitat Manipulation Project A Class III Cultural Resource Inventory In Eagle County, Colorado (BLM GSFO# 5407-4) Author: McDonald, Kae Date: 11/2006 Contractor: Metcalf Archaeological Consultants

EA.LM.R218	Title: Town Of Eagle: A Class III Cultural Resource Inventory Of The Proposed Eagle Pool And Ice Rink Bike Trail Eagle County, Colorado (BLM CRIR#: 1013-45) Author: McKibbin, Anne Date: 07/2013 Contractor: Metcalf Archaeological Consultants, Inc. For The BLM Colorado River Valley Field Office
MC.LM.R667	Title: Limited Results Report For The Boneyard, Ice Rink, Porcupine Loop And Boy Scout Trails In Garfield, Pitkin, And Eagle Counties (BLM # 1012-39) Author: Huber, Wendly Date: 01/29/2013 Contractor: Bureau Of Land Management Colorado River Valley Field Office
EA.LM.R227	Title: Town Of Eagle Mountain Bike Trail Permit, Class III Cultural Resource Inventory (BLM #: CRVFO 5414-3) Author: Metcalf, Sally Date: 09/24/2014 Contractor: BLM Colorado River Valley Field Office
EA.LM.NR217	Title: Town Of Eagle Greenspeed Bike Race Route And Horton Street Bike Trail Reroute, Class III Cultural Resource Inventory, Eagle County, Colorado (CRVFRO CRIR 5415-1) Author: Melissa Elkins Date: 02/26/2015 Contractor: Metcalf Archaeological Consultants, Inc

**Table A-2.** List of previously recorded cultural resources within approximately one mile of the project area.

Site No.	Site Type	Eligibility
5EA.129	Open lithic	Not eligible, officially
5EA.130	Open lithic	Not eligible, officially
5EA.152	Open camp	Needs data, officially
5EA.153	Open camp	Needs data, field
5EA.173	Open camp	Not eligible, field

5EA.330	Open lithic	Not eligible, field
5EA.355	Isolated find	Not eligible, field
5EA.520*	Redcliff to Dotsero Stage Road	Need data, field
5EA.576	Open camp	Needs data, field
5EA.1046	Isolated find, Archaic	Not eligible, field
5EA.1066	Isolated find	Not eligible, field
5EA.1068*	Historic, habitation	Not eligible, field
5EA.1867	Isolated find	Not eligible, field
5EA.1869	Isolated find	Not eligible, field
5EA.1870	Isolated find	Not eligible, field
5EA.1871	Isolated find	Not eligible, field
5EA.1873	Isolated find	Not eligible, field
5EA.1875	Open camp	Not eligible, officially
5EA.1877	Open lithic	Not eligible, officially
5EA.1878	Open lithic	Not eligible, officially
5EA.1880*	Open lithic	Not eligible, officially
5EA.1881	Open camp	Not eligible, officially
5EA.1882	Historic cairns	Not eligible, officially
5EA.2194	Isolated find, prospect shaft	Not eligible, field
5EA.2493.1*	Abrams Creek Road	Not eligible, officially
5EA.2494	Open lithic	Not eligible, officially
5EA.2495*	Open camp	Not eligible, officially
5EA.2496*	Open camp	Not eligible, officially
5EA.2498	Open lithic	Not eligible, officially
5EA.2499*	Open camp	Not eligible, officially
5EA.2500*	Open lithic	Not eligible, officially

5EA.2502	Historic, homestead	Not eligible, officially
5EA.2503	Open lithic	Not eligible, officially
5EA.2505	Isolated find, Rose Spring	Not eligible, field
5EA.2506	Isolated find	Not eligible, field
5EA.2507	Isolated find, historic	Not eligible, field
5EA.2508	Isolated find	Not eligible, field
5EA.2509	Isolated find	Not eligible, field
5EA.2510*	Open architectural, cairns	Not eligible, officially
5EA.2511	Isolated find, Archaic	Not eligible, field
5EA.2512	Isolated find	Not eligible, field
5EA.2513	Isolated find	Not eligible, field
5EA.2514	Isolated find	Not eligible, field
5EA.2515	Isolated find	Not eligible, field
5EA.2516	Isolated find	Not eligible, field
5EA.2517	Isolated find	Not eligible, field
5EA.2518	Isolated find	Not eligible, field
5EA.2519	Isolated find	Not eligible, field
5EA.3025	Open architectural, leaner	Needs data, officially
5EA.3100	Isolated find	Not eligible, field
5EA.3670*	Bellyache Road	Needs data, officially
5EA.3847*	Love and White Ditch	No assessment on file

\*Located within project area.

**FOR OFFICIAL USE ONLY: DISCLOSURE OF SITE LOCATIONS IS PROHIBITED (43 CFR 7.18)**

**APPENDIX B: OAHP SITE FORMS**  
(BLM and SHPO copies only)