

APPENDIX B. OPEN SPACE & TRAILS ANALYSES



MEMORANDUM

TO: Town of Eagle

FROM: Gabby Voeller, SE Group

DATE: January 12, 2022

RE: Open Space and Conservation Analysis

Open Space and Conservation Analysis

This analysis examines publicly available resource and habitat data for Town Open Spaces and public lands immediately surrounding Eagle. This information can be used to understand resource sensitivity or conditions towards future recreation planning or management activities. However, further study and analysis will likely be required prior to implementation of many of the actions recommended in this plan.

The following data sources were reviewed for each Bureau of Land Management (BLM) Management Zone and Town Open Space property. All data is available on the Colorado Conservation Data Explorer (CODEX) unless otherwise noted.

Mapped wetlands – National Wetland Inventory

Elk, Mule Deer, and Bald Eagle Habitat – Colorado Parks and Wildlife Species Activity Mapping. Lynx and Bighorn habitat data was also reviewed but was not found in the study area.

Noxious Weeds – mapped noxious weeds through the public documenting tool at EDDMaps. This is not considered a complete inventory of noxious weeds in the area.

Wildfire Risk – the overall composite risk occurring from a wildfire by combining burn probability and values at risk rating. This is a layer put together by the Colorado State Forest Service and available on the Wildfire Risk Public Viewer.

Resiliency – An analysis layer put together by The Nature Conservancy depicting adaptability of the landscape to changes. It is a factor of elevation, geology, soil, relative diversity of microclimates, connectedness by natural cover.

Potential Conservation Area - areas representing the Colorado Natural Heritage Program's best estimate of the primary area supporting the long-term survival of targeted species, subspecies and natural communities. It is not a formal designation. This is often a desktop exercise, based on biological and physical factors, and it does not account for land ownership and political concerns. It is useful for land-use planning and conservation strategies but does not have legal meaning or in any way represent an attempt to regulate or limit the use of private property. It does not automatically exclude any activity what-so-ever.

A study was conducted of Penstemon species in East Eagle, and that data is included where available. No areas are Audubon mapped important bird habitat. Soil Erodibility (USA SSURGO) was also evaluated for the BLM zones, measuring soil's susceptibility to detachment.

Town of Eagle Open Space

The Town of Eagle owns 61 parcels of open space, totaling 1,371 acres, within and adjacent to the Town. These parcels have been categorized into 13 open space areas, listed in the table below and shown on the attached map, numbered accordingly.

ID	Name	Acreage
1	Abrams Creek OS	174.2
2	Eagle Ranch OS	862.0
3	Haymeadow OS	58.8
4	Haymeadow Park/School site	15.1
5	Haymaker Trailhead OS Involvement	6.8
6	Spud Cellar OS	34.9
7	Johnson's Corner OS	0.8
8	Bluffs Neighborhood OS	7.1
9	Eagle River OS	13.2
10	Eby Creek OS	3.5
11	Brush Creek OS	145.0
12	Brush Creek OS Extension	46.6
	Neighborhood Connections	2.57

Abrams Creek OS

Abrams Creek OS is a 174.2-acre parcel located beyond the Town boundary and adjacent to Eagle Ranch OS and BLM land. The Town of Eagle acquired this parcel in 2016 and Eagle Valley Land Trust has a conservation easement on the parcel. Existing trails through this parcel are LOV Connection and Abrams Creek trails, and the trails are closed December 15 – April 15 as a seasonal wildlife closure. Endangered penstemon can be found within this

parcel according to the Eagle Valley Land Trust. The parcel is also within mapped Elk Severe Winter Range, Elk Winter Concentration Area, Mule Deer Migration Corridor, Mule Deer Severe Winter Range, Mule Deer Winter Concentration Area, Mule Deer Summer Range, and Elk Summer Range. It is considered highly resilient according to mapping by the Nature Conservancy, suggesting it provides high capacity to adjust to changes. The Town has conducted resource management activities such as restoring a pipeline scar and prescribed burns in this area. The Colorado State Forest Service has mapped the area as moderate and high wildfire risk.

Eagle Ranch OS

Eagle Ranch OS is 862.9 acres encompassing 36 different parcels. There is relative diversity in these parcels, with some small, neighborhood parcels and higher elevation parcels with juniper-sage. Eagle Ranch OS connects to BLM land, County Open Space, Eagle Ranch residential areas, and Abrams and Brush Creek Open Spaces. Existing trails in the open space include LOV Connection, Hernage Creek, Turniphead, Bailey, Third Gulch, Mayer Gulch, Riddle, Wall, School House Rock, Abrams Gulch, and the Highlands Paved Loop and Eagle Ranch Paved Path. Trailheads include Horton Street/School House Rock, Abrams, Hernage Creek, and Arroyo that provide the majority of access to West Eagle/Hardscrabble BLM lands.

The seasonal wildlife closure is December 15 – April 15. Much of the open space is also within mapped Elk Severe Winter Range, Elk Winter Concentration Area, Mule Deer Migration Corridor, Mule Deer Severe Winter Range, Mule Deer Winter Concentration Area, Mule Deer Summer Range, and Elk Summer Range. Mapped noxious weeds in the open space are limited to along Hernage Creek Road. The open space ranges from very highly resilient (around School House Rock and north) to highly resilient around Arroyo, with less resilient areas at lower elevation and within the development. The Colorado Natural Heritage Program has designated the western portion of the Open Space (Third Gulch west) as a potential conservation area. The Colorado State Forest Service has mapped the open space as mix of moderate, high, and highest wildfire risk.

Haymeadow OS

The Haymeadow Open Space is comprised of two parcels totaling 58.8 acres, to the north and south of the proposed Haymeadow development. The northern parcel includes most of the first loop of the Haymaker Trail and a portion of the Haymeadow Paved Trail and is bordered by BLM land to the north. The Haymeadow Wetlands paved path is located within the southern parcel. There is currently no seasonal wildlife closure on these parcels. The southern parcel is within emergent wetlands and contains a few mapped noxious weeds. The northern parcel is located within Mule Deer Winter Concentration Area, Mule Deer Severe Winter Range, Mule Deer Migration Patterns, Elk Winter Concentration Area, Elk Severe Winter Range, Mule Deer Summer Range, and Elk Summer Range. The southern parcel is only Mule Deer Summer Range and Elk Summer Range. Both parcels are

considered less resilient in Nature Conservancy mapping. The parcels are at lowest risk of wildfire according to the Colorado State Forest Service.

Haymeadow Park/School Site

This 15.1-acre parcel is within the Haymeadow development site and has been set aside for future school or park development, but Town Open Space would manage in the intermediary. It is adjacent to the Haymeadow Open Space and bordered by BLM land to the north. The Haymaker and Pool & Ice Rink trails cuts through the northern portion of the parcel, along with the Haymeadow paved path. Most of the parcel is within Elk Severe Winter Range, Elk Winter Concentration Area, and Mule Deer Migration Corridors and it is entirely Mule Deer Summer Range and Elk Summer Range. It is just beyond Mule Deer Winter Concentration Area and Mule Deer Severe Winter Range. The parcel is considered less resilient in Nature Conservancy mapping. The parcel is at lowest risk of wildfire according to the Colorado State Forest Service.

Haymaker Trailhead OS Involvement

The Open Space and Trails Department helps manage the Haymaker Trailhead with the Mountain Recreation District. This 6.8-acre parcel includes the Haymaker parking lot, BMX track, bike park, pump track, and the access to the Haymaker trail. Most of the parcel is within Elk Severe Winter Range, Elk Winter Concentration Area, Mule Deer Summer Range, and Elk Summer Range. It is just beyond Mule Deer migration corridors, Mule Deer Winter Concentration Area, and Mule Deer Severe Winter Range. The parcel is considered less resilient in Nature Conservancy mapping. The parcel is at lowest risk of wildfire according to the Colorado State Forest Service.

Spud Cellar OS

Spud Collar OS is 34.9 acres to the north of the pool and Brush Creek Meadows neighborhood and bordered by BLM land to the west and private land in unincorporated Eagle County to the north. The only trail in this parcel is a short portion of Pool and Ice Rink at the edge of the parcel. The parcel is Elk Severe Winter Range, Mule Deer Summer Range, and Elk Summer Range, and mapped Mule Deer Winter Concentration Area is just beyond the boundary. The parcel is considered less resilient in Nature Conservancy mapping. The parcel is at lowest risk of wildfire according to the Colorado State Forest Service.

Johnson's Corner OS

Johnson's Corner OS is a small, triangular 0.8-acre parcel off Brush Creek Road. There are no existing trails through this parcel. It is within Elk Winter Concentration Area, Mule Deer Summer Range, and Elk Summer Range. There are mapped noxious weeds on the edges of the parcel. The parcel is considered less resilient in Nature Conservancy mapping. The parcel is at moderate risk of wildfire according to the Colorado State Forest Service.

Bluffs Neighborhood OS

The Bluffs Neighborhood OS is a narrow 7.1-acre parcel between Bluff neighborhood homes along Bluffs Drive and Highway 6. There are no sanctioned trails in this area, but there are several user-created trails. It is Elk Summer Range and Mule Deer Winter Concentration Area is just beyond the parcel. The parcel is considered least resilient in Nature Conservancy mapping. The parcel is at lowest risk of wildfire according to the Colorado State Forest Service.

Eagle River OS

The Eagle River OS is 13.2 acres along the banks of the Eagle River between Eby Creek Road and the junction of Highway 6 and Nogal Road. Some of the river itself is included as well. There are no trails in this open space and most of it is mapped river or riparian wetland. It is Elk Summer Range and Mule Deer Summer Range.

Eby Creek OS

The Eby Creek Open Space is 3.5 acres across four parcels on the north side of the interstate, close to the on-ramp for I-70 west and heading up Eby Creek Road. There are no trails in this open space and it is largely wetlands. The parcels are considered least resilient in Nature Conservancy mapping. It is Elk Summer Range, Mule Deer Summer Range, Mule Deer Migration Corridors, and Mule Deer Severe Winter Range. The parcels are at lowest risk of wildfire according to the Colorado State Forest Service.

Brush Creek OS

Brush Creek Open Space is 145 acres, across four parcels. The Open Space extends west from Hockett Ditch to Sylvan Lakes Road at the junction with Brush Creek Road. The open space also borders portions of the Eagle Ranch neighborhood. The Brush Creek Pavilion and playground is located within this open space, as are the kid's fishing pond, community garden, and Brush Creek paved path. Much of the Open Space is mapped wetlands, a mix of forested, emergent, and riparian wetlands, with some ponds as well. The area west of Capitol Street is a very high percentage wetland. Portions of the open space are Elk Winter Concentration Area, Elk Severe Winter Range, Bald Eagle Roost Sites, and Mule Deer Winter Range. The entire open space is Elk Summer Range and Mule Deer Summer Range. There are many mapped noxious weeds within the open space, particularly on the northern portion. The open space is considered less resilient in Nature Conservancy mapping. The open space is a mix of moderate and high risk of wildfire according to the Colorado State Forest Service.

In 2021, an ecological assessment was conducted for 28 acres in Brush Creek OS west of Capitol Street. Additional detail on resource conditions and habitat are available for this study area. Vegetative zones within this study area are palustrian scrub wetlands, palustrine emergent wetlands, forested riparian, and ruderal upland. The soil evaluated on site is indicative of fill soil and is non-native. The assessment found no Threatened,

Endangered, or Sensitive species in the study area. It is also mapped range for bald eagle, black bear, Brazilian free-tailed bat, Canada geese, great blue heron, and mountain lion, and it is considered a human conflict area for mountain lion. Six noxious weeds species were observed in 2020 in the study area, with concentration areas mapped. The assessment recommended realigning treatments around growing season and species. It also recommended the inclusion of mechanical treatments (currently just chemical). Other recommendations include a monitoring program, a map of restoration opportunity areas, and formalized paths/boardwalks for riparian areas.

Brush Creek OS Extension

Brush Creek OS Extension refers to the 46.6 acres along Brush Creek east of Sylvan Lake Road, extending southeast approximately 1.3 miles. This open space is significantly narrower around Brush Creek than Brush Creek OS. The Open Space is bordered by Eagle Ranch to the south and residential lots in unincorporated Eagle County to the north. The Crusher Fine Trail runs the length of the open space. Only a small portion of the parcel is mapped wetlands, with the creek itself and small pockets of riparian wetland and ponds. The open space is within Elk Winter Concentration Area, Mule Deer Migration Corridors, and Bald Eagle Roost Sites. There are some mapped noxious weeds on the eastern edge of the open space. The open space is considered less resilient in Nature Conservancy mapping. The open space is a mix of moderate and high risk of wildfire according to the Colorado State Forest Service.

BLM Management Zones

The Bureau of Land Management is the land manager for many of the areas surrounding Eagle and where many popular trails are partially or fully located. All trails or other recreation facilities proposed on the BLM would undergo NEPA analysis.

Hardscrabble/East Eagle SRMA Recreation Management Zone 1

This zone is oriented towards non-motorized recreation. The zone is largely middle country and front country. These designations are classifications around public access and proximity to developed areas and determine desired recreation setting characteristics such as naturalness, visitor facilities, evidence of use, management controls, and other factors. The BLM approved 12 additional trail miles to be constructed in this zone in its Resource Management Plan.

Eastern Portion

This portion is 8,110 acres in East Eagle extending from Highway 6 to Brush Creek Valley Ranch Open Space. It borders the Bluffs neighborhood, the Kaibob neighborhood in unincorporated Eagle County, Haymeadow Open Space, and Eagle County Open Space. It has 18 miles of existing trails and recreational roads including Bellyache Road, Boneyard, Redneck Ridge, Pool and Ice Rink, Dirt Surfer, Will's Thrill, Belly Up, Hillbilly, and Road Gulch.

Trail density is moderate/high on the northern portion of the zone and very low on the southern portion of the zone, where there are no designated trails.

The zone is within Mule Deer Migration Corridors and is largely Elk Winter Concentration Area, Elk Severe Winter Range, Mule Deer Winter Concentration Area, and Mule Deer Severe Winter Range. It is Mule Deer and Elk Summer Range.

There are no mapped wetlands. Nearly the entire portion is a CNHP Potential Conservation Area. There are no mapped noxious weeds within the zone. Soils are largely moderately erodible, with highly erodible soils on the northern edge and in the Road Gulch area. Wildfire risk is a mix of low risk at lower elevations and moderate risk at higher elevations. The zone is largely most or more resilient, with less resilient areas on the southern portion. A study of Penstemon in East Eagle recorded species on the southern portion. It is unclear whether this study included the full extent of this portion.

Western Portion

This portion is 9,407 acres in West Eagle from Hockett Gulch and the BLM boundary south, with the southern boundary just north of Firebox Road. The eastern boundary is the BLM boundary along Eagle Ranch and east of Hernage Creek, while the western boundary roughly follows Tick Alley. It has 21.7 miles of existing trails and recreational roads including Hernage Creek, Abrams Gulch, Abrams Ridge, World's Greatest, School House Rock, Elmers, Scratch, and Itch. Trail density is relatively low within the zone, with higher densities on the edges around Eagle Ranch/Abrams and Reynolds Wrap and Itch.

The portion is within Elk Summer Range and Mule Deer Summer Range and is largely Elk Winter Concentration Area. A small portion of the zone close to Eagle Ranch is Elk Severe Winter Range. Mule Deer Severe Winter Range and Mule Deer Winter Concentration Areas are located on the northern portion of the zone. Mule Deer Migration Corridors are located just beyond the zone.

There are no mapped wetlands. Only the very southwest portion is CNHP Potential Conservation Area. There are no mapped noxious weeds within the zone. Soils are largely less erodible. Wildfire risk is largely high risk. This portion is largely most or more resilient, with small pockets of less resilient areas.

Hardscrabble/East Eagle Recreation Management Zone 2

This zone is 19,248 acres in West Eagle west of RMZ 1, with the northern boundary at the interstate and the southern boundary along Dead Cow and Mike's Night Out. It has 58.9 miles of existing motorized trails and recreational roads including Maze, Pole Road, Elk Drop, Star Wars, Spring Creek Road, and Dead Cow. Trail density is relatively high in the zone with higher densities around Elk Drop and Star Wars, Maze, and around Itch and Cat Walk.

The zone is within Elk Summer Range and Mule Deer Summer Range and is largely Elk Winter Concentration Area. The northern portion of the zone is Mule Deer Severe Winter Range and Mule Deer Severe Winter Range.

There are no mapped wetlands. The southern portion is CNHP Potential Conservation Area. There are no mapped noxious weeds within the zone. Soils are a mix in terms of erodibility, with more erodible soils around Spring Creek Road and Ledge. Wildfire risk is largely high risk. The zone is largely moderately resilient, with highly resilient largely along the northern portion.

The BLM approved 10.5 additional trail miles to be constructed in this zone in its Resource Management Plan, oriented towards OHVs.

Hardscrabble-East Eagle Area of Critical Environmental Concern

The Hardscrabble-East Eagle ACEC was established to protect one of the highest known concentrations of excellent quality occurrences of Harrington's penstemon, a sensitive plant species. Miles of routes will not increase beyond the baseline of the designated routes.

Eastern Portion

This zone is 1,320 higher elevation acres in East Eagle. Existing trail mileage is relatively limited, with a portion of Boneyard and Redneck Ridge in the zone, along with Bellyache Road along its edge.

The entirety of the zone is mapped Elk Summer Range, Mule Deer Summer Range, Mule Deer Severe Winter Range, and Mule Deer Winter Concentration Area. No portions of the zone are mapped Migration Corridors or Migration Patterns. The entirety of the zone is mapped Elk Winter Range and Summer Range. The southern edge of the zone is mapped Elk Winter Concentration area. Most of the zone is mapped Elk Severe Winter Range, except for a strip running east-west across the zone. No portion of the zone is mapped Migration Corridors or Production Areas.

The CNHP has designated the entirety of the zone as a Potential Conservation Area. A study of Penstemon in East Eagle recorded species on the southern portion. It is unclear whether this study included the full extent of the ACEC. Soil erodibility is moderate to low through most of the area, with some areas of high erodibility on the northern edge and areas of low erodibility along the eastern edge. Most of the area is moderate on the resiliency scale with a few areas along the edges that are highly resilient and areas in the center that are relatively low. The area is at high wildfire risk.

Western Portion

This area is 5,703 acres in West Eagle between Eagle Ranch, the western portion of RMZ 1, and Eagle County Open Space. Hardscrabble Road is the southern boundary. Existing trails are Bailey, 2nd Gulch, 3rd Gulch, Jeep Road, and Hardscrabble Road.

The entirety of the zone is mapped Elk Summer Range and Mule Deer Summer Range. The northern portion is Elk Severe Winter Range, Mule Deer Severe Winter Range, and Mule Deer Winter Concentration Area, and the western portion is Elk Winter Concentration Area. There are Mule Deer Migration Corridors on the northern portion.

The CNHP has designated most of the zone as a Potential Conservation Area. Soil erodibility is moderate through most of the area. Most of the area is more resilient. The area is at high and moderate wildfire risk, with moderate risk more to the south. There is a small wetland along Hardscrabble Mountain Road.

North Side of the Highway

The area north of the Town of Eagle, on the opposite side of the interstate, is also BLM Land. It is not currently managed for recreation and there are no existing trails.

It is Mule Deer Summer Range and Elk Summer Range. Much of the area is Mule Deer Severe Winter Range and Mule Deer Migration Corridors, and some area is Mule Deer Winter Concentration Area. There are bald eagle roost sites close to the interstate.

Soils are moderate to highly erodible. The area is a mix of resiliency, with some more resilient areas mix with less resilient areas. There is a small wetland along Rule Road and some noxious weeds by Rule Road as well. Wildfire risk is moderate at lower elevations and high risk at higher elevations.



MEMORANDUM

TO: Town of Eagle

FROM: Gabby Voeller, SE Group

DATE: November 24, 2021

RE: Trail Analysis

TRAIL ANALYSIS

Introduction

As part of the Open Space and Trails Master Plan, the consultant team analyzed the trails in and around the Town of Eagle. This analysis identifies the strengths and weaknesses of the Eagle area trail system, particularly towards providing desired experiences and opportunities at a variety of ability levels.

The trails included in this analysis are all those within the Town of Eagle, surrounding Bureau of Land Management lands ("BLM"), the National Forest System, and Eagle County Open Space land. The analysis matches the geographic scope of the 2014 IMBA Eagle Area Trails Plan. This is also the study area for the 2022 Open Space and Trails Plan. The trails analyzed provide opportunities for hiking, biking, equestrian, and motorized use. Trails were analyzed by the following criteria and sources:

- Trail Type – singletrack, doubletrack, or paved; categorized using a combination of existing Town of Eagle data and Trailforks data
- Difficulty – beginner, intermediate, advanced, expert, categorized using Trailforks and MTB Project data
- Use Allowed – determined from land manager data
- Location – general area (i.e., East Eagle, West Eagle/Hardscrabble, Brush Creek, In-Town)
- Popularity – Trailforks rates trails on a scale of 1-100 based on level of use. This analysis used the following criteria:
 - Very Popular: score of 76-100
 - Popular: 51-75

- Somewhat Popular: 26-50
- Not Popular: 0-25
- Proximate Trailhead – selected from closest Town of Eagle designated trailhead
- Directionality – based on land manager data; several signed trails are recommended directional, but not mandated
- Land Manager – determined based on mapped boundaries of land managers
- Seasonal Closures – based on land manager policy; depicted holistically on VVMTA maps.
- Function – point to point, loop, short connector

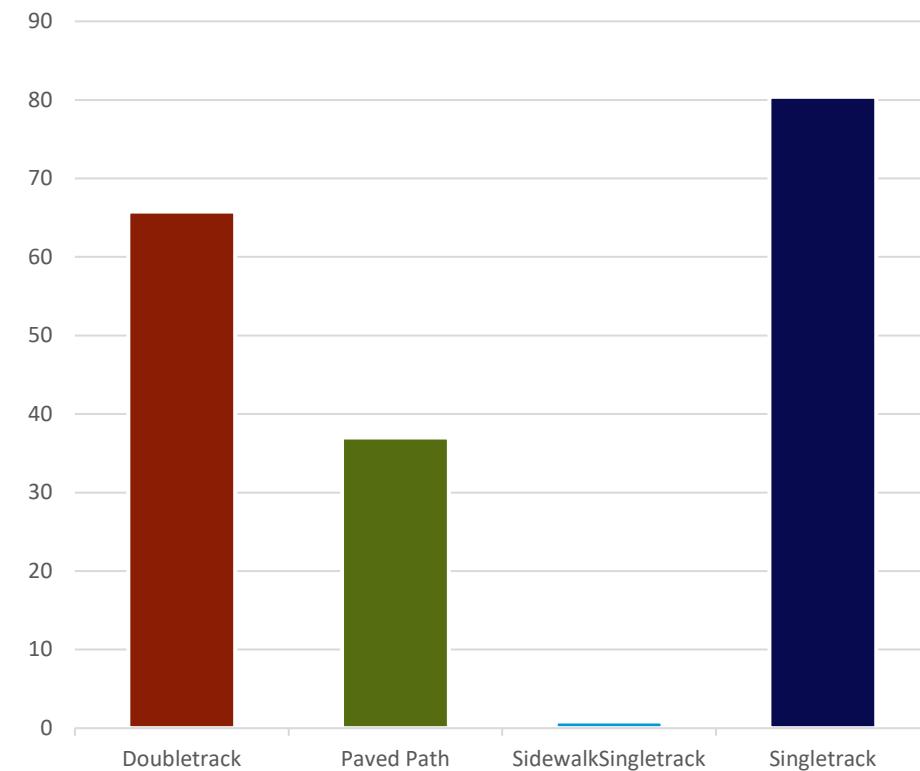
Each trail was included on a list with its respective criteria and analyzed according to different variables. The results are below.

Trail System Background

The Eagle area trail system is a mix of BLM routes, social trails formalized into system routes, and newer, planned natural surface trails and paved paths. Today, the system includes nearly 200 miles of formal trails and recreational roads, along with several unsanctioned social trails. The trail system offers opportunities for several different user types and a range of difficulties.

For this analysis, 131 trails were analyzed for a total of 184 trail miles.

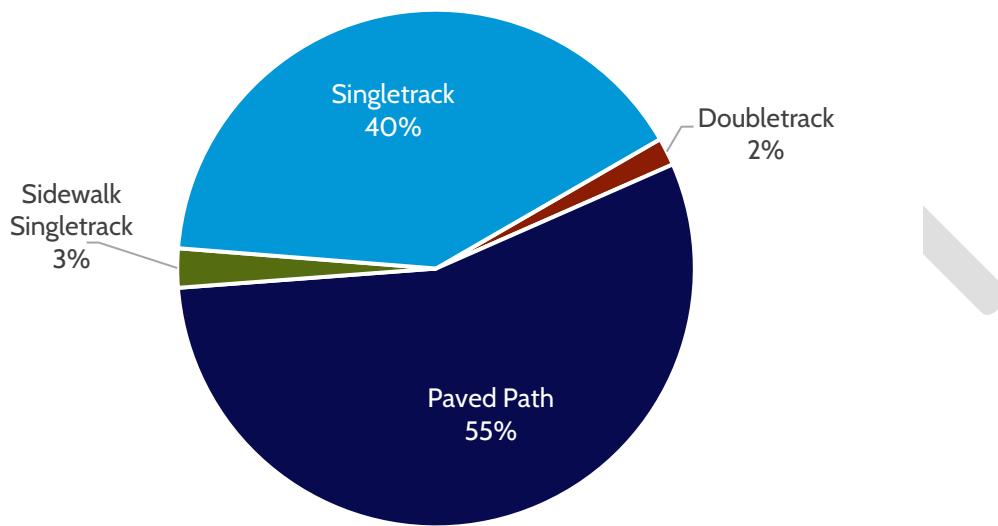
Figure 1. Trail Mileage by Type



The Eagle area has many miles of singletrack trails (81 miles). There are also 66 miles of doubletrack trails, serving a mix of recreational and transportation purposes.

Additionally, there are 37 miles of paved paths in and around Eagle (including 18 miles of the Eagle Valley Trail considered in this analysis). The paved path network in and around Eagle is an important asset as it allows users to recreate and travel around town, to trailheads, and along the Eagle River Valley.

Figure 2. Trail Mileage by Type within Town of Eagle Boundary



There are 37 miles of trails and paths within the Town boundaries, more than half of which is paved paths. The only paved path that extends beyond the Eagle boundary is the Eagle Valley Trail managed by Eagle County Eco Trails.

Approximately 14 miles of singletrack trails are within Eagle. Trails within and relatively close to the Town are important for accessible recreation. Most of this trail mileage serves to access trails on nearby public land.

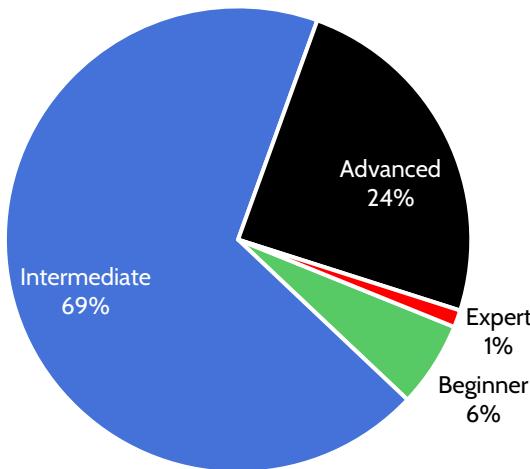
Figure 3. Singletrack Trail Mileage by Difficulty

Figure 3 shows that there is a small proportion of beginner trails in the Eagle singletrack trail system. Users looking for beginner trails may travel fewer miles than more experienced users, so an imbalance is expected, although this is a relatively large discrepancy. Additionally, greater than two-thirds of singletrack trails considered in this analysis are intermediate. Those interested in intermediate trails tend to make up the largest portion of the market and having an abundance of intermediate trails is desirable. The terrain in Eagle lends itself to intermediate trails, with hilly terrain but limited rocks or roots to offer technical challenge.

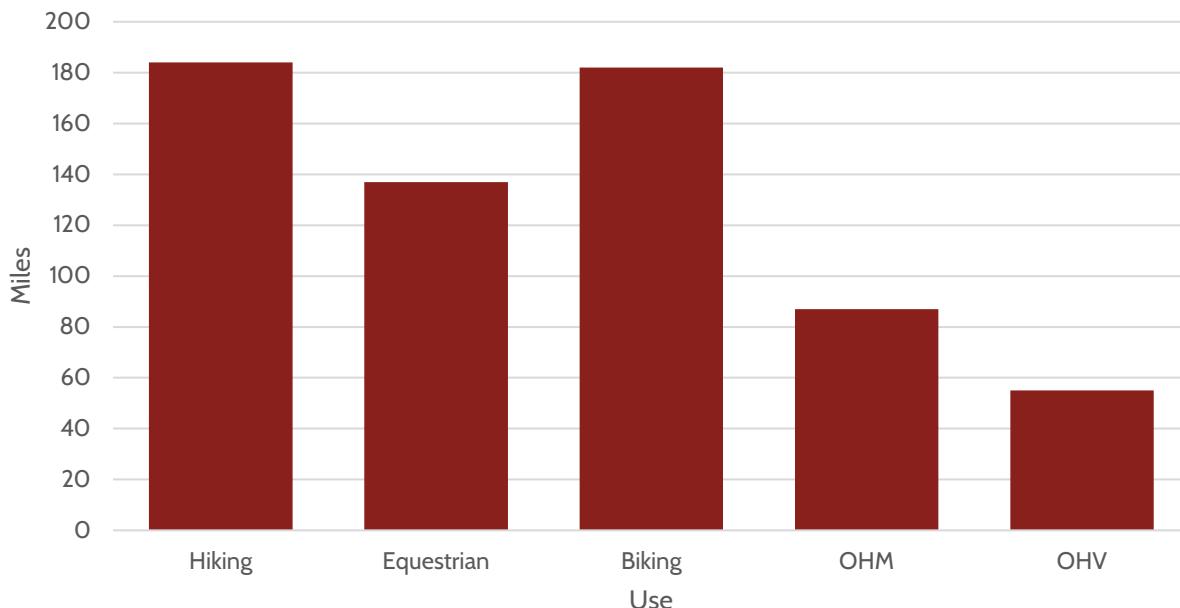
Figure 4. Uses Allowed by Trail Mileage

Figure 4 displays the number of trail miles open to each use type. It is important to note that many trails have shared uses [e.g., all Off Highway Vehicle ("OHV") trails are also open to Off Highway Motorcycle ("OHM")] so they are counted in more than one category. All 184 miles of trails are open to hiking use, and nearly all are open to biking use with the exception of the Hernage Creek Trail. There are also nearly 140 miles of trail open for equestrian use, 80+ miles for OHM use, and less than 60 miles for OHV use.

While the figure displays trail mileage open to each user group, it doesn't necessarily reflect all the trails used by each user group. Notably, there are several trails open to a user group where that group may choose not to use that trail particularly at peak times, such as equestrians on a trail popular with bikes.

Trail System Analysis

The system trails were categorized by location as shown on the map below.

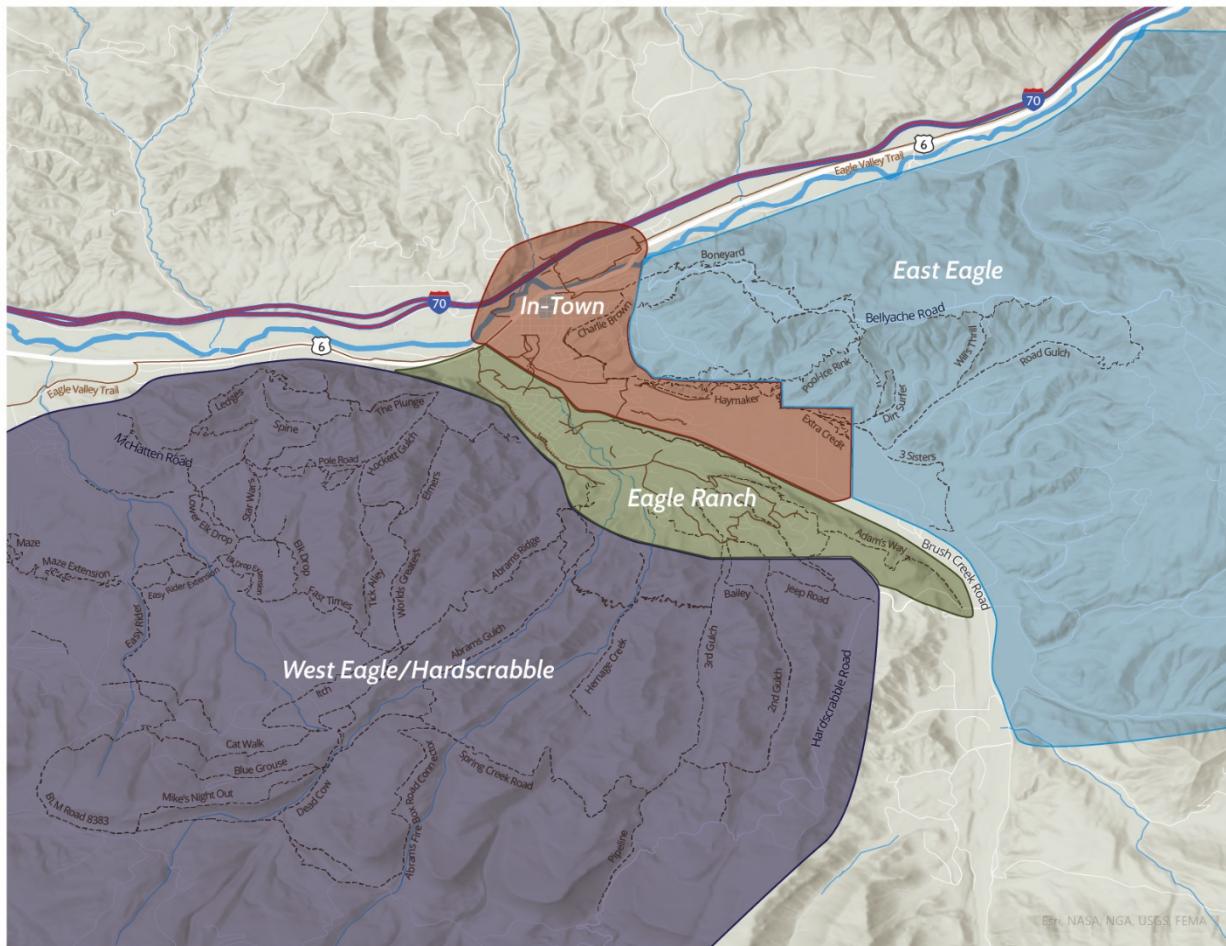
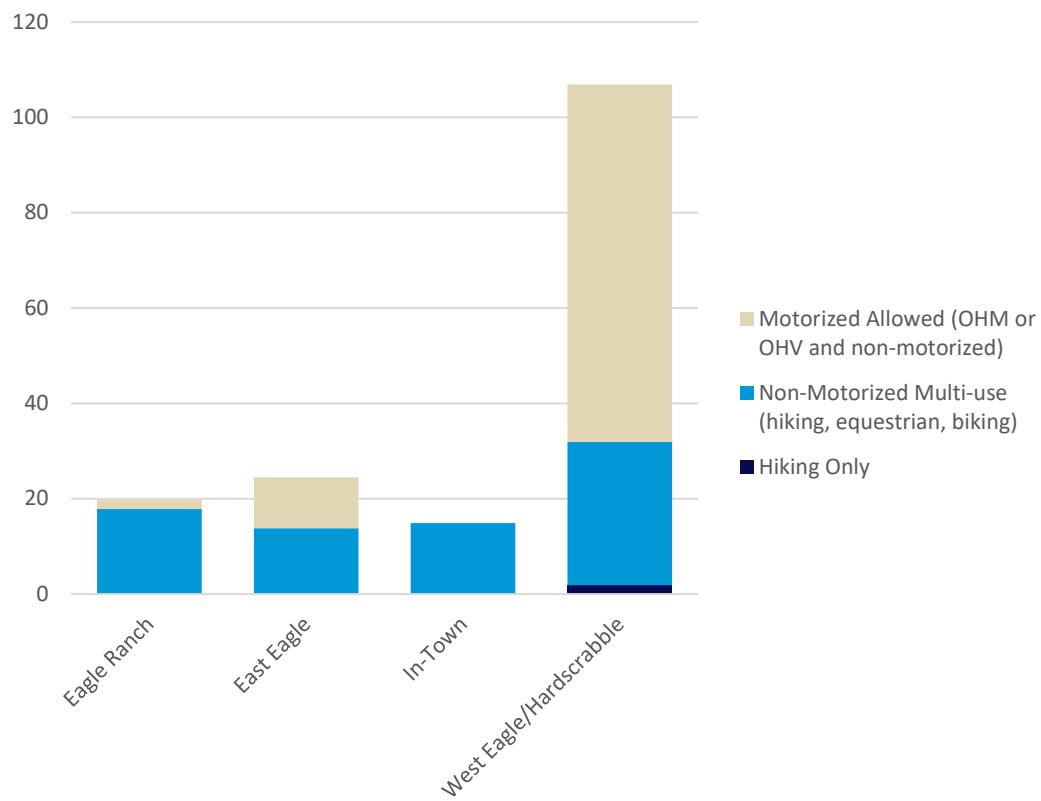
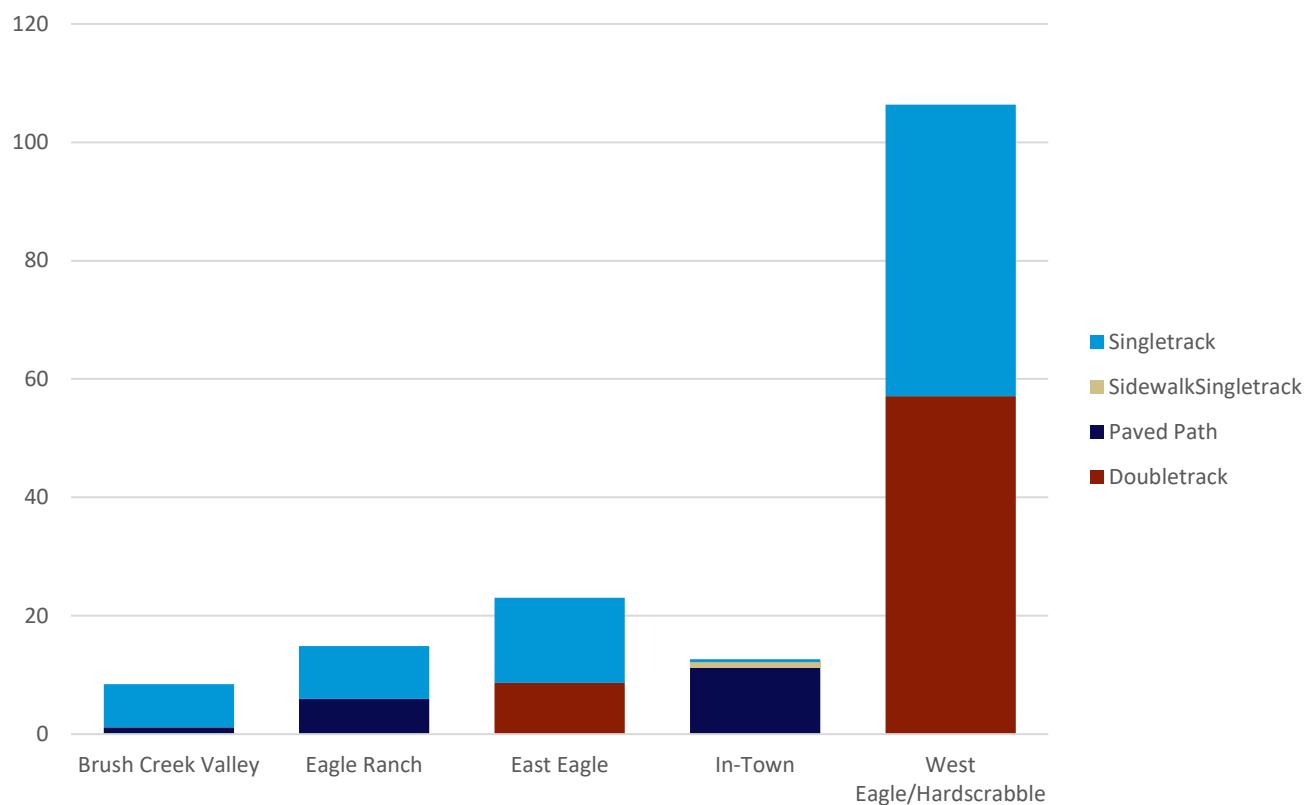


Figure 5. Trail Mileage by Allowed Use and Location

This chart shows the mileage by allowable uses and location. The bulk of system mileage is located in West Eagle/Hardscrabble, particularly of motorized routes. Opportunities for non-motorized multi-use are well distributed between each area. Despite the motorized trail mileage in West Eagle/Hardscrabble, motorized access to the network from Eagle can be challenging as there are limited access routes.

Figure 6. Mileage by Trail Type and Location

This chart shows the trail type breakdown by location, where trails were categorized by the area where the majority of the mileage is. A majority of the singletrack trails are in the West Eagle/Hardscrabble area. There are also many singletrack trails in Eagle Ranch and East Eagle, with very few In-Town. Doubletrack routes are almost exclusively in West Eagle/Hardscrabble with the exception of Road Gulch in East Eagle. The In-Town area is almost exclusively paved paths.

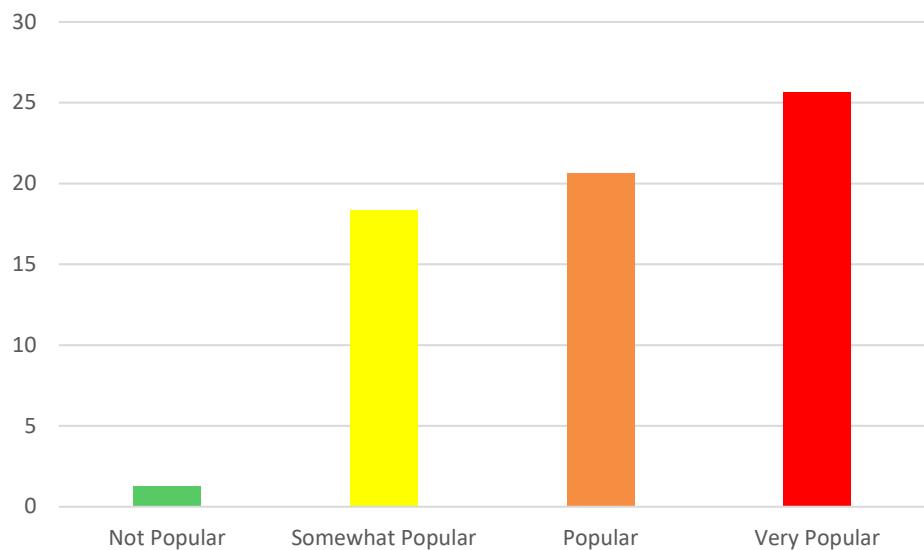
Figure 7. Singletrack Trail Mileage by Trailforks Popularity

Figure 7 shows the Trailforks-rated popularity of singletrack trails in the Eagle system. It is important to note that popularity data from Trailforks may be disproportionately reflective of mountain bike use. A majority of the singletrack trails in the Eagle area are ranked as popular or very popular.

Singletrack trails with the highest popularity ratings are Boneyard, Pool and Ice Rink, Extra Credit, Mayer Gulch, and Turniphead. Singletrack trails with the lowest popularity rankings, in order, are Blue Grouse, 2nd Gulch, Dead Cow, Elk Drop Upper, and Elk Drop Alternate.

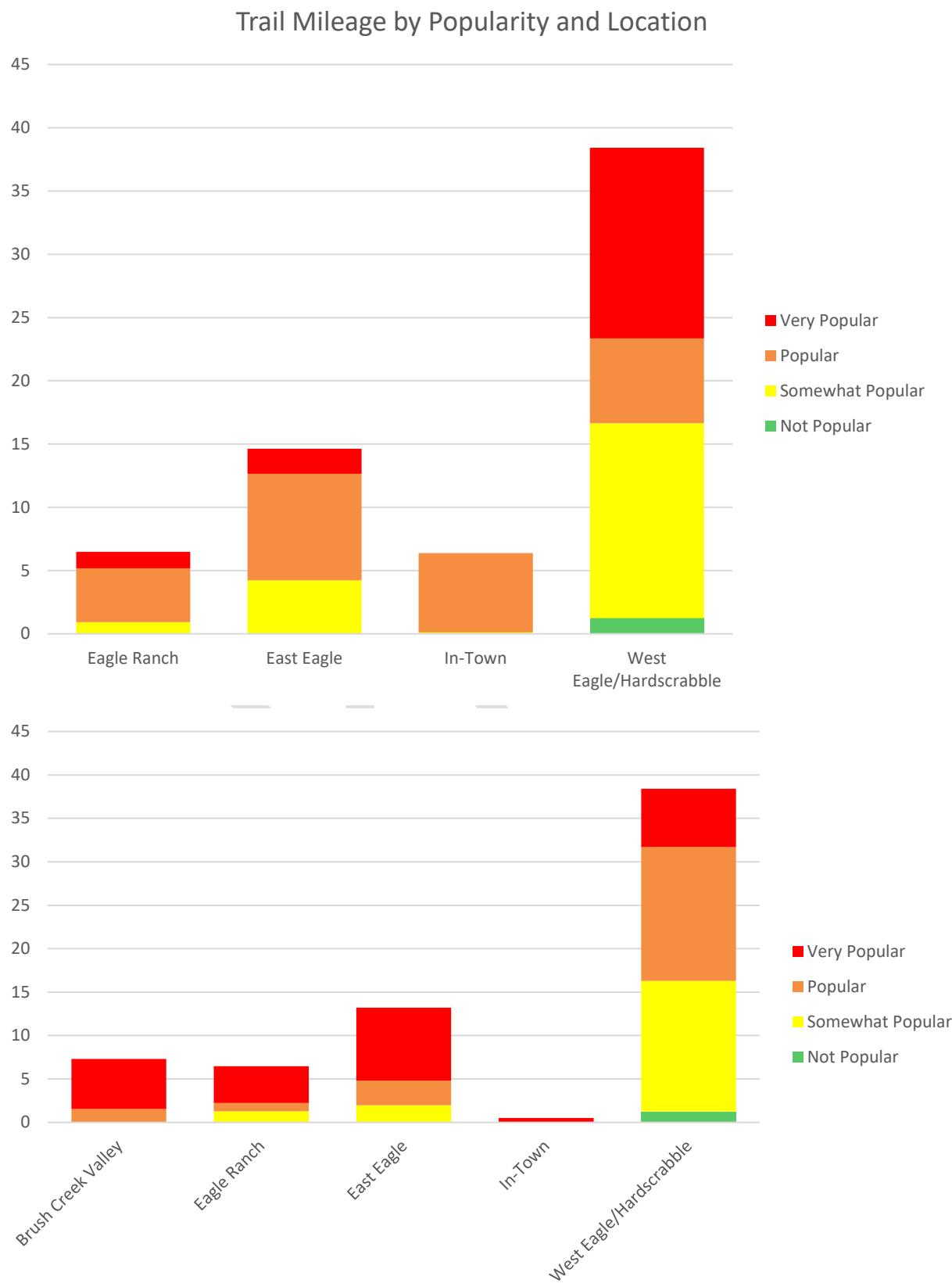
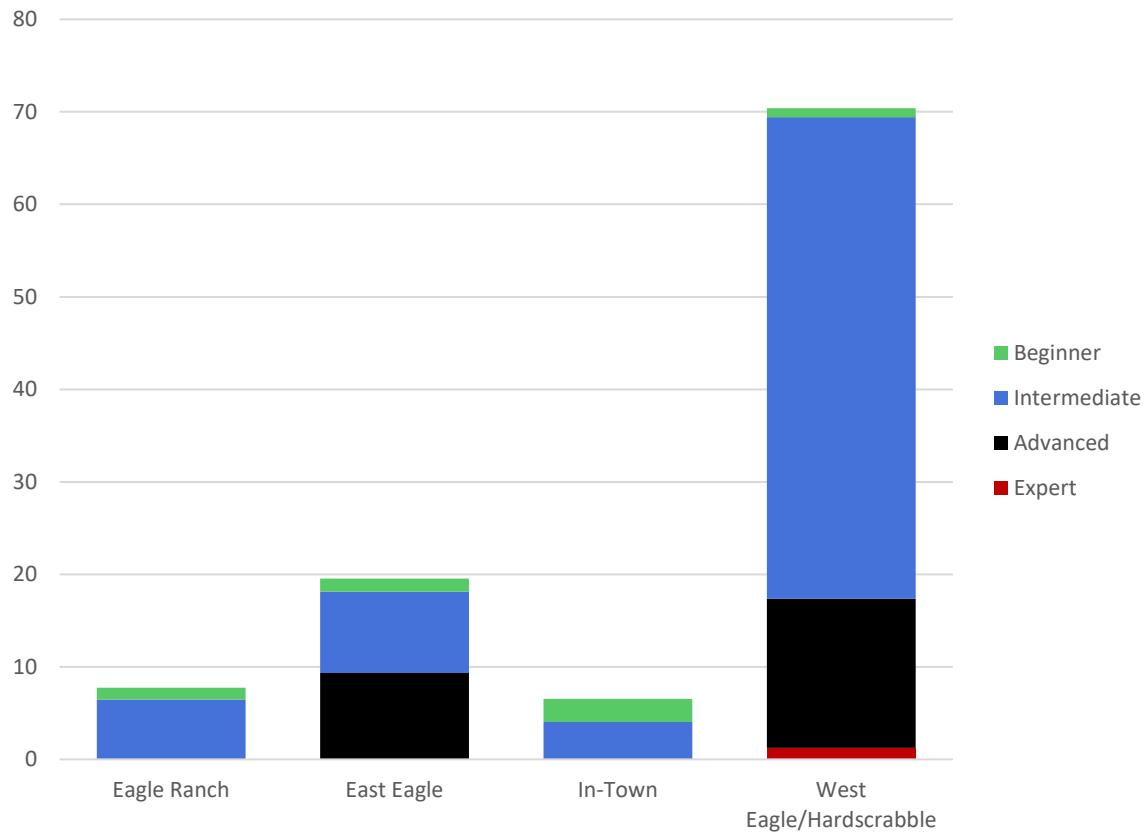
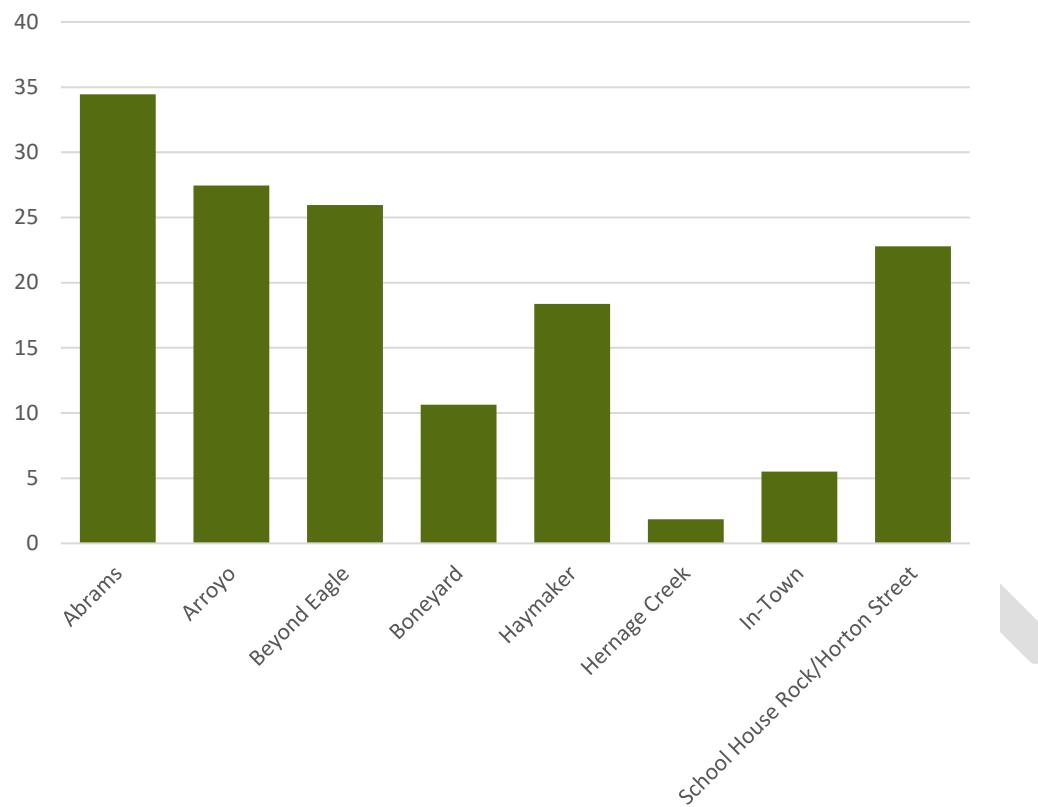
Figure 8. Singletrack Trail Mileage by Trailforks Popularity and Location

Figure 8 breaks down Trailforks popularity by location. A very high proportion Eagle Ranch and East Eagle trails are rated by Trailforks as very popular. Few trails in West Eagle/Hardscrabble are very popular, and the area has a larger number of somewhat or not popular trails. Trailforks popularity can be a factor of the type of trail, accessibility, and experience provided.

Figure 9. Trail Mileage by Difficulty and Location



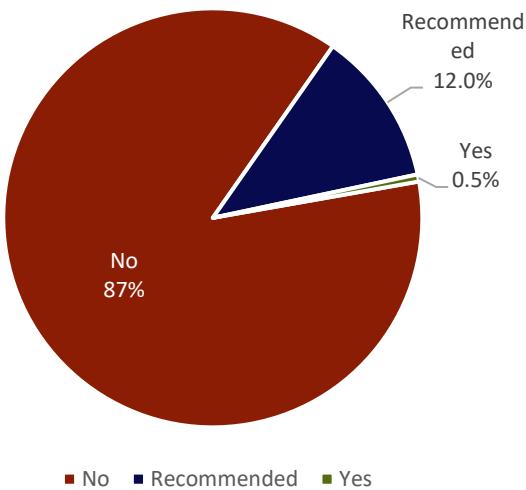
Intermediate trails are found in all locations, while advanced trails are limited to East Eagle and West Eagle/Hardscrabble, and the beginner mileage is relatively divided. Having concentrations of ability levels is important to meet the needs of the range of user abilities during their trail experience.

Figure 10. Natural Surface Trail Mileage by Proximate Trailhead

It is important to balance the amount of accessible trail mileage with the parking and amenities at each trailhead. Generally, there is a fairly even distribution of trail mileage per trailhead with the exception of Hernage Creek, which has only one primary trail, and Boneyard and Haymaker which provide access to extremely popular trails.

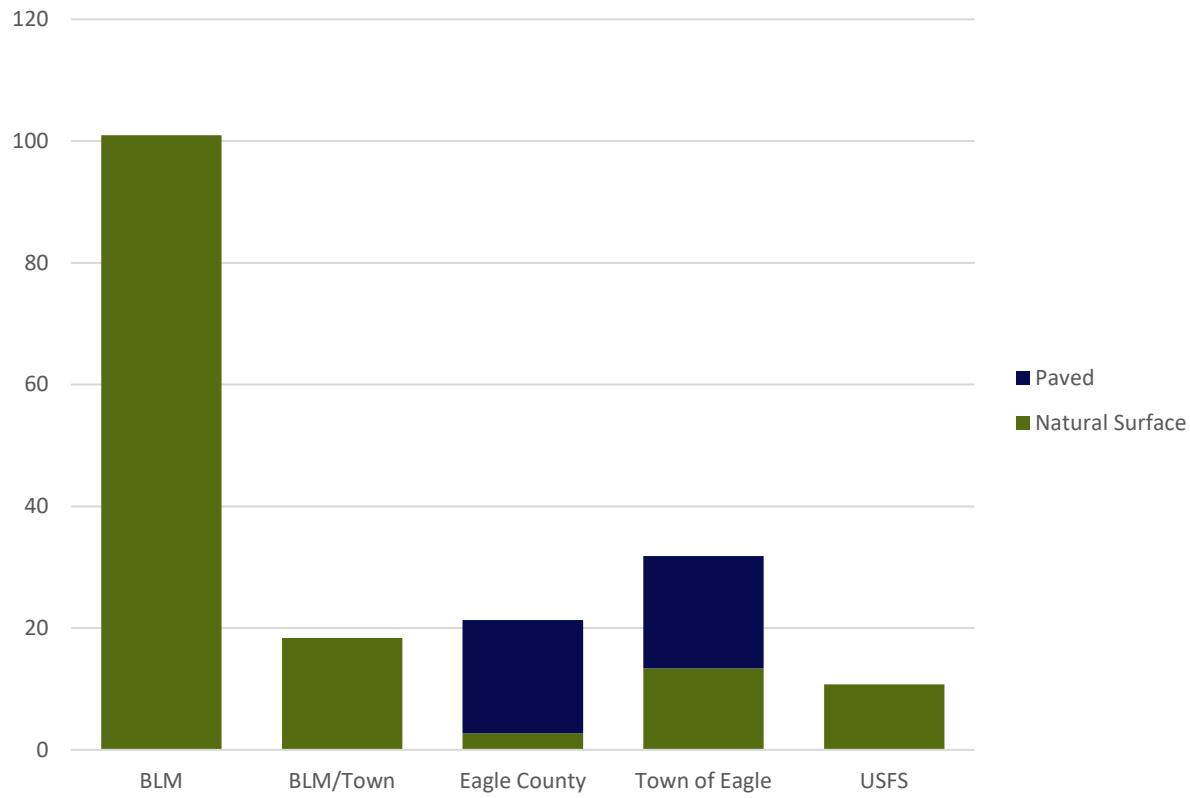
Not all trailheads with high trail mileage have parking and trailhead amenities. The Abrams trailhead, for example, has no parking but a high number of miles. Also, while mileage is a key factor, more desirable trails such as Boneyard may disproportionately attract people to that trailhead than their level of mileage would suggest.

Figure 11. Natural Surface Trail Mileage by Directionality



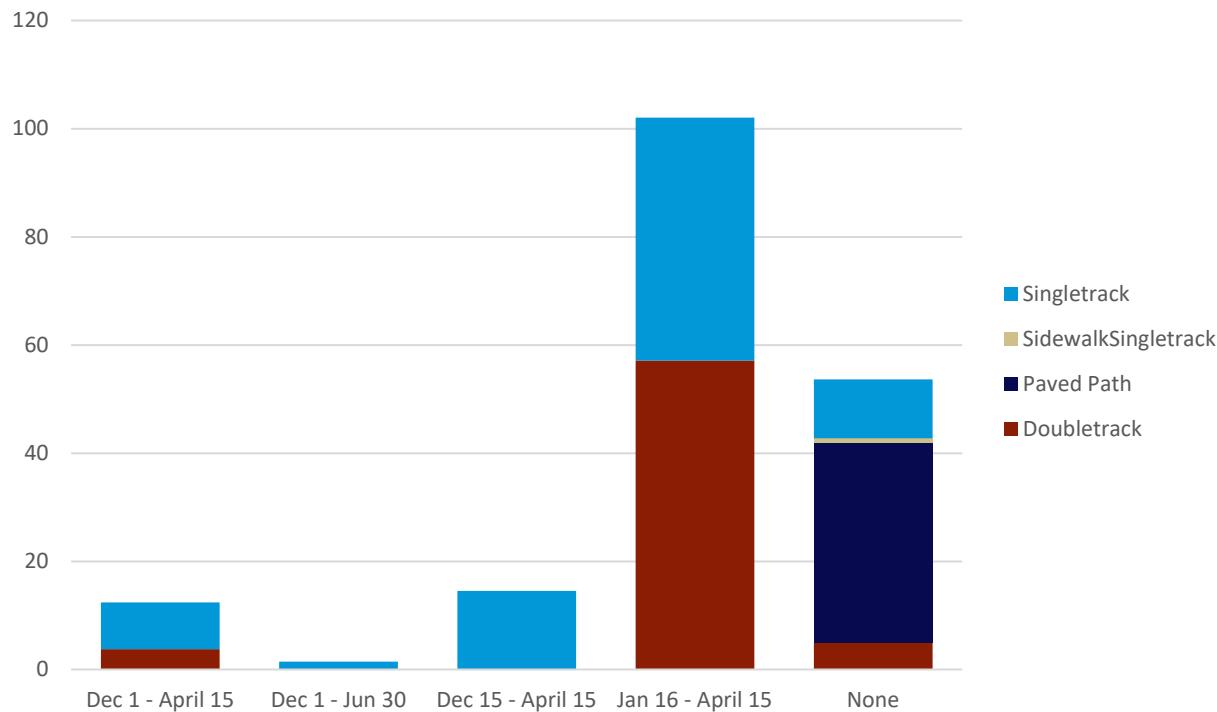
A vast majority of trails do not have or recommend a direction. Directionality is typically required or recommended when a trail's build may lead to high-speed riding on a singletrack and user conflict. Of singletrack trails, about 23% have a recommended or required direction.

Figure 12. Trail Mileage by Land Manager

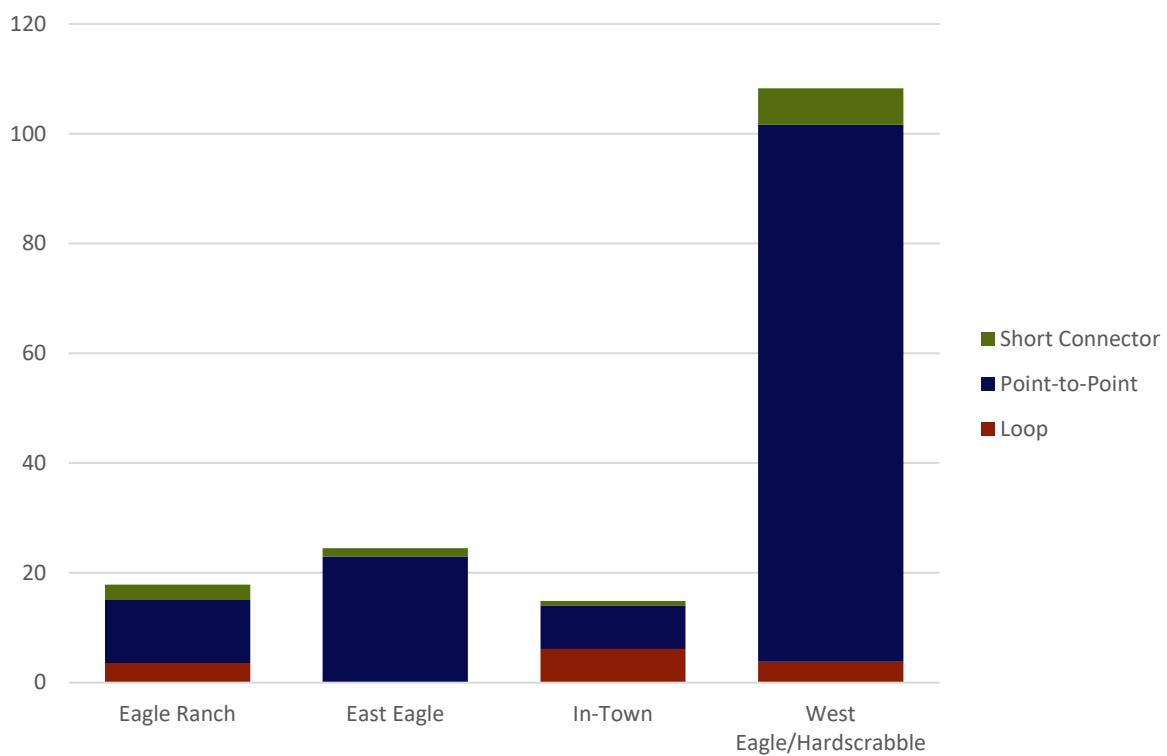


A majority of trail mileage is on surrounding BLM land. The Town itself manages approximately 30 miles of trails solely within the Town of Eagle, about half of which is paved and not managed by the Open Space and Trails Department. Several trails begin in the Town of Eagle before passing on to the BLM and must be co-managed. There are 4 such miles of those trails within the Town of Eagle, for 17.4 total natural surface trail miles within the Town of Eagle. Because some trails intersect lands managed by more than one entity, it is important that land managers work collaboratively to manage trails in this area.

Figure 13. Trail Mileage by Seasonal Closure and Trail Type



Trail closures are important to manage the natural resources and limit impacts to wildlife in and around Eagle. These vary by land manager. Many trails are closed to mechanized and motorized use during these closures, but not to foot or equestrian use. The majority of trails (including those in West Eagle/Hardscrabble) are closed between January 16 and April 15. Of the trails closed between January 16 and April 15, 12% are closed from Town of Eagle access points on December 15 but can be accessed through trailheads in Gypsum through January 16. Of trails without a closure, the vast majority are paved options, with about 10 miles of singletrack that remain open.

Figure 14. Trail Mileage by Function and Location

Most trails within the system are point-to-point trails. Short connectors are useful for trail navigation and connectivity, particularly between point-to-point trails, creating loops. Loops are generally desirable among trail users.

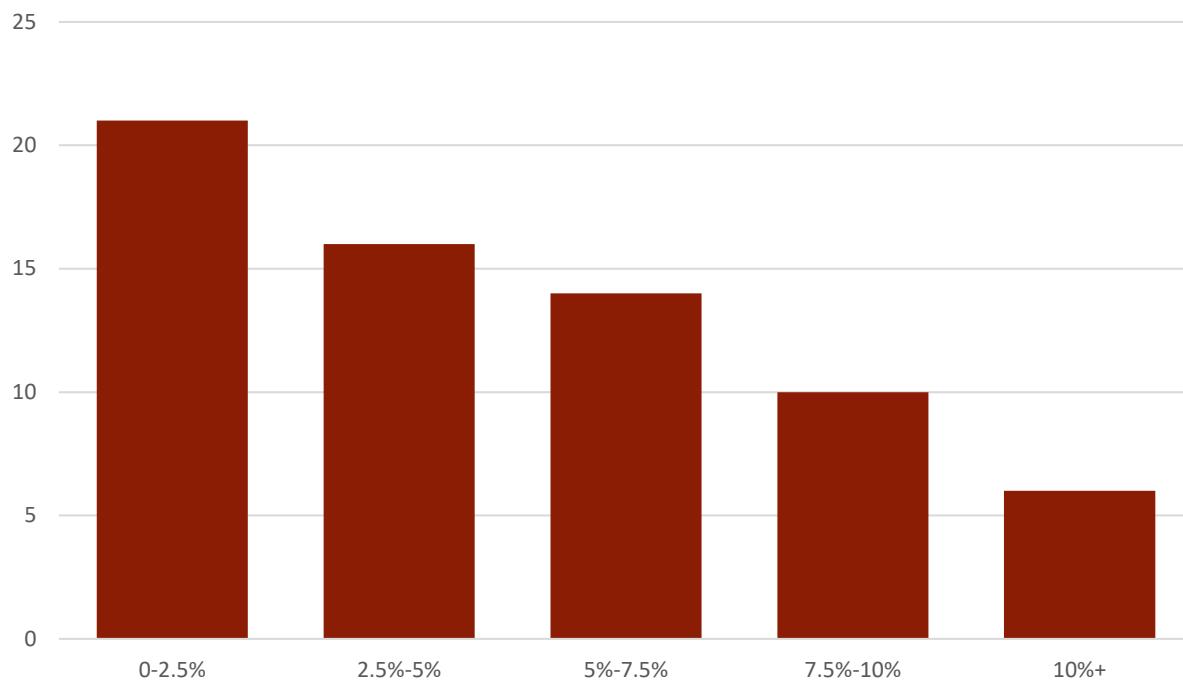
Figure 15. Average Trail Grade by Number of Trails

Figure 15 shows the number of trails within each average grade range (the net elevation gain of the trail over its length). The figure only includes trails with elevation data on Trailforks. Nearly 60% of all trails have a grade of 5% or lower, indicating that the trail system has a strong supply of gradual trails. An average grade above 7.5% trail indicates a very steep trail, with potential experience and trail sustainability concerns.

Maintenance

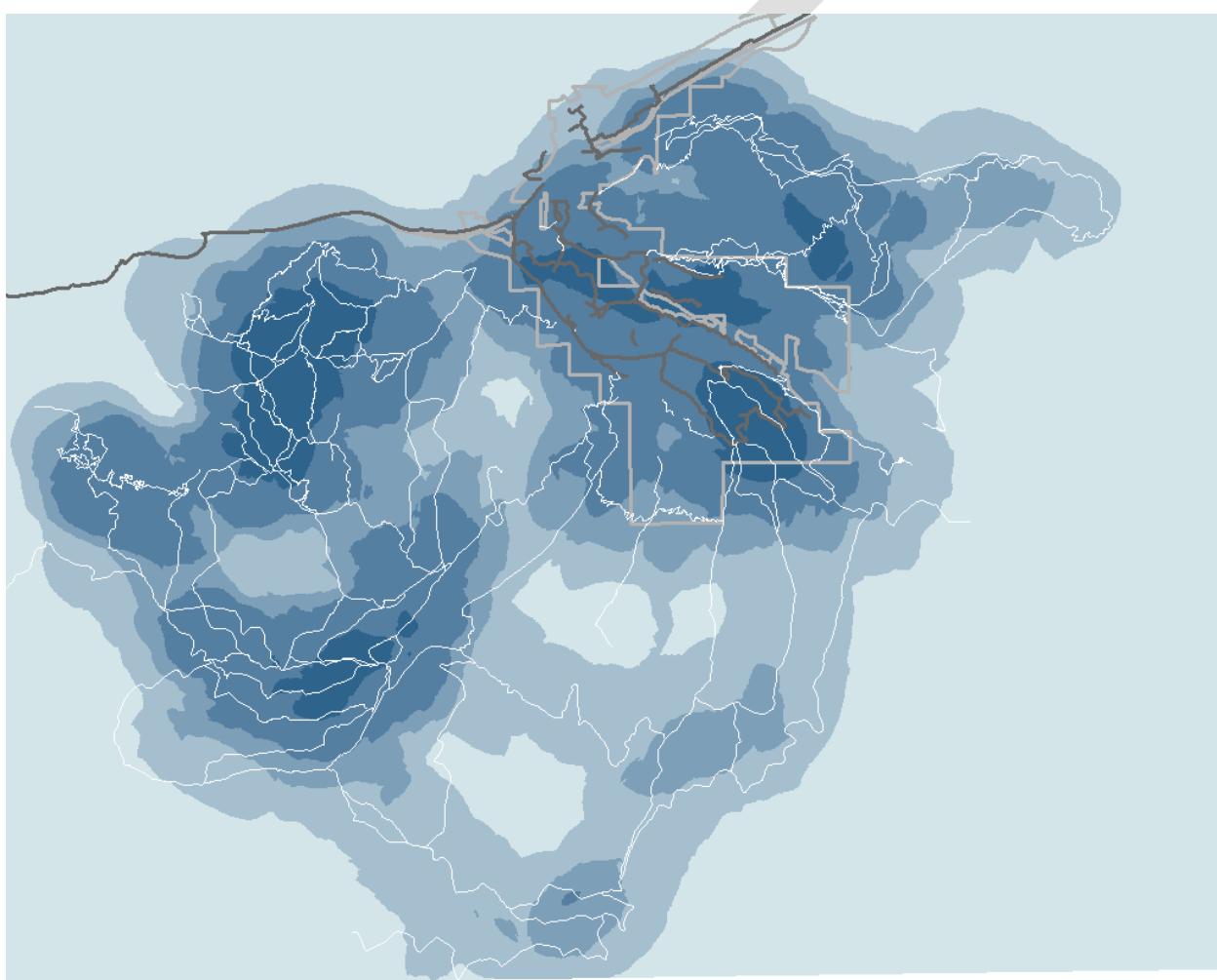
As described above, the trail system around Eagle is located on land managed by several cooperating agencies. Each agency manages trails on their respective land, however, many trails close to Eagle are adopted by groups who volunteer to take the lead on maintenance. The Town has assisted with maintenance responsibilities on BLM trails as well, as it provides a direct benefit to residents and visitors to Eagle. The soil found across the Eagle area can create challenges for maintenance.

Several trails within or partially within the Town of Eagle are in relatively good condition and have low maintenance needs. These trails include Wall, School House Rock, Boneyard, and Kill Bill. However, there are also certain trails that have high maintenance needs due to heavy use, erosion, drainage, or trail features that require upkeep such as berms. These trails include Dirt Surfer, Haymaker, Redneck Ridge, Pool-Ice Rink, Extra Credit, and Abrams Ridge. There are also several social trails throughout the trail network, some of which are located on sensitive wildlife habitat.

In addition to fulfilling maintenance needs, enforcement of proper trail use and trail closures is also necessary to reduce the impacts to the natural resources around Eagle, particularly through preventing erosion and the creation of social trails. While each landowner takes responsibility to enforce their respective trail rules, the Town also contracts with Animal Services to enforce responsible pet etiquette on trails and in open space.

Trail Density

Figure 16. Trail Density Map



This trail density map shows the relative density of the trail network, by number of trail miles within a 2-mile radius of a given point. The area in and around town and to the East is relatively high density. There are also several high density areas relatively far from Town.

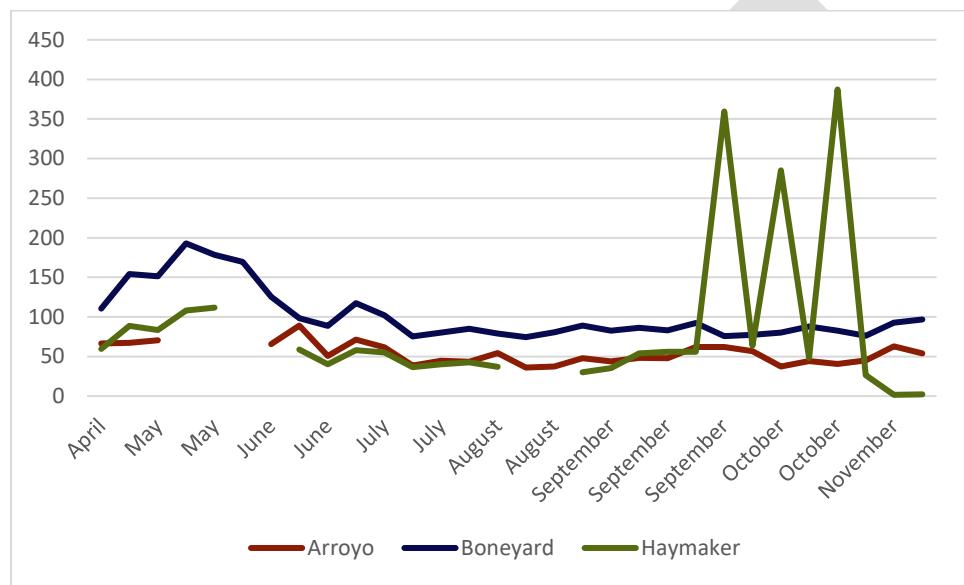
Trail Count Data

The Town has three trail counters in place on system trails: Boneyard, Haymaker, and 3rd Gulch (near the Arroyo Trailhead). These counters record each time a user passes through

but do not distinguish by type of user. The counters were placed shortly after the seasonal closure ended (mid-April) and at the time of this analysis, data was available through November 17, 2021. The counters were not in place prior to this year; however, some data exists from smaller prior visitation counts. These counters do not track the type of use (i.e., hiking, biking, equestrian, motorized). The counters likely do not capture all use of a given trail, given counter malfunctions or the location of the counter (i.e., for Haymaker, the counter is placed on the berms where not all users of the trail go).

The following figure shows average weekly totals at each of the counters.

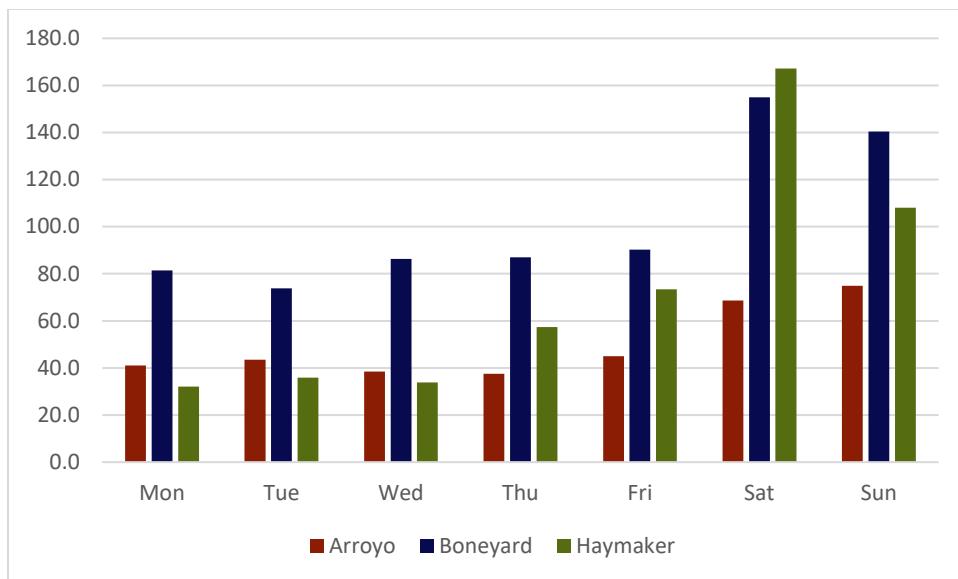
Figure 17. Average Weekly Counts



The Boneyard Trail sees the highest average use (105 users per day) compared to 54 on average at Arroyo and 82 at Haymaker. The weeks of the Colorado High School Cycling League races saw the highest use (359 and 285) with up to 1240 on a single race day during the first weekend. Across all trails, use is highest in the spring, before declining over the summer and picking up slightly in the fall. On Boneyard, use during the spring is about 150-200 riders per day on average, compared to 60-80 during the summer. Levels of use are more consistent on the other two trails.

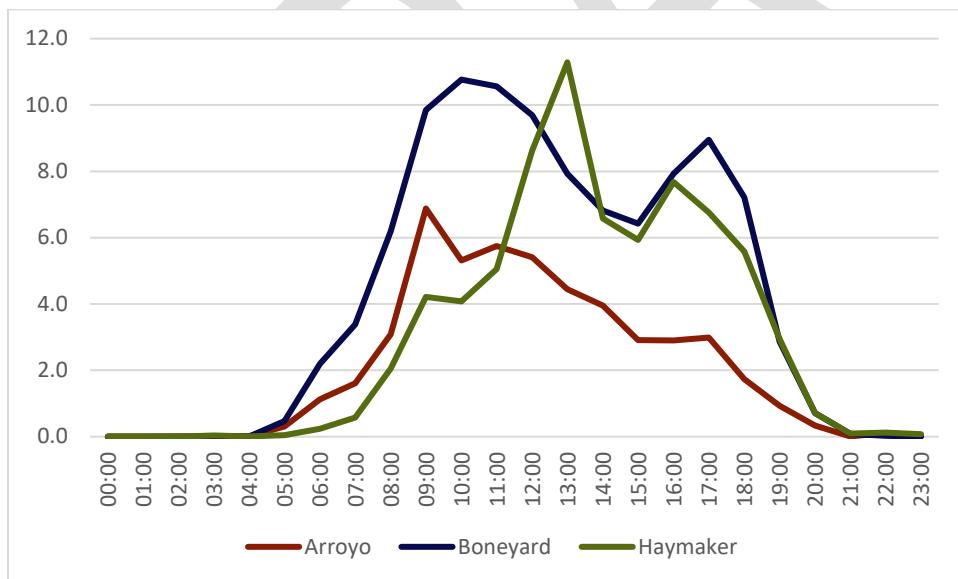
The trails see more use on the weekends than during the week. On Boneyard and Arroyo, the trails see approximately 60% more use on the average weekend day than weekday. On Haymaker, when the race weekends are not considered, use tends to be more even between weekdays and weekends.

Figure 18. Average Counts by Day of the Week



The temporal patterns throughout the day vary by trail. Boneyard sees high levels of use in the 9, 10, and 11 o'clock hours, declining through the middle of the day, before increasing to similar levels for the 5 o'clock and 6 o'clock hours. Haymaker has a mid-day peak, in the 12 and 1 o'clock hours, with a similar evening peak to Boneyard. Arroyo sees the highest levels of use in the 9 o'clock hour, before declining steadily through the rest of the day.

Figure 19. Average Hourly Counts



Combined, the trail counters recorded about 53,000 passes. The trail counters malfunctioned and did not record during a few weeks of the summer, and total annual counts are likely 15-25% higher.

Key Findings

- The Eagle area trail system of singletrack, doubletrack, and paved paths in the Town and on surrounding public lands offers a very high level of mileage. This high mileage paired with the poor soil quality in the area creates challenges for keeping the trails well maintained.
- The majority of trails are intermediate. Beginner and advanced trail mileage is relatively limited.
- The majority of trails within the Town boundary are paved paths.
- BLM is the primary land manager of the trail system. Over 100 miles of trails are on BLM land, with some trails crossing between Town of Eagle and BLM lands.
- Most trails in the system have seasonal closures. The majority of trails that remain open year-round are paved paths, with the exception of East Eagle.
- A small proportion of trails have a required or recommended directionality. Recommending or requiring directionality can be an important tool to reduce user conflict and increasing the number of such trails will be explored further in this plan.
- There are few short connector and loop trails in the trail system. Short connectors and loop trails options can be desirable. At present, it may be challenging for users to figure out loop routes or remember all of the necessary connections to do so.
- While there are many miles of trails open to motorized use in West Eagle/Hardscrabble, there are limited access points to motorized opportunities in the trail system from the Town of Eagle. There are also limited access points with formalized amenities such as parking, kiosks, or restrooms for non-motorized users from Town. There are more access opportunities for motorized users on the west side of Hardscrabble, mostly from Gypsum.
- Trails with an average grade over 7.5% or sustained grades higher than 10% may need to be re-routed and/or closed. There are several such trails in the area that will be reviewed further during this process to determine the need.
- Trails see the highest level of use in the spring, and extremely high use over the fall race weekends. Boneyard sees higher use than Haymaker or 3rd Gulch trail. This information will be utilized in this planning process when exploring dispersing use and planning facilities and future maintenance needs.
- There are distinct areas with high trail density in West Eagle/Hardscrabble, far from Eagle access points into the system. In this process, it will be explored where to concentrate use and trail development going forward, based on existing densities, wildlife habitat, potential experience and access, among other factors.