

ELDORADO CANYON TO WALKER RANCH CONNECTION FEASIBILITY STUDY

Summary of Overall Findings

Environmental and Cultural Resources

- **North** - minimal new environmental impacts; most of the route follows an existing trail corridor.
- **South** - major impacts to environmental resources, with major impacts to riparian, wildlife, and undisturbed habitat.

Visitor Experience

- **Both:**
 - provide an enjoyable and quality visitor experience.
 - meet desired bike trail design standards—with the exception of the Rattlesnake Gulch Trail, which would be the access trail for the south route.
 - offer expansive views and go through a similar diversity of landscape types.
 - may result in increased visitor conflict, due to increased trail visitation and the introduction of a new activity.
- **North:**
 - shorter (3.9 – 4.8 miles); elevation gain/loss of +1,010/-610 (E→W; range of mileage due to alternate sub-routes).
 - will accommodate more year-round use due to the aspect and shade cover.
 - no temporal or seasonal use restrictions are anticipated.
- **South:**
 - longer (6.5 – 7.1 miles, 7.8 including Rattlesnake Gulch Trail); elevation gain/loss of +930/-480 (E→W; +1,860 including Rattlesnake).
 - provides a new trail experience in a currently inaccessible area.
 - may be subject to temporal and seasonal use restrictions.

Trail Construction and Costs

Both have comparatively similar construction cost estimates.

Analysis Category	North Route	South Route
Environmental and Cultural Resources	○	●
Visitor Experience	◐	◐
Trail Construction Costs	\$360K to \$660K	\$410K to \$810K
Trail Management and Maintenance	◐	○
Eldorado Canyon State Park Interface	●	●

●	◐	○	◐	●
Major Benefit	Minor Benefit	Insignificant	Minor Impact	Major Impact

Trail Management and Maintenance

- **Both** are sustainable and can be constructed to achieve desired bike trail design standards—with the exception of the Rattlesnake Gulch Trail, the access trail for the south route.
- **North** improves trail sustainability and emergency access along a trail that is currently unsustainable in section.

Eldorado Canyon State Park Interface

- **Both:**
 - adversely impact the park, which is already beyond capacity during busy periods.
 - increase traffic and congestion.
 - increase visitor density and conflict along existing trails
 - increase visitation, up to 60 more daily visitors, exacerbating existing issues with park capacity.
- **North** improves trail sustainability and emergency response along the existing Eldorado Canyon Trail.

ELDORADO CANYON TO WALKER RANCH CONNECTION FEASIBILITY STUDY

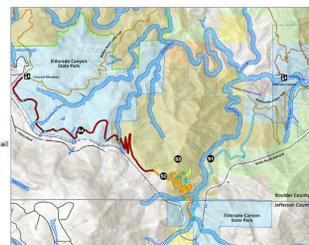
Summary of Environmental and Cultural Resource Findings

Wetland & Riparian Habitat

- **North:**
 - N3 – insignificant new impacts; most of the route follows an existing trail corridor.
 - N4 – minor impacts; two or more new stream crossings.
- **South** would impose major impacts; would cross seven riparian corridors.



Riparian & Wetland—North Routes



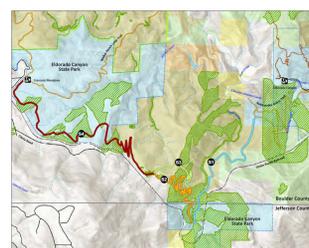
Riparian & Wetland—South Routes

Significant Natural Communities

- **North:** insignificant new impacts; route will largely stay on the existing trail corridor through areas with significant natural communities.
- **South:** minor impacts; crosses through several mapped significant communities.



Significant Natural Communities – North Route



Significant Natural Communities – South Route

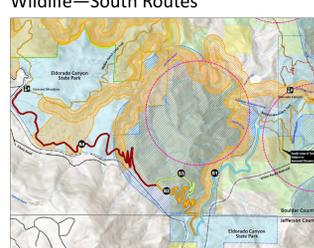
Wildlife Habitat Impacts

- **North:** insignificant new impacts; route will largely stay on the existing trail corridor through important wildlife habitat.
- **South:** major impacts.
 - intersects potential habitat for Preble's meadow jumping mouse—a federally-listed threatened species.
 - approximately 106 acres of the designated South Draw Wildlife Habitat Area (12% of total area) impacted; area currently closed to public access.
 - intersects winter range for mule deer and elk, and severe winter range habitat for elk; will require management strategies that may include temporal or seasonal restrictions for trail users.

Wildlife—North Routes

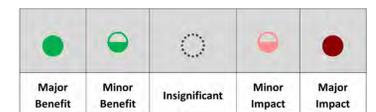


Wildlife—South Routes



Analysis Topic	North Route	South Route
Wetland and Riparian Habitat	○ / ●	●
Significant Natural Communities	○	●
Wildlife Habitat Impacts	○	●
Undisturbed Habitat Impacts	○	●
Cultural Resources	○	●
Overall Impact	○	●

Undisturbed Habitat Impacts



- **North:** insignificant impacts; reduction of up to 24 acres (1.5% reduction of undisturbed habitat in a designated Habitat Conservation Area)
- **South:** major impacts; reduction of up to 324 acres, or 26% of undisturbed habitat.



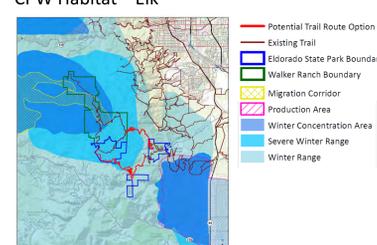
Undisturbed Habitat Impacts: North w/N4 (top), South w/S3 (bottom):



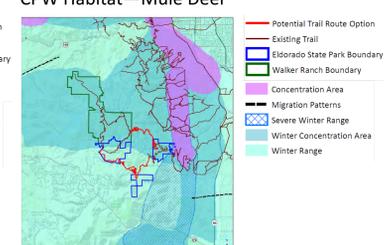
Cultural Resources

- **North:** insignificant new impacts; will largely stay on the existing trail corridor through areas with known cultural resources. Resources would be taken into consideration during a subsequent design phase.
- **South:** minor impacts; resources would be taken into consideration during a subsequent design phase.

CPW Habitat—Elk



CPW Habitat—Mule Deer



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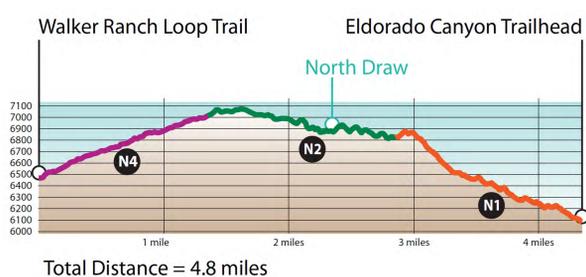
Summary of Visitor Experience Findings

Regional Trail Connectivity

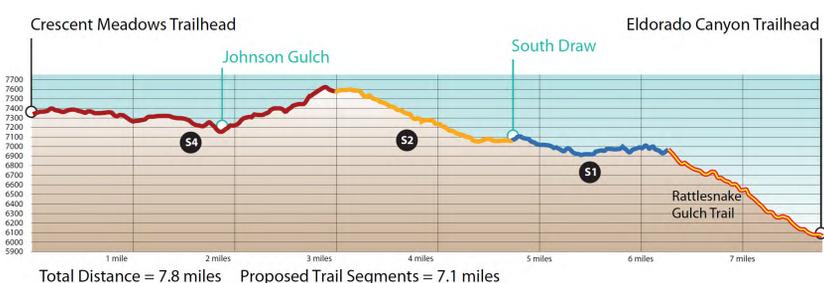
- **Both:** major benefits; complete the desired regional connection.

Trail Aesthetic & Character

- **Both:** major benefits:
 - offer an enjoyable and quality visitor experience. N4 – minor impacts; two or more new stream crossings.
 - offer expansive views and go through a diversity of landscape types.
- **North:**
 - is shorter (3.9 – 4.8 miles) with an elevation gain/loss of +1,010/-610 (E to W).
 - N4 – could achieve the desired bike trail standards. Portions of N3 likely cannot achieve the standards.



- **South:**
 - is longer (6.5 – 7.1 miles, 7.8 including Rattlesnake Gulch Trail); elevation gain/loss of +930/-480 (E→W; +1,860 including Rattlesnake).
 - the desired bike trail standards—with the exception of the Rattlesnake Gulch Trail, which would be the access trail to the south route.



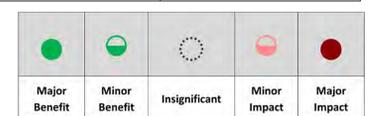
Access & Parking

- **Both:** major impacts; parking areas are often at capacity.
- **North:** Rincon Parking Area is the most likely access point, as it is the closest.
- **South:** ECSP Fowler Trail Parking Area is the most likely access point, as it is the closest.

Trail Access Opportunities

- **Both** would have minor benefit; increased and improved trail access opportunities for multiple visitor types.
- **North** provides a new experience in an existing or familiar trail corridor.
- **South:**
 - provides a new trail experience in an area that is currently inaccessible.
 - provides a new, 13-mile loop, opportunity for hikers and trail runners.

Analysis Topic	North Route	South Route
Regional Trail Connectivity	●	●
Trail Aesthetic and Character	●	●
Access and Parking	●	●
Trail Access Opportunities	◐	◐
Seasonality	◐	◐
Visitor Density	◐	◐
Visitor Conflict Management	◐	◐
Overall Impact Score	◐	◐



Seasonality

- **North**
 - accommodates more year-round use due to aspect and shade cover.
 - would likely not have temporal or seasonal use restrictions.
- **South:**
 - accommodates less year-round use due to aspect and shade cover.
 - may likely be subject to temporal and seasonal use restrictions due to hunting and impacts to mule deer and elk.

Visitor Density

- **Both:** minor impact; estimated additional average of 60 daily trail users during the busy summer months (June-August).
- **North:** During the busy summer months this would increase trail density by up to 33% (compared to the existing use of the Eldorado Canyon Trail)
- **South:** During the busy summer months this would increase trail density by up to 25% (compared to the existing use of the Rattlesnake Gulch Trail)

Visitor Conflict Management

- **Both:** potential minor impacts; increased trail density and the introduction of a new visitor type.
- **North:**
 - The reconfiguration of the existing Eldorado Canyon Trail and management of the existing trail to create a shorter loop for users may reduce potential conflicts by dispersing visitors and maintaining a bike-free option in the most congested section of the trail.
 - May result in conflict from adding a visitor type to an existing trail.
- **South:**
 - The anticipated increase in the numbers of mountain bikers on the existing Rattlesnake Gulch Trail, which is steep, would likely contribute to increased visitor conflict along that trail.
 - would not contribute to conflict resulting from a change of use designations.
 - would retain a hiking only connection (the existing Eldorado Canyon Trail).

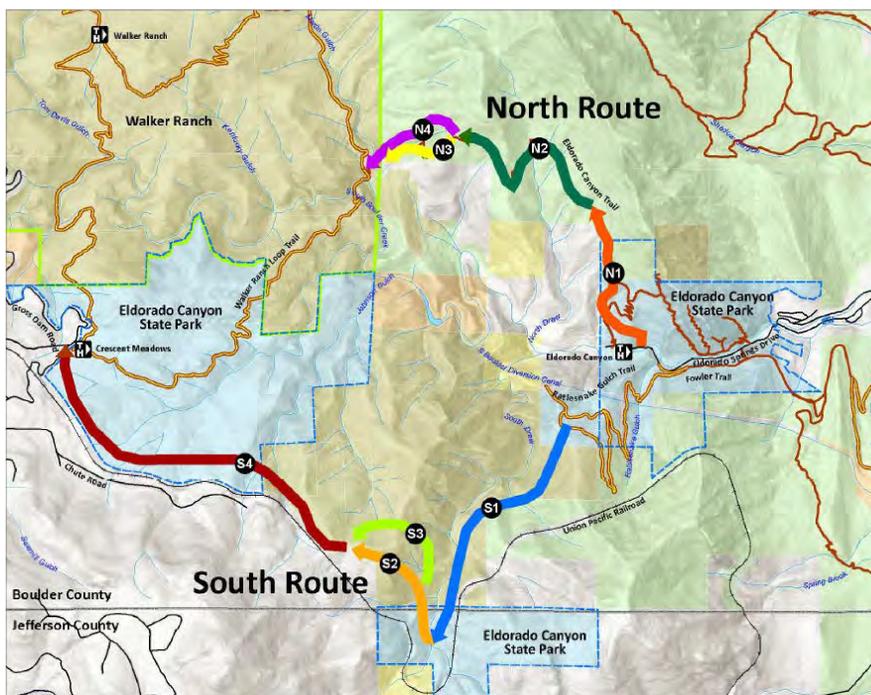
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Summary of Trail Construction Costs & Trail Management and Maintenance

Analysis Topic	North Route	South Route
Estimated Cost Range	\$360K to \$660K	\$410K to \$810K

Trail Costs

- **Both:**
 - Overall, costs for either route are expected to be comparatively similar.
 - Estimated construction costs are conceptual
- **North** rebuilding would entail more technical construction.
- **South** route construction is longer in total distance in more remote areas.



Analysis Topic	North Route	South Route
Trail Sustainability and Maintenance	●	●
Emergency Response	◐	◑
Interagency Management	◑	◑
Overall Impact Score	◐	○

●	◐	○	◑	●
Major Benefit	Minor Benefit	Insignificant	Minor Impact	Major Impact

Emergency Response

- **North:** The improved Eldorado Canyon Trail would improve emergency access and response by implementing a more stable, gradual, and sustainable route, facilitating emergency response.
- **South:** Due to the longer trail distance, emergency response times would be more complicated and longer.

Trail Sustainability & Maintenance

- **North:**
 - N4 -would achieve the desired bike trail standards.
 - Portions of N3 likely cannot achieve the standards.
 - improves the existing Eldorado Canyon Trail, which is in moderate to poor condition in some sections.
- **South** would achieve the desired bike trail standards with the exception of the Rattlesnake Gulch Trail will not meet desired bike trail standards, the access to the south route and is not proposed to be improved.

Interagency Management

- **Both:** The partner agencies would formalize management responsibilities and procedures for law enforcement, emergency response and trail maintenance activities as part of the implementation process.
- **South** would require coordination with Jefferson County to formalize an agreement for management, and emergency response and enforcement.

ELDORADO CANYON TO WALKER RANCH CONNECTION FEASIBILITY STUDY

Summary of Eldorado Canyon State Park Interface

Park Capacity & Visitation

- **Both:**
 - adversely impact ECSP, which is already beyond capacity during busy periods and currently experiencing significant increases in visitation.
 - result in an increase in visitation of approximately 60 more daily visitors exacerbating existing issues with park capacity.

Park Capacity & Visitation

- **Both** negatively impact park access and parking availability, which is already beyond capacity during busy periods. No public parking is available in the town of Eldorado Springs or along Highway 170. Illegal parking in the town is a recurrent problem.

Revenue & Fee Collection

- **Both** would increase fee entry fee revenue accordingly. Fee collection is the only mechanism to generate revenue to fund operations. The park currently charges a daily vehicle entry fee and a walk-in/bike-in fee.

Trail & Facility Sustainability

- **North:** Re-designing the Eldorado Canyon Trail would improve trail sustainability.
- **South:** The anticipated increase in the numbers of mountain bikers on the existing Rattlesnake Gulch Trail, which is steep, would likely contribute to additional maintenance needs.

Analysis Topic	North Route	South Route
Park Capacity and Visitation	●	●
Access and Parking	●	●
Revenue and Fee Collection	○	○
Trail and Facility Sustainability	◐	◑
Visitor Conflict and Enjoyment	●	●
Emergency Access and Response	◐	●
Overall Impact Score	●	●

●	◐	○	◑	●
Major Benefit	Minor Benefit	Insignificant	Minor Impact	Major Impact

Visitor Conflict & Enjoyment

- **Both** increase visitor density and conflict along existing trails.
- **South:** The anticipated increase in the numbers of mountain bikers on the existing Rattlesnake Gulch Trail, which is steep, would likely contribute to increased visitor conflict along that trail.

Emergency Access & Response

- **North** would improve emergency access and response by implementing a more stable and sustainable route to facilitate emergency response.
- **South** would likely increase incidents affecting ECSP due to added visitors and new trail miles within the park, resulting in a major impact.

ELDORADO CANYON TO WALKER RANCH CONNECTION FEASIBILITY STUDY

Process & Timeline

Public Input — Preferred Alternative Recommendation

Nov. 28: Open House meeting hosted by partner agencies.
Dec. 9: Questionnaire and public comment period closes.

Agency Recommendation Finalized

Mid-Dec: Partner agencies confirm or refine recommendation on a preferred alternative option.

Boulder County Parks & Open Space Advisory Committee Meeting

Jan. 24: Public Hearing to consider agency recommendation.

City of Boulder Open Space Board of Trustees Meeting

Feb. 13: Public Hearing to consider agency recommendation.

Boulder Commissioners Business Meeting

March: Public hearing to consider agency recommendation and finalize preferred alternative option.

Implementation & Next Steps

Feasibility study process completion

Agency collaboration to address implementation changes

Trail design

Trail construction

ELDORADO CANYON TO WALKER RANCH CONNECTION FEASIBILITY STUDY

Individual Summaries

Environmental and Cultural Resources Findings

Resource	North Route	South Route
Wetland and Riparian Habitat	○	●
Significant Natural Communities	○	◐
Sensitive Wildlife Species and Habitat	○	●
Habitat Impacts	○	●
CPW Habitat and Connectivity	◐	◐
Cultural Resources	○	◐
Overall Impact	○	●

Overall Impact:

- **North** - minimal new environmental impacts; most of the route follows an existing trail corridor.
- **South** - major impacts to environmental resources.

Wetland and Riparian Habitat:

- **South** crosses 7 riparian corridors including South Draw and Johnson Gulch, unaltered riparian corridors that provide excellent effective habitat for wildlife.

Sensitive Wildlife Species and Habitat:

- **South** intersects potential habitat for Preble's meadow jumping mouse a federally listed endangered species. This will require consultation with US Fish and Wildlife Service (USFWS).

Habitat Impacts:

- **South** impacts the BLM South, a Boulder County designated Critical Wildlife Habitat area currently closed to public use. The impacts would result into a reduction of up to 13 percent of undisturbed habitat.
- **South** The BLM south is part of a larger contiguous area of undisturbed habitat. The South Route would result in an estimated 26 percent reduction of this undisturbed habitat.

CPW Habitat and Connectivity:

- **South** Intersects Severe Winter Range Habitat for Mule Deer and Elk, which will require management strategies that may include temporal or seasonal restrictions for trail users.

Cultural Resources:

- **South** multiple cultural resources would need to be taken into consideration during a subsequent design phase.

Visitor Experience Findings

Resource	North Route	South Route
Regional Trail Connectivity	●	●
Trail Aesthetic and Character	●	●
Recreation Opportunity and Constraints	◐	◐
Visitor Density	◐	◐
Visitor Conflict Management	◐	◐
Overall Impact Score	◐	◐

Regional Trail Connectivity

- **Both** complete the desired regional connection

Trail Aesthetic and Character

- **Both:**
 - meet desired bike trail design standards
 - offer expansive views
 - go through a diversity of landscape types
- **North** is shorter (3.9 -4.8 miles) with an elevation gain/loss of +1,010/-610 (E to W)
- **South** is longer 6.5 – 7.1 (7.8 including Rattlesnake Gulch Trail) with an elevation gain/loss of +930/-480 (+1,860 including Rattlesnake)

Recreation Opportunity and Constraints

- **North** accommodates more year-round use due to the combination of aspect and shade cover and no temporal or seasonal use restrictions.
- **South**
 - provides a new trail experience in an area that is currently inaccessible
 - provides a new, 13-mile loop opportunity for hikers and trail runners.
 - may result in temporal and seasonal use restrictions due to hunting and severe winter range for mule deer elk deer.

Visitor Density

- **Both** result in increased trail use and density by up to 33 percent during busy summer months, which would add approximately 60 additional daily trail users.

Visitor Conflict Management

- **Both** result in increased trail use and density by up to 33 percent during busy summer months, which would add approximately 60 additional daily trail users

Trail Management and Maintenance Findings

Resource	North Route	South Route
Park Capacity and Visitation	●	●
Access and Parking	●	●
Revenue and Fee Collection	○	○
Trail and Facility Sustainability	◐	◐
Visitor Conflict and Enjoyment	◐/●	●
Emergency Access and Response	◐	◐
Overall Impact Score	●	●

Trail Sustainability and Maintenance

- **Both** achieve desired bike trail standards
- **North** improves the existing Eldorado Canyon Trail, which is in moderate to poor condition in many areas.
- **South** The Rattlesnake Gulch trail will not met desired bike trail standards and is not proposed to be improved.

Trail Sustainability and Maintenance

- **Both** achieve desired bike trail standards
- **North** improves the existing Eldorado Canyon Trail, which is in moderate to poor condition in many areas.
- **South** The Rattlesnake Gulch trail will not met desired bike trail standards and is not proposed to be improved.

Emergency Response

- **North** the improved Eldorado Canyon Trail will improve emergency response.
- **South** - Due to the longer trail distance, emergency response times would be longer.

Interagency Management

- **Both** the partner agencies would formalize management responsibilities and procedures for law enforcement, emergency response and trail maintenance activities as part of the implementation process.

Eldorado Canyon State Park Interface Findings

Resource	North Route	South Route
Trail Sustainability and Maintenance	●	●
Emergency Response	◐	◐
Interagency Management	◐	◐
Overall Impact Score	◐	○

Park Capacity and Visitation

- **Both:**
 - adversely impact ECP, which is already beyond capacity during busy periods.
 - result in an increase in visitation of approximately 60 more daily visitors exacerbating existing issues with park capacity.

Access and Parking

- **Both** negatively impact park access and parking availability, which is already beyond capacity during busy periods.

Trail and Facility Sustainability

- **North** – Re-designing the Eldorado Canyon Trail will improve trail sustainability
- **South** – The steepness of the Rattlesnake Gulch Trail will result in additional maintenance needs.

Visitor Conflict and Enjoyment

- **Both** increase visitor density and conflict along existing trails.
- **South** – The steepness of the Rattlesnake Gulch trail combined with increasing visitation would result in additional visitor conflict.

Emergency Access and Response

- **North** – Redesigning the Eldorado Canyon Trail will improve emergency access.

Trail Construction Cost Findings

Resource	North Route	South Route
Tread Construction (length)	4.0 to 4.8 miles	6.5 to 7.1 miles
Restoration/closure (length)	Approx. 1 miles	none
Structures (number)	37 to 47 switchbacks 4 bridges/boardwalks	15 to 23 switchbacks 5 bridges/ 1 culvert
Estimated Cost Range	\$360K to \$660K	\$410K to \$810K

Both:

- Overall, costs to complete a multi-use connection along either the north or south are expected to be similar.
- Estimated construction costs and number of structures are conceptual and are likely to change as the design is refined.

North:

- Re-building the north route would entail more difficult construction.

South:

- The south route construction is longer in total distance.

Public Input — Preferred Alternative Recommendation

Nov. 28: Open House meeting hosted by partner agencies.
Dec. 9: Questionnaire and public comment period closes.



Agency Recommendation Finalized

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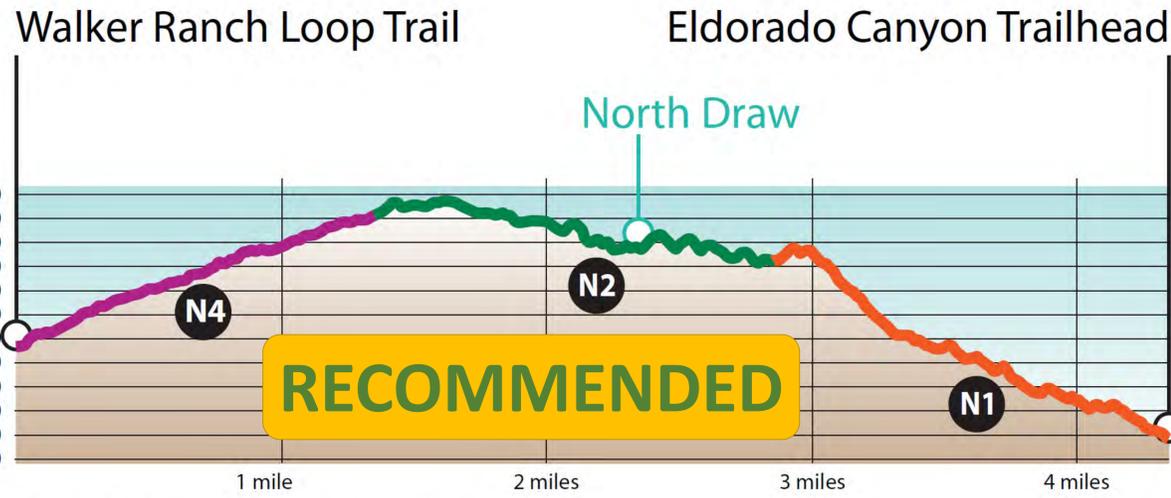
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North



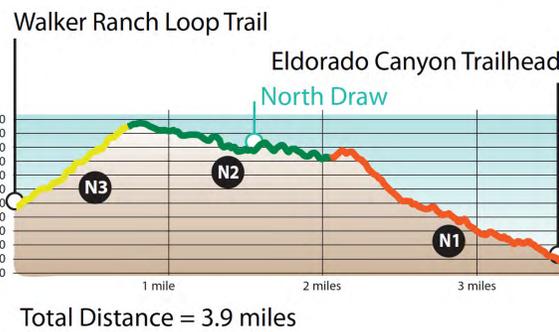
Total Distance = 4.8 miles

Elevation Gain / Loss:
+1,010 feet / -610 feet (E→W)

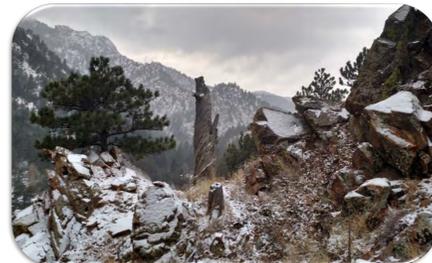
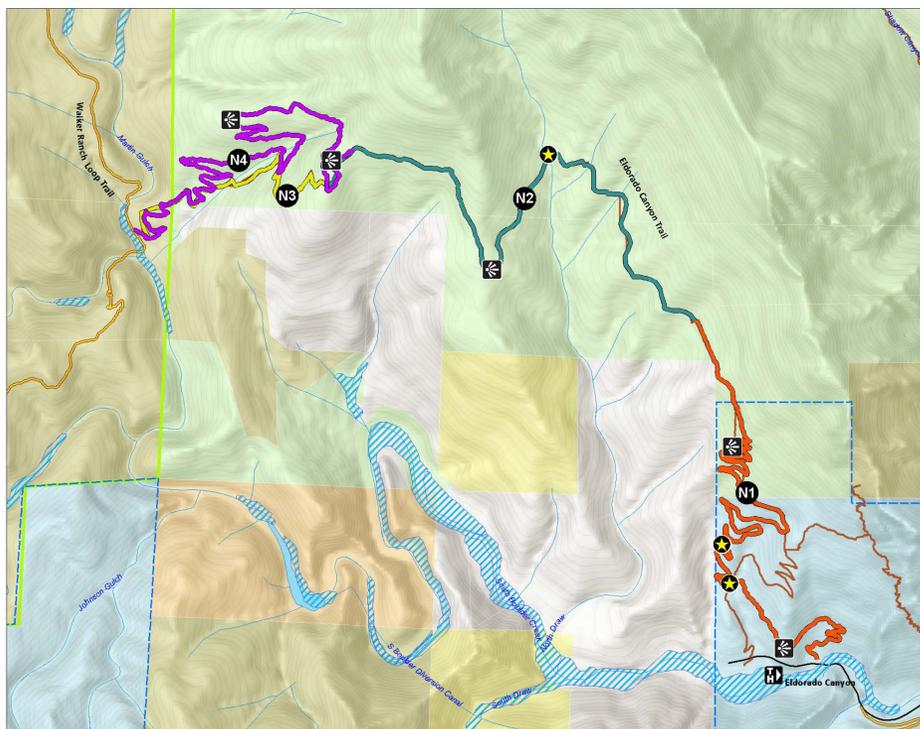
Distance: (N3) 3.9 miles
(N4) 4.8 miles

Aspect: (N3) 37% S, 42% W, 22% N, 0% E 60% shade cover
(N4) 72% S, 13% W, 15% N, 1% E 43% shade cover

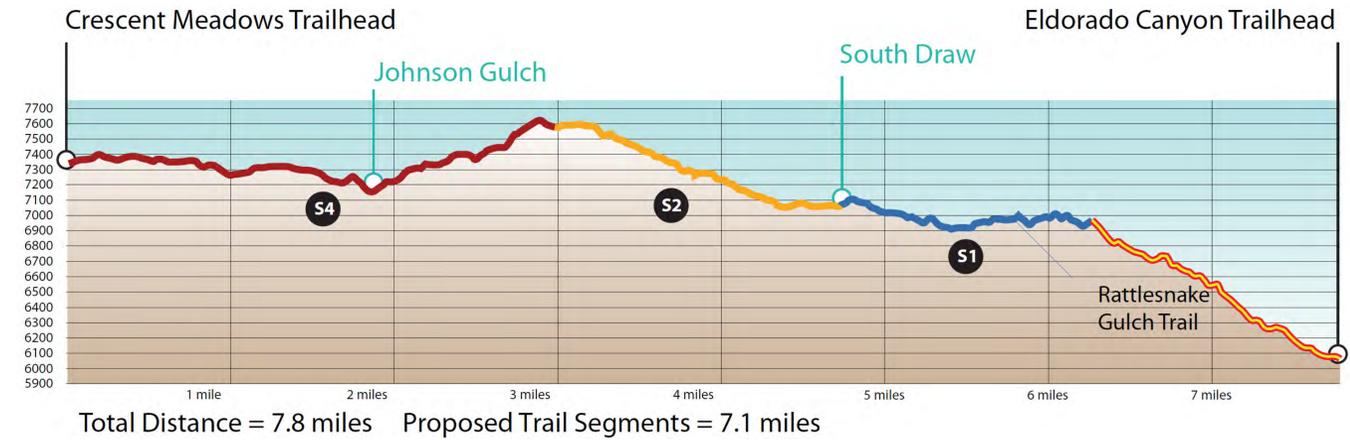
Shade: (N3) 52%
(N4) 47%



Total Distance = 3.9 miles



South



Total Distance = 7.8 miles Proposed Trail Segments = 7.1 miles

Elevation Gain / Loss:
+930 feet / -480 feet (E→W)

Distance: 6.5 – 7.1 miles

Aspect: (S2) 48% S, 1%W, 16% N, 35% E, 47% shade cover
(S3) 25% S, 1%W, 44% N, 30% E, 61% shade cover

Shade: (S2) 60%
(S3) 65%



Total Distance = 7.2 miles Proposed Trail Segments = 6.5 miles

