COLORADO PARKS & WILDLIFE

Eldorado Canyon State Park

2021 MANAGEMENT PLAN

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Colorado Parks & Wildlife hereby states
its approval of
Eldorado Canyon State Park's Management Plan.

Dan Prenzlow, Colorado Parks & Wildlife Director

December 2021

ACKNOWLEDGEMENTS

Developing the Eldorado Canyon State Park (ECSP) Management Plan was a collaborative planning process that would not have been possible without the support of the following staff, partners, and those that participated in the public involvement process.

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The Interagency Team provided valuable insights throughout the planning process and continued a partnership that will benefit all agencies and stakeholders.

The members of the Task Force were willing to “take a seat at the table,” discuss concerns and ideas, listen to each other, and understand different viewpoints.

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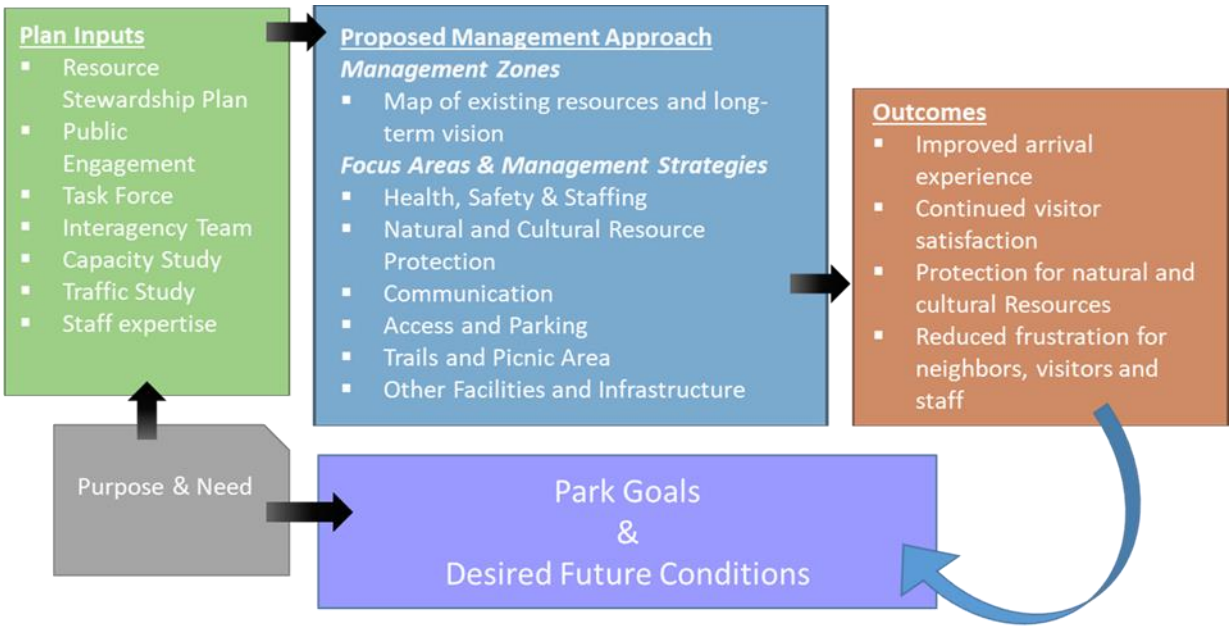
EXECUTIVE SUMMARY

The Eldorado Canyon State Park Management Plan serves as the foremost guiding document for Eldorado Canyon State Park (ECSP). The Management Plan's inputs and proposed management approach are the result of a planning process that is depicted in the illustration below. The resulting Management Plan and its implementation will in turn lead to outcomes that support the goals and long-term vision of a positive experience in nature for all users and healthy, resilient and diverse natural resources.

Various stakeholders (i.e., local residents, recreation and conservation groups, park visitors and more) had important but differing views on the increased (and increasing) visitation to ESCP and the potential impacts to the community, visitor experience, and park resources. These "perception gaps" needed to be bridged through listening, data gathering, and documenting existing conditions. In addition to the inputs summarized in Chapter 1, Chapters 2-4 detail the park's resources (natural, cultural, scenic, recreational, facilities, and infrastructure) and visitation trends. Chapters 5 and 6 explain how CPW used all the information gathered and what actions will be taken as a result.



Visitation

While annual ECSP visitation has increased significantly in recent years, the number of visitors on the park's busiest days cannot and has not increased significantly due to the ECSP parking capacity. However, the frequency of these peak, busy days has increased. The growth in visitation occurred throughout the year, rather than solely as an increase in summer visitation. The limited number of parking spaces makes ECSP access challenging and limits the number of visitors to the recreational facilities. However, once visitors are in ECSP, they report a pleasant, relatively uncrowded experience. In a way, the limited parking capacity of ECSP leads to a positive experience for visitors once they enter.

Management Zones

Park Management Zoning is based on "desired future conditions" i.e., beyond the timeframe of this Plan, what should the park resources, management focus, and visitor experience be in the future? Most of the Park (92 percent) is classified as *Protection* or *Natural,* the remaining 8 percent is *Development* or *Passive Recreation*, which reflects the unique features and recreation opportunities found at ECSP.

Management Strategies

The implementation of strategies presented is contingent on the Park securing adequate financial and human resources, and must be considered or weighed within the context of other CPW-wide priorities.

Visitor Use Management (VUM) refers to an iterative process used to address the complexities of management of visitor access, use, and experience while protecting the Park's resources.

Due to the dynamic nature of visitor behavior, recreation trends, population trends, natural disasters (i.e., fire, flood, drought), and other changing conditions, the Plan addresses the current state of ECSP and the information available to address the Park's resource needs. Nationally, increasing visitation to parks is placing additional pressure on many parks' resources. As CPW, partner agencies and others continue to improve VUM, capacity standards and best management practices, CPW will update management planning efforts at ECSP.

During the planning process, CPW confirmed that for staff, visitors, and neighbors, the "status quo" is not sufficient to meet the park resource condition and management goals. In order to (1) maintain a quality visitor experience, (2) avoid surpassing CPW's ability to maintain the high-quality resource conditions in the Park, and (3) improve working conditions for staff and volunteers, strategies in the following focus areas are being considered for implementation.

These focus areas are divided into six categories: 6.1. Health, Safety, and Staffing; 6.2. Natural and Cultural Resource Protection; 6.3. Communication; 6.4. Access and Parking; 6.5 Trails and Picnic Area; and 6.6. Other Facilities and Infrastructure. Some of these strategies will be implemented immediately, some will be phased in over the next few years, and others are not anticipated to be implemented for 5 to 10 years or more.

Implementation of each strategy will take time and planning, as well as require flexibility and adaptation as they are rolled out. It will be difficult to develop or fully assess future actions until the impact of near-term actions and changes in visitor behavior and trends can be observed. Incremental changes, with intent of long-term beneficial cumulative impacts, are to be expected.

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1.0 INTRODUCTION

Park Description

Eldorado Canyon State Park (ECSP or Park) is a well-visited state park thanks to its world-renowned rock climbing, creekside picnic spots, impressive views, scenic trails, and proximity to a major population center. Long before the 1978 establishment of Eldorado Canyon State Park, the canyon itself was a draw for people seeking tranquility and recreational pursuits, as well as natural resources for subsistence and livelihoods.

Native Americans are known to have visited the canyon seasonally as part of their annual patterns of movement. The Mouache Band of the Ute and later Cheyenne and Arapaho consider this area part of their homelands. European homesteaders eventually began logging and mining operations and later a resort was built for use of the artesian water pools and other amenities. Climbers began using the canyon around 1950 and now consider the Park an international destination for rock climbing, which is unique in the Colorado State Park system. Today, climbers who frequent the Park play an important role in park improvement projects and promoting the sport of low impact climbing. Recent visitation trends indicate the Park is now well-known for hiking, sightseeing, and picnicking.

Purpose of the Plan

The Eldorado Canyon State Park Management Plan (Management Plan) serves as the foremost guiding document for Eldorado Canyon State Park. The purpose of developing a state park management plan is to 1) plan for both the public enjoyment and 2) protection of the state park's resources. The Management Plan provides a conceptual planning framework for setting management priorities and future management direction for park resources. The Management Plan also:

- Serves as a guide and policy document for current and future park staff, partnering agencies, elected officials, and interested members of the public.
- Guides management of natural, cultural, and recreational resources.
- Provides a framework for monitoring and maintaining resources at Eldorado Canyon State Park.
- Identifies Visitor Use Management strategies to enhance user experiences and protect park resources by managing visitor use of and access to the Park.
- Serves as a guide for future park budget allocations and annual funding requests.

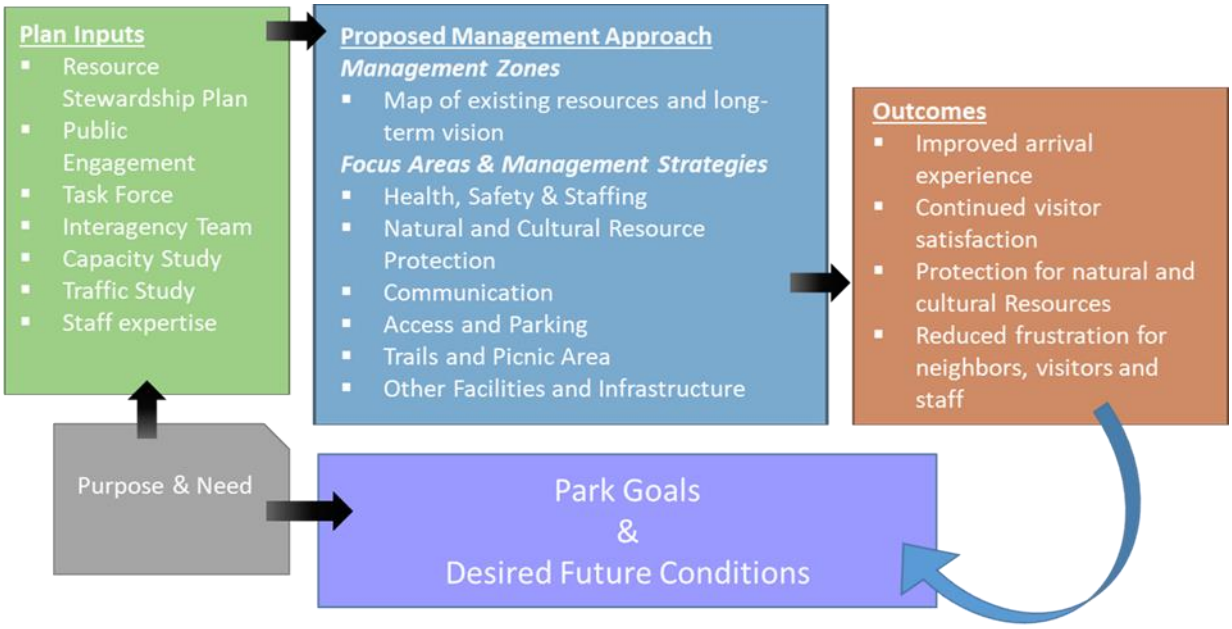
Park managers should regularly review the Management Plan to evaluate implementation progress. This includes annually reviewing the document with staff and providing the Management Plan to new employees. Park and other CPW staff (e.g., planning, region, natural resource and capital/region development staff) should update the Management Plan every 10 years.

This Management Plan and its implementation is also an opportunity to support Governor Jared Polis' philosophy to build a "Colorado for All." On August 27, 2020, Governor Polis signed Executive Order D-2020-175 directing the Department of Personnel & Administration to advise state agencies to integrate this philosophy into state government's workplaces,

community engagement, standards of accessibility, and more. All agencies, including the Department of Natural Resources, of which CPW is a Division, have equity, diversity and inclusion goals focusing on hiring, retention, community partnerships and communication. Over the coming months and years, CPW will use related policies and guidance coming from these initiatives to refine implementation of strategies in this plan. In addition, the Park's Desired Future Conditions and Goals (presented in the next section) envisions Eldorado Canyon State Park as a place for all Coloradans to enjoy the outdoors.

The Management Plan's inputs and proposed management approach are the result of a planning process that is depicted in the illustration below. The resulting Management Plan and its implementation will in turn lead to outcomes that support the goals and long-term vision.

Various stakeholders (i.e., local residents, recreation and conservation groups, park visitors and more) had important but differing views on the increased (and increasing) visitation to ESCP and the potential impacts to the community, visitor experience, and park resources. These "perception gaps" needed to be bridged through listening, data gathering, and documenting existing conditions. In addition to the inputs summarized in Chapter 1, Chapters 2-4 detail the park's resources (natural, cultural, scenic, recreational, facilities, and infrastructure) and visitation trends. Chapters 5 and 6 explain how CPW used all the information gathered and what actions will be taken as a result.



Relationship to the CPW Strategic Plan

Colorado Parks and Wildlife's (CPW) Strategic Plan is a useful guide for achieving a broad range of CPW-wide goals and objectives, while the Management Plan is the primary guidance document for park-level planning efforts. The Management Plan is consistent with the following CPW mission, vision and goals.

Mission

CPW's mission is "to perpetuate the wildlife resources of the state, to provide a quality state park system, and to provide enjoyable and sustainable outdoor recreation opportunities that educate and inspire current and future generations to serve as active stewards of Colorado's natural resources" (C.R.S. 33-9-101).

Vision

CPW's vision is to be a national leader in wildlife management, conservation and sustainable outdoor recreation for current and future generations.

Strategic Goals

CPW's Strategic Plan, finalized in November 2015, provides a roadmap for achieving the agency's vision and mission through concrete goals and objectives. The six CPW goals identified in the Strategic Plan are:

1. Conserve wildlife habitat to ensure healthy sustainable populations and ecosystems.
2. Manage state parks for world class outdoor recreation.
3. Achieve and maintain financial sustainability.
4. Maintain dedicated personnel and volunteers
5. Increase awareness and trust for CPW.
6. Connect people to Colorado's outdoors.

Desired Future Conditions

Desired future conditions are aspirational, qualitative statements, describing the long-term preferred characteristics of resource conditions and visitor experiences. The following Desired Future Conditions for the Park were developed by CPW with collaborative input from the Interagency Team and Task Force (these advisory groups assisted with the "visitor use management" sections of this Management Plan; see "*Public Input*" for more information).

Visitor Experience

A positive experience in nature for all users includes:

- An inclusive public space where visitors of diverse backgrounds feel a sense of belonging,
- Optimization of the Park's unique character as part of the broader state park system, for example, as a world-class rock-climbing destination.
- Predictable and practical methods of accessing the Park that includes multimodal transportation.

- Park access that does not create undue negative impact (e.g., noise, traffic congestion) on the local community.
- Outdoor experiences that promote physical health and mental well-being.
- Well-maintained, functional, and accessible facilities and infrastructure that adequately serve visitor and staff needs.
- Trails and picnic areas that will support visitation for at least 50 years with limited impact to geology, soils, wildlife, vegetation, and riparian areas.
- Information on how to access the Park, where to go, what to do, and the behavior expected is easily accessible for all visitors.
- Empowering visitors to act as stewards of the Park and feel self-driven to learn and follow Park regulations.

Resource Conditions

Healthy, resilient, and diverse natural resources that have:

- Protection for threatened and endangered species, nesting raptors, other species of conservation interest, rare plant communities and other significant features of the Park.
- Management based on sound biological and scientific evidence.
- Minimized risk from:
    - invasive species, drought, fire, flood, and other threats
    - resource degradation in high use areas of the Park (e.g., soil loss into South Boulder Creek and trampling of vegetation near the creek and along trails)
    - dust generated by high winds and traffic, as well as exhaust from vehicles waiting at the Park entrance station or on the roadway

Park Goals

To ensure that the management of Eldorado Canyon State Park supports this long-term vision, ECSP's goals include the following:

1. **Protection**: Protect and maintain the quality of natural, cultural, and scenic resources of the Park for future generations.
2. **Safety**: Provide a wide variety of safe outdoor recreation experiences appropriate for the Front Range/park setting that complement the other goals of the Park.
3. **Climbing**: Ensure that the Park's resources, staff, and partnerships are able to sustain Eldorado Canyon's unique rock climbing opportunities for local visitors and international travelers.
4. **Access**: Keep pace with population and recreation trends by improving trip planning information and arrival experiences for visitors, acquiring suitable park lands, and minimizing impacts to neighboring communities.
5. **Inclusivity**: Foster a sense of belonging and connection for all Park visitors.

6. **Partnerships**: Maintain partnerships with other land management, safety, and transportation agencies to share information and work collaboratively to address transportation, resource protection, and visitor experiences within the public lands in Eldorado Canyon.
7. **Staffing**: Sustain adequate staffing levels to support CPW mission, serve the public's needs, protect natural and cultural resources, maintain facilities and infrastructure, and support staff well-being and development.
8. **Stewardship**: Provide volunteer opportunities and environmental education and interpretation programming that instills a sense of stewardship and belonging in Park visitors.

(Chapters 4-6 of this Plan describes how CPW will address these goals while not outpacing the operational capabilities of the Park and its staff.)

Future Plan Updates

The last management plan for ECSP was completed in 2000. The Eldorado Canyon State Park Management Plan should be updated every 10 years by Park and other CPW staff (e.g., CPW planning, region, natural resource, and capital/region development staff). To ensure that the Management Plan is a dynamic document that meets the changing needs of the Park and park visitors over time, park managers may supplement the Management Plan with updated information, provide minor changes to management actions, or add management actions that help the Park meet changes in recreational trends and visitor demands, adapt to changes in the natural environment, and maintain a high quality visitor experience. In general, park management plans are to be amended when changes in circumstances are significant enough to merit updating the specific plan.

Implementation of this Management Plan will involve continuous evaluation and adjustment to management strategies (see Chapter 6) which may or may not warrant formal updates. Examples of when other formal amendments to the plan may be necessary are listed below.

- Changes to the land base take place (e.g., additional lands are purchased or portions of the Park are sold off).
- Major new facilities or infrastructure are planned for the Park.
- A policy or directive is instituted that significantly affects park management direction,
- Major changes to land use occur within or adjacent to the Park.
- Changes to the management zoning.
- Significant environmental stress (i.e., fish kill, drought, etc.).

Public Input

Public input is an important part of the management planning process. It helps planners understand the issues and desires of visitors and the impact of plans on nearby communities. CPW contracted with Keystone Policy Center for assistance in facilitating public input during part of the planning process. SE Group was a subcontractor hired to conduct a capacity study and develop Visitor Use Management (VUM) strategies. Initial input related to VUM was

gathered from June 2019 through February 2020 via an Interagency Team and a Task Force, as well as a visitor intercept survey in the Park, through an online comment form, and public meetings.

On April 26, 2021, CPW released a draft of this plan to the public, Task Force, and Interagency Team. The draft plan was available for review on CPW's website for 30 days. Comment forms were available related to 1) what information was used to create the plan; 2) existing conditions—what did CPW hear, learn, and confirm; and 3) proposed management approach. There was also a form for general comments. Appendix E is a summary of comments received.

Interagency Team

Colorado Parks and Wildlife, Boulder County Parks & Open Space, Boulder County Community Planning & Permitting, and City of Boulder Open Space and Mountain Parks staff members met regularly throughout the planning process.

Located in south-central Boulder County, ECSP is part of a broad landscape of publicly owned lands in the South Boulder Creek Watershed. The park borders publicly accessible open space land owned and managed by the city and county. The Interagency Team has a shared interest in providing access to recreational facilities and managing resource protection and visitor experience within the public lands in Eldorado Canyon.

Eldorado Canyon State Park Visitor Use Management Plan Task Force

Key public and agency partners participated in the development of the Management Plan through the Eldorado Canyon State Park Visitor Use Management Plan Task Force (Task Force). CPW invited agencies and organizations to participate in the Task Force, but each group selected their own individual representatives and alternates.

The Task Force served as an advisory group and CPW incorporated the Task Force outcomes into public input opportunities and this Plan. Meetings were held with the Task Force on June 26, 2019; August 5, 2019; October 30, 2019; and February 12, 2020 (Appendix A). In between meetings, members also provided feedback to Keystone Policy Center and CPW. The members of the Task Force included:

- Action Committee for Eldorado
- Boulder Area Trail Coalition
- Boulder Climbing Community
- Boulder County Nature Association
- Boulder County Parks & Open Space
- Boulder County Community Planning and Permitting
- Boulder Mountainbike Alliance
- Brown Girls Climb
- City of Boulder Open Space & Mountain Parks
- Colorado Department of Transportation

- Colorado Mountain Club
- Colorado Parks & Wildlife
- Eldorado “Valley” Residents
- Eldorado Artesian Springs, Inc.
- Eldorado Springs—east residents
- Eldorado Springs—Kneale Road (west residents)
- Islamic Center of Boulder
- Rising Routes
- Rocky Mountain Fire
- Rocky Mountain Rescue Group

Public Meetings and Online Comment Form

As a component of the planning process and to inform the drafting of the plan, CPW engaged members of the public to gather information and feedback on strategies to enhance visitor use management. CPW used the public meetings and online survey as forums for discussion on park management issues that have been highlighted in recent years through public comments, visitor feedback through surveys, park staff experiences, and comments from private neighborhoods adjacent to the Park. The Task Force and Interagency Team provided valuable insights and suggestions for crafting the meetings and survey.

Members of the public were invited to provide input at two public meetings, held in Boulder on Monday, September 9, 2019, and Tuesday, September 17, 2019. The agenda of these two public meetings was the same. The meetings included an informational presentation by CPW, small group discussions around potential access management scenarios at ECSP, and follow-up questions on the presented scenarios and additional strategies. An online comment form was also available to the public from September 9 through September 30, 2019. The online comment form was available in English and Spanish. The online comment form mirrored the questions and discussion of the public meetings, and the meeting presentation was available for download as well. A total of 360 members of the public engaged in the planning process through the public meetings and online comment form. Notable takeaways from the public input include:

- Status quo park access (first come, first served; park entry closes at parking capacity) is not managing traffic flow and parking issues.
- Overall, there is high support for a shuttle. Residents of Eldorado Springs & Valley and picnickers were more likely to oppose a shuttle. CPW believes this reflects residents' high level of concern about traffic congestion in town and the fact that picnickers bring a lot of supplies (cooler, food, blankets, etc.) into the Park.
- There is a moderate amount of support for reservations. Climbers were more likely to oppose reservations. Individual climbers tend to visit the Park frequently.
- There is not support for time restrictions on park visits.

Meeting participants and survey respondents offered several alternatives and details to consider with any new strategies CPW may implement. See Appendix B for details and an analysis of input received.

Visitor Surveys

SE Group conducted a visitor intercept survey during summer 2019 to inform the ECSP Capacity Study (Appendix C). The survey results provided important information on existing conditions and visitor experience that will add to the management plan process. Individuals were surveyed throughout the Park as they finished their activities; 355 survey responses were collected. Key findings of the Capacity Study are incorporated into Chapter 4 of this plan.

In 2019, CPW began a methods test to survey visitor satisfaction in Colorado State Parks. ECSP was one of ten pilot parks to participate in the intercept surveys (in-person). The overarching goal of this effort was to develop a strategy for measuring state park visitor use, experiences, satisfaction, and overall economic contribution at all 42 state parks. At ECSP, intercept surveys were conducted at different times of the day and different days of the week over the course of nearly a year (summer 2019 through spring 2020). Most visitors asked to participate did so and 745 people were interviewed. A longer online survey was sent as a follow-up to those who shared their email address; nearly 200 visitors participated in the online survey.

Key findings include:

Intercept survey responses

- Of those who participated in the intercept survey, most (69 percent) were from Colorado and about 84 percent indicated having one to four people in their vehicle while visiting the Park. Slightly more than half (54 percent) had one or two people in their vehicle.
- Hiking, rock climbing, and walking were the most frequently identified activities that interviewees intended to do (or had done) during their visit.

Online survey responses

- Sociodemographic data
    - On average, respondents were 43 years old (mean) and slightly more than half (53 percent) were female.
    - In total, 151 respondents self-identified as White/non-Hispanic/Latino; 13 self-identified as Hispanic/Latino; and 13 self-identified as Asian.
    - The number of years respondents have lived in Colorado ranged from less than 1 year to 72 years (mean = 16 years).
- Recreation activities
    - Overall, the top five recreation activities that visitors enjoyed at ESCP were: 1) hiking/backpacking (56 percent); (2) walking/dog walking (41 percent); 3) rock climbing (22 percent), (3) photography (22 percent), (4) picnicking (13 percent); 5) and bird watching (10 percent).

    - When asked what the one activity respondents were most excited about, the top three were 1) hiking/backpacking (51 percent); 2) rock climbing (23 percent); and 3) walking/dog walking (18 percent).

- Motivations (moderate-to-very important responses combined and indicated below)
    - Nearly all respondents identified the most important reasons they recreated at the Park as enjoying scenic views (99 percent) and enjoying/spending time in nature (97 percent).
    - Doing the #1 activity that brought them to the Park was also important to about 94 percent of respondents.
    - Exercising/improving physical health and spending time with family/friends rounded out the top five at 93 and 87 percent, respectively.

- Management preferences (strongly agree responses are indicated below unless otherwise indicated)
    - Park maintenance: More respondents agreed with statements about the Park being well maintained (80 percent) and the natural environment being protected (73 percent) than they did with statements about amenities (e.g., restrooms, picnic tables) being clean (53 percent) and in good condition (45 percent).
        - The maintenance responses are important to highlight as they likely contributed to visitors' overall satisfaction, rather than some of the more negative aspects associated with visitors' arrival experiences (e.g., parking capacity issues), described below.
    - Potential concerns: About two-thirds of respondents were not bothered by other visitors' pets (67 percent) or other visitors themselves (65 percent).
        - About 31 percent agreed with the statement that the Park was not crowded. However, another 25 percent somewhat agreed with this statement.
    - Park facilities: More than two-thirds (68 percent) of respondents agreed that the Park had well designed and maintained trails and about half (48 percent) agreed that there were adequate places to rest.
        - Only 19 percent agreed that there was adequate parking. This is particularly challenging because almost all (89 percent) of respondents entered the Park in a vehicle.
        - Additionally, more respondents (41 percent) traveled 26 or more miles to the Park than those who traveled between 1 and 10 miles (24 percent). Challenges associated with parking are also highlighted in the park-specific section below.
        - About 26 percent agreed that the Park had enough picnic areas/shelters.
    - Park personnel/information: Nearly three-quarters (73 percent) of respondents agreed that park staff were courteous/friendly and about 65 percent agreed that staff were helpful.

- Satisfaction
    - The majority (94 percent) of visitors were satisfied with their most recent experience at Eldorado Canyon State Park and 89 percent are likely to visit again in the next 12 months.

- Crowding
    - About two-thirds (65 percent) of respondents felt crowded in parking lots and almost half (48 percent) felt crowded along the road. Fewer (23 percent) felt crowded at picnic areas and only 11 percent felt crowded on trails.
    - When asked which, if any, of the following actions should be *considered* by staff at Eldorado Canyon State Park, more than half (58 percent) checked "yes" for a shuttle service to/from the Park and 51 percent checked yes for a picnic area reservation system.

Influences on Management

Factors that are not entirely under CPW's control but influence park management include:

- Eldorado Canyon is a "box canyon" with only one way in/out with steep canyon walls.
- There are private communities adjacent to the Park, including the town of Eldorado Springs.
    - Access to ECSP's main parcel, the Inner Canyon, is via a privately owned dirt road that passes through Eldorado Springs. CPW has an easement to allow Park visitors access to this road.
    - When the Park is full, some visitors park illegally in Eldorado Springs.
    - ECSP also provides access to homes past the park on Kneale Road for residents, emergency services, utilities, and other services.

- ECSP is located on Colorado's Front Range, which is experiencing dramatic increases in population. At the same time, outdoor recreation is also growing in popularity.
    - High volume recreational opportunities are detrimental to Park infrastructure. They can degrade cultural and natural resources, alter wildlife behavior, impact public safety, increase staff responsibilities by adding additional unmanageable challenges, and negatively affect the visitor experience, all of which strain the limited operational budget. Due to high visitation, small deficiencies in facilities like roads, buildings, and trails can escalate quickly into hazardous conditions with significant repair costs.

- Management of adjacent public lands impacts ECSP and vice versa.
    - Nearby trailheads managed by the City of Boulder often reach capacity and close during muddy conditions, sometimes pushing their visitors to ECSP.
    - ECSP leases sections of City of Boulder land that border the ECSP's boundaries. These leases are for areas where the only access is via the Park and provide management consistency for visitors.

- Boulder County's Walker Ranch Loop passes through ECSP (in Crescent Meadows) and Boulder County Open Space and connects to the Eldorado Canyon Trail (in Inner Canyon).

Management Considerations

Management considerations include issues and concerns identified by park staff based on first-hand experience, knowledge, and information gathered from the public.

Some key considerations include:

- Development of park facilities has centered around the Inner Canyon's road for visitor access to amenities and to minimize disturbance to other areas. The road now functions as a "trail" for pedestrians and cyclists moving around in the Park. In addition to traffic and pedestrians, there are also climbers (belaying from the road), visitors watching climbers, and loud rushing waters of S. Boulder Creek, all of which make it difficult for pedestrians to hear approaching vehicles.
- Sharp increases in visitation throughout the year have led to filled parking spaces on weekends and holidays. This started as an issue during summers but has now expanded into other times of the year. In addition, high visitation on weekdays is now prevalent in the summer months.
    - There are only 4 full-time staff and 7 temporary summer staff.
    - Staff have become "parking attendants" and spend much of their time on busy days turning cars around and helping people figure out where to park.
    - With staff attention focused on parking/traffic conditions and the Visitor Center location at the far west end of the Park, there is limited opportunity for staff to proactively interact with visitors.
    - High daily visitation levels have had a substantial impact on the visitors' arrival experience at ECSP. Visitation levels and arrival rates that exceed the parking capacity result in the following visitor experience problems:
        - Visitors denied entry to the Park.
        - Visitors walk long distances to get to their destination within the Park.
        - Congestion and backups at the entrance station and on the roadway within the Park.
        - Frustration for visitors, neighboring residents, and staff.
        - Diminished positive "sense of arrival" to begin outdoor experience.
- Implementation of the suite of planning documents (e.g., Management Plan and Resource Stewardship Plan) requires an investment of time, staff, and other resources—all of which are limited.

Eldorado Canyon to Walker Ranch Multi-use Connection

CPW participated in multiagency discussions, a feasibility study, and public meetings regarding accommodating bicycles on the trail between Eldorado Canyon State Park and Walker Ranch Open Space. The "influences on management" and "management considerations" described above, as well as the findings shared throughout this plan indicate that the threshold for recreational opportunities has been reached in ECSP.

Specifically, with around half a million visitors a year, Park operations cannot support building and maintaining a new segment of trail or exacerbated safety concerns on the congested park road. Even as CPW works toward decreasing and/or dispersing visitation in the coming years we will not add the multi-use connection to ECSP.

CPW is committed to the long-term sustainability of the natural and cultural resources and positive visitor experiences in Colorado's State Parks. CPW will continue to work with our partners, neighbors, and all recreationists to find solutions to the growing demand for recreation opportunities in the state.

2.0 REGIONAL PLANNING CONTEXT

This section provides information on the regional setting in which Eldorado Canyon State Park is situated. Regional issues or considerations that may influence management of Eldorado Canyon State Park include climate, proximity of the Park to major population centers and other geographical considerations, eco-regional issues, adjacent land ownership, and regional population trends.

Climate

ECSP's climate and topography play a fundamental role in the distribution of flora and fauna throughout the Park. The Park's weather is highly variable and can rapidly change due to its close proximity to the Rocky Mountains; severe thunderstorms, high winds, freezing temperatures, and snowstorms are not uncommon. The Park's elevation ranges from 5,800 feet at the Park´s main entrance along CO-170 to 8,800 feet at the southern Jefferson County parcel.

The nearest weather station to Eldorado Canyon State Park is located at Gross Reservoir, which sits at about 7,960 feet elevation (WRCC 2016). This site sits higher than most of the Park, but is just west of the Park and generally represents area trends. Table 1 and Figure 1 summarize temperature and precipitation data for Gross Reservoir (WRCC 2016).

Table 1. Mean Temperatures (F) 1978-2016 (WRCC 2016).

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Max	40.5	39.4	48.8	53.8	62.3	74.1	80.7	77.9	71.0	58.0	49.2	39.1	57.9
Mean	29.1	27.7	36.2	40.9	49.0	59.0	65.6	63.0	55.5	44.8	36.9	27.8	44.6
Min	17.6	16.0	23.5	28.0	35.7	43.9	50.5	48.1	40.0	31.6	24.5	16.5	31.3

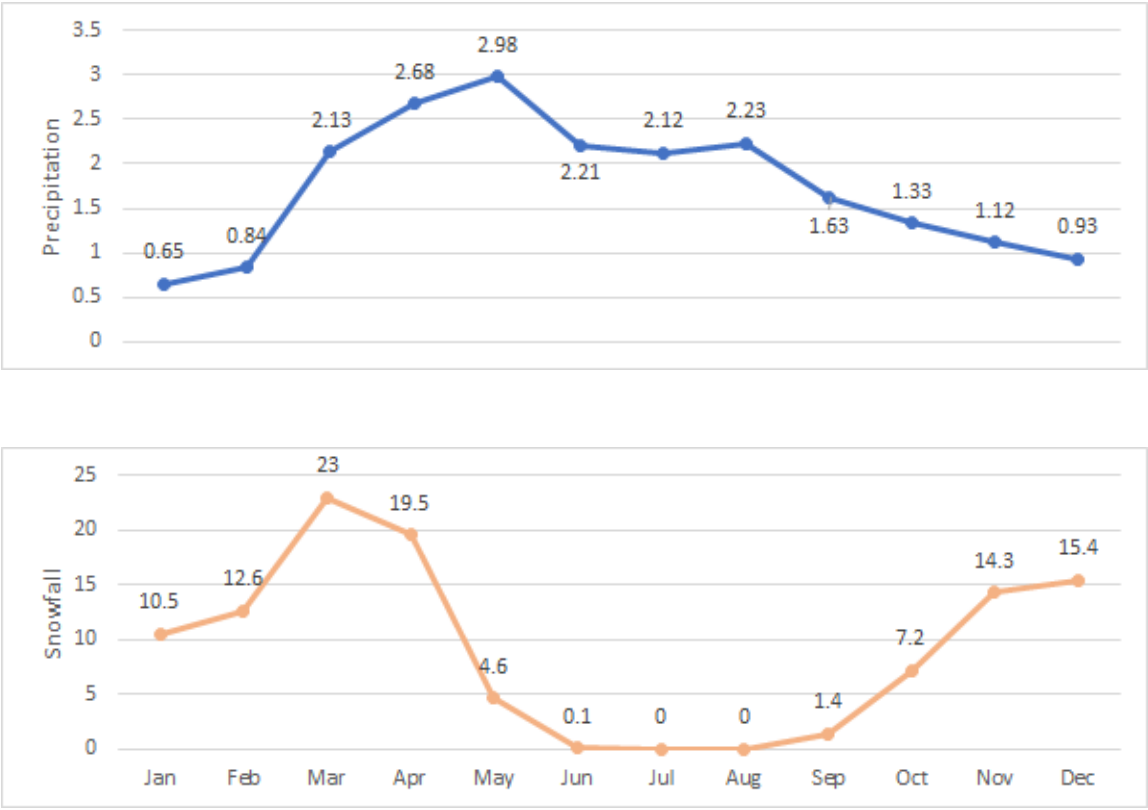
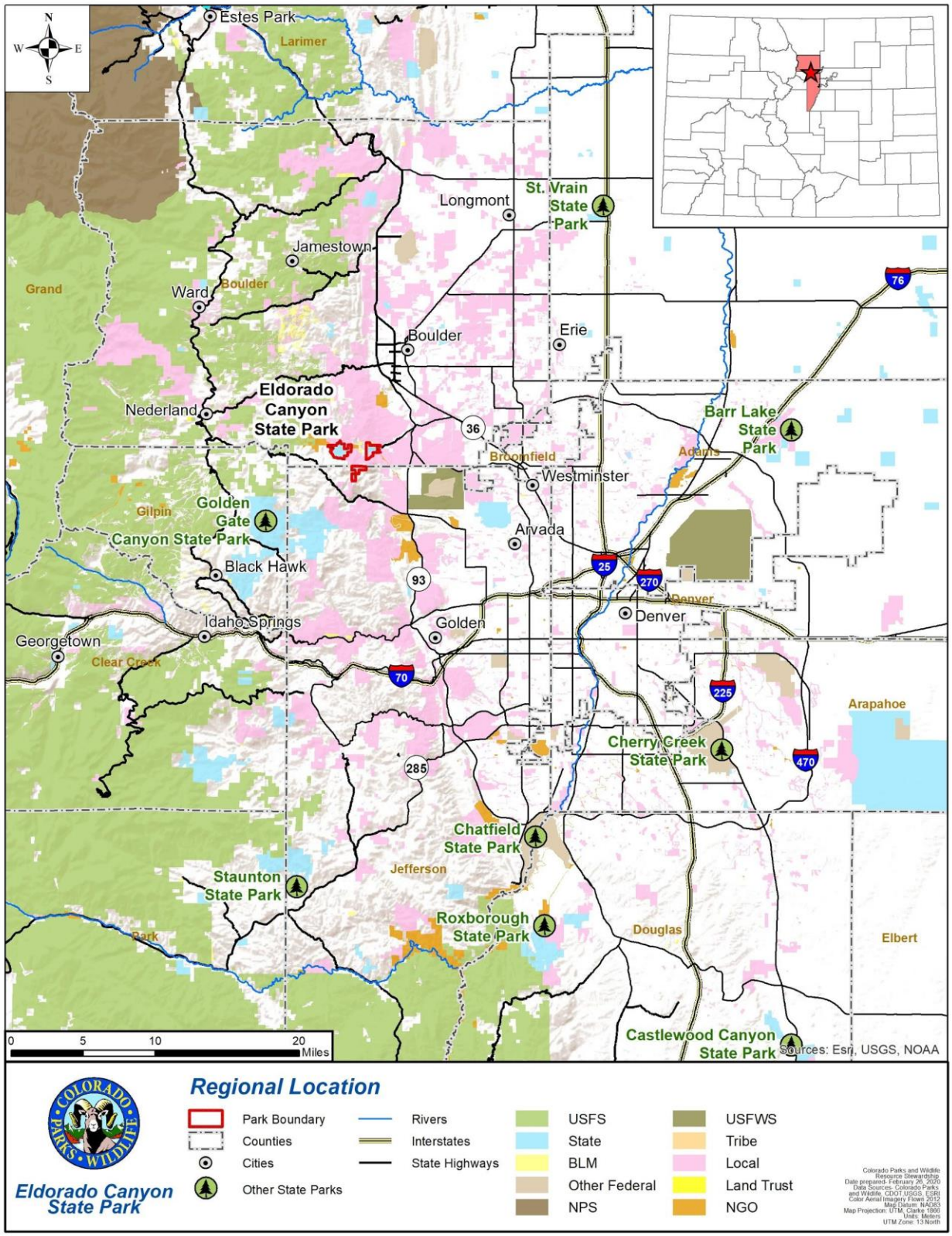


Figure 1. Average Precipitation Totals (inches) at Gross Reservoir from 1978 - 2016 (WRCC 2016).

Physical Setting

Eldorado Canyon State Park lies eight miles southwest of the City of Boulder within the eastern edge of the Front Range of the Rocky Mountains (Map 1). The Park comprises 1,392 acres in Boulder and Jefferson Counties. The Park is managed in three parcels: the Inner Canyon, Crescent Meadows, and Jefferson County. The Inner Canyon, the historic entrance to the box canyon, receives the vast majority of visitation.



Map 1. Regional Location of Eldorado Canyon State Park.

Eco-Regional Setting

Eldorado Canyon State Park lies within the St. Vrain subbasin and within the South Boulder Creek watershed (CPW 2020). Eldorado Canyon State Park occupies multiple ecotones including higher elevation mixed conifer forests, mid elevation ponderosa pine forests/meadows, and lower elevation meadows and shrublands (Rocky Mountain Forestry, LLC. 2017).

Eldorado Canyon State Park provides habitat for many species of wildlife common to the foothills of the Front Range and provides opportunities for the public to view both wildlife and outstanding scenery within close proximity of major metropolitan areas. The Park exemplifies the diversity of vegetation types found in Colorado's Front Range foothills. This diversity is attributed to the Park's varied topography, soils, microclimates, and specifically to the Park's location in the ecotone between mixed grass prairie and montane woodland. Primary habitats for wildlife at Eldorado Canyon include ponderosa pine woodlands, Douglas-fir forest, mixed foothills shrubland, short and mixed grass prairie, riparian and wetland communities. Further, the numerous cliffs and rock outcrops provide suitable habitat for cliff-dwelling bird species and bats. Migration corridors are present along riparian areas of the waterways within the Park for large mammals such as deer, elk, mountain lions, and bears and the federally listed (as threatened) Preble's meadow jumping mouse. The large expanses of open space and connectivity of the Park to adjacent protected lands provides contiguous habitat for many wildlife species (CPW 2020).

Adjacent Land Use and Land Ownership

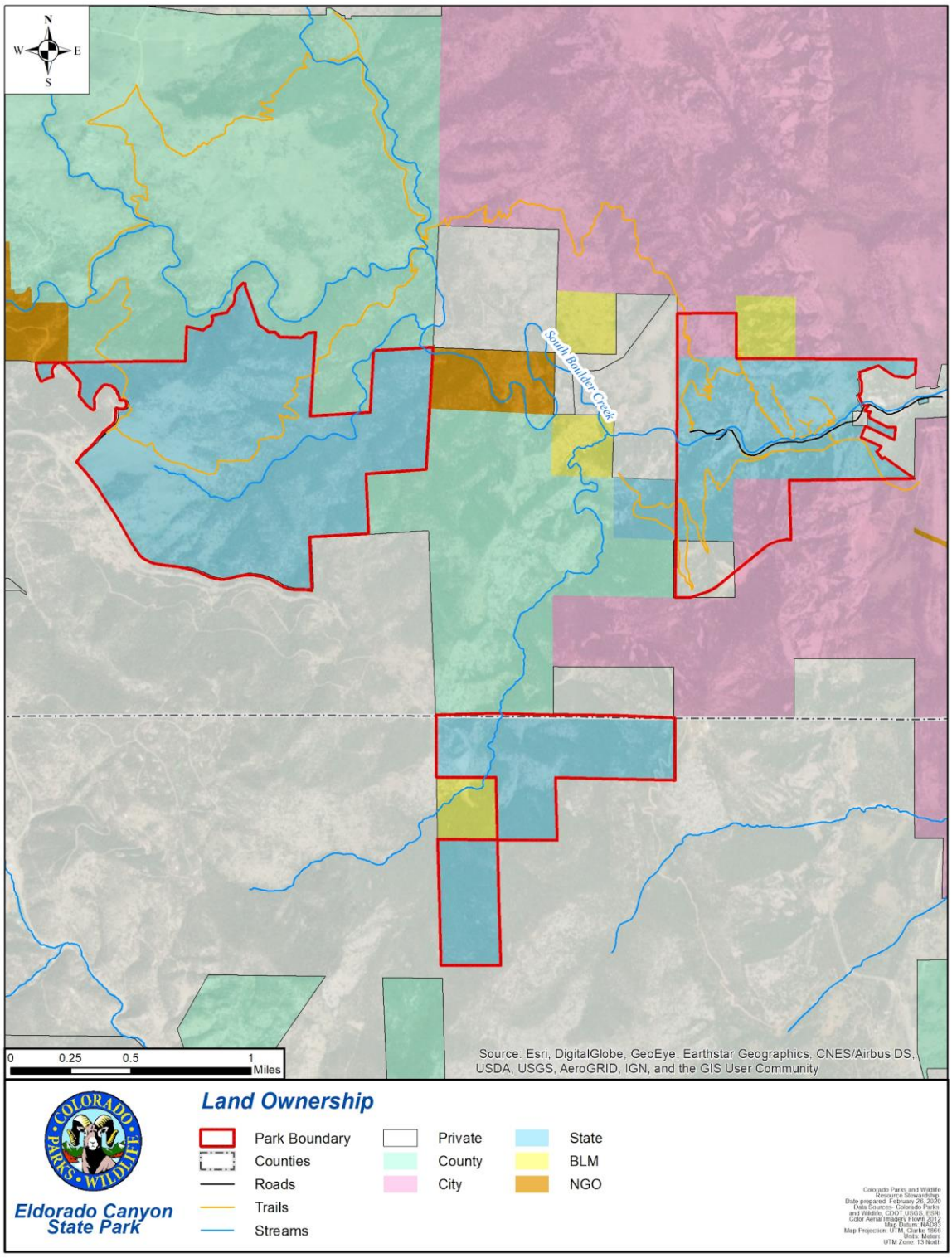
Eldorado Canyon State Park is located in south central Boulder and northern Jefferson counties with public and private land bordering the Park (Map 2).

The small, unincorporated town of Eldorado Springs is located just outside the entrance to the Inner Canyon. A few small businesses, including art studios, a construction company, and a law office are found in Eldorado Springs. There is also Eldorado Springs Resort and Pool, Eldorado Mountain Yoga and Ashram, a post office and fire station.

The Park is surrounded by public lands that are owned and operated by multiple agencies. The US Forest Service (USFS) manages the Arapaho and Roosevelt National Forest land to the west of the Crescent Meadows parcel. Boulder County Parks and Open Space (BCPOS) manages Walker Ranch Open Space, and the City of Boulder Open Space and Mountain Parks (OSMP) manages Eldorado Mountain, Doudy Draw/Spring Brook/South Mesa, and Marshall Mesa.

Several of these trailheads are on State Highway 170. The highway becomes a private road in the town of Eldorado Springs (CPW has an easement to allow Inner Canyon visitors to access the Park) and then a road through the Park to private residences on the west side. Therefore, this road serves as the sole access for multiple trailheads; businesses; approximately 275 households; the public and commercial facilities of Eldorado Artesian Springs, Inc.; and the Inner Canyon parcel of the Park.

Access to Crescent Meadows parcel is from Gross Dam Road, which can be accessed from State Highway 72 to the south and Flagstaff Road to the north. As previously stated, there is no public access to the Jefferson County property.



Map 2. Land Ownership adjacent to Eldorado Canyon State Park (Crescent Meadows to the west, Inner Canyon to the east, and the Jefferson County parcel to the south).

Regional Recreation and Tourism Trends, Opportunities and Challenges

Regional Tourism and Recreation Trends

In 2018, the Colorado Tourism Office (CTO) released its Regional Branding Initiative. This effort aims to create more cohesive regional identities that promote unique travel experiences and help generate local marketing strategies. ECSP lies within "Denver and the Cities of the Rockies" region (Region 8), which covers the north-central portion of Colorado (CTO 2018). Region 8 receives the highest number of visitors in the state (CTO, 2018) and contains several "must see" tourist attractions. See the "History" section of CTO's report for more context and background on this region.

CTO's plan includes recommendations for tourism development. The top three are: 1) Create a destination development plan to manage growth; 2) Avoid becoming generic by shifting to niche marketing; and 3) Create regional differentiation and strengthen regional offering by leveraging individual city identities (CTO 2018).

The 2019-2023 Statewide Comprehensive Outdoor Recreation Plan (SCORP) delineates regions based on CTO's previous travel management zone and offers valuable insight into the recreation trends in each region. In the SCORP, ECSP falls into the "North Central" region, with a small portion of the Park in the "Denver" region (CPW 2019). The North Central region includes popular, eclectic towns such as Fort Collins, Boulder, Greeley, Idaho Springs and Estes Park. Recreational activities include camping, hiking, biking, fishing, and boating in the ample city, state, federal, and county public land properties. The region is also home to Rocky Mountain National Park, the Flatirons, Poudre Canyon, and Longs Peak. This region offers a breadth of outdoor experiences from neighborhood parks to remote wilderness (CPW 2019).

Based on a public survey, the top three recreational activities in the North Central region are: 1) walking, 2) hiking/backpacking, and 3) playground activities. This region generates around $13.8 billion of direct economic output each year from recreation, providing the second highest economic contribution out of all the regions in Colorado (although region sizes must be considered) (CPW 2019). See the "Economic Value" section of the SCORP for more information on the North Central region's contributions.

Colorado saw almost 38 million visitors in 2018. Outdoor travel to Colorado has been growing each year, despite the relatively flat number of travelers to Colorado and of outdoor travelers nationally. Hiking/backpacking is the most popular activity on Colorado outdoor vacations (Longwoods International 2019). The City of Boulder is a popular destination for visitors, especially those interested in recreation. The City of Boulder saw 3.3 million visits in 2015 and Boulder's OSMP had 2.6 million visits in 2016-17, when data was last collected. The Boulder Convention and Visitors Bureau found that the purpose of 30 percent of overnight trips to Boulder was recreation, the highest of any category (BCVB 2016).

Regional Recreation Opportunities

Boulder County Parks and Open Space (BCPOS) owns or manages over 100,000 acres of open space. BCPOS also manages over 110 miles of trails. Activities available on these lands include hiking, mountain biking, rock climbing, horseback riding, camping, and fishing. Boulder County estimated that its Parks and Open Spaces saw 1.7 million visitors in 2018 (BCPOS 2019). Boulder County Parks and Open Space manages the Walker Ranch area which adjoins

the Crescent Meadows portion of ECSP and connects to the Inner Canyon portion of the Park via the Eldorado Canyon Trail.

Jefferson County Open Space (JCOS) has 56,000 acres with 244 miles of trails and 28 parks. Activities available include hiking, rock climbing, mountain biking, and horseback riding. JCOS has approximately 7 million visitors per year (JCOS 2017).

OSMP manages over 46,000 acres with 155 miles of trails in the City of Boulder. Hiking, mountain biking, rock climbing, and fishing are available activities. In 2017, OSMP-managed lands received an estimated 6.25 million visits, a significant increase from 2005 figures, when visitation was previously estimated (OSMP 2018). Boulder OSMP land abuts the ECSP Inner Canyon to the north and east. Both the Fowler and Eldorado Canyon trails continue onto OSMP land. OSMP's Doudy Draw, South Mesa, and Marshall Mesa trailheads are located to the east of the Park off Highway 170.

Golden Gate Canyon State Park is the nearest state park to ECSP, located about 10 miles to the south. This park has 35 miles of trails, with 19 miles open to mountain biking and hiking and 16 miles designated for hiking only. Other recreational opportunities include picnicking, camping, horseback riding, hunting, fishing, and some rock climbing options. The park saw about 850,000 visitors over the 2017/18 season and visitation has been increasing.

Just west of the Park, the Arapaho and Roosevelt National Forest Boulder Ranger District includes hundreds of thousands of acres in western Boulder and Gilpin counties. Recreational opportunities in the National Forest include hiking, mountain biking, camping, rock climbing, picnicking, nature viewing, and boating. The Arapaho and Roosevelt National Forest saw 3.3 million visits (not including downhill skiing) in 2015, making it one of the most visited national forests in the country (USDA 2015).

Rocky Mountain National Park (RMNP) is located approximately 35 miles north of ECSP and attracts international visitors, visitors from across the U.S., and visitors from the local region. RMNP spans 415 square miles and contains over 300 miles of hiking trails and opportunities for rock climbing, camping, picnicking, and horseback riding. Its climbing areas, primarily Lumpy Ridge, are popular, but are located further from the metropolitan area than ECSP and other local climbing areas (RMNP 2020). RMNP received 4.7 million visitors in 2019, and visitation has been increasing each year (IRMA 2020). In 2020, RMNP began a time-entry permit reservation system for entry to the park during the busy summer months and to comply with COVID-19 public health guidelines. The park also has a shuttle system within RMNP and the town of Estes Park.

Regional Population Trends

As of 2018, Colorado's population was estimated at 5.7 million. Between 2016-2018 the state's population grew by 150,00 residents with most of this growth occurring on the Front Range (CDLA, 2020a). Colorado's population is forecasted to continue growing, but at a slower rate than in recent years due to a slowing economy, slowing birth rates, aging population, and slowing labor force growth (CDLA 2016).

Population trends and predictions are provided in Table 2 for Boulder County. As of 2018, Boulder County was the eighth fastest growing county in the state (CDLA 2019). The population of Boulder County increased by 4 percent, from 2014 (313,108) to 2018 (325,480) (CDLA 2020b).

Table 2. Population Counts and Estimates for Boulder County (CDLA 2020b).

Year	2014	2015	2016	2017	2018	2020	2025	2030
Population	313,108	319,009	322,285	323,467	325,480	332,134	351,310	370,618

The population of Colorado's citizens aged 65 and older is growing (Kemp 2014). This age group has a strong interest in active lifestyles, including travel during retirement (CPW 2014). In 2000, people aged 65 and over represented 9.7 percent of the total population of Colorado. By 2010, this percentage had increased to 10.9 percent. Boulder County has seen a similar trend. In 2010, 10 percent of the county's population was over 65 years old (US Census Bureau 2010).

Statewide, the Hispanic population has increased by 41.2 percent from 2000-2010 (US Census Bureau 2011). Within this growing population, the under-18 cohort has outpaced the 18 and older age group. In Boulder County, the Hispanic population in 2010 was 39,276 which accounts for 13.3 percent of the county population estimate (US Census Bureau 2010).

Note: Anecdotally we know that many of the visitors from ECSP are from the Denver metro area—a higher number than many recognized due to the Park's proximity to Boulder. In addition, Park visitors represent a diversity of ethnicities, races, and cultures. Ongoing survey efforts will help to quantify this information. Surveys will also help us to understand why people visit ECSP and learn about their satisfaction with their visit.

Current Regional Challenges

The 2019 SCORP cites population increases and demographic changes as factors to consider in future management of Colorado's public lands. Undoubtedly, the quality of life that Colorado offers plays a key role in attracting new residents. However, as the state's population increases, there are associated challenges to conservation and outdoor recreation. The amount of land available for recreation and wildlife habitat is finite. As the population grows, protected lands per capita declines. In addition, as the demographics change within the state, outdoor recreation must be culturally relevant, and planners must evaluate the different ways in which people recreate. Providing the same types of recreation options that we have for many years may not accommodate the unique needs and interests of different racial and ethnic groups, people with disabilities, an aging population, and more (CPW 2019).

At present, many popular recreational areas in the region are grappling with parking and access challenges. Many trailhead parking areas in the region fill up on peak days. Some recreation destinations already have programs in place to address these issues. Examples include shuttles to the Hessie Trailhead in Boulder County on the National Forest, at RMNP, and to Chautauqua in the City of Boulder.

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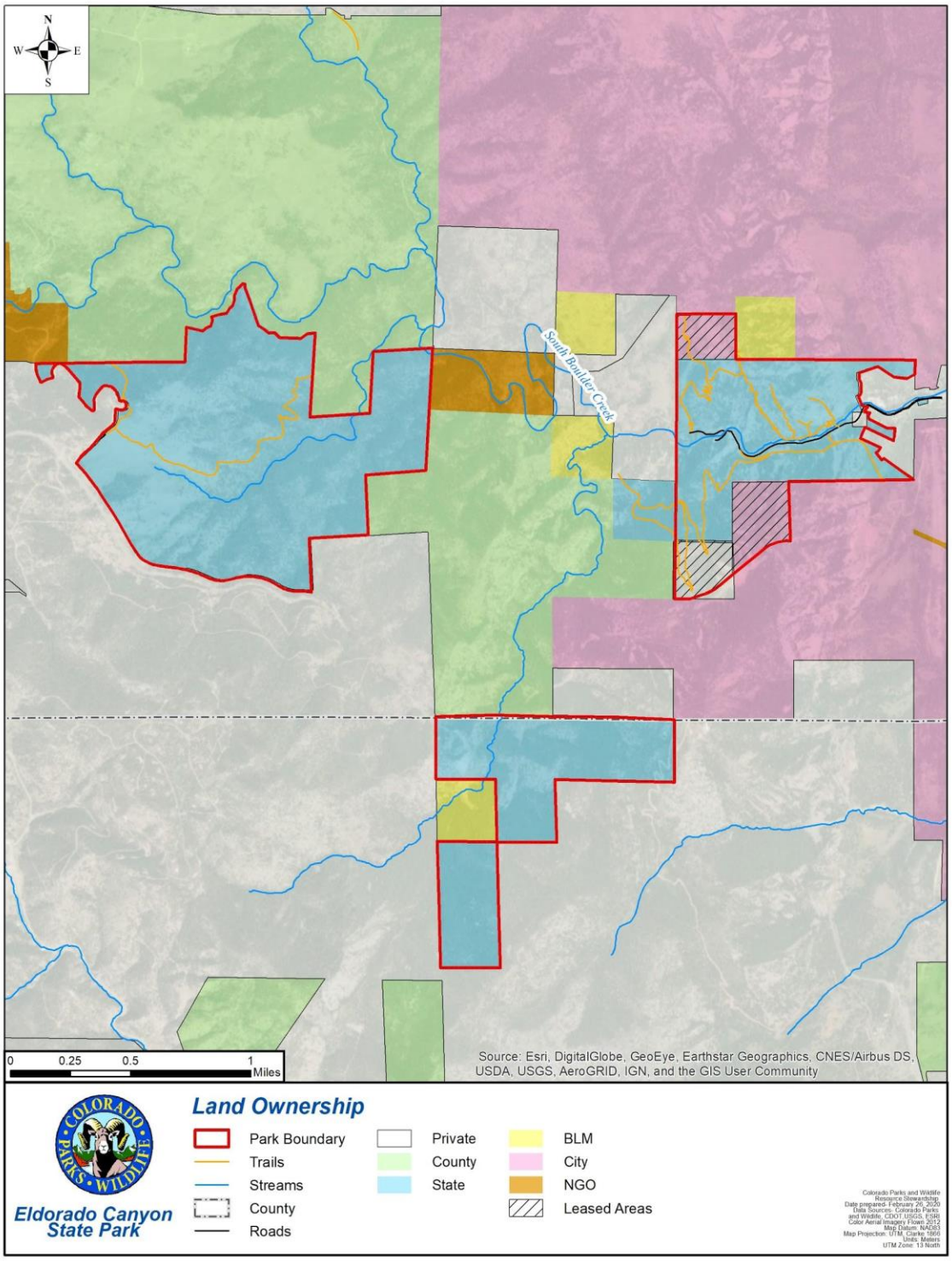
3.0 PARK SETTING & RESOURCES

This section provides an overview of the current condition of resources and various ongoing factors within the Park (e.g., visitation, budget, and staffing trends) that affect management efforts. Included in this section is a detailed description of current land use and land ownership; park administration and special functions; existing recreation, natural, and cultural resources; and other information that either directly or indirectly influences management of Eldorado Canyon State Park. This information provides a contextual framework for better understanding management needs and constraints.

Park Land Ownership

CPW owns most of the property on which ECSP lies (Map 3) including all of the Jefferson County and Crescent Meadows parcels. For management consistency (e.g., climbing regulations, trail maintenance, similar visitor experiences), the Park leases two areas within the Inner Canyon parcel from the City of Boulder. One area is located in the northwest corner of the Inner Canyon parcel and the other area is the southwest corner of the Inner Canyon parcel. Additionally, CPW has a lease on the Rattlesnake Gulch trail corridor where it crosses an area owned by the City of Boulder.



Map 3. Land Ownership adjacent to and within ECSP.

Natural Resources

Maintaining the core purpose and significance of the Park depends on the condition of its natural resources. The park elevation ranges from 5,800 feet at the Park's eastern entrance along CO-170 to 8,800 feet at the southern boundary of the parcel in Jefferson County. South Boulder Creek is the most prominent hydrologic feature and was responsible for cutting the sheer cliffs of Eldorado Canyon during the Front Range uplift. South Boulder Creek originates on the Continental Divide to the west and flows northeast through the Park to Boulder Creek and eventually to the South Platte River. The Park is located in an ecotone between mixed grass prairie and montane woodland, which lends to the unusually high level of diversity of plants and animals within the Park.

Significant Features

The significant features outlined in this section are rare, unique or important vegetation, wildlife, and water resources found in the Park (the full Stewardship Plan and all references for this section can be found in Appendix D).

Significant vegetation resources include:

- Documentation of four rare plant communities in the Park.
- Riparian areas, especially along South Boulder Creek that are important for wildlife habitat, erosion and flood control, and water quality.
- Much of the park's vegetation is considered to be in excellent condition.

Significant wildlife resources include:

- The perennial flow of South Boulder Creek aquatic, wetland, and riparian habitat for several taxa, including fish, amphibians, birds, and mammals.
- Several raptor species have been observed in the Park. Golden eagles have been documented to use the cliffs for nesting.
- The sensitive mammal species, Preble's meadow jumping mouse, has been documented outside of the Park in the past. Habitat for the species exists within the Inner Canyon and Crescent Meadows parcels.
- The Park contains excellent bird diversity. Over 82 species have been documented. A CNHP-listed species, ovenbird, was documented in 2019.

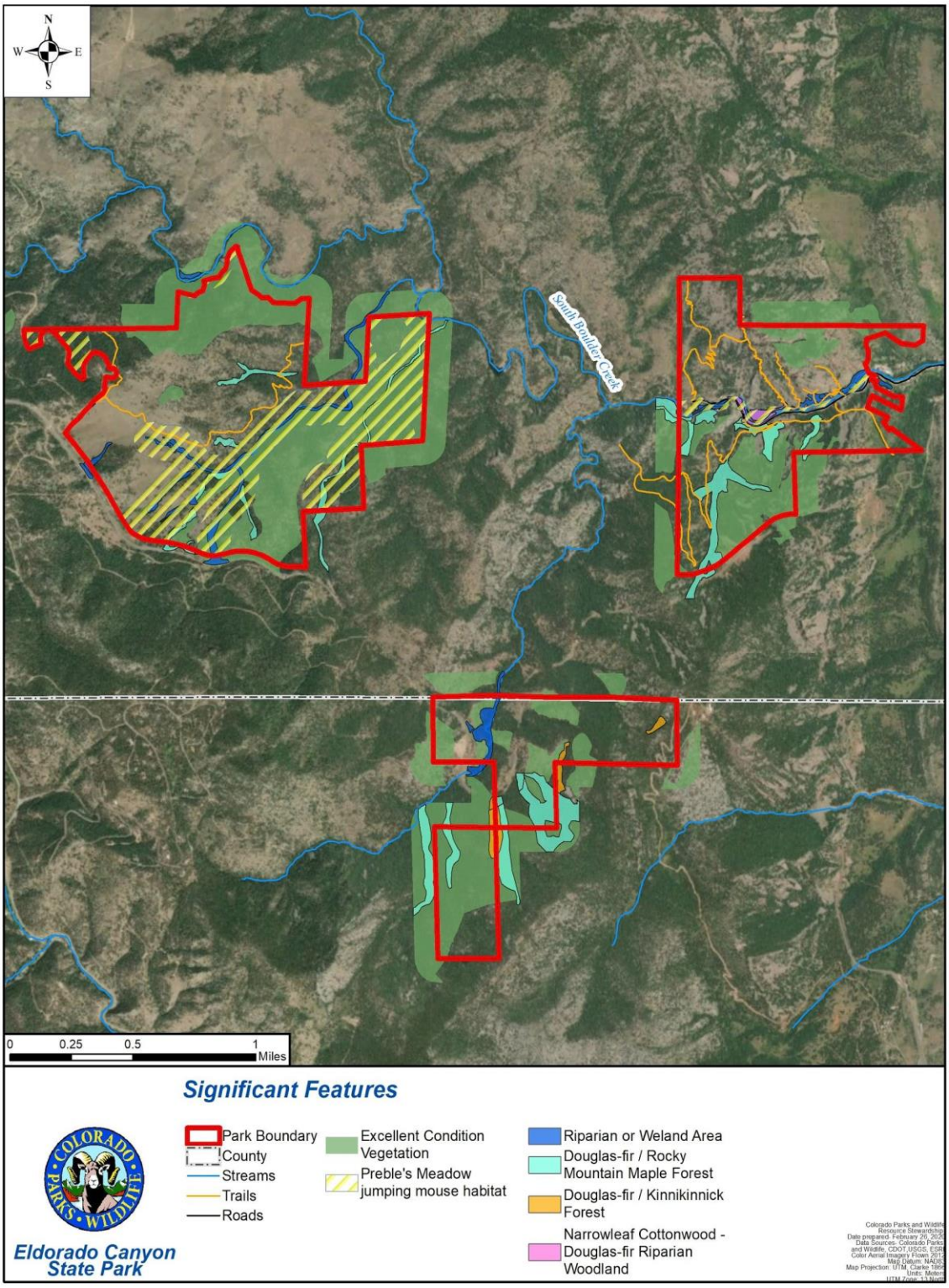
Significant water resources in the Park include:

- South Boulder Creek supports several fish species, as well as species of macroinvertebrates, which improve water quality and are an important link in the food chain.
- The rich riparian soils along South Boulder Creek have high water storage potential, which can reduce the risk of detrimental flooding downstream.
- Water, wetland, and riparian areas that provide important habitat for wildlife as well as game fish species.

The other geophysical (soils and geology) features at the Park include:

- The variety of soil types and geologic units (see Tables 5 and 6) provide a range of substrates for upland and wetland plant communities and therefore a gamut of associated wildlife species.
- Wetland soils act as a filter between surface and groundwater.
- ECSP's cliffs and slopes record a remarkable portion of the Earth's geologic history.

The following sections provide more information about some of the key natural resources that occur at Eldorado Canyon State Park. Map 4 highlights several significant natural resources that occur at the Park. Raptor nests as well as rare plans and insects are not shown due to data sensitivity. A more extensive description of natural resources is available in the Resource Stewardship Plan (Appendix D).



Map 4. Significant Natural Resources in ECSP.

Wildlife

Eldorado Canyon State Park provides habitat for many species of wildlife common to the foothills of the Front Range. Primary habitats for wildlife at ECSP include ponderosa pine woodlands, Douglas-fir forest, mixed foothills shrubland, short and mixed grass prairie, riparian and wetland communities. Further, the canyon provides suitable habitat for many cliff-dwelling bird species and bats.

Mammals

Eldorado Canyon State Park contains and connects large tracts of land that provide excellent habitat for mammals. Several well-vegetated drainages in the Park provide links to adjacent montane and plains habitats for species such as mule deer, elk, black bear, and mountain lion.

The Park provides ample habitat for elk and mule deer and contains habitat for several important life events for the two species. CPW Species Activity Mapping (SAM) data identifies overall range, summer range, and winter range for mule deer and elk within the Park. It is also mule deer "severe winter range," "winter concentration area," and resident population ranges. Elk "severe winter range" also overlaps with parts of the Park.

Eldorado Canyon State Park falls within the Game Management Unit (GMU) 29 and Data Analysis Unit (DAU) 27 (for deer) and 38 (for elk). DAU reports can be found in the Appendix of the Stewardship Plan (CPW 2019a). It is important to note that chronic wasting disease (CWD) has been documented within GMU 29 (CPW 2019b). CWD is a fatal neurological disease found in deer, elk, and moose. It belongs to a family of diseases caused by prions (misfolded protein). This particular prion disease attacks the brains of infected deer, elk, and moose, causing the animals to display abnormal behavior, become uncoordinated and emaciated, and eventually die (CPW 2017).

Black bear and mountain lion are occasionally seen in the Park during warmer months. Black bears are often seen in the Inner Canyon parcel, along South Boulder Creek and in the picnic area. Mountain lion habitat exists throughout the Park, but the Jefferson County parcel provides the best quality habitat and park staff have noted mountain lion activity in the parcel. CPW SAM data for black bear and mountain lion indicates their overall range overlaps with the entire Park. Additionally, black bear "fall concentration area" overlaps with the Inner Canyon parcel.

Bighorn sheep, moose, and Canada lynx are uncommon but occasionally documented. A single bighorn sheep was seen in 2017 and 2018 in the Inner Canyon parcel but their range generally does not overlap with the Park. Moose habitat is sparse in the Park, and the species is unlikely to occur. However, it is possible moose could travel into the Park considering available habitat in the surrounding areas, including Gross Reservoir. A moose was documented twice in 2017 at Crescent Meadows by volunteers surveying the parcel for natural resources and in the Inner Canon by park staff. CPW SAM data for moose "overall range" overlaps with the western-side of Crescent Meadows. Canada lynx is federally listed as threatened, state listed as endangered, and is a Tier 1 species in the State Wildlife Action Plan. CPW SAM data shows Canada lynx range overlapping with Crescent Meadows and parts of the Jefferson County parcel. The Park provides habitat for the species in coniferous forests and riparian corridors. However, lynx have not been documented in the Park.

Small mammals commonly found in the Park include raccoon, muskrat, beaver, Abert's squirrel, and fox squirrel. In addition, habitat for bat species includes rock outcrops in

crevices, cracks, and caves, and in snags and trees in both upland and riparian areas. Several bat species, including many rare or sensitive species, have the potential to occur in the Park. A historic record for Townsend's big-eared bat exists from 1972 in a distribution of mammals developed by the Museum of Natural History in Kansas.

Preble's meadow jumping mouse (PMJM) is a sensitive rodent species that was federally listed as threatened in 1998. The entire Inner Canyon and Crescent Meadows parcels and the northern half of the Jefferson County parcel lies within the overall range defined by CPW for the species. All three parcels support suitable habitat for PMJM and there are positive trapping records from adjacent areas. Crescent Meadow contains the greatest extent of suitable habitat due to the healthy stand of mixed grass prairie and shrublands throughout the parcel.

Birds

ECSP supports a diverse assemblage of migratory and breeding birds, including common species such as yellow warbler, Stellar's jay, black-capped chickadee, and American robin. The Park contains diverse habitats such as wetlands and riparian areas with large cottonwood trees and dense shrubby understory that attract species such as black-headed grosbeak, song sparrow, yellow warbler, house wren, and warbling vireo. The Park also contains unique cliff faces and canyons that attract a wide-variety of uncommon species such as white-throated swift, golden eagle, and prairie falcon. Dense coniferous forests cover much of the Park and provide excellent habitat for a large number of species including western tanager, white-breasted nuthatch, and red crossbill. The grasslands in the Crescent Meadows provides important foraging and breeding grounds for numerous species, including mountain bluebird, vesper sparrow, and lesser goldfinch.

Ample raptor habitat is present in the Park along the sheer rock outcrops and in mature coniferous and deciduous trees. Since 2006, raptor monitoring has occurred at Eldorado Canyon State Park along with seasonal Park closures to protect nesting raptors. Several species have nested in the Park, including golden eagles, turkey vultures, red-tailed hawk, Cooper's hawk, sharp-shinned hawk, and prairie falcon. Other species previously observed in the Park include bald eagle, rough-legged hawk, and American kestrel, although none have been documented to nest.

Based on available habitat, the Park could provide habitat for several birds that are tracked by the Colorado Natural Heritage Program (CNHP). These species are listed in the "Sensitive Species" section (Table 3). Bird surveys were completed in 2015 and documented 82 species of birds from surveying 12 points in the Park. Of the birds observed, 31 were confirmed to be breeding in the Park (Jones 2015).

Fish

The dominant species in the creek are rainbow and brown trout. Other fish found there include brook trout, longnose dace, and longnose and white suckers. Many of these fish are found naturally in South Boulder Creek, others have found their way downstream to the Park from Gross Reservoir where they are stocked by CPW.

Invertebrates

Surveys conducted from 2007 through 2013 by volunteers in Crescent Meadows found the presence of approximately 40 butterfly species. Three rare butterflies observed by CNHP are hops feeding azure, the mottled duskywing, and Moss' elfin. Additionally, Ottoe skipper and

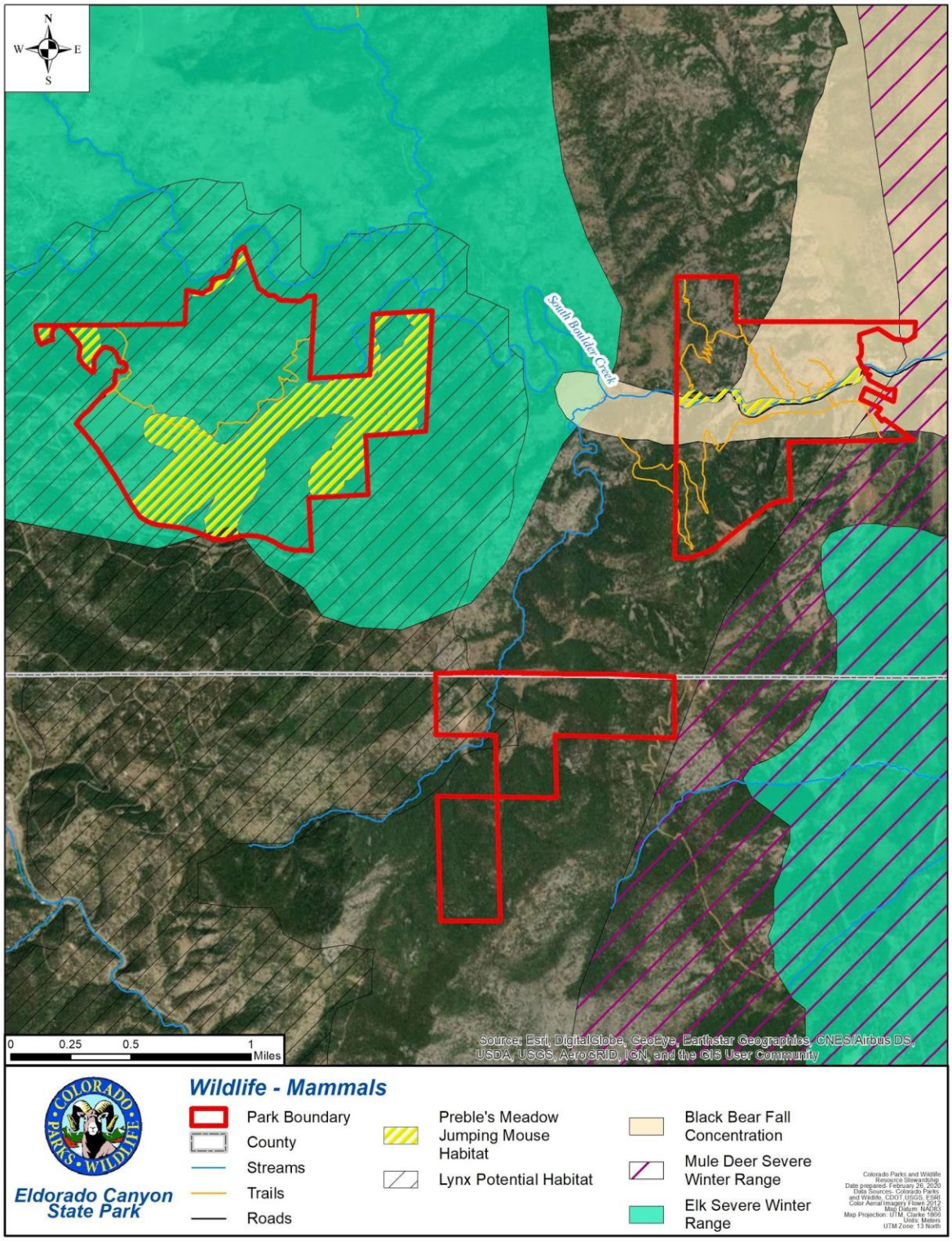
cross-line skipper have previous occurrence records from nearby areas, all documented by the CNHP element occurrence data. Park staff see the rare hops feeding azure butterfly nearly every year in the Inner Canyon parcel where their host plant can be found. CNHP plans to conduct a survey in the Park in 2020 to confirm these findings.

Reptiles and Amphibians

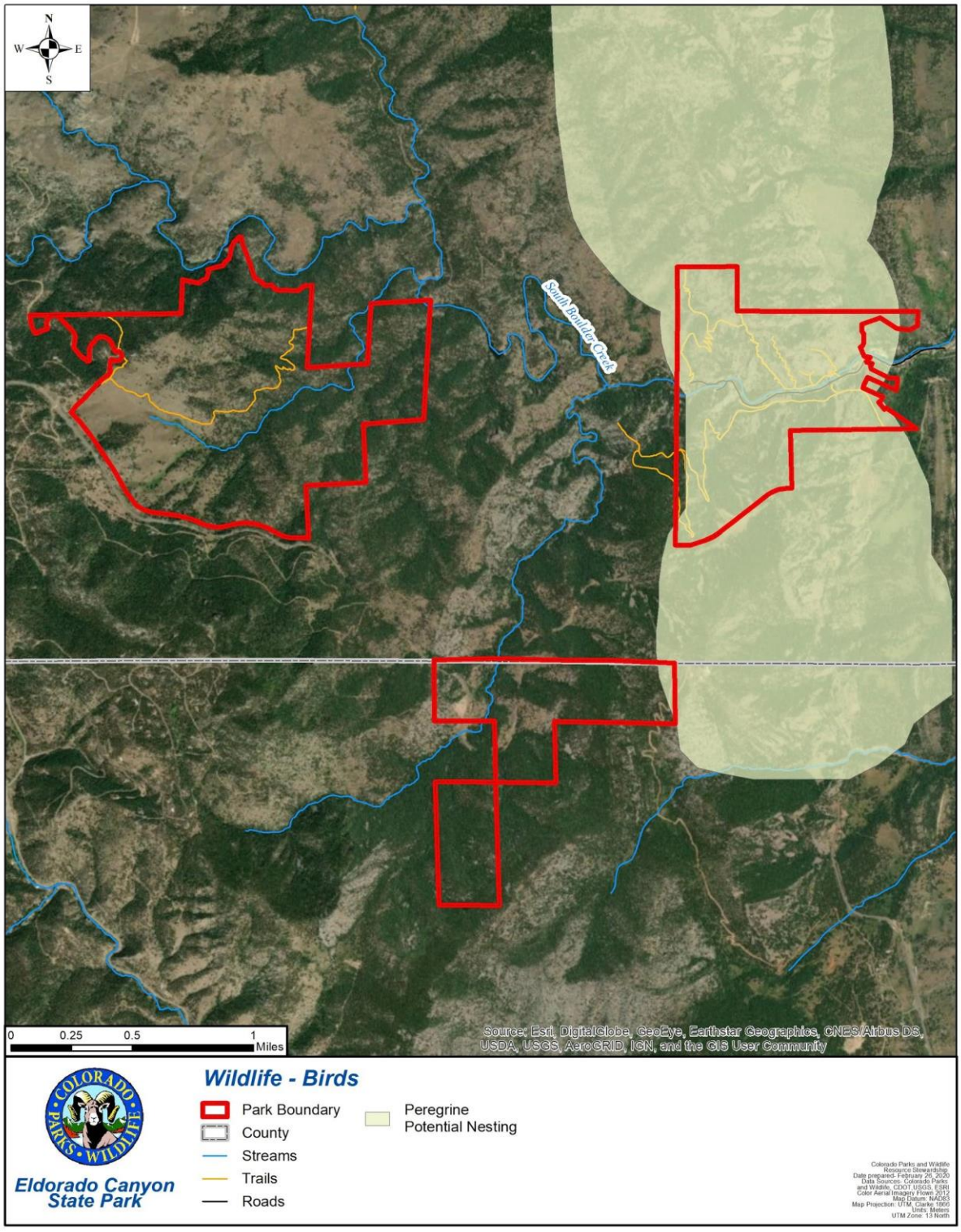
Amphibian and reptile habitat is present within the Park but is very limited. Tributary drainages, such as Rattlesnake Gulch, South Draw, and Johnson Gulch riparian habitat that can host a variety of herptile species as do the Park's numerous rocky cliffs, slopes, and outcrops. Wetland habitat is also found along South Boulder Creek and in Crescent Meadows. However, noxious weed infestations occur in both the Inner Canyon riparian areas and in Crescent Meadows, threatening to displace native vegetation upon which herptile species depend. Riparian areas subject to high volumes of visitors in the Inner Canyon are highly degraded, exhibiting incised banks and trampled vegetation. These conditions are poor for herptile species.

Herpetological surveys conducted in 2019 found three species: wandering gartersnake, prairie lizard, and smooth greensnake (Triece et al. 2019). Other species that could be present in the Park include western tiger salamander, Woodhouse's toad, eastern yellow-bellied racer, prairie rattlesnake, and bullsnake. Park staff noted they saw a western tiger salamander near the Eldorado Canyon Trail along a ridge in 2017. American bullfrog is a non-native species that could also be present at the Park. Northern leopard frog is a rare species that could occur if habitat restoration activities occur in wetlands located in Crescent Meadows.

Rattlesnake activity is high in the Park and some areas provide better habitat, such as areas with open grasslands, semi desert shrubland, riparian zones, and montane woodlands up to 9,500 feet in elevation (COPARC 2018). Park staff have noted that activity is high along the Fowler Trail.



Map 5. Habitat important for mammals in ECSP.

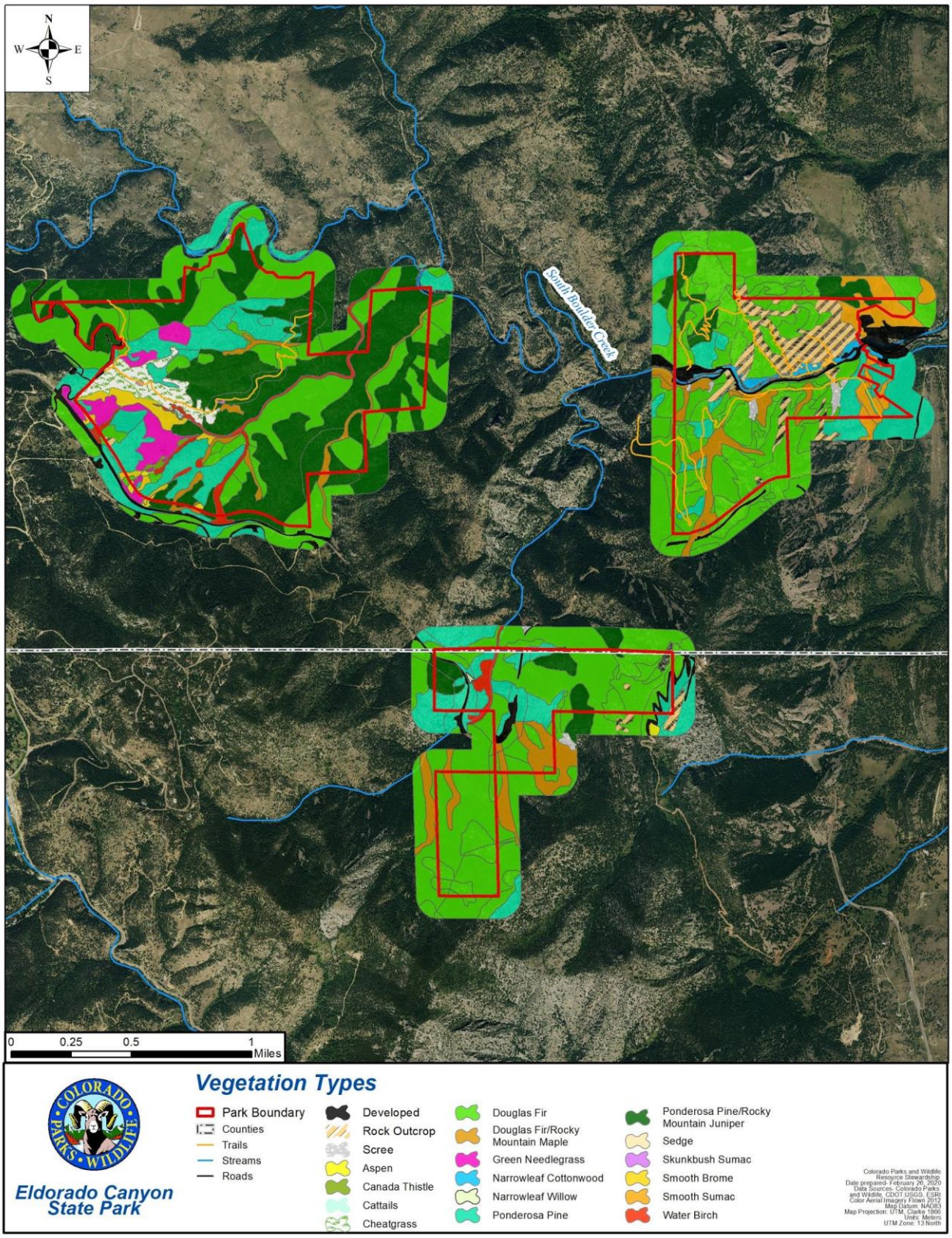


Map 6. Potential nesting habitat for Peregrine Falcons (and other nesting raptors).

Vegetation

Eldorado Canyon State Park contains 21 distinct vegetation communities as defined by the National Vegetation Classification System (NVC), including 11 forest and woodland, 9 shrub and herb, and 1 desert and semi-desert (Map 7). The prominent natural community types in the Park are Douglas-fir forest, ponderosa pine woodland, mixed grass prairie, and cottonwood riparian forest. Douglas-fir forests are present on cooler slopes with north and east aspects and in deeper canyons. The ponderosa pine woodlands occupy warm south-facing slopes. In addition to ponderosa pine, south-facing slopes are often co-dominated by Rocky Mountain juniper with a grassy understory and few shrubs. Mixed grasslands occur in open areas between stands of trees and in the deeper soils of Park meadows. Riparian communities are established along the banks of South Boulder Creek, Rattlesnake Gulch, and portions of drainages throughout the Park.

The vegetation communities are generally in "good" or "excellent" condition as the majority of the Park does not receive regular visitation from the public due to topography and a lack of access. Communities adjacent to where infrastructure and trails exist are generally rated to be in fair to poor condition. Fair and poor ratings have high levels of non-native species, dense vegetation/poor structure, or trampled vegetation from human use. Fair and poor vegetation is also concentrated around South Boulder Creek where the public has access and were historically grazed areas. In 2019, ten permanent vegetation monitoring plots were established around the Park to monitor changes in vegetation over time. Vegetation communities, condition, and the plots were identified and evaluated in 2019 (Belmar 2019).



Map 7. Vegetation communities in ECSP.

Forest Communities

Douglas-fir forests are the most dominant vegetation community at Eldorado Canyon State Park. Six different forest communities were identified in the Park with Douglas-fir as the dominant species, totaling 1,194 acres. This tree species grows at 6,000 to 9,500 feet in elevation in rocky soils of moist northern facing slopes—both in pure stands and mixed conifer forests (COSFS 2020). Many Douglas-fir forested areas contain ponderosa pine, Rocky Mountain maple, and Rocky Mountain juniper. In the Jefferson County parcel, limber pine may be mixed in with Douglas-fir and ponderosa pine at higher elevations. The communities dominated by Douglas-fir include a variety of understories that are composed of shrubs, herbaceous plants, scree, and rocky boulders. Common plant species associated with douglas-fir include common juniper, kinnikinnick, creeping barberry, five-petal cliffbush, Boulder raspberry, Wood's rose, wax currant, chiming bells, Canada violet, penstemon, smooth brome, and poison ivy.

Two communities were documented to contain ponderosa pine as the dominant species, totaling 815 acres. This tree species grows at 6,300 to 9,500 feet in dry, nutrient poor soils in open park-like stands or in mixed stands with Douglas-fir, Rocky Mountain juniper and spruce (COSFS 2020). In many areas of the Park, ponderosa pine was often present with Douglas-fir, but often was not dominant when mixed with Douglas-fir. Ponderosa pine was solely dominant in some areas on drier hillslopes with a relatively open tree layer, low density to absent shrub layer, and a dense to sparse graminoid understory with scattered forbs and rock. The species was also found mixed with Rocky Mountain juniper, which often co-dominated when present. Common plant species associated with ponderosa pine include yucca, prickly pear cactus, creeping barberry, common juniper, fringed sage, prairie sage, wild buckwheat, yarrow, sun sedge, cheatgrass, and western wheatgrass.

Deciduous tree forests and communities are also present in the Park. Quaking aspen, narrowleaf cottonwood, eastern cottonwood, box elder, water birch, and green ash were documented in the Park and are found predominantly in riparian and wetland areas. These habitats are discussed in more detail below. Rocky Mountain maple was present in upland areas and was always mixed with Douglas-fir, often on cool, moist hillslopes or near ephemeral drainages.

Wetland and Riparian Communities

A vast majority (nearly 75 percent) of all Colorado wildlife depends in some part on wetland and riparian areas which are found in the Park's canyon and valley bottoms. These areas also support two rare riparian vegetation habitats. Riparian and wetland communities comprise approximately 48 acres within the Park, along South Boulder Creek and ephemeral drainages in all three Park parcels. These communities are at the highest risk of further degradation and reduced condition. They must be protected from noxious weeds that can easily invade these areas and squeeze out native vegetation.

Riparian communities are dominated by narrowleaf cottonwood, narrowleaf willow, water birch, and aspen, which are found alongside perennial streams and ephemeral drainages, or in depressional areas that may only be inundated part of the year. Eastern cottonwood, boxelder, and green ash are also found in the tree strata of the riparian communities but are not dominant. Shrub and herbaceous species also found in these areas include chokecherry, smooth brome, wild hops, horsetail, and willow-herb.

Wetlands benefit ecosystems, wildlife, and people. They serve as flood and erosion controls and increase water quality. They serve as spawning/rearing habitat, waterfowl habitat, groundwater recharge areas, and provide recreation and education opportunities. Two wetland communities were specifically identified in the Park. The majority of other wetland areas were identified within riparian communities on the periphery of waterways or in depressional areas. Vegetation is dependent on type, but includes cattails, nebraska sedge, common spikerush, panicled willow herb, horsetail, Wood's rose, and American plum.

Shrublands

Shrubland-dominant communities are not common in the Park, although they are present in most forest and riparian communities and some grassland areas. The dominant species in two shrubland communities are smooth-leaf and skunkbush sumac. Smooth-leaf sumac is present on dry hillsides, near ponderosa pine forests, and is mixed with mountain mahogany on south facing slopes in the Inner Canyon parcel. Skunkbush sumac dominant areas were found in depressional areas or along hillsides that receive runoff in grasslands or forest communities. Narrowleaf willow also dominated wetland and riparian zones in some areas of the Park with an understory of sedges and rushes.

Grasslands

One native grassland community is present in the Park. It is dominated by green needlegrass. Forb species are highly abundant in this community and often had higher coverage than graminoid species. Grass and forb dominant communities were primarily present in the Crescent Meadows parcel. Species present in the grassland areas include fringed sage, white sage, wild buckwheat, yarrow, pussytoes, lupine, and bee plant, among many others. A long history of grazing and development have altered the native communities from what likely existed in pre-settlement days, especially in the grassland communities. Much of the grassland areas contain non-native species, such as cheatgrass, alyssum, and smooth brome.

Sensitive Species

Eldorado Canyon State Park may provide habitat for approximately 41 sensitive wildlife species, of which 15 have been documented in the Park. Additionally, the Park provides habitat for 12 rare plant species and communities, of which five have been documented in the Park and one species documented near but outside the park boundaries. Table 3 lists the sensitive wildlife and plant species that could occur in the Park as identified by the Resource Stewardship Plan (Appendix D).

Species identified as sensitive in this plan may be considered sensitive or at risk according to various species conservation lists. Lists and conservation rankings considered include the Federal Endangered Species Act (ESA), NatureServe, CNHP, and the Colorado State Wildlife Action Plan (SWAP). An explanation of these rankings and statuses are provided below.

At-risk species are identified under U.S. Fish and Wildlife Service's Endangered Species Act guidelines:

- Endangered (FE): in danger of extinction throughout a significant portion of its range.
- Threatened (FT): likely to become endangered within the foreseeable future.

CPW also uses NatureServe's and CNHP's conservation status rankings to identify and manage threatened species (NatureServe 2019; CNHP 2013). The following definitions pertain to either global or state populations:

- Critically Imperiled (S1, G1): At very high risk of extinction due to very restricted range, very few populations or occurrences, very steep declines, very severe threats, or other factors.
- Imperiled (S2, G2): At high risk of extinction due to restricted range, few populations or occurrences, steep declines, severe threats, or other factors.
- Vulnerable (S3, G3): At moderate risk of extinction due to a fairly restricted range, relatively few populations or occurrences, recent and widespread declines, threats, or other factors.
- Apparently Secure (S4, G4): At fairly low risk of extinction due to an extensive range and/or many populations or occurrences, but with possible cause for some concern as a result of recent local declines, threats, or other factors.
- Secure (S5, G5): At very low risk or extinction due to a very extensive range, abundant populations or occurrences, and little to no concern of declines or threats.

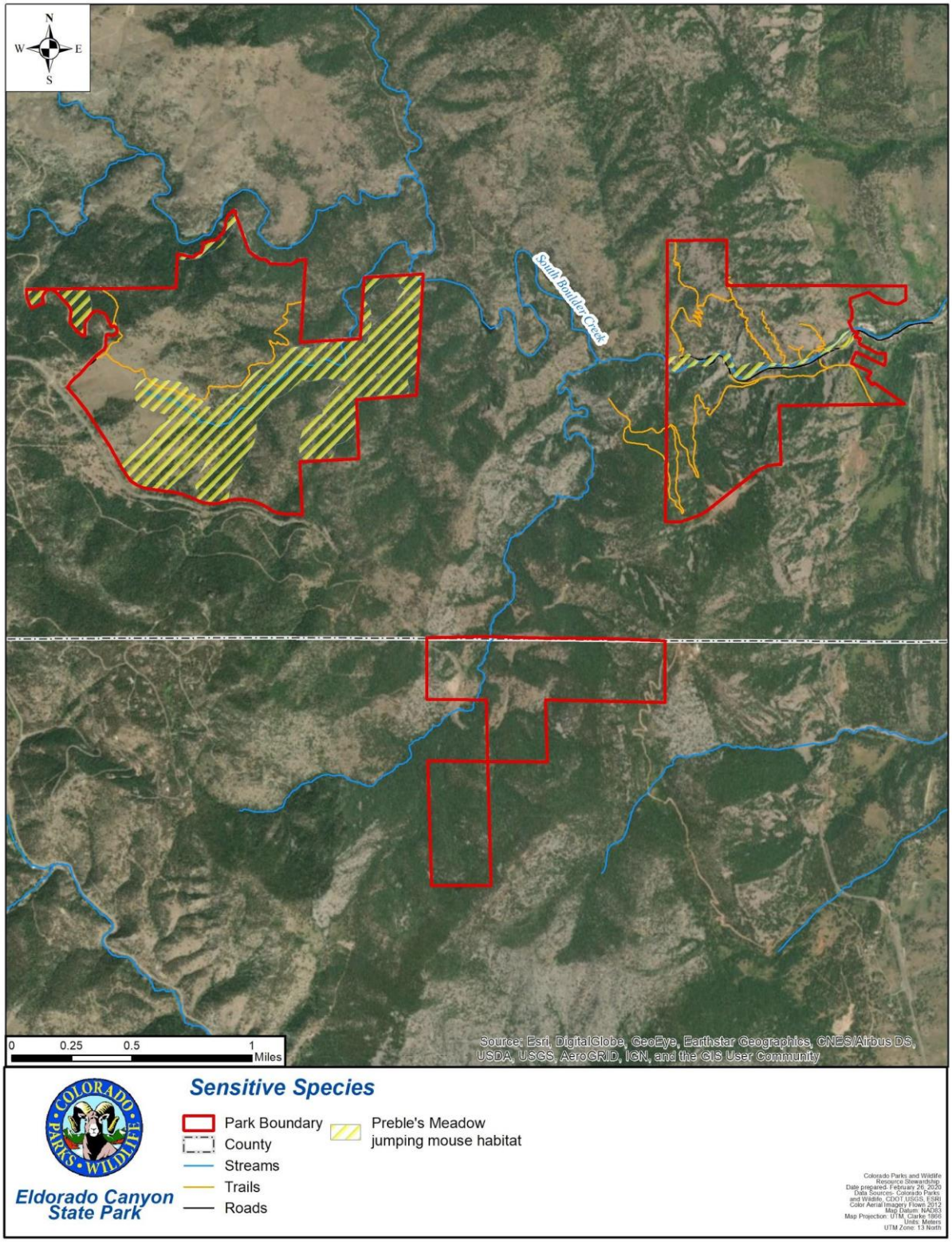
Colorado's State Wildlife Action Plan (SWAP) identifies Tier 1 and Tier 2 Species of Greatest Conservation Need (SGCN) for conservation priorities in the state. Tier 1 species are truly of highest conservation priority in the state, and to which CPW will likely focus resources over the life of the plan. Tier 2 species remain important to forestall population trends or habitat conditions that may lead to a threatened or endangered listing status, but the urgency of such action has been judged to be less (CPW 2015).

Table 3. Sensitive Species with Potential to Occur at Eldorado Canyon State Park.

Common Name	Scientific Name	Conservation Status			Occurrence (most recent)
		Federal	CNHP	CPW	
Plants and Communities					
Douglas-fir / Kinnikinnick Forest	*Pseudotsuga menziesii/Arctostaphylus uva-ursi Forest*		G4 / S3		Documented in 2019
Douglas-fir / Rocky Mountain Maple Forest	*Pseudotsuga menziesii/Acer glabrum Forest*		G4 / S2		Documented in 2019
Douglas-fir / Water birch Riparian Woodland	*Pseudotsuga menziesii / Betula occidentalis* Riparian Woodland		G3 / S2		Documented in 2004
Dwarf wild indigo	*Amorpha nana*		G5 / S2		
Great Plains Mixed Grass Prairie (green needlegrass)	*Nassella viridula* Grassland		GU / SNR		
Great Plains Mixed Grass Prairie (Western wheatgrass and green needlegrass)	*Pascopyrum smithii - Nassella viridula* Grassland		G3G4 / S1		

Narrowleaf cottonwood / Douglas-Fir Riparian Woodland	*Populus angustifolia - Pseudotsuga menziesii* Riparian Woodland		G3 / S2		Documented in 2019
Prairie violet	*Viola pedatifida*		G5 / S2		
Rocky Mountain bluebells	*Mertensia humilis*		G2 / S1		Documented in 2020
Sprengel's sedge	*Carex sprengelii*		G5 / S2		Documented in 1981
Strap-style gayfeather	*Liatris ligulistylis*		G5 / S2		Documented outside of the Park in 1999
Ute's ladies tresses	*Spirantes diluvialis*	FT	G2G3 / S2		
Amphibians					
Northern leopard frog	*Lithobates pipiens*		G5 / S3	Tier 1	
Birds					
American bittern	*Botaurus lentiginosus*		G4 / S3S4B	Tier 2	
Bald eagle	*Haliaeetus leucocephalus*		G4 / S1B, S3N	Tier 2	Documented in 2020
Band-tailed pigeon	*Patagioenas fasciata*		G4 / S4B	Tier 2	
Bobolink	*Dolichonyx oryzivorus*		G5 / S3B	Tier 2	
Brewer's sparrow	*Spizella breweri*		G5 / S4B	Tier 2	
Brown-capped rosy-finch	*Leucosticte australis*		G4 / S3B, S4N	Tier 1	
Burrowing owl	*Athene cunicularia*		G4 / S4B	Tier 1	
Cassin's finch	*Peucaea cassinii*		G5 / S5	Tier 2	Documented in 2015
Cassin's sparrow	*Aimophila cassinii*		G5 / S4B	Tier 2	
Golden eagle	*Aquila chrysaetos*		G4 / S3B, S4N	Tier 1	Documented in 2020
Grasshopper sparrow	*Ammodramus savannarum*		G5 / S3S4B	Tier 2	
Flammulated owl	*Otus flammeolus*		G4 / S4	Tier 2	Documented in 2006
Lark bunting	*Calamospiza melanocorys*		G5 / S4	Tier 2	
Lazuli bunting	*Passerina amoena*		G5 / S5B	Tier 2	Documented in 2017
Lewis's woodpecker	*Melanerpes lewis*		G4 / S4	Tier 2	Documented in 2015
Loggerhead shrike	*Lanius ludovicianus*		G4 / S3S4B	Tier 2	Documented in 2017

Mexican spotted owl	*Strix occidentalis lucida*	FT	S1B, SUN	Tier 2	
Northern goshawk	*Accipiter gentilis*		G5 / S3B	Tier 2	
Northern harrier	*Circus cyaneus*		G5 / S3B	Tier 2	
Olive-sided flycatcher	*Contopus cooperi*		G4 / S3S4B	Tier 2	Documented in 2015
Ovenbird	*Seiurus aurocapilla*		G5 / S2B		Documented in 2019
Peregrine falcon	*Falco peregrinus*		G4T4 / S2B	Tier 2	
Prairie falcon	*Falco mexicanus*		G5 / S4B, S4N	Tier 2	Documented in 2015
Rufous hummingbird	*Selasphorus rufus*		G5 / SNA	Tier 2	Documented in 2020
Virginia's warbler	*Oreothlypis virginiae*		G5 / S5	Tier 2	Documented in 2015
Invertebrates					
Cross-line skipper	*Polites origenes*		G4G5 / S3		
Hops feeding azure	*Celastrina humulus*		G2G3 / S2	Tier 2	Documented in 2020
Moss's elfin	*Callophrys mossii schryveri*		G4 / S2S3	Tier 2	Documented in 2009
Mottled duskywing	*Erynnis martialis*		G3 / S2S3	Tier 2	Documented in 1996
Ottoe skipper	*Hesperia ottoe*		G3G4 / S2	Tier 2	
Mammals					
Abert's squirrel*	*Sciurus aberti*		G5 / S5	Tier 2	Documented in 2020
Black-tailed prairie dog	*Cynomys ludovicianus*		G4/ S3	Tier 2	
Canada lynx	*Lynx canadensis*	FT	G5 / S1	Tier 1	
Eastern red bat	*Lasiurus borealis*		G2G3 / S2		
Fringed myotis	*Myotis thysanodes*		G4 / S3	Tier 1	
Hoary bat	*Lasiurus cinereus*		G5 / S5B	Tier 2	
Little brown myotis	*Myotis lucifigus*	FP	G3 / S5	Tier 1	
Preble's meadow jumping mouse	*Zapus hudsonius preblei*	FT	G5T2 / S1, ST	Tier 1	
Townsend's big-eared bat	*Corynorhinus townsendii*		G4 / S2	Tier 1	Documented in 1972
Tricolored bat	*Perimyotis subflavus*		G2G3 / S2		
*Species is common in the Park but is listed by the SWAP as a Tier 2 species because it is a habitat indicator species.					



Map 8. Sensitive Species found at ECSP *(Note: rare amphibians, insects and vegetation communities not shown due to data/location sensitivity*).

Threats to Habitats and Wildlife

The greatest threat to the Park's natural resources include shifting habitat conditions related to recreation impacts, severe weather, insects, disease, increased frequency and severity of fires and noxious weeds. Many species present in the Park could be impacted by these changing environmental conditions, especially rare and imperiled wildlife and plants. Future monitoring and management decisions should consider the factors described below.

Recreational Impacts on Wildlife

Eldorado Canyon is a popular recreation destination, especially for people from the Front Range and the Denver metropolitan area, and visitation has increased dramatically over the past decade. Recreationists have the potential to displace wildlife, cause trail erosion, impact water quality, and spread noxious weeds. Coloradans are also recreating more year-round and in more places, meaning wildlife must tolerate direct and indirect human disturbance for a longer amount of time and over greater geographic areas. Two ways to mitigate recreational impacts to wildlife are to enforce seasonal closures to protect breeding, wintering and migratory areas, and strategic trail planning that maintains large blocks of unfragmented habitat.

Forest Insects and Disease

The Park has had small sporadic pockets of insect and disease (I&D) activity over the past two decades, including Douglas-fir beetle/pole beetle, pine engraver beetle (Ips), mountain pine beetle, and western spruce budworm. Douglas-fir tussock moth has not been found in the Park but could occur in the future.

Mountain pine beetle (MPB), a native species to Colorado, has historically played a critical role in the natural renewal process of forest ecosystems. However, due to warmer winters, drought and previous forestry practices, Colorado forests and others across Western North America underwent an extreme MPB epidemic in 1996. This outbreak has since wiped out 3.3 million acres of pine forestland in Colorado. MPB carries a fungus that clogs water transport vessels in trees, and rapidly produces larvae that eat away at tree bark.

In the past, MPB has been found in pockets on the Park landscape, primarily at endemic levels. During the November 2016 forest inventory, no trees on the Park were observed with mountain pine beetle infestations, however, new infestations would likely not be evident until June each year. (Rocky Mountain Forestry LLC 2017). MPB may affect ponderosa pine and lodgepole pine, both of which are present in the Park.

Ips species is another tree beetle that has previously been found in the Park and is likely to be found again at some point during the next decade given its general presence in Boulder County forested areas above 6,000 feet.

Dwarf mistletoe in ponderosa pine is more widespread, which can be found in all of the Park's three parcels and has been present for decades (Rocky Mountain Forestry LLC 2017). These small, leafless parasitic flowering plants mostly target lodgepole and ponderosa pine in Colorado's forests. By slowly stealing food and water from its host, they slow growth and reduce seed production and wood quality, and possibly kill the host tree. In addition to even-aged tree stands, aesthetic practices (e.g., leaving smaller wind-resistant trees in a cut zone) can also increase the risk of spreading dwarf mistletoe.

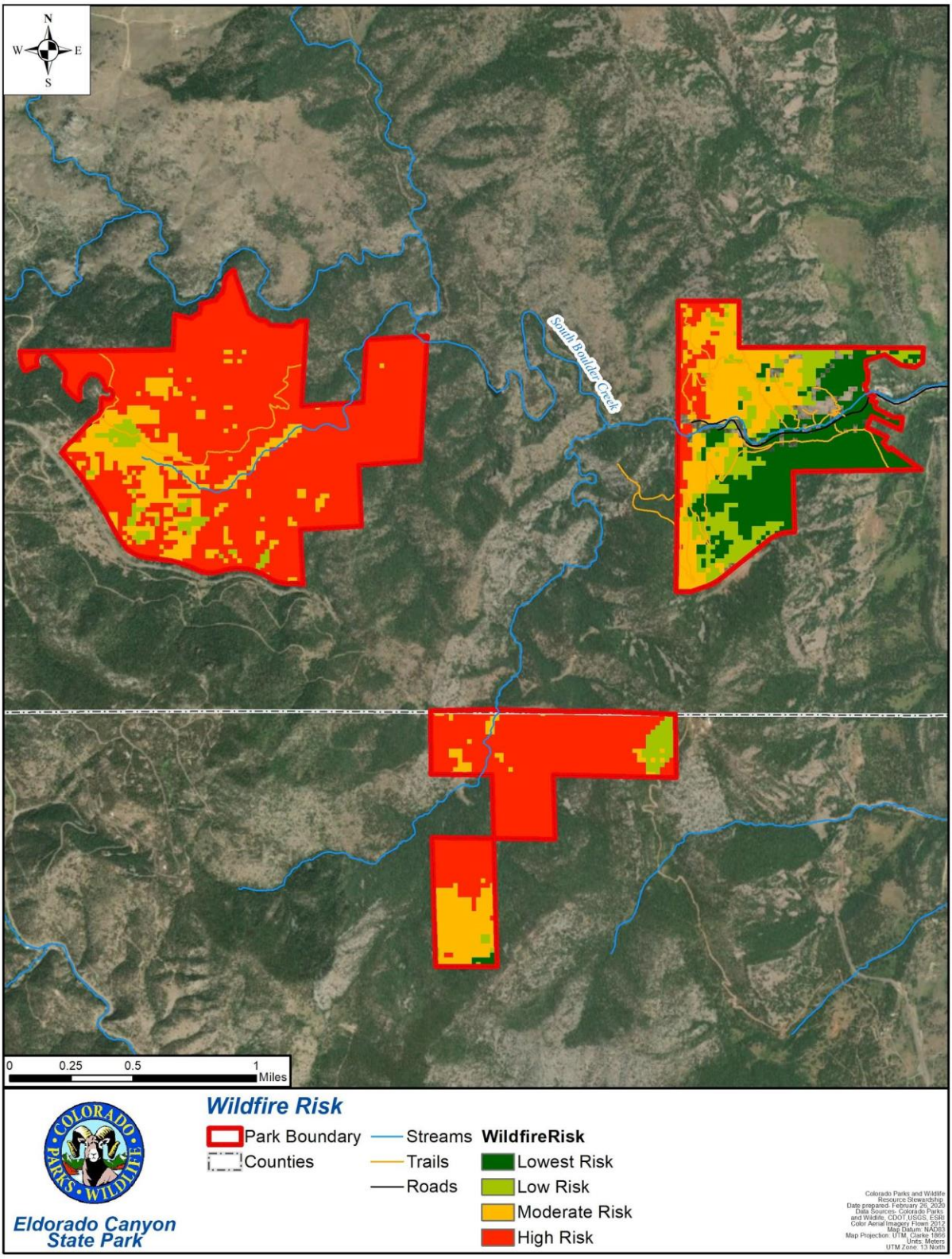
Wildfire

Fire is a natural occurrence in healthy forests and grasslands. As part of a natural disturbance regime, these processes occur in cycles and do not have catastrophic effects on structure or species composition. The suppression of fire leads to denser forests where wildfires can have very dramatic impacts. Suppression also leads to change in species composition over time. In the past few decades, one wildfire spread onto the Crescent Meadows parcel (Walker Ranch Fire in 2000), and multiple wildfires have occurred in the region around Eldorado Canyon State Park. These nearby fires support the importance of wildfire hazard reduction (Rocky Mountain Forestry, LLC. 2017). Map 9 identifies areas with the greatest potential impacts from a wildfire. The Park wildfire risk ranges from low to high, with most of the Park being categorized as high wildfire risk but most of the Inner Canyon is at lower risk than the other parcels (COSFS 2019). To reduce wildlife risk, an Eldorado Canyon State Park specific regulation was approved in 2015 by the Colorado Parks and Wildlife commission that restricts use of open flames to the high use pads in the Picnic Area.

2013 Flood

In September of 2013, large portions of the Colorado Front Range foothills received an unusual amount of rainfall, with up to 18 inches falling in 10 days in Boulder County. The highest measured rainfall amounts were similar to the average annual rainfall for the areas affected. A peak flow estimate for the inactive stream gauge near Eldorado Springs was determined to be a 50-year flooding event for the area (Yochum 2015).

The flood affected the Park in many ways. The park road near the Milton Boulder, the access road to the south picnic area near the vehicle bridge, and the picnic area were all severely damaged. To serve larger groups and confine natural resource damage to smaller areas, the picnic area was reconfigured into ten sites with up to four tables in each. In addition, the Park did not reduce the total number of tables because the number of visitors to the picnic area is high and the flood insurance requires maintaining the same number of tables. Fish habitat structures built in South Boulder Creek from 2008-2009 were destroyed or partially damaged, many of which have not been replaced. As a result of the floods, South Boulder Creek has required thousands of hours of debris hauling and riparian restoration. Most climbing access trails were damaged, and repair work on them is ongoing. At its east end, Fowler Trail suffered a significant mudslide, which was repaired in 2014. A section of Streamside Trail was severely damaged and washed out. The access road to the Jefferson County parcel sustained severe damage. Two bridges were installed to provide better access along Rattlesnake Trail and the Picnic Area following the flood event.



Map 9. Wildlife risk in ECSP.

Noxious Weeds

Plants that are not part of Colorado's native vegetation are considered exotic species, and those that outcompete native species are considered noxious weeds. A noxious weed survey and management plan were completed for the Park in 2019 and covered all picnic sites, trails, roads/roadsides, parking areas, and structures managed by CPW. The top five species of concern are myrtle spurge, bouncing bet, leafy spurge, dalmatian toadflax, and diffuse knapweed (CPW 2019c). These species pose the most significant threat to the Park at this time. While some weed species are still widespread in the Park, the efforts of park staff are to be commended given that most weed patches are being kept small with a low density. Due to well-percolating soils and proximity to South Boulder Creek, most invasive mitigation is mechanical. The low density and small patch sizes in high traffic areas shows excellent maintenance efforts by the staff.

Vehicles, livestock, foot traffic, and use of non-certified weed free seed mixes in the Park or on neighboring properties can introduce noxious weeds

Other Threats

Land development and pollution pose additional challenges for Eldorado Canyon State Park's sensitive and vulnerable species. The Park's past management zones were reconsidered in this plan to better protect these species and accomplish the desired future vision of the Park (see Chapter 5).

Hydrology

South Boulder Creek is the most prominent hydrologic feature in the Park and was responsible for cutting the sheer cliffs of Eldorado Canyon during the Front Range uplift. South Boulder Creek originates on the Continental Divide to the west and flows through the Inner Canyon in a northeasterly direction to Boulder Creek and eventually to the South Platte River. It flows outside the northern boundary of the Crescent Meadows portion, receiving water from South Draw, North Draw, Rattlesnake, and Johnson gulches in the Park and intermittent drainages, seeps, and springs. South Boulder Creek forms the northern boundary of Crescent Meadows and also bisects the Inner Canyon zone. It flows through the south-central portion of the Inner Canyon for approximately one mile.

Creek flows are controlled by Gross Dam, which was constructed by Denver Water and is located approximately one mile west of Crescent Meadows. Creek flows are further affected by several water diversions on South Boulder Creek. The South Boulder Creek Diversion Canal, which is located between Crescent Meadows and the Inner Canyon, diverts water for municipal purposes in the Denver area. Three other diversion structures are located in the Inner Canyon. These diversions are owned by the cities of Lafayette and Louisville and by the Farmers Reservoir and Irrigation Company (CDNR 1995).

The Colorado Water Conservation Board owns instream flow (ISF) rights on South Boulder Creek below Gross Reservoir. These rights are intended to protect fish habitat and to "…preserve the natural environment to a reasonable degree." The instream flow rights through the Inner Canyon were appropriated on December 2, 1980, and are listed below in Table 4. The ISF means that these flows must be met after all senior water right holders on South Boulder Creek receive their water. These flows cannot be met 100 percent of the time, but do help with protecting the water resources within the Inner Canyon portion of the Park.

Table 4. South Boulder Creek Instream Flow Rights.

Date	Instream Flow Rights
May 1 – September 30	15 cfs
October 1 – April 30	2 cfs

Water levels on South Boulder Creek naturally peak in June, due to snowmelt, and are at their lowest in December. The US Geological Survey (USGS) stream gauge on South Boulder Creek in the Park was deactivated in 1995, but still has historical data records (USGS 2019). Average annual flow varies, but it is generally around 76 cubic feet per second (cfs.) The highest flow on record was 7,390 cfs. and occurred on September 2, 1938. The lowest flow measured was a no flow recorded October 15, 1932 (CPW 2000). A peak flow estimate for the stream gauge is 2,120 cfs. This was determined to be a 50-year flooding event for the area, which has about a 2 percent chance of occurring any given year (Yochum 2015).

Geology & Soils

Geology

The canyon, cliffs, slopes, and exposed rocks of Eldorado Canyon State Park are an excellent record of geologic history.

More than 1.7 billion years ago, a sea covered the area with layers of sand and mud on the bottom. The sand and mud sediments were later deeply buried and transformed by heat and pressure into rocks called quartzite, gneiss, and schist. Supremacy Rock and Quartzite Ridge are made up of the hard, erosion-resistant quartzite. About 1.7 billion years ago, molten rock, magma, rose up from even greater depths in the Earth's crust, and engulfed the quartzite and gneiss, further changing it. This cooled magma is now called Boulder Creek granodiorite and Twin Spruce quartz monzonite. Both types of rocks are commonly called granite. The knobby boulders in Crescent Meadows are made up of Boulder Creek granodiorite. Later, forces in the Earth’s crust created faults in the crusts. The faults broke up the rocks and formed areas of crushed rock called shear zones. Two shear zones are present on the west side of Eldorado Peak in the Jefferson County parcel. Finally, another episode of heat and pressure occurred about 1.4 billion years ago.

There is no evidence of geologic events at Eldorado Canyon from the next 920 million years. Rock units preserved elsewhere in Colorado indicate shallow seas periodically covered the area from about 520 to 300 million years ago. The rock record left by these seas in the vicinity of Eldorado Canyon was removed by erosion during uplift of the Ancestral Rocky Mountains, about 300 million years ago. The Ancestral Rocky Mountains existed across present-day New Mexico, Colorado, and Wyoming. The eastern edge of the range was just west of where Eldorado Canyon is today. Following the formation of the range, large amounts of sand, gravel, and boulders eroded from the highlands of the ancient mountains by streams and rivers. The sediments were deposited in large alluvial fans, similar to those found today on the eastern side of the San Luis Valley in southern Colorado. The deposited sediments are the red rocks of the Fountain Formation found in the Park. If one looks closely, pebbles and cobbles of quartzite and granite that were eroded from the older, underlying rocks are visible in the Fountain Formation. Many of the rock-climbing crags in the Park are carved from the Fountain Formation, including the Bastille, Wind Tower, Redgarden Wall, West Ridge,

Peanuts, and Rincon Wall. Eventually, the Ancestral Rocky Mountains were worn down and sand was deposited as sand dunes and shallow, sandy streams. These sediments were preserved as the reddish-pink sandstones of the Lyons Formation. The Rotwand Wall is made up of Lyons Sandstone.

East of the Park, there are thicker, younger rocks. These rocks were created through the burial and compaction of the underlying Fountain and Lyons formations.

About 65 million years ago, the Laramide orogeny event began the uplift of the present-day Rocky Mountains. During this event, the previously flat-lying rocks of the Fountain, Lyons, and younger formations were tilted up on end, as if one were to lift up one edge of a stack of books. Similarly tilted rocks are visible all along the east edge of the Front Range at places like Garden of the Gods, Roxborough State Park, and Red Rocks Park.

By about 45 million years ago, the Rocky Mountains had eroded down to gently rolling hills, much like the Ancestral Range 250 million years earlier. Vast amounts of sand and gravel eroded from the mountains washed out to the east, forming the high plains we see today.

About 20 million years ago, uplift began across all of the Rocky Mountains. Streams carved canyons and valleys into the area. By about 5 million years ago, South Boulder Creek had cut its present-day course. The wetter climate and higher runoff during glacial periods of the past few hundred thousand years resulted in the present, deep canyon. A large boulder field (or talus slope) just south of The Bastille was probably formed by freezing and thawing of Fountain Formation sandstones during glacial periods.

Table 6. Geologic Units Present at Eldorado Canyon State Park.

SYM	Unit Name	Rock Type	General Location
KJdr	Cretaceous-Jurassic	Sandstone	Eastern edge of Inner Canyon parcel
Xq	Early Proterozoic	Granite	All 3 parcels
Xp	Early Proterozoic	Quartzite	South side of Jefferson County parcel
@&If	Triassic-Pennsylvanian	Siltstone	Eastern half of Inner Canyon parcel

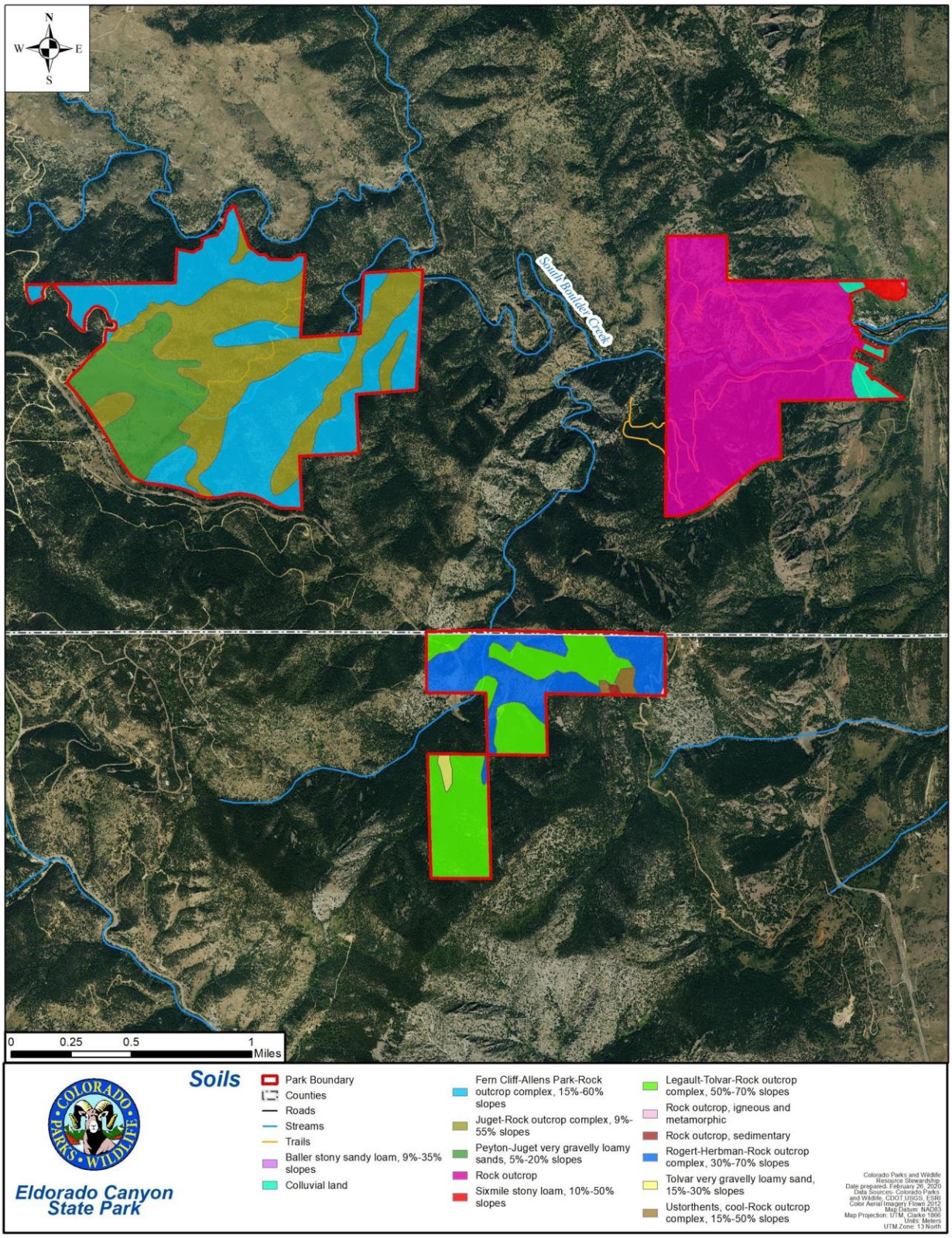
Soils

According to the custom soil survey report for the Park (NRCS 2019), there are 13 soil types at Eldorado Canyon State Park, which are listed below in Table 6 and seen in Map 10. As to be expected, soil types are highly variable in the Park but most are considered highly erosive. Soils are generally thin and poorly developed on the steep slopes. In most areas of the Park, soils are sandy, sandy loams, or loams that have a severe erosion hazard. Any potential development projects will need to be designed appropriately. In addition, when saturated, these soils result in increased hazards from rockfall. For example, after the 2013 flood, many larger boulders became exposed along the roadway and are a rockfall hazard. Crescent Meadows contains alluvium material where the land slopes into a valley and seasonal waterways form.

Table 6. Soils of Eldorado Canyon State Park.

Map Unit Name (MUSYM)	Soil Complex	Landform	Soil Origination (Parent Material)	Erosion Hazard[1]
BaF	Baller stony sandy loam, 9 to 35 percent slopes	Ridges	Loamy residuum weathered from sandstone	Severe
Cu	Colluvial land	Valleys	Colluvium	Severe
FcF	Fern Cliff-Allens Park-Rock outcrop complex, 15 to 60 percent slopes	Mountain slopes, fans, ridges	Mixed loamy alluvium, loamy colluvium and/or residuum weathered from granite	Severe
JrF	Juget-Rock outcrop complex, 9 to 55 percent slopes	Ridges, mountain slopes	Sandy residuum weathered from granite	Severe
PgE	Peyton-Juget very gravelly loamy sands, 5 to 20 percent slopes	Mountain slopes, valleys, ridges	Locally transported loamy and/or sandy slope alluvium, sandy residuum weathered from granite	Moderate
Ro	Rock outcrop	Mountain slopes, cliffs	Mixed	Not Rated
SmF	Sixmile stony loam, 10 to 50 percent slopes	Ridges, hills	Loamy residuum weathered from calcareous shale	Severe
78	Legault-Tolvar-Rock outcrop complex, 50 to 70 percent slopes	Ridges, mountain slopes	Acidic, gravelly, stony, and sandy residuum weathered from igneous and metamorphic rock, and stony, gravelly, and loamy alluvium derived from igneous and metamorphic rock	Severe
138	Rock outcrop, igneous and metamorphic	Mountain slopes	Exposed bedrock, talus, and large boulders of igneous and metamorphic rock	Not Rated
139	Rock outcrop, sedimentary	Terraces, hogbacks, mountains, hillslopes	Exposed bedrock, talus, and large boulders of sandstone and/or mudstone and/or shale and/or conglomerate	Not Rated
141	Rogert, very stony-Herbman-Rock outcrop complex, 30 to 70 percent slopes	Ridges, mountain slopes	Colluvium over residuum weathered from igneous and metamorphic rock	Severe
150	Tolvar very gravelly loamy sand, 15 to 30 percent slopes	Ridges, mountain slopes	Stony, gravelly, and loamy alluvium derived from igneous and metamorphic rock	Severe

167	Ustorthents, cool-Rock outcrop complex, 15 to 50 percent slopes	Ridges, mountain slopes	Noncalcareous, stony, gravelly, and sandy to loamy colluvium and/or residuum weathered from sandstone and exposures of rock outcrop, talus, and large boulders of sedimentary rock	Severe
Source: (NRCS 2019) [1]Erosion hazard given for Roads, Trails				



Map 10. Soil types found in ECSP.

Cultural Resources & Paleontological Resources

From subsistence uses that crafted a landscape of labor, to the shift toward a landscape of leisure dominated by a sprawling luxury resort, to a landscape characterized by outdoor recreation and rock climbing, Eldorado Canyon has been defined by the ways people interacted with the land. As visitors come to the Park, it is important for them to understand the history of the place they are recreating in. Their connection to this place will deepen as they see themselves as part of the link in a long chain of human activity in the area—including Ute, Arapaho, and Cheyenne, Euro-American homesteaders, resort visitors, service industry laborers, and adrenaline-seeking recreationists.

The Park's cultural and historical resources include:

- Remnants of Native American tribes that once inhabited the area and frequented Eldorado Canyon.
- Early European activity in the area consisted of homesteading, ranching, mining, and logging operations. In the 1890's single gauge railway grade was constructed in the canyon, but tracks were never laid; this abandoned grade is now the Fowler Trail. In the early 1900's, the construction of the Moffat Road line, Eldorado Springs Resort, Crag's Mountain Resort, and roadway through the canyon occurred.
- The canyon has a rich and long history as a destination for rock climbing.

In 2006 and 2010, cultural resource surveys were completed for the Inner Canyon and Crescent Meadows parcels. Several cultural sites were found in the two parcels and were considered in the development of this plan. Cultural resource site reassessment surveys were completed in the spring and summer of 2020. Paleontological surveys were completed in the Fall of 2019. The findings of these surveys and a comprehensive description of this area's history is included in the Cultural Resources section of the Stewardship Plan (Appendix D). Appendix D also addresses potential threats to the cultural resources, interpretive opportunities to promote cultural resource appreciation with visitors and guidance on minimizing impacts to resources. Visitors are allowed to explore the remaining foundation of the Crags Hotel. Nearby signage should indicate that everything should be left in place. Photo monitoring may be helpful to determine if the condition of this area further declines.

Scenic Resources

ECSP is known for its breathtaking vistas and scenic beauty. The Park has been captured as a backdrop for television commercials, magazine advertisements, store catalogs, documentaries, and graduation and wedding photographs. A rainbow of wildflowers bloom throughout the summer, such as the white Canada violet, the blue harebell, orange to red paintbrush, and the purple lupine (Appendix D).

Scenic areas of particular importance include: 1) Fowler Trail which features amazing views of the canyon walls; 2) Rattlesnake Gulch Trail which provides exceptional views through the Canyon. At the top is an additional loop which leads to a beautiful overlook of the Continental Divide; and 3) Eldorado Canyon Trail which also has excellent views of the canyon.

Recreation Resources

Eldorado Canyon State Park is a popular destination with a diverse array of recreational opportunities. These recreational opportunities include walking/hiking, mountain biking, rock climbing, picnicking, sightseeing and wildlife viewing, and fishing. With sufficient snowfall, snowshoeing and cross country skiing are also possible.

Trails

ECSP has five trails for non-motorized recreational use, totaling 17.1 miles. The ECSP trails offer a diversity of experiences and have varying levels of difficulty. All trails are open to hiking, and certain trails are open to mountain biking and horseback riding. ECSP trails provide access to rock climbing crags in the Park and to surrounding public open space managed by Boulder County and the City of Boulder.

Many non-designated "social trails" exist in the Park. These have largely been created by climbing activities or situations where visitors have been attracted off the trails or road to the stream or other interesting features.

Dogs are welcome on all trails provided that they are on a six-foot or shorter leash at all times, are under control, and their waste is properly disposed of.

Table 7. ECSP Trails.

Trail Name	Description	Permitted	Total Distance
Eldorado Canyon Trail	The Eldorado Canyon Trail is a moderate/difficult trail with sections of steep ascents and descents. The trail passes through City of Boulder and Boulder County-managed open space and connects to the Walker Ranch Trail.	Pedestrians, Horses	3.5 miles one-way
Rattlesnake Gulch Trail	The Rattlesnake Gulch Trail is a moderate trail that leads to remains of the historic Crags hotel and views of the Continental Divide. Mountain bikes are allowed on the trail, but given the steepness, and technicality, usage is limited.	Pedestrians, Mountain Bikes	3.6 miles round trip
Fowler Trail	The Fowler Trail is an easy trail. A half mile of it is ADA accessible. Interpretive signage is located along the trail. The trail continues beyond the Park boundary as a City of Boulder trail.	Pedestrians	0.9 miles to the Park boundary
Streamside Trail	The Streamside Trail is an easy trail that crosses and follows South Boulder Creek. A portion of the trail is ADA accessible.	Pedestrians	0.5 miles one way

Crescent Meadows	The Crescent Meadows trail is an easy/moderate trail located in the Crescent Meadows portion of the Park. The trail interconnects with the Walker Ranch Trail and Boulder County-managed open space.	Pedestrians, Mountain Bikes, Horses	2.5 miles one way

Rock Climbing

Eldorado Canyon is an international destination for rock climbing, unique in the Colorado State Parks system. ECSP is known for its multi-pitch ascents; traditional (trad) climbing; and grippy, sandstone rock with 700' climbs. ECSP has over 1,000 routes ranging in difficulty from beginner to expert. However, use is concentrated on the more accessible crags such as Redgarden Wall, the Bastille, the West Ridge, Rincon, and Wind Tower. There are a few challenging bolted sport routes and a handful of top roping opportunities. However the majority of routes are trad climbing, where rock climbers must place gear.

Picnicking

ECSP has 10 picnic sites along South Boulder Creek for visitor use. The picnic area is popular for its scenery, shade, and riverside picnic sites. Each picnic site has between one and four tables, with an eight person per table maximum. In total, there are 30 tables. Picnicking and the use of portable grills and stoves is permissible only in designated sites. Picnic sites are free to use but cannot be reserved.

Sightseeing and Wildlife Viewing

ECSP offers an excellent opportunity for sightseeing and wildlife viewing near urban areas. With towering sandstone cliffs, views of the Continental Divide, and the flowing South Boulder Creek, ECSP provides a diversity habitat and scenic landscapes for visitors to enjoy. Many visitors seek out wildlife viewing and sightseeing opportunities on their own or in conjunction with other Park activities. Mule deer, elk, black bear, bobcat, red fox, coyote, and mountain lion, and a variety of bat and bird species live within or near the canyon.

Other Recreational Resources

South Boulder Creek is a popular spot for visitors to explore and congregate. Picnickers often relax by the water as do other ECSP visitors. Tubing and rafting are not permitted in the creek, but kayaking is permitted.

South Boulder Creek is also used for fishing. The creek is an excellent fly-fishing area for brown and rainbow trout. Because fishing is challenging in ECSP, the fish are typically abundant, and the fishing is good.

Hunting is not allowed in the Inner Canyon portion of the Park, but it is allowed in a portion of Crescent Meadows. Hunting is allowed the Tuesday after Labor Day to March 31, with archery and black-powder weapons only. The appropriate license and all CPW hunting and possession limits apply. Colorado Hunting Licenses are available at the ECSP Visitor Center.

Interpretation and Environmental Education

As part of its recreational development, the Park has invested in a range of interpretive infrastructure, including interpretive displays at the Visitor Center, watchable wildlife signs near the Visitor Center and the Fowler Trail, and historical signs along the Rattlesnake Gulch Trail.

Interpretive Opportunities

The following subjects focus on what visitors should know, believe, or do while at the Park and/or after their visit. These subjects should be developed into interpretive themes and messages as part of efforts to update programming and signage in the Park. The Park stewardship plan (Appendix D) may be referenced for more information on ECSP's natural and cultural resources to aid in program development.

- Unique features of Eldorado Canyon State Park
    - Geology: the history of the unique rock formations in the Inner Canyon.
    - Sensitive ecology: riparian areas, South Boulder Creek, rock formations, and rare plants and animals.
    - Wildlife awareness and safety.
    - Importance of reducing human-wildlife conflicts.
- Cultural Resources and History
    - Eldorado Canyon's history of human use started with subsistence then moved from labor to leisure and finally to recreation as a primary activity.
    - Native American tribes once inhabited the area and frequented Eldorado Canyon.
    - European settlement of the land, which included construction of the railroad that is now the Fowler Trail.
    - The construction of the Moffat Road rail line and its current operation.
    - The Eldorado Springs Resort in the early to mid 1900's.
    - The Crags Mountain Resort.
    - The history of rock climbing at the Park.
    - Role of climbing community and Boulder County residents in conserving the Park.
- Ethical Recreation/Leave No Trace
    - Dispose of waste properly.
    - Make visitors part of the solution (practice low impact behaviors).
    - Observe seasonal closures for sensitive wildlife species, including nesting golden eagles.
    - Visitors should "know before you go" where they are going (help avoid the need for rescue).
    - Keep Wildlife Wild (do not approach or feed wildlife).
    - Stick to trails.
- Climbing
    - Unique opportunity in the Colorado State Park system.
    - Attracts climbers from around the world.
    - Role of ACE (Action Committee for Eldorado) as stewards of the climbing access and routes.

- Connection and Belonging
    - Everyone is welcome at ECSP.
        - As CPW works to improve the visitation/capacity issues it will be important to include messaging that all are welcome at the Park. Visitors should understand that the need to disperse visitation is not a discouragement to visit.
    - Eldorado is a treasure for both people and nature—we need the help of visitors to keep it that way.
    - Eldorado is an integral part of the shared sense of identity and pride in the local community.
    - We can't manage alone—partnerships with Boulder County, City of Boulder, Rocky Mountain Rescue, rock climbing groups, and others are vital.

Interpretive Facilities

The Visitor Center is the primary location for interpretative information and events. It contains interpretive displays, wildlife mounts, window lookouts, and a map of the Park that lists the variety of recreation opportunities available for visitors. Signage is present at the entrances of the Inner Canyon and Crescent Meadows parcels, in the Visitor Center, and along the Fowler and Rattlesnake Gulch trails. Additionally, seasonal signage is present along the Streamside Trail warning visitors about hazards, such as falling ice, poison ivy, and rattlesnakes. The Visitor Center sells informative products, such as natural and cultural resource books.

Interpretive Programs

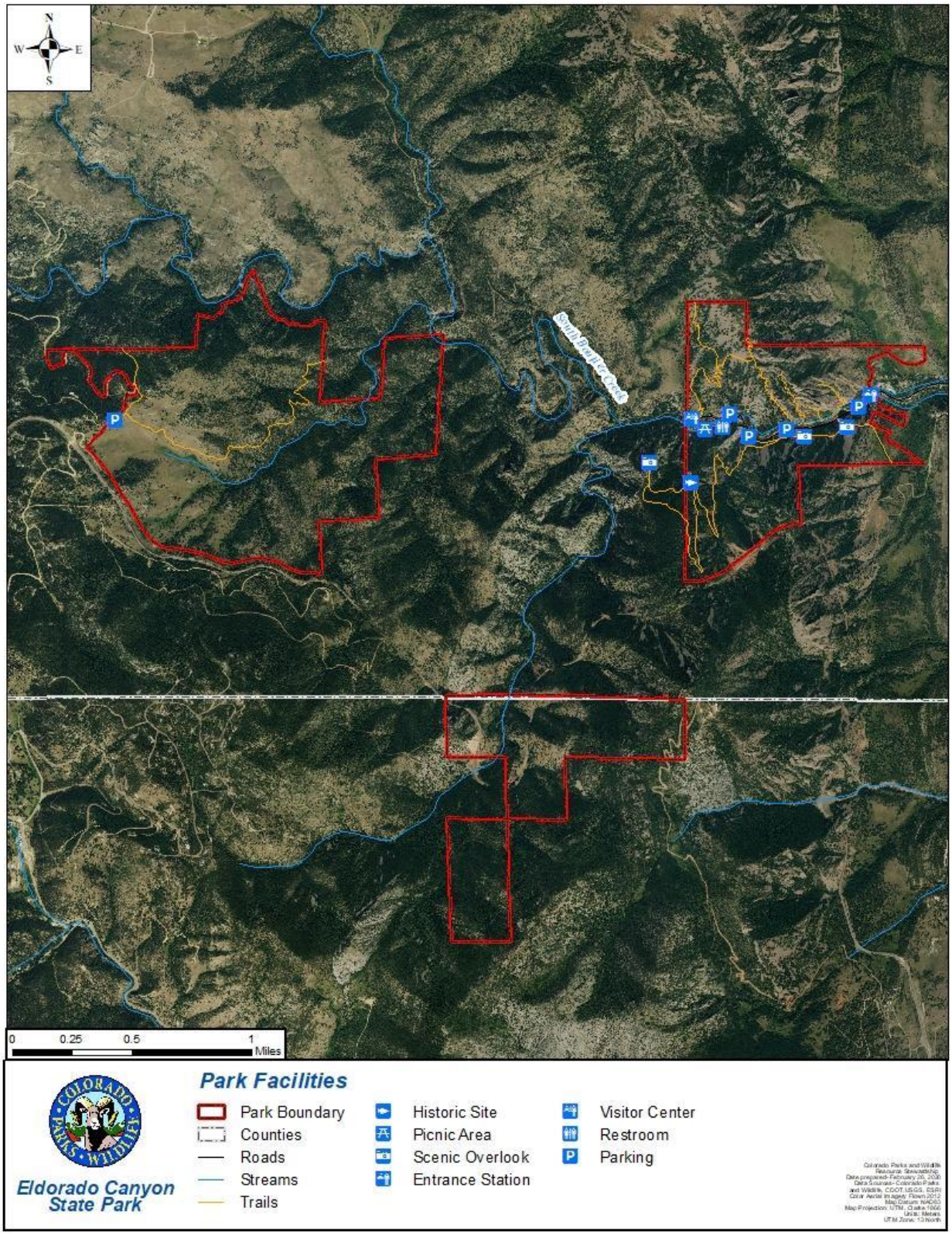
A Junior Ranger program is active at the Park and provides an educational opportunity for kids from age six to 12 who are interested in learning about Colorado's natural resources. The program features games, activities and crafts, fishing, rock climbing, nature photography, and archery. The Little Critters program is for kids from three to five, and children read stories, play games, and do crafts all related to the wildlife present at the Park. The Park also organizes monthly drum circles in the summer as a way for people to connect to nature through music. In recent years, the Park's capacity issues have interfered with the success of the program due to participants being unable to enter the Park due to long lines and congested roadways. (Note: Due to the COVID-19 pandemic in 2020, the above-mentioned interpretive programs were postponed indefinitely. Instead, programming focused on roving interpretation, personal face to face communication, and self-guided junior ranger activity booklets.)

The book sales program is operated through the Colorado Parks and Wildlife retail program. Field guides, books on the ecology and history of the area, other nature books and postcards and posters are some of the items offered at the Park Visitor Center. A small percentage of gross sales (about $500) is returned to the Park in the form of annual operating budget funds.

Interpretive volunteers are present periodically and a seasonal interpretive intern is typically hired for three months of the year. These individuals are available when encountered in the Park to provide natural and cultural resource information to visitors. Ideally, the Park would have funding to keep a full-time interpreter. Interpretive programs in recent years have primarily been weekend programs. These programs attract visitors who are already at the Park during the summer months. Services at other times of the year are offered on a request basis, as staff time is available.

Facilities and Infrastructure

The Park includes the facilities listed on pages 62-64 and shown in Map 11 (not including maintenance shop and house in town). As-built records for most facilities were destroyed in the past, so estimates for facility areas are provided rather than exact measurements.



Map 11. Existing ECSP Facilities.

Existing Facilities

Park Office / Visitor Center

The Park office and Visitor Center is located one mile west of the Inner Canyon entrance (9 Kneale Road). It contains a bookstore/gift shop, a climbing wall display, a geology display, and history display. The building also contains a meeting room with an attached patio for educational trainings or business meetings only. The building serves as the Ranger Station and offices for park staff. The Visitor Center was built in 2000 and is approximately 3,600 square feet. The Visitor Center also has a well house that was constructed in the late 1990's. Drinking water is provided inside the Visitor Center for the public and park staff.

Park Entrance Station

The Park entrance station was constructed in 1999 and is approximately 200 square feet. A new entrance station is planned for construction and will measure approximately 240 square feet. The entrance station is staffed only during summer and other busy times due to budget constraints, inclement weather, and volunteer availability. An iron ranger (automated kiosk) and interpretive panels are located near the entrance station in the Inner Canyon parcel for visitors accessing the Park when the station is closed.

Park House and Garage

The park house and garage are located at 91 Eldorado Springs Drive and were built in the 1960's. The garage has two bays for vehicles. Drinking water facilities are available at the park house and garage for staff. This facility is used as housing for volunteers, seasonal employees, and full-time employees as needed. The two-bay garage associated with the park house is used as storage for dry goods, park supplies, OHV's, and some equipment.

Maintenance Facility and Garage

The maintenance facility and garage are located at 103 Eldorado Springs Drive. This facility was acquired from Denver Water in 1999 and is the central location for all maintenance operations. The facility consists of a storage yard, parking lot, and two and three-bay garages.

Well House

The well house is an approximately 50 square foot free-standing, heated structure near the entrance to the Inner Canyon. The structure is not part of ECSP operations. It is owned and operated by Eldorado Artesian Springs Inc.

Flush Toilet Facilities

The only flush toilets in the Park are located in the Visitor Center. The toilets operate with a septic tank and leach field.

Vault Toilet Facilities

The north picnic area toilets were built in 2014. Records do not exist for when the south picnic area toilets were constructed. Both facilities are vault toilets. "Devaporative" vault toilets are present in the main lot restroom, which were built in the late 1990's. The main lot restroom storage tank isn't exposed to the air—it's a "desiccating" toilet that works by drying waste material. Overflow effluent is stored in a sealed tank. These lined and sealed vaults are

pumped as needed. All vault toilet facilities have been retrofitted with wildlife deterrent screens.

Operations and Maintenance

General Park Operations

All of the Park's major facilities are generally operational year-round. The entrance station is open as staffing and budget allows. Park passes, registrations, and licenses are available for purchase at the Visitor Center during staffed hours. When possible and staffing is available, the Visitor Center is open from 9:00 a.m. to 5:00 p.m. daily, but is open less frequently during the winter months.

Self-service day passes are also available at the Iron Ranger near the entrance station.

Vehicles

The Park has four full-time fleet vehicles—three ranger pick-up trucks and one dump truck. Other equipment includes two gas-engine off-highway vehicles (OHVs) and one golf cart. All state fleet vehicle service is performed off-park by authorized vendors. Almost all other fabrication and equipment repairs are performed at the park maintenance facility.

Picnic Sites

Maintenance staff perform the cleaning and maintenance of the Park's picnic sites daily during peak season and as needed during the off-season. Picnic sites are available year-round on a first-come, first-served basis and are not reservable. Fires are prohibited at site 7. Sites 9 and 10 do not have Park provided grills, so guests must bring their own gas grill.

Roads and Parking Lots

In the Inner Canyon, the Park maintains about one mile of unpaved, gravel road by treating it with dust suppressant annually and filling potholes as needed. Crescent Meadows has 200 feet of road leading to a 25-car gravel parking lot. The Jefferson County parcel has an access road in fair to poor condition that requires 4wd and is impassable in the winter. The public does not currently have access to this road.

There are just over 200 parking spaces distributed throughout the Park. The largest parking lots are located at the Visitor Center, the Entrance Station, and at Crescent Meadows. Additional parking spaces and smaller lots are located at north and south picnic areas, the Fowler/Rattlesnake Gulch Trailhead, and at the bend in the South Boulder Creek between the picnic area and the Fowler/Rattlesnake Gulch Trailhead.

Trail Access

Park staff and volunteer groups generally maintain trails.

Trash and Waste Disposal

During the busy summer season, trash and recycling dumpsters are emptied weekly. In the off-season, dumpsters are emptied as needed. OHV's and occasionally pickup trucks are used to bring trash from visitor facilities to dumpsters.

Rock Climbing Routes

As per the Attorney General's direction, park staff does not maintain fixed hardware or in any way maintain climbing routes. Park staff closes roads, trails, and areas as necessary for volunteer climbers to “trundle” loose blocks that pose a public safety hazard. The Park works with the Action Committee for Eldorado (ACE), to update and fix climbing hardware.

Fencing and Wayfinding

There is some boundary fence at the west end of the Inner Canyon and within Crescent Meadows. Most of the fence is privately owned and not well maintained by those owners. The Park owns a few “advisory” fences and gates to inform visitors of nearby private property. Those advisory fences are maintained by replacing parts as necessary.

Noxious Weeds

The maintenance staff and associated volunteers provide noxious weed management and control. When budget is available, the Park retains contractors for invasive control in Crescent Meadows. Every five years, the CPW Resource Stewardship Team maps noxious weeds and updates the Park’s Noxious Weed Management Plan.

Information Technology

Much of the Parks’ day-to-day business is currently conducted via web-based programs linked to external servers for various reporting functions, which require fast, stable internet connections. These reporting functions include revenue collection, visitation counts, budgeting and accounting, law enforcement queries, payroll and personnel management. Most of these administrative tasks are completed by staff working out of the Visitor Center and Park headquarters. Internet Service is a digital subscriber line (DSL) provided by Century Link over voice phone lines. The internet service is very low speed in all facilities and limited bandwidth may be due to distances from Central Offices. The current speed and stability of internet services at the Park is insufficient for current staff needs. The Visitor Center currently has three laptop computers, four desktop computers, and three IPAWS (CPW’s license and pass sales system) terminals for staff to use. Cell phone service is intermittent throughout all parcels of the Park.

Utilities

Electrical services are provided by Xcel Energy and provide power to the park house and its garage, the three bay garage at the maintenance facility, the entrance station, the main lot restroom facility, the Visitor Center, and the well house. Additionally, solar panels were installed on the main lot restroom and will eventually be connected for “net metering.” Propane/natural gas is used to heat the Visitor Center, garage, and the park house.

Water Supply and Wastewater Treatment

The Visitor Center is served by a well. Its water is filtered and treated with chlorine and is tested quarterly to comply with Colorado Department of Public Health and Environment (CDPHE) standards as a “small” water system. The park house and garage are served by water from Eldorado Artesian Springs, Inc.

Park Administration and Special Functions

Full-time and Seasonal Staffing

As of fall 2020, the Park has four full-time staff members and typically hires eight temporary employees each summer. There is one park manager, two park rangers, and one park resource technician in full-time roles. In a typical season there are two temporary rangers, two temporary entrance booth workers, one visitor center attendant, one interpretive assistant, and two temporary maintenance employees.

Volunteers

In 2019, the Park hosted 2,568 hours of office and entrance booth volunteerism, and 3,235 hours of stewardship (facilities, trail, invasives, trash cleanups) volunteerism—the equivalent of over two full-time staff or 6 six-month seasonal staff. Most office volunteerism is performed by individuals. Stewardship volunteerism is performed by individual volunteers, corporate groups, and court-ordered volunteers.

The Action Committee for Eldorado (ACE), a non-profit corporation comprised of climbers from local and national climbing organizations as well as other volunteers, advises the Park on applications for new bolt and piton placements by representing views of the local climbing community. The goal is to preserve the character of existing routes while allowing limited development of new fixed gear routes. In addition, ACE raises thousands of dollars and recruits and supervises scores of volunteers to support a wide variety of vital park projects.

Enforcement/Public Safety

Most of the Park violations encountered are considered “petty offenses” and involve dogs off leash, illegal parking, or unlawful use/entry (camping, entering restricted or closed areas). Over the past couple of years, the Park has seen a significant increase in drug (marijuana) and alcohol-related violations. Currently, traffic control/enforcement is where much of staff time is spent on the weekends during peak visitation (May-September).

MOUs, IGAs or Other Agreements

The Park leases approximately 73 acres adjacent to the Inner Canyon parcel from the City of Boulder. There are climbing areas on that acreage that are well-served by management from ECSP. There are two parcels: one encompasses Cadillac Crag and the other contains Upper Peanuts. The terms of the lease function as an MOU regarding what law enforcement and trail work ECSP can do on those leased properties and how they are to be managed for the protection of nesting golden eagles. Additionally, there is one easement on a section of the Rattlesnake Gulch trail.

Access to the only entrance to the Park’s main parcel, the Inner Canyon, is via a privately owned dirt road that passes through the town of Eldorado Springs. CPW has an easement with the owner, Eldorado Artesian Springs Inc., for ingress/egress and is working on an agreement for maintenance and upkeep of the road.

Special Uses

The Park issues a variety of Special Use Agreements throughout the year; these are most often used for photography, commercials, etc. Special Use Permits are given to rock climbing guide companies that want to operate in the Park throughout the year, and on a continual basis. In 2019, the Park issued 16 permits.

Park Budget and Finances

Revenue from all 42 State Parks goes into a general "Parks Cash Fund" and budgets are allocated at the statewide and regional level. Budgets are requested through various CPW processes on an annual or ad-hoc basis based on the nature of the type of request. ECSP currently has four full-time staff and an annual operating budget of less than $160,000. The following tables summarize two Fiscal Years (FY) to demonstrate a snapshot of ECSP's annual expenses. The state FY runs July 1-June 30.

Table 8. Park Expenses (FY 2016-17 and FY 2017-18).

Category	FY 16-17	% of Total	FY 17-18	% of Total
Permanent Personnel Services (Includes Permanent Benefits)	$279,882	47%	$204,010	49%
General Operating (Includes Temporary Personnel Salary and Benefits)	$153,656	26%	$142,154	35%
Parks Small Capital (Projects under $100,000 each)	$151,758	25%	$33,970	8%
Vehicle Leases	$11,301	2%	$11,315	3%
Donations *(These funds were used for supplies, temporary personnel, property maintenance)*	-	-	$20,692	5%
Total	$596,597	100%	$412,141	100%

General Operating Costs

The majority of the operating budget is spent on temporary employees' salary and benefits.

Table 9. General Operating Expenses (FY 2016-17 and FY 2017-18).

Category	FY 16-17	% of Total	FY 17-18	% of Total
Temporary Personnel Services (Salary and Benefits)	$97,297	63%	$86,140	61%
Property Repair, Maintenance, Improvements	$18,600	12%	$4,990	4%
All Utilities	$9,673	6%	$11,481	8%
Supplies and Materials	$14,926	10%	$24,839	17%
Motor Vehicles (Supplies, Maintenance)	$3,762	2%	$4,715	3%
Equipment (Maintenance, Rental, Repair and Purchase)	$1,131	1%	$420	0%
Services (Construction, Repair, IT, Testing, etc.)	$3,022	2%	$5,328	4%
Communications (Telephone and Telecommunications)	$4,070	3%	$4,179	3%
Other Miscellaneous Expenses	$1,175	1%	$62	0%
Total	$153,656	100%	$142,154	100%

Temporary Staff Resources

In addition to Eldorado Canyon State Park's 4 full-time employees, the Park hires an additional 8 temporary employees during the summer months as seasonal rangers, gate attendants, visitor center attendants and maintenance workers.

Table 10. Temporary Employee Expenditure Detail (Salary and Benefits) (FY 2016-17 and FY 2017-18).

Activity	FY 16-17	% of Total	FY 17-18	% of Total
Customer Service	$32,630	34%	$26,101	30%
Organizational Support	$31,924	33%	$23,361	27%
Law Enforcement	$19,384	20%	$23,057	27%
Environment & Wildlife Education	$12,133	12%	$10,043	12%
Park and Trail Recreation	$1,226	1%	$3,578	4%
Total	$97,297	100%	$86,140	100%

Large Capital Construction Projects

Large capital construction projects are high-dollar improvements to the Park that are considered on an annual basis. There have been no recent large capital projects; however, the entrance station redesign is scheduled to begin in Spring 2021.

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4.0 VISITATION

Significant increases in visitation to ECSP created concerns about the visitor capacity of the Park and impacts to its facilities and resources. ECSP staff perform law enforcement, visitor services, education, interpretation, maintenance, and natural resource stewardship duties. However, on the frequent busy days, many or even all staff on duty are needed to manage parking which keeps them from performing other primary duties.

To assess visitation trends, where and how visitors use ECSP, and understand the visitor experience, CPW collected qualitative and quantitative data via input from the public, staff, neighbors, park visitors and partner agencies (see Chapter 1).

In addition, a Capacity Study (Appendix C) provided detailed information and analysis of data from onsite surveys of park visitors, a traffic study, trail counters, and other park records. This study also allows CPW to examine relationships between the existing visitor use and the condition of the natural resources to identify future monitoring priorities. Visitor use counts are a factor in the condition of the natural resources, but other factors, such as visitor behavior and the sensitivity of the resources are also key components. As most people visit the Inner Canyon, the Capacity Study focused on that parcel and did not include Crescent Meadows. Findings from this study are embedded in the following sections but the key takeaways include:

- While annual ECSP visitation has increased significantly in recent years, the number of visitors on the park's busiest days cannot and has not increased significantly due to the ECSP parking capacity. However, the frequency of these peak, busy days has increased. The growth in visitation occurred throughout the year, rather than solely as an increase in summer visitation.
- The limited number of parking spaces makes ECSP access challenging and limits the number of visitors to the recreational facilities. However, once visitors are in ECSP, they report a pleasant, relatively uncrowded experience. In a way, the limited parking capacity of ECSP leads to a positive experience for visitors once they enter.

Access & Parking

Inner Canyon

Access to and from the Inner Canyon portion of ECSP is via the two-lane State Highway 170 and Eldorado Springs Drive, which connect State Highway 93 to the Park entrance station. State Highway 170 is a paved road that extends approximately 3 miles, from its intersection with State Highway 93 to Eldorado Springs. From the beginning of Eldorado Springs to the entrance station of ECSP, the road is a narrow, private dirt road.

The ECSP entrance station is a key component to the Park's visitor service operations. The entrance station is staffed as often as possible with temporary staff and volunteers frequently running the entrance station. Visitors purchase daily or annual passes, pick-up a Park map and ask questions. This may be the only opportunity CPW has for in-person communication with visitors. During busy periods, ECSP staff count available parking spaces, turn vehicles away, and instruct visitors on where available spaces are. Managing parking and vehicle circulation inhibits the staff from performing other duties during those periods.

The limited parking supply in ECSP can lead to visitors being denied entry into the Park and/or extended queues at the entrance station that back up into the town of Eldorado Springs. The ECSP entrance station is able to process vehicles quickly but has to hold vehicles in a queue when no spaces are available or as staff assist others in finding a spot. The estimated number of days in which the demand for parking exceeds the supply and vehicles are turned around has increased.

There is an "iron ranger" (self-service station) for visitors walking or biking into the Park to purchase passes. Most ECSP visitors enter the Park by vehicle, but some visitors (primarily residents of Eldorado Springs) do enter by walking in or biking in. Non-resident visitors park in town; others hike in via the Fowler Trail and park on Eldorado Springs Drive. Some of the walk-in visitors may have parked illegally in town using spots intended for residents and visitors to Eldorado Springs Pool & Event Center.

To reach the ECSP Visitor Center, Eldorado Canyon trailhead, and picnic area, visitors must travel approximately 1 mile along a narrow one-lane dirt road. Some visitors travel the park road by vehicle, while others park lower down at ECSP and walk or ride their bikes up to the Visitor Center area or Fowler trailhead. Some sections of the road are wide enough for two cars to pass safely but the majority of the road is one lane, frequently requiring vehicles to pull over to allow oncoming vehicles or large groups of pedestrians to pass. Generally, vehicles travel slowly through ECSP due to the crowded, mixed-use condition of the roadway.

All trail and road intersections are signed. Park speed limits are posted and monitored by park rangers as needed. The parking spaces are not delineated, and improper parking can slightly reduce the number of parking spaces.

Crescent Meadows

Crescent Meadows can be accessed by vehicle or on foot or bike. Vehicular access is from Gross Dam Road, which is the continuation of Flagstaff Road and connects with Coal Creek Canyon Road. Crescent Meadows has a small dirt parking lot adjacent to the trailhead. The Walker Ranch Trail passes through Crescent Meadows. The trail is a loop open to hikers, horseback riders and mountain bikers, with access from Boulder County Parks and Open Space trailheads. It is also used by hikers from the Inner Canyon portion of ECSP via the Eldorado Canyon Trail.

In 2020, visitation related to the COVID-19 pandemic (i.e., out of work or working from home Coloradans spending time outdoors due to business closures) resulted in the "discovery" of Crescent Meadows; in turn, parking capacity, resource degradation, and public safety challenges became more commonplace. These issues should be considered in future visitation studies. Boulder County is also planning capital improvement and maintenance projects for the Walker Ranch trailheads.

Visitor Demographics & Patterns

For the first time, it was documented that visitors to the Park are primarily from the Denver Metropolitan Area (Denver Metro). In these surveys, Boulder County was separated from the Denver Metro. Of visitors surveyed, 11 percent were from the City of Boulder, 11 percent were from elsewhere in Boulder County, 53 percent were from the Denver Metro Area, 1 percent were from elsewhere in Colorado, and 25 percent were out-of-state visitors. Of out-of-state visitors, 20 percent came with a local resident, and the remaining 80 percent came

independently. On weekends, the breakdown of visitor origin shifts slightly, with more visitors from the Denver Metro Area and fewer from out-of-state.

Visitor origin correlates to park activity, with Boulder County residents representing a high percentage of rock climbers and Denver Metro residents a high percentage of picnickers, and out-of-state visitors a high percentage of sightseers.

The four primary activities that ECSP visitors participate in are hiking, rock climbing, picnicking, and sightseeing. Of ECSP summer weekend visitors, 46 percent are hiking, 12 percent are rock climbing, 17 percent are picnicking, and 25 percent are sightseeing. During the week, the percent of ECSP visitors picnicking and sightseeing is slightly lower, with the percent hiking slightly higher.

Of all surveyed, 63 percent had been to ECSP before. Of participants who had visited ECSP before, 49 percent visit 1 to 3 times per year, 15 percent visit 4 to 10 times per year, 18 percent visit 11 to 30 times per year, and 18 percent visit more than 30 times per year.

Climbers (91 percent) and picnickers (88 percent) were most likely to have visited previously. While climbers are a small percentage of total summer visitors, individual climbers tend to be avid users visiting the Park most frequently, with 48 percent of those surveyed visiting 30 or more times per year and 33 percent visiting 11 to 30 times per year.

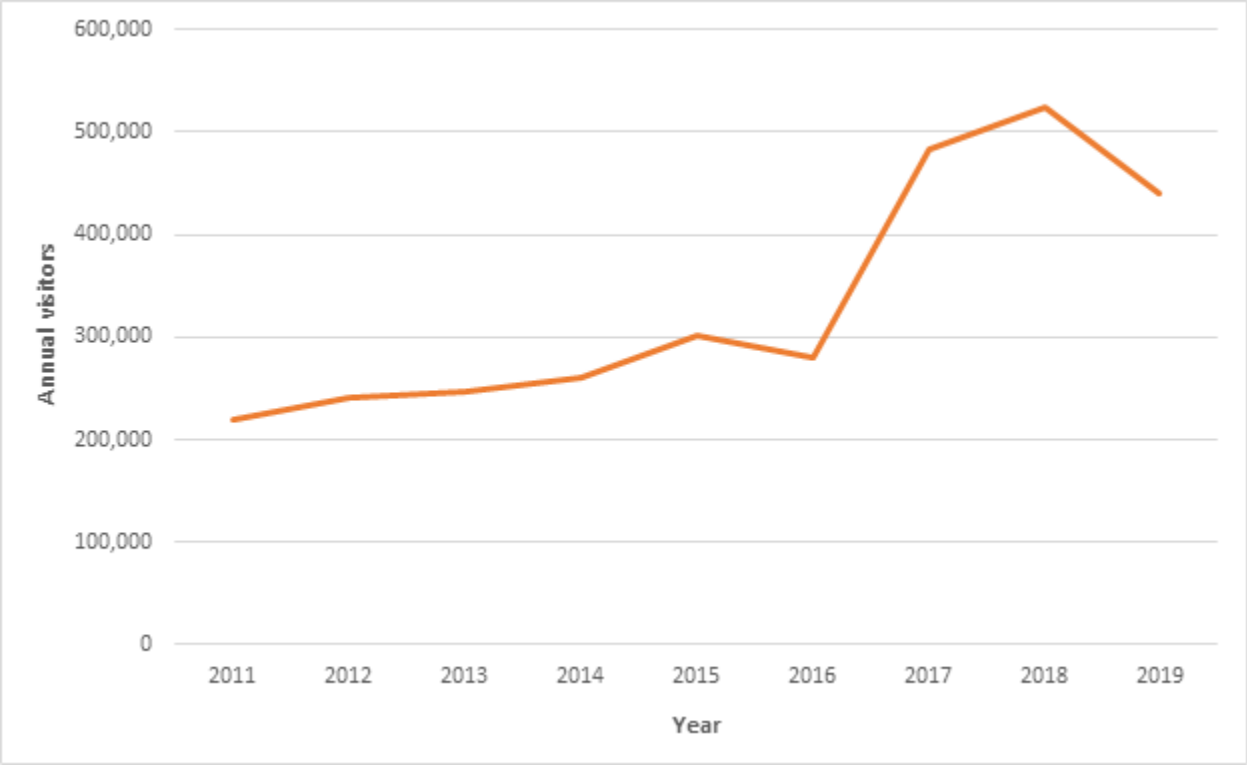
Visitation Trends

Overall Visitation

Visitation has grown across CPW's Northeast (NE) Region State Parks, although to a lesser extent than at ECSP. From July 2017-June 2018, the NE Region parks saw 28 percent growth with 7.45 million visits, up from 5.8 million in 2013-14. In that same period, ECSP visitation grew by 122 percent.

Park visitation grew slowly prior to 2017, with an average of approximately 300,000 annual visitors. In 2017, annual visitation jumped to almost 500,000 annual visitors, and visitation crossed the 500,000 mark with another strong year of growth in 2018. In 2019, the Park had 440,775 visitors. The lower number is likely a result of early summer rains and heavy snows in late fall 2019.

Figure 2. ECSP Annual Visitation, 2011-2019.



The highest visitation month at ECSP has been June, with an average of over 71,000 visitors per month. July and August are the next busiest months, with an average of 65,000 visitors in each of those months.

The growth in annual visitation has been a result of a significant increase in visitation in each month of the year, rather than solely a spike in summer visitation. The following table shows the percent increase each month from 2016 to 2018. The first few months of the year had higher percent increases from 2016 visitation levels. The summer months did not have the highest growth, as they started with higher visitation in 2016, and there was little room for growth on peak days due to the parking supply.

Figure 3. ECSP Monthly Visitation 2016 and 2018.

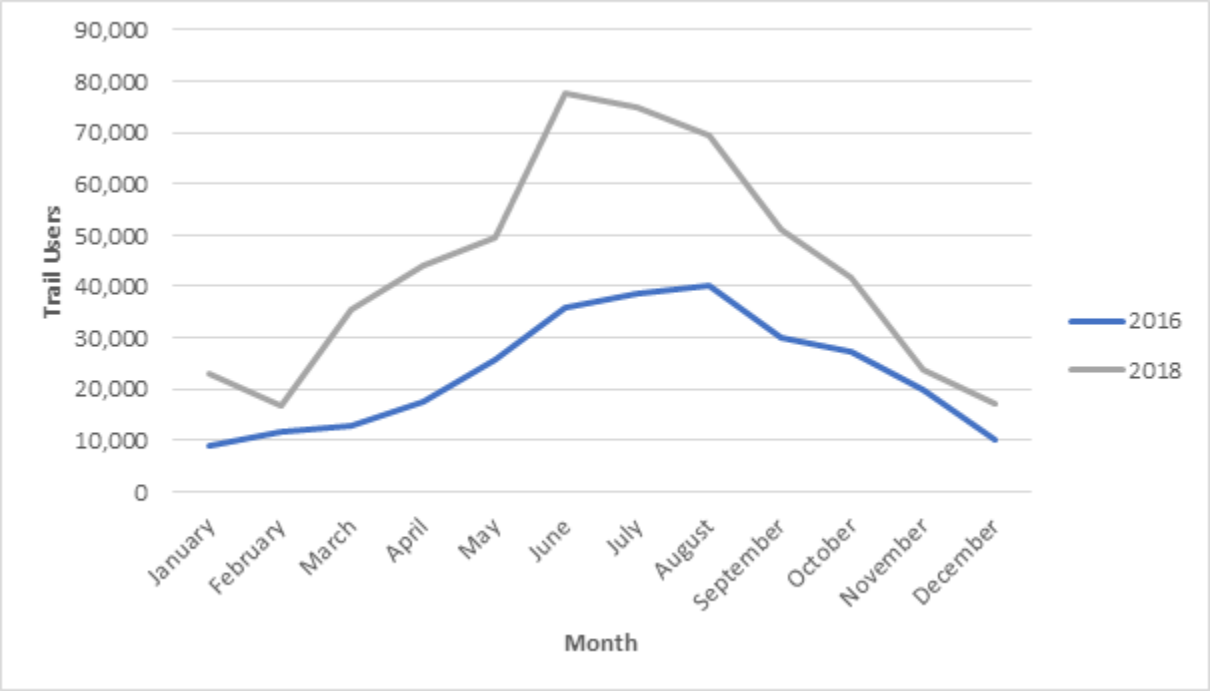


Table 11. Monthly Percent Increase in Visitation, 2016 vs 2018.

Month	2016 Visitation	2018 Visitation	% Increase
January	8,804	23,136	163%
February	11,858	16,805	42%
March	12,986	35,386	172%
April	17,436	44,112	153%
May	25,706	49,728	93%
June	35,721	77,465	117%
July	38,661	74,738	93%
August	40,280	69,339	72%
September	30,185	51,301	70%
October	27,485	41,720	52%
November	20,037	23,676	18%
December	10,314	17,262	67%

Length of stay and group size

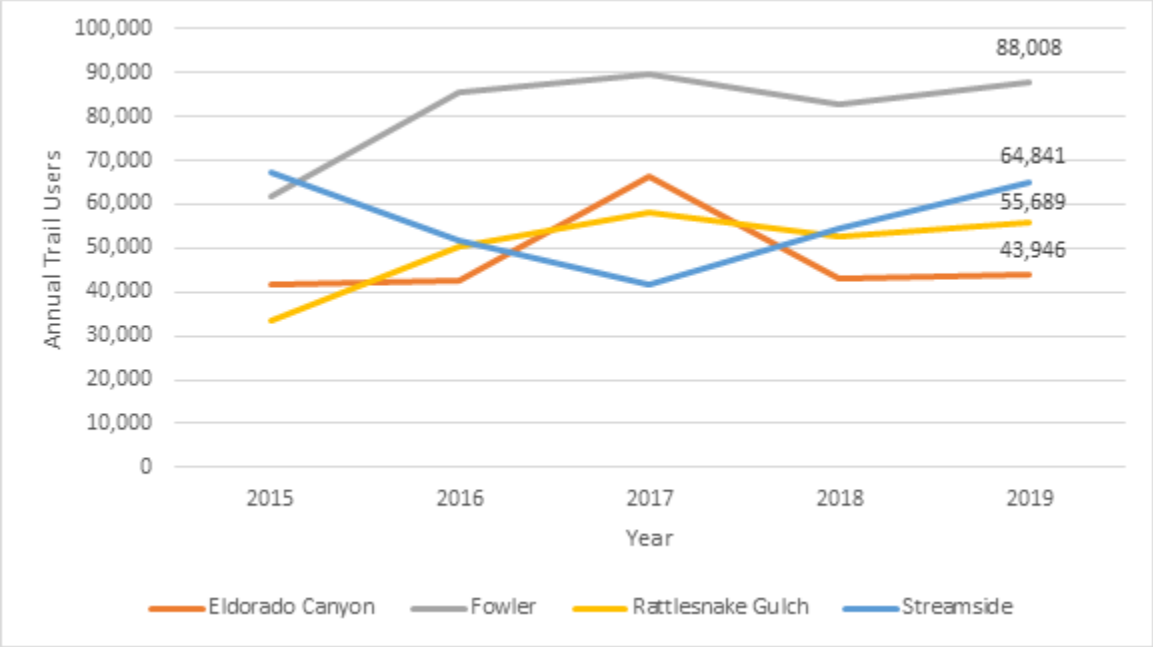
The average length of stay in ECSP is approximately 3.5 hours (the visitor survey had an average of 3.35 hours and the traffic study 3.6 hours). This figure also varied by activity, with picnickers and rock climbers tending to have longer lengths of stay.

The average group size varies significantly by activity. The average group size across all activities is 3.14. The average group size for climbing is 2.1, hiking is 2.8, picnicking is 13.1, and sightseeing is 3.2. The average vehicle occupancy (AVO) during the study was 2.7 on weekends and 2.5 on weekdays.

Trail Usage

ECSP's trails are well used, and rates of growth in use have varied by trail. The Fowler Trail sees the most annual visitors, at almost 90,000 visitors.

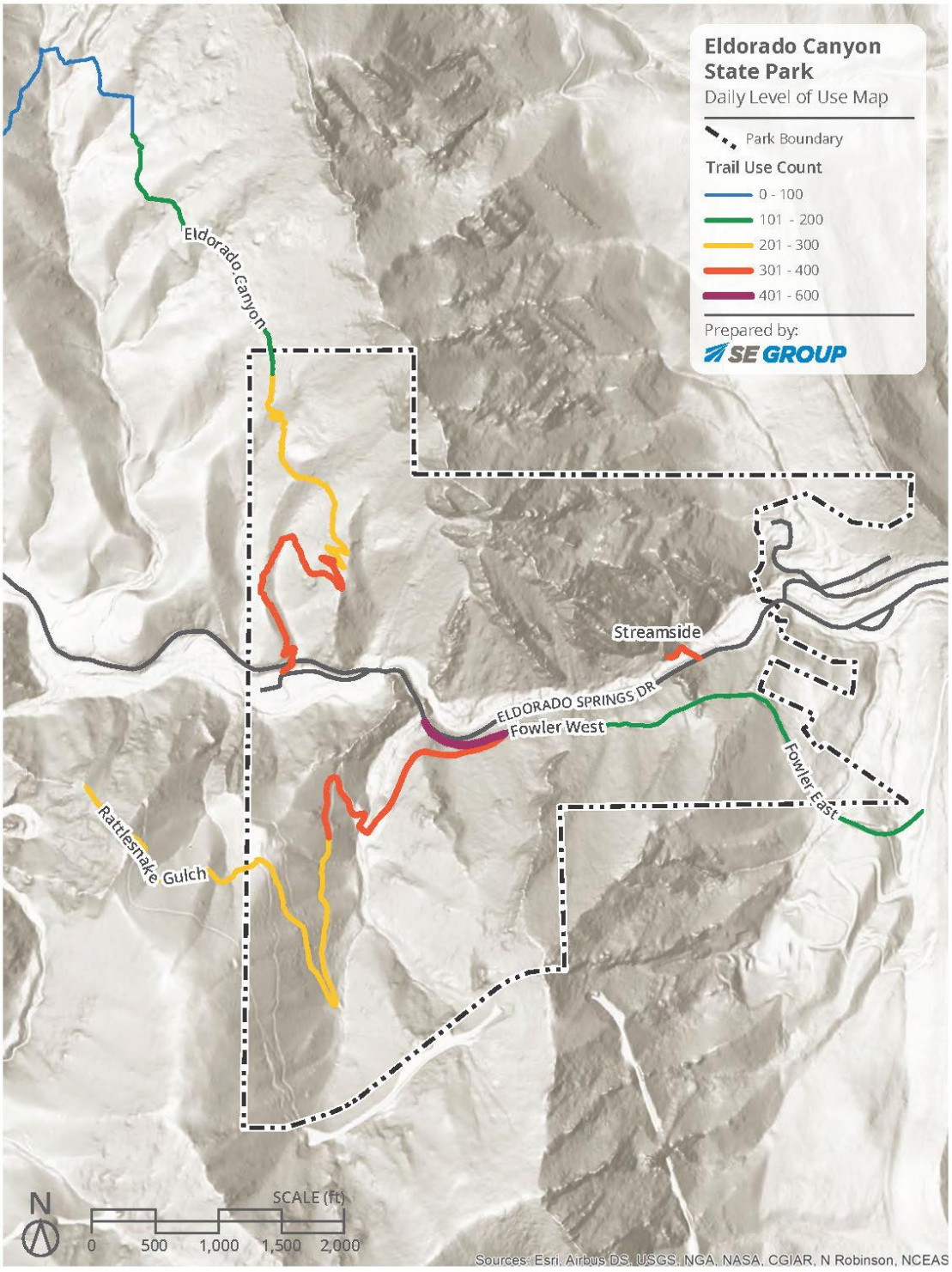
Figure 4. ECSP Annual Trail Usage, 2015–2019.

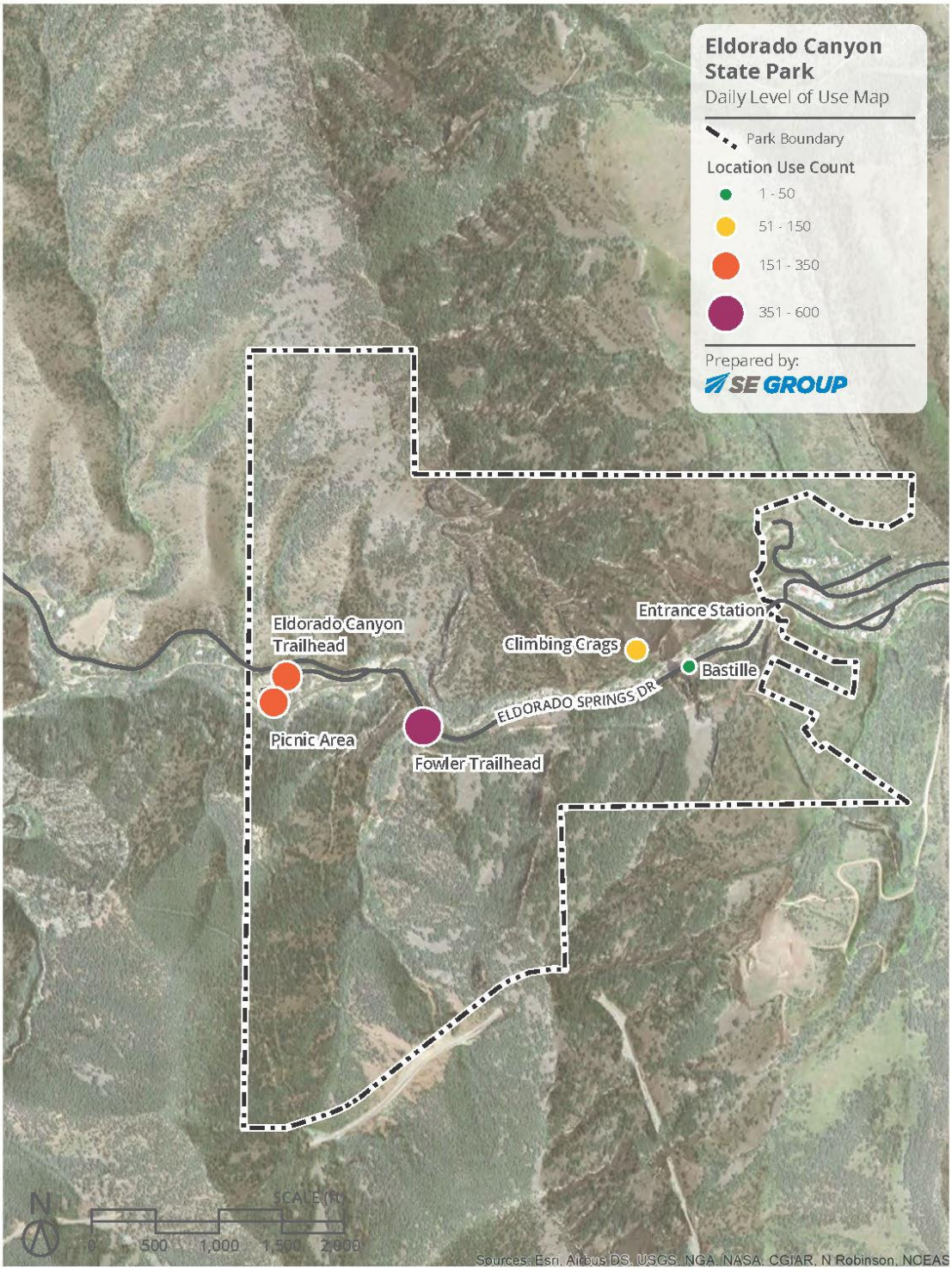


Trail usage at ECSP is concentrated during the summer months and on weekends. Trail usage during June, July and August accounts for 45 percent of total trail usage. Weekend trail use represents 47 percent of all trail use. Trail usage tends to peak in the middle of the day, and the busiest hour is the 12 p.m. hour, with 11 a.m. and 1 p.m. close behind.

The following heat maps show relative use of park trails and destinations on the Park's 10 busiest days from fall 2018 to summer 2019.

Figure 5. Maps depicting level of use of ECSP's trails and areas of the Park on busy days.




Eldorado Canyon State Park
Daily Level of Use Map
Park Boundary
Location Use Count
1 - 50
51 - 150
151 - 350
351 - 600
Prepared by:
SE GROUP
Eldorado Canyon Trailhead
Picnic Area
Fowler Trailhead
Climbing Crags
Entrance Station
Bastille
ELDORADO SPRINGS DR
N
SCALE (ft)
0
500
1,000
1,500
2,000
Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS

Quality of Visitor Experience

Overall, visitors rate their experience at ECSP very positively. Of visitors surveyed, 79 percent rated their experience as excellent and 18 percent rated their experience as good (97 percent overall positive rating). Experience ratings were slightly lower on weekend days and by visitors who had been to the Park previously. Of weekend visitors, 78 percent rated their experience as excellent, compared to 84 percent of weekday visitors. Of repeat visitors, 77 percent rated their experience as excellent, compared to 83 percent of first-time visitors.

Experience varied slightly by park activity. All (100 percent) climbers surveyed rated their experience as excellent or good, compared to 99 percent of hikers, 96 percent of picnickers, and 93 percent of sightseers. A higher percentage of picnickers rated their experience as good rather than excellent compared to other activity participants.

The arrival experience of waiting in line, potentially parking away from the desired location, and navigating the busy roadway can be a frustrating way to begin a visitor's day at the Park. Visitors rate their experience accessing the park lower than overall park experience, but responses were still fairly positive. Approximately 75 percent of ECSP visitors on weekend days rated their accessing experience as good or excellent. Comparatively, 87 percent of weekday ECSP visitors rated their accessing experience as good or excellent. On one of the weekend days when visitors were surveyed, only 22 percent rated their accessing experience as excellent, compared to 66 percent on the weekday. Finally, in responding to the survey, many climbers expressed strong awareness of the access issues and were very interested in the Management Plan process.

On weekends, 5 percent of visitors said crowding at their activity was an issue, while an additional 24 percent said their activity was crowded but the crowding did not detract from their experience.

Hiking trail capacity is subjective, and determining factors include trail character, desired experience, and setting. Visitors' experience and sense of trail crowding is often influenced by the regional context and other recent hiking experiences. Of all the activity participants surveyed at ECSP, hikers were the least likely to state that their activity felt crowded. These survey responses suggest that the ECSP hiking trails are not at their capacity, from the user experience perspective, and could accommodate additional hikers before significantly degrading the user experience.

Feelings of crowding were most prevalent amongst picnickers and climbers at Redgarden and Bastille crags (which are very accessible and have some of the "easier" routes).

Eldorado Canyon has over a thousand climbing routes, but rock climbers tend to congregate on the few most accessible crags. Climbers tend to have a very positive experience at ECSP, but many noted the crowding issues on those few crags. Like hiking, climbing capacity is also subjective, although safety can be an important factor. Overall, the climbing opportunities may not be at capacity, but the survey results suggest that certain crags are approaching their capacity. Likely, use will continue to be concentrated on those crags in the future and continued monitoring and strategies to support safer climbing in crowded conditions may be necessary.

The ECSP picnic sites are a popular destination for large groups. The picnic areas see limited turnover, as length of stay is long, and the demand is concentrated in the middle day. Of activity participants surveyed at ECSP, picnickers were most likely to say their experience of crowding was an issue. Given the concentration of demand during the middle of the day and

other factors, the picnic area may be close to its capacity during those times on summer weekend days and holidays.

Visitation Capacity

Visitor capacity, as considered by CPW and established by the federal Interagency Visitor Use Management Council, is defined as:

"A component of visitor use management, visitor capacity is the maximum amounts and types of visitor use that an area can accommodate while achieving and maintaining desired resource conditions and visitor experiences consistent with the purposes for which the area was established."

An annual capacity figure was not determined because of the intrinsic nature of park visitation, with busier and less busy days: it is not reasonable to expect the Park could achieve its capacity each day, nor should it, as slower days provide a different visitor experience, allow park staff to address maintenance projects and other needs, and help maintain park resources.

As mentioned earlier, the number of parking spaces does currently limit the number of visitors at the Park at any given time. In addition, CPW cannot enforce an exact number of visitors due to multiple entrances, varying number of people per vehicle, etc. CPW may work towards setting a daily capacity figure as new strategies to limit the number of vehicles attempting to access the Park are implemented so that the number of visitors does not continue to grow.

Chapter 6 outlines the management strategies intended to relieve the pressure and impacts that increased visitation places on the Park, the visitor experience, and the surrounding environs.

5.0 MANAGEMENT ZONES

CPW's park management zoning scheme (Table 12) provides a framework for identifying suitable types of facilities and land uses along with the suggested visitor experience and management focus. The zone types are used across the state park system, but zoning for each park is done at the park scale. This allows for the individual parks to protect their most significant resources and provide unique visitor experiences. Zoning is based on "desired future conditions" (see Chapter 1), i.e., beyond the timeframe of this Plan, what should the park resources, management focus, and visitor experience be in the future? Any zone can incorporate seasonal closures or other temporal needs. Seasonal closures occur at ECSP to protect nesting raptors.

ECSP staff expertise and the various maps in Chapter 3 (ex., condition and location of natural resources, existing infrastructure, and recreation opportunities) were used to determine appropriate management zones (Map 12).

Key considerations taken into account during the park management zoning process for ECSP include:

- Stewardship Plan baseline data including vegetation condition, ecological sensitivity, and location of rare species.
- Protection of riparian areas (interface between land and water bodies) as important corridors for wildlife movement.
- Maintaining good and excellent condition of vegetation.
    - Protect rare plants and plant communities.
    - It takes significant staff resources to maintain good and excellent condition of most vegetative communities.
- Use seasonal closures to minimize disturbance to nesting raptors.
    - Consider future seasonal closures during active rattlesnake months as these are the highest number of "negative" human-wildlife encounters with a safety concern. Staff currently puts out signs when rattlesnakes are active to discourage use of the area (ex., east side of Bastille). The same efforts are made for mountain lion and bear activity.
- Maintain "open space" character of Crescent Meadows.
    - No further amenities or development currently planned for this parcel.
    - Unique experience in ECSP to be on a trail further away from main developed areas.
- Opportunities for engaging with visitors.
    - Historic structures.
    - Fowler Trailhead.
        - Fowler Trail to remain accessible to ADA standards.
- Climbing opportunities were zoned by a combination of "popularity," location relative to sensitive resources (ex., raptors, crumbly rock faces) and intensity of management needs
    - Intensity of use for some climbing access and routes varies seasonally.

Table 12. Management Zone Classification Scheme and Characteristics.

Zone Classification	Visitor Experience	Recreation Opportunities	Potential Facilities	Management Focus
Development	▪ High social interaction ▪ Low opportunity for solitude. ▪ Low opportunity for challenge.	▪ High-density recreation. ▪ Emphasis on providing opportunities that rely on motor vehicle access via roads, such as picnicking, and at some parks could include RV and tent camping, and potentially motorized uses in designated areas. ▪ Some fishing, boating, equestrian use, mountain biking, hiking, and watchable wildlife may occur in this zone.	▪ Typically parking areas, paved or high-use roads, utilities, group picnic areas, visitor services, restrooms, concessions, interpretive facilities, and developed camping areas at overnight parks. ▪ Less typically this could include marinas, motorized use areas, and dog off leash areas at some parks.	▪ Intense management needs. ▪ Manage to provide sustainable recreation and aesthetic qualities. ▪ Prevent weed spread, erosion, or other degradation. ▪ Intense fire prevention mitigation. ▪ Revegetate with natives where possible or with non-invasive landscaping.
Passive Recreation	▪ Moderate social interaction/low opportunity for solitude. ▪ Moderate degree of interaction with the natural environment. ▪ Moderate opportunity for challenge.	▪ Medium-density recreation. ▪ Emphasis on providing hiking, fishing, equestrian use, mountain biking and other dispersed recreation. ▪ Some picnicking or backcountry camping, canoeing and other non-motorized boating, watchable wildlife. Interpretive opportunities are likely to occur in this zone.	▪ Typically trails and interpretive facilities and individual picnic areas. ▪ Less typically this could include dirt roads or light use roads, limited motorized uses (in larger parks only), hike-in campgrounds, or yurts. ▪ Minimize utilities to the extent possible.	▪ Moderate to high management needs. ▪ Manage to maintain the natural character and provide sustainable recreation. ▪ Actively manage weeds in order to eradicate or suppress, and prevent erosion or other degradation. ▪ High level of fire prevention. ▪ Revegetate with native species.

Natural	▪ Low social interaction/moderate opportunity for solitude. ▪ High degree of interaction with the natural environment. ▪ Moderate to high opportunity for challenge.	▪ Medium- to low-density recreation. ▪ Emphasis on providing low impact, non-motorized and dispersed recreation. ▪ All recreation opportunities in the Passive Recreation Zone are likely to occur here with the exception that there be more of an emphasis on providing non-motorized dispersed recreation. ▪ Hunting also permissible at some parks.	▪ Primarily trails and some interpretive facilities. ▪ Minimize utilities to the extent possible.	▪ Moderate to low management needs. ▪ Manage to maintain the natural character, the native flora, the wildlife habitat, and the ecological functions. ▪ Actively manage weeds for eradication, prevent erosion or other degradation. ▪ Moderate to high level of fire prevention ▪ Revegetate with native species.
Protection	▪ Typically unmodified natural environment.	▪ None, or heavily restricted.	▪ None.	▪ Least intense management needs. ▪ Preservation of very sensitive resources or restriction of visitor use for legal or safety reasons.

Description of Management Zones

In general, there is a desire not to divide the Park up into many small pieces but ensure the key areas are zoned appropriately. Most of the Park (92 percent) is classified as *Protection* or *Natural*, which reflects the unique features and recreation opportunities found at ECSP.

Key features and descriptions of ECSP zones include:

Development (17.6 acres)

The Inner Canyon's Development Zone is primarily along the park road, where most park facilities and infrastructure are concentrated to provide access and minimize disturbance to other areas of the Park. This zone includes the existing facilities and infrastructure (excluding trails and climbing routes):

- Road
- Visitor Center
- Picnic Areas
- Entrance station
- Parking Areas

- Railroads
- Dam Structure

The parking area at Crescent Meadows and limited access to the Jefferson County parcel are also designated as "development."

Passive Recreation (101.3 acres)

The climbing area on the north side of South Boulder Creek has been zoned "passive" due to the substantial resources required for some climbing areas and emergency access. This area requires the "moderate to high management focus" of this zone type.

Each trail route, with an 8 meter buffer, is zoned as passive. This buffer accounts for recreation impacts to the surrounding area.

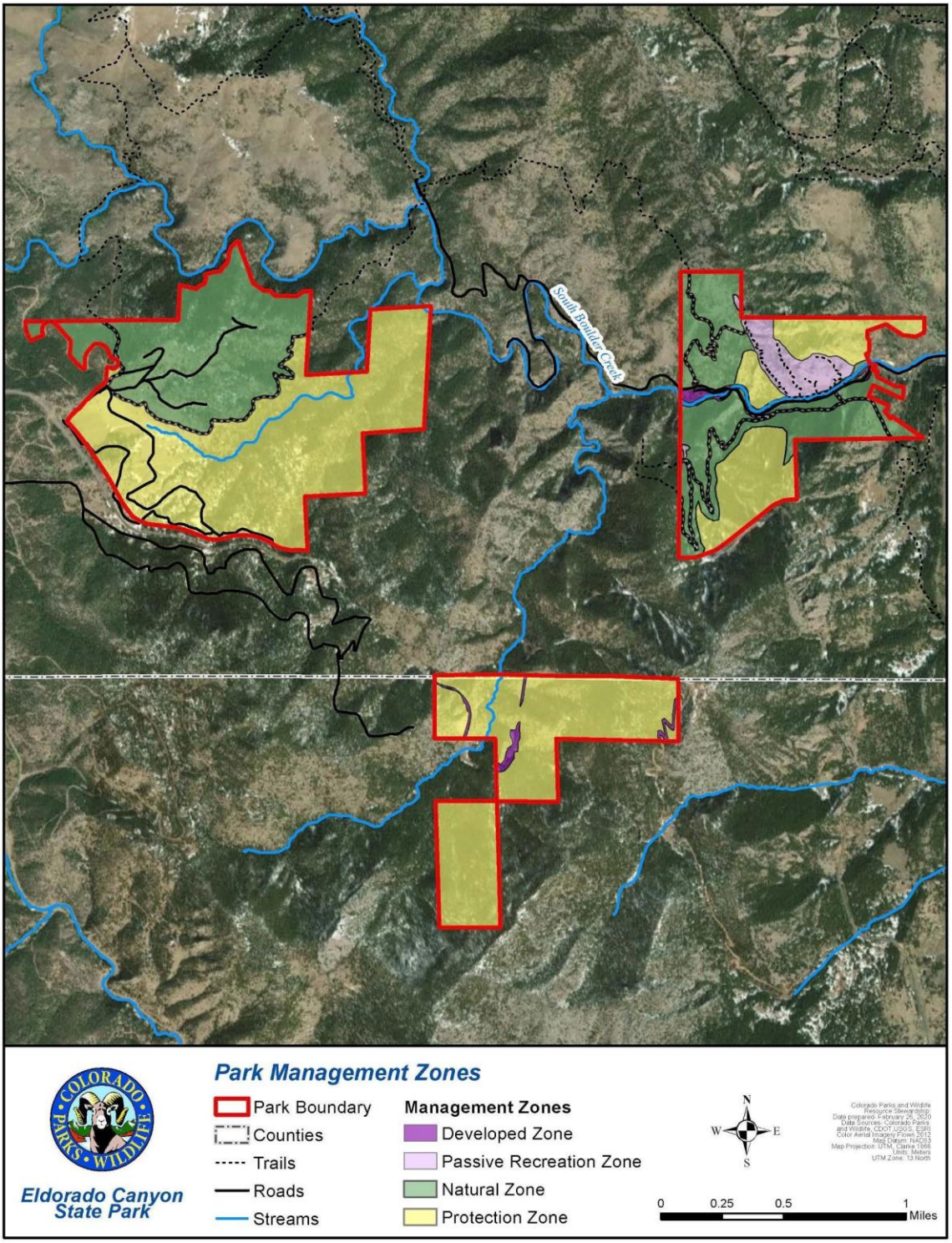
- Despite the Park's high visitation, there are sections of ECSP's longer trails with relatively few people. Preserving this opportunity (i.e., solitude on trails so close to Denver and Boulder) supports the Park's goals to optimize the Park's unique character and provide outdoor experiences that promote mental well-being.
- The ruins of the Crag Hotel are included in this zone to allow the Rattlesnake Gulch Trail's 50,000 annual visitors to examine the ruins.
- In Crescent Meadows only the trail corridor and one small climbing area is considered passive.

Natural (429.9 acres)

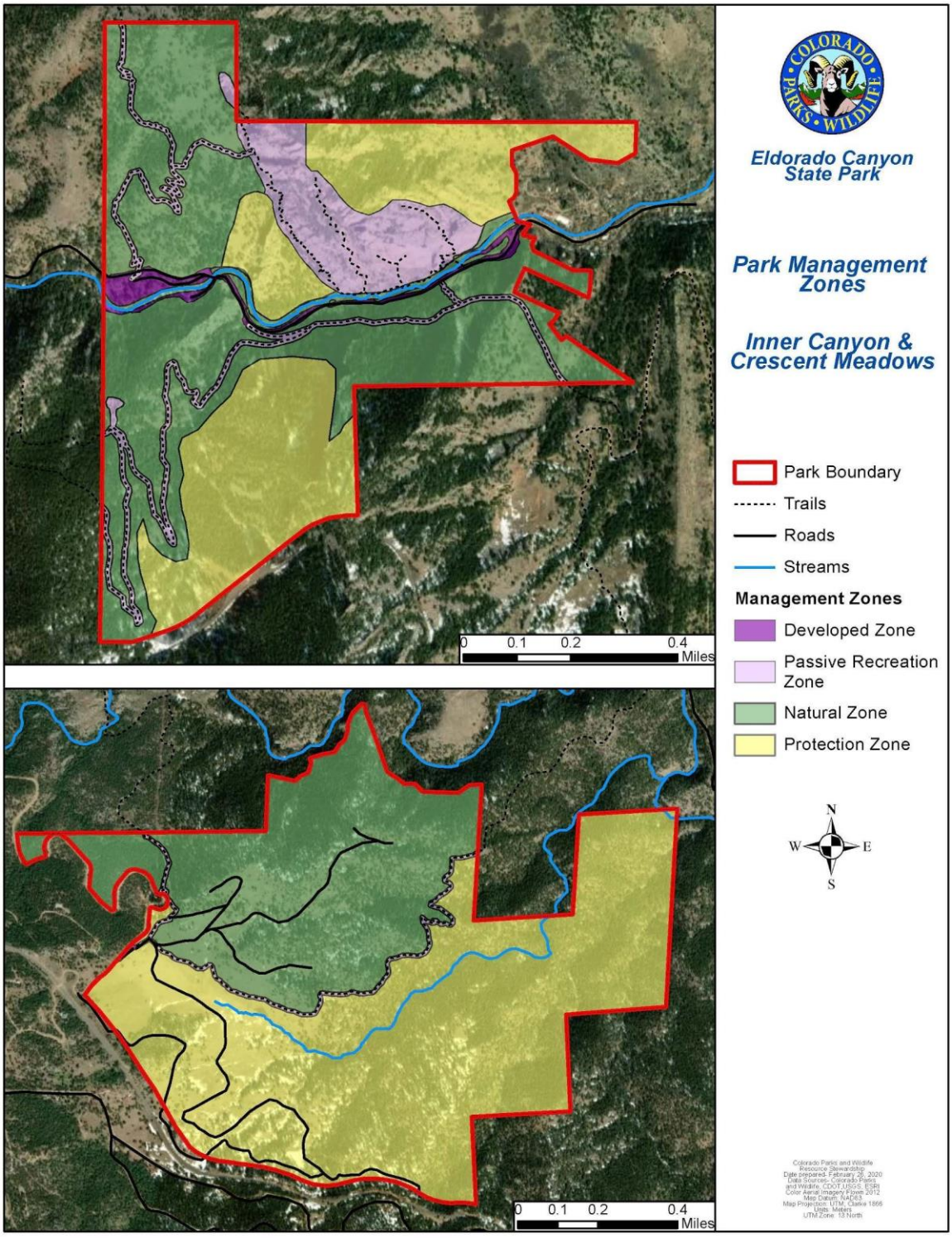
- Inner Canyon
    - The northwest section of this parcel has climbing routes with lower visitor use that are more challenging and with crumbly walls. The area beyond these routes to the Park's boundary with private property is not accessible and there are no plans to add any routes in this area. Raptors also use this area for nesting.
    - This zone also includes some areas that have a few social trails and where visitors may be present.
    - South Boulder Creek has been zoned "natural" with a 20 meter buffer to reflect how the creek itself is managed. Due to existing recreation within the buffer, the creek is not zoned "protection" but protecting the creek is a high priority. A rare plant (Sprengel's sedge) has been documented along the creek. The associated recreation areas are in other zones (e.g., picnic areas are "development").
- Crescent Meadows
    - The northern portion of this parcel is zoned natural. There are scenic views and an opportunity for solitude in this section of this parcel.
    - The terrain in this area can be challenging therefore limiting expectations of increasing visitation.
    - Mule deer winter concentration area is present in the north half of the parcel.

Protection (844.1 acres)

- Jefferson County parcel — CLOSED to public access
    - Except for a private road, only railroad and park staff access this area.
    - There are no current plans to allow access or provide recreation opportunities in this parcel. Any change to management of this area would warrant an update to this Plan.
    - This parcel is surrounded by dense private forest and Boulder County Open Space. While wildfire remains a concern, fuels mitigation is a relatively low priority given the access and slope limitations in the area, coupled with the extremely low density of surrounding development and lack of park visitor use.
- Crescent Meadows
    - All portions of the parcel south of the trail is zoned "protection."
    - There is habitat suitable for Preble's jumping mouse (federally threatened).
    - This area is in severe winter range for elk.
    - There are wetlands present that are important wildlife habitat and could provide habitat for the rare species, northern leopard frog.
    - There are sensitive cultural resources in this area.
    - Hunting is allowed but only with primitive weapons.
- Inner Canyon:
    - Areas of this parcel near and at the top of the canyon walls where there will not be trails, climbing access, or climbing routes are zoned "protection."
    - These areas are talus fields and have significant rockfall safety concerns.
    - Rock outcrops provide potential nesting substrates for raptors.



Map 12. ECSP Management Zones.



Map 13. Inner Canyon and Crescent Meadows Management Zones.

6.0 MANAGEMENT STRATEGIES

This chapter highlights management strategies needed to meet Park Goals and bring about the Desired Future Conditions outlined in this Plan. The implementation of strategies presented is contingent on the Park securing adequate financial and human resources, and must be considered or weighed within the context of other CPW-wide priorities.

Visitor Use Management (VUM) refers to an iterative process used to address the complexities of management of visitor access, use, and experience while protecting the Park's resources. Earlier sections of this Plan outline ECSP's visitation trends, visitor behavior, impacts to the resources and visitor experiences, as well as analyze the underlying causes of these trends and impacts. In addition, the Interagency Team, Task Force, and public provided valuable guidance for developing focus areas and strategies.

Due to the dynamic nature of visitor behavior, recreation trends, population trends, natural disasters (i.e., fire, flood, drought), and other changing conditions, the Plan addresses the current state of ECSP and the information available to address the Park's resource needs. Nationally, increasing visitation to parks is placing additional pressure on many parks' resources. As CPW, partner agencies and others continue to improve VUM, capacity standards and best management practices, CPW will update management planning efforts at ECSP.

During the planning process, CPW confirmed that for staff, visitors, and neighbors, the "status quo" is not sufficient to meet the park resource condition and management goals. In order to (1) maintain a quality visitor experience, (2) avoid surpassing CPW's ability to maintain the high-quality resource conditions in the Park, and (3) improve working conditions for staff and volunteers, strategies in the following focus areas are being considered for implementation.

These focus areas are divided into six categories: 6.1. Health, Safety, and Staffing; 6.2. Natural and Cultural Resource Protection; 6.3. Communication; 6.4. Access and Parking; 6.5 Trails and Picnic Area; and 6.6. Other Facilities and Infrastructure. Some of these strategies will be implemented immediately, some will be phased in over the next few years, and others are not anticipated to be implemented for 5 to 10 years or more.

Implementation of each strategy will take time and planning, as well as require flexibility and adaptation as they are rolled out. It will be difficult to develop or fully assess future actions until the impact of near-term actions and changes in visitor behavior and trends can be observed. Incremental changes, with intent of long-term beneficial cumulative impacts, are to be expected.

A note on implementation and COVID-19: CPW intended to gather public input on a draft of this plan in Spring 2020. This was delayed due to the global pandemic. With limitations on travel, schools, work, and other activities coupled with strong support from Governor Polis for outdoor recreation and our State Parks there were sharp increases in visitation starting in March 2020. To address this reality and prepare for summer visitation, CPW piloted some of these management strategies prior to input on and completion of this plan.

6.1 Health, Safety & Staffing

CPW provides safe, healthy, accessible facilities, and infrastructure to visitors and staff. Safety is a top priority and a critical factor in all current and future park operations. Key requirements include (1) relieve staff stress and reduce human resource allocations through reduced complaints from visitors and reduced visitation pressure during peak use and (2) provide visitors with consistent education, emergency assistance, enforcement, maintenance of facilities, roads, trails, and environmental protection.

***Need**: Upgrade and add restroom facilities in high use areas.*

> ***Strategy***: Add restroom facilities at South picnic, Fowler Trail, and main lot.
>
> ***Strategy:*** Upgrade existing restroom facilities in the Park as dictated by visitor use.

***Need**: Reduce risk of wildfire.*

During times of high fire risk, CPW will reduce potential for fire in the Park by managing visitors use of fire and establishing procedures for staff to ensure the picnic area is safe to close each evening.

> ***Strategy:*** Implement park-specific fire restrictions, such as closure of the picnic area one hour prior to park closure or complete ban of fire in the picnic area.

***Need**: Increase number of staff*

With the existing levels of park visitation and access issues, the Park's staff resources are heavily taxed. Consistent staff presence at the park entrance, Visitor Center, on trails, and at Crescent Meadows is needed throughout the year to meet the management goals of this Plan. Additional staff could help increase outreach to visitors regarding trail etiquette and park use, efforts to protect natural resources and support maintenance of trails and facilities.

> ***Strategy:*** Identify the number and type of employees needed to implement this Plan and sustain operations for the next decade. Reevaluate this staffing plan annually as implementation of strategies progress and needs shift.
>
> ***Strategy***: Identify gaps between existing and required staffing for requesting allocation of funds in each budget cycle.

***Need**: Increase community engagement*

Collaborative projects and volunteers can support critical park operations and cultivate stewardship of the Park by addressing issues like reducing traffic and dust on the road, maintaining trails and climbing routes, protecting natural resources, increasing environmental education, and more.

> ***Strategy:*** CPW staff continues to host and attend local meetings of Park neighbors to work collaboratively to find solutions that benefit the Park, residents, and businesses.
>
> ***Strategy:*** Staff and volunteers work to foster the development and retention of volunteers, trail crews, climbing groups, and others to support the long-term vision for the Park.

6.2 Natural & Cultural Resource Protection

Protection of natural and cultural resources is in the mission of CPW, required by law, and a critical component of managing Colorado State Parks. See Chapter 3 and Appendix D for inventory and condition of the Park's resources.

***Need**: Implement existing resource management plans.*

Not all resource protection is related to "visitor use management" and it can be difficult to tie visitor use directly to the condition of natural resources (e.g., invasive species may be spread by visitors or through natural disturbances, such as flood). Thus it will be important to fully implement recommendations from ECSP's Resource Stewardship, Forest Management, and Invasive Weed Management Plans. Some of the key strategies to address impacts of and to visitors include:

> ***Strategy:*** Reduce/eliminate invasive plant and animal species. Revegetate using park specific seed mix.
>
> ***Strategy:*** Mitigate wildfire risk and maintain or improve forest health through management of forested areas of the Park.
>
> ***Strategy:*** Mitigate stream erosion issues along South Boulder Creek to reduce significant bank cutting, vegetation loss, and siltation of the stream.
>
> ***Strategy:*** Mitigate soil compaction in high use areas like the Picnic Area via plantings and installation of barriers.
>
> ***Strategy:*** Maintain the scenic and natural character of Crescent Meadows through removal of nonnative grass, restore meadows to native prairie, protect and restore wetland and riparian habitats, and reduce social trails.
>
> ***Strategy:*** Address critical rockfall hazards near the main road (the exposure of large boulders increased along the stream channel after the 2015 flood).
>
> ***Strategy:*** Manage use of recreation resources to protect natural resources (see Chapter 5: Management Zones and Section 6.5 below).
>
> ***Strategy:*** Limit public access to cultural and paleontological resources to preserve historic artifacts.
>
> ***Strategy:** Where appropriate, u*tilize visually appropriate fencing and signage to inform visitors of safety issues associated with historic structures and promote cultural resource appreciation.

Figure 10. Crags Hotel ruins on Rattlesnake Trail December 2020. Visitors enjoy the view and exploring this area. Updated signs and possibly a "virtual tour" (this is one of the few spots in the Park with strong cell signal) would help promote the uniqueness of this site and encourage protection of structures that have been standing for over a century.

***Need**: Continue to build a comprehensive knowledge base and an understanding of the nature, extent, and condition of ECSP's natural and cultural resources.*

Monitoring to establish trends in natural resource conditions requires building a robust data set. Biological inventory data from resource management plans serves as a tool for baseline inventory for monitoring changes over time. Some of the strategies to evaluate condition of resources over time include:

> ***Strategy**:* Revisit established vegetation condition monitoring points every 5 years.
>
> ***Strategy**:* Identify new wildlife and/or geophysical monitoring points as needed.
>
> ***Strategy**:* Conduct migratory and breeding bird surveys at established monitoring points every 5 years
>
> ***Strategy**:* Survey, inventory, and assess cultural sites for additional information and to contribute to statewide cultural resource inventory efforts.

***Need**: Protect the Crescent Meadows parcel.*

The area north of the main trail experiences ongoing resource damage from social trails, unauthorized tree-cutting, and other changes to the area. Increased use has also resulted in cars parked along the road causing safety concerns. There is also increased potential for additional resource damage with more users accessing the area than is intended through parking lot capacity.

> ***Strategy**:* Institute a "no off-trail policy" for the entire parcel. Hunters and climber access to "freight train" boulders are excluded.
>
> ***Strategy**:* Formalize parts of the social trails to allow for some hiker use in this area.
>
> ***Strategy**:* Redesign (but not enlarge) the parking area to allow for maximum use and work with Denver Water and Boulder County to address parking on the road.
>
> ***Strategy**:* Add trail counters to track visitation in addition to vehicles tracked by a car counter.
>
> ***Strategy**:* Have temporary rangers patrol more often in busiest seasons.

6.3 Communication (Outreach, Marketing, Environmental Education and Interpretation)

Communication and education are essential to CPW's mission and successful implementation of this Plan. Strategic communication planning with further development of audiences, messages, and tools will be part of planning most management strategies. Other key needs include:

***Need**: Convenient information for trip planning and improved arrival experience.*

> ***Strategy**:* Establish and maintain regular hours of operation for the entrance gate and Visitor Center to provide consistent customer service.
>
> ***Strategy**:* Use existing and emerging technology (ex., apps that track visitation trends, variable road signs) and keep website/social media up to date.
>
> ***Strategy**:* Develop and use consistent and inclusive messages related to:
>
> - Best times to visit
> - How to get to the Park
> - Where to park
> - Where not to park
> - What to do if the Park is full (i.e., don't drive through Eldorado Springs if website/apps/signage indicate the Park is full)
> - Recreation opportunities
> - Non-motorized/alternative means of accessing the Park

***Need**: Increase face-to-face interactions between visitors and CPW staff beyond the entrance station.*

> ***Strategy**:* Continue the "roving naturalist" program and other informal programming, especially at Fowler Trailhead where many new visitors spend time.
>
> ***Strategy**:* Provide information on Park use and etiquette at popular trailheads, the picnic area, and staging areas for rock climbing.

***Need**: Maintain and develop new wayfinding, regulatory, and interpretive signage.*

> ***Strategy**:* Use consistent interpretive themes and messages (see Chapter 3) in programs and on signage.
>
> ***Strategy**:* Update Visitor Center signage and displays as needed.
>
> ***Strategy**:* Add signage directing visitors to the Visitor Center from the Streamside Trail.
>
> ***Strategy**:* Add responsible recreation (e.g., "Leave No Trace") messaging to encourage low impact behaviors such as picking up trash and staying on the trail.
>
> ***Strategy**:* Add signage regarding proper etiquette for road/trail right-of-way.

***Need**: Strengthen and maintain partnerships.*

> ***Strategy**:* Continue coordinated management with neighboring public lands as well as fire and safety agencies.

Strategy: Foster collaboration with town/private neighbors, local businesses, conservation, and recreation organizations.

Strategy: Learn from and contribute to VUM case studies and lessons learned from implementation of strategies.

6.4 Access and Parking

Management strategies related to access and parking are considered high priorities in order to address the impacts of growing visitation and to ensure other strategies are successful. For example, providing accessible trip planning information, creating a positive "sense of arrival," and dispersing visitation will allow for resource protection, ongoing recreation opportunities, and increased education programs. "Dispersed visitation" refers to managing visitation levels to lower visitation during peak season/days, preserving periods of lower visitation (e.g., winter months or spring/fall weekdays), and providing equitable access opportunities for all visitors.

Due to the high priority of these strategies, this section discusses potential benefits and concerns along with the requirements and challenges for implementation. Feedback on the effectiveness of these strategies will be essential. Gathering relevant information can be labor and cost prohibitive, but the indicators considered below are intended to measure impacts in a manner consistent with park operations. Identification of indicators, tools to collect data, and other planning efforts will occur prior to implementation of each management strategy.

Need: *Trip planning.*

Strategy: Parking Data Collection Tool.

Parking data collection tools (i.e., website or smartphone applications) provide potential visitors with real time information on available parking and share general patterns (e.g., when does the parking typically fill up on a weekend morning). The use of a parking data collection tool will promote the importance of trip planning and checking available resources, potentially discourage visitors from driving to the Park at peak times, and ultimately reduce allocation of staff resources to monitor parking spot availability. However, there would need to be widespread communication about the tool. Once visitors become aware of this resource they may begin to understand a visit to ECSP requires planning ahead.

Indicators of success include increases throughout busy seasons and annually in (1) awareness of the tools, (2) website views/downloads of application, and (3) number of visitors stating this tool influenced their trip planning and timing of visit.

Strategy: Strategic communication.

Information about accessing the Park must be consistent, reach a wide audience, and incorporate a variety of tools. This may include outreach through CPW's website, email lists, social media, press releases, variable electronic signs on Highways 93 and 170, brochures, flyer handouts, and new wayfinding signs. See Section 6.3 for more.

Strategy: Reservations.

This strategy intends to provide visitors with "guaranteed access" to the Park, disperse users across the day, and limit vehicles driving up Eldorado Canyon. Following industry standards and ECSP's general patterns of parking turnover and duration of visits, the number of reservations would allow for visitation around 80 percent of parking capacity to ensure all those with reservations throughout the day can enter the Park. In addition, reservations may be for the peak visitation days (summer weekends and holidays), for windows of entry (ex., a reservation is for entry anytime during a set two-hour time block) but without limits on visit length, and staggered to allow for both visits planned well in advance and some spur-of-the moment visits.

Reservations will be piloted as soon as it is feasible to do so. CPW is working with the company managing the agency's licenses and passes to build a reservation system for park entry. This is a significant change to park access that would require a comprehensive communication plan to assist visitors with significant advance planning, limit the number of folks without reservations from driving all the way to the Park, dissuade parking in town, and more.

Adaptive management would be a key component of this strategy with changes being made based on visitation patterns, demand, and initial performance. For example, if the reservation system is only in place on weekends, other days of the week may become very popular and develop parking and access issues. The reservation system may then need to be expanded to other days and times.

The indicators of success of the reservation system are a measurable decrease in the number of vehicles driving up the canyon, fewer cars turned away for not having a reservation, and more dispersed use through the day and week. These counts are partially a reflection of the efficacy of the communication plan, and the Park should aim to decrease the number of visits over the busy season and annually, while increasing the percentage of available reservation slots used.

Strategy: Special Use Permits.

Special Use Permits are given to rock climbing guides and educators and companies that wish to operate in the Park on a continual basis throughout the year. In 2019, the Park issued 16 permits for commercial operations in the Park. These guided trips provide a valuable opportunity for visitors to experience the Park in a unique way. CPW may need to limit the number of these agreements and/or when they can be used during busy seasons. CPW will work with permit holders to seek appropriate limitations that benefit the guides, visitors, and the Park.

***Need**: Transportation to/from the Park without personal vehicles.*

A shuttle creates a way of accessing the Park without a personal vehicle and increases equity for people without cars. A shuttle service can operate in conjunction with existing public transportation by utilizing stops that are accessible via walking, local buses, or personal cars. The shuttle is not intended to increase the number of people or vehicles coming to the Park. The Park can limit the number of available parking spaces while the shuttle is running and when ridership increases additional spaces can be blocked. To limit exacerbating congestion issues the shuttle will only stop at the main bathrooms just inside the entrance and at the Visitor Center (exceptions will be made for riders needing access to Fowler trailhead, which is ADA accessible). Shuttle use may be challenging for those with equipment (i.e., climbing

equipment or picnicking supplies). Challenges to successful implementation include incentivizing use and generating public awareness of the service.

A pilot visitor shuttle service was implemented in the summer of 2020. Boulder County funded and managed the pilot service with 15-passenger vans running from various stops in Boulder to the Park on weekends and holidays from July 4th to Labor Day weekend. There were 22 days of service and due to the pandemic maximum capacity was reduced to no more than 10 people per van with further restrictions depending on whether riders were in family groups or not. There was an average of 38 people per day and nearly 1800 riders overall. Dogs, wheelchairs, and bikes were brought on board. In a brief survey over the final weekend of service, 24 respondents indicated that they were primarily hiking, found out about the shuttle via websites and social media, traveled to the shuttle stop via personal car, and were very satisfied with the shuttle service (i.e., information available, frequency of service, hours of operation, trip time to the Park, shuttle parking locations, safety procedures, friendliness of drivers and staff, and overall experience). As the shuttle season progressed, Boulder County Sheriff reported a decrease in complaints from residents regarding visitors parking along 170 east of Eldorado Springs. This pilot effort may be repeated in 2021.

Figure 6. Advertisement for the 2020 shuttle from Boulder Convention and Visitors Bureau website.

Strategy: Future Shuttle.

Future plans for a shuttle service would need to be more robust based on information gathered from the planning process and initial findings from the pilot year. Needs are likely to include (1) finding a long-term concessionaire to continue the service; (2) adding Denver-area stops (over half of Park weekend visitors are coming from the Denver Metropolitan Area); (3) further restrictions on personal vehicle access to the Park while the shuttle is running; and (4) resolving fees and additional accommodations, such as room for equipment (ex., bike racks). An expanded shuttle service could have a larger impact on Park visitation than the pilot program arrangement.

Need: *Site management*.

Strategy: Parking spot delineation.

The Park will better delineate parking spots to ensure that all spaces can be utilized. At present, the parking spots are not well delineated and some visitors park across two spots, reducing parking capacity. Park staff are often spending time counting remaining usable spots and helping visitors park appropriately. Spot delineation would include lining the spots and putting in wheel stops, requiring upfront labor to mark the

spots (and possible repeat efforts over the summer) and some cost. In the future, the Park could consider paving parking areas to make lines permanent.

The indicators of the success of the parking spot delineation would be staff spot checks on whether all parking spaces are or can be utilized and qualitative observations and conversations with staff.

Strategy: Entrance station redesign.

The entrance station area is slated for a redesign in spring of 2021. At present, there is a five-vehicle storage capacity leading up to the entrance station and all vehicles (including Kneale Road residents, emergency vehicles, park staff) must wait in the queue. The redesign relocates the station back into the Park to allow for an eight-vehicle queue and creates a bypass lane for Kneale Road residents, park staff, shuttle buses, and emergency personnel. The new entrance redesign includes a barrier gate arm and provides space for vehicles to be turned around in front of the entrance station when the Park is full without the need for staff to direct cars. There will be safer pathways and self-serve kiosks for visitors walking or biking into the Park. A few additional parking spaces will be added for staff use. The redesign will also add a fully functioning office to allow gate staff to support other park operations. While the funding has been secured for this project, the short-term challenge will be to facilitate access to the Park during construction.

The indicator of success of the entrance station redesign would be conversations with emergency services providers, Kneale Road residents, and staff to understand the effectiveness of the bypass lane. The length of the queue, and how frequently it exceeds its new capacity, should be observed, but cannot be understood in isolation from the other strategies.

6.4.1 Indicators of Success (Outcomes)

Meaningful indicators were identified based on what seemed feasible for the Park to achieve and measure, on planning team and park staff experience, expertise from other agencies with similar issues, data on existing conditions, and scoping of public preferences. CPW will be looking for trends that show increasing progress over time. The National Park Service's Congestion Management Toolkit encourages setting realistic expectations of the amount of "shift" in visitor use patterns. Many of the strategies under consideration can be expected to result in modest (5-15 percent) shifts, however, the use of multiple strategies may increase these percentages.

While each strategy may have its own indicators, in combination the strategies are intended to encourage people to plan ahead and be aware of the parking and access issues at the Park, and to reduce the number vehicles driving up the canyon at peak times.

Some of the indicators expected to have 5-15 percent shifts may include:

- *Reduce amount of staff time allocated to serve as parking attendants on high visitation days.*
- *Reduce the number of days when cars are turned around (not allowed entry due to parking capacity) for several hours.* In 2019, cars were turned around on approximately 15 days.

- *Reduce the number of vehicles passing through town that are heading to the Park but do not gain entry.*
- *Reduce wait time at entrance station.* Vehicle service time at the entrance station already averages under a minute with many under 30 seconds. The average wait times cannot be reduced much further but the entrance station redesign and strategies to reduce the number of vehicles attempting entry may improve wait time, especially for staff, Kneale Road residents, and services for these residents.
- *Disperse visitation.* Dispersing park visitation supports easier access to the Park at peak times, without diminishing the revenue generated or increasing total annual visitation. CPW can measure success by the percentage of visitation that occurs on weekends vs. weekdays and percentage of post-2 p.m. arrivals. At present, weekday visitation represents 53 percent of total visitation. At present, 39 percent of weekend park vehicles arrive after 2 p.m.
- *Increase awareness and use of advanced planning tools.* Visits to specific webpages and downloads of planning tools are indicators of effectiveness of communications. Awareness and use of these tools should increase over the course of the summer (ex., In the first year of implementation, 10 percent higher "Planning Your Visit" webpage hits in August vs. June weekend days), and each year. Number of reservation slots booked and shuttle (if implemented) ridership will increase at a faster rate than other indicators.
- *Maintain visitor satisfaction.* During the 2019 summer season, 97 percent of weekend visitors surveyed rated their experience as good/excellent. CPW will continue to provide a positive experience

Positive qualitative observations, awareness of planning tools, collaborative problem solving with partners, and other engagement with stakeholders will continue to provide valuable insights into the effectiveness of management strategies.

6.4.2 Assessment Tools

Assessments to evaluate strategy effectiveness may include: vehicle counts; vehicles turned around counts; visitor surveys; shuttle rider surveys; website viewing analysis; and staff, peer agency, and stakeholder discussions. CPW tracks visitation trends through sales of passes and counters at entrance gates. ECSP already has trail and vehicle counters. Some assessments may only be needed once or twice during a pilot phase while others should occur annually for several years.

Visitor surveys are cost and labor intensive. When possible they should be conducted on peak season weekends to measure awareness of planning tools, communications outreach, and overall park experience and other relevant factors depending on strategies implemented or soon to be implemented. CPW will continue to engage with Eldorado Springs community members, park staff, park visitors, and other key stakeholders to understand the effectiveness of strategies from those perspectives.

The efficacy of initial strategies does not necessarily indicate resolution of parking and access issues or the need to implement additional strategies. For example, it is possible that the first strategies to be implemented are successful but additional measures are needed to sufficiently mitigate the issues. Table 13 summarizes what CPW plans to implement initially (i.e., in the next few years).

Strategies	Indicators of Success	Outcomes for all strategies	Impacts of all strategies
Trip Planning		Reduced number of days cars are turned around Reduced number of vehicles passing through town Reduced entrance station wait time Dispersed Visitation Increased webpage/app hits and downloads Maintain high visitor satisfaction	Improved arrival experience Continued visitor satisfaction Protection for Natural and Cultural Resources Reduced frustration for neighbors, visitors and staff Progress in support of Park Goals and towards Desired Future Conditions
Parking Data Collection Tool	Awareness, Usage, Influence on Trip Planning		
Strategic Communications			
Reservations	Percentage of reservation slots used		
Shuttle (Pilot)	Ridership		
Site Management			
Parking spot delineation	Appropriate use of all parking spaces		
Entrance Station redesign	Wait time, access for emergencies and Kneale Rd residents		

Table 13. Summary of Parking and Access strategies to be implemented in the next few years.

6.5 Trails and Picnic Area

***Need**: Maintaining trail conditions.*

At present, the trails at the Park are in good condition. However, this requires significant maintenance and staff efforts especially with high park visitation and visitor behavior, such as meandering off trail.

> **Strategy:** Continue to conduct regular, general trail upgrades and invest in the maintenance of the system. Trail upgrades can include but are not limited to trail widening or narrowing, re-routing to improve sustainability and limit erosion, re-shaping the trail tread, and creating bridges, stone walls, and stone paving along trail

routes. These upgrades and maintenance efforts have the potential to limit erosion and lessen the impact of human use.

***Need**: A Trail Plan that supports visitation for the next 50 years and beyond.*

Strategy: Strategic trail planning should include mapping and assessment of the condition of existing trails, analyze annual maintenance to determine trail needs for upgrades, identify seasonal or other closures to protect wildlife, and closure of any social trails.

***Need**: The roadway serves a trail through the Park.*

At present, visitors parking near the entrance station or walking into the Park must walk along the roadway to reach upper park destinations such as the Fowler Trailhead or the Visitors Center. This is a safety concern and can result in congestion on the roadway where pedestrians and motorists are not separated.

Strategy: An extension of the Streamside Trail towards the Fowler trailhead and visitor center would move hikers and bikers off the roadway, improve public safety, decrease visitor conflict and improve access for search and rescue operations. However, the technical feasibility of building this route is unclear, and such a trail, if feasible, would be very expensive to construct. This extension may require revisiting management zones, considering an elevated (raised off the ground) option, and requirements to protect potential Preble's jumping mouse habitat. Unintended consequences for climbing access areas should also be considered as the trail extension may increase visitors venturing into the climbing access areas for side hikes. This could cause crowding and/or safety concerns on these can be steep and rugged routes.

***Need**: The picnic area is in high demand at peak times and the natural resources are damaged from use of this popular amenity.*

The designated picnic areas line South Boulder Creek and high use results in bank erosion and trash in the creek.

Strategy: The Park may add shelter/shade structures to improve the existing picnic sites and continue to monitor resource conditions around the picnic area.

Figure 7. Trash collected by ECSP staff from a quarter mile of South Boulder Creek in the picnic area, August 2019

Strategy: Picnic Reservations.

If overcrowding remains an issue at picnic areas, reservations for picnic areas could be implemented as an additional strategy in the future. This would assure people of a picnic spot, reduce the need for early arrivals to claim an area, and reduce crowding in the picnic area. Many picnickers do not frequently visit the Park, making awareness of reservations a challenge. In addition, they would need to be guaranteed parking as well. This could be accomplished through the reservation system or parking spaces delineated as picnicking only, with two per picnic table.

Potential ramifications of the picnic reservation system include people picnicking in non-designated areas and reducing the diverse base of picnickers. Considering both these ramifications, strengthening the communication efforts would be necessary, along with enforcement of picnicking in undesignated areas.

6.6 Other facilities and infrastructure

The following are additional needs to be considered over the coming years:

- Pave the sections of road at the Park office, the North/South picnic parking areas and possibly the entrance to upper main parking.
- Create a satellite office/shelter on Eldorado Trail and Rattlesnake Gulch.
    - These offices would be used to stage rangers closer to climbers and other park visitors and store emergency supplies. Rangers could interact with visitors more and be able to respond to safety/emergency situations faster.
- Upgrade maintenance garage and compound in order to better organize storage of equipment, vehicles, and supplies, as well as to add office space and affordable housing opportunities for staff not available in Boulder County.
- Continue interagency coordination along the Fowler Trail from the City of Boulder (in particular the section from the Eastern ECSP boundary to Eldorado Mountain road) in order to provide a consistent visitor experience on the trail in terms of rules and regulations, condition of trail, and opportunities to engage in interpretive programming.
- Consider renewing leases with the City of Boulder for the Rattlesnake Gulch Trail corridor and two climbing access areas prior to their expiration in 2026.
- Deploy cameras on Jefferson County parcel to study wildlife use of the area.

Strategies discussed but not recommended

The following strategies were discussed during the planning process but were ultimately not recommended for inclusion in this plan:

- Relocating the entrance station east of the canyon. This strategy was brought up as a way to process cars before the canyon and stop cars from driving up the canyon if the parking is full. However, this strategy was deemed not feasible due to cost and limited potential locations.
- Towing cars parked in town illegally. This strategy was brought up as a way to stop vehicles from parking illegally in town and walking into the Park. CPW does not have jurisdiction to be involved in towing on Eldorado Springs Drive.
- Allocating entrance by user type. This strategy was brought up as a way to distribute visitors to ensure that none of the activity facilities (picnic areas, hiking trails, climbing crags) exceed their capacity. This strategy was deemed inequitable and not feasible to enforce.
- Paving the entire road in the Park. This strategy was brought up as way to reduce the maintenance requirements on the Park road and create a smoother driving experience. The implementation of this strategy would change the character of the Park and likely encourage drivers to go at higher speeds, making the road situation more dangerous.
- Changing ECSP entrance fees. Several strategies were brought up by the public related to both increasing and decreasing entrance fees. CPW manages a statewide system of parks and entrance fees are critical to supporting the system. The Parks and Wildlife Commission has the authority to review and adjust park pass fees annually but must adhere to certain statutory requirements. *Note: There is more flexibility when considering other fees (ex., shuttle or reservation). Also, in 2021 CPW began a statewide policy of allowing annual pass holders to carry their annual pass receipt, which allows up to 4 people access in lieu of the $4 Individual Daily Pass Charge.*