Geoparks Recommendation Letter
Florissant Fossil Beds National Monument
Elizabeth Waite

This document, created by a National Park Service (NPS) volunteer, was made possible by the Geoscientists-In-the-Parks (GIP) Program and its partners. Documents created through the GIP Program are intended to address a variety of park-identified needs including: resource management, education and outreach, interpretation, inventory and monitoring, and research. GIP products are generally not peer-reviewed. Quality may vary significantly, and the product may not be finalized. Specific information may have been redacted in the document to protect proprietary information regarding cultural and paleontological sites, and threatened and endangered species locations.

Views and conclusions expressed in this document are those of the author(s) and do not necessarily reflect the views or policies of the National Park Service, The NPS-Geologic Resources Division, and its partners. Mention of trade names or commercial products does not constitute endorsement or recommendation for use by the National Park Service.

Documents and related materials are filed with the National Park Service-Geologic Resources Division, and with Florissant Fossil Beds National Monument. Contact Florissant Fossil Beds National Monument for additional information. Cite this document as:

> Waite, Elizabeth. Geoparks Recommendation Letter. Geoscientists-In-the-Parks document, 2010-FLFO. National Park Service, Denver, Colorado.

Please be aware that products produced under the GIP Program do not authorize the collection of, or damage to park resources. The NPS specifically prohibits the damaging or collecting of natural, cultural, and archeological resources on federal lands under 36 CFR §2.1.

August 13, 2010

United States National Committee for Geoparks
U.S. National Commission for UNESCO
State Bureau of International Organizations
2121 Virginia Avenue, NW, Suite 6200
Washington, DC 20037

Dear Wesley Hill or US National Committee Member:

The Gold Belt Tour Scenic and Historic Byways Association would like to state its interest in nominating the following sites and geographical area in South-central Colorado to be a United States Geopark and is requesting an invitation to submit a full formal application to UNESCO at the appropriate time in the future. Sites included in the attached Geopark Letter of Intent to Apply include:

- Florissant Fossil Beds National Monument
- Four Mile Scenic Park
- Guffey Gorge
- Cripple Creek Heritage Center
- Mollie Kathleen Gold Mine
- Downtown Historic Victor
- Royal Gorge
- Skyline Drive
- Dinosaur Depot Museum
- Garden Park Fossil Area
- Red Canyon Park
- Shelf Road Climbing Area
- Indian Springs Trace Fossil Site
- Phantom Canyon

The sites listed above represent some of the most remarkable geologic resources in Colorado and the Western United States. It is our intention to act as a managing entity for the proposed Geopark in order to share the unique American history and culture that surrounds these geologic features.

The attached supporting documents contain the following information:

- Statement of interest
- Summary of proposed Geopark area, with map
- Descriptions of geosites within the proposed Geopark
- Education initiatives
- Plans for Geopark management
- List of current and potential management team and partners

If invited to submit a full formal application, these items will be addressed more fully. The Gold Belt Tour Scenic and Historic Byways Association asks that you review the attached supporting documents and strongly consider this proposed Geopark area to represent the United States in the Global Geoparks Network.

Best Regards,

Introduction

Statement of Interest

In south-central Colorado along the Scenic Gold Belt Byway is a collection of sites that exemplify the geologic and cultural heritage of the western United States. In order to increase the visibility of these nationally significant sites and promote sustainable geotourism in the United States, we propose that this collection of sites in be designated the Gold Belt Geopark.

Description of Geopark Area

The proposed Geopark represents a diverse area of rich geologic and cultural resources brought together by an exciting history of exploration and discovery in the American west. Sites encompass world-class fossil quarries, historic gold mining camps, ancient volcanic fields, uplifted mountain ranges, large scale notch canyons, and a nearly continuous stratigraphy from the early Proterozoic to today. These sites contain notable evidence of regional geologic events, including the uplift of the Ancestral Rockies, Laramide orogeny, and the down cutting of the Arkansas River.

The area containing the proposed Geopark sites, shown on page 4, would span approximately 300 square miles from Florissant in the north to Cañon City in the south and from Royal Gorge in the west to Victor in the east. Proposed geosites include:

- Florissant Fossil Beds National Monument
- Four Mile Scenic Park
- Guffey Gorge
- Cripple Creek District Museum
- Cripple Creek Heritage Center
- Mollie Kathleen Gold Mine
- Downtown Historic Victor
- Skyline Drive
- Royal Gorge
- Dinosaur Depot
- Red Canyon Park
- Garden Park Fossil Area
- Shelf Road Rock Climbing Area
- Indian Springs Trace Fossil Site
- Phantom Canyon

Each site contributes uniqueness to the overall experience of the area's geologic history, cultural heritage, and economic development. Visitors to the proposed Gold Belt Geopark can travel back in time and experience how local geology influenced regional Native American cultures, U.S. westward expansion, early American paleontology, and the development of gold mining districts.

Current and Future Education and Recreational Initiatives

Individual sites additionally offer a variety educational and interpretive resources from guided tours and educational seminars to interactive websites and student internships. Paleontology lab demonstrations, interpretive excavation sites, and other interactive exhibits allow visitors uncommon, hands-on learning experiences. Education initiatives are continually developing at sites in the proposed Geopark area; projects such as live video-learning programs for elementary school students and informative visitor exhibits and displays are being developed.

Beyond the historical and educational resources of the sites, visitors can enjoy many recreational opportunities, from museum outings at the Cripple Creek Heritage Center and

Dinosaur Depot Museum to gold mine tours at the Mollie Kathleen Gold Mine. Hiking, horseback riding, rock climbing, swimming, and rafting are also available for visitor recreation.

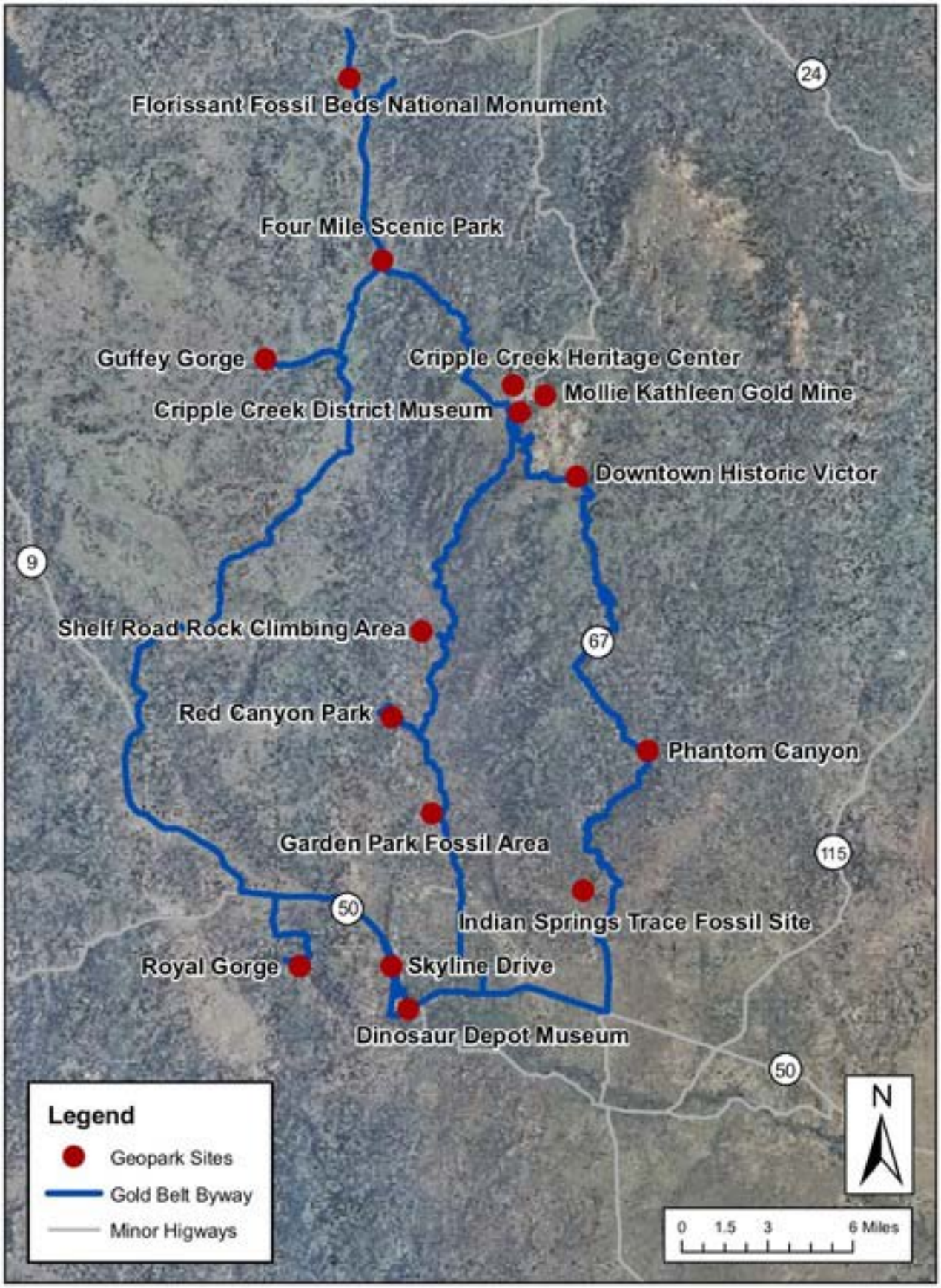
Geopark Management

The proposed Geopark will be managed by the Gold Belt Tour Scenic and Historic Byway Association Board of Directors, which consists of 15 voting and 4 non-voting local members. The Gold Belt Tour Scenic and Historic Byway Association will utilize its existing management plan to provide essential coordination, management, and funding responsibilities for functions that are not currently being accomplished by the individual geosite managing agencies; this will include creating consistent, informative signage and publicizing Geopark activities in order to promote and enhance local tourism.

The Gold Belt Geopark Managing Agency Partners will include:

- The Gold Belt Tour Scenic and Historic Byway Association, Inc.
- Bureau of Land Management, Royal Gorge Field Office
- Colorado Department of Transportation
- National Park Service
- Fremont and Teller County Boards of Commissioners
- City Governments of Florence, Florissant, Cañon City, Cripple Creek, and Victor.

Gold Belt Byway Geopark



Site Descriptions

The following pages are a compilation of site descriptions, photographs, and maps that briefly outline the resources that make each of the sites listed below suitable for the Geopark designation.

Proposed Geosites for the Gold Belt Geopark

1. Florissant Fossil Beds National Monument
2. Four Mile Scenic Park
3. Guffey Gorge
4. Cripple Creek District Museum
5. Cripple Creek Heritage Center
6. Mollie Kathleen Gold Mine
7. Downtown Historic Victor
8. Skyline Drive
9. Royal Gorge
10. Dinosaur Depot
11. Red Canyon Park
12. Garden Park Fossil Area
13. Shelf Road Rock Climbing Area
14. Indian Springs Trace Fossil Site
15. Phantom Canyon

Site: Florissant Fossil Beds National Monument

Florissant Fossil Beds National Monument is a 6,000-acre site managed by the National Park Service. This site was designated a National Monument to preserve the unique collection of fossil specimens found here. Florissant Fossil Beds National Monument has produced one of the highest diversity collections of exceptionally preserved fossil plant and insect specimens in the world; it has the greatest number of described fossil butterfly specimens of any fossil site. Over 1,700 of these famous fossil specimens have been described from the shale layers in the Monument; about 50,000 specimens have been collected and are housed in at least 25 research collections in museums around the globe. In addition to these delicate fossils, the Monument is known for its petrified forest, which contains a unique redwood trio clone and one of the largest diameter petrified stumps in the world.

Activity from a caldera volcano in the Mount Princeton area, located nearly 50 miles west of Florissant, created a lahar flow that swept through the Florissant valley around 34 million years ago, enabling the preservation of the petrified trees. Evidence of this geologic event can be observed in outcrops of Wall Mountain Tuff at the Barksdale Picnic area. A separate event from a stratovolcano in the ancient Guffey Volcanic Complex dammed the paleo-drainage of the Florissant valley, creating Lake Florissant and the conditions that preserved the famous Late Eocene plant and insect fossils.

The fossil resources at this site have allowed scientists to describe the local ecosystem of the late Eocene and have been important in past and present climate change studies. In addition to climate research, the Monument maintains a collection of specimens, regularly conducts inventory and monitoring of the fossil sites, has ongoing University collaborations, and continues to be the subject of scientific publications. It supports scientific research and has an established permit system in place for scientific investigators.

Historically, Florissant Fossil Beds has been given a large amount of attention by Native American peoples, homesteaders, scientists, and tourists. In the late 1860s Arthur Peale explored the site during the Hayden Survey, one of the four great surveys of the American West. The fossils noted in the exploration captured the attention of leading American paleontologists Samuel Scudder and Leo Lesquereux, who studied and collected the rich fossil layers. T.D.A. Cockrell and Harry MacGinite published later scientific discoveries. In addition to scientists, local homesteaders have influenced the history of the site. One such homesteader was Charlotte Hill, a local naturalist, who worked with scientists, like Scudder. The historical importance of this site reaches beyond the careers of the men and women who studied its resources; this site was key to the development of modern American paleontology.

This site has well developed interpretive and education resources available for visitors from outdoor exhibit centers and interpretive panels to Ranger led tours and seminars to an interpretive excavation site and paleontology lab demonstrations. Florissant Fossil Beds National Monument also supports a Junior Ranger Program and maintains a website with student curriculum and a paleo database. Maps, books, and multilingual pamphlets are available to visitors in the Visitor Center bookstore. Recently, Rangers have developed live video-learning programs for elementary school students to take virtual field trips to Florissant. Visitor education is a continued priority of the Monument.

Recreationally, this site offers 14 miles of marked and maintained hiking trails; horseback riding is permitted in designated areas. Picnic tables and benches are also available for visitor use.

Site Photos:

Visitor Center at Florissant Fossil Beds National Monument

Fossil specimens collected at Florissant Fossil Beds National Monument

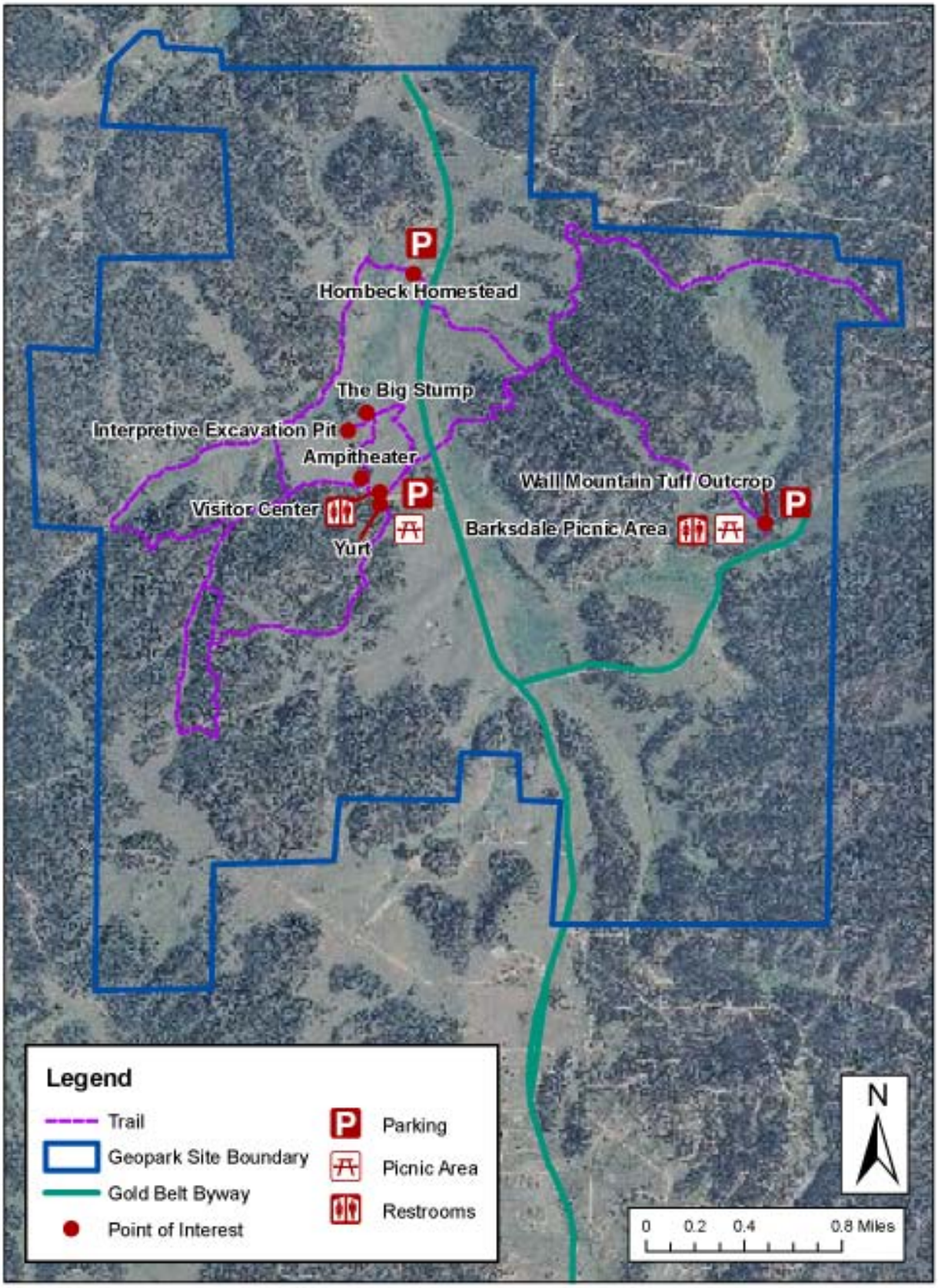
Amphitheater and outdoor exhibit area

The Interpretive Excavation Pit that allows visitors to observe a mock excavation.

An outcrop of the Wall Mountain Tuff off a trail in the Barksdale Picnic Area

A view of the Big Stump, one of the largest diameter petrified stumps in the world

Florissant Fossil Beds National Monument



Site: Four Mile Scenic Park

Four Mile Scenic Park is a Teller County park that geologically links the Florissant Fossil Beds National Monument and Guffey Gorge sites. Volcanic lahar outcrops near the parking area offer evidence of the 34.1 million year old activity from the Guffey volcanic center that dammed the paleovalley and created the ancient Lake Florissant responsible for the exceptional insect and plant preservation at Florissant Fossil Beds National Monument.

Additionally, this small site offers a juxtaposition of the two major Precambrian granites in the Florissant area, 1.04 billion year old Pikes Peak Granite and 1.4 billion year old Cripple Creek Granite. To the east of the park, Dome Rock exemplifies smooth exfoliation weathering, a result of physical and chemical properties common for Pikes Peak Granite. Just to the west, Cripple Creek Granite can be seen weathering in a coarse, blocky manner.

Historically, this site once served as an old way station, where ore wagons changed teams on trips from the Cripple Creek Mining District to the railroad in Florissant. It continues to serve as a place for visitors to stop between the towns of Cripple Creek and Florissant.

Site Photos:

Cripple Creek Granite exposed to the west of Four Mile Scenic Park

A view of Dome Rock to the east of Four Mile Scenic Park, showing the exfoliation patterns of the Pikes Peak Granite

A road cut above the parking area shows an ancient lahar deposit, evidence of the 34 million year old Guffey volcanic episode.

A view of the Hay Creek Habitat Protection Zone within Four Mile Scenic Park

Four Mile Scenic Park

Site: Guffey Gorge

Guffey Gorge is a small area managed by the Bureau of Land Management that presents important features in the geologic history of the area. The Thirtynine Mile Volcanic-Field Overlook gives visitors a modern view of the remnants of the ancient Guffey volcanic complex that influenced the development of the Florissant area. Visitors can see the local effects of volcanism in the lahar outcrops that suggest where the paleodrainage was filled in as a result of activity in the Guffey volcanic center.

At this site recreation is very closely tied to the geology. Here visitors can fish in the Fourmile Creek while watching active hard rock erosion, swim in the pool surrounded by great walls of Cripple Creek Granite while observing the effects of a superposed stream, and eat lunch looking out at the remnants of the late Eocene-Oligocene volcanic field or viewing exhumed erosional surfaces. Because the Guffey Gorge hasn't been commercially developed, visitors can enjoy these resources in a natural state.

Site Photos:

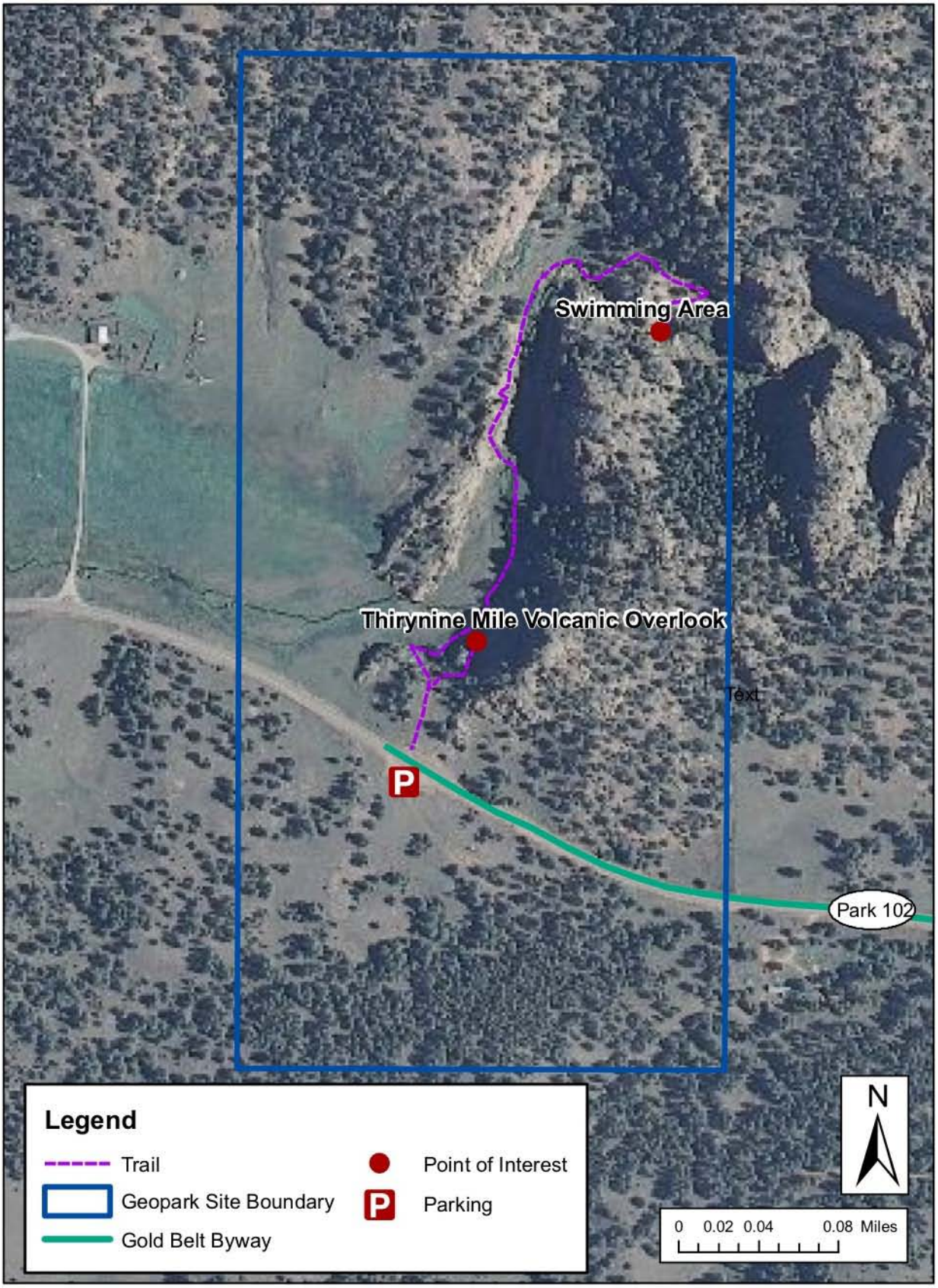
The swimming area surrounded by outcrops of the Cripple Creek Granite

A visitor fishes in the Fourmile Creek near the entrance of the Guffey Gorge.

A view of the Thirty-nine Mile Volcanic Overlook

A roadside outcrop of an ancient volcanic lahar flow that dammed the Florissant paleovalley nearly 34 million years ago, located next to the site parking area

Guffey Gorge



Site: Cripple Creek District Museum

The Cripple Creek District Museum is managed by a private, non-profit foundation whose mission is to preserve the history of the Cripple Creek District and surrounding areas. Located in the heart of Historic Downtown Cripple Creek at the former Midland-Terminal Railroad Depot, the Museum complex contains three buildings with six floors of mining memorabilia, maps, paintings, glass and china, children's items, furnishings, an assay office, historic photograph gallery, Native American artifacts, and mineral displays.

Site Photos:

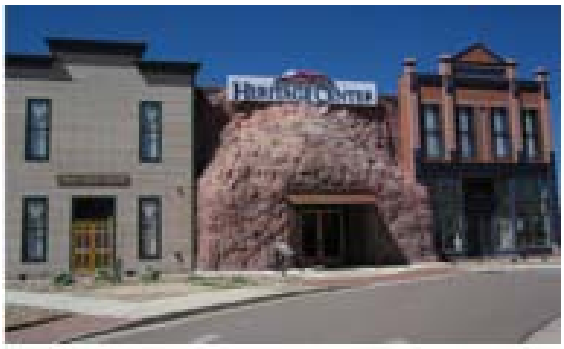
Displays of local artifacts

An old telephone exhibit in the Cripple Creek District Museum

Memorabilia in a Victorian Room at the Cripple Creek District Museum

Historic photographs of the Cripple Creek glory days

Cripple Creek District Museum



Site: Cripple Creek Heritage Center

The Cripple Creek Heritage Center is an 11,600-square-foot facility overlooking the Cripple Creek Historic District. This site is managed by the City of Cripple Creek and features interactive displays that allow visitors to immerse themselves in the past glory days of a world-famous gold mining camp. Exhibits showcase captivating historic photography, local flora and fauna, the area's world-class paleontological discoveries, and Pikes Peak.

State of the art interactive displays highlight gold mining processes and local gems and minerals. The upper level of the center shares the history and paleontological discoveries of the Florissant and Garden Park areas. Also highlighted is the history of early American explorers, Native Americans, and the first settlers in the Cripple Creek area. Beyond interactive displays, the Heritage Center educates visitors through guided tours, school group activities, and an informative video.

The Cripple Creek Heritage Center aims to improve heritage tourism in the area and continues to develop new exhibits that communicate local heritage with visitors. Projects being developed are new transportation, Native American, and wildlife exhibits.

Site Photos:

Lower exhibit floor with windows facing the Sangre de Cristo Mountains

An interactive exhibit highlighting the cultural development of the mining town

Exhibits of local paleontological discoveries from Florissant and Garden Park

Local gem and mineral displays

Cripple Creek Heritage Center

Site: Mollie Kathleen Gold Mine

The Mollie Kathleen Gold Mine takes visitors 1,000 feet underground on America's only vertical shaft gold mining tour. Here visitors can learn about the history of mining in the Cripple Creek Mining District, the "World's Greatest Gold Camp," and the evolution of gold mining techniques since 1891.

At ground level, visitors can explore a self-guided area of old mining buildings and equipment before embarking on a tour of the mine. Visitors ride the mine shaft down 1,000 feet, where a guide leads the way through the mine tunnels, stopping to demonstrate numerous generations of air powered mining equipment, explain mining terminology, share the history of local mines, and point out interesting features, such as mineral accumulations and gold veins in a natural state. Interactive displays allow visitors to ride a mine-rail-bike, try double-jacking, hand-mucking, and pushing a one ton ore cart. An air powered man trip train allows visitors to experience transportation commonly used in mining. Another main attraction is the mineral room, which houses several rare samples, including: the original outcropping discovered by Mollie Kathleen Gortner in 1891, large sylvanite and calaverite nuggets rarely seen by man, and samples of the first discovery mine that started the Cripple Creek Gold Rush.

This experience connects the gold camp story told by the Cripple Creek Heritage Center to an actual mining experience, giving visitors to the area a deeper level of understanding of the mining culture of the Cripple Creek and Victor areas.

Site Photos:

Field of mining equipment available for visitor education

Visitors are loaded into the elevator cage that will descend 1,000 ft into the heart of the gold mine

A tour guide demonstrates mining techniques to visitors

Educational panels and displays explain historic mining techniques to visitors

Mineral accumulations of copper, sulfur, and iron oxide line walls for portions of the mine

Visitors enjoy the mineral room while the guide explains the history of other influential mines in the area

Mollie Kathleen Gold Mine

Site: Historic Downtown Victor

Considered to be the "City of Mines," Victor, Colorado is a historic town located in the heart of the Cripple Creek Mining District. A walking tour of the town tells the history of the old mining town through its historic buildings and a local museum. Along the tour, interpretive panels at the corner of every street guide visitors through the area and share local stories that make Victor unique. Visitors can see the Victor City Hall, Gold Coin Mine, Midland Depot, Victor Hotel, and many other historic sites. The Lowell Thomas Museum is along the historic walking tour and houses local memorabilia and mining exhibits. Several other sites downtown use local volcanic rocks and Precambrian granites in their structure. In this quaint historic area, visitors can travel back in time and imagine life in the midst of a great mining town.

Site Photos:

Mural in downtown Victor, Colorado, that welcomes visitors and introduces them to the town

Interpretive panel across from the historic Victor Hotel that describes the labor struggles of miners in the area

Lowell Thomas Museum in downtown Victor that houses local memorabilia

The back of the Gold Coin Mine constructed of local Precambrian granites

Site: Royal Gorge Bridge and Park

The Royal Gorge Bridge and Park, managed by the City of Cañon City encompasses one of the deepest canyons in Colorado. The Royal Gorge is a seven-mile-long, 1,200 feet deep geologic feature that exemplifies canyon incision and exposes some of the most ancient rock in the American west. Most of the rocks exposed in the gorge are Precambrian hornblende gneisses, interpreted to be the roots of a 1.7 billion year old mountain range; several pegmatite dikes can also be observed cutting through the metamorphic rock.

The Royal Gorge plays into the history of discovery in the American west; famed American explorer, Zebulon Pike and his expedition first discovered and explored the area in 1806. The Gorge was also the site of the 1870's Railroad Wars, a series of conflicts fought between local railway lines over control of the route through the Royal Gorge.

Visitors to the Royal Gorge Bride and Park can experience the site in many ways. Looking out from one of the world's highest suspension bridges is one of the most popular ways to experience magnificence of the Royal Gorge. An aerial tram brings visitors across the canyon and offers 360-degree views of the Gorge, the suspension bridge, and the surrounding area. One of the world's steepest inclined railways brings visitors through the looming walls of rock to the Arkansas River at the base of the gorge. Hiking trails and picnic areas lie just outside the main area of the park and give visitors a less commercial means of enjoying the Gorge.

Site Photos:

The Royal Gorge Bridge, one of the highest suspension bridges in the world

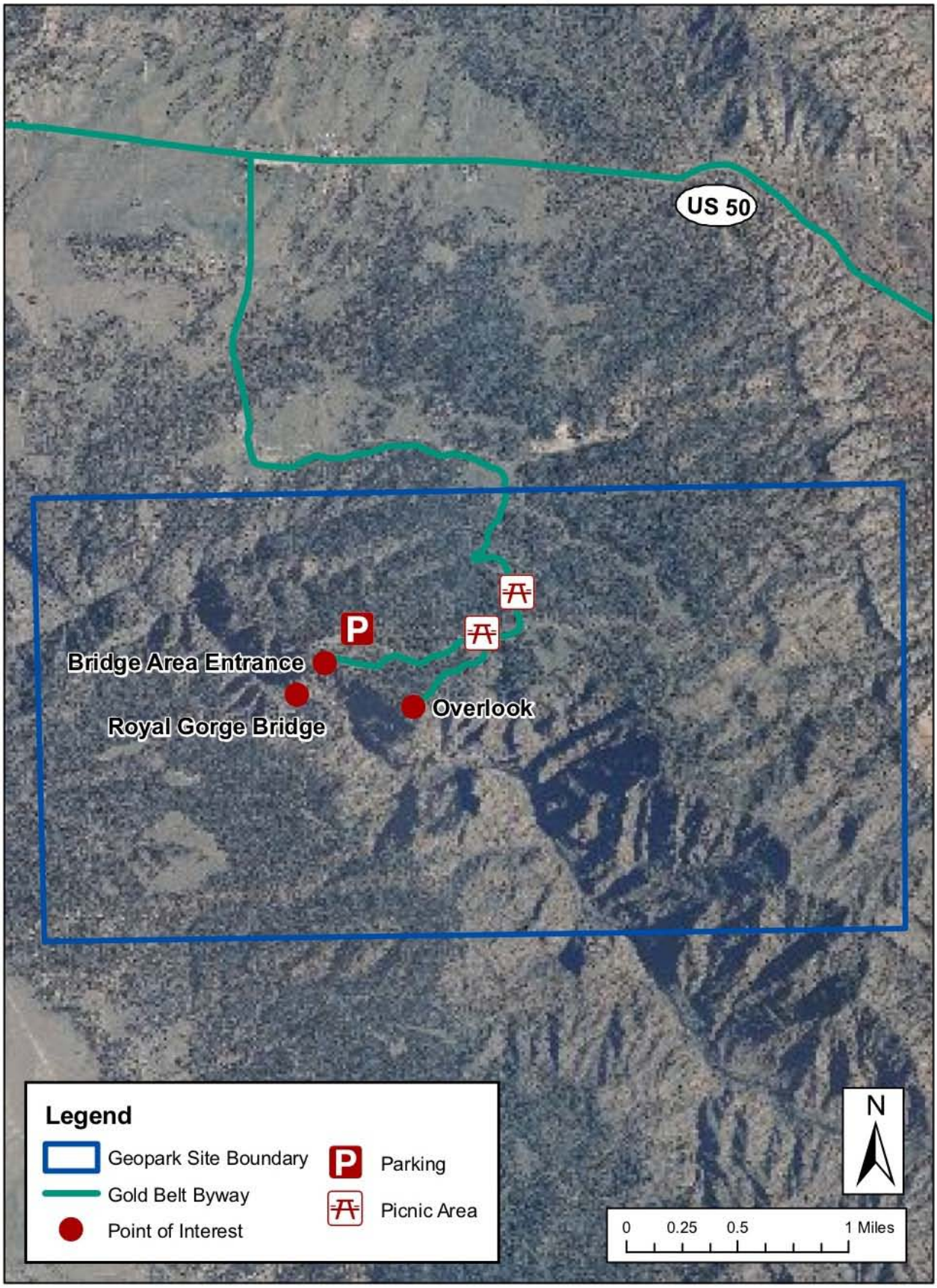
View of the Arkansas River and walls of Precambrian rocks from the bridge

A visitor views the Gorge at a lookout point. The world's longest single-span Aerial Tram is also shown.

An interpretive panel that educates visitors on the history and importance of the Royal Gorge

The Inclined Railway brings visitors through walls of granite to the base of the Gorge

Royal Gorge


US 50
Bridge Area Entrance
Royal Gorge Bridge
Overlook
Legend
Geopark Site Boundary
Gold Belt Byway
Point of Interest
Parking
Picnic Area
N
0
0.25
0.5
1 Miles

Site: Skyline Drive

Skyline Drive is a one-way road that follows along the top of the Dakota Hogback. This site is managed by the City of Cañon City and offers spectacular views of the Cañon City basin to the east and the Precambrian gneisses in the mountains to the west. Skyline Drive has outcrops of Pennsylvanian to Cretaceous sedimentary units, invertebrate trace fossils, and Cretaceous ankylosaur and therapod dinosaur tracks. Visitors can drive, walk, or bike the path along the hogback to these geologic resources. Several turnoff points and parking areas make this site accessible to visitors.

Site Photos:

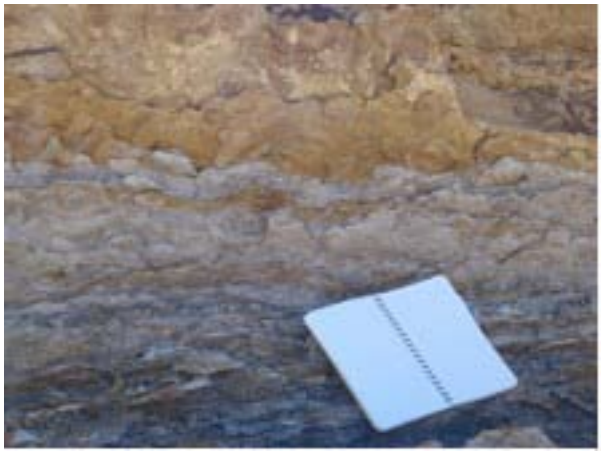
Interpretive signs near the dinosaur tracks

A view of the Cretaceous ankylosaur footprints along the drive

View to the west of the Harding Quarry from top of Skyline Drive

View of Cañon City basin from the top of the hogback

Outcrops accessible from right along Skyline Drive



Cretaceous marine invertebrate trace fossils

Skyline Drive

Site: Dinosaur Depot Museum

Dinosaur Depot is a museum located in the heart of Cañon City that is operated by the Garden Park Paleontology Society, a nonprofit organization dedicated to education, environmental care, and scientific research. It houses numerous fossils and gives visitors a look into the paleontological richness of the surrounding area. Beyond the fossil resources, Dinosaur Depot provides a wealth of information about local geology and native paleontologists, including Oramel Lucas and Marshall Felch, local pioneers who excavated for famed paleontologists Cope and Marsh during the "Bone Wars" of the late 1800s.

The museum has a wealth educational resources including interactive exhibit rooms, museum tours, educational programs, interactive dig sites, website with activities for kids, life-size replicas of dinosaur trackways, and a reconstruction of an *Allosaurus*. Additionally, visitors can also interact with the museum's fossil preparation lab, which prepares fossil specimens from across the country, including the Smithsonian Institution. Fossils prepared in the lab are often what famed paleontologist Othniel Marsh collected in the Garden Park Area in the 19th century.

This site serves as an excellent introduction or reinforcement to the Skyline Drive and the Garden Park Fossil Area sites.

Site Photos:

A view of the Dinosaur Depot exhibit floor

The fossil preparation lab that connects visitors to the current paleontological projects

An outdoor trackway exhibit

A life-size *Allosaurus* reconstruction

Dinosaur Depot Museum

Site: Garden Park Fossil Area

Garden Park Fossil Area is a designated National Natural Landmark area outside of Cañon City that is managed by the Bureau of Land Management. This area is an incredibly productive and historically important fossil area, encompassing the Cleveland Quarry, the Cope Quarries, and the Marsh-Felch Quarry. It is one of the few areas where dinosaur remains can be found at multiple levels from the bottom to the top of the Jurassic Morrison Formation. Garden Park is the type locality of many famous dinosaurs, including species of *Allosaurus*, *Camarasaurus*, *Diplodocus*, and *Stegosaurus*. It is the location of the first Jurassic mammals discovered in North America and site where the most complete specimen of *Stegosaurus* (*S. stenops*) was collected.

At the Garden Park Fossil Area, visitors can take short hikes to overlooks of the Cleveland Quarry and the Marsh-Felch Quarry. Interpretive panels describe not only the paleontological significance of the area and each individual quarry but also the historic "Bone Wars," the period of great dinosaur discovery fueled by a great rivalry between O. C. Marsh and Edward Drinker Cope. Here visitors can observe the celebrated area that is described at the Cripple Creek Heritage Center and Dinosaur Depot Museum.

Site Photos:

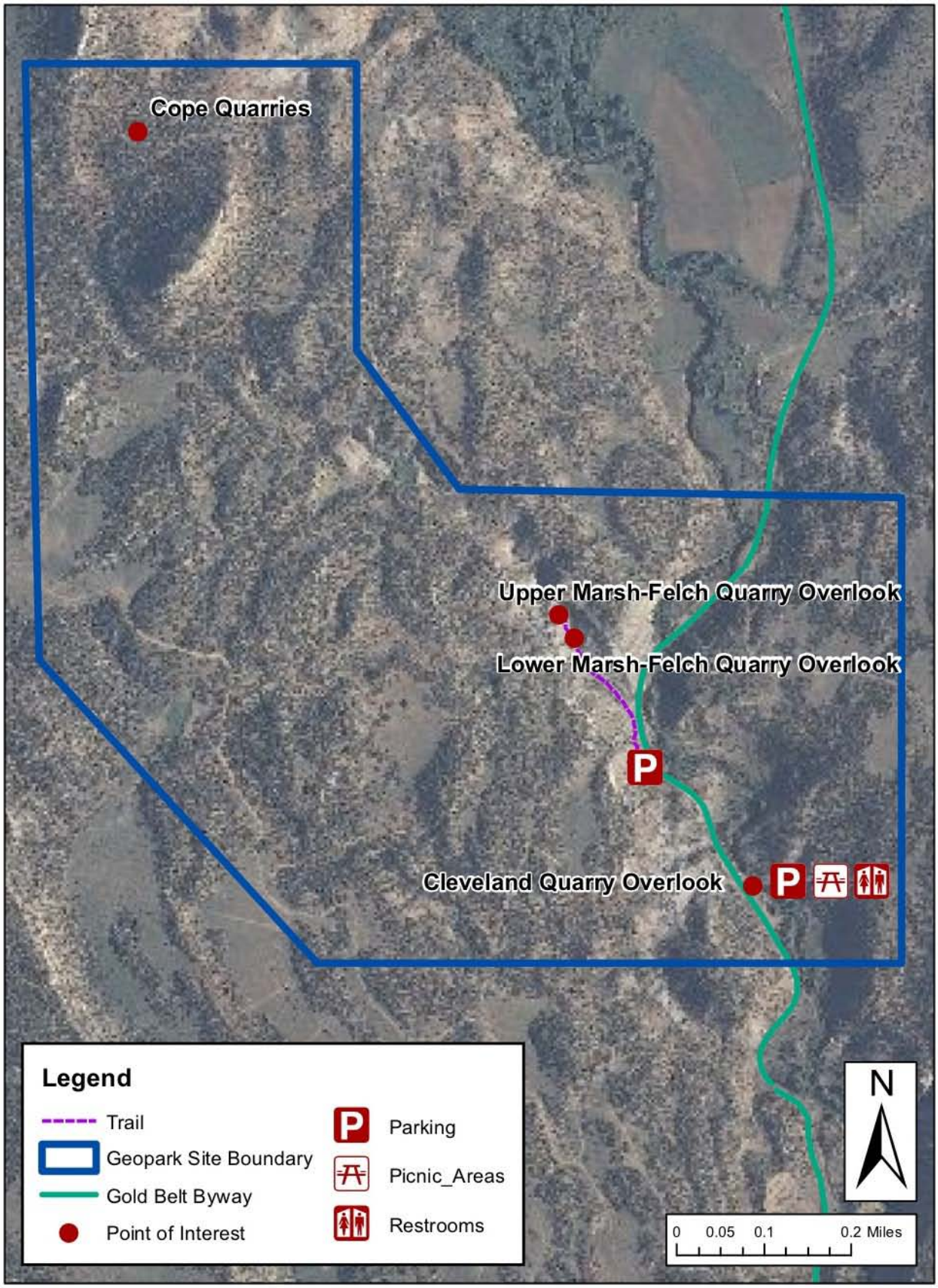
Interpretive signs in front of the historic Cleveland Quarry and Fourmile Creek

Outcrops of Jurassic Morrison Formation at the famed Cope Quarry

A view of the trail that leads to the Marsh-Felch Quarry

Interactive interpretive sign in front of the overlook of the Marsh-Felch Quarry

Garden Park Fossil Area



Site: Red Canyon Park

Red Canyon Park is a 600-acre Cañon City park that features the red, coarse-grained sandstones and conglomerates of the Pennsylvanian Fountain Formation. Outcrops of Fountain Formation in the park represent ancient braided streambed deposits and display classic sedimentary features like cross bedding. They have been carved and sculpted into beautiful narrow canyons and monoliths up to 100 feet high. These strange shapes, formed by weathering and erosion, can be seen within the state of Colorado at exposures of the Fountain Formation at Garden of the Gods in Colorado Springs, Red Rocks City Park outside of Denver, and the Flatirons in Boulder.

Visitors can closely view the Pennsylvanian outcrops while hiking, biking, or horseback riding through the park. Developed picnic and camping areas are also available for visitor use.

Site Photos:

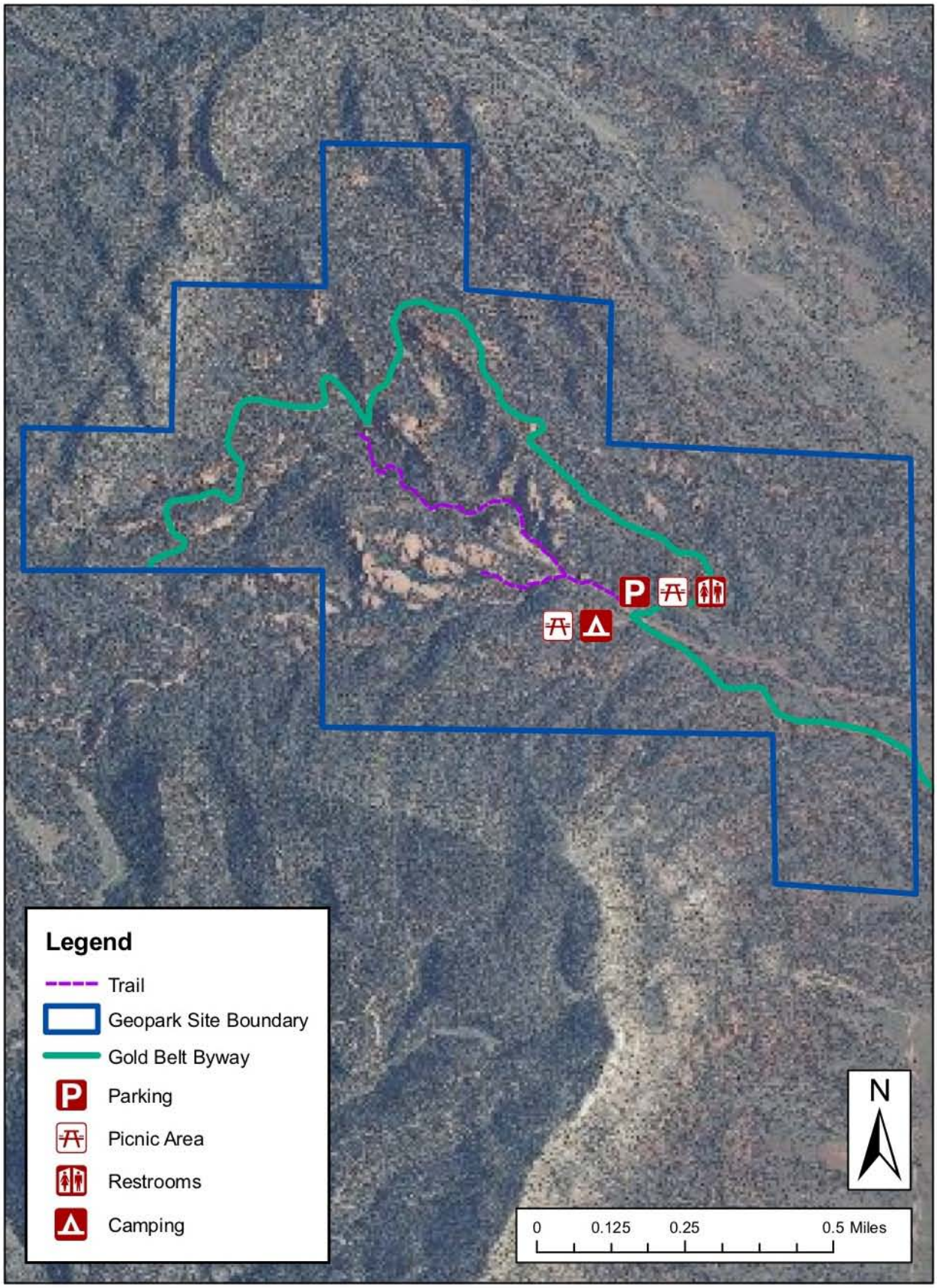
Monolithic outcrops of Fountain Formation

Canyon walls of Fountain Formation carved by weathering and erosion

Cross bedding in the Fountain Formation

Sedimentary features present in the Fountain Formation

Red Canyon Park



Site: Shelf Road Climbing Area

The Shelf Road Climbing Area is focused around a section of the Shelf Road that is managed by the Bureau of Land Management. Ordovician Fremont Dolostone characterizes the climbing area, and fossils of marine organisms including corals, sponges, brachiopods, nautiloids, crinoids, and gastropods are common. The sheer limestone and dolostone cliffs offer some of the best expert rock climbing in the area and are visited yearly by climbers from around the world. Scaling the great cliffs offer some of the most intimate views of the Ordovician outcrops. Mountain biking, hiking, climbing, hunting, scenic driving, and horseback riding are permitted in the Shelf Road Climbing Area and present alternative recreational opportunities. The Banks campground is located just to the east of the rock climbing area and provides restrooms, picnic areas, and ample parking space.

Site Photos:

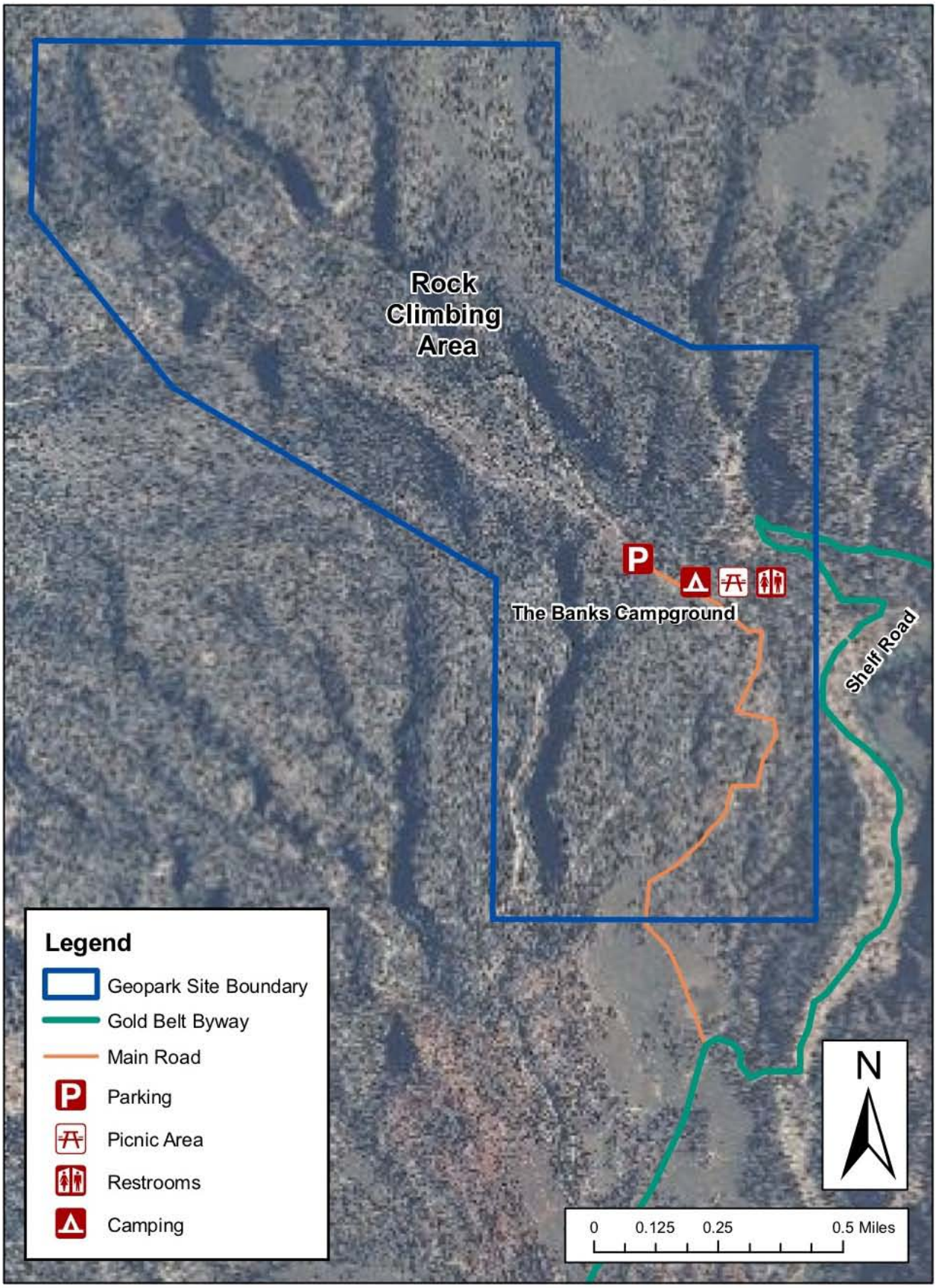
Informative panels for visitors to the area

A climber on the Flesh Tuxedo challenge in the Shelf Road Climbing Area

Magnificent limestone cliffs available for recreation

Cliffs of Fremont Dolostone behind the Banks camping area

Shelf Road Rock Climbing Area



Site: Indian Springs Trace Fossil Site

Indian Springs Trace Fossil Site is located on a privately owned ranch belonging to the Thorson family. It has been declared a National Natural Landmark because of the scientific importance of its famous Ordovician ichnofossils, or trace fossils. The site has one of the best-preserved, diverse representations of shallow marine life from the Ordovician and is considered the best locality for the study of Ordovician trace fossils in North America. It is the type locality for two ichnospecies: *Arachnomorphichnus thorsoni* and *Thorsonia unicyclata*. Several body fossils, ostracoderm scales, and early jawless fish have also been found at Indian Springs.

In addition to the fossil resources, Indian Springs has a many interesting geological, historical, and archaeological sites. Within the boundary of the site, visitors can see the disconformity between the Ordovician Harding Formation and the Pennsylvanian Fountain Formation. Native American relics (e.g. Folsom and Clovis points), petroglyphs, ancient shelters, and Indian drop rooms represent the rich Native American history of the area. The McKinney Cabin, a nationally registered historic site that once housed some of Quantrill's Raiders, important figures in American Civil War history, represents the modern history of the site.

The Indian Springs Trace Fossil Site has long been a site of scientific interest; over fourty universities have visited the site with geology groups, several returning regularly to conduct field camps in the area. Research at the site has brought together a variety of scientists from biologists and botanists to geologists and paleontologists.

Access to the significant sites at Indian Springs is granted only by guided tour in order to ensure that these fragile sites remain protected. On each tour, a rich history is painted for visitors of how this site has evolved since the Ordovician.

Site Photos:

A well developed trail leading to the trace fossil site

A trilobite walking trace fossil

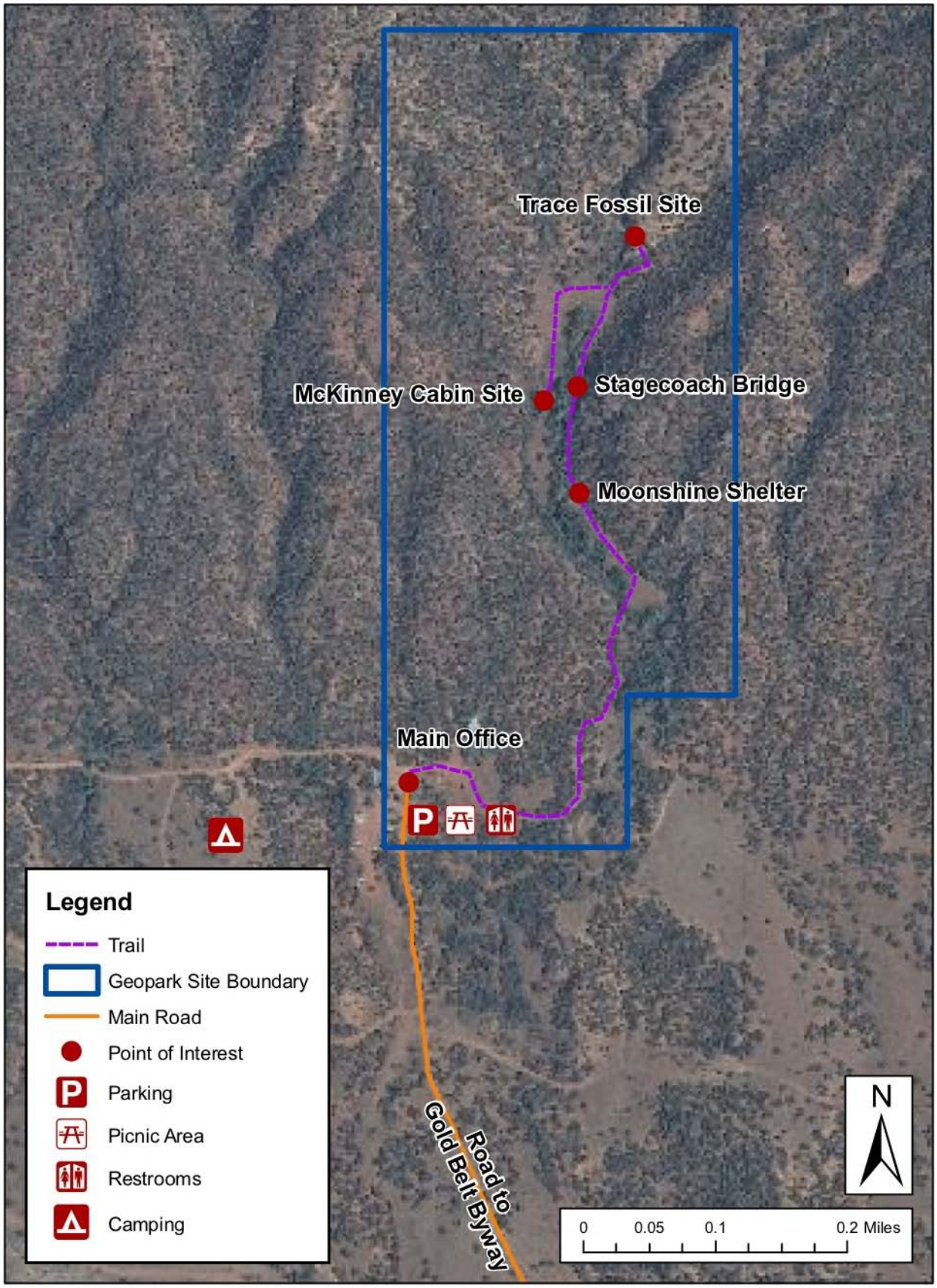
Carly Thorson points out the disconformity between the Pennsylvanian Fountain Formation and the Ordovician Harding Formation

A view inside Moonshine Shelter

A Native American petrogylph thought to represent ancient flooding

McKinney Cabin Historic Site

Indian Springs Trace Fossil Site



Site: Phantom Canyon

The Phantom Canyon site is focused around a historic steel bridge that emphasizes the development of the region. At this Bureau of Land Management area, visitors can take a short path to an interpretive area that describes the historic significance of steel bridge and the roadway that cuts through Phantom Canyon, which was once the main connection of the Victor and Cripple Creek mining areas to Florence and Cañon City. Outcrops of the Precambrian granites and gneisses are easily seen from the bridge and across from the interpretive area and represent the oldest geology in the area. While there are very few visitor amenities at this proposed geosite, visitors can enjoy public rest stops and picnic areas at other locations along Phantom Canyon Road, as shown in the Phantom Canyon Area map.

Site Photos:

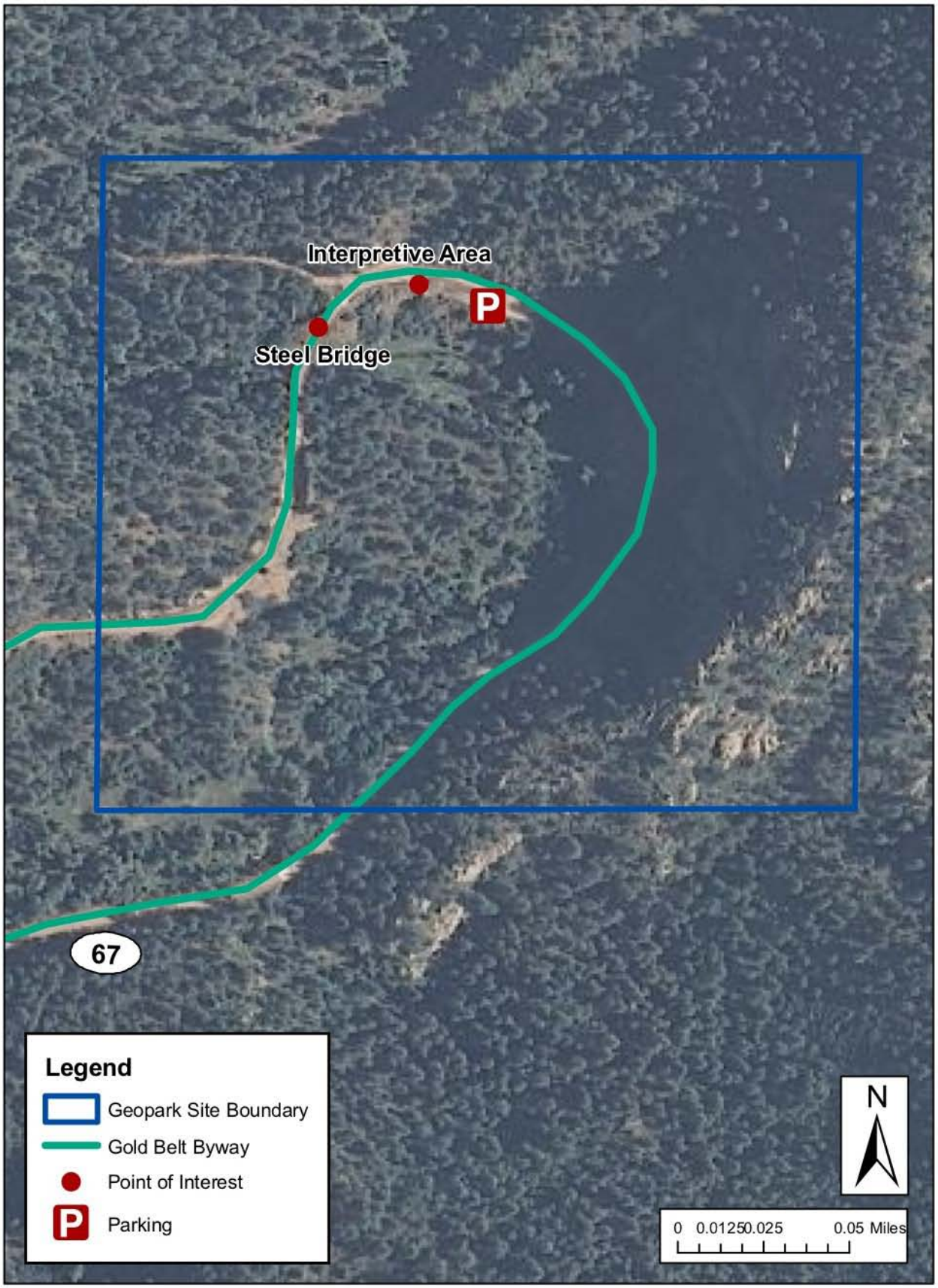
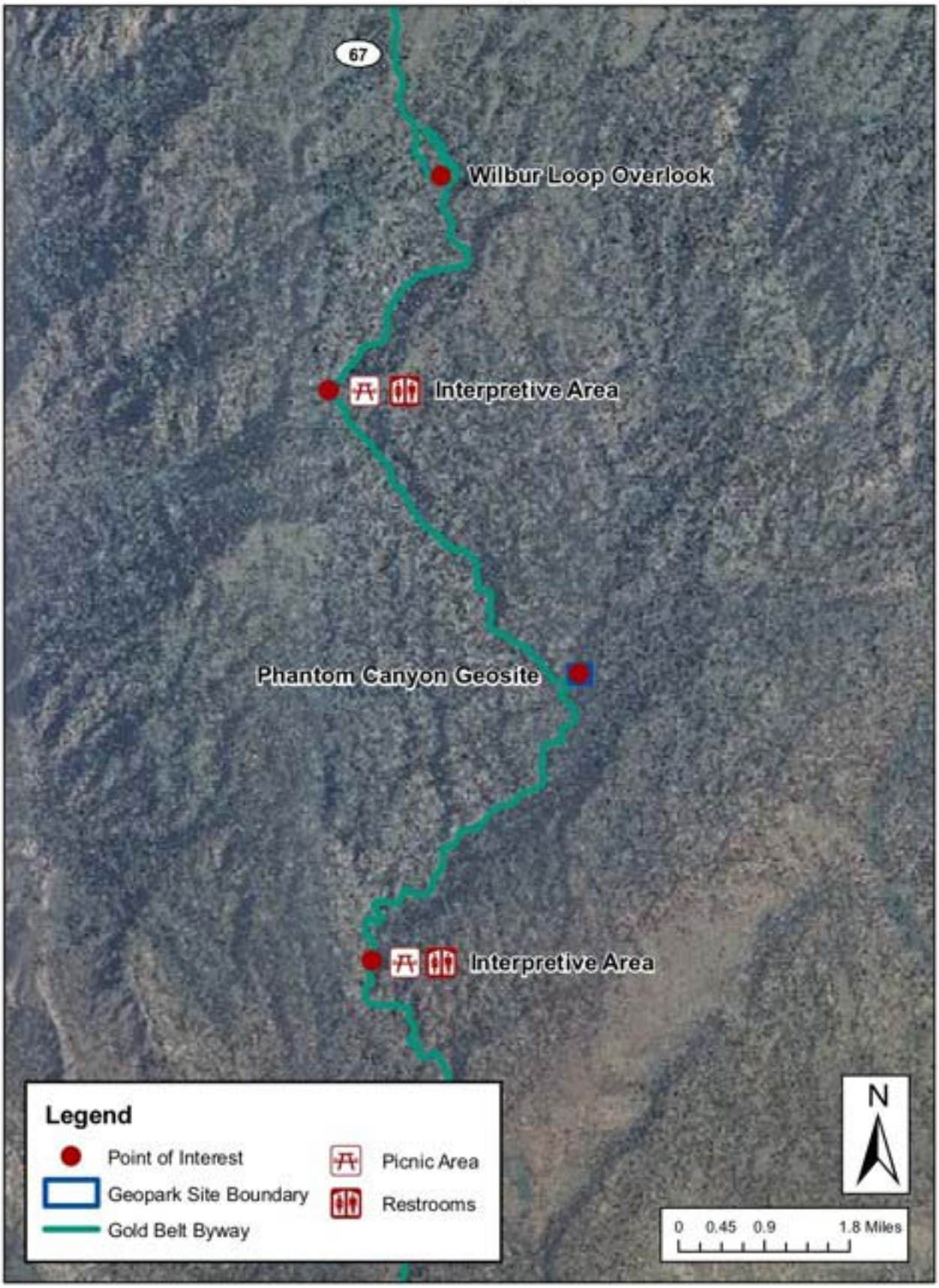
A view of an interpretive sign explaining the history of the steel bridge

Precambrian outcrops visible from the steel bridge

A view of the interpretive area at the steel bridge site

A scenic view of the valley below the steel bridge

Phantom Canyon



Phantom Canyon Area