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Phil's World Trail Project

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It is the mission of the BLM Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

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1. PURPOSE AND NEED FOR THE ACTION

1.1. Background

This Environmental Assessment (EA) has been prepared to disclose and analyze the environmental effects of the Phil's World Trail Project as proposed by the Southwest Colorado Cycling Association (SWCCA, formally Kokopelli Bike Club) of Cortez, Colorado.

The Tres Rios Field Office (TRFO) has recognized distinct recreation niche opportunities and experiences that are available across the BLM lands of southwest Colorado and has established Special Recreation Management Areas (SRMAs) to guide the management of these areas. One such area is the Cortez SRMA which offers a unique combination of terrain, scenery, and climate allowing for nearly year-round recreation close to towns and surrounded by panoramic backdrops. The relatively small blocks of public land are particularly conducive to stacked non-motorized trail systems (ie, easy trails located close to trailheads and parking, with progressively longer and more challenging trails located further out). The Cortez SRMA is comprised of two Recreation Management Zones (RMZs): 1) the Montezuma Triangle (including Phil's World, Chutes and Ladders, Summit, and Aqueduct) and 2) Mud Springs. The Montezuma Triangle RMZ is managed to primarily target local hikers, runners, and mountain bikers wanting to participate in human-powered recreation activities within a short commuting distance of town.

The Phil's World area comprises approximately 2,400 acres of BLM Public Lands and 730 acres of Department of Colorado State land (leased by SWCCA). The area is located approximately 3 miles East of Cortez, Colorado, primarily between Highway 160 and Montezuma County Road M (with approximately 400 acres north of Road M in Simon Draw). There are currently approximately 27 miles of single track trails across both the BLM and State managed lands. Recorded visitor use from October 2014 through September 2015 was 17,754 visitors based on trail counter data.

The trail system is accessed from County Road 30.1 at Highway 160. The current trailhead is located on the leased State Land and consists of a parking area that can accommodate approximately 60 vehicles. The trail system on both BLM and State land is directional (meaning that all bicycle riding is conducted in one direction; clockwise). The trails on BLM land are open to all non-motorized single track trail use (hiking, equestrian, and biking), though the predominant use is by mountain bikers.

1.2. Purpose of and Need for Action

The purpose and need of the proposed action is to provide the benefits associated with a single track trail system across the portion of the Phil's World RMZ which does not currently provide these opportunities. The purpose of the proposed action is to provide a system of trails within the RMZ that is sustainable, ecologically sensitive, and meets the recreation setting objectives

identified in the Tres Rios RMP (February 2015). These objectives include, 1) expanding non-motorized trail opportunities; 2) dispersing use; and 3) and linking communities to each other and to isolated parcels of public lands while retaining the area's predominantly natural appearing landscape. The need for the proposed action is to respond to a project request by SWCCA which seeks to implement the objectives of RMZ identified above.

1.3. Decision to be made

The decision to be made is whether or not BLM will allow development of additional trails and trailheads within the BLM managed portion of Phil's World and to identify allowable maintenance activities for existing and proposed trails.

1.4. Conformance with Applicable Land Use Plan(s)

The Proposed Action is in conformance with the February 2015 Tres Rios Resource Management Plan (RMP) with Record of Decision (ROD). (See Table 1: Applicable Desired Conditions, Goals, and Objectives):

Table 1: Applicable Desired Conditions, Goals, and Objectives

Resource	Desired Condition/Goal/Objective	Page #
	The 2015 RMP identified the Phil's World area as part of the Cortez SRMA. The proposed action and alternatives are consistent with the desired conditions, goals, and objectives in the SRMA guidance, as highlighted by the following:	N/A
Recreation	Desired Condition: 2.15.1 Activities are regulated primarily in order to protect the quality of the recreation settings and benefits, as well as to protect natural and cultural resources. Managers monitor conditions and implement management strategies in order to maintain desired setting characteristics. Recreation users have opportunities to benefit from the diversity of varied terrain, scenery, and nature in the canyons, mountains, and mesas, as well as on the rivers.	II-83
	Desired Condition: 2.15.6 Public accesses to lands near communities provide a day-to-day lifestyle connection with the foothills, canyons, and mountains. Neighborhood trailheads and convenient access points provide quick entry to a natural setting. These lands are a community asset and help contribute to a healthy lifestyle for people of all ages.	II-84
	Desired Condition: 2.15.7 The TRFO offers motorized and non-motorized recreation experiences in large, predominantly naturally	II-84

	appearing landscapes, where active management may occur. Primitive dispersed camping sites, developed campgrounds, and trailheads are present in order to support dispersed recreation use.	
Special Recreation Management Areas	Desired Condition: 2.15.45 Management of SRMAs is derived first and foremost by the recreation management objectives and prescribed Recreation Settings Characteristics Matrix, and all implementation actions are guided by those prescriptions.	II-87
	Desired Condition: 2.15.46 Cortez SRMA: The Cortez/Mancos/Dolores area offers a unique combination of terrain, scenery, and climate that allows for nearly year-round recreation close to towns and surrounded by panoramic backdrops. The relatively small blocks of public land are conducive to non-motorized trail use with opportunities for short motorized trails and clearly defined open play/training areas. The Cortez SRMA is comprised of two Recreation Management Zones (RMZs): 1) the Montezuma Triangle (including Phil's World, Chutes and Ladders, Summit, and Aqueduct) and 2) Mud Springs. The Montezuma Triangle RMZ is managed to primarily target local hikers, runners, and mountain bikers wanting to participate in human-powered recreation activities within a short commuting distance of town. The Mud Springs RMZ is also managed for non-motorized trails, but includes greater emphasis on motorized recreation while protecting cultural resources. Other recreation activities are allowable in the Cortez SRMA to the extent they are compatible with the primary targeted activities (see Volume III, Appendix E, for a more extensive description of the Cortez SRMA).	II-87
	Phil's World: The targeted activity would be mountain biking. Consistent with the Mancos-Cortez TMP Decision Notice, Phil's world would be designated day-use only, with the exception of the non-motorized trails at Phil's World, which would allow use at night. Recreational shooting would be prohibited.	E-3
Wildlife	Guideline: 2.4.5 Cortez SRMA: Critical winter range closure will be placed on Chutes-n-Ladders, Summit, and the Aqueduct portions of the SRMA and closure time periods will be analyzed during the site specific analysis.	II-30
	Table 2.4: Raptor Timing and Buffer Zone Distance**** Standards and Guidelines (paraphrased): Structural Improvements: New structures (including trails) must not occur within a 0.5 mile radius of an active nest. **	II-32

	<p>**This does not apply to historic levels and patterns of disturbance under which the nest was established and is intended to apply to additional levels of change in disturbance patterns.</p> <p>****Buffer distances for some species may vary based on site specific information, current science, and agency wildlife biologists' professional judgment. Area closures may be considered where appropriate.</p> <p>Where literature and other evidence shows, exceptions may occur when individuals are adapted to human activity. Management is designed to reduce effects during sensitive periods.</p>	
Heritage and Cultural Resources	<p>Desired Condition: 2.17.1: Significant heritage and cultural resources, such as sites on the NRHP, are maintained in good to excellent physical condition. Significant cultural values are protected and preserved. Heritage and cultural sites are preserved and stabilized, and may be available for interpretation and research; they may have site-specific management plans. Sites are protected from physical damage and excessive wear and tear resulting from visitor use.</p>	II-98

1.5. Relationship to Statutes, Regulations or Other Plans

Montezuma County Land Use Code - On January 6th, 2016 the BLM received a letter from Larry Don Suckla, Chairman of the Montezuma County Board of County Commissioners regarding Land Use Code Compliance. It states "The County Land Use Code and Comprehensive Plan do not address issues such as recreation and tourism in detail; however the proposed expansion does not in any way conflict with county regulations."

The project would also conform to:

- 1973 Endangered Species Act, as amended
- Migratory Bird Treaty Act of 1918 (16 USC 703711)
- Bald and Golden eagle Protection Act (1962)

1.5.1. Scoping and Public Involvement

Internal scoping began on November 13th, 2013 when the proposal was first brought before the Tres Rios Interdisciplinary Team for consideration. Formal external scoping was initiated on December 15th, 2014 when 25 scoping letters were sent out to individuals who had expressed interest in the project, as well as to the Montezuma County Board of Commissioners. This letter was also posted on the BLM NEPA webpage on January 8th, 2015. On January 7th, an article in the Cortez Journal featured the project and included information on public comment processes and deadlines (January 30th). The project was also announced via various radio spots and stories

during January 2015 on local Cortez station KSJD. On May 1, 2015 a second letter was sent out to the Interested Publics list (172 letters) providing a project update and list of issues identified during the scoping process (as identified below).

Montezuma County Board of Commissioners

The Board of Commissioners expressed their interest as a coordinating agency in the proposed project and requested participation as a consulting party in the Section 106 process. Several discussions and meetings occurred between the BLM and the Commissioners.

Tribal Consultation

On May 4th, 2015 letters were sent to the 26 tribes and pueblos the Field Office consults with presenting the proposed project. On December 23rd, 2016, the tribes and pueblos received letters including a brief description of the Preferred Alternative, a Cultural Resources Findings Summary Table, and an invitation for further participation or comment. Additional consultation occurred between the BLM and the Hopi Tribe, the Southern Ute Indian Tribe, and the Pueblo of San Felipe.

Colorado State Historic Preservation Office

On April 12th, 2017 the BLM sent an informational letter and cultural resource report to the Colorado State Historic Preservation Office. The informational letter and report included a determination of no adverse effect to historic properties as a result of the proposed trails (as described in Alternatives B, C, and D). All eligible cultural sites were avoided with this proposal. Additional discussions and correspondence with the SHPO resulted in the development of cultural resource monitoring and discovery plan to support the determination of no adverse effect.

U.S. Fish and Wildlife Service:

On October 12th, 2016 the BLM initiated informal consultation with the U.S. Fish and Wildlife Service with a “may affect, not likely to adversely affect” finding regarding New Mexico meadow jumping mouse. On December 15th, 2016 the U.S. Fish and Wildlife Service provided concurrence with the determination.

1.5.2. Key Issues to be analyzed

Issues considered further through Alternative Development and Analysis:

1.6.2.1 Cultural Resources

- 1) How would cultural resources eligible for listing on the National Register of Historic Places be affected by non-motorized trail construction and use?

1.6.2.2 Soils/Hydrology/Riparian

- 1) How would streams and riparian vegetation be affected by proposed trail locations in canyon bottoms?
- 2) How would trails adjacent to streams and alcoves affect water availability?

- 3) Would trails built on steep slopes and sensitive soils result in increased erosion?

1.6.2.3 Wildlife

- 1) How would New Mexico Meadow Jumping Mouse, listed as endangered under the Endangered Species Act, be affected?
- 2) How would golden eagles be affected?
- 3) How would big game be affected?

1.6.2.4 Socio-Economics

- 1) How would development of new trails affect the local (Montezuma County) economy including property values (both adjacent properties and local area properties)?
- 2) How would development of new trails affect economics associated with other existing or potential uses of the project area (hunting, wildlife viewing)?

1.6.2.5 Recreation

- 1) How would trail development and use affect dispersed use of the area by other recreational users (hikers, walkers, hunters)?
- 2) How would trail development and use enhance existing (bicycle) riding opportunities (new terrain, views, challenge, social interactions, connectivity to communities)?
- 3) How would trail development and use affect amount of trash on landscape?
- 4) How would trail development and use affect existing motorized riding opportunities?
- 5) How would trail development and use affect personal and community benefits associated with non-motorized trail use?
- 6) How would trail and trailhead development affect use by other non-motorized single track users (equestrian, hiking)?
- 7) How would trail development and use affect safety of users accessing the trail systems (access available away from highway 160, new access/egress along county roads).
- 8) How would trail development and use affect use of county roads?

1.6.2.6 Visual Resources

- 1) How would trail and trailhead development and use affect the visual setting of the landscape?

1.5.3. *Issues Considered but Not Analyzed*

- 1) How would adjacent private lands be affected by increased use of currently 'undeveloped' portions of the landscape?

The overall management of the Phil's World area was addressed in the 2015 Approved RMP which identified this area as a Special Recreation Management Area (SRMA) with a targeted activity of mountain biking. The undeveloped portions of the landscape adjacent to private property under consideration for this project are public lands. There is no more preference assigned to its use by adjacent landowners than to other citizens of

the United States. Unauthorized or illegal activities such as private land trespass or vandalism are not under consideration for approval (nor within the realm of the authority of the BLM) and thus are not analyzed in this document.

- 2) How would trail construction and use affect the spread and establishment of noxious weeds species?

The proposed project area has some known populations of noxious weeds specifically Russian knapweed, musk thistle, Canada thistle. Design Criteria 4, 5, 6, 7, 10 and 17 would minimize effects of trail development on vegetation and limit the spread of noxious weed species to a level which does not require further analysis.

- 3) How would new trail construction affect existing vegetative communities?

While some vegetative clearing would result from any of the action alternatives, Design Criteria 4, 5, 6, 7, 10 and 17 would minimize effects of trail development on vegetation and limit the spread of noxious weed species to a level which does not require further analysis. There would be no overall effect to the existing vegetation communities.

2. PROPOSED ACTION AND ALTERNATIVES

The BLM Interdisciplinary Team completed a rigorous review and objectively analyzed a reasonable range of alternatives which met the underlying purpose and need "...to provide the benefits associated with a single track trail system across the portion of the Phil's World RMZ which does not currently provide these opportunities... [and]...to provide a system of trails within the RMZ that is sustainable, ecologically sensitive, and meets the recreation setting objectives identified in the RMP".

This section provides a description of Alternative A (the No-Action Alternative), Alternative B (the Proposed Action was brought to the BLM by the SWCCA), and two additional 'action alternatives'. The Proposed Action represents an amended proposal resulting from feedback from the BLM on SWCCA's initial trail alignments. It attempts to address resource concerns that the proponents were not aware of during the development of their proposal.

Specifically, all of the action alternatives have been designed to avoid direct effects to cultural sites from new trail development and to provide substantial buffers around the active golden eagle nest.

Particular attention was also paid to keeping trails out of the viewshed of the active golden eagle nest to minimize visual and auditory effects. All proposed trail alignments utilize techniques such as vegetative and topographic screening from the nest. Additionally, to protect big game habitat, proposed trails were also removed from canyon bottoms as much as possible, while still maintaining trail connectivity throughout the SRMA.

In response to issues identified during internal and external scoping, the following Design Criteria have been developed which would apply to all Action Alternatives.

Design Criteria Common to All Action Alternatives:

- 1) Action: A buffer zone (with no trail construction within the zone for as long as the nest is 'active'*) for the active golden eagle nest would be implemented based on RMP guidance. Actual buffer dimensions would vary by alternative.

*Colorado Parks and Wildlife defines an 'Active nest' as "Any nest that is frequented or occupied by a raptor during the breeding season, or which has been active in any of the five previous breeding seasons. Many raptors use alternate nests in various years. Thus, a nest may be active even if it is not occupied in a given year" (CPW, 2008)

Responsive to Issue: 1.6.2.3-Wildlife

Rationale: To minimize potential for nest abandonment potentially caused by trail construction or use.

- 2) Action: All ground disturbance (new trail construction, parking lot construction, and parking lot access road construction) would be designed to avoid National Register eligible or potentially eligible cultural resources by a minimum of 50 feet to ensure such

properties are not adversely affected. If, due to minor location adjustments during final trail layout, new ground disturbance would occur within 50 feet of historic properties, construction would be monitored by a qualified archaeologist to ensure such sites are not adversely affected.

Responsive to Issue: 1.6.2.1- Cultural Resources

Rationale: To protect eligible cultural resources from damage caused by trail use.

- 3) Action: Trails would be designed to International Mountain Biking Association (IMBA) standards: Trails would be designed to contour the terrain as much as possible; water drainage would be accomplished with grade reversals and drain dips rather than constructed features (water bars) as much as possible; trails would be designed for running slope not to exceed $\frac{1}{2}$ the grade of the side slope; trails would be designed for a maximum 15 percent grade wherever possible (the sustainability of trail grades is largely dependent on surface durability: where trails segments cross bedrock, for instance, grades can exceed typical design standards and remain highly sustainable); trails would be designed for an average grade under 10 percent; trails would be routed using positive control points (viewpoints, water, and other attractions) to minimize user-created trails; climbing turns would be designed to facilitate bicycle use).

Final trail alignment and a variety of construction techniques would be utilized to maximize the sustainability of trails, particularly on steep slopes and erodible soils. These techniques could include, but are not limited to: routing trails onto bedrock; tread hardening with locally sourced native flagstone, engineered drainage features such as waterbars and sediment traps, frequent monitoring and trail maintenance, and hardened live water crossings.

As with all BLM managed roads and trails, temporary emergency closures could be utilized to prevent trail damage due to wet conditions. Utilization of these types of closures are not anticipated as use of the existing trail system has been observed to be largely self-limiting during periods of wet conditions (for example, the Ledges Trail loop, which holds snow longer into the spring due to its northern aspect, is generally the last trail to be utilized each spring).

Responsive to Issue: 1.6.2.2- Soils and Hydrology

Rationale: IMBA standards are designed to produce sustainable trail systems and provide guidelines for running grades, cross drainage, grade reversals, etc...

- 4) Action: Final trail construction would align as closely as possible to the trails depicted on the maps for each alternative. Final alignment may vary based on site specific conditions in order to achieve a sustainable and enjoyable system of trails. However, trails would not 1) Encroach into areas identified for each alternative as 'unavailable for new trail development'; 2) Exceed by 10% the total miles of trails approved for each alternative; 3)

Adversely affect a National Register eligible or potentially eligible cultural resource site.

Responsive to Issue: 1.6.2.1- Cultural Sites, 1.6.2.2- Soils and Hydrology, 1.6.2.3- Wildlife, 1.6.2.5- Recreation (and Vegetation)

Rationale: This strategy allows for the greatest flexibility in developing an enjoyable and sustainable trail alignment while identifying disturbance limits and respecting avoidance areas.

- 5) Action: A maximum six foot wide corridor would be cleared through undergrowth (oak, willow, etc.) unless additional clearing is necessary to provide safe sight lines on the inside corners (never to exceed 15 feet).

Responsive to Issue: 1.6.2.2- Soils and Hydrology, 1.6.2.5- Recreation, 1.6.2.6-Visual Resources (and Vegetation)

Rationale: Limiting vegetation clearance maximizes the natural appearing setting, limits disturbance, maintains soils, and provides positive anchors when trails change direction. Sightlines and safety for trail users are maintained by providing adequate clearances through thick underbrush.

- 6) Action: Final trail width would be 18-24” wide. Construction disturbance would be minimized as much as possible, with the greatest effect on severe side slopes where cut and fill trail design is necessary (never to exceed 20 feet). (See Photo 1: Typical Trail Construction by Volunteers)

Approx. acres of trail related disturbance by alternative:

	Alt A*	Alt B: 26.5 miles	Alt C: 22 miles	Alt D: 18 miles
Largest possible trail Disturbance (20')	N/A	64.3 acres	58.18 acres	43.6 acres
Least possible Trail Disturbance (1.5')	N/A	4.8 acres	4.36 acres	3.2 acres
Most Likely Trail Disturbance (20' in canyons, 3' elsewhere)	N/A	15.8 acres (approx. 3 miles in canyons)	14.2 acres (approx. 3 miles in canyons)	10.6 acres (approx. 2 miles in canyons)
*There would be no new trails developed under the No-Action Alternative. There are 15 miles of existing non-motorized trails and 13 miles of existing motorized trails on the BLM managed portion of Phil's World.				

Responsive to Issue: 1.6.2.2- Soils and Hydrology, 1.6.2.5- Recreation, 1.6.2.6-Visual Resources (and Vegetation)

Rationale: Limiting ground disturbance maximizes the natural appearing setting and limits effects to vegetation, cultural resources, and soils.

Photo 1: Typical Trail Construction by Volunteers



7) Action: Single trees would need to be limbed or removed, but no clumps of trees would be removed.

Responsive to Issue: 1.6.2.2- Soils and Hydrology, 1.6.2.5- Recreation, 1.6.2.6-Visual Resources (and Vegetation)

Rationale: Limiting tree removal maximizes the natural appearing setting and limits effects to vegetation, and soils.

8) Action: Due to terrain, there may be some locations requiring ‘hike-a-bike’ (stepping off a bicycle and walking).

Responsive to Issue: 1.6.2.5- Recreation, 1.6.2.6-Visual Resources

Rationale: Allowing for ‘hike-a-bike’ sections of trails accomplishes two recreational goals:

It allows for extremely challenging riding opportunities for those seeking that experience, and it also helps maintain a natural setting for all users rather than over-engineering a trail that might otherwise not conform to the landscape.

9) Action: Trails would be designed and signed for directional (traffic all in one direction) travel to maximize safety and minimize social contacts. If any sections require bi-directional travel, they would be clearly posted.

Responsive to Issue: 1.6.2.5- Recreation

Rationale: The existing trail system at Phil’s World is designed and signed for directional trail use. Current trail users are accustomed to this management direction. However, with the proposed trail expansion, there may be instances where avoidance areas result in the need for short stretches of bi-directional travel.

10) Action: Trail construction would be accomplished primarily by hand and with mechanical advantage tools such as a grip hoists and come-alongs to move large rocks. Motorized trail building equipment such as a micro/mini excavator or SWECO may be used where such equipment would achieve the same results and remain within the trail building parameters defined. All such equipment would be thoroughly cleaned prior to entering public lands to minimize potential spread of noxious weeds/invasive species.

Responsive to Issue: (Noxious Weeds/Invasive Species)

Rationale: The SWCCA has an active membership who have expressed willingness to volunteer their labor for the construction and maintenance of the Phil's World trail system. Such volunteer (hand) labor is generally cheaper and less ground disturbing than utilizing motorized trail building equipment. However, where the use of such equipment is deemed appropriate, steps must be taken to ensure the potential for the dispersal of invasive species is minimized.

11) Action: Road (County) crossings, signage, and access would be coordinated with Montezuma County Road and Bridge.

Responsive to Issue: 1.6.2.5- Recreation

Rationale: While management of County Roads falls to the County rather than the BLM, coordination with the County for development of access points is both necessary and prudent for the safety of all users.

12) Action: Trail and bridge construction techniques would be used to minimize effects to sensitive live water and riparian area crossings. Techniques could include, but are not limited to: trail alignments which directly cross riparian areas; limiting vegetative removal within riparian areas to the minimum necessary; designing sediment catchments in upland locations to prevent trail related sediment from entering the floodplain; utilizing native and locally sourced flagstone to create hardened crossing 'spill overs' in small live water channels; and constructing bridge/boardwalk features to span larger live water channels and saturated soil areas in canyon bottoms. (See Photos 2-5: Example Bridge and Boardwalk Structures)

Photos 2-5: Example Bridge and Boardwalk Structures



Where bridges/boardwalks would be utilized, they would be designed and constructed to blend with the natural surroundings and would typically be 3' wide (or 4' wide without rails). To facilitate equestrian safety, 3" edge protection would be included in bridge/boardwalk designs. Bridge materials would be pre-made to the extent possible and packed in for assembly on site with portable power tools. Anticipated locations and numbers of structures are as follows:

- a. Cash Canyon Area= 1-2 bridges
- b. Highline Area = 3 bridges
- c. Poquito Burrito Trail= 2 bridges
- d. Simon Draw Area = 2 bridges

Any maintenance activities on these structures within New Mexico meadow jumping mouse habitat would occur during hibernation (October 1-April 31), though emergency maintenance may occur May 1-September 30 if structures are damaged and pose a safety risk to the public.

Responsive to Issue: 1.6.2.2- Soils and Hydrology, 1.6.2.3- Wildlife, 1.6.2.6-Visual Resources

Rationale: Minimizing effects to waterways and riparian vegetation limits potential for erosion, sedimentation, and disruption of habitat.

13) Action: Bicycle friendly (riders do not have to dismount) width restrictors would be installed wherever the trail adjoins/crosses an open road with motorized vehicle traffic. Culverts would be installed on the edge of each side of each road crossing (L and M) to facilitate both trail use and water drainage. (See Photo 6: Example Width Restrictor)

Photo 6: Example Width Restrictor



Responsive to Issue: 1.6.2.2- Soils and Hydrology, 1.6.2.5- Recreation

Rationale: The installation of width restrictors would help ensure that trails designed for non-motorized use are not inadvertently used by ATVs/UTVs. The use of culverts would allow for trail crossings at roads without affecting engineered drainage features.

14) Action: Signage would be installed at every trail entrance and junction. Signage would include trail name, direction of travel, and warnings (such as dangerous intersections).

Responsive to Issue: 1.6.2.5- Recreation

Rationale: To facilitate use and safety and to minimize inadvertent user created trails.

15) Action: Interpretive signage with preservation messages regarding cultural and natural resources would be developed for placement at any new trailhead locations approved on BLM managed lands.

Responsive to Issue: 1.6.2.1- Cultural Sites, 1.6.2.3- Wildlife

Rationale: To educate the visiting public and minimize unintended effects to key resources in the area.

16) Action: Trail alignments would be flagged prior to construction and monitored by a BLM archaeologist (or professional archaeologist) for any trail segment located within 50' of an eligible or potentially eligible cultural resource. All trail segments would be approved

by a BLM recreation specialist prior to construction. The applicable BLM staff would be contacted with adequate lead time prior to any trail construction in order to allow for trail alignment oversight and approval. A signed agreement (i.e., Memorandum of Understanding and/or Volunteer Agreement) would be in place prior to construction efforts carried out by non-BLM entities outlining specific roles, limitations, and expectations.

Responsive to Issue: 1.6.2.1- Cultural Sites, 1.6.2.5- Recreation

Rationale: To ensure eligible cultural resource site avoidance and sustainable design.

17) Action: Once any new trail is constructed and open to public use, the BLM and/or BLM partners would monitor the entire length of the trail at least three times annually to identify the development of any unauthorized, user-created trails. If unauthorized user-created trails are identified, the BLM would ensure actions are taken to obscure such trails as soon as possible to avoid continued unauthorized use.

Responsive to Issue: 1.6.2.1- Cultural Sites, 1.6.2.2- Soils and Hydrology, 1.6.2.3-Wildlife, and 1.6.2.5- Recreation (and Invasive Species/Noxious Weeds and Vegetation)

Rationale: Minimizing user-created trail development maximizes the natural appearing setting, limits disturbance to soils, wildlife, vegetation, and cultural resources.

18) Action: Maintenance would be accomplished either by BLM staff or partners under written agreement. Agreement documents would define allowable actions and limitations to ensure preservation of cultural resources while maximizing responsiveness and efficiency.

Responsive to Issue: 1.6.2.1- Cultural Resources

Rationale: To protect eligible and potentially eligible cultural resources sites from damage caused by trail maintenance.

19) Prioritized Implementation Schedule

- a. Highline Area Trails, Road L Trailhead, Tiny Dancer, and Stinking Springs Connector Trail (First building season (i.e., Spring or Summer) after approval)
- b. Cash Canyon Area Trails and Road M Trailhead
- c. Poquito Burrito Trail
- d. Simon Draw Area Trails
- e. Stinking Springs Area trails
- f. Road N Access Trail, Road 30.2 Access Trail, and Poquito Burrito Access trail (dependent on perfected public access through adjacent private lands)

20) Action: Trail Construction Timing Restrictions:

- a. Any trails approved for construction within ½ mile of an active golden eagle nest would have an allowable construction window of July 16th-January 31st, inclusive.
- b. Any trails approved for construction within New Mexico Meadow Jumping Mouse habitat would have an allowable construction window of October 1st - April 30th, inclusive.

Responsive to Issue: 1.6.2.3-Wildlife

Rationale: Restricting construction related activities to these allowable windows would minimize effects to these species during critical periods of their respective life cycles.

21) Action: Monitor eligible cultural sites within 50 feet of the trail annually over a three year period.

Responsive to Issue: 1.6.2.1- Cultural Sites

Rationale: Monitoring would determine if mitigation measures are successful.

22) Action: Monitor Cash Canyon golden eagle territory annually to determine if alternative mitigation measures to protect golden eagle nests are effective.

- A. Known nests on BLM land would be observed twice annually to determine occupancy and success.
 - a. The first visit should occur from February 15- March 1. If no birds are detected an additional check should occur from March 1 - March 15.
 - b. Even if no birds are detected, a second check should occur from May 1 to May 15 to determine if the nest contains young.
- B. Surveys will result in 5 findings each year.
 - a. Unknown: Could not determine status.
 - b. Vacant - Nest not occupied during the entirety of the breeding season.
 - c. Occupied - Either incubation or chicks are observed.
 - d. Successful - Chicks are observed to be at least 51 days old.
 - e. Unsuccessful - Nest was occupied, but chicks did not make it to 51 days of age.

Responsive to Issue: 1.6.2.3-Wildlife

Rationale: To determine if nest buffer mitigation measures are successful.

Development Common to All Action Alternatives:

1) Trailheads/Parking Areas

There are no Trailhead/Parking Areas common to all action alternatives.

2) Trails:

Simon Draw Area (North of County Road M)

This area would consist of five ‘stacked loops’ (loops that can be ridden independently, or combined for progressively longer trail opportunities) and two access trails. The stacked loops would be designed for additional challenge and greater technical skills the farther they are from the trailhead. The two small access trails, would allow access to the trail system from County Road 30.2 and County Road N. This area would have approximately 9 total miles of trail under all action alternatives.

Carly Trail:

This loop trail would be accessed from the County Road M Trailhead/Parking Area. It would be

generally flat and designed for riders of all abilities. The short (about 1.4 mile) loop would wind through widely spaced pinyon-juniper and sagebrush, ideal for a kid's loop, warm up, or jumping off point for the rest of the trails in the Simon Draw area. Average Grade:

Approx. 7%.

Schuster Trail:

This loop trail adds about 1.5 miles to the Carly Loop, providing scenic views into the shallow canyon of Simon Draw. It adds an element of challenge and difficulty with about 250 feet of elevation gain onto a small mesa top and a minor side-drainage crossing. Average Grade:

Approx. 7%.

Paul Trail:

This loop trail would add approximately 1.2 additional miles to the first two loops of this stacked loop system. It affords views of a deeper and more dramatic side canyon to Simon draw without the difficulty of dropping into, or climbing out of the drainage. Average Grade:

Approx. 7%.

LeBon Trail:

This loop option, tiering off of the Paul trail, continues to follow the dramatic side canyon of Simon Draw. It peak at around 6,600 feet in elevation with nice overlook options into the canyon, and adding about .8 of a mile to the trail system. Average Grade: Approx. 6%.

Garfunkel Trail:

The Garfunkel Loop would be the farthest from the Road M trailhead and would provide the opportunity for the most technical difficulty and challenge of the Simon Draw system. It would add approximately 3.3 miles of trail, crossing into and out of the un-named side canyon of Simon Draw. It would also feature linkages out to County Road N to the west, and County Road 30.2 to the north (pending the perfection of access off of these roads and through willing private land owner's property). Average Grade: Approx. 8%.

Road N Access Trail:

This trail would spur off of the Garfunkel Trail to the west, potentially accessed from the end of road "N". There is currently no parking available along County Road N. There is currently a user-created OHV trail utilized by users to access the Simon Draw area. Survey and title work conducted by the BLM and Montezuma County depict the County Road as bordering BLM managed lands for 75 feet, thus providing access to this potential trail directly from the County Road.

Road 30.2 Access Trail:

This trail would spur off of the Garfunkel Trail to the north, potentially accessed from the end of road "30.2". There is currently no parking available along County Road 30.2. This 300 foot access trail would only be built if and when public access was perfected through the adjacent private land.

Cash Canyon Area (Between County Roads L and M)

There are no trail proposals common to all action alternatives in this portion of the unit.

Highline Area (Between Ledges Trail and County Road L)

This area would be comprised of two main single track trail loops which connect the existing non-motorized trail system to Road L. The closest access to this area would come from the

County Road L trailhead, though they would also connect directly to the existing Ledges trail. There are several miles of designated OHV trails in this area as well. This area would have approximately 5.5 total miles of trail under all action alternatives.

Highline Trail:

The Highline Trail forms a nearly 3 mile loop off of the County Road L trailhead. It features a variety of terrain from small rolling arroyos, to cliff bands, to overlooks of the Sleeping Ute. Its gentle terrain lends itself to opportunities for beginning to moderate riders. Average Grade: Approx. 6%.

Canal Trail:

The Canal Trail represents the middle of three stacked loops in this area (the third loop represented by the existing Ledges Trail which provides the greatest level of technical difficulty of the three). This trail would add a 2.3 miles of trail to the Highline Trail and range from about 6,400 feet to 6,700 feet in elevation. Average Grade: Approx. 8%.

Stinking Springs Area (Southern Portion of Phil's World)

Within the Stinking Springs area would be three new single track trails, and one new connector trail along the Stinking Springs trail. This area would have approximately 3.6 miles of new trails under all action alternatives.

Poquito Burrito Trail:

This trail would form a new loop opportunity off of the existing Stinking Springs trail. It would pose a high degree of challenge where it enters and exits Stinking Springs Canyon. It would likely feature 'hike-a-bike' sections where the majority of riders would have to step off their bikes to navigate difficult terrain. This loop would add approximately 2.25 miles of new trail to the Stinking Springs loop. Average Grade: Approx. 7%.

Stinking Springs Connector:

This small connector (approximately 200 feet) would provide a cutoff along the Stinking Springs trail, eliminating much of the most challenging terrain for those wishing for an easier trail option. The connector would follow a small ephemeral drainage. Average Grade: Approx. 2%.

Tiny Dancer Trail:

A portion of the Stinky Springs loop weaves in and out of private and public lands along the northern rim of Stinking Springs Canyon. This trail, approximately 1.2 miles in length, would shift the trail northward, away from the canyon rim, and entirely onto publicly managed lands. Average Grade: Approx. 5%.

Short N Sweet Trail:

This trail would stay on BLM managed lands to the east of the private lands. The new portion of trail would be approximately .5 miles in length. Average Grade: Approx. 3%. (See Table 2: Comparison of Action Alternatives Trail)

Table 2: Comparison of Action Alternatives Table

	Alternative B	Alternative C	Alternative D
Trails	<p>Simon Draw Area:</p> <ol style="list-style-type: none"> 1) Carly 2) Schuster 3) Paul 4) LeBon 5) Garfunkel 6) Road N Access 7) Road 30.2 Access 8) Misc. Connectors <p>Cash Canyon Area:</p> <ol style="list-style-type: none"> 1) Talon 2) Cash-Money 3) Aquila 4) Eyrie 5) Misc. Connectors <p>Highline Area:</p> <ol style="list-style-type: none"> 1) Highline 2) Canal 3) 6400 <p>Stinking Springs Area:</p> <ol style="list-style-type: none"> 1) Poquito Burrito 2) Tiny Dancer 	<p>Simon Draw Area:</p> <ol style="list-style-type: none"> 1) Carly 2) Schuster 3) Paul 4) LeBon 5) Garfunkel 6) Road N Access 7) Road 30.2 Access 8) Misc. Connectors <p>Cash Canyon Area:</p> <ol style="list-style-type: none"> 1) Talon 2) Cash-Money (modified) <p>Highline Area:</p> <ol style="list-style-type: none"> 1) Highline 2) Canal <p>Stinking Springs Area:</p> <ol style="list-style-type: none"> 1) Poquito Burrito 2) Tiny Dancer 	<p>Simon Draw Area:</p> <ol style="list-style-type: none"> 1) Carly (modified) 2) Schuster 3) Paul 4) LeBon 5) Garfunkel 6) Road N Access 7) Road 30.2 Access 8) Misc. Connectors <p>Cash Canyon Area:</p> <p>No trails</p> <p>Highline Area:</p> <ol style="list-style-type: none"> 1) Highline (modified) 2) Canal <p>Stinking Springs Area:</p> <ol style="list-style-type: none"> 1) Poquito Burrito 2) Tiny Dancer

	3) Short N Sweet 4) Stinking Springs Connector 5) Poquito Burrito Access	3) Short N Sweet 4) Stinking Springs Connector 5) Resource Re-routes	3) Short N Sweet 4) Stinking Springs Connector
Total Additional Trail Miles	26.5 miles	22 miles	18.0 miles
Trailheads /Parking Areas	1) Road L, .5 acres 2) Road M (pre-disturbed area within < ½ mile from nest), 1.5 acres	1) Road L, Split Level parking, 1.65 acres 2) Road M (previously undisturbed area > ½ mile from nest), .85 acres	1) Road L, .5 acres 2) Road M (previously undisturbed area > ½ mile from nest), .5 acres
Wildlife Buffer for Active Eagle Nest (no new trail development area)	263 acres	355 acres	398 acres

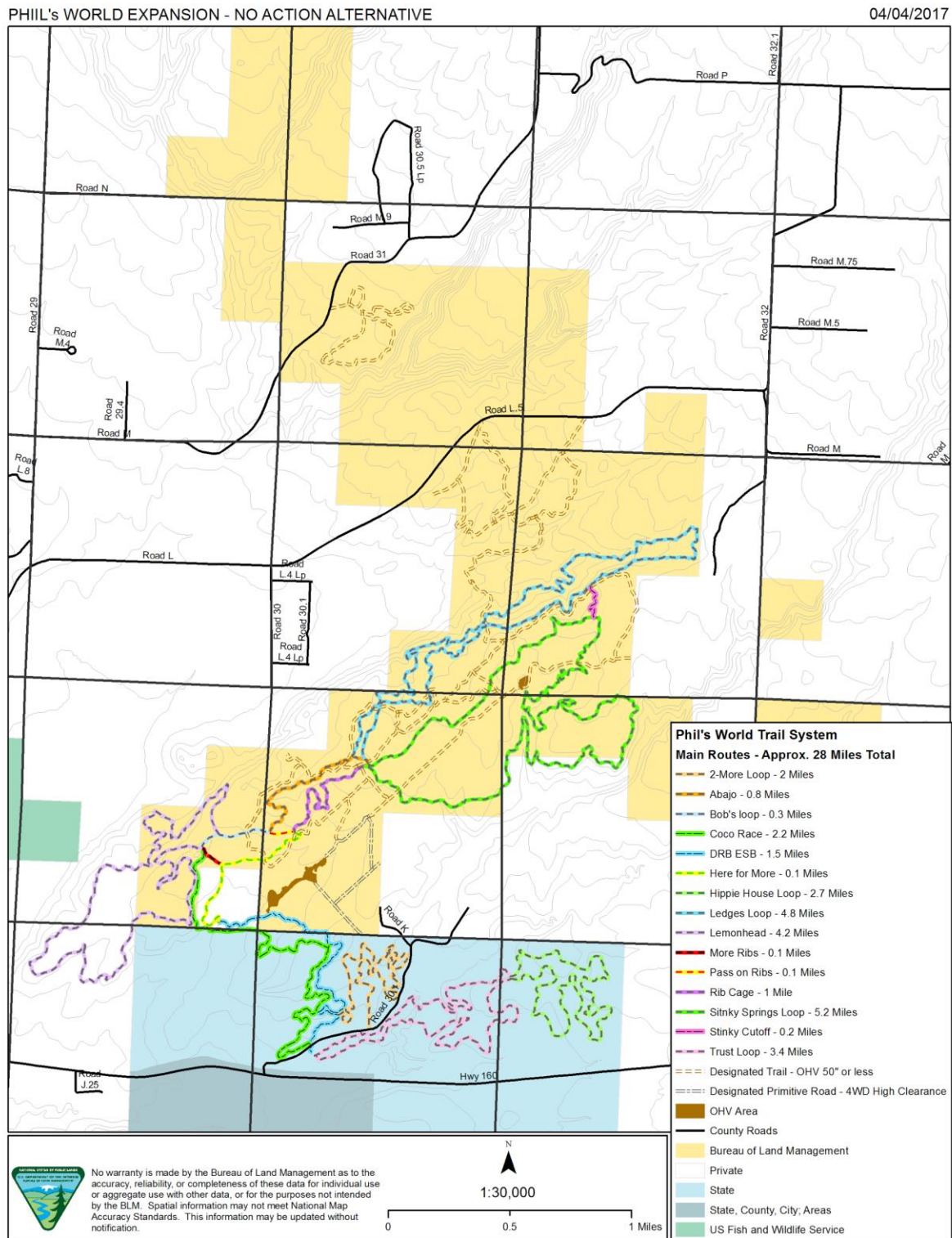
2.1. Alternative A: No Action

Under the No-Action Alternative, no new trails would be constructed. Non-motorized trails would continue to be provided for only in the southern 1/3 of the Phil's World portion of the Cortez SRMA. All trail use on BLM would be limited to the existing 15 miles of non-motorized trails (and 13 miles of motorized trails). These non-motorized trails include the interior/core loop (including Coco Race, Bob's Loop, Here, Abajo, Rib Cage, Here for More, and DRB ESB trail segments), three main exterior loops (Lemonhead, Ledges, and Stinking Springs), and three linkage trails (Pass on Ribs, More Ribs, and Stinky Cutoff). Trail use would continue to be concentrated out of a single access point located on Colorado State Land Board property. (See

Map 1: Alternative A, No Action)

This alternative would not meet the purpose and need for the proposed action, but provides important baseline information for the decision maker and the public when reviewing the analysis of the action alternatives.

Map 1: Alternative A, No-Action



2.2. Alternative B: Proposed Action

The SWCCA is proposing approximately 26.5 miles of new single track, non-motorized trails, as well as two new trailhead/parking areas, to be added to the existing Phil's World trail system in Cortez Colorado. The trails would tie into the existing trail system and provide a wide variety of terrain, challenge, and loop options. The two new trailheads would be designed to disperse use throughout the Phil's World area and would take pressure off of the existing trailhead facilities. (See Map 2: Alternative B, Proposed Action)

This Proposed Action seeks to maximize the single track trail opportunities in the Phil's World area while shifting trail design and location away from sensitive resources identified during the internal and external scoping process.

Under Alternative B the following elements would differ from the "Design Criteria Common to All Action Alternatives" and "Developments (Trails and Trailheads) Common to All Action Alternatives":

- 1) Modification of Design Criteria #1 (Active Eagle Nest Buffer) of the "Design Criteria Common to All Action Alternatives" is described below:

The buffer area around the active Golden eagle nest in Cash Canyon would be a key component of this alternative. Rather than a 'perfect circle' ½ mile buffer, the boundaries of this buffer area would take into consideration private land boundaries to the north, terrain, and vegetation. The buffer also reflects proximity of the nest to existing disturbances such as County Roads L and M (.3 miles and .45 miles from the nest, respectively) and residential developments (.25 miles from the nest) which may demonstrate habituation by the eagle. The buffer would extend .6 miles to the east to protect the entire mesa top adjacent to the eagle nest from new trail development. The south boundary of the buffer would follow the southern edge of the canyon to the south of the nest. The western edge of the boundary would extend .3 miles from the nest, excluding a nearly 3 acre area of pre-existing disturbance, which would be used for trailhead parking under this alternative. The total buffer area set aside under this alternative would be approximately 263 acres.

- 2) Trailheads/Parking Areas

Under this alternative, there would be two new trailheads/parking areas developed to facilitate access to the northern portion of the Phil's World area:

Road L: This trailhead would be located about 300 feet southeast of Road L, approximately .7 miles from the Golden eagle nest in Cash Canyon. Vegetation within the disturbance area is a mixture of grass, sage, and sparse pinyon-juniper. The parking area would be approximately ½ acre in size (200 feet x 100 feet) and would require minimal tree clearing (less than 15 individual trees). The site is relatively flat, but would require a limited amount of earthwork and would be surfaced with imported road-base. The site is currently close to full-sized

vehicles, but is located at the terminus of an Off-Highway Vehicle (OHV) trail designated for use in the 2008 Mancos-Cortez Travel Management Plan and carried forth under the Tres Rios RMP. A closed, but not fully rehabilitated road would be re-opened to full sized vehicles for purposes of accessing the parking area/trailhead from County Road L. Fencing/barriers would be installed to delineate the parking area and an informational kiosk would be constructed to provide natural and cultural resource interpretation as well as a trail map. A vaulted restroom could be installed or portable restroom facilities furnished, dependent on trailhead use and demand. Other similar trailhead related structures could include shade cabanas and picnic tables.

Road M: The northernmost trailhead would be located in a pre-disturbed site east of Road M, approximately .3 miles northwest of the golden eagle nest in Cash Canyon. Approximately 1.5 acres of the 3 acre pre-disturbed area would be used for this trailhead/parking area. Vegetation within the disturbance area is a mixture of grass and small sage. No tree clearing would be necessary at this site. The site is also nearly flat, so little to no earthwork would be required, though surface gravel (road-base) would likely be imported. The area is currently gated off to full-sized vehicles, but allows access to a small system of Off-Highway Vehicle (OHV) trails designated for use in the 2008 Mancos-Cortez Travel Management Plan and carried forth under the Tres Rios RMP. Under this alternative, the gated entrance road would be re-opened to full sized vehicles for purposes of accessing the parking area/trailhead. Fencing/barriers would be installed to delineate the parking area and an informational kiosk would be constructed to provide natural and cultural resource interpretation as well as a trail map. A vaulted restroom could be installed or portable restroom facilities furnished, dependent on trailhead use and demand. Other similar trailhead related structures could include shade cabanas and picnic tables.

3) Trails

In addition to the trails listed under “Development (Trails and Trailheads) Common to All Action Alternatives”, the following trails would be developed:

Cash Canyon Area (Between County Roads L and M)

The three loops in this portion of the trail system could be accessed from either of the proposed trailheads. Access from the Road L trailhead would provide opportunities for easy to moderate trail experiences, while the access from the Road M trailhead would provide a more challenging option where it would drop briefly into Cash Canyon via the Cash-Money trail connection. When combining the 3 main loops south of Cash Canyon with the access trails from the County Road M Trailhead (Cash-Money trail), this area would have approximately 8 total miles of trail.

Cash-Money Trail:

The Cash-Money trail would serve as the access/egress trail from the County Road M Trailhead to the Cash Canyon Area trails. This trail would likely involve small hike-a-bike sections for the majority of riders in order to keep the trail as far from the golden eagle nest as possible. This trail from the County Road M Trailhead to the Talon Trail could be used as a 1.75 mile stand-alone loop, but would more likely serve as a connector trail between the Cash Canyon Area trails and the Simon Draw Area trails. Average Grade: Approx. 9%.

Talon Trail:

The Talon Loop would represent the initial loop into the Cash Canyon area trails from the County Road L trailhead. Its nearly 2 miles would provide opportunities similar to the Ribcage (with an undulating terrain) and a brief glimpse into Cash Canyon. Average Grade: Approx. 5%.

Aquila Trail:

The Aquila Trail forms a natural extension of the Talon Loop, lengthening the loop out to approximately 2.5 miles and providing views into the un-named canyon which branches off of Cash Canyon to the east. This portion of trail is approximately 1.3 miles in length with an average grade of approximately 6%.

Eyrie Trail:

This third and final leg of the stacked loop trails in the Cash Canyon area adds an additional 1.75 miles of trail to the system. Like the Aquila Trail, the Eyrie trail offers canyon views but does not drop into the canyon. It would be designed to give beginner users views of the canyon with minimal effort and technical requirements. Average Grade: Approx. 6%.

Highline Area (South of Road L, north of existing Ledges Trail)

6400 Trail:

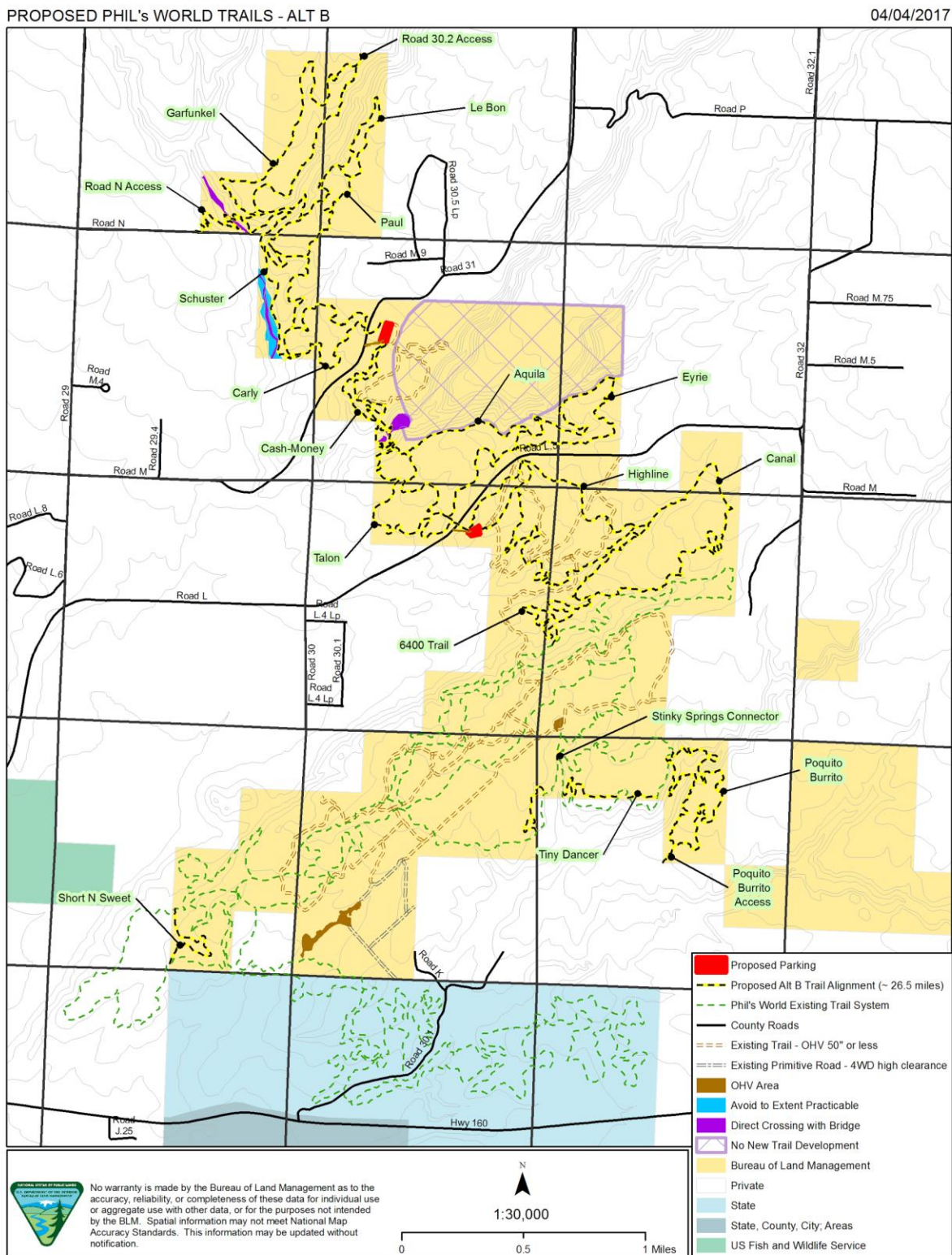
The 6400 Trail would provide a secondary linkage between the existing Ledges Trail to the Canal and Highline Trail. This approximately 1.1 mile trail would provide views into a small un-named canyon as well as views of the Sleeping Ute. Average Grade: Approx. 6%.

Stinking Springs Area:

Poquito Burrito Access Trail:

Under the Proposed Action, the Poquito Burrito Trail would include a small (approximately 600 feet) spur trail to the BLM/private land boundary. This 600 foot long access trail would only be built if and when public access was perfected through the adjacent private land.

Map 2: Alternative B, Proposed Action



2.3. Alternative C

Under Alternative C the following elements would differ from the “Design Criteria Common to All Action Alternatives” and “Developments Common to All Action Alternatives”:

- 1) Modification of Design Criteria #1 (Active Eagle Nest Buffer) of the “Design Criteria Common to All Action Alternatives” is described below:

The buffer area around the active golden eagle nest in Cash Canyon would more closely follow a strict interpretation of the ‘perfect circle’ ½ mile radius identified in the RMP. The boundary would still be modified to recognize private land boundaries to the north. It would also be adjusted to exclude BLM managed lands beyond County Roads L and M (.3 miles and .45 miles from the nest, respectively) which represent existing disturbances and may demonstrate habituation by the eagle. The southwestern edge of the boundary would extend .4 miles from the nest, allowing for trail linkages between Roads L and M based on topographic screening at the confluence of Cash Canyon and the unnamed canyon entering from the east. The total buffer area set aside under this alternative would be approximately 355 acres. (See Map 3: Alternative C)

- 2) The following Design Criteria would be added:

Implementation of a seasonal closure for all new trails north of Road L (Cash Canyon and Simon Draw area trails) December 1-April 30, to protect big game habitat based on updated Colorado Parks and Wildlife maps depicting severe winter range and winter conservation areas.

- 3) Trailheads/Parking Areas

Under this alternative, there would be two new trailheads/parking areas developed to facilitate access to the northern portion of the Phil’s World area:

Road L: Under this Alternative, there would be a split level parking area on the south side of Road L. This differs from the other action alternatives in that a second, ‘upper level’ parking area would be added to ensure parking is adequate to accommodate the anticipated use and to be of sufficient size so as to not exclude horse trailer parking. This parking area would make use of the same access route from Road L analyzed for the other action alternatives. The additional parking area would be approximately .95 acres and would require minimal tree clearing (fewer than 10 individual trees). The site is relatively flat, but would require a limited amount of earthwork and would be surfaced with imported road-base. Total acres of disturbance between the two parking levels would be approximately 1.65 acres.

Like the other action alternatives, fencing/barriers would be installed to delineate the parking area and an informational kiosk would be constructed to provide natural and cultural resource

interpretation as well as a trail map. A vaulted restroom could be installed or portable restroom facilities furnished, dependent on trailhead use and demand. Other similar trailhead related structures could include shade cabanas and picnic tables.

Road M: The northernmost trailhead would be located on the northwest side of Road M, outside of the ½ mile radius from the eagle nest, servicing trails in the Simon Draw area. The parking area would be approximately .85 acres in size in an area previously disturbed but not fully reclaimed. This footprint would be slightly larger than analyzed in Alternative D to ensure parking is adequate to accommodate the anticipated use and to be of sufficient size so as to not exclude horse trailer parking. Vegetation consists mostly of grass and small sage, with a few sparsely populated pinyon-juniper. The area would have to be cleared (approximately 10 pinyon-juniper trees removed), graded, and surfaced similar to the parking area proposed at Road L.

Like Alternative D, a new access road (approximately 60 feet in length) would also be necessary. Fencing/barriers would be installed to delineate the parking area and an informational kiosk would be constructed to provide natural and cultural resource interpretation as well as a trail map. A vaulted restroom could be installed or portable restroom facilities furnished, dependent on trailhead use and demand. Other similar trailhead related structures could include shade cabanas and picnic tables.

4) Trails

In addition to the trails listed under “Development Common to All Action Alternatives”, the following trails would be developed:

Cash Canyon Area (Between County Roads L and M)

Under Alternative C, a pair of trails (Cash Money and Talon) linking Roads L and M would be developed between the two trailheads. Access from the Road L trailhead would provide opportunities for easy to moderate trail experiences, while the access from the Road M trailhead would provide a more challenging option where it would drop briefly into Cash Canyon. When combining the Talon Trail with the access trail from the County Road M Trailhead (Cash-Money Trail), this area would have approximately three total miles of trail.

Cash-Money Trail:

The Cash-Money trail would serve as the access/egress trail from the County Road M Trailhead to the Talon Trail. This trail would likely involve small hike-a-bike sections for the majority of riders in order to keep the trail as far from the golden eagle nest as possible. This trail from the County Road M Trailhead to the Talon Trail could be used as a one mile stand-alone loop, but would more likely serve as a connector trail between the Cash Canyon Area trails and the Simon Draw Area trails. Average Grade: Approx. 12%.

Talon Trail:

The Talon Loop would tie in with the Cash Money Trail to provide access between the Road L

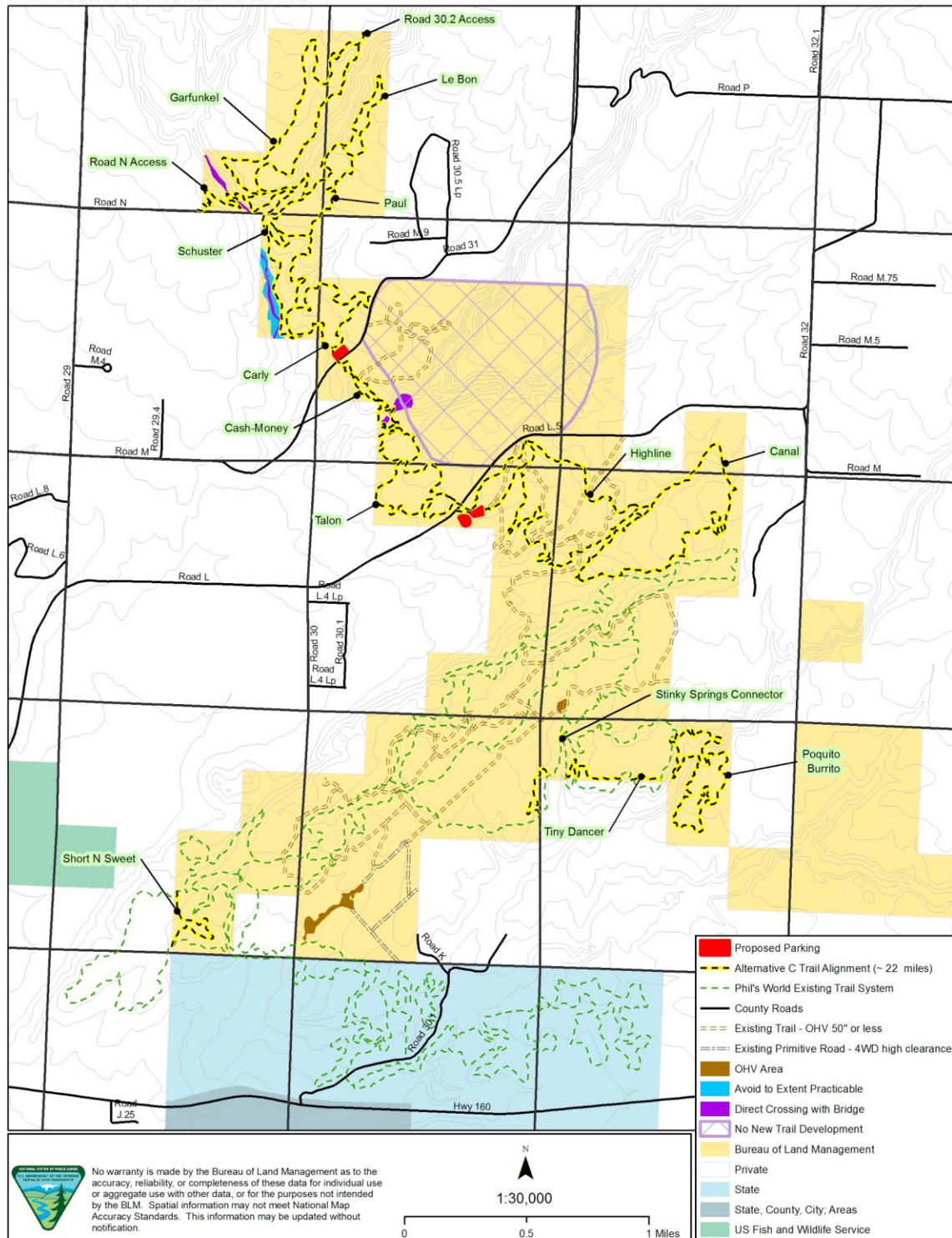
Trailhead and the Simon Draw Area trails. Its nearly two miles would provide opportunities similar to the Ribcage (with an undulating terrain) and a brief glimpse into Cash Canyon. Average Grade: Approx. 5%.

There would be approximately 22 total miles of new trails under this alternative.

Map 3: Alternative C

PROPOSED PHIL'S WORLD TRAILS - ALT C

04/04/2017



2.4. Alternative D

Under Alternative D the following elements would differ from the “Design Criteria Common to All Action Alternatives” and “Developments Common to All Action Alternatives”:

- 1) Modification of Design Criteria #1 (Active Eagle Nest Buffer) of the “Design Criteria Common to All Action Alternatives” is described below:

The buffer area around the active golden eagle nest in Cash Canyon would include the entire ½ mile radius identified in the RMP, modified only to recognize private land boundaries to the north. The total buffer area set aside under this alternative would be approximately 398 acres. (See Map 4: Alternative D)

- 2) Trailheads/Parking Areas

Under this alternative, there would be two new trailheads/parking areas developed to facilitate access to the northern portion of the Phil’s World area. There would be no trail linkage between the trailheads.

Road L: This trailhead would be located about 300 feet southeast of Road L, approximately .7 miles from the golden eagle nest in Cash Canyon. Vegetation within the disturbance area is a mixture of grass, sage, and sparse pinyon-juniper. The parking area would be approximately ½ acre in size (200 feet x 100 feet) and would require minimal tree clearing (fewer than 15 individual trees). The site is relatively flat, but would require a limited amount of earthwork and would be surfaced with imported road-base. The site is currently close to full-sized vehicles, but is located at the terminus of an Off-Highway Vehicle (OHV) trail designated for use in the 2008 Mancos-Cortez Travel Management Plan and carried forth under the Tres Rios RMP. A closed, but not fully rehabilitated road would be re-opened to full sized vehicles for purposes of accessing the parking area/trailhead from County Road L. Fencing/barriers would be installed to delineate the parking area and an informational kiosk would be constructed to provide natural and cultural resource interpretation as well as a trail map. A vaulted restroom could be installed or portable restroom facilities furnished, dependent on trailhead use and demand. Other similar trailhead related structures could include shade cabanas and picnic tables.

Road M: The northernmost trailhead would be located on the northwest side of Road M, outside of the ½ mile radius from the eagle nest, servicing trails in the Simon Draw area. The parking area would be approximately ½ acre in size (200 feet x 100 feet) in an area previously disturbed but not fully reclaimed. Vegetation consists of mostly of grass and small sage, with a few sparsely populated pinyon-juniper. The area would have to be cleared (approximately 10 pinyon-juniper trees removed), graded, and surfaced similar to the parking area proposed at Road L. A new access road (approximately 60 feet in length) would also be necessary. Fencing/barriers would be installed to delineate the parking area and an informational kiosk would be constructed to provide natural and cultural resource interpretation as well as a trail

map. A vaulted restroom could be installed or portable restroom facilities furnished, dependent on trailhead use and demand. Other similar trailhead related structures could include shade cabanas and picnic tables.

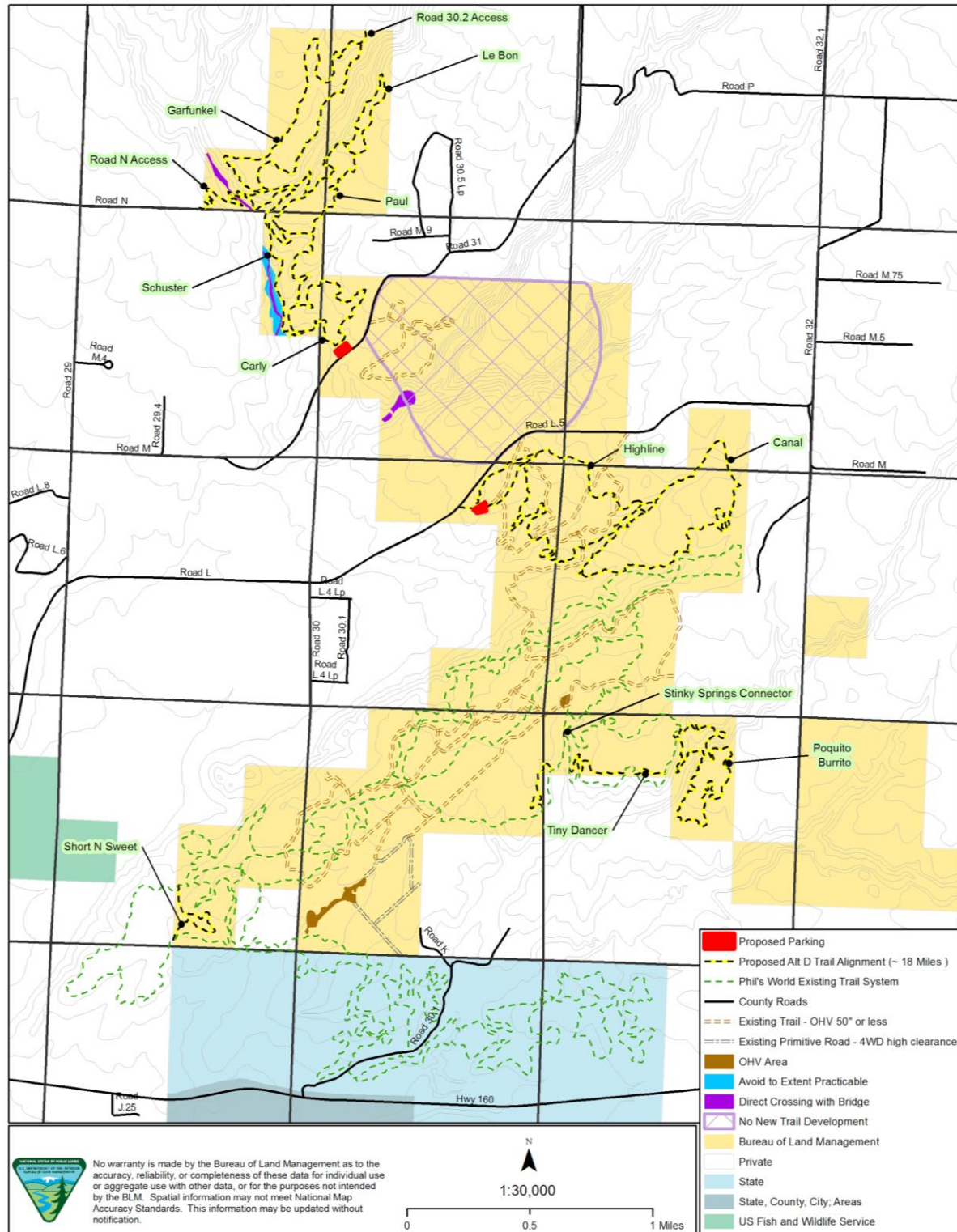
3) Trails

There would be no additions to the trails listed under “Development Common to All Action Alternatives”.

Map 4: Alternative D

PROPOSED PHIL's WORLD TRAILS - ALT D

04/04/2017



2.5. Alternatives Considered but Eliminated from Detailed Study

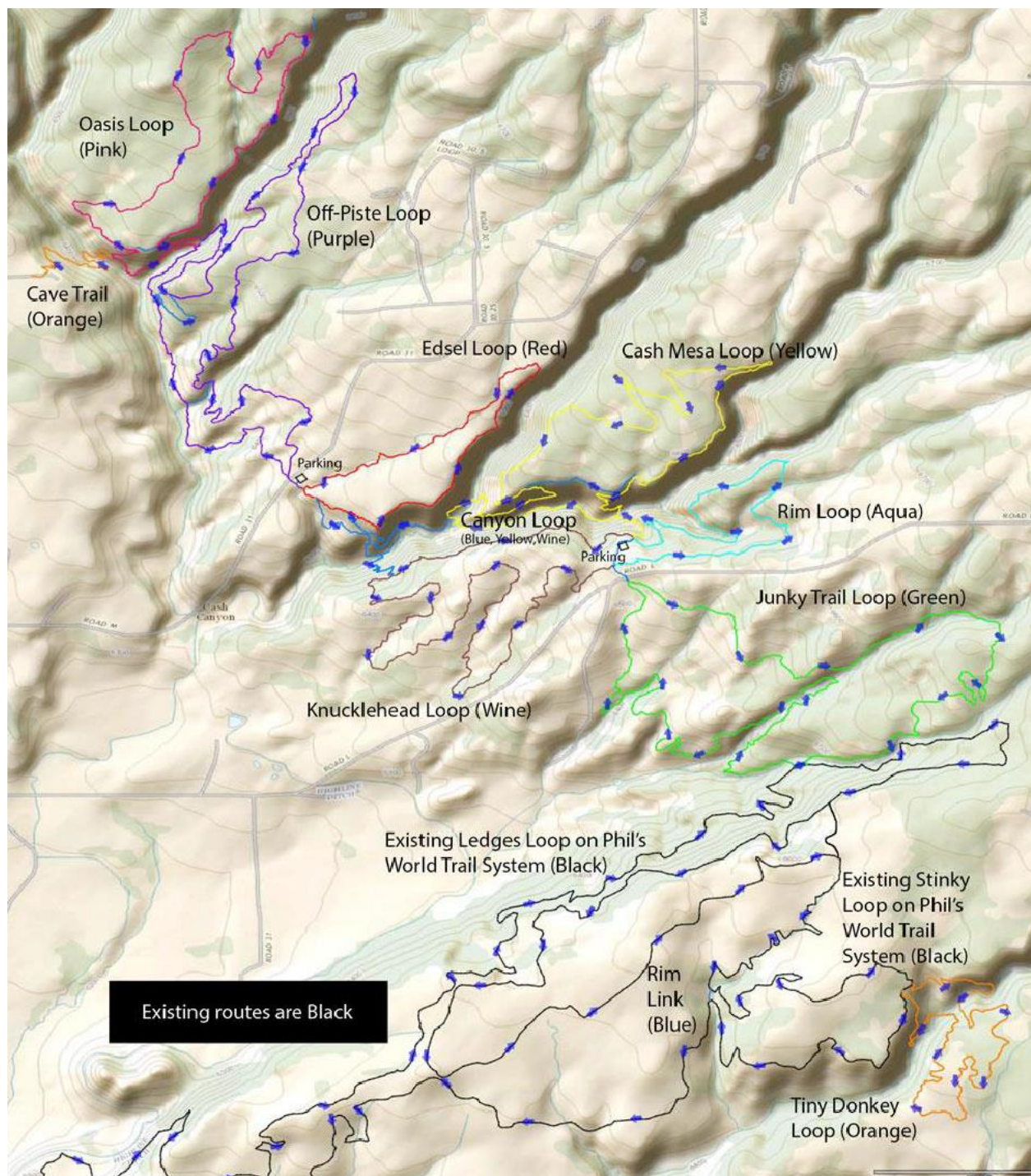
SWCCA Proposal #1

Prior to the completion of the 2015 Tres Rios RMP and the establishment of the Cortez SRMA, the SWCCA proposed a series of trails from 2004 to 2011 to the USFS/BLM office in the Phil's World area which were never evaluated by the agencies. These proposed trails were all located south of County Road M and included the Cash Canyon Trail (proposed 2005 and 2009), Cash Mesa Trail (proposed 2005 and 2009), Junky Trail, (proposed 2005 and 2009), and Tiny Donkey Trail (proposed 2011). In 2013 SWCCA updated their proposal to include the Knucklehead, Rim, Edsel, Canyon, and North Loops. (See Map 5: Original SWCCA Proposal)

However, after meeting with the BLM and hearing concerns from the BLM and Colorado Parks and Wildlife biologists regarding importance of the canyon features for big game habitat, the SWCCA adjusted their proposal once again; this time removing the proposed trails running up and down the canyon bottoms and focusing instead on the canyon rims. This adjustment came at the expense of the opportunity to ride in the shaded and sheltered canyon bottoms, an experience not currently represented by the existing Phil's World trail system. The SWCCA also volunteered to postpone their request for the proposed Tiny Donkey trail due to the lack of existing cultural survey work in that area (the BLM has decided to analyze that proposed trail in this document {now called the Poquito Burrito Trail}, rather than revisit the area at a later date. Cultural survey was subsequently completed by BLM Archaeologists during the 2016 field season).

As a result of both internal and external scoping on the SWCCA proposal in 2015, it was discovered that the proposed trails would pass through multiple eligible cultural sites and very near to an active golden eagle nest. The BLM developed three alternatives to the SWCCA proposal which would avoid direct effects to the cultural sites and provide substantial buffers (approximately 250 and 350, and 400 acres respectively) around the golden eagle nest. Although it results in the loss of two potential trail loops (Cash Mesa and Edsel) totaling 5.5 miles, connecting trails in one of the canyons, and the relocation of a trailhead/parking area, the SWCCA adopted one the BLM's alternatives as their Proposed Action. The 2013 SWCCA alternative (and its associated predecessors) has been removed from further analysis as it did not adequately resolve resource conflicts with cultural and wildlife resources.

Map 5: Original SWCCA Proposal



3. ENVIRONMENTAL EFFECTS

3.2. Affected Environment

3.2.1. *Cultural Resources*

The current archaeological record in the general vicinity of the planning area indicates at least 10,500 years of human presence. Prehistoric and historic traditions within the area are generally categorized and discussed in terms of periods or eras that represent trends of tradition evident in the material record. In southwest Colorado, Paleoindian, Archaic, Formative, Protohistoric and Historic periods/eras are present.

Cultural resources within the analysis area include a diverse array of prehistoric, protohistoric, and historic sites. The majority of the sites within the analysis area are open camps, limited use activity areas, and open architectural habitation sites associated with Ancestral Puebloan occupation. Historic site types are also present, and include the remains of small scale coal mining, trash dumps, and historic inscriptions. The condition of these sites range from very good to impacted (vandalized).

A total of 12 cultural resource inventories have been conducted within the 2,409 acre BLM parcel in the analysis area, resulting in approximately 2,308 acres of survey. As a result, 100% of the direct impact analysis area, and 96% of the indirect impact analysis area, has been inventoried for cultural resources. Cultural resource survey coverage is present for all elements of the action alternatives that have the potential to directly affect cultural resources. A total of 139 archaeological sites have been recorded within the BLM portion of the planning area. One hundred seven of these sites (77%) are eligible or potentially eligible for inclusion on the National Register of Historic Places (NRHP). Thirty two of the sites in the BLM portion of the planning area are not eligible for listing on the NRHP. These numbers have been updated from the preliminary EA to reflect the results of cultural resource survey conducted for the new trail proposal.

3.2.2. *Soils/Hydrology/Riparian*

The three primary stream-canyons that dissect the analysis area are Simon Draw, Cash Canyon and Stinking Springs Canyon, all tributary to McElmo Creek. Each of the streams has been modified by irrigation withdrawals, irrigation return flows, water diversions, and impoundments. The median elevation of the area is approximately 6,500 feet and small watersheds at this elevation in southwest Colorado typically have short-duration peak flows in response to snowmelt runoff in the early spring. They may also have short duration peak flows associated with flash flooding triggered by monsoonal thunderstorms. Perennial flows in the major canyons and in their larger side tributaries are augmented by irrigation water return flow.

All of these streams support riparian vegetation in the canyon bottoms whether the streamflow is perennial or intermittent. Riparian vegetation consists of Fremont cottonwood, willow, Russian

olive, cattail, rushes and sedges.

The analysis area lies within the Colorado Plateau geologic province. All of the proposed Phil's World trails would be built on bedrock or soils derived from the cretaceous Dakota Sandstone and Burro Canyon formations (Tewto, 1979). The Dakota sandstone is comprised of beach sands and is resistant to erosion, typically forming cliffs and the cap rock of mesas and plateaus. When dissected by streams this formation tends to form the steep-sided canyons characteristic of the Phil's World analysis area. The Burro Canyon Formation is comprised of riverine conglomerate, sandstone, shale, limestone and chert and tends to form slopes, cliffs, and ledges under the Dakota Sandstone.

Soils on mesa tops are mostly sandy or loamy and relatively stable if located on flat areas including Wetherill loam, Sharps loam, Gladel-Pulpit soils units. These soils are low strength and on moderate to steeper slopes they are moderately to highly erosive. Gladel-Pulpit, Wetherill/Sharps loam has moderate suitability for road and trail construction on low slopes. Sharps loam has severe erodibility on slopes 6-12 percent. Steep canyon sides are typically soils of the Romberg-Crosscan unit which have very severe slope erodibility and are poorly suited for trail or road construction (NRCS, 2001).

3.2.3. *Wildlife and Threatened and Endangered Species*

The Phil's World Trail project area consists of pinyon-juniper woodlands and canyons with perennial and ephemeral flows. A variety of the wildlife use the area such as deer, elk, raptors, lizards, bats, small mammals, migratory birds and other species. The analysis for the Phil's World Trail project area will focus on deer and elk, golden eagle and New Mexico meadow jumping mouse. These species have the potential to be affected by the project.

Effects to wildlife from the Phil's World Trail Expansion Project can be divided into two categories: 1) trail construction and maintenance and 2) subsequent trail use. The latter is expected to generate the most meaningful disturbance to wildlife. Extensive disturbance by recreationists can have an immediate and long term effect on wildlife. Consequences of long term disturbance can result in net energy loss, effects to animal behavior and fitness, and avoidance of otherwise suitable habitat.

New Mexico Meadow Jumping Mouse

The New Mexico meadow jumping mouse (*Zapus hudsonius luteus*, NMMJM) is a habitat specialist that appears to utilize only two riparian communities: persistent, emergent, herbaceous, wetlands and scrub-shrub wetlands (Frey 2005). Twenty nine populations of NMMJM persist. They are located in Colorado (2 populations), New Mexico (15 populations), and Arizona (12 populations - US Fish and Wildlife Service). Critical habitat for NMMJM occur in one location on the Tres Rios Field Office on the Florida River, east of Durango, Colorado. But habitat adequate to support NMMJM occurs throughout the field office and the number of active patches of potential habitat is unknown. For the purposes of this analysis, and as required by the

Endangered Species Act, all habitat that meets habitat characteristics will be considered occupied unless surveys determine otherwise. No surveys have been conducted to determine presence within the analysis area.

Existing Conditions

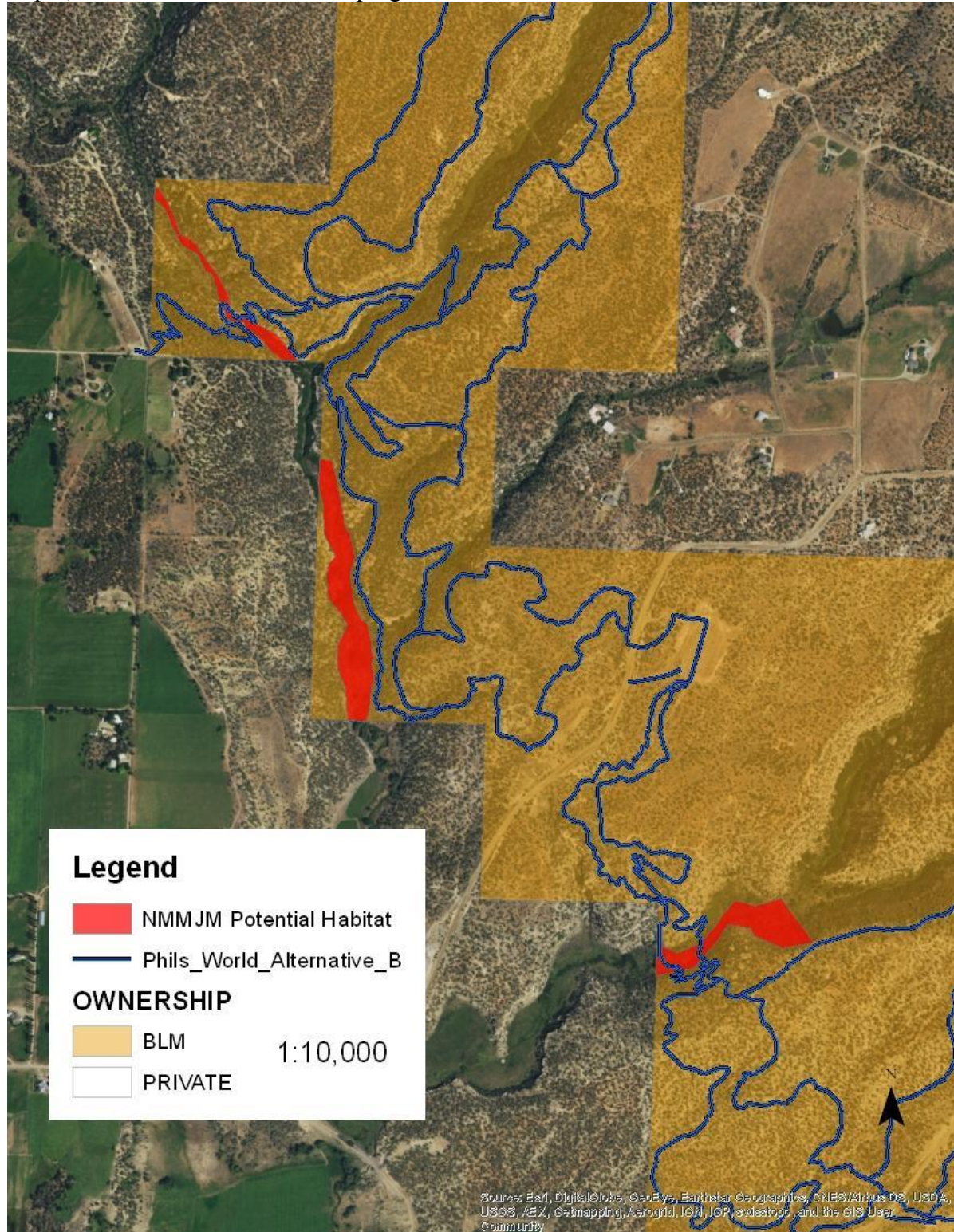
Potential habitat for NMMJM occurs in two drainages within the project area, totaling approximately 11 acres (see Map 6, New Mexico Meadow Jumping Mouse Potential Habitat on BLM). Each potential habitat location is a tributary to Simon Draw and both are connected to habitat on private land in Simon Draw. Year round water is suspected to come from nearby irrigation in both systems. Tall vegetation lines the bank and borders the stream. Riparian vegetation buffers the stream by varying widths, from approximately 2 to 12 meters. The habitat is not currently known to be occupied by NMMJM; however, the habitat is suitable and may be a suitable site for reintroduction in the future.

Recreation Affects

Currently 75% of the known NMMJM populations are impacted by recreational activities (Frey 2005). Recreational impacts range from removal of vegetation through trampling to changes in hydrology caused by off road vehicles driving through riparian areas.

There are no known threats from mountain biking or hiking in particular, other than activities associated with permanently removing vegetation, such as trail building.

Map 6, New Mexico Meadow Jumping Mouse Potential Habitat on BLM



Golden Eagle

Golden eagles are protected by the Bald and Golden Eagle Protection Act (Eagle Act; 16 United States Code [U.S.C.] 668-668d). The act prohibits the “taking” of eagles which it defines as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb”. The act further defines disturb as:

“to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior”.

Existing Conditions

Golden eagles occur throughout the TRFO, primarily in open habitats near cliff faces adequate for nesting. TRFO monitoring of golden eagle nests identified 9 occupied nests out of 28 monitored in 2015 and 6 occupied nests out of 24 monitored in 2016. In 2015, 32% of nests monitored were occupied compared to 25% in 2016. In 2016, 3 nests were monitored and determined to have failed. A nest is considered failed if pair does not produce any young. The causes of nest failure were not known, however the lack of available prey is not suspected since Gunnison prairie dogs and cotton tail rabbits both appear, anecdotally at least, to be increasing in numbers.

Table 2.1 Golden eagle Nest Monitoring, TRFO

Golden Eagle Nest Monitoring TRFO		
Year Checked	Status	Number
2016 (24 nests monitored)	Occupied	3
	Occupied Failed	3
	Occupied Alternate	2
	Unoccupied	9
	Unoccupied Alternate	6
	Unknown	4
2015 (28 nests monitored)	Occupied	9
	Occupied Failed	--
	Occupied Alternate	--
	Unoccupied	14
	Unoccupied Alternate	3
	Unknown	4

Occupied – A nest in which a breeding attempt was made, indicated by fresh lining material in the nest, adult presence at or near the nest, a recent and well-used perch site near the nest, eggs or young in the nest, fledged young near the nest, or an incubating or brooding adult on the nest.

Occupied Failed – An occupied nest that did not fledge young.

Occupied Alternate – A tended nest within the boundaries of a territory housing an occupied nest.

Unoccupied – A nest with no apparent recent use or adult presence at the time of observation, but in good condition.
 Unoccupied Alternate – An unoccupied nest within a territory that contains an occupied nest
 Unknown – A nest whose status was undetermined during subsequent surveys in the same nesting season.

Table 2.2 Golden Eagle Nest Monitoring, Project Area

Golden eagle nest monitoring in the project area							
Nest ID	2010	2011	2012	2013	2014	2015	2016
Cash Canyon 1	--	--	--	--	--	UNOC	UNOC
Cash Canyon 2	OCCU	OCCU	OCCU	OCCU	OCCU	UNOC	UNOC
Cash Canyon 3	--	--	--	--	--	UNOC	UNOC
Cash Canyon 4	--	--	--	--	--	UNOC	UNOC

Occupied – A nest in which a breeding attempt was made, indicated by fresh lining material in the nest, adult presence at or near the nest, a recent and well-used perch site near the nest, eggs or young in the nest, fledged young near the nest, or an incubating or brooding adult on the nest.
 Occupied Failed – An occupied nest that did not fledge young.
 Occupied Alternate – A tended nest within the boundaries of a territory housing an occupied nest.
 Unoccupied – A nest with no apparent recent use or adult presence at the time of observation, but in good condition.
 Unoccupied Alternate – An unoccupied nest within a territory that contains an occupied nest
 Unknown – A nest whose status was undetermined during subsequent surveys in the same nesting season.

There is one active golden eagle (*Aquila chrysaetos*) territory within the proposed action area, located in Cash Canyon. The Cash Canyon territory consists of three nests on BLM land and one nest on adjacent private property. The nest was found to be occupied sometime before 2010 by the landowner who owns the property that one of the nests is located on. When the nest was discovered by the landowner, it was occupied. We do not know the status of the eagle between when it was discovered and 2010, when we started monitoring it. We do know that sometime after the nest was discovered by the landowner, and before the BLM started monitoring the territory, the eagle stopped occupying the nest on private property and moved its own nest location to BLM land near the proposed project area. The territory was monitored from 2010 through 2016 (see table 2.1, golden eagle Nest Monitoring, TRFO). During that time only one nest was used in Cash Canyon on BLM land. The nest was used for reproduction (was observed to have incubating female) each year from 2010 to 2014 and fledged young each of these years. The nest has not been occupied in 2015 and 2016, but eagle sightings in the area suggest that the territory is still active. Nests are considered active if they are “*frequented or occupied by a raptor during the breeding season, or which has been active in any of the five previous breeding seasons*” (CPW, 2008).

Eagle Nest Site Disturbance

Golden eagles are long lived species and maintain nesting territories for generations, with territories being occupied for a century or longer. Territories with little disturbance and sufficient prey populations can be occupied by successive generations of eagles (Palmer 1988).

Golden eagles appear to be sensitive to human activity. Steidle et. al. (1993) found when observers were camped 400m (1300 ft or 1/4 mile) for 24 hours from golden eagle nests, adults spent less time near their nests, fed juveniles less frequently, and fed themselves and their

juveniles up to 67% less food than when observers were camped 800m (2600 ft or 1/2 mile) away from nests for an equal period of time. In studies of golden eagle populations in the southwest (New Mexico, Colorado and Wyoming), D'Ostilo (1954), Camenzind (1969), and Boeker and Ray (1971) reported that some form of human disturbance accounted for 45-85% of all known nest losses. Watson et al. (2010) found golden eagles were less likely to occur near human disturbance. Kaisanlahti-Jokimaki et al. (2008) documented lower territory occupancy rates near tourist communities. In Idaho, a study of 40 years of golden eagle territory data showed that areas that experienced OHV use saw a substantial decrease in nest productivity when compared with nests that had less OHV activity. Nests that were near parking lots (<700m) were particularly affected, some not producing young for up to 15 years (Steenhof et al. 2014). Kochert (U.S.G.S, unpublished data) observed that territories that experienced disturbance, that became vacant, did so after at least one and sometimes several years of breeding failures. Eagles also do not frequently abandon nests once they become unsuitable for raising young because it is common that nest site alternatives do not exist.

Recommendations for Protecting Golden Eagle Reproduction

Nest site timing limitations and/or disturbance buffers are commonly used to prevent nest site disturbance. Colorado Parks and Wildlife (CPW) and research by Steidle et. al. (1993) recommends a no disturbance buffer of 1/2 mile. Exactly how much disturbance would likely lead to decreased productivity or territory failure is not known. Typically the most reasonable management for eagles is to limit disturbance to the greatest extent possible to ensure adequate available nesting territories and successful reproduction.

The Tres Rios Field Office RMP (2015), Colorado Parks and Wildlife (2008), the US Fish and Wildlife Service Utah Field Office Guidelines (2002) and Suter (1981) all recommend ½ mile buffer no disturbance buffers around golden eagle nests during the breeding season.

Habituation to Human Disturbance

Some literature tries to address the possibility that golden eagles can habituate to human disturbance (Romin and Muck, 2002). Unlike bald eagles (Guinn 2004) no research has shown that golden eagles regularly habituate to disturbance, but in some cases it does occur.

Behavior varies among individuals and at what level disturbance will impact eagles is difficult to determine based on variation in individual and environmental factors. It should also be noted that what is perceived as habituation to human activity, such as a bird nesting near disturbance, may still be increasing stress and result in decreased productivity. Steenhof et al. studied eagles and found that once disturbed a pair of eagles did not abandon their territory (apparent habituation), but the pair did not successfully produce young for 15 years (2014).

Summary Golden Eagle Disturbance Information

Golden eagles are susceptible to human disturbance and disturbance can lead to reproductive

failure, death of young or reproductive discouragement. One half mile, no disturbance buffers around active nests are commonly used to limit disturbance and insure nest success.

Elk and Mule Deer

Effects of recreation on Deer and Elk

There is a limited body of evidence looking at the effects of non-motorized recreation on big game. In Utah, a study by Taylor and Knight (2003) demonstrated that mountain biking and hiking have an influence on big game of 100m on each side of the trail, eliciting a probability of response of 70%. They suggested that such disturbances “*may reduce the carrying capacity of public lands for wildlife*”. Similarly, elk demonstrate sensitivity to hiking and mountain biking, increasing the amount of time moving and decreasing time spent feeding or resting when disturbed by mountain biking (Naylor et al. 2009). Despite the lack of evidence specific to mountain biking a large body of evidence has demonstrated that both deer and elk are sensitive to disturbance and that disturbance during critical periods may have an effect on individual success.

Mule Deer

Existing Condition

The Phil’s world trail system occurs in parts of the Mesa Verde Deer Herd Management area, also known as DAU-29 (Colorado Parks and Wildlife, 2014). The herd has seen large population declines over the last 20 years: from 11,000 in 1998 to 5,100 in 2012. Colorado Parks and Wildlife attribute recent reduction in numbers to anthropogenic degradation of habitat as a result of increasing human population and development. Of particular concern is fragmentation of habitat in winter range. CPW in their “*Mesa Verde Mule Deer Herd Management Plan*” (CPW 2014) attribute habitat degradation and herd population declines to: “*human disturbance from rural development and recreation, and overgrazing and drought*”. Confounding conflicts with humans, some deer herds in Southwest Colorado appear to migrate based not on forage and snow conditions but some other factor, initiating migration in the spring and fall at the same time each year. Deer in between Pagosa Springs and Bayfield, Colorado that winter on Southern Ute land, initiate migration in the spring on May 7th and fall on Oct 15th (unpublished data: Aran Johnson - Southern Ute GPS Telemetry Data, 2004-2010). This potentially causes greater conflict with recreationalists when compared with elk. Hikers, and to a greater degree, mountain bikers, avoid trails when they are covered with snow. If deer remain after snow has melted, when users begin to use trails, they are more likely to experience disturbance. Although, not all deer herds seem to follow the same annual migratory patterns as those tracked by Johnson (Merkle et al. 2016).

Mule deer populations have been declining across the west over the last two decades. Declines are largely attributed to widespread drought and habitat fragmentation (deVos et al. 2003, Bishop et al. 2009, Monteith et al. 2014).

Mule deer occupy large areas, migrating from low lands in the winter to higher elevations during the summer. The reality of two primary ranges connected by vast migratory corridors (up to 258 km) necessitates that ranges are very large, regularly exceeding 1,000 square miles. Degradation of habitat quality in such large ranges happens incrementally and is usually attributed to many factors. Recently, migratory routes have been shown to be one factor that can limit populations, sometimes poorly placed development such as housing developments and roadways can have disproportionate effects on population numbers (Sawyer et al. 2005).

Winter Range

Deer can be particularly sensitive to disturbance in the winter when food has poor nutritional value and cold conditions require greater energy expenditure. To a large degree local population success is dependent upon minimizing energy expenditure during the winter (Parker et al. 1984).

Timing limitations are often put in place to limit disturbance during the winter to limit stress and improve the health of populations. On the Tres Rios Field Office, timing limitations are implemented in severe and critical winter range, and not winter range in general (BLM 2015). Identification of critical and severe areas relies on mapping from CPW of historic ranges. However, ranges are constantly shifting based on food availability and human disturbance. Recent flight data show winter deer largely avoiding areas with existing trail development in the Phil's World area, mapped as severe and critical winter range, and heavy use where trail development is lacking (Brad Weinmeister, CPW, unpublished data, 2015). In 2016, Colorado Parks and Wildlife Altered their Species Activity Maps. Almost the entire proposed action area is now within a winter concentration area.

Elk

Existing Conditions

The Phil's World area resides within the Disappointment Creek Elk management area in winter range. The entire management area, all annual habitats, covers 3,023,098 acres. Winter range covers 1,551,040 acres, 1,158,269 acres of which resides within the Tres Rios Field Office exterior boundary (although it occurs on multiple jurisdictions including National Forest, private, state, tribal, etc.). In 2006, the last time CPW released a management plan for the area, population numbers were estimated at 18,250 individuals. This number met the proposed population objective of 16,000-18,000 at that time. Wildlife managers have increased issuance of hunting licenses several times since 1987 to try and decrease rapidly growing elk populations within the management area (Colorado Parks and Wildlife, 2006).

Elk (*Cervus canadensis*) are considered habitat generalists. Elk tend to inhabit higher elevations during spring and summer, and then move to lower elevations for winter (some herds can be sedentary). Migrating elk typically follow the melting snowpack up in elevation in the spring, and fall migrations are tied to weather and forage availability.

Winter Range

Elk winter ranges are important habitats for maintaining populations. Cold temperatures and poor food nutritional value make elk sensitive to disturbance in the winter. Elk have a negative energy balance when temperatures are below 31°F. Cow elk that experience a decrease of 3% of body weight have smaller calves with lower survival rates. Energy expenditure of movement in elk increases daily energy expenditure 5.5%. Energy expenditure can be increased due to disturbance. Typically, 87% of daily forage consumption in the winter is used for metabolism. The remaining 13% is used for growth, reproduction, thermoregulation and movement (Nelson and Legee, 1982).

Traffic on roads and disturbances from construction equipment reduces elk habitat effectiveness, particularly in important winter range areas, by influencing animal distribution, habitat use, and survivorship (Rowland et al. 2005). Managing the effects from a wide variety of human activities on winter ranges is important for maintaining long-term habitat capability for elk. Additionally, effects from disturbance to elk can be more pronounced in limited wildlife habitat areas such as winter concentration and production areas where animals are more concentrated, are often in reduced body condition, and have fewer opportunities to move away from disturbance to more secure areas. Road and trail closures and/or use limitations have been shown to reduce the effects of roads and traffic on wildlife and minimize the negative effects of human activities on wildlife habitat effectiveness (Cole et al. 1997; Montgomery et al. 2012; Priesler et al. 2006; Sawyer et al. 2009).

Mountain biking and hiking have been shown to negatively affect elk. In mosaic forested ecosystems elk move more daily and are more active in areas with mountain bike and hiking activity (Naylor et al 2009, Wisdom et al 2004).

3.2.4. *Socio-Economics*

Certain existing demographic and economic features influence and define the nature of local economic and social activity. Long-held customs, social cohesion, and history of an area provide valuable insight into how events or changes to the area may affect the livelihood and quality of life of the residents.

The Phil's World area is located in Montezuma County, Colorado and Montezuma County is the socio-economics analysis area for this EA. The overall population in Montezuma County in 2014 was 25,812 residents (Colorado Department of Local Affairs 2015). In 2014, the majority of the residents lived in unincorporated areas (14,882 people), while 8,606 individuals resided in Montezuma County's largest incorporated community of Cortez and the remaining population residing in the incorporated towns of Dolores and Mancos (Colorado Department of Local Affairs 2015). There were 14,690 jobs in the county in 2014 and the three top industries providing jobs were government, retail trade, and health care/social assistance (U.S. Bureau of Economic Analysis 2015). More information on the socioeconomics of the area is available in the Tres Rios RMP Final Environmental Impact Statement (BLM, 2013). The affected environment discussed here will focus on socioeconomics related to travel/tourism and outdoor recreation/mountain biking in the area.

All recreation activities provide socioeconomic value. The value may be as simple as increased quality of life for the participants. In addition, recreationists often spend money to recreate. Local recreationists pay for gas to reach a site and may buy equipment, purchase food and drink, and make other purchases locally. Non-local recreationists may do all of this, and pay for lodging, restaurants, guides and outfitters, and so forth. All these actions generate local economic activity. Expenditures by non-local recreationists are particularly important because they represent new income in the region. In Colorado, tourism and recreation are important contributors to the economy. Research done for the Colorado Tourism Office indicates that travelers (resident and non-resident travelers including overnight and day visits) in Colorado spent over \$19 billion in 2015 which supported over 160,000 jobs and \$5.5 billion in earnings (Dean Runyan Associates 2016). Local and state tax receipts (excluding property tax) from tourism-generated spending increased from \$821 in 2004 to \$1,133 in 2015 in constant dollars (\$2015), an increase of 38 percent (Dean Runyan Associates 2016). It's important to note that these figures represent only direct effects of travelers visiting and do not include the indirect (local inter-industry purchases caused by the direct spending-for example a local restaurant purchasing goods from a local grocery store) and induced effects (re-spending of earnings by employees of affected industries) therefore underestimating the full effect of travel/tourism in Colorado. More specifically, recreation associated with BLM managed lands in Colorado supported 4,625 jobs and over \$182 million in labor income in fiscal year 2015 (DOI 2016). Additionally, visitation to BLM managed lands in Colorado provided over \$303 million in value added and close to \$543 million in economic output in fiscal year 2015 (DOI 2016).

There are numerous studies that have examined the economic effects on local communities associated with recreational trails and greenways. The economic effects most often studied were economic effects such as employment, income, and overall economic output associated with visitor/user expenditures as well as effects to property values. A study done on the economic effects associated with the Virginia Creeper Rail Trail in the State of Virginia estimated \$23,606 (in 2003 dollars) per 1,000 person trips in economic output and 0.4 jobs (full and part-time jobs) per 1,000 person trips for non-local day users whose primary purpose was using the Virginia Creeper Rail Trail (Bowker, Bergstrom and Gill 2007). The economic output increased to \$114,398 (in 2003 dollars) per 1,000 person trips and 2.1 jobs (full and part-time jobs) per 1,000 person trips for non-local overnight users whose primary purpose was using the Virginia Creeper Rail Trail (Bowker, Bergstrom and Gill 2007). A recent study by Mangum Economic Consulting, LLC (2014) estimated economic effects associated with enhancing the trail system at Pocahontas State Park (Virginia) in order to gain designation for Pocahontas State Park and the James River Park System as an International Mountain Bicycling Association (IMBA) Ride Center. This study estimated that the trail enhancements would provide approximately \$3.2 million in additional economic activity and 34 more jobs (full-time equivalents) (Mangum Economic Consulting, LLC 2014).

Additional results from studies in the western United States also indicate trails provide economic activity. A study of trails/trail systems in Teton County, Wyoming estimated trail related direct expenditures (bikes, bike parts/maintenance, trail/bike shoes, trail/bike packs, hiking equipment)

by local users were \$545 on average per person per year (in 2010 dollars) and \$168 on average per non-local trail user per day (in 2010 dollars) and that the trail system as a whole influenced 194 jobs/employees (Kaliszewski 2011). The overall economic effect associated with the trail system in Teton County was \$18.1 million (in 2010 dollars) (Kaliszewski 2011). A similar study on effects associated with mountain bike tourism in Oakridge, Oregon estimated direct spending for day users ranged from \$20 to almost \$43 per person per day and for overnight trips expenditures ranged from almost \$48 to \$63 per person per day (dollar year not stated)(Meltzer 2014). Similar expenditures were also seen in a study of mountain biking in Montezuma County which estimated the average value of a single visitor (non-local, living outside of Montezuma County) to be approximately \$62 (dollar year not stated) (Sennett, Duke and Perlstein 2013).

Studies have also examined the potential effects of trails/trail systems and greenways to property values. Crompton (2004) compiled and synthesized studies pertaining to the effects of parks and open spaces on residential property values. His review of the literature concluded that in most of the studies the empirical data indicated that parks and open spaces did increase the proximate property values. This was also the case for the few studies that looked at property values near larger parks, forests and open spaces in more rural locations (Crompton 2004). There are numerous factors that can influence whether property values are increased near parks and open spaces such as type of landscape and type of use. Studies indicate that proximate properties to natural area parks tend to have higher values than those near urban parks or specialty parks/facilities (Crompton 2004).

Crompton (2004) also identified the following three circumstances when effects would not be positive for proximate property values: poorly maintained parks; parks not easily visible from streets increasing opportunities for anti-social behavior; and when there was a lack of privacy on the property due to park users. Other potential adverse effects to property values could be attributed to increased vehicle congestion, noise, littering, and vandalism (Crompton 2004). A 1998 study examining crime on 372 rail-trails indicates a low occurrence of crime on rural rail-trails with 12 percent of responding rail-trails reporting incidents of graffiti and 25 percent reporting incidents of littering (Tracy and Morris 1998).

Dispersed recreation such as hunting and wildlife viewing also occurs in Montezuma County and expenditures associated with these activities also contribute to the local economy. Approximately \$3.0 billion was spent in Colorado for wildlife-related recreation in 2011 (DOI U.S. FWS and DOC U.S. Census Bureau 2014). In 2011, average annual expenditures for hunting in Colorado by a participant (spender) were \$1,463 and for wildlife watching it was \$836 (DOI U.S. FWS and DOC U.S. Census Bureau 2014, Tables 20 and 31).

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, states “each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations...” Minority populations as defined by Council on Environmental Quality (CEQ) guidance under the National

Environmental Policy Act (CEQ 1997) include individuals in the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic. A minority population is identified where “(a) the minority population of the affected area exceeds 50 percent or (b) the minority population percentage of the affected area is meaningfully greater...” (CEQ 1997). Additionally, “[a] minority population also exists if there is more than one minority group present and the minority percentage, as calculated by aggregating all minority persons, meets one of the above-stated thresholds” (CEQ 1997). Low-income populations are determined by the U.S. Census Bureau based upon poverty thresholds developed every year.

U.S. Census Bureau data is used to determine whether the minority or low-income populations residing in the study area constitute an “environmental justice population” through meeting either of the following criteria:

- At least one-half of the population is of minority or low-income status; or
- The percentage of population that is of minority or low-income status is at least 10 percent higher than for the entire State of Colorado.

CEQ guidance does not provide specific criteria for determining low-income populations as it does for minority populations so for this management effort we will use the criteria for minority populations, which are discussed above, as the criteria for low-income populations. We identify low-income and minority population percentages that are “meaningfully greater” as at least 10 percent higher than for the entire State of Colorado.

Data for the identification of low-income is from the U.S. Census Bureau, Small Area Income and Poverty Estimates (SAIPE). The SAIPE program produces yearly single year poverty estimates for states, counties, and school districts and is considered the most accurate for these geographic scales, especially for areas with populations of 65,000 or less (U.S. Census Bureau 2016a). Minority populations are identified using the U.S. Census Population Estimates program which provides estimates for the resident population by age, sex, race, and Hispanic origin at the national, state and county scales. Total minority population refers to that part of the total population which is not classified as Non-Hispanic White Only by the U.S. Census Bureau. By using this definition of minority population, the percentage is inclusive of Hispanics and multiple race categories and any other minority single race categories. This definition is most inclusive of populations that may be considered as a minority population under EO 12898. Estimates from SAIPE and the Population Estimates program are used in federal funding allocations.

The SAIPE data for 2014 indicates that Montezuma County had 16.3 percent of residents (all ages) in poverty which is more than ten percent greater than the percent of residents (all ages) in Colorado that are in poverty (12.1 percent) indicating that Montezuma County meets the criteria for having an identified low-income environmental justice population (U.S. Census Bureau 2015). In regards to minorities, data indicates that in 2015 Montezuma County met the criteria of having an identified minority environmental justice population of American Indian/Alaskan Native (13.4 percent of the population compared to 1.6 percent for the State of Colorado) due to tribal reservations occurring in the southern portion of the county (U.S. Census Bureau 2016b).

Several different types of outreach efforts occurred in order to prevent barriers for effective participation during the scoping period including using the local radio station and tribal consultation-see Section 1.6.1 for more details.

3.2.5. Recreation

Under the 2015 RMP, the BLM portion of Phil's World is managed as part of the Cortez Special Recreation Management Area (SRMA) with an emphasis on providing opportunities for local hikers, runners, and mountain bikers to participate in human-powered recreation activities within a short commuting distance of town. Currently, the southern 1/3rd of the area has a developed single track trail system, originating on State lands under lease by the SWCCA. The area also includes Off-Highway Vehicle (OHV) trails, and two small OHV open play areas. The central 1/3rd of the area (north of the existing Ledges trail and south of County Road M) has a limited amount of designated OHV trails, but no designated single track trails. The northern 1/3rd of the area (north of County Road M) has no existing trails. The 2015 RMP reiterates earlier planning decisions which limit the Phil's World area to day use activities with the exception of non-motorized trail use (ie, the area is closed to camping). The RMP also limits both motorized and mechanized travel to designated routes (ie, no cross country travel for either motorized vehicles or bicycles).

The existing single track trail system on BLM managed lands is open to all non-motorized methods of travel (foot, horse, and bicycle). However, due to the design of the trails (one-way travel, rolling, and predominantly non-technical in nature) which results in fast riding, and national recognition of the area for its mountain biking opportunities, the predominant use is by mountain bikers. This is largely to the exclusion of other users, particularly equestrian users.

Visitation to the trail system is nearly year round, dependent on weather conditions, due to the comparatively low elevation of the system in comparison to nearby trail systems. However, the majority of use occurs in the spring when upper elevation trails are still affected by snow or rain (See Figure 1: Visitor Use by Month). Use on busy weekend days during this time results in congestion at the trailhead parking area, and to some extent, along the trails themselves (though directional riding alleviates congestion to a large degree). Use in the mid- summer, and particularly mid -winter, drops off substantially due to high temperatures and snow, respectively.

Visitor use is spread evenly throughout the first four days of the work-week, with moderate increased use on Fridays, and the heaviest use on Saturdays and Sundays (See Figure 2, Visitor Use by Day of Week). An average weekday will see approximately 35 trail users, while the weekend hosts about 75-80 riders a day on average. Visitation, predictably, occurs almost exclusively during daylight hours, with the majority of use occurring between 10 a.m. and 5 p.m. each day (See Figure 3: Visitor Use by Time of Day). Based on an estimated average of 2 people/vehicle, approximately 38 vehicles access the trailhead on a typical weekend day (and 18 vehicles on a typical weekday).

Figure 1: Visitor Use by Month (October 2014-January 2016)

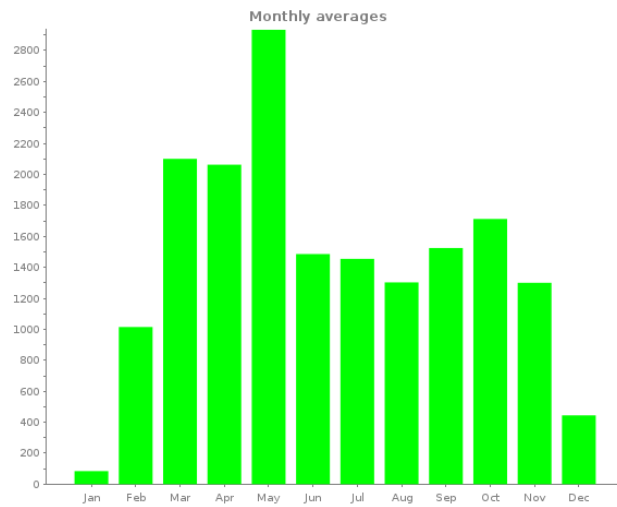


Figure 2: Visitor Use by Day of the Week (October 2014-January 2016)

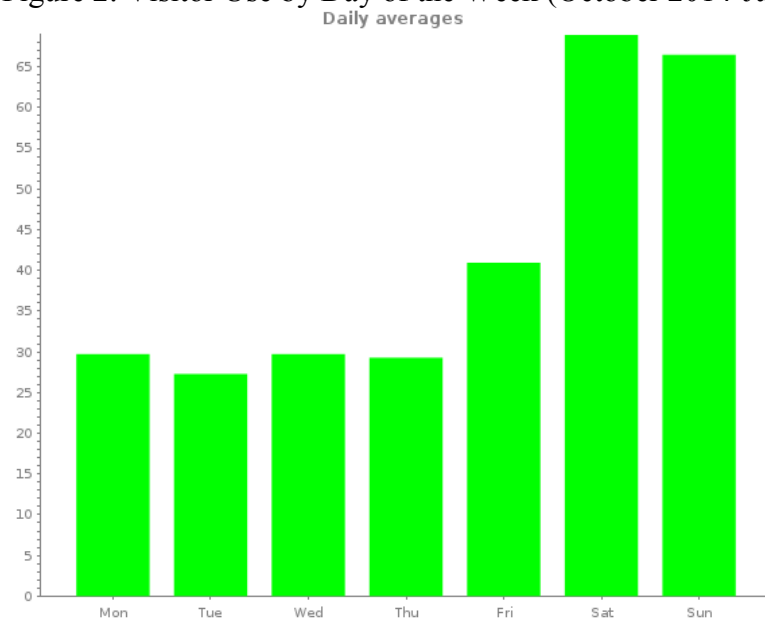
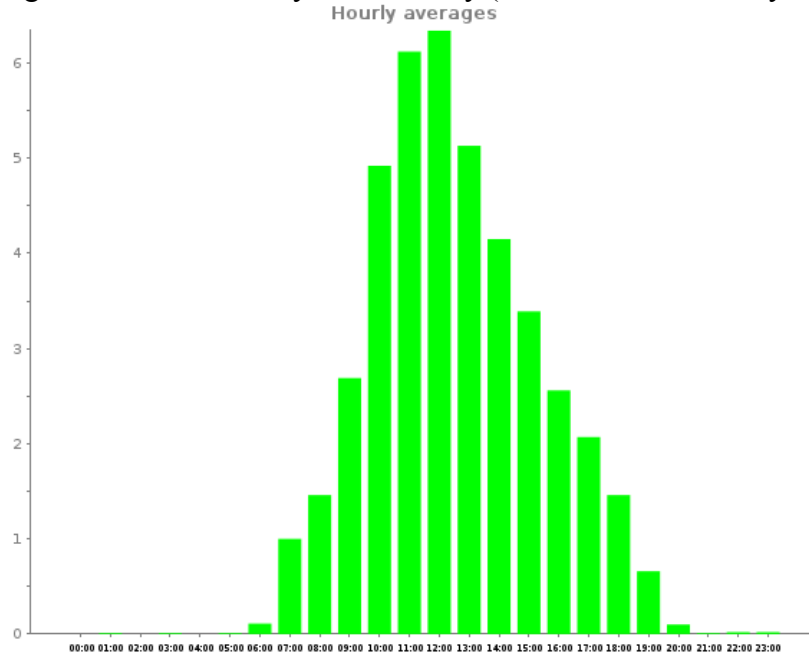


Figure 3: Visitor Use by Time of Day (October 2014-January 2016)



3.2.6. *Visual Resources*

The Phil's World Area was inventoried for Visual Resources as part of the development of the 2014 TRFO RMP. The Visual Resource Inventory (VRI) process is broken down into three components (Scenic Quality, Sensitivity, and Distance Zones) in order to determine an overall VRI Class for any given area. The VRI Class is then used as a baseline for analysis during the RMP process when setting Visual Resource Management (VRM) Classes. Ultimately it is the VRM Classes which set management prescriptions related to visual resources during project analysis. The resultant VRI for the Phil's World Area was Class III for the southern area (already developed with motorized and non-motorized trails), and VRI Class II for the northern area (encumbered with few existing trails). The prescribed VRM class for the entire BLM unit is Class III.

The project area is located in the Colorado Plateaus physiographic province, just west of the Southern Rocky Mountains province. The Phil's World area is typical of this region with high desert vegetation (pinyon-juniper stands intermixed with sagebrush meadows, cactus, and bunch grasses), rocky outcrops, and canyon features. The BLM managed unit is surrounded by widely spaced residential development and agricultural fields. Several (10-15) homes are located within a few hundred feet of the public land boundaries and are visible from discrete locations within the unit. However, for the most part the homes are screened by the pinyon-juniper forest.

The area is crossed by two maintained County Roads (L and M) and two paralleling overhead

transmission lines. The southernmost portion of the unit contains 7 acres of OHV ‘play areas’, 13 miles of OHV trails, and over 15 miles of non-motorized single track trails on BLM managed lands. There are also a substantial number of trash dump sites across the unit ranging from pick-up load piles of rusty tin cans, to discarded furniture and appliances, to animal carcasses (deer, elk, and domestic animals). Overall the area maintains its natural appearance, however, as the dump sites are isolated and the trails weave amongst the vegetation and do not result in visible clearing except in the most disturbed portions of the OHV play areas. (See Photo 7: Existing Trail System)

The topographic variation across the unit provides for viewpoints along mesa-top and canyon edges and at rocky promontories. These openings afford panoramic views of the surrounding area, including Mesa Verde National Park, the La Plata and Abajo mountain ranges, and the Sleeping Ute Mountain.

Photo 7: Existing Trail System



(View from Lemonhead trail to SE. In view are Mesa Verde National Park (background), OHV trails (center frame, with an ATV on trail) and non-motorized single track trails. Photo taken 5/10/14 during 12-Hours of Mesa Verde Mountain Bike Race with 857 mountain bike riders.)

3.3. Alternative A-No Action

3.3.1. Cultural Resources

Direct and Indirect Effects

Under the No Action alternative, there would be no expansion of the current non-motorized trail system and no additional trailhead parking areas in the northern half of the analysis area. Management oversight in these parts of the analysis area would remain minimal.

The lack of expansion of the non-motorized trail system into the northern half of the planning area could indirectly benefit the cultural resources present, as access to cultural resources would remain more difficult than if new trails were constructed. However, a few undesignated trails are present in the central and northern portions of the analysis area. These trails are the remnants of old roads, ephemeral tracks associated with periodic cross country OHV use, and game trails used by hikers and hunters. These trails are not prolific and exist primarily between Road L and Cash Canyon. Casual use of these unauthorized trails would likely continue.

The few undesignated trails in the northern and central portions of the planning area (principally between Road L and Cash Canyon) add potential for historic properties to be indirectly affected. Some of these trails could be located near archaeological sites, and could facilitate access and vandalism of cultural resources. Under the No Action alternative, intentional vandalism of archaeological sites could be more likely to occur in the portions of the planning area lacking planned, designated, signed trails, as there is less risk of detection, due to an absence of more intensive recreation management and less recreational use and law enforcement presence. Analysis of the impacts of these existing undesignated trails on cultural resources (and any needed mitigation) would be less likely to occur.

Additional user-created trails could be more likely to develop within the portions of the analysis area lacking signed, designated trails. Additional user created trails would increase the potential for impacts to cultural resources. User-created trail development and travel through sites or immediately adjacent to sites has the potential to directly and indirectly affect National Register eligible and potentially eligible sites (historic properties). Unauthorized trails typically lack design features to mitigate drainage issues, soil erosion, and loss of vegetation. Lack of maintenance on unauthorized trails can lead to increased drainage and erosion issues. Vegetation can decrease and bare ground can increase within user-created trail corridors, increasing the risk of destabilized soils. Trail use in wet ground conditions can cause soil rutting, increasing the potential for soil drainage and erosion issues, as well as directly disturbing or damaging cultural resource deposits and features that may be present. These types of direct and indirect effects can displace or damage surface and subsurface artifacts and features, degrading site integrity and research potential.

The analysis area is part of the Cortez SRMA, and is managed primarily for mountain biking. Prior to the designation of the SRMA, there were no constraints on cross country (off trail) biking. With the designation of the SRMA, via the 2015 Tres Rios RMP, came the additional management prescription of limiting bikes to designated trails. This prescription should benefit cultural resources, as it would limit and discourage casual development and use of unauthorized

trails, and the previously described effects to archaeological sites that accompany such activities. However, enforcement of this prescription will principally occur in the portion of the analysis area where the activity and development is concentrated (the existing signed trail system in the southern half of the analysis area) offsetting the full benefit of the prescription.

The No Action alternative could have more potential to affect historic properties than the action alternatives do. Use of the area would continue to occur under the No Action alternative. However, the use would be less intensively managed, and any illegal trail development that results from casual use would be unplanned and could unintentionally affect archaeological sites. Illicit use, such as the theft of artifacts and vandalism of cultural resources, could be more likely to occur un-noticed as opposed to the action alternatives, which would result in an increased number of trail users, which act as a deterrent to theft.

Cumulative Effects

The Cumulative Impact Analysis Area for cultural resources is the Phil's World Recreation Management Zone. There are currently approximately 15 miles of designated, non-motorized single track trail (not including trails on the adjacent State land or private lands), and 13 miles of designated OHV trails in the area. There are two power lines that pass through the central portion of the unit (south of County Road L) as well. There are approximately 18,000 visitors who utilize the existing trail system and an unknown number of visitors who walk, hike, or ride horses cross country.

Some portions of the existing system of routes are impacting cultural resources. The existing trail system represents a system of largely 'user created trails' that does not avoid eligible archaeological sites as well as a system which is designed and planned from the beginning with cultural site avoidance as a core design feature. Under the No-Action Alternative, the northern half of the Phil's World area would not include a designed trail system.

Under the No Action Alternative, a signed, managed non-motorized trail system would only be present in the southern half of the Cumulative Impact Analysis Area. The existing, signed, non-motorized trail system should benefit historic properties in the southern portion of the analysis area due to increased management of the associated recreation, and more management oversight. It should decrease the risk of inadvertent damage or disturbance of archaeological sites in the vicinity of the existing, signed trail system. It also entails identifying the full extent of direct impacts from the existing trail system on National Register eligible sites, and mitigating those impacts. As the No Action alternative involves the fewest miles of planned, signed trails in the planning area, and leaves a portion of the analysis area less intensively managed for non-motorized recreation, there could be less potential cumulative benefit for cultural resources than under the action alternatives. Under the No Action alternative, there should be more potential for vandalism and looting of cultural resources, and more potential for unauthorized user-created trails and parking areas to develop in the portions of the analysis area lacking a planned, signed trail system (northern half of planning area). The road closures that occurred within the analysis area in 2008 should also reduce the risk of vandalism and looting of archaeological sites.

Vehicular access to the OHV open area and OHV routes that are present within the planning area, and legal and illegal OHV use within the analysis area, could offset some of the benefits of more intensive management of non-motorized recreation, as it allows for easy access into portions of the planning area and could facilitate site disturbance and vandalism.

Mitigation Measures and Residual Effects

N/A

3.3.2. *Soils/Hydrology/Riparian*

Direct and Indirect Effects

There would be no direct or indirect effects associated with the No Action alternative for hydrology or soils resources. No new trails would be constructed and watersheds would remain in their current condition.

Cumulative Effects

No new trails would be constructed and there would be no cumulative effects associated with the No Action alternative for hydrology or soils resources.

Mitigation Measures and Residual Effects

N/A

3.3.3. *Wildlife*

Direct and Indirect Effects

Under the No Action alternative, no new recreation trails would be authorized by the BLM. This alternative, of the four, would have the least effect on wildlife species. Effects that are currently occurring are illegal dumping around cash canyon, a historic gravel pit, and rare instances of target shooting and ATV trails that get very little use throughout the season south of Road M near Cash Canyon.

1) How would New Mexico Meadow Jumping Mouse, listed as endangered under the Endangered Species Act, be affected?

The No Action alternative (Alternative A) would have “no effect” on NMMJM individuals or potential habitat. Currently, very little traffic occurs in areas that NMMJM could occupy within the project area. These areas would, for the foreseeable future, remain intact and undisturbed as a result of no action.

2) How would golden eagles be affected?

The one golden eagle nest that occurs within the project area in Cash Canyon would have no change in disturbance under the No Action alternative. Current disturbance levels, and expected

disturbance levels under the No Action, are likely to continue to allow for adequate nesting disturbance levels. Under current disturbance levels the golden eagle territory has been active every year since it was discovered in 2010, and the nest was occupied every year except 2015 and 2016.

3) How would big game be affected?

Big game use would stay the same as a result of the No Action alternative. Uses that affect mule deer and elk in the project area are associated primarily with private land use rather than BLM uses. It is expected that the current undisturbed area is adequate to provide deer and elk with security during the winter. This area would also continue to provide quality transitional habitat for deer who winter further south, near Mesa Verde, for moving to and from summer ranges north on the San Juan National Forest.

Cumulative Effects

This alternative, the No Action, would not cumulatively affect wildlife species. The effects that are a result of this alternative represents baseline, and would not be additive to any existing or reasonably certain to occur future projects. For past, present and reasonably foreseeable impacts in the area see cumulative effects in section 3.3.3.

Mitigation Measures and Residual Effects

N/A

3.3.4. Socio-Economics

Direct and Indirect Effects

Under the No-Action alternative, no new trails would be built. Effects to socio-economics as described by issues brought forth during scoping would be as follows:

- 1) How would development of new trails affect the local (Montezuma County) economy including property values (both adjacent properties and local area properties)?

There would be no new trail development under this alternative and therefore no new direct or indirect effects to the local economy including property values. Effects from this action would not be disproportionately high or adverse to environmental justice populations.

- 2) How would development of new trails affect economics associated with other existing or potential uses of the project area (hunting, wildlife viewing)?

There would be no new trail development under this alternative and therefore no new direct or indirect effects to economics associated with other existing or potential uses of the project area. Effects from this action would not be disproportionately high or adverse to environmental justice populations.

Cumulative Effects

The cumulative effects analysis area for socio-economics for this project is Montezuma County. There is one parcel in the southern portion of Phil's World which has been nominated for fluid

mineral leasing consideration. Contrast to the characteristic landscape as a result of fluid mineral development could range anywhere from weak to strong dependent on siting, access road development, pad size, reclamation efforts, visual resource related design features, and pad density. However, at this time, the parcel is currently under ‘deferral’.

Under the No-Action alternative, there would be no new trails and thus no cumulative effects as a result of this project. Effects would not be disproportionately high or adverse to environmental justice populations.

Mitigation Measures and Residual Effects

N/A

3.3.5. Recreation

Direct and Indirect Effects

Under the No-Action alternative, no new trails would be built. Effects to recreational use as described by issues brought forth during scoping would be as follows:

1) How would trail development and use affect dispersed use of the area by other recreational users (hikers, walkers, hunters)?

There would be no new trail development under this alternative. The southern 1/3 of the Phil’s World area would continue to have trails and the area north of the Ledges trail would remain undeveloped. Hikers, walkers, hunters, and equestrian users could continue to use the area, though without the benefit of developed trails and signage except in the southern 1/3 of the Phil’s World area. There would be no parking or trailheads to facilitate use by the general public, so access to the area would be expected to be dominated by area residents familiar with this BLM parcel. Hunters, who traditionally do not depend on trails for access to such a small parcel of Public Lands, would likely benefit the most from this alternative. However, mountain bike use (the targeted activity for this portion of the SRMA) would be limited to the designated trails in the southern portion of Phil’s World (as the 2014 TRFO RMP limits mountain bike use to designated trails). This would continue to concentrate the approximately 20,000 annual trail users to the trails such as Ledges, Lemonhead, Stinking Springs, and the interior loop trails.

2) How would trail development and use enhance existing (bicycle) riding opportunities (new terrain, views, challenge, social interactions, connectivity to communities)?

There would be no trail development, and therefore no enhancement of existing riding opportunities. While directional riding practices on the existing trails mean that on-trail social contacts are minimized, at least for trail users traveling at ‘average’ speeds, congestion at the only existing trailhead (at Highway 160) can result in over 100 contacts at the trailhead. Additionally, because all of the trail loops are accessed from this single trailhead, all riders must ride the same trails (such as Phil’s Loop and Coco Race) every time they ride before branching off to additional loops. This alternative would not address these issues.

3) How would trail development and use affect amount of trash on landscape?

There would be no trail development, and therefore no additional trash as a result of trail usage. However, the majority of the trash on the landscape, both as a result of dumping and day to day accumulation of litter, is not as a result of trail usage. The vast majority of trash on the landscape in this parcel is a result of illegal dumping (household trash), carcass disposal (from hunting and domestic animals), late night party debris (food wrappers, beverage bottles, and bonfires), and recreational shooting (appliances, cans and bottles, and shell casings). These sources of trash would be expected to continue under the No-Action alternative.

4) How would trail development and use affect existing motorized riding opportunities?

There would be no new non-motorized trail development under this alternative. The anticipated result would be additional congestion of the existing non-motorized trail system and potential for conflict at one of the many motorized/non-motorized trail intersections. Additionally, for bikers to find additional riding opportunities in the area, more non-motorized use of the designated OHV trails in the area could occur, resulting in user conflicts between motorized and non-motorized users.

5) How would trail development and use affect personal and community benefits associated with non-motorized trail use?

The Phil's World parcel is situated close to three communities: Mancos, Cortez, and Dolores. As such, there are a myriad of personal and community benefits which arise from easy access to non-motorized trail systems. Personal benefits include improved health, improved development of skills and abilities, greater personal confidence, and an improved understanding of community dependence and effect on Public Lands and adjoining private lands. Community benefits include an enhanced outdoor-oriented lifestyle, increased economic activity, and an increased desirability of Cortez, Dolores, and Mancos as places to live, visit, or retire. While the existing trail system affords these benefits already, without the development of new trail opportunities across the remaining 2/3s of the Phil's World unit, the ability for these benefits to continue to expand becomes limited. Future use and enjoyment of the parcel could go in one of two ways: 1) The area continues to see increased use and increased congestion which negatively affects the experience of the users, or 2) The lack of new opportunities, and/or the diminishment of existing opportunities due to overcrowding results in decreased use over time. In either case, the personal and community benefits become lost or diminished.

6) How would trail and trailhead development affect use by other non-motorized single track users (equestrian, hiking)?

There would be no new trail or trailhead development under this alternative. Hiking and equestrian use of any new trails would be expected to be limited due to the anticipated volume of mountain bike use. However, what use might have occurred on any new trails would not occur at all under this alternative. Cross country use by hikers and equestrian could continue, though as stated above, this use would also be expected to be confined primarily to local area residents.

7) How would trail development and use affect safety of users accessing the trail systems (access available away from highway 160, new access/egress along county roads).

There would be no new trail development. Therefore, access/egress along county roads L and M would be expected to remain unchanged. Access/Egress at Road 30.1 and Highway 160 would also remain unchanged.

8) How would trail development and use affect use of county roads?

There would not be any expected change to the use of Country Roads under this alternative.

Cumulative Effects

The cumulative effects analysis area for recreation for this project would be the Montezuma Triangle Recreation Management Area (RMA) of the Cortez SRMA. This area is comprised of four isolated Public Lands parcels between Mancos, Cortez, and Dolores and bound by Highways 160, 184, and 145. These units are all bound by a common management focus which is to provide for human powered (non-motorized) recreational opportunities within a short commuting distance of town. There are currently approximately 15 miles of designated, non-motorized single track trail (not including trails on the adjacent State land and private land), and 13 miles of designated OHV trails in the SRMA. There are also approximately 9 miles of existing OHV and non-motorized trails at Summit/Aqueduct/Chutes and Ladders.

In preparation for Comprehensive Travel Management Planning, the town of Mancos has been working on a trail proposal for the Aqueduct parcel just northwest of Mancos. In general, this proposal does not identify specific trail alignments, though it does recommend the development of non-motorized trail systems, a parking area/trailhead at the old Mancos town dumpsite at County Road 39, and the installation of signage. Development of new non-motorized trails in this parcel would result in increased opportunities (and associated personal and community benefits) for trail based recreation easily accessible from local communities.

One lease parcel in the southern portion of Phil's World nominated for fluid mineral leasing was deferred in 2016 for further analysis.

Under the No-Action alternative, there would be no new trails and thus no cumulative effects as a result of this project.

Mitigation Measures and Residual Effects

N/A

3.3.6. *Visual Resources*

Direct and Indirect Effects

Under the No-Action alternative, no new trails would be built. Effects to visual resources as described by issues brought forth during scoping would be as follows:

1) How would trail and trailhead development and use affect the visual setting of the landscape?

There would be no changes to the visual setting of the landscape as no new trails or trailheads would be constructed.

Cumulative Effects

The cumulative effects analysis area for visual resources for this project would be the BLM managed portion of the Phil's World area. This analysis area would include the foreground, middle ground, and background of the visible landscape. Due to the isolated nature of the BLM managed lands in the area (relatively small blocks of BLM lands which are separated by private land), activities occurring in nearby Public Lands are not visible and thus not part of the cumulative analysis area for visual resources.

There is one parcel in the southern portion of Phil's World which has been nominated for fluid mineral leasing consideration. Contrast to the characteristic landscape as a result of fluid mineral development could range anywhere from weak to strong dependent on siting, access road development, pad size, reclamation efforts, visual resource related design features, and pad density. However, at this time, the parcel is currently under 'deferral'.

Under the No-Action alternative, there would be no new trails and thus no cumulative effects to the visual characteristic landscape as a result of this project.

Mitigation Measures and Residual Effects

N/A

3.4. Alternative B-Proposed Action

3.4.1. Cultural Resources

Direct and Indirect Effects

- 1) How would cultural resources eligible for listing on the National Register of Historic Places be affected from non-motorized trail construction and use?

Under the Proposed Action, the current non-motorized trail system would be expanded within the northern half of the analysis area. Non-motorized trail development and use through sites or immediately adjacent to sites has the potential to directly and indirectly affect National Register eligible and potentially eligible sites (historic properties). Trail, parking lot, and access road construction could damage site features and disturb buried cultural deposits, degrading site integrity and research potential. Over time, trail use could result in incised channels in the ground that change drainage patterns, destabilize soils, and lead to increased soil erosion. Incised channels can directly disturb or damage archaeological site features. Vegetation can decrease and bare ground can increase within user-created trail corridors, increasing the risk of destabilized soils. Trail use in wet ground conditions can cause soil rutting, increasing the potential for soil drainage and erosion issues, as well as directly disturbing or damaging cultural resource deposits and features that may be present. Offsetting these potential effects, planned trails incorporate design features to mitigate drainage issues, soil erosion, and loss of vegetation. Authorized trails

are also subject to periodic trail maintenance, which addresses issues such as drainage and soil erosion.

Under the Proposed Action, the current non-motorized trail system would be expanded and two additional trailhead parking areas would be created. The proposed trails and trailhead parking areas would affect six archaeological sites, all of which are not eligible for listing on the NRHP. The proposed trails and parking areas would avoid all National Register eligible and potentially eligible sites (Design Criteria #2), and there would be no direct effects to these sites. With the expansion of the current trail system, unauthorized trails would be less likely to develop within the analysis area, reducing the possibility of unplanned trails passing through historic properties. Design Criteria #17 would further ensure no user-created trails are created, or allowed to be present.

Some of the proposed trails would be located in the vicinity of archaeological sites. The risk of intentional vandalism and looting of historic properties in the portions of the analysis area currently lacking planned, authorized, signed trails would be reduced by a managed, signed trail system. The presence of more intensive recreation management and an expected corresponding increase in recreational use would increase the risk of detection of such activities, and act as a deterrent to such activities. Therefore the proposed action could indirectly benefit cultural resources more than the No Action Alternative. Alternative B could also provide more benefit to archaeological sites in comparison to Alternatives C and D, as those alternatives increase the portion of the planning areas without planned, managed, and signed trails due to an increased eagle nest buffer area.

An intense amount of mountain biking occurs in the portion of analysis area with an existing, signed trail system. The planning area conditions enable mountain biking for much of the calendar year. Mountain biking is typically a goal oriented recreational activity, resulting in a lesser propensity for mountain bikers to leave the trail, in comparison to other forms of non-motorized recreational activity. Hence, mountain bikers are unlikely to contribute to intentional or unintentional vandalism or looting of cultural resources. Archaeological site monitoring conducted in 2014 and 2015 supports this conclusion, as no recent incidents of vandalism or looting were noted in the sites that were monitored. The proposed trail system is also expected to see intensive non-motorized use. As noted in the previous paragraph, such intensive use typically increases the risk of detection of cultural resource vandalism and looting, resulting in a decrease in such activities.

The proposed trails and parking areas should result in minimal additional visual disturbances within the analysis area. The vegetation and terrain in the analysis area obscures single track trails. As the proposed trails would be non-motorized, additional increases in auditory effects would be negligible. The aspects of setting and feeling, which are important considerations for visual and auditory effects to sites, have not been identified as qualities that contribute to the eligibility any sites within the analysis area. Sites are present within the planning area for which setting and feeling could potentially contribute to site significance. However, the nature and scale of the proposed action would not notably increase auditory or visual effects to National

Register eligible sites for which setting and feeling potentially contribute to their significance.

The Proposed Action represents a positive progression toward proactive recreational planning in the area which seeks to provide for recreational demand while implementing design criteria developed to protect cultural resources.

Cumulative Effects

As the Proposed Action would have no direct or indirect impacts to National Register eligible cultural resources, it would not add or contribute to any cumulative impacts.

Mitigation Measures and Residual Effects

A Cultural Resource Monitoring and Discovery Plan was developed for the new trails proposal (Cultural Resource Monitoring and Discovery Plan, Phil's World 2.0 Non-Motorized Single Track Trail Project (18-26.5 miles proposed)). The Plan provides for archaeological monitoring of trail construction and post-construction archaeological monitoring of trail use and maintenance. The Plan also includes procedures for discoveries of cultural resources and human remains during trail construction, maintenance, and trail use.

3.4.2. *Soils/Hydrology/Riparian*

Direct and Indirect Effects

1) How would streams and riparian vegetation be affected by proposed trail locations in canyon bottoms?

Streams have a risk of receiving sediment pollution in areas where trails are built on steep slopes where moderate-severe and severe erosion hazard soils exist which are adjacent to canyon bottoms. If a trail built in these areas also has a trail stream crossing, these areas could be conduits to transport sedimentation to the stream. Trails which have short stretches planned within these erosion risk areas and are near streams include Poquito Burrito, Canal, Highline, Schuster, Cash Money, Road N Connector, and Garfunkel trails.

The width of stream crossings required by new trails would vary depending on location. All stream crossings are planned to have small, low profile foot-bridges. The foot bridges are not anticipated to substantially affect streams or riparian, however the proposed design leaves them vulnerable to loss or damage. The damage could occur from annual peak flows in the spring if the bridges do not span the entire floodplain, or from high flows associated with flash flooding. Most floodplains in the bottom of tributary canyons occupy the entire canyon bottom and are between 50-75 feet wide. In larger canyon bottoms of Simon Draw and Cash Canyon the floodplains vary in width and can be wider. Bridges are planned to have a span of only 10 feet to 20 feet.

The three major canyon streams within the analysis area all support well developed riparian

vegetation. Several side tributaries to the major canyons also support continuous riparian vegetation and have perennial flow during winter-spring runoff and irrigation season. Trail construction through riparian vegetation would be infrequent and would require clearing vegetation only wide enough to allow riparian/stream trail crossings and are not anticipated to have substantial effects to the riparian complexes. (See Photos 8-9: Typical Riparian Vegetation)

Photos 8-9: Typical Riparian Vegetation



Photo -Cottonwood and willow riparian vegetation present throughout a larger unnamed tributary to Simon Draw. Stream flowing approximately 1-3 cfs on June 3, 2016.



Photo-Dense willow riparian vegetation in a small unnamed tributary in the Phil's World analysis area. Stream flowing approximately 0.25 cfs on June 3, 2016.

2) Would trails built on steep slopes and sensitive soils result in increased erosion?

Approximately 10 miles of trail are proposed to be built on steep slopes with moderate-severe to severe erosion hazard soils. Alternative B has the highest number of miles (10.1 miles) of new trail proposed for high erosion hazard soils compared to Alternative C (9.2 miles) and Alternative D (8.2 miles). Most soils in the analysis area have low strength and when located on steep side slopes they are not stable, and prone to erosion if disturbed. The three soil units with the highest erosion hazards for trail construction are summarized in Table 3: Soil Units with High Erosion Hazard, below.

Building trail on high erosion hazard soils greatly increases the likelihood that trail surfaces may erode, become entrenched, and may ultimately concentrate runoff further accelerating down cutting. Constructing trails in high erosion hazard soils, especially where erosion occurs near streams and washes also increases the risk of sediment pollution entering water. Building trails on soils that have a high erosion hazard could also increase either the cost of construction or the cost and frequency of required monitoring and trail maintenance (See Photo 10: Canyon Features). A field review was conducted on existing Phil's World trails built on the same high

erosion hazard soils as proposed for the new trails in Alternative B. Severe erosion was not found on the existing trail system (Ledges, Rib Cage) which could indicate the NRCS soil survey hazard ratings are very conservative, and with careful trail construction practices and the implementation of mitigation, erosion and trail down-cutting could be minimized or reduced. Trails proposed for construction on relatively flat mesa tops are expected to be stable and have few erosion issues.

Table 3. Soil units with the highest erosion hazard for trail construction (NRCS Cortez Soil Survey, 2001) and the miles of trail proposed for construction within the units, Alternative B.

Pulpit Loam 6-12% Slopes	95	Severe	Slight	1.16
Romberg-Crosscan 6-25% Slopes	109	Moderate-Severe	Moderate	4.15
Romberg-Crosscan 25-80% Slopes	110	Severe	Severe to Very Severe	4.77

Photo 10: Canyon Features



Photo- Romberg-Crosscan Soils 25%-80% slopes are present on both sides of the unnamed tributary to Simon Draw.

Table 4. The length of trail in moderate-severe and severe soil erosion hazard for trail construction by trail name, Alternative B.

Highline	2.1
Canal	1.4
Schuster	1.2
Garfunkel	1
Cash-Money	0.7
Eyrie	0.6
Poquito Burrito	0.6
Road N Connector Trail	0.5
Carly	0.4
Paul	0.4
Le Bon	0.3
Aquila	0.3
Talon	0.2

Cumulative Effects

The existing Phil's World trails in general are built on soils which do not have severe erosive soil survey ratings. As a result, the existing trails have few erosion problems. However, some existing trails are located on soils with a moderate-severe or severe hazard ratings. Ledges and the Rib Cage, are examples of trails with some sections located, in part, on severe hazard soils. On a limited field inspection of the existing trails located on these severe hazard soils, large areas of problematic erosion were not found, which may indicate the NRCS soils hazard ratings for trails construction are very conservative. Considering comparisons with the condition of existing Phil's World trails on severe hazard soils, Alternative B may have a moderate potential to create detectable effects to erosive soils located on canyon side-walls both in the short and long term. The risk of impacting water quality is low to moderate and associated mostly with localized areas of stream crossings. Cumulatively, when all of the trails are considered, approximately 10

miles of new trail are planned to be built on slopes with high severity erosion potential in areas that are currently undeveloped and are relatively stable. Erosion potential could be a continuous problem and require substantial and frequent maintenance to keep trails to standard and fix erosion problems. However, implementation of mitigation measures could be effective in reducing the risk of erosion and the need for long-term maintenance. Site specific mitigation measures have not yet been identified and could not be assessed for this analysis.

There is a low risk that sedimentation could accumulate in channels over the long-term within the analysis area because annual peak flows should be sufficient to move sediment downstream. Increased sedimentation and erosion has a low-moderate risk of affecting existing water infrastructure maintenance because reservoirs and ditches just downstream of the trail system on BLM and on private lands may fill more quickly with sediment. The Highline Ditch and Burk Ditch traverse the analysis area below and among the proposed trails of Alternative B. Reese WW Ditch Extension and Hover Ditch are just downstream of the trail system on Simon Draw. Old Kaniga Ditch and an unnamed reservoir are just downstream of the trail system on Stinking Springs Canyon. This water development infrastructure could be affected by increased erosion and sedimentation from the cumulative effects of the trail system sections built on highly erosive soils.

Mitigation Measures and Residual Effects

N/A

3.4.3. Wildlife

Direct and Indirect Effects

Under Alternative B there would be a total of 26.5 miles of trail added to the Phil's World trail system. This alternative would have the most effect on wildlife species when compared with all other alternatives. Alternative B increases recreational trails in the area by approximately 91%. Effects to big game and New Mexico meadow jumping mouse would occur when compared to the no action. However, the difference in disturbance between the proposed action (Alternative B) and the other action alternatives (Alternatives C and D) would not be substantive. Golden eagles, conversely, would experience more disturbance by Alternative B than by any other alternative.

1) How would New Mexico Meadow Jumping Mouse, listed as endangered under the Endangered Species Act, be affected?

Effects to Habitat

Potential habitat occurs on sections of trail north of Road M in Cash Canyon and in Simon Draw. Effects to potential habitat and individuals would be limited to three drainage crossings, two in Cash Canyon and one in Simon Draw. The two crossings locations would consist of bridges that span the water and as much of the herbaceous vegetation as possible, and a trail on either side of the bridge through upland shrub vegetation.

As a result of Alternative B vegetation would be removed in two locations that would affect

NMMJM totaling less than 0.1 acres. No other vegetation removal is expected as a result of the proposed action or use of the trails. There are 11 acres of habitat on BLM land and another 35 acres on private land that could provide habitat in all of the habitat areas. Vegetation removal under this alternative would be small in scale when compared to known threats to NMMJM such as grazing, campgrounds and bank trails as a result of fishing, and should have little effect on NMMJM activities if the site is, or ever becomes, active.

Construction of the trail and subsequent trail use has the potential to disturb NMMJM. NMMJM are only active from May to September each year. This period would be avoided while constructing trails within riparian areas. Disturbance as a result of trail building is not likely to occur because individuals would be hibernating at this time.

After trail construction is complete, use by hikers and mountain bikers would likely disturb NMMJM, if they are present. Disturbance is likely to occur only during active periods, from May to September each year; a period when temperatures are hot and trails have considerably less traffic than cooler periods in the spring and fall. Additionally, NMMJM are primarily nocturnal, so the vast majority of activities should occur when they are not active, further decreasing the likelihood of disturbance. Activities that do coincide with NMMJM activity would be largely localized to new trails and habitat adjacent to trails should not be disturbed.

2) How would golden eagles be affected?

Alternative B has the greatest likelihood of disturbing the golden eagle nest site in Cash Canyon when compared to alternatives A, C and D. Construction of the trails would have little effect on the nest, as any building activities would occur outside of the breeding season within ½ mile. Conversely, the subsequent use of the trails by users has the potential to greatly disturb individuals within the territory.

Selection of Alternative B would result in the construction of 4.8 miles of trail and one parking lot within ½ mile of the golden eagle nest. Segments of the trail would occur within ¼ mile of the nest that has been most active for the last 6 years, and 0.21 miles of two alternative nests. The proximity of these features, and their associated users, has the potential to disturb nesting golden eagles. Golden eagles that experience nest site disturbance typically experience decreased reproductive success. Active golden eagle nests are frequently buffered by ½ mile to prevent disturbance (see Affected environment). Under this alternative mountain bikers, hikers, and vehicles are likely to disturb the active golden eagle nest in Cash Canyon and disturbance would likely result in decreased success within the territory.

The Phil's World Trail Expansion is also expected to get the most traffic during times when golden eagles are most susceptible to disturbance. Users start to use trails at Phil's World in February after the snow begins to melt. Use increases in March and April, with the greatest number of users in May (approximately 3,000-6,000, see figure 1, section 3.1.5). These periods of use coincide with times when golden eagles are susceptible to disturbance. Nest initiation and courtship would coincide with the earliest spring use in February. Use in March, April and May

would coincide with incubation and early chick development, a critical period.. If the female is disturbed to the point where she flushes off of the nest during this time, even for short period during incubation, her eggs could get too cold and fail. After the chicks have hatched, disturbance from mountain biking and hiking could result in young being fed less often, decreasing the likelihood that the young would fledge.

Disturbance to the nest under this alternative, to some degree, is mitigated due to topographic features. No part of the trails or parking lot that are located within ½ mile of the nest are directly visible from the nest. However, adults and young are regularly observed above the nest in trees on both sides of the canyon. From these perches, the parking lot and the Aquila trail near the adjacent canyon rim would not be visible (Google Earth Pro View Shed Analysis tool).

Disturbance to nest sites can have less of an effect on nesting pairs if eagles have other nesting opportunities in the area. In cases where nesting sites are abundant, nesting pairs, when disturbed, may move to an alternate site with more security. In the case of Cash Canyon territory, would either be disturbed by motorized and non-motorized trails or residential housing. The lack of available habitat for nesting eagles is largely due to how shallow the canyons are in much of the surrounding area.

Conclusion

The expected user rate, timing and proximity of the trails under the proposed action (Alternative B) would disturb the golden eagle nest in Cash Canyon. Disturbance will likely cause the eagles in cash canyon to reproduce less, feed their young less and ultimately cause the pair to abandon their territory if disruption is persistent.

3) How would big game be affected?

The Phil's World Trail Project occurs in mule deer severe and critical winter range, and in elk winter range. Deer and elk winter ranges are typically lower elevation areas that deer and elk occupy during the winter. Severe and critical winter range are areas that deer and elk numbers are the greatest or that are relied on when the snowpack is at a maximum.

When compared with all other alternatives, alternative B would result in the greatest decrease in habitat effectiveness in mule deer severe and critical winter range and elk winter range (collectively mule deer severe and critical winter range and elk winter range will be referred to as winter range hereafter).

Taylor and Knight (2003) studied the effects of mountain bike traffic on mule deer in Utah. When mountain bikers and hikers came within 100m of Deer, Deer startled and fled.

Under Alternative B, twenty six and a half miles of trail are to be constructed (Alternative B total miles). To determine how much habitat would be disturbed under this alternative, we buffered

the trails by 100m. As a result, 1,382 acres of habitat will be disturbed. Several factors, including food availability, vegetative cover, density of trails and number of users on the new system, would likely influence to what degree new trails impact mule deer. Within this areas of habitat disturbance effects may vary.

In a study of effects of four off road recreation activities on Elk, Wisdom et. al. (2004) showed that mountain biking and ATVs had the greatest impact, when compared with hiking and horseback riding, on feeding and resting habits. No information exists that would allow us to do a similar calculation for how much habitat would be affected under this alternative. Thus, we do know that the impact would occur, we suspect it would likely be similar to mule deer and we are confident that an introduction of new trails would result in an increase of disturbance in the area.

The disturbance that would occur as a result of this alternative is in addition to the disturbance of the existing trail network, approximately 1,300 acres (discussed further in cumulative effects section below).

Trail use that would occur under Alternative B, would likely result in two response scenarios. The first scenario is that the deer and elk would remain in the area and experience an increase in disturbance. Deer and elk startle and flee when they are disturbed, using more energy than when they are at rest. Repeated startling can decrease fat reserves needed to survive the winter and, if frequent enough, may cause mortality. Pregnant females are particularly susceptible to disturbance and frequent disturbance can result in reduced reproductive success or mortality. The second scenario is deer and elk could avoid the Phil's World Trail Project area completely. Deer and elk avoid areas where they do not feel secure (flight data, gathered by Colorado Parks and Wildlife, shows that deer and elk largely avoid areas with existing trails in the Phil's World area). If avoidance does occur deer and elk can move from public lands to nearby private lands, causing damage to agricultural crops. These two scenarios are not likely to occur to the herd as a whole. Individuals will likely react to disturbance differently. Some will stay in the area while others might abandon the area for areas where they feel more secure. Regardless of herd level impacts, new bike trails are an added disturbance in an already fragmented landscape.

In the context of the total area of big game winter range, loss of habitat effectiveness as a result of Alternative B (as well as Alternatives C and D) is relatively small. Elk and mule deer winter ranges, within the TRFO boundary, cover 212,814 and 1,551,040 acres respectively. However, losses to habitat happen cumulatively and development within winter range, particularly in mule deer winter range, have decreased the amount of adequate winter habitat. These disturbances are likely partially responsible for recent declines in mule deer populations within the Mesa Verde herd area. Elk seem to be more resilient to current levels of disturbance and their herd numbers are still high. However, elk susceptibility to disturbance likely has a limit. Alternative B would likely not increase landscape level impact to a meaningful degree for elk, but it is difficult to tell.

Mule deer are in decline statewide in Colorado. The heard that occupies areas in and around Phil's World, the Mesa Verde Herd, has been in decline for the last 20 years. Winter range security is vital for overall herd success. Although, this disturbance is small, the alternative

would degrade winter range for mule deer. Elk herds within the project area are healthy. Under alternative B elk would feed less and move more in the Phil's World Area.

Cumulative Effects

New Mexico Meadow Jumping Mouse

The cumulative analysis area for NMMJM will be all potential habitats within the project area and all connected habitats on private land. These areas account for all connected habitat to the habitat that will be potentially impacted by the Phil's World Trail Project. Livestock grazing, neighboring private land management practices, and irrigation flow through cash canyon have been identified as past, present or reasonably foreseeable impacts that could act cumulatively to the impacts expected under Alternative B within the analysis area.

Trespass livestock occasionally enter the area. Impacts to NMMJM from livestock include minor trampling of riparian vegetation. It appears that trespass cattle are rare within NMMJM habitat. When disturbance is visible, which has only occurred one out of the two years surveys were conducted, impacts do not affect a significant amount of habitat. Small isolated patches are eaten or pushed over by livestock activity. It is expected that the proposed action would increase number of people who are in areas where livestock could trespass and that people would report livestock that are trespassing in the area, making minor improvements to habitat.

Private lands connected to BLM lands in the Phil's World area are regularly grazed. Areas that are adjacent to Phil's world area under private land ownership that are adequate for NMMJM or could be adequate for NMMJM account for the vast majority of habitat within the analysis area. Despite cattle grazing, in good rain years, the habitat is in relatively good shape and riparian vegetation reaches 24", an adequate height for NMMJM. During drought years grazing on private land, and to a much lesser degree, trespass grazing on BLM land decreased riparian vegetation to the point the it no longer provides adequate habitat for NMMJM.

The NMMJM habitat riparian system is fed by nearby irrigation systems. Continued drought could decrease water in the system, degrading habitat.

The proposed action would only remove 0.1 acres of NMMJM habitat and would likely not disturb individuals. Past, present and reasonably foreseeable actions -- trespass cattle, nearby land owner land management and irrigation -- will have a far greater impact on NMMJM within the analysis area. Cumulatively, the Phil's World trail additions would be additive to current trail disturbances by less than one acre and would not contribute meaningfully to NMMJM impacts within the area.

Golden eagles

Roads, motorized recreation, recreational shooting, and nearby housing developments would

cumulatively affect the Cash Canyon golden eagle nest. The analysis area for all past, present and reasonably foreseeable actions will be limited to impacts that occur within 1/2 mile of the golden eagle nest. Other impacts may occur within the the cash canyon eagle territory outside of 1/2 mile of the nest. However, those impacts seem to be at a level that is tolerated by the Cash Canyon nesting pair. Cumulative impacts, will instead be focused on impacts that are similar in proximity and affect to the Phil's world project, and therefore will be additive.

A residential community is located north of the Cash Canyon nest. Two houses occur approximately 0.3 miles from the nest.

Areas west of the nest, particularly an old gravel pit, are regularly used for illegal dumping and recreational shooting. Reports from nearby landowners suggest that shooting happens approximately once a month during the nesting season. Illegal dumping happens much more frequently, but likely has little effect on the golden eagle nest because dumpers rarely venture away from the road.

South of Road M, and east of the Cash Canyon Nest, a small ATV trail network exists. Portions of the trail come within 0.12 miles of the nest. Game cameras set up during previous nesting seasons showed that the trail system is used very infrequently. During this time one ATV was captured and two walking groups of two were detected by the cameras. One potential negative effect of alternatives B and C, with parking lot on Road M, is mountain bike traffic could greatly increase on these trails, having adverse impacts to the Cash Canyon golden eagle nest, greatly increasing disturbance in close proximity of the nest.

Road L is 0.41 miles from the nest and Road M is 0.34 miles from the nest. Both roads are traveled by local residents daily and likely cause disturbance to the nest. Although, the road is not typically used as a through route and it is a gravel road, where traffic is slow, disturbance may be mitigated because of this.

Traffic, residential housing, existing ATV trails, shooting and dumping all negatively impact the Cash canyon Golden eagle nest. Of particular concern, under this alternative, the ATV trail, if used by mountain bikers and hikers, could have adverse impacts on the golden eagle nest. Current levels of disturbance seem to be tolerated. Given the proximity of the trail to the eagle nest would increase disturbance Alternative B plus cumulative impacts would likely decrease reproductive success or cause territory abandonment of the Cash Canyon nest.

Big Game

Deer and elk occupy large areas and are susceptible to incremental disturbance over large geographic areas that occur on multiple land jurisdictions. The proposed action is small in the context of the landscape that deer and elk occupy. However, degradation to habitat of large range species can occur as a result of many minor disturbances. The proposed action would contribute to the continued degradation of the greater landscape for both deer and elk.

Past, present and reasonably foreseeable impacts addressed in this analysis are current residential and rural development, oil and gas development, current roads and highways, and current and future recreational development within winter range.

The Mesa Verde mule deer herd (DAU D-29) and the Disappointment Creek elk herd (DAU E-24) will be the exterior boundary for the respective cumulative effects analysis.

Past and Present - Roads, Trails and and Subdivision

To determine the effects existing disturbances on deer and elk, an analysis was completed to determine which habitats are relatively undisturbed. To do this, we started with all winter habitat, including severe and critical areas, in both herd areas (D-29 and E-24). We then estimated the landscape disturbance. Disturbances were calculated as follows:

- Roads buffered 200m (Rost 1979, Sawyer et al. 2005).
- Trails buffered 100m (Tayler and Knight 2003)
- Properties less than 35 acres in size (Wait and McNally 2004)
- Producing oil and gas wells by 600m (Northrup et. al. 2015).

These buffers and land lot sizes, we believe, represent the best available science for areas that experience a level of disturbance that would decrease their habitat effectiveness for deer and elk. These disturbance zones are just a model and disturbance, in reality, may vary greatly depending on the level of disturbance and how good the habitat is that is being disturbed. Also, we recognize that the disturbances used in this analysis are not the entirety of all disturbances on the landscape. Instead they account for the vast majority of disturbances that best provide a model for comparing disturbances that occur on the landscape with additional disturbances across alternatives. (See Table 5: Security Area by Ownership for Mule Deer and Elk Winter Range).

This analysis includes all disturbances located on federal, state and private disturbances that were available.

Table 5. Estimation of Disturbance across D29 and E24.

Winter Range Disturbance in D29 and E24			
	Winter Range	Severe	Concentration
Deer	433,612	84,510	112,980
Acres of Habitat Disturbed	135,720	23,708	33,934
% of Habitat Disturbed	31%	28%	30.04%
Elk	1,607,384	695,753	337,299
Acres of Habitat Disturbed	347,899	116,313	69,047
% of Habitat Disturbed	22%	17%	20%

Reasonably Foreseeable

BLM Cortez SRMA

The Tres Rios Field Office RMP (BLM, 2015) identified three more parcels in the area east of Phil's World and west of Mancos as a Special Recreation Management area, with the intent to develop trail systems in each area. To mitigate the impacts to big game in these areas, the RMP designated winter timing restrictions from December 1 - April 30. This restriction will largely limit impacts to big on BLM lands in the area.

Other Trail Networks

For mule deer, the Colorado Department of Natural Resources has identified the Paths to Mesa Verde Project as part of Colorado's "16 priority trails, trail segments, and trail gaps in 2016" (<https://cdnr.us/#/cothebeautiful>). This project is in the early phases of development, but is expected to occur in an approximately 11 mile corridor between Mancos and Cortez, Colorado.

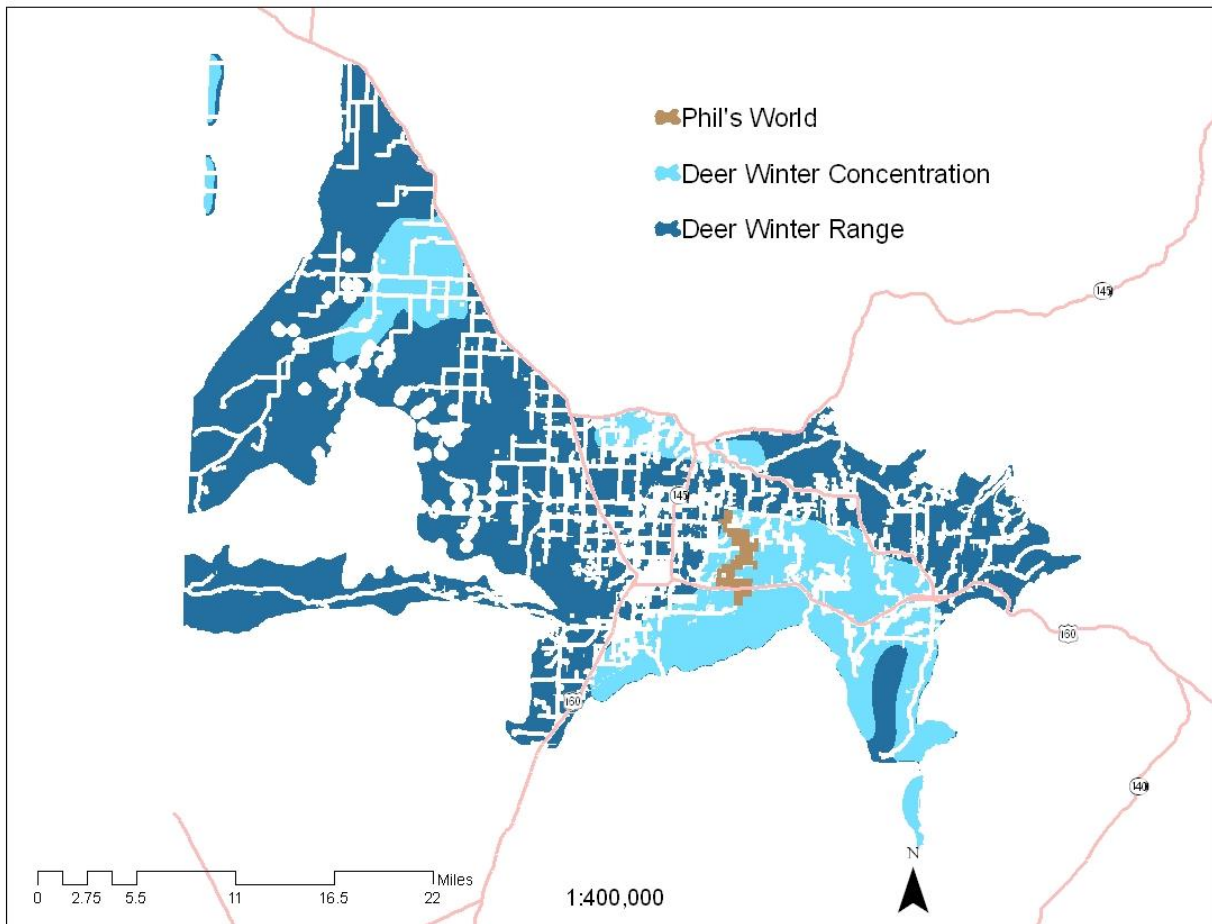
Cumulative Analysis

In addition to current disturbance, listed above, the proposed action (Alternative B) would add 1,382 acres of disturbance to the landscape, or an increase of less than 0.3% for deer and 0.1% for elk in winter range as a whole. In our analysis, 135,720 ac (31%) of mule deer winter range is currently disturbed within D-29 and 272,249 ac (17%) of elk winter range is disturbed within E-24. Of the deer habitat that is not disturbed, 174,147 ac (58%) of the habitat is private and

may be subject to disturbance in the future. The proposed action also occurs within mule deer winter concentration areas (112,980 ac, 26% of all deer winter range) and would increase disturbance by 1% from 30% to %31. Impacts to these areas are of particular concern, because they are where deer spend the majority of their time during the winter.

Map 7: Elk Winter Range

Map 8: Deer Winter Range and Deer Winter Concentration Areas.



Conclusion

This alternative would increase disturbance by less than 1% for deer and elk winter range and

1.2% for deer winter concentration areas. Total disturbance including potential disturbance as a result of the proposed action would be 31% and 17% for deer and elk respectively. Despite that the majority of the lands within each DEU will remain undisturbed, the majority are private lands and may vary in habitat quality. Some areas may have all of the necessary components to provide habitat while others may lack one or all parts necessary to provide forage, space and cover. Disturbance from the proposed action to winter range would further degrade deer and elk winter habitat cumulatively within a greater landscape with a litany of other disturbances. When considered within the context of many other disturbances on the landscape, recent declines in mule deer populations and the likelihood of further private land development, areas that are relatively undisturbed, and would remain undisturbed, like the proposed action area prior to development, would become increasingly important as development continues.

Mitigation Measures and Residual Effects

NA

3.4.4. *Socio-Economics*

Direct and Indirect Effects

Under the Proposed Action alternative, 2 new trailheads and approximately 26.5 miles of new single-track non-motorized trails would be constructed. Effects to socio-economics as described by issues brought forth during scoping would be as follows:

- 1) How would development of new trails affect the local (Montezuma County) economy including property values (both adjacent properties and local area properties)?

It is anticipated that the new trails and trailheads would increase economic activity in the local area due to increased visitation by both locals and non-locals. Quantifying the economic effects is difficult since the magnitude of the direct and indirect effects would be greatly dependent upon the amount of increased use/visitation which is unknown. Increases in economic activity would likely be driven by increases in non-local visitation and increased length of stay in the area by non-locals, due to the associated lodging and meal expenditures.

Increased vehicle use is anticipated along Roads L and M where parking areas/trailheads would be provided as well as along Roads N and 30.2 due to access trails into the Simon Draw trails (see Recreation section issues 7 and 8 for more information). While there is the potential for increased traffic use and congestion to adversely affect adjacent property values, it is anticipated that the increase in trails may increase property values in the area although it is difficult to determine to what extent.

Effects from this action would not be disproportionately high or adverse to low-income populations. Potential effects to Tribes are discussed under the Cultural Resources section.

- 2) How would development of new trails affect economics associated with other existing or potential uses of the project area (hunting, wildlife viewing)?

Economic activity associated with other potential uses of the project area, such as hunting or wildlife viewing, may be affected. It is difficult to determine to what extent since hunters choosing not to hunt in the project area may hunt on other public lands in the area. Effects from this action would not be disproportionately high or adverse to low-income populations. Potential effects to Tribes are discussed under the Cultural Resources section.

Cumulative Effects

The cumulative effects analysis area for socio-economics for this project is Montezuma County. There is one parcel in the southern portion of Phil's World which has been nominated for fluid mineral leasing consideration. Contrast to the characteristic landscape as a result of fluid mineral development could range anywhere from weak to strong dependent on siting, access road development, pad size, reclamation efforts, visual resource related design features, and pad density. However, at this time, the parcel is under 'deferral'.

The town of Mancos has been working on a trail proposal for the Aqueduct parcel just northwest of Mancos. In general, this proposal does not identify specific trail alignments, though it does recommend the development of non-motorized trail systems, a parking area/trailhead at the old Mancos town dumpsite at County Road 39, and the installation of signage. Development of new non-motorized trails in this parcel would result in increased opportunities for trail based recreation easily accessible from local communities.

Under the Proposed Action alternative, there would be new trails and increased use by both locals and non-locals increasing local economic activity. Cumulative effects would not be disproportionately high or adverse to low-income populations. Potential cumulative effects to Tribes are discussed under the Cultural Resources section.

Mitigation Measures and Residual Effects

N/A

3.4.5. Recreation

Direct and Indirect Effects

Under the Proposed Action alternative, two new trailheads and approximately 26.5 miles of new single-track non-motorized trails would be constructed. Effects to recreational use as described by issues brought forth during scoping would be as follows:

- 1) How would trail development and use affect dispersed use of the area by other recreational users (hikers, walkers, hunters)?

Non-motorized trail users of all types would have the opportunity to benefit from the development of approximately 26.5 miles of single track trails in the northern portion of Phil's World. The stacked loop system, located close to local communities, would form loop opportunities of varying length and challenge, and provide spectacular views of the region. The

shortest loops, accessed directly from the new trailheads, would provide opportunities for hikes and rides after work or during lunch breaks while the longer loops would provide for longer ‘weekend excursions’. The two new trailheads would provide for easier access into the Cash Canyon, Highline, and Simon Draw areas. However, the expected volume of use of these trails by mountain bikers would effectively limit the opportunities for other trail users. This would be especially true for equestrian users because mountain bike use (which is both fast and quiet) is particularly prone to ‘spooking’ horses.

The two recreational user groups most likely negatively affected by new trail development and improved access to the area would be hunters and hikers/walkers who already use the area in a dispersed nature (not using trails). Hunters, who traditionally would not have needed to worry about others in the area when preparing to fire their weapons would now have to be constantly vigilant. Additionally, increased recreational use of the area may result in the dispersal of big game and decreased hunting success. Hikers/walkers who currently access the area and are able to enjoy a feeling of ‘having the area all to themselves’ would lose this opportunity over the majority of the area. This opportunity would still be available in the 250+ acre area surrounding the golden eagle nest where trails would not be developed for at least as long as the nest remains active.

2) How would trail development and use enhance existing (bicycle) riding opportunities (new terrain, views, challenge, social interactions, connectivity to communities)?

The development of new trails under this Proposed Action would provide a wide array of new (mountain) bicycle riding opportunities. In general, the stacked loop system, located close to local communities, would form loop opportunities of varying length and challenge, and provide spectacular views of the region. The shortest loops, accessed directly from the new trailheads, would provide riding opportunities after work or during lunch breaks while the longer loops would provide for longer ‘weekend excursions’. The two new trailheads would provide access into the Cash Canyon, Highline, and Simon Draw areas, as well as connectivity to the existing trail system and easier access to existing loops like Ledges and Stinky Springs.

Of particular benefit would be the connection created between the very northern portion of Phil’s World (Garfunkel Trail in the Simon Draw Area) to the very southern portion of Phil’s World (trails located on the State Land such as Hippy House and Trust Loop). This connectivity could allow for bicyclists to ride from Dolores to Cortez primarily on single track trails, if and when access off of Road 30.2 is perfected (the northern access to the Garfunkel Trail). The Road N access trail would also provide similar connectivity and could connect directly to County Road N without the need to cross through private property (per county road data).

The proposed trails would add variety to the existing trail in several ways. Currently, beginning riders (or those not looking for challenge) are largely limited to riding the Hippy House and Trust Loops. Under this alternative, trails such as Canal, Highline, Eyrie, Talon, Aquila, Carly, Paul and Schuster would be accessible from new trailheads and would not require navigating technically challenging trail segments to reach them. For riders seeking challenge similar to that found on Ledges, Stinky Springs, and the Elbow, the new loops in the Simon Draw area and the Poquito Burrito trail would broaden their range of opportunities. The Cash Canyon area and Simon Draw Area trail systems would provide canyon rim riding that is currently only found along a portion of the Stinky Springs trail. The Paul, LeBon, Garfunkel, Eyrie, Talon, Aquila and Tiny Donkey trails would all offer scenic views into the local canyon features.

The development of two new trailheads and their associated trails would help alleviate the congestion experienced at the Highway 160 trailhead. Currently, with only one trailhead, all use gets funneled through the same trail segments before riders are able to choose to ride the outer loops such as Lemonhead, Ledges, Stinking Springs, and 2-More. While directional riding practices on the existing trails mean that on-trail social contacts are minimized, at least for trail users traveling at ‘average’ speeds, congestion at the Highway 160 trailhead can result in over 100 contacts at the trailhead. The addition of two new trailheads located off of County Roads L and M would provide more variety and reduce social contacts both on the trails and at the trailhead.

These new access points and additional trails would also allow for use of the Phil’s World area by trail users during events such as the 12 Hours of Mesa Verde. Currently, the 12 Hours of Mesa Verde (an annual mountain bike race attracting approximately 850 each Mother’s Day weekend) effectively shuts the area down to other users. With new access points and new trails, events like the 12 Hours could be hosted in the future and use of the area by non-event related recreational users could continue unabated.

Two of the new proposed trails (Short N Sweet, and Tiny Dancer) would ensure that the existing trail system would remain intact in the event that private land owners currently amenable to trails crossing their lands change their stance (or the land is sold, or otherwise developed). This would help ensure the longevity of the overall trail system at Phil’s World and the associated personal, social, and environmental benefits.

3) How would trail development and use affect amount of trash on landscape?

The majority of the trash on the landscape, both as a result of dumping and day to day accumulation of litter, is not as a result of trail usage. The vast majority of trash on the landscape in this parcel is a result of illegal dumping (household trash), carcass disposal (from

hunting and domestic animals), late night party debris (food wrappers, beverage bottles, and bonfires), and recreational shooting (appliances, cans and bottles, and shell casings). The presence of trail users, particularly the density of mountain bike trail users as evidenced on existing trails in the area, would be expected to result in an overall reduction of trash on the landscape due to organized clean-up efforts and ‘informal oversight’ (ie, more eyes on the ground to dissuade illegal dumping activities).

4) How would trail development and use affect existing motorized riding opportunities?

Under the Proposed Action, there would be approximately 26.5 miles of new non-motorized single track trail construction. There are no proposed motorized trails, and no proposed closure of existing motorized trails. As such, there are no anticipated effects to existing motorized riding opportunities as a result of this proposal.

5) How would trail development and use affect personal and community benefits associated with non-motorized trail use?

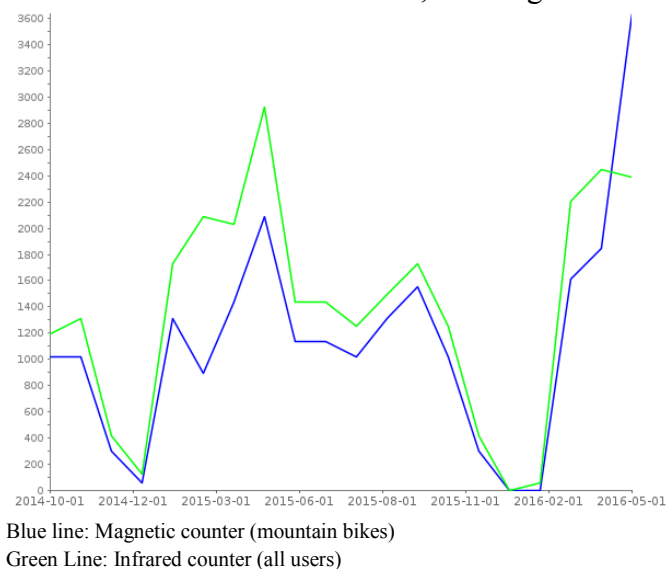
The Phil’s World parcel is situated close to three communities: Mancos, Cortez, and Dolores. As such, there are a myriad of personal and community benefits which arise from easy access to non-motorized trail systems. Personal benefits include improved health, improved development of skills and abilities, greater personal confidence, and an improved understanding of community dependence and effect on Public Lands and adjoining private lands. Social/community benefits include an enhanced outdoor-oriented lifestyle, increased economic activity, and an increased desirability of Cortez, Dolores, and Mancos as places to live, visit, or retire. While the existing trail system affords these benefits already, the development of new trail opportunities across the remaining 2/3s of the Phil’s World unit would result in the expansion of these benefits. Trail users who might tire of ‘riding the same trails over and over again’ would have new and varied opportunities. Trail users seeking new viewsheds, challenges, or diversity would have more terrain available to meet their needs. Finally, the development of new access points would be expected to reduce some the issues associated with current trailhead congestion and result in more visitors attaining the benefits they seek from the trail system.

6) How would trail and trailhead development affect use by other non-motorized single track users (equestrian, hiking)?

Hiking and (and particularly) equestrian use of any new trails would be expected to be limited due to the anticipated volume of mountain bike use. However, trail counter data on the existing trail system indicates that a measurable amount of non-bike related use does occur at Phil’s World and this use would be expected to transfer onto any newly developed trails as well (See Figure 4: Mt Bike Use vs. All Users, Existing Phil’s World Trail System). The directional riding pattern used by mountain bikers alleviates, to some extent, conflicts with other non-motorized

trail users.

Figure 4: Mt Bike Use vs. All Users, Existing Phil's World Trail System



7) How would trail development and use affect safety of users accessing the trail systems (access available away from highway 160, new access/egress along county roads)?

The only existing access/trailhead for the Phil's World area is located on a parcel of State land, accessed via Road 30.1 just north of the Montezuma County Fairgrounds. The turnoff to Road 30.1 is along Highway 160 and does not have a turning lane from either direction. The intersection of 30.1 and Highway 160 is at the end of a merging lane for westbound traffic exiting the fairgrounds and is unsigned (there is no sign indicating that Phil's World is accessed by Road 30.1). The speed limit is 65 mph.

Under the Proposed Action, there would be two new parking area/trailheads developed: one each along County Roads L and M. The trailhead along County Road M would be located in an abandoned and partially reclaimed dump site, utilizing an existing access road that is currently gated to allow only OHV and non-motorized access. The access road is located along a small straight-away with approximately 350 feet to the nearest curve to the south, and 1050 feet to the nearest curve to the north. The trailhead along County Road L would be located east of a slight bend in the road and would require re-opening a closed road for use as an access road to the trailhead. This closed road intersects Road L at a slight bend, with approximately 3,200 feet to the nearest curve to the south, and 2,100 feet to the nearest curve to the north.

Both of these County roads are unpaved, improved, 2-lane gravel roads. The speed limit is 40 mph. On CR L there are 9 access/egress points within 1 mile of the BLM managed lands to the

west, and 20 to the east. On CR M there are 17 access/egress points within 1 mile of the BLM managed lands to the west, and 9 to the east.

The maintenance of these roads, enforcement of speed limits, and the approval of access/egress points, falls under the jurisdiction of Montezuma County. Any development of new access/egress points (trailheads) by the BLM would be done in conjunction with Montezuma County and would be subject to any required approval/permitting processes. The availability of two new trailhead access points which are located along County Roads rather than Highway 160 would be expected to improve the safety of those seeking to access trails in the Phil's World area.

8) How would trail development and use affect use of county roads?

While the safety and management of county roads does not fall under the jurisdiction of the BLM, it would be expected that development of these new access points would result in an increase in traffic along County Roads L, M, and N (all 'Green' county roads maintained by Montezuma County). If and/or when access along the 'Red' County Road 30.2, and through willing private property ownership is perfected, the same would be true along that route as well.

Roads L and M are 'through' 2-lane roads approximately 25 feet wide, while roads N and 30.2 are dead-end roads, approximately 15 feet wide. The majority of increased vehicle use anticipated as a result of the Proposed Action would be along Roads L and M, where parking areas/trailheads would be provided. Roads N and 30.2 would also likely receive some additional vehicle traffic, and possible parking along the edges of the road, as a result of the proposed access trails into the Simon Draw trails.

According to Montezuma County Traffic Counts from 2007-2012, on average 373 vehicles/day use Road L (east of Road 29), 158 vehicles/day use Road 32 (south of Road P), 160 vehicles/day use Road 31 (south of Road P), and 299 vehicles/day use Road M (west of Road 31) (Montezuma County, 2007-2012). For purposes of estimating anticipated use on these roads, the following assumptions are made: 1) While some additive use of the trail system can be expected as a result of both 'natural growth' and from any new trail development, having a second or third trailhead option would not result in 2-3x the existing use levels. Rather, use would be expected to disperse across the available trailheads; 2) Use at the existing trailhead would represent the largest percentage of total trailhead use due to user familiarity and proximity to Highway 160. Based on these assumptions, and the estimated use of the current trailhead (18 veh/day on weekdays and 38 veh/day on weekends), use of these roads may increase by 1-6%. See Table 6: Estimated County Road Use, Proposed Action)

Table 6: Estimated County Road Use, Proposed Action

	2007-2012 Avg veh/day	Estimated Increase in Use (veh/day), Alt B*	Estimated % Change, Alt B
Road L (E of Rd 29)	373	5-10	+ 1-3%
Road 32 (S of Road P)	158	5-10	+3-6%
Road M (W of Rd 31)	299	5-10	+2-3%
Road 31 (S of Road P_	160	5-10	+3-6%

*Based on comment received on the Preliminary EA, estimated traffic on county roads to the proposed trailheads was adjusted to reflect possible access from two different directions (from north and from south/west).

Cumulative Effects

The Proposed Action would add approximately 26.5 miles of new designated non-motorized single track trails to the SRMA. These would be in addition to the 15 (non-State or private land) miles of single track trails already available within the SRMA. The cumulative effect to recreational trail users is an overall increase in the length and diversity of trail opportunities available within easy commuting distance of Dolores, Cortez, and Mancos.

Mitigation Measures and Residual Effects

N/A

3.4.6. Visual Resources

Direct and Indirect Effects

Under the Proposed-Action alternative, approximately 26.5 miles of new single track trail and two new trailheads would be built. Effects to visual resources as described by issues brought forth during scoping would be as follows:

- 1) How would trail and trailhead development and use affect the visual setting of the landscape?

The development of 26.5 miles of single track trail in the northern portion of Phil's World would

result in weak contrasts to the vegetative element of the characteristic landscape. Design features such as minimizing vegetation removal and soil disturbance would make the new trails nearly impossible to see from any likely viewing points, including overlook points along the proposed trails themselves. The varied topography and dense pinyon-juniper overstory prevalent throughout the unit would screen the effects of both trail construction and usage. The most evident visual contrasts would be expected to occur where trails traverse steep canyon walls such as in Cash Canyon, Simon Draw, and Stinking Springs. In these locations, linear breaks in the vegetation would be visible. These effects would not be visible from likely viewing points such as county roads or residential development.

Two new trailheads would be constructed under this alternative. The trailhead south of Road L would result in vegetative clearing and minor re-contouring of approximately .5 acres. These effects would result in a moderate contrast to the vegetative element of the characteristic landscape, though it's siting (superior to the County road) and the residual vegetation screening would keep it out of the viewshed of travelers along Road L. Construction of boundary fencing, width restrictors at trail access points, and trailhead related facilities would introduce weak structural contrasts the characteristic landscape. This trailhead would not be visible from any residential developments. The access road into this trailhead would take advantage of a pre-existing disturbance (an old road cut) and would result in weak contrasts to the vegetative element of the characteristic landscape.

The trailhead proposed along Road M would be sited to take advantage of a pre-existing disturbance: a partially reclaimed dumpsite. The partial reclamation of this site has left an opening in the native pinyon-juniper vegetation of approximately 3 acres. The access road is also pre-existing and would only require the opening of a gate that currently restricts full size vehicle access into the clearing. Construction of boundary fencing, width restrictors at trail access points, and trailhead related facilities would introduce weak structural contrasts the characteristic landscape. This trailhead would not be visible from any residential developments.

All of the developments proposed under this alternative would be consistent with the management objectives of this VRM Class III area.

Cumulative Effects

The limited scope of the weak to moderate contrasts associated with this alternative would not result in any cumulative effects to the visual characteristic landscape which would be incompatible with the VRM Class III objectives for this area.

Mitigation Measures and Residual Effects

N/A

3.5. Alternative C

3.5.1. *Cultural Resources*

Direct and Indirect Effects

- 1) How would cultural resources eligible for listing on the National Register of Historic Places be affected from non-motorized trail construction and use?

Under Alternative C, the existing non-motorized trail system would be expanded to the central and northern portions of the analysis area. Non-motorized trail development and use through sites or immediately adjacent to sites use has the potential to directly and indirectly affect National Register eligible and potentially eligible sites (historic properties). Trail construction, including trail design features such as water bars, and parking lot construction can damage site features and disturb buried cultural deposits, degrading site integrity and research potential. Over time, trail use can result in incised channels in the ground that change drainage patterns, destabilize soils, and lead to increased soil erosion. Incised channels can directly disturb or damage archaeological site features. Vegetation can decrease and bare ground can increase within user-created trail corridors, increasing the risk of destabilized soils. Trail use in wet ground conditions can cause soil rutting, increasing the potential for soil drainage and erosion issues, as well as directly disturbing or damaging cultural resource deposits and features that may be present. Offsetting these potential effects, planned trails incorporate design features to mitigate drainage issues, soil erosion, and loss of vegetation. Authorized trails are also subject to periodic trail maintenance, which addresses issues such as drainage and soil erosion.

Under this alternative, the current non-motorized trail system would be expanded and two additional trailhead parking areas would be created. The trails and trailhead parking areas would affect four archaeological sites, all of which are not eligible for listing on the NRHP. The proposed trails and parking areas would avoid all National Register eligible and potentially eligible sites (Design Criteria #2), and there would be no direct effects to these sites. With the expansion of the current trail system, unauthorized trails would be less likely to develop within the analysis area, reducing the possibility of unplanned trails passing through historic properties. Design Criteria #17 would further ensure no user-created trails are created, or allowed to be present.

Some of the trails would be located in the vicinity of archaeological sites. The risk of intentional vandalism and looting of historic properties in the portions of the analysis area currently lacking planned, authorized, signed trails would be reduced by a managed, signed trail system. The presence of more intensive recreation management and an expected corresponding increase in recreational use would increase the risk of detection of such activities, and act as a deterrent to such activities. Therefore, Alternative C could indirectly benefit cultural resources slightly less than Alternative B, as Alternative C increases the portion of the planning area without planned, managed, signed trails due to an increased eagle nest buffer area. However, Alternative C should

have a greater benefit than the No Action Alternative as well as Alternative D (both of which involve less intensive management of larger portions of the planning area than Alt. C).

An intense amount of mountain biking occurs in the portion of analysis area with an existing, signed trail system. The planning area conditions enable mountain biking for much of the calendar year. Mountain biking tends to be a goal oriented recreational activity, resulting in a lesser propensity for mountain bikers to leave the trail, in comparison to other forms of non-motorized recreational activity. Hence, mountain bikers are unlikely to contribute to intentional or unintentional vandalism or looting of cultural resources. Archaeological site monitoring conducted in 2014 and 2015 supports this conclusion, as no recent incidence of vandalism or looting were noted in the sites that were monitored. The trail system analyzed under Alternative C is also expected to also see intensive non-motorized use. As noted in the previous paragraph, such intensive use typically increases the risk of detection of cultural resource vandalism and looting, resulting in a decrease in such activities.

The proposed trails and parking areas should result in minimal additional visual disturbances within the analysis area. The vegetation and terrain in the analysis area obscures single track trails. As the proposed trails would be non-motorized, additional increases in auditory effects would be negligible. The aspects of setting and feeling, which are important considerations for visual and auditory effects to sites, have not been identified as qualities that contribute to the eligibility any sites within the analysis area. Sites are present within the planning area for which setting and feeling could potentially contribute to site significance. However, the nature and scale of Alternative C would not notably increase auditory or visual effects to National Register eligible sites for which setting and feeling potentially contribute to their significance. As Alternative C involves less miles of proposed trail than Alternative B, visual and auditory effects would be slightly less overall for Alternative C in comparison to Alternative B.

Alternative C represents a positive progression toward proactive recreational planning in the area which seeks to provide for recreational demand while implementing design criteria developed to protect cultural resources.

Cumulative Effects

As the Proposed Action would have no direct or indirect impacts to National Register eligible cultural resources, it would not add or contribute to any cumulative impacts.

Mitigation Measures and Residual Effects

A Cultural Resource Monitoring and Discovery Plan was developed for the new trails proposal (Cultural Resource Monitoring and Discovery Plan, Phil's World 2.0 Non-Motorized Single Track Trail Project (18-26.5 miles proposed)). The Plan provides for archaeological monitoring of trail construction and post-construction archaeological monitoring of trail use and maintenance. The Plan also includes procedures for discoveries of cultural resources and human

remains during trail construction, maintenance, and trail use.

3.5.2. *Soils/Hydrology/Riparian*

Direct and Indirect Effects

1) How would streams and riparian vegetation be affected by proposed trail locations in canyon bottoms?

Streams have a risk of receiving sediment pollution in areas where trails are built on steep slopes where moderate-severe and severe erosion hazard soils exist which are adjacent to canyon bottoms. If a trail built in these areas also has a trail stream crossing, these areas could be conduits to transport sedimentation to the stream. Trails which have short stretches planned within these erosion risk areas and are near streams include Poquito Burrito, Canal, Highline, Road N Connector, Schuster, Cash-Money, and Garfunkel trails.

The width of stream crossings required by new trails would vary depending on location. All stream crossings are planned to have small, low profile foot-bridges. The foot bridges are not anticipated to substantially affect streams or riparian, however the proposed design leaves them vulnerable to loss or damage. The damage could occur from annual peak flows in the spring if the bridges do not span the entire floodplain, or from high flows associated with flash flooding. Most floodplains in the bottom of tributary canyons occupy the entire canyon bottom and are between 50-75 feet wide. In larger canyon bottoms of Simon Draw and Cash Canyon the floodplains vary in width and can be wider. Bridges are planned to be only 10 to 20 feet in length.

The three major canyon streams within the analysis area all support well developed riparian vegetation. Several side tributaries to the major canyons also support continuous riparian vegetation and have perennial flow during the irrigation season. Trail construction through riparian vegetation would be infrequent and would require clearing vegetation only wide enough to allow riparian/stream trail crossings and are not anticipated to have substantial effects to the riparian complexes.

2) Would trails built on steep slopes and sensitive soils result in increased erosion?

Approximately 9.2 miles of trail are proposed to be built on steep slopes with moderate-severe to severe erosion hazard soils. Alternative C has the intermediate number of miles (9.2 miles) of new trail proposed for high erosion hazard soils compared to Alternative B (10.1 miles) and Alternative D (8.2 miles). Most soils in the analysis area have low strength and on steep side slopes they are not stable, and very prone to erosion. The three soil units with the highest erosion hazards for trail construction are summarized in Table 7 below.

Building trail on high erosion hazard soils greatly increases the likelihood that trail surfaces may erode, become entrenched, and may ultimately concentrate runoff further accelerating down cutting. Constructing trails in high erosion hazard soils, especially where erosion occurs near

streams and washes also increases the risk of sediment pollution entering water. Building trails on soils that have a high erosion hazard could also increase either the cost of construction or the cost and frequency of required monitoring and trail maintenance. A field review was conducted on existing Phil's World trails built on the same high erosion hazard soils as proposed for the new trails in Alternative C. Severe erosion was not found on the existing trail system (Ledges, Rib Cage) which could indicate the NRCS soil survey hazard ratings are very conservative, and with careful trail construction practices and the implementation of mitigation, erosion and trail down-cutting could be minimized or reduced. Trails proposed for construction on relatively flat mesa tops are expected to be stable and have few erosion issues.

Seasonal trail closures are planned between December 1 and April 30 for trails located north of Roads M and L. Although the closure is primarily for the protection of wildlife, this measure would have the added benefit of seasonal protection for soils and trails. The trail closures would occur at a time when soils are most likely to become saturated and muddy which are also times soils are most susceptible to erosion. Garfunkel, Paul, Schuster, Carly, Cash-Money, and Talon trails all cross high erosion hazard soils and would benefit from the seasonal protection of trail closures.

Table 7. Soil units with the highest erosion hazard for trail construction (NRCS Cortez Soil Survey, 2001) and the miles of trail proposed for construction within the units, Alternative C.

Pulpit Loam 6-12% Slopes	95	Severe	Slight	1.16	
Romberg-Crosscan 6-25% Slopes	109	Moderate-Severe	Moderate	3.95	
Romberg-Crosscan 25-80% Slopes	110	Severe	Severe to Very Severe	4.16	

Table 8. The length of trail in moderate-severe and severe soil erosion hazard for trail construction by trail name, Alternative C.

Highline	2.1
Canal	1.5
Schuster	1.2
Garfunkel	1.0
Cash-Money	0.7
Poquito Burrito	0.6
Road N Connector Trail	0.5
Carly	0.4
Paul	0.4
Le Bon	0.3
Talon	0.2

Cumulative Effects

The existing Phil's World trails in general are built on soils which do not have severe erosive soil survey ratings. As a result, the existing trails have few erosion problems. However, some existing trails are located on soils with a moderate-severe or severe hazard ratings. Ledges & Rib Cage, are examples of trails with some sections located, in part, on severe hazard soils. On a limited field inspection of the existing trails located on these severe hazard soils, large areas of problematic erosion were not found, which may indicate the NRCS soils hazard ratings for trails construction are very conservative. In comparison, considering comparisons with the condition of existing Phil's World trails on severe hazard soils, Alternative C may have a moderate potential to create detectable effects to erosive soils located on canyon side-walls both in the short and long term. The risk of impacting water quality is low to moderate and associated mostly with localized areas of stream crossings. Cumulatively, when all of the trails are considered, approximately 9.2 miles of new trail are planned to be built on slopes with high severity erosion potential in areas that are currently undeveloped and are relatively stable. Erosion potential could be a continuous problem and require substantial and frequent maintenance to keep trails to standard and fix erosion problems. However, implementation of

mitigation measures could be effective in reducing the risk of erosion and the need for long-term maintenance. Site specific mitigation measures have not yet been identified and could not be assessed for this analysis.

There is a low risk that sedimentation could accumulate in channels over the long-term within the analysis area because annual peak flows should be sufficient to move sediment downstream. Increased sedimentation and erosion has a low-moderate risk of affecting existing water infrastructure maintenance because reservoirs and ditches just downstream of the trail system on BLM and on private lands may fill more quickly with sediment. The Highline Ditch and Burk Ditch traverse the analysis area below and among the proposed trails of Alternative C. Reese WW Ditch Extension and Hover Ditch are just downstream of the trail system on Simon Draw. Old Kaniga Ditch and an unnamed reservoir are just downstream of the trail system on Stinking Springs Canyon. This water development infrastructure could be affected by increased erosion and sedimentation from the cumulative effects of the trail system sections built on highly erosive soils.

Mitigation Measures and Residual Effects

N/A

3.5.3. *Wildlife*

Direct and Indirect Effects

Alternative C would result in a 72% increase of trails from the existing trail network. This alternative would greatly reduce user impacts on the Golden eagle territory in Cash Canyon, when compared with Alternative B. Impacts to potential New Mexico meadow jumping mouse habitat and big game species will largely be the same as Alternative B.

1) How would New Mexico Meadow Jumping Mouse, listed as endangered under the Endangered Species Act, be affected?

Effects to New Mexico Meadow Jumping mouse are the same as alternative B. Both of the riparian site crossings would remain the same under this alternative.

2) How would golden eagles be affected?

This alternative would reduce effects to golden eagles when compared with alternative B. No parking lots and 1.3 miles of trail would occur within ½ mile of the active eagle nest. When compared with alternative B this is a 72% reduction in disturbance within the ½ mile nest buffer. The closest trail would be approximately 0.42 miles from the active nest. Additionally, no parking lot or trail would be visible from perches above the nest within ½ mile with the exception of a small segments that connect trails on road L and M. Fewer disturbances would lead to increased likelihood of the eagle not abandoning the territory and an increased likelihood

of successful reproduction. Trails would still be within a ½ mile of the nest in some areas. However, they would be removed from the canyon rim where they have a greater potential to disturb adults that may be perched around the nest.

Short loops would still be available to riders under this alternative from county roads M and L, and use would probably be greater near the nest than in other areas as a result. Use would still occur at the same time as alternative B, during the nesting season. However, affects to the nest would be limited to the greatest extent possible while still allowing for a connection of north and south portions of the trails.

3) How would big game be affected?

Effects to deer and elk would be similar in Alternative C as they were in Alternative B. There would be a slight reduction in acreage disturbed, to 1,255 acres (Alt. C) from 1,382 acres (Alt B). When considering that deer and elk are landscape species, Alternative C would still remove a large portion of undisturbed winter range from the landscape, decreasing the winter carrying capacity of the area.

Sub-Alternative C - Timing Limitation Design Criteria for Big Game

Under this alternative, design criteria could be implemented that would restrict winter use north of Road L from December 1 - April 30 annually. This timing limitation would greatly reduce impacts to deer and elk under this alternative. Disturbance, according to our disturbance model described in detail under Alternative B, would be reduced by 42% (531 ac). More importantly, timing limitations would provide quality habitat for deer and elk during the winter in an area where habitat is not abundant and where private land subdivision may impact habitat in the future.

Cumulative Effects

New Mexico Meadow Jumping mouse

New Mexico meadow jumping mouse cumulative effects for this alternative would be the same as Alternative B.

Golden eagle

Golden eagle cumulative effects for this alternative would be the same as Alternative B. This alternative, however, would have a 72% reduction in trail miles within the ½ mile of the Cash Canyon nest and have no trail within 0.42 miles. When compared to cumulative effects in Alternative B, this alternative (Alternative C) would greatly reduce the amount of overall disturbance within ½ mile of the Cash Canyon golden eagle territory and likely bring it to a level that is tolerated by the eagle.

Big Game

Big game cumulative effects (past, present and reasonably foreseeable impacts) for this alternative would be the same as Alternative B. The addition of design criteria that would add timing limitations from December 1 - April 30 north of Road L would reduce impacts to big

game by 42% when compared with Alternative B.

Mitigation Measures and Residual Effects

N/A

3.5.4. *Socio-Economics*

Direct and Indirect Effects

Under Alternative C, 2 new trailheads and approximately 22 miles of new single-track non-motorized trails would be constructed. Effects to socio-economics as described by issues brought forth during scoping would be as follows:

- 1) How would development of new trails affect the local (Montezuma County) economy including property values (both adjacent properties and local area properties)?

It is anticipated that the new trails and trailheads would increase economic activity in the local area due to increased visitation by both locals and non-locals. Quantifying the economic effects is difficult since the magnitude of the direct and indirect effects would be greatly dependent upon the amount of increased use/visitation which is unknown. Increases in economic activity would likely be driven by increases in non-local visitation and increased length of stay in the area by non-locals, due to the associated lodging and meal expenditures. The additional design criteria to implement a seasonal closure for wildlife between Dec 1 and April 30 would close the area north of Road L to all users, including off trail users such as hikers/walkers during this time span which may decrease visitation and the associated economic activity.

Increased vehicle use is anticipated along Roads L and M where parking areas/trailheads would be provided as well as along Roads N and 30.2 due to access trails into the Simon Draw trails (see Recreation section issues 7 and 8 for more information). While there is the potential for increased traffic use and congestion to adversely affect adjacent property values, it is anticipated that the increase in trails may increase property values in the area although it is difficult to determine to what extent.

Effects from this action would not be disproportionately high or adverse to low-income populations. Potential effects to Tribes are discussed under the Cultural Resources section.

Key Difference from Proposed Action: The big game seasonal closure would result in lost recreational access across approximately 950 acres from Dec 1-April 30th. This would affect both trail users and dispersed recreational users (such as local residents who currently hike in the area during the affected months) and potentially reduce the amount of economic activity as compared to the Proposed Action.

- 2) How would development of new trails affect economics associated with other existing or potential uses of the project area (hunting, wildlife viewing)?

Economic activity associated with other potential uses of the project area, such as hunting or wildlife viewing, may be affected. It is difficult to determine to what extent since hunters choosing not to hunt in the project area may hunt on other public lands in the area. Effects from

this action would not be disproportionately high or adverse to low-income populations. Potential effects to Tribes are discussed under the Cultural Resources section.

Key Difference from Proposed Action: The big game seasonal closure would result in lost recreational access across approximately 950 acres from Dec 1-April 30th. This would affect both trail users and dispersed recreational users (such as hunters who currently hunt in the area during the affected months) and potentially reduce the amount of economic activity as compared to the Proposed Action.

Cumulative Effects

The cumulative effects analysis area for socio-economics for this project is Montezuma County. There is one parcel in the southern portion of Phil's World which has been nominated for fluid mineral leasing consideration. Contrast to the characteristic landscape as a result of fluid mineral development could range anywhere from weak to strong dependent on siting, access road development, pad size, reclamation efforts, visual resource related design features, and pad density. However, at this time, the parcel is currently under 'deferral'.

The town of Mancos has been working on a trail proposal for the Aqueduct parcel just northwest of Mancos. In general, this proposal does not identify specific trail alignments, though it does recommend the development of non-motorized trail systems, a parking area/trailhead at the old Mancos town dumpsite at County Road 39, and the installation of signage. Development of new non-motorized trails in this parcel would result in increased opportunities for trail based recreation easily accessible from local communities.

Under Alternative C, there would be new trails and increased use by both locals and non-locals increasing local economic activity. Cumulative effects would not be disproportionately high or adverse to low-income populations. Potential cumulative effects to Tribes are discussed under the Cultural Resources section.

Mitigation Measures and Residual Effects

N/A

3.5.5. Recreation

Direct and Indirect Effects

Under Alternative C, two new trailheads and approximately 22 miles of new single-track non-motorized trails would be constructed. Effects to recreational use as described by issues brought forth during scoping would be as follows:

- 1) How would trail development and use affect dispersed use of the area by other recreational users (hikers, walkers, hunters)?

Non-motorized trail users of all types would have the opportunity to benefit from the development of approximately 22 miles of single track trails in the northern portion of Phil's

World. The stacked loop system, located close to local communities, would form loop opportunities of varying length and challenge, and provide spectacular views of the region. The shortest loops, accessed directly from the new trailheads, would provide opportunities for hikes and rides after work or during lunch breaks while the longer loops would provide for longer ‘weekend excursions’. The two new trailheads would provide for easier access into the Cash Canyon, Highline, and Simon Draw areas. However, the expected volume of use of these trails by mountain bikers would effectively limit the opportunities for other trail users. This would be especially true for equestrian users because mountain bike use (which is both fast and quiet) is particularly prone to ‘spooking’ horses.

The two recreational user groups most likely negatively affected by new trail development and improved access to the area would be hunters and hikers/walkers who already use the area in a dispersed nature (not using trails). Hunters, who traditionally would not have needed to worry about others in the area when preparing to fire their weapons would now have to be constantly vigilant. The additional design criteria to implement a seasonal closure for wildlife between Dec 1 and April 30 would close the area north of Road L to all users, including off trail users such as hikers/walkers during this time span. During the remainder of the year these users would have access to the area, but would lose any sense of ‘having the area all to themselves’ with increased trail density and use. This opportunity would still be available in the 350+ acre area surrounding the golden eagle nest where trails would not be developed for at least as long as the nest remains active (and outside the seasonal closure period).

Key Differences from Proposed Action: The buffer around the golden eagle nest would be approximately 100 acres larger under this alternative, leaving more of the Cash Canyon area available for off trail hiking and hunting use. This would also result in the loss of two of the Cash Canyon area loop trails: Eyrie and Aquila.

The big game seasonal closure would result in lost recreational access across approximately 950 acres from Dec 1-April 30th. This would affect both trail users and dispersed recreational users (such as local residents who currently hike in the area during the affected months). Two of the factors which contribute to the overall attractiveness of the Phil’s World area are the nearly year round accessibility (due to moderate climate/limited snow cover) and proximity to local communities. A five month closure of this area to human entry would represent a sizable impact to these assets.

2) How would trail development and use enhance existing (bicycle) riding opportunities (new terrain, views, challenge, social interactions, connectivity to communities)?

The development of new trails under this alternative would provide a wide array of new

(mountain) bicycle riding opportunities. In general, the stacked loop system, located close to local communities, would form loop opportunities of varying length and challenge, and provide spectacular views of the region. The shortest loops, accessed directly from the new trailheads, would provide riding opportunities after work or during lunch breaks while the longer loops would provide for longer 'weekend excursions'. From May 1-November 30th, the two new trailheads would provide access into the Cash Canyon, Highline, and Simon Draw areas, as well as connectivity to the existing trail system and easier access to existing loops like Ledges and Stinking Springs.

From December 1-April 30th, access would be limited to the trails and trailheads south of Road L (Road L Trailhead, Canal and Highline trails, and the existing trail system). With the exception of a small (about 1 mile) system of motorized trails located just south of Road M, there are no existing trails in the area that would be affected by the seasonal closure. Therefore, impacts of the closure to trail users would be represented by lost future opportunities rather than a loss of existing access.

Of particular benefit would be the connection created between the very northern portion of Phil's World (Garfunkel Trail in the Simon Draw Area) to the very southern portion of Phil's World (trails located on the State Land such as Hippy House and Trust Loop). This connectivity could allow for bicyclists to ride from Dolores to Cortez primarily on single track trails, if and when access off of Road 30.2 is perfected (the northern access to the Garfunkel Trail). The Road N access trail would also provide similar connectivity and could connect directly to County Road N without the need to cross through private property. With the seasonal closure, this connectivity would be seasonal (early summer to early winter).

The proposed trails under this alternative would add variety to the existing trail in several ways. Currently, beginning riders (or those not looking for challenge) are largely limited to riding the Hippy House and Trust Loops. Under this alternative, trails such as Canal, Highline, Talon and Carly would be accessible from new trailheads and would not require navigating technically challenging trail segments to reach them. For riders seeking challenge similar to that found on Ledges, Stinking Springs, and the Elbow, the new loop in the Simon Draw area and the Poquito Burrito trail would broaden their range of opportunities. The Simon Draw area trail system would provide canyon rim riding that is currently only found along a portion of the Stinking Springs trail. The Paul, LeBon, Garfunkel, Talon and Tiny Donkey trails would all offer scenic views into the local canyon features.

The development of two new trailheads and their associated trails would help alleviate the congestion experienced at the Highway 160 trailhead. Currently, with only one trailhead, all use

gets funneled through the same trail segments before riders are able to choose to ride the outer loops such as Lemonhead, Ledges, Stinking Springs, and 2-More. While directional riding practices on the existing trails mean that on-trail social contacts are minimized, at least for trail users traveling at ‘average’ speeds, congestion at the Highway 160 trailhead can result in over 100 contacts at the trailhead. The addition of two new trailheads located off of County Roads L and M would provide more variety and reduce social contacts both on the trails and at the trailhead.

These new access points and additional trails would also allow for use of the Phil’s World area by trail users during events such as the 12 Hours of Mesa Verde. Currently, the 12 Hours of Mesa Verde (an annual mountain bike race attracting approximately 850 each Mother’s Day weekend) effectively shuts the area down to other users. With new access points and new trails, events like the 12 Hours could be hosted in the future and use of the area by non-event related recreational users could continue unabated.

Two of the proposed trails, (Short N Sweet, and Tiny Dancer) would ensure that the existing trail system would remain intact in the event that private land owners currently amenable to trails crossing their lands change their stance (or the land is sold, or otherwise developed). This would help ensure the longevity of the overall trail system at Phil’s World and the associated personal, social, and environmental benefits.

Key Differences from Proposed Action: Two of the three Cash Canyon loops are not included under this alternative (Eyrie and Aquila). This results in a loss of canyon rim riding and reduces the remaining trail, Talon, to more of a connecting link between the Simon Draw and Highline areas.

The seasonal closure for big game would limit the benefits identified above. Most of the new trails (all trails in the Simon Draw and Cash Canyon area) would be closed from Dec 1-April 30th. This would limit the trail variety, connectivity, and congestion relief during this period to those opportunities provided by the existing trail system and the new opportunities available in the Highline area.

3) How would trail development and use affect amount of trash on landscape?

The majority of the trash on the landscape, both as a result of dumping and day to day accumulation of litter, is not as a result of trail usage. The vast majority of trash on the landscape in this parcel is a result of illegal dumping (household trash), carcass disposal (from hunting and domestic animals), late night party debris (food wrappers, beverage bottles, and

bonfires), and recreational shooting (appliances, cans and bottles, and shell casings). The presence of trail users, particularly the density of mountain bike trail users as evidenced on existing trails in the area, would be expected to result in an overall reduction of trash on the landscape due to organized clean-up efforts and ‘informal oversight’ (ie, more eyes on the ground to dissuade illegal dumping activities).

Key Difference from Proposed Action: There would be minimal differences between these alternatives.

4) How would trail development and use affect existing motorized riding opportunities?

Under Alternative C, there would be approximately 22 miles of new non-motorized single track trail construction. There are no proposed motorized trails, and no proposed closure of existing motorized trails. A small segment of existing motorized trail south of Road M would be affected by the big game seasonal closures. This section of trail does not see the amount of use that the trails south of Road L experience, and therefore anticipated effects to existing motorized riding opportunities as a result of this proposal are minimal.

Key Difference from Proposed Action: There would be minimal differences between these alternatives.

5) How would trail development and use affect personal and community benefits associated with non-motorized trail use?

The Phil’s World parcel is situated close to three communities: Mancos, Cortez, and Dolores. As such, there are a myriad of personal and community benefits which arise from easy access to non-motorized trail systems. Personal benefits include improved health, improved development of skills and abilities, greater personal confidence, and an improved understanding of community dependence and effect on Public Lands and adjoining private lands. Social/community benefits include an enhanced outdoor-oriented lifestyle, increased economic activity, and an increased desirability of Cortez, Dolores, and Mancos as places to live, visit, or retire. While the existing trail system affords these benefits already, the development of new trail opportunities across the majority of the remaining Phil’s World unit would result in the expansion of these benefits. Trail users who might tire of ‘riding the same trails over and over again’ would have new and varied opportunities. Trail users seeking new viewsheds, challenges, or diversity would have more terrain available to meet their needs. Finally, the development of new access points would be expected to reduce some the issues associated with current trailhead congestion and result in more visitors attaining the benefits they seek from the trail system.

Key Difference from Proposed Action: Two of the three Cash Canyon loops are not included

under this alternative (Eyrie and Aquila). The attractiveness of the overall trail system to mountain bikers, in comparison to the proposed action, may result in slightly fewer people using the new trails and thus a slight reduction in the attainment of benefits. The seasonal closure for big game would limit the benefits identified above. Most of the new trails (all trails in the Simon Draw and Cash Canyon area) would be closed from Dec 1-April 30th. This would limit the period during which these personal and social benefits may be enhanced.

6) How would trail and trailhead development affect use by other non-motorized single track users (equestrian, hiking)?

Hiking and (and particularly) equestrian use of any new trails would be expected to be limited due to the anticipated volume of mountain bike use. However, trail counter data on the existing trail system indicates that a measurable amount of non-bike related use does occur at Phil's World and this use would be expected to transfer onto any newly developed trails as well (See Figure 4: Mt Bike Use vs. All Users, Existing Phil's World Trail System). The directional riding pattern used by mountain bikers alleviates, to some extent, conflicts with other non-motorized trail users

Key Difference from Proposed Action: Two of the three Cash Canyon loops are not included under this alternative (Eyrie and Aquila). They would likely be the most attractive trails for hikers/walkers looking for trail opportunities close to town because of their canyon views, length, close proximity to the Road M trailhead, and gentle grades.

7) How would trail development and use affect safety of users accessing the trail systems (access available away from highway 160, new access/egress along county roads)?

The only existing access/trailhead for the Phil's World area is located on a parcel of State land, accessed via Road 30.1 just north of the Montezuma County Fairgrounds. The turnoff to Road 30.1 is along Highway 160 and does not have a turning lane from either direction. The intersection of 30.1 and Highway 160 is at the end of a merging lane for westbound traffic exiting the fairgrounds and is unsigned (there is no sign indicating that Phil's World is accessed by Road 30.1). The speed limit is 65 mph.

Under Alternative C, there would be two new parking area/trailheads developed: one each along County Roads L and M. The trailhead along County Road M would be located on the southeast side of the road in about dead center between two slight bends in the road with approximately 350 feet to the nearest curve in either direction. The trailhead along County Road L would be located east of a slight bend in the road and would require re-opening a closed road for use as an access

road to the trailhead. This closed road intersects Road L at a slight bend, with approximately 3,200 feet to the nearest curve to the south, and 2,100 feet to the nearest curve to the north.

Both of these County roads are unpaved, improved, 2-lane gravel roads. The speed limit is 40 mph. On CR L there are 9 access/egress points within 1 mile of the BLM managed lands to the west, and 20 to the east. On CR M there are 17 access/egress points within 1 mile of the BLM managed lands to the west, and 9 to the east.

The maintenance of these roads, enforcement of speed limits, and the approval of access/egress points, falls under the jurisdiction of Montezuma County. Any development of new access/egress points (trailheads) by the BLM would be done in conjunction with Montezuma County and would be subject to any required approval/permitting processes. The availability of two new trailhead accesses points which are located along County Roads rather than Highway 160 would be expected to improve the safety of those seeking to access trails in the Phil's World area.

Key Difference from Proposed Action: The trailhead for Road M would stay on the south side of the county road but would move to the west approximately .2 miles. Safety considerations would be essentially the same as under the Proposed Action.

8) How would trail development and use affect use of county roads?

While the safety and management of county roads does not fall under the jurisdiction of the BLM, it would be expected that development of these new access points would result in an increase in traffic along County Roads L, M, and N (all 'Green' county roads maintained by Montezuma County). If and/or when access along the 'Red' County Road 30.2, and through willing private property ownership, is perfected, the same would be true along that route as well.

Roads L and M are 'through' 2-lane roads approximately 25 feet wide, while roads N and 30.2 are dead-end roads, approximately 15 feet wide. The majority of increased vehicle use anticipated as a result of the Proposed Action would be along Roads L and M, where parking areas/trailheads would be provided. Roads N and 30.2 would also likely receive some additional vehicle traffic, and possible parking along the edges of the road, as a result of the proposed access trails into the Simon Draw trails.

According to Montezuma County Traffic Counts from 2007-2012, on average 373 vehicles/day use Road L (east of Road 29), 158 vehicles/day use Road 32 (south of Road P), 160 vehicles/day use Road 31 (south of Road P), and 299 vehicles/day use Road M (west of Road 31) (Montezuma County, 2007-2012). For purposes of estimating anticipated use on these roads, the following assumptions are made: 1) While some additive use of the trail system can be expected

as a result of both ‘natural growth’ and from any new trail development, having a second or third trailhead option would not result in 2-3x the existing use levels. Rather, use would be expected to disperse across the available trailheads; 2) Use at the existing trailhead would represent the largest percentage of total trailhead use due to user familiarity and proximity to Highway 160; 3) With a reduction in the volume of trails between road L and M (as compared to the Proposed Action) there would be some reduction in volume of trail-based traffic anticipated on these roads under Alternative C. Based on these assumptions, and the estimated use of the current trailhead (18 veh/day on weekdays and 38 veh/day on weekends), use of these roads may increase by 1-6%. (See Table 6: Estimated County Road Use, Proposed Action)

See Table 9: Estimated County Road Use, Proposed Action)

	2007-2012 Avg veh/day	Estimated Increase in Use (veh/day), Alt C*	Estimated % Change, Alt C
Road L (E of Rd 29)	373	4-9	+ 1-2%
Road 32 (S of Road P)	158	4-9	+3-6%
Road M (W of Rd 31)	299	4-9	+1-3%
Road 31 (S of Road P)	160	4-9	+3-6%

*Based on comment received on the Preliminary EA, estimated traffic on county roads to the proposed trailheads was adjusted to reflect possible access from two different directions (from north and from south/west).

Key Differences from Proposed Action: Two of the three Cash Canyon loops are not included under this alternative (Eyrie and Aquila). The seasonal closure for big game would also reduce the annual use of the county roads by recreationists, especially at Road M. As a result, both trailheads may receive less traffic than under the Proposed Action.

Cumulative Effects

Alternative C would add approximately 22 miles of new designated non-motorized single track trails to the SRMA. These would be in addition to the 15 (non-State or private land) miles of single track trails already available within the SRMA. The cumulative effect to recreational trail users is an overall increase in the length and diversity of trail opportunities available within easy commuting distance of Dolores, Cortez, and Mancos.

Mitigation Measures and Residual Effects

N/A

3.5.6. *Visual Resources*

Direct and Indirect Effects

Under Alternative C, approximately 22 miles of new single track trail and two new trailheads would be built. Effects to visual resources as described by issues brought forth during scoping would be as follows:

- 1) How would trail and trailhead development and use affect the visual setting of the landscape?

The development of 22 miles of single track trail in the northern portion of Phil's World would result in weak contrasts to the vegetative element of the characteristic landscape. Design features such as minimizing vegetation removal and soil disturbance would make the new trails nearly impossible to see from any likely viewing points, including overlook points along the proposed trails themselves. The varied topography and dense pinyon-juniper overstory prevalent throughout the unit would screen the effects of both trail construction and usage. The most evident visual contrasts would be expected to occur where trails traverse steep canyon walls such as in Cash Canyon, Simon Draw, and Stinking Springs. In these locations, linear breaks in the vegetation would be visible. These effects would not be visible from likely viewing points such as county roads or residential development.

Two new trailheads would be constructed under this alternative. The trailhead south of Road L would result in vegetative clearing and minor re-contouring of approximately 1.65 acres. These effects would result in a moderate contrast to the vegetative element of the characteristic landscape, though its location (superior to the County road) and the residual vegetation screening would keep the lower level of the trailhead/parking area out of the viewshed of travelers along Road L. The upper level of the trailhead/parking area would be more visible to both travelers along Road L, and from 5-6 residences to the west of the site. Vegetation on the upper mesa feature, where the upper parking area would be located, is less dense than surrounding areas which would provide less screening of the parked vehicles. Construction of boundary fencing, width restrictors at trail access points, and trailhead related facilities would introduce weak

structural contrasts the characteristic landscape. The access road into this trailhead would take advantage of a pre-existing disturbance (an old road cut) and would result in weak contrasts to the vegetative element of the characteristic landscape.

The trailhead proposed along Road M would be located near the western edge of the BLM parcel, on the south side of the road. This location would require vegetative clearing and minor re-contouring of approximately .85 acres. These effects would result in a moderate contrast to the vegetative element of the characteristic landscape, though residual vegetation screening would partially obscure its visibility to travelers along Road L. Construction of boundary fencing, width restrictors at trail access points, and trailhead related facilities would introduce weak structural contrasts the characteristic landscape. This trailhead would not be visible from any residential developments.

All of the developments proposed under this alternative would be consistent with the management objectives of this VRM Class III area.

Key Differences from Proposed Action: The location of the parking area/trailhead off of Road M is located further away from the golden eagle nest under this alternative. As a result, the previously disturbed dump site area is not utilized and a new area would be cleared of native vegetation for the trailhead. The upper parking level at Road L would be more visible to travelers on Road L and to neighboring residences to the west.

Cumulative Effects

The limited scope of the weak to moderate contrasts associated with this alternative would not result in any cumulative effects to the visual characteristic landscape which would be incompatible with the VRM Class III objectives for this area.

Mitigation Measures and Residual Effects

N/A

3.6. Alternative D

3.6.1. Cultural Resources

Direct and Indirect Effects

1) How would cultural resources eligible for listing on the National Register of Historic Places be affected from non-motorized trail construction and use?

Under the Alternative D, the existing non-motorized trail system would be expanded to the central and northern portions of the analysis area. Non-motorized trail development and use

through sites or immediately adjacent to sites use has the potential to directly and indirectly affect National Register eligible and potentially eligible sites (historic properties). Trail construction, including trail design features such as water bars, and parking lot construction can damage site features and disturb buried cultural deposits, degrading site integrity and research potential. Over time, trail use can result in incised channels in the ground that change drainage patterns, destabilize soils, and lead to increased soil erosion. Incised channels can directly disturb or damage archaeological site features. Vegetation can decrease and bare ground can increase within user-created trail corridors, increasing the risk of destabilized soils. Trail use in wet ground conditions can cause soil rutting, increasing the potential for soil drainage and erosion issues, as well as directly disturbing or damaging cultural resource deposits and features that may be present. Offsetting these potential effects, planned trails incorporate design features to mitigate drainage issues, soil erosion, and loss of vegetation. Authorized trails are also subject to periodic trail maintenance, which addresses issues such as drainage and soil erosion.

Under Alternative D, the current non-motorized trail system would be expanded and two additional trailhead parking areas would be created. The trails and trailhead parking areas would affect four archaeological sites, all of which are not eligible for listing on the NRHP. The trails and parking areas would avoid all National Register eligible and potentially eligible sites (Design Criteria #2), and there would be no direct effects to these sites. With the expansion of the current trail system, unauthorized trails would be less likely to develop within the analysis area, reducing the possibility of unplanned trails passing through historic properties. Design Criteria #17 would further ensure no user-created trails are created, or allowed to be present.

Some of the trails would be located in the vicinity of archaeological sites. The risk of intentional vandalism and looting of historic properties in the portions of the analysis area currently lacking planned, authorized, signed trails would be reduced by a managed, signed trail system. The presence of more intensive recreation management and an expected corresponding increase in recreational use would increase the risk of detection of such activities, and act as a deterrent to such activities. Therefore, Alternative D could benefit indirectly cultural resources slightly less than Alternatives B and C, as Alternative D increases the portion of the planning area without planned, managed, signed trails because it includes the largest eagle nest buffer area. However, Alternative D should have a greater benefit than the No Action Alternative as it involves less intensive management of larger portions of the planning area than Alt. D.

An intense amount of mountain biking occurs in the portion of analysis area with an existing, signed trail system. The planning area conditions enable mountain biking for much of the calendar year. Mountain biking tends to be a goal oriented recreational activity, resulting in a lesser propensity for mountain bikers to leave the trail, in comparison to other forms of non-motorized recreational activity. Hence, mountain bikers are unlikely to contribute to intentional or unintentional vandalism or looting of cultural resources. Archaeological site monitoring conducted in 2014 and 2015 supports this conclusion, as no recent incidence of vandalism or looting were noted in the sites that were monitored. The trail system analyzed under Alternative D is also expected to also see intensive non-motorized use. As noted in the previous paragraph, such intensive use typically increases the risk of detection of cultural resource vandalism and

looting, resulting in a decrease in such activities.

The proposed trails and parking areas should result in minimal additional visual disturbances within the analysis area. The vegetation and terrain in the analysis area obscures single track trails. As the proposed trails would be non-motorized, additional increases in auditory effects would be negligible. The aspects of setting and feeling, which are important considerations for visual and auditory effects to sites, have not been identified as qualities that contribute to the eligibility any sites within the analysis area. Sites are present within the planning area for which setting and feeling could potentially contribute to site significance. However, the nature and scale of Alternative D would not notably increase auditory or visual effects to National Register eligible sites for which setting and feeling potentially contribute to their significance. As Alternative D involves less miles of proposed trail than Alternatives B and C, visual and auditory effects would be slightly less overall for Alternative D in comparison to Alternatives B and C.

Alternative D represents a positive progression toward proactive recreational planning in the area which seeks to provide for recreational demand while implementing design criteria developed to protect cultural resources.

Cumulative Effects

As the Proposed Action would have no direct or indirect impacts to National Register eligible cultural resources, it would not add or contribute to any cumulative impacts.

Mitigation Measures and Residual Effects

A Cultural Resource Monitoring and Discovery Plan was developed for the new trails proposal (Cultural Resource Monitoring and Discovery Plan, Phil's World 2.0 Non-Motorized Single Track Trail Project (18-26.5 miles proposed)). The Plan provides for archaeological monitoring of trail construction and post-construction archaeological monitoring of trail use and maintenance. The Plan also includes procedures for discoveries of cultural resources and human remains during trail construction, maintenance, and trail use.

3.6.2. *Soils/Hydrology/Riparian*

Direct and Indirect Effects

1) How would streams and riparian vegetation be affected by proposed trail locations in canyon bottoms?

Streams have a risk of receiving sediment pollution in areas where trails are built on steep slopes where moderate-severe and severe erosion hazard soils exist which are adjacent to canyon bottoms. If a trail built in these areas also has a trail stream crossing, these areas could be conduits to transport sedimentation to the stream. Trails which have short stretches planned

within these erosion risk areas and are near streams include Poquito Burrito, Canal, Highline, Road N Connector and Garfunkel trails.

The width of stream crossings required by new trails will vary depending on location. All stream crossings are planned to have small, low profile foot-bridges. The foot bridges are not anticipated to substantially affect streams or riparian, however the proposed design leaves them vulnerable to loss or damage. The damage could occur from annual peak flows in the spring if the bridges do not span the entire floodplain, or from extreme peak flows associated with flash flooding. Most floodplains in the bottom of tributary canyons occupy the entire canyon bottom and are between 50-75 feet wide. In larger canyon bottoms of Simon Draw and Cash Canyon the floodplains vary in width and can be wider.

The three major canyon streams within the analysis area all support well developed riparian vegetation. Several side tributaries to the major canyons also support continuous riparian vegetation and have perennial flow during the irrigation season. Trail construction through riparian vegetation would be infrequent and would require clearing vegetation only wide enough to allow riparian/stream trail crossings and are not anticipated to have substantial effects to the riparian complexes.

2) Would trails built on steep slopes and sensitive soils result in increased erosion?

Approximately 8.22 miles of trail are proposed to be built on steep slopes with moderate-severe to severe erosion hazard soils. Alternative D has the lowest number of miles (8.22 miles) of new trail proposed for high erosion hazard soils compared to Alternative B (10 miles) and Alternative C (9.2 miles). Most soils in the analysis area have low strength and on steep side slopes they are not stable and very prone to erosion. The three soil units with the highest erosion hazards for trail construction are summarized in Table 10 below.

Building trail on high erosion hazard soils greatly increases the likelihood that trail surfaces may become entrenched will ultimately concentrate runoff further accelerating down cutting. Constructing trails in high erosion hazard soils, especially where erosion occurs near streams and washes also increases the risk of sediment pollution entering water. Finally, building trails on soils that have a high erosion hazard could greatly increase either the cost of construction or the cost and frequency of monitoring and trail maintenance. A field review was conducted on existing Phil's World trails built on the same high erosion hazard soils as proposed for the new trails in Alternative D. Severe erosion was not found on the existing trail system (Ledges, Rib Cage) which could indicate the NRCS soil survey hazard ratings are very conservative, and with careful trail construction practices and the implementation of mitigation, erosion and trail down-cutting could be minimized or reduced.

Table 10. Soil units with the highest erosion hazard for trail construction (NRCS Cortez Soil Survey, 2001) and the miles of trail proposed for construction within the units, Alternative D.

Pulpit Loam 6-12% Slopes	Severe	Slight	1.1	
Romberg-Crosscan 6-25% Slopes	Moderate-Severe	Moderate	3.15	
Romberg-Crosscan 25-80% Slopes	Severe	Severe to Very Severe	3.92	

Table 11. The length of trail in moderate-severe and severe soil erosion hazard for trail construction by Alternative D trail name.

Highline	2.1
Canal	1.4
Schuster	1.2
Garfunkel	1
Poquito Burrito	0.6
Road N Connector Trail	0.5
Carly	0.4
Paul	0.3
Le Bon	0.3

Cumulative Effects

The existing Phil's World trails in general are built on soils which do not have severe erosive soil survey ratings. As a result, the existing trails have few erosion problems. However, some existing trails are located on soils with a moderate-severe or severe hazard ratings. Ledges and Rib Cage are examples of trails with some sections located, in part, on severe hazard soils. On a limited field inspection of the existing trails located on these severe hazard soils, large areas of

problematic erosion were not found, which may indicate the NRCS soils hazard ratings for trails construction are very conservative. In comparison, considering comparisons with the condition of existing Phil's World trails on severe hazard soils, Alternative D may have a moderate potential to create detectable effects to erosive soils located on canyon side-walls both in the short and long term. The risk of impacting water quality is low to moderate and associated mostly with localized areas of stream crossings. Cumulatively, when all of the trails are considered, approximately 8.2 miles of new trail are planned to be built on slopes with high severity erosion potential in areas that are currently undeveloped and are relatively stable. Erosion potential could be a continuous problem and require substantial and frequent maintenance to keep trails to standard and fix erosion problems. However, implementation of mitigation measures could be effective in reducing the risk of erosion and the need for long-term maintenance. Site specific mitigation measures have not yet been identified and could not be assessed for this analysis.

There is a low risk that sedimentation could accumulate in channels over the long-term within the analysis area because annual peak flows should be sufficient to move sediment downstream. Increased sedimentation and erosion has a low-moderate risk of affecting existing water infrastructure maintenance because reservoirs and ditches just downstream of the trail system on BLM and on private lands may fill more quickly with sediment. The Highline Ditch and Burk Ditch traverse the analysis area below and among the proposed trails of Alternative D. Reese WW Ditch Extension and Hover Ditch are just downstream of the trail system on Simon Draw. Old Kaniga Ditch and an unnamed reservoir are just downstream of the trail system on Stinking Springs Canyon. This water development infrastructure could be affected by increased erosion and sedimentation from the cumulative effects of the trail system sections built on highly erosive soils.

Mitigation Measures and Residual Effects

N/A

3.6.3. *Wildlife*

Direct and Indirect Effects

Alternative D would have the least impact on wildlife species when compared with all other action alternatives. There would be a 63% increase in trail miles within the Phil's World trail system. Big game would see a reduction in trail disturbance, one patch of NMMJM habitat would be disturbed instead of two, and there would be no additional disturbances within the ½ mile of the Cash Canyon Golden eagle nest.

1) How would alternative D affect New Mexico Meadow Jumping Mouse Potential Habitat?

Effects to New Mexico meadow jumping mouse would differ in this alternative from alternatives A, B and C. No connection through cash canyon would occur as a result of this alternative,

unlike alternatives B and C, decreasing impacts to the trail. The upper part of Simon draw would still have a crossing and would result in very minor impacts to potential habitat, but an increase in disturbance when compared to the No Action alternative. Given that the habitat near the Simon Draw crossing is bordered by slick rock and pinyon juniper with a very small amount of riparian vegetation, a crossing at just this location would have much less of an impact than the additional crossing at Cash Canyon.

2) How would alternative D affect Golden eagles?

Based on the best scientific information available, this alternative would be the least disruptive to the Cash Canyon golden eagle territory. Zero miles of trail and no parking lots would occur within ½ mile of the active eagle nest. This action alternative would give the nesting eagles the best opportunity to have security in their territory, reproduce without disturbance, and be the most attentive to their young.

Some disturbance may still occur to eagles that are perched around the nest as a result of this alternative. However, they would increase disturbance very little when compared to the No Action alternative. All disturbances would be at or beyond existing disturbances.

3) How would alternative D affect Big Game?

Effects as a result of implementing Alternative D would be very similar to effects from Alternatives B and C. There would be 1,041 acres of disturbance, a reduction of 341 acres and 134 from Alternatives B and C respectively. However, disturbance to big game would largely be the same as Alternatives B and C, impacting a large area of winter habitat.

Cumulative Effects

New Mexico Meadow Jumping Mouse

New Mexico meadow jumping mouse cumulative effects for this alternative would be the same as Alternative B.

Golden eagle

Golden eagle cumulative effects for this alternative would be the same as Alternative B. This alternative, however, has the least amount of disturbance to eagles and would be the only alternative that would not add any disturbance to the Cash Canyon nest.

Big Game

Big game cumulative effects for this alternative would be very similar as Alternative B. Trail mileage would reduce be reduced under this alternative.

Mitigation Measures and Residual Effects

N/A

3.6.4. *Socio-Economics*

Direct and Indirect Effects

Under Alternative D, 2 new trailheads and approximately 18.5 miles of new single-track non-motorized trails would be constructed. Effects to socio-economics as described by issues brought forth during scoping would be as follows:

- 1) How would development of new trails affect the local (Montezuma County) economy including property values (both adjacent properties and local area properties)?

It is anticipated that the new trails and trailheads would increase economic activity in the local area due to increased visitation by both locals and non-locals. Quantifying the economic effects is difficult since the magnitude of the direct and indirect effects would be greatly dependent upon the amount of increased use/visitation which is unknown. Increases in economic activity would likely be driven by increases in non-local visitation and increased length of stay in the area by non-locals, due to the associated lodging and meal expenditures.

Increased vehicle use is anticipated along Roads L and M where parking areas/trailheads would be provided as well as along Roads N and 30.2 due to access trails into the Simon Draw trails (see Recreation section issues 7 and 8 for more information). While there is the potential for increased traffic use and congestion to adversely affect adjacent property values, it is anticipated that the increase in trails may increase property values in the area although it is difficult to determine to what extent.

Effects from this action would not be disproportionately high or adverse to low-income populations. Potential effects to Tribes are discussed under the Cultural Resources section.

Key Difference from Proposed Action: There would be minimal differences between these alternatives, with potentially lower economic activity due to the the lack of trails in the Cash Canyon area. However economic activity associated with disbursed use visitation would still occur.

- 2) How would development of new trails affect economics associated with other existing or potential uses of the project area (hunting, wildlife viewing)?

Economic activity associated with other potential uses of the project area, such as hunting or wildlife viewing, may be affected. It is difficult to determine to what extent since hunters choosing not to hunt in the project area may hunt on other public lands in the area. Effects from this action would not be disproportionately high or adverse to low-income populations. Potential effects to Tribes are discussed under the Cultural Resources section.

Key Difference from Proposed Action: All of the Cash Canyon area trails would be eliminated

from development under this alternative leaving the entire Cash Canyon area available for off trail hiking and hunting use, potentially increasing economic activity associated with those activities as compared to the Proposed Action.

Cumulative Effects

The cumulative effects analysis area for socio-economics for this project is Montezuma County. There is one parcel in the southern portion of Phil's World which has been nominated for fluid mineral leasing consideration. Contrast to the characteristic landscape as a result of fluid mineral development could range anywhere from weak to strong dependent on siting, access road development, pad size, reclamation efforts, visual resource related design features, and pad density. However, at this time, the parcel is currently under 'deferral'.

The town of Mancos has been working on a trail proposal for the Aqueduct parcel just northwest of Mancos. In general, this proposal does not identify specific trail alignments, though it does recommend the development of non-motorized trail systems, a parking area/trailhead at the old Mancos town dumpsite at County Road 39, and the installation of signage. Development of new non-motorized trails in this parcel would result in increased opportunities for trail based recreation easily accessible from local communities.

Under the Alternative D, there would be new trails and increased use by both locals and non-locals increasing local economic activity. Cumulative effects would not be disproportionately high or adverse to low-income populations. Potential cumulative effects to Tribes are discussed under the Cultural Resources section.

Mitigation Measures and Residual Effects

N/A

3.6.5. Recreation

Direct and Indirect Effects

Under Alternative D, two new trailheads and approximately 18 miles of new single-track non-motorized trails would be constructed. Effects to recreational use as described by issues brought forth during scoping would be as follows:

- 1) How would trail development and use affect dispersed use of the area by other recreational users (hikers, walkers, hunters)?

Non-motorized trail users of all types would have the opportunity to benefit from the development of approximately 18 miles of single track trails in the northern portion of Phil's World. The stacked loop system, located close to local communities, would form loop opportunities of varying length and challenge, and provide spectacular views of the region. The shortest loops, accessed directly from the new trailheads, would provide opportunities for hikes and rides after work or during lunch breaks while the longer loops would provide for longer

‘weekend excursions’. The two new trailheads would provide for easier access into the Simon Draw and Highline areas. However, the expected volume of use of these trails by mountain bikers would effectively limit the opportunities for other trail users. This would be especially true for equestrian users because mountain bike use (which is both fast and quiet) is particularly prone to ‘spooking’ horses.

The two recreational user groups most likely negatively affected by new trail development and improved access to the area would be hunters and hikers/walkers who already use the area in a dispersed nature (not using trails). Hunters, who traditionally would not have needed to worry about others in the area when preparing to fire their weapons would now have to be constantly vigilant. Additionally, increased recreational use of the area may result in the dispersal of big game and decreased hunting success. Hikers/walkers who currently access the area and are able to enjoy a feeling of ‘having the area all to themselves’ would lose this opportunity over the majority of the area. This opportunity would still be available in the 400 acre area surrounding the golden eagle nest where trails would not be developed for at least as long as the nest remains active.

Key Difference from Proposed Action: The buffer around the golden eagle nest would be approximately 150 acres larger under this Alternative (as compared to the Proposed Action), leaving the entire Cash Canyon area available for off trail hiking and hunting use. This would also result in the loss of all of the Cash Canyon area trails.

2) How would trail development and use enhance existing (bicycle) riding opportunities (new terrain, views, challenge, social interactions, connectivity to communities)?

The development of new trails under this alternative would provide a wide array of new (mountain) bicycle riding opportunities. In general, the stacked loop system, located close to local communities, would form loop opportunities of varying length and challenge, and provide spectacular views of the region. The shortest loops, accessed directly from the new trailheads, would provide riding opportunities after work or during lunch breaks while the longer loops would provide for longer ‘weekend excursions’. The two new trailheads would provide new trail access into the Simon Draw areas, as a northern access into the existing trail system.

The proposed trails under this alternative would add variety to the existing trail in several ways. Currently, beginning riders (or those not looking for challenge) are largely limited to riding the Hippy House and Trust Loops. Under this alternative, trails such as Canal, Highline, and Carly would be accessible from new trailheads and would not require navigating technically challenging trail segments to reach them. For riders seeking challenge similar to that found on Ledges, Stinky Springs, and the Elbow, the new loop in the Simon Draw area and the Poquito

Burrito trail would broaden their range of opportunities. The Simon Draw Area trail system would provide canyon rim riding that is currently only found along a portion of the Stinky Springs trail. The Paul, LeBon, Garfunkel, and Tiny Donkey trails would all offer scenic views into the Simon Draw and Stinking Springs canyon features.

The development of two new trailheads and their associated trails would help alleviate the congestion experienced at the Highway 160 trailhead. Currently, with only one trailhead, all use gets funneled through the same trail segments before riders are able to choose to ride the outer loops such as Lemonhead, Ledges, Stinking Springs, and 2-More. While directional riding practices on the existing trails mean that on-trail social contacts are minimized, at least for trail users traveling at ‘average’ speeds, congestion at the Highway 160 trailhead can result in over 100 contacts at the trailhead. The addition of two new trailheads located off of County Roads L and M would provide more variety and reduce social contacts both on the trails and at the trailhead.

These new access points and additional trails would also allow for use of the Phil’s World area by trail users during events such as the 12 Hours of Mesa Verde. Currently, the 12 Hours of Mesa Verde (an annual mountain bike race attracting approximately 850 each Mother’s Day weekend) effectively shuts the area down to other users. With new access points and new trails, events like the 12 Hours could be hosted in the future and use of the area by non-event related recreational users could continue unabated.

Two of the proposed trails (Short N Sweet, and Tiny Dancer) would ensure that the existing trail system would remain intact in the event that private land owners currently amenable to trails crossing their lands change their stance (or the land is sold, or otherwise developed). This would help ensure the longevity of the overall trail system at Phil’s World and the associated personal, social, and environmental benefits.

Key Difference from Proposed Action: All of the Cash Canyon area trails would be eliminated from development under this alternative. This results in a loss of canyon rim riding, and, more importantly, eliminates the connectivity of the trail system considered under the Proposed Action. Under this alternative, there would be two disconnected trail systems at Phil’s World: The Simon Draw Area, and the trails south of Road L.

3) How would trail development and use affect amount of trash on landscape?

The majority of the trash on the landscape, both as a result of dumping and day to day accumulation of litter, is not as a result of trail usage. The vast majority of trash on the landscape in this parcel is a result of illegal dumping (household trash), carcass disposal (from

hunting and domestic animals), late night party debris (food wrappers, beverage bottles, and bonfires), and recreational shooting (appliances, cans and bottles, and shell casings). The presence of trail users, particularly the density of mountain bike trail users as evidenced on existing trails in the area, would be expected to result in an overall reduction of trash on the landscape due to organized clean-up efforts and ‘informal oversight’ (i.e., more eyes on the ground to dissuade illegal dumping activities).

Key Difference from Proposed Action: There would a much larger area unencumbered by developed trails and the associated intensive management oversight and ‘additional eyes on the ground’. This would likely result in continued trash dumping in the Cash Canyon area.

4) How would trail development and use affect existing motorized riding opportunities?

Under Alternative D, there would be approximately 18 miles of new non-motorized single track trail construction. There are no proposed motorized trails, and no proposed closure of existing motorized trails. As such, there are no anticipated effects to existing motorized riding opportunities as a result of this proposal.

Key Difference from Proposed Action: There would be no differences between these alternatives.

5) How would trail development and use affect personal and community benefits associated with non-motorized trail use?

The Phil’s World parcel is situated close to three communities: Mancos, Cortez, and Dolores. As such, there are a myriad of personal and community benefits which arise from easy access to non-motorized trail systems. Personal benefits include improved health, improved development of skills and abilities, greater personal confidence, and an improved understanding of community dependence and effect on Public Lands and adjoining private lands. Social/community benefits include an enhanced outdoor-oriented lifestyle, increased economic activity, and an increased desirability of Cortez, Dolores, and Mancos as places to live, visit, or retire. While the existing trail system affords these benefits already, the development of new trail opportunities across the majority of the remaining Phil’s World unit would result in the expansion of these benefits. Trail users who might tire of ‘riding the same trails over and over again’ would have new and varied opportunities. Trail users seeking new viewsheds, challenges, or diversity would have more terrain available to meet their needs. Finally, the development of new access points would be expected to reduce some the issues associated with current trailhead congestion and result in more visitors attaining the benefits they seek from the trail system.

Key Difference from Proposed Action: The Cash Canyon trails are not included under this

alternative, nor is the overall connectivity of the trail system maintained. The attractiveness of the overall trail system to mountain bikers, in comparison to the Proposed Action, may result in fewer people using the new trails and thus a reduction in the attainment of benefits.

6) How would trail and trailhead development affect use by other non-motorized single track users (equestrian, hiking)?

Hiking and (and particularly) equestrian use of any new trails would be expected to be limited due to the anticipated volume of mountain bike use. However, trail counter data on the existing trail system indicates that a measurable amount of non-bike related use does occur at Phil's World, and this use would be expected to transfer onto any newly developed trails as well (See Figure 4: Mt Bike Use vs. All Users, Existing Phil's World Trail System). The directional riding pattern used by mountain bikers alleviates, to some extent, conflicts with other non-motorized trail users.

Key Difference from Proposed Action: Under this alternative, there would be no trails in the Cash Canyon area, and no direct trail connection between the Simon Draw area and the rest of the Phil's World trail system. Without a direct trail connection between the trails south of Road L and those north of Road M, it is possible that mountain bike use in the Simon Draw area may be less intensive, comparatively, and therefore slightly more attractive for hiking and equestrian use.

7) How would trail development and use affect safety of users accessing the trail systems (access available away from highway 160, new access/egress along county roads)?

The only existing access/trailhead for the Phil's World area is located on a parcel of State land, accessed via Road 30.1 just north of the Montezuma County Fairgrounds. The turnoff to Road 30.1 is along Highway 160 and does not have a turning lane from either direction. The intersection of 30.1 and Highway 160 is at the end of a merging lane for westbound traffic exiting the fairgrounds and is unsigned (there is no sign indicating that Phil's World is accessed by Road 30.1). The speed limit is 65 mph.

Under Alternative D, there would be two new parking area/trailheads developed: one each along County Roads L and M. The trailhead along County Road M would be located on the northwest side of the road in about dead center between two slight bends in the road with approximately 350 feet to the nearest curve in either direction. The trailhead along County Road L would be located east of a slight bend in the road and would require re-opening a closed road for use as an access road to the trailhead. This closed road intersects Road L at a slight bend, with approximately 3,200 feet to the nearest curve to the south, and 2,100 feet to the nearest curve to

the north.

Both of these County roads are unpaved, improved, 2-lane gravel roads. The speed limit is 40 mph. On CR L there are 9 access/egress points within 1 mile of the BLM managed lands to the west, and 20 to the east. On CR M there are 17 access/egress points within 1 mile of the BLM managed lands to the west, and 9 to the east.

The maintenance of these roads, enforcement of speed limits, and the approval of access/egress points, falls under the jurisdiction of Montezuma County. Any development of new access/egress points (trailheads) by the BLM would be done in conjunction with Montezuma County and would be subject to any required approval/permitting processes. The availability of two new trailhead accesses points which are located along County Roads rather than Highway 160 would be expected to improve the safety of those seeking to access trails in the Phil's World area.

Key Difference from Proposed Action: The trailhead for Road M would move to the north side of the county road and to the west approximately .2 miles. There would be no trail development to the south of Road M, so there would be no bicycle traffic crossing this County road.

8) How would trail development and use affect use of county roads?

While the safety and management of county roads does not fall under the jurisdiction of the BLM, it would be expected that development of these new access points would result in an increase in traffic along County Roads L, M, and N (all 'Green' county roads maintained by Montezuma County). If and/or when access along the 'Red' County Road 30.2, and through willing private property ownership, is perfected, the same would be true along that route as well.

Roads L and M are 'through' 2-lane roads approximately 25 feet wide, while roads N and 30.2 are dead-end roads, approximately 15 feet wide. The majority of increased vehicle use anticipated as a result of the Proposed Action would be along Roads L and M, where parking areas/trailheads would be provided. Roads N and 30.2 would also likely receive some additional vehicle traffic, and possible parking along the edges of the road, as a result of the proposed connector trails into the Simon Draw trails.

According to Montezuma County Traffic Counts from 2007-2012, on average 373 vehicles/day use Road L (east of Road 29), 158 vehicles/day use Road 32 (south of Road P), 160 vehicles/day use Road 31 (south of Road P), and 299 vehicles/day use Road M (west of Road 31) (Montezuma County, 2007-2012). For purposes of estimating anticipated use on these roads, the following assumptions are made: 1) While some additive use of the trail system can be expected

as a result of both ‘natural growth’ and from any new trail development , having a second or third trailhead option would not result in 2-3x the existing use levels. Rather, use would be expected to disperse across the available trailheads; 2) Use at the existing trailhead would represent the largest percentage of total trailhead use due to user familiarity and proximity to Highway 160; 3) With a reduction in the volume of trails between road L and M (as compared to both the Proposed Action and Alternative C) there would be some reduction in volume of trail-based traffic anticipated on these roads under Alternative D. Based on these assumptions, and the estimated use of the current trailhead (18 veh/day on weekdays and 38 veh/day on weekends), use of these roads may increase by 1-4%. (See Table 12: Estimated County Road Use, Alternative D)

See Table 12: Estimated County Road Use, Alternative D

	2007-2012 Avg veh/day	Estimated Increase in Use (veh/day), Alt D*	Estimated % Change, Alt D
Road L (E of Rd 29)	373	3-8	+ 1-2%
Road 32 (S of Road P)	158	3-7	+2-4%
Road M (W of Rd 31)	299	3-8	+1-3%
Road 31 (S of Road P)	160	3-7	+2-4%

*Based on comment received on the Preliminary EA, estimated traffic on county roads to the proposed trailheads was adjusted to reflect possible access from two different directions (from north and from south/west).

Key Difference from Proposed Action: Under this alternative, there would be no trails in the Cash Canyon area, and no direct trail connection between the Simon Draw area and the rest of the Phil’s World trail system. Without a direct trail connection between the trails south of Road L and those north of Road M, it is possible that mountain bike use in the Simon Draw area may be less intensive, comparatively, and therefore somewhat less additive use to roads L, M, N, and 30.2

Cumulative Effects

Alternative D would add approximately 18 miles of new designated non-motorized single track trails to the SRMA. These would be in addition to the 15 (non-State or private land) miles of single track trails already available within the SRMA. The cumulative effect to recreational trail users is an overall increase in the length and diversity of trail opportunities available within easy commuting distance of Dolores, Cortez, and Mancos.

Mitigation Measures and Residual Effects

N/A

3.6.6. *Visual Resources*

Direct and Indirect Effects

Under Alternative D, approximately 18 miles of new single track trail and two new trailheads would be built. Effects to visual resources as described by issues brought forth during scoping would be as follows:

- 1) How would trail and trailhead development and use affect the visual setting of the landscape?

The development of 18 miles of single track trail in the northern portion of Phil's World would result in weak contrasts to the vegetative element of the characteristic landscape. Design features such as minimizing vegetation removal and soil disturbance would make the new trails nearly impossible to see from any likely viewing points, including overlook points along the proposed trails themselves. The varied topography and dense pinyon-juniper overstory prevalent throughout the unit would screen the effects of both trail construction and usage. The most evident visual contrasts would be expected to occur where trails traverse steep canyon walls such as in Simon Draw and Stinking Springs. In these locations, linear breaks in the vegetation would be visible. These effects would not be visible from likely viewing points such as county roads or residential development.

Two new trailheads would be constructed under this alternative. The trailhead south of Road L would result in vegetative clearing and minor re-contouring of approximately .5 acres. These effects would result in a moderate contrast to the vegetative element of the characteristic landscape, though its siting (superior to the County road) and the residual vegetation screening would keep it out of the viewshed of travelers along Road L. Construction of boundary fencing, width restrictors at trail access points, and trailhead related facilities would introduce weak structural contrasts the characteristic landscape. This trailhead would not be visible from any residential developments. The access road into this trailhead would take advantage of a pre-existing disturbance (an old road cut) and would result in weak contrasts to the vegetative element of the characteristic landscape.

The trailhead proposed along Road M would be located near the western edge of the BLM parcel, on the north side of the road. This location would require minor vegetative clearing re-contouring of approximately .5 acres. These effects would result in a weak contrast to the vegetative element of the characteristic landscape. Due to the overall lack of vegetation at this site, there would be little to no screening from Road M and the parking area would be evident to those traveling this road. Construction of boundary fencing, width restrictors at trail access points, and trailhead related facilities would introduce weak structural contrasts the characteristic landscape. This trailhead would not be visible from any residential developments.

All of the developments proposed under this alternative would be consistent with the management objectives of this VRM Class III area.

Key Difference from Proposed Action: The location of the parking area/trailhead off of Road M is located further away from the golden eagle nest under this alternative. As a result, the previously disturbed dump site area is not utilized and a new area would be cleared of native vegetation for the trailhead. Due the sparsity of vegetation at this site, there would be little to no screening from Road M and the parking area would be evident to those traveling this road.

Cumulative Effects

The limited scope of the weak to moderate contrasts associated with this alternative would not result in any cumulative effects to the visual characteristic landscape which would be incompatible with the VRM Class III objectives for this area.

Mitigation Measures and Residual Effects

N/A

4. SUPPORTING INFORMATION

4.2. Tribes, Individuals, Organizations, or Agencies Consulted

Table 13 contains a list of tribes, individuals, organizations, and agencies invited

Table 13. Tribes, Individuals, Organizations, and Agencies Invited

Name	Tribe, Organization, or Agency	Attended On-Site
Terry Ireland	Informal Conversation	No
Ann Timberman	U.S. Fish and Wildlife Service	No
Holly Norton	State Historic Preservation Office	No
Leigh J. Kuwanwisiwma	Hopi Cultural Preservation Office	No

4.3. List of Preparers

Name	Title	Responsible for the Following Section(s) of this Document
Michael Schmidt	Wildlife Biologist	Wildlife: Migratory Birds, Special Status Animal Species, Threatened & Endangered Animal Species, Terrestrial Wildlife Riparian
Mike Jensen	Range Management Specialist	Invasive Species/Noxious Weeds, Vegetation
Jeffrey Christenson	Supervisory Outdoor Recreation Planner	Recreation, Visual Resources,
Bruce Bourcy	Archeology	Cultural Resources, Native American Religious and other concerns
Lindsey Eoff	AFM/ NEPA Coordinator	NEPA Compliance
Kelly Palmer	Hydrologist	Soils, Hydrology
Jessica M. Montag	Socioeconomic Specialist	Socio-Economics

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Appendix A.

PUBLIC COMMENTS ON PRELIMINARY EA AND RESPONSES

Comments received after the release of the Preliminary EA have been divided into two categories: 1) Commenters validating analysis already depicted in the EA or not recommending an alteration of the analysis, and 2) Commenters requesting an alteration to some portion of the EA. In Appendix A, Table 1, comments that are validating existing analysis/not recommending an alteration of the analysis are summarized for review. In Appendix A, Table 2, comments requesting an alteration of the analysis are addressed individually.

Appendix A, Table 1: Comments validating analysis already depicted in the Preliminary EA/Not recommending an alteration of the analysis

Recreation
<p>Comment Summary: Additional trails at Phil's World would benefit hikers, bikers, runners, and equestrian users.</p> <p>Commenter #: 1, 3</p> <p>BLM Response: Effects to bikers and other recreational uses is discussed: 3.2.5, 3.3.5, 3.4.5, and 3.5.5</p>
<p>Comment Summary: One user group should not get dominance in a multiple use area.</p> <p>Commenter #: 2</p> <p>BLM Response: Multiple use does not mean all uses on all acres. Additionally, none of the analyzed actions would close the area to any existing uses. Impacts to other resources, and other uses, are described throughout the EA.</p>
<p>Comment Summary: Phil's trails support family activities with easier, flowing trails, good for families, kids</p> <p>Commenter #: 3,4,38</p> <p>BLM Response: Families are not specifically noted, though the provision of a set of trails for a variety of skill levels is noted at 3.2.5, 3.4.5, and 3.5.5</p>
<p>Comment Summary: Trail expansion would prevent overuse and overcrowding through dispersal and new access points.</p> <p>Commenter #: 3, 30</p> <p>BLM Response: The effect of new trails and trailheads on congestion is noted at 3.2.5, 3.4.5, and 3.5.5</p>
<p>Comment Summary: (Personal or community benefits) Trail expansion benefits health (personal health, lower healthcare costs), family, increased opportunity for active lifestyle. Alt B links communities, increases health and recreation opportunities. Mt biking important to the quality of life to many Montezuma County residents. Hiking and Biking trails would greatly enhance local resident's outdoor activities and bring visitors to area. It would be a benefit to</p>

have additional trails close to town with easy access. Can achieve success similar to Moab, Fruita due to climate, terrain suitable for mountain bike trails, and access to well suited public lands

Commenter #: 6, 11, 12, 27, 30, 32, 33, 34, 36, 37, 41, 42, 47, 54, 55

BLM Response: Personal and community/social benefits are noted at 3.2.5, 3.3.5, 3.4.5, and 3.5.5. Recreational activities increasing the quality of life for participants, is noted in 3.1.4. Economic effects (including recognition of increased visitation by locals and non-locals) of the action alternatives are noted at 3.3.4, 3.4.4, and 3.5.4. The suitability of this Special Recreation Management Area for recreational use close to local communities is noted at 1.1 of the EA.

Comment Summary: (The benefits of a variety of trails) The singletrack trail system at Phil's provides thrills and exhilaration. New trails would maximize the enjoyment. Older, more advanced riders are seeking more challenging terrain. A variety of trails that provide for fun for all skill levels makes a great trail system, make a destination trail. As a beginner rider, increased opportunities to enjoy beautiful landscapes in our 'backyard'. Older, more advanced riders are seeking more challenging terrain.

Commenter #: 7, 55, 8, 13, 32, 33, 34, 35, 37, 38, 41, 47, 55

BLM Response: Variety of trails and levels are challenge are noted at 3.3.5, 3.4.5, and 3.5.5

Comment Summary: Utilization of IMBA standards nearly guarantees practical and accountable trail design

Commenter #: 9

BLM Response: Design Criteria #3 explains the application of IMBA standards in trail development, including techniques that could be employed on various segments of trails.

Comment Summary: Alt B provides best environmental protections while also providing best trail options

Commenter #: 9, 49

BLM Response: Noted

Comment Summary: Supports Alt C because it provides safe trail connection from Hwy 160 to Dolores

Commenter #: 10

BLM Response: The value of trail linkage for Alt C found at 3.4.5

Comment Summary: Most bikers stay on designated trails

Commenter #: 24

BLM Response: The EA at 3.3.1, 3.4.1, and 3.5.1 recognizes that mountain biking is typically a goal oriented activity, resulting in a lesser propensity for mountain bikers to leave the trails.

<p>Comment Summary: New trails would increase the ability for riders to improve their skills.</p> <p>Commenter #: 38</p> <p>BLM Response: Recognition that the provision of a trail system located near local communities presents opportunities for skill development is noted at 3.2.5, 3.3.5, 3.4.5, and 3.5.5</p>
<p>Comment Summary: New trails would benefit youth mtn bike movement in the area (Development Youth Program, High Desert Devo, High School race team)</p> <p>Commenter #: 39,55</p> <p>BLM Response: Noted. The BLM has collected no data specific to age of trail users for use in analysis.. However, anecdotal information such as this may be used in decision making process.</p>
<p>Comment Summary: Expanding trail system will help mitigate accidents associated with overcrowding on trails and alleviate parking congestion.</p> <p>Commenter #: 40</p> <p>BLM Response: The effect of new trails and trailheads on congestion is noted at 3.2.5, 3.4.5, and and 3.5.5. The BLM is not aware of any accidents on the existing trails as a result of overcrowding (due, primarily, to the practice of directional riding).</p>
<p>Comment Summary: Support Alt. B because it includes Aquila and Eyrie trails which offer ridgeline views of canyons below and scenic vistas. Most scenic of all the proposed trails. Support even if seasonal wildlife closures required on these two trails.</p> <p>Commenter #: 42,43</p> <p>BLM Response: Noted.</p>
<p>Comment Summary: New trails (Alt B) provide needed outdoor rec opportunities to local residences for hiking, biking, and health</p> <p>Commenter #: 43</p> <p>BLM Response: Effects to various recreational groups (including hikers and bikers), and effects to personal health are noted at 3.2.5, 3.3.5, 3.4.5, and 3.5.5</p>
<p>Comment Summary: Larger trail system in community gets people outside where they can continue bettering their fitness and health, setting goals to achieve greater distances. Also benefits the more casual user wanting to enjoy scenery.</p> <p>Commenter #: 49</p> <p>BLM Response: Analysis addressing opportunities to experience new viewsheds and effects to personal health are noted at 3.2.5, 3.3.5, 3.4.5, and 3.5.5</p>
<p>Comment Summary: Alt B, with combination of two important concepts (looped/stacked trails and continuity), is a superior design to Alt C.</p> <p>Commenter #: 49</p> <p>BLM Response: Noted.</p>

Comment Summary: Eyrie trail would be ideal shorter loop to take kids on to see canyon without much elevation gain.

Commenter #: 49

BLM Response: Noted.

Comment Summary: Additional trailheads provide greater range of alternatives/opportunities than is presented by a single trailhead.

Commenter #: 49

BLM Response: Analysis addressing opportunities afforded by new trailheads are noted for the action alternatives at 3.3.5, 3.4.5, and 3.5.5

Comment Summary: Did not find the concern for user conflicts addressed in the EA. A Responsible and wise hunter or trapper will not be able to continue those activities once frequent bike traffic dissects the landscape.

Commenter #: 50

BLM Response: Impacts to other recreational users (including hunters) is a specific issue addressed for each alternative and can be found at 3.2.5, 3.3.5, 3.4.5, and 3.5.5

Comment Summary: (**Safety**) County Roads L and M are currently very dangerous for bicycle access and crossings. Hill north of Road M has threat of head on collisions. This year alone there have been three rollover accidents along Road 31 between Road M and Road P. Increased traffic will only increase the chance of collisions. Ok with proposed parking on Road M, but the BLM might be aware that there are fairly frequent occurrences of cars going off the road on this gravel section of Road M due mostly to excessive speed.

Commenter #: 22,50, 58, 60, 66

BLM Response: Design Criteria #11: (County) crossings, signage, and access would be coordinated with Montezuma County Road and Bridge (and such discussions based on preliminary designs have already occurred and met the approval of Road and Bridge foreman). Additionally, management of county roads is outside of the decision making space of the BLM.

Comment Summary: (**Connecting with Communities**) Trail development should be done in a way that connects trail users to local businesses. Alt B extends viable access to Dolores, thus extending the community connections (in conjunction with Paths to Mesa Verde project). The new trails would create a unique linkage trail between Dolores/Cortez and the potential Paths to Mesa Verde trail.

Commenter #: 1, 50,55

BLM Response: The value of trail linkage found at 3.2.5 and 3.4.5. The location of BLM managed lands as they relate to local businesses does not facilitate a direct connection. However, while outside the scope of this project, the Tres Rios BLM is actively engaging with local communities to implement its Recreation Strategy entitled Connecting with Communities which addresses, amongst other goals, facilitating economic activities and greater wellbeing within communities.

Comment Summary: Dispersing use accommodates an increase in users while maintaining a quiet, solitary experience.

Commenter #: 55

BLM Response: That new trailhead development would provide more trail variety and reduce social contacts on both the trails and at trailheads is noted at 3.3.5, 3.4.5, and 3.5.5.

Comment Summary: (**Parking Sufficiency**) The current parking lot seems inadequate for the current # of riders. The parking area east of the current Phil's World trailhead (on state land) should be developed to better allow the motorized and equestrian communities to park there. Two new trailheads/parking areas will alleviate pressure, disperse riders, and ensure visitors have a safe and convenient place to park.

Commenter #: 54, 65

BLM Response: The current Phil's World parking area and the parking area east of the main trailhead at Phil's World are located on State lands and not within the BLM decision space.

Comment Summary: Directional riding management approach gives equestrian riders the opportunity to ride trails in a counter-clockwise fashion, thereby reducing potential for negative user conflicts.

Commenter #: 65

BLM Response: Noted. Recreational impact analysis at 3.3.5, 3.4.5, and 3.5.5 has been adjusted to note this comment.

Comment Summary: Need to keep all users in mind when developing trails and parking areas. Suggest using Equestrian Design Guidebook for Trails, Trailheads, and Campgrounds. Bear Creek Trailhead off of highway 145 is a good example.

Commenter #: 65

BLM Response: Noted. Adjustments to boardwalk (to include edge protection) and parking area (increased size) designs have been made.

Socio-Economic

Comment Summary: (**Community Economic Impacts**) Trails help county promote Rec tourism, extend stays for out of towners. Economic benefit to county/community (including increased property values, tax base, improved tourism infrastructure, small business support, outdoor businesses more likely to move into area). Alt B reasonably maximizes economic effects to compete with Moab, Fruita, Eagle, and bring extra visitors to Mesa Verde

Commenter #: 1, 3, 6, 7, 8, 9, 11, 12, 15, 22, 23, 24, 27, 32, 33, 34, 35, 36, 37, 38, 39, 41, 42, 47, 53, 54

BLM Response: Background information on socio-economic ties to recreation and trails including potential effects of trails and greenways to property values is found at 3.1.4. Economic effects (including recognition of increased visitation by locals and non-locals) of the action alternatives are noted at 3.3.4, 3.4.4, and 3.5.4.

Comment Summary: This is an opportunity to utilize Public Lands in a way to benefit the

<p>entire community, and these lands should not be a private backyard for a select few</p> <p>Commenter #: 1</p> <p>BLM Response: Noted. Background information on socio-economic ties to recreational activities is found at 3.1.4</p>
<p>Comment Summary: Signs at access points and trails should address trespass concerns</p> <p>Commenter #: 1</p> <p>BLM Response: Noted. BLM Cadastral Surveyors have recently located and signed public land boundaries in the Phil's World area where proposed trails could be located close to private lands.</p>
<p>Comment Summary: Roads and residences will be impacted (by increased use of the Public Lands)</p> <p>Commenter #: 2</p> <p>BLM Response: While non-BLM lands (including county roads and private lands) are not within the management scope of this decision, discussion of impacts to county roads is found in sections 3.2.5, 3.3.5, 3.4.5, and 3.5.5.</p>
<p>Comment Summary: (Impacts to local businesses) Due to access to trails, has been able to hire two new graduate physical therapists. High quality outdoor recreation, and Phil's World specifically, has helped with physician recruitment and retention. Moved family and business (30 employees) here primarily for lifestyle and mt biking opportunities, injecting millions of \$ into local economy in payroll alone (+ economic benefits of manufacturer distributing).</p> <p>Commenter #: 13, 14, 49, 55</p> <p>BLM Response: Noted. While this is valuable micro-scale information, the socio-economic analysis presented in the EA is at more of a macro-scale for the impacts of recreation to a region as a whole.</p>
<p>Comment Summary: Trail development would result in improvements to lifestyle and health, family outings, race events, walks, and economics. Expanded trail network makes local area a more attractive place to live, improved quality of life</p> <p>Commenter #: 14, 17, 22, 34, 35, 37, 53</p> <p>BLM Response: Personal and community/social benefits are noted at 3.2.5, 3.3.5, 3.4.5, and 3.5.5</p>
<p>Comment Summary: All action alternatives provide socio-economic benefits over Alt A</p> <p>Commenter #: 16</p> <p>BLM Response: Noted</p>
<p>Comment Summary: SW Colorado is becoming a biking destination for visitors (as part of larger biking tour of the SW). Entire SW 4 Corners area benefits from more trail opportunities and economic benefits.</p> <p>Commenter #: 17, 34, 45, 46</p> <p>BLM Response: Noted. However, discussion of the impacts of trails throughout the Southwest</p>

is beyond the scope of the project.

Comment Summary: Economic driver of recreation, including biking, is healthier than other potential extractive uses of the area, has positive economic benefit, is more stable than

Commenter #: 23, 39, 52

BLM Response: Noted. However, discussion of oil/gas development related economic effects outside the scope of the EA.

Comment Summary: Events like 12 Hours of Mesa Verde bring 900 riders to trail system, \$50,000 to youth mentoring annually (over \$300,000 to date), could provide venue for more racing events and high school activities/races, 'bike-cations'

Commenter #: 30, 35, 44, 55

BLM Response: That new trailhead and trail development could allow for more events similar to the 12 Hours of Mesa Verde (while continuing to allow non-event related use simultaneously) is noted at 3.3.5, 3.4.5, and 3.5.5.

Comment Summary: Other than the 12 Hours of Mesa Verde ride, and even within the economic studies done for that, most frequent riders are local.

Commenter #: 50

BLM Response: Noted. Thank you.

Comment Summary: Other communities trying to capitalize on mt. biking and if we don't move forward with expansions/improvements we risk becoming yesterdays news and losing edge to other pro-active communities.

Commenter #: 53

BLM Response: Noted, Thank you.

Comment Summary: Economic drawback of existing trail system is that a visitor can ride every trail in one day. With expansion of B, visitors will be inclined to stay multiple nights in Cortez, contributing to lodging, restaurants, and other local businesses.

Commenter #: 54

BLM Response: Economic impacts associated with Alternative B are found in Section 3.3.4, including disclosure that increases in economic activity would likely be driven by increases in non-local visitation and increased length of stay in the area by non-locals.

Comment Summary: Non-motorized trails offer an affordable opportunity for economic development in our region

Commenter #: 54

BLM Response: In the cumulative effects section for Socio-Economics (sections 3.3.4, 3.4.4, and 3.5.4) it is noted that new trails and increased use by both locals and non-locals would increase local economic activity.

Wildlife

Comment Summary: (Trails will impact wildlife and reason for living in area) Wildlife and wild habitat will be destroyed by the addition of new trails. The surrounding landowners moved to this area years ago to enjoy the serenity and enjoy the local wildlife. Living in the area around PW we see the proliferation of wildlife that will not doubt disappear due to the intrusion of 1000's of mountain bikers. There is no need for more trails at the expense of our wildlife and ancestral heritage sites.

Commenter #: 60,58, 59

BLM Response: Alternative A analyzes the impacts of taking No Action (ie, developing no new trails. Alternatives B-D were designed to analyze several versions of differing levels of development. Wildlife impact analysis can be found in sections 3.2.3, 3.3.3, 3.4.3, and 3.5.3

Comment Summary: (Existing activities already occur near eagle). The eagle should be fine because trail users stay within 100 feet of trail. Could be impacts from Alt B to golden eagle, but habituation seems likely due to roads and residences within .5 miles of nest. Recent OHV tracks to the rim near nest and frequent shooting also currently occur in area.

Commenter #: 3,31

BLM Response: We reviewed the best available scientific information for impact analysis of golden eagles (section 3.1.3). We do not know if the eagle will habituate to disturbance, but the research we reviewed does show that eagles are sensitive to disturbance around their nest. Wildlife impact (including impacts to golden eagles) analysis can be found in sections 3.2.3, 3.3.3, 3.4.3, and 3.5.3.

Comment Summary: (Balance trail development with wildlife protection) Thoughtful development of proposal allows for rec development and protection of cultural and wildlife resources. Alt C provides greatest wildlife and cultural protection.. Alt C provides compromise while giving wildlife in Cash Canyon and wider buffer. Alt B protects eagle habitat while still expanding and growing to meet demand for additional trail miles.

Commenter #: 10, 14, 16, 23, 26, 52

BLM Response: Wildlife impact analysis can be found in sections 3.2.3, 3.3.3, 3.4.3, and 3.5.3. Alternatives B - D were designed to analyze several versions of the projects. Several details of the varying alternatives were included specifically for wildlife. For example: alternatives B, C and D have a varying golden eagle buffers. D is the most conservative buffer and B is the least conservative, with C being a compromise of the two.

Comment Summary: Current activity in the proposed expansion area includes OHV use, shooting, and domestic dogs all of which may be more impactful to wildlife than biking (comment defers to scientific knowledge of biologists)..

Commenter #: 22

BLM Response: Currently, disturbance in and around the eagle nest does occur. However area surveys have found that disturbance to the nest is infrequent (~2-7 disturbances a breeding season). These disturbances are infrequent when compared to the daily use expected under alternatives B-D. Additionally, eagle management typically strives to limit increases in disturbance to nest locations above what the nests currently experience. For more specific analysis please refer to Wildlife impact analysis in sections 3.2.3, 3.3.3, 3.4.3, and 3.5.3.

Comment Summary: In general, need to not overlook ecological interactions and need to collaborate with wildlife mgmt

Commenter #: 30

BLM Response: We received comments from Colorado Parks and Wildlife and are considering their suggestions as part of the NEPA process. We also conducted informal consultation with the US Fish and Wildlife Service in regards to effects to New Mexico Meadow Jumping Mice. For all other analysis Wildlife impact analysis can be found in sections 3.2.3, 3.3.3, 3.4.3, and 3.5.3.

Comment Summary: Cash Canyon and Simon Draw don't just host an eagle nest. Easy to imagine a lion taking down a mtn. biker. This is a wild and beautiful little patch of forest and canyons in the middle of the county and some of it should be reserved for foot (and winged) traffic.

Commenter #: 50

BLM Response: Wildlife sections address other species that may be impacted other than golden eagles. Alternatives offer different ranges of trail development from no-new trails to approx. 27 miles of trails. These alternatives will differ in their impact to wildlife species. For wildlife analysis please refer to sections 3.2.3, 3.3.3, 3.4.3, and 3.5.3.

Comment Summary: Would like more info about Bald Eagles (not present, likely meant Golden?). Aware of multiple nest locations in the vicinity? Do the alternatives take these into account? Will these areas (particularly parking) affect the raptors?

Commenter #: 51

BLM Response: There are several Bald Eagle nests around Totten reservoir. All nests are greater than 1/2 mile from the Phil's World trail system and proposed addition.

Comment Summary: According to BLM's own rules no trails should be built within 1/2 mile of a nest. The area surrounding the golden eagle's nest has not been disturbed for years since BLM in essence closed the area to all but hiking. Access has been severely limited and should remain so.

Commenter #: 60

BLM Response: The 2014 TRFO RMP includes a standard for buffer distances around active golden eagle nests. Those buffer distances "may vary based on site-specific information, current scient, and agency wildlife biologists' professional judgement" (RMP, page II-33). Alternatives offer different ranges of trail development from no-new trails to approx. 27 miles of trails. These alternatives will differ in their impact to wildlife species. For wildlife analysis please refer to sections 3.2.3, 3.3.3, 3.4.3, and 3.5.3.

Comment Summary: There was some confusion over how the Golden eagle nest moved from private land to public land (radio interview followed by calls to the Tres Rios office)

Commenter #: General

BLM Response: There appeared to be confusion based on wording found on page 32 of the Preliminary EA which led some to believe that either BLM or Colorado Parks and Wildlife staff physically relocated an eagle nest from private land to public land. The text in the EA has

been adjusted to make it clear that it was the eagle that relocated its nest.

Comment Summary: Also in BLM research: "The Tres Rios Field Office RMP (2015), Colorado Parks and Wildlife (2008), the US Fish and Wildlife Service Utah Field Office Guidelines (2002) and Suter (1981) all recommend ½ mile buffer no disturbance buffers around golden eagle nests during the breeding season. " (The only parking area in the proposal that meets criteria is west of Road 31. Alternative D is the only alternative that adheres to the 1/2 mile buffer).

Commenter #: 60

BLM Response: The citation referenced can be found on page 34 of the Preliminary EA. The parking areas identified in Alternative C are both greater than 1/2 mile from the active eagle nest. One of the two parking areas identified in Alternative B is greater than 1/2 mile from the active eagle nest.

Comment Summary: Proposal would be detrimental to wildlife, ancestral ruins, and treads extremely close to being in violation of the Endangered Species Act, in particular the Bald and Golden eagle Protection Act.

Commenter #: 60

BLM Response: Effects to these resources have been disclosed in the EA. Effects to cultural resources can be found at 3.2.1, 3.3.1, 3.4.1, and 3.5.1. Effects to wildlife, including endangered and protected species can be found in sections 3.2.3, 3.3.3, 3.4.3, and 3.5.3.. Design criteria to protect these, and other resources, can be found on pages 7-13 of the EA.

Comment Summary: Concern over impacts to deer.

Commenter #: 66

BLM Response: Effects to wildlife can be found in sections 3.2.3, 3.3.3, 3.4.3, and 3.5.3.. Design criteria to protect these, and other resources, can be found on pages 7-13 of the EA.

Cultural Resources

Comment Summary: (Balance trail development with cultural protection) Thoughtful development of proposal allows for rec development and protection of cultural and wildlife resources. Alt B provides best compromise to protect cultural sites and provide reasonable access to those sites.

Commenter #: 1, 9, 14, 23, 26

BLM Response: Noted. Alternatives B - D were designed to analyze several versions of the project. Several design criteria were included specifically for cultural resource protection. Impact analysis for cultural resources can be found in sections 3.2.1, 3.3.1, 3.4.1, and 3.5.1.

Comment Summary: The area in which the Garfunkel, LeBon, and Paul trails are being considered are rich in archaeological resources (including undocumented Basketmaker pictographs, exposed human remains), major elk migration and mule deer habitat. Bike trails will have permanent adverse impact despite precautions.

Commenter #: 29

BLM Response: The portion of the analysis area in which these trails are proposed has been intensively surveyed at the Class III level. These proposed trails avoid the eligible and potentially eligible cultural resources identified and recorded during the survey. Impact analysis for cultural resources can be found in sections 3.2.1, 3.3.1, 3.4.1, and 3.5.1. Impacts to big game are found in sections 3.2.3, 3.3.3, 3.4.3, and 3.5.3.

Comment Summary: Mt. biking for the most part is a quiet activity and bikers don't make a habit of stopping and getting off their bikes to rummage around archaeological sites.

Commenter #: 53

BLM Response: Noted. Impact analysis for cultural resources can be found in sections 3.2.1, 3.3.1, 3.4.1, and 3.5.1.

Comment Summary: This proposal will also cause damage to ancestral ruins by exposing one hundred and 10 ancestral sites within this area to high traffic. Increased damage will occur if trails are made off of the designated paths which has been shown to happen in the existing bike area of PW.

Commenter #: 60

BLM Response: All action alternatives have been designed to avoid direct impacts to cultural resources. Additionally, design criteria 2, 4, 15, 16, 17, and 18 have been developed to further protect cultural resources. Finally, the 2014 TFRO RMP calls for the limitation of mechanized (bicycle) travel to designated roads and trails in the Phil's World area. Complete impact analysis for cultural resources can be found in sections 3.2.1, 3.3.1, 3.4.1, and 3.5.1.

Soils

Comment Summary: Thoughtful trail design, education, and signage can result in positive impacts to soils and other resources

Commenter #: 45

BLM Response: Noted. Alternatives B - D were designed to analyze several versions of the project. Several design criteria were included specifically for soils and other resource protection (including signage, hardened crossings, bridge/boardwalk features, etc.). Impact analysis for soil resources can be found in sections 3.2.2, 3.3.2, 3.4.2, and 3.5.2.

Comment Summary: Most soils in area are prone to erosion, how do you maintain these? Waterbars, catchments, structures?

Commenter #: 51

BLM Response: Design feature #3 identifies a variety of techniques that could be employed for sustainable trail design. Design feature #18 addresses how maintenance would be accomplished. Several other design features address actions which would contribute to minimum impact trail design as well.

Comment Summary: At the most, mt bikes will compact the top few inches of soil. If these

trails ever fall out of favor and become unused, they will disappear leaving very little, if any, trace.

Commenter #:53

BLM Response: On flat, hard, dry surfaces this could be true, but in general this is speculative and was not analyzed as mitigation.

Other

Comment Summary: Presence of bikers may reduce trash deposits. Areas with trails are cleaner than other areas where the public lands have been used as a dumping ground.

Commenter #: 3, 22, 23, 29, 30

BLM Response: Recreation analysis, including impacts associated with anticipated trash on the landscape can be found at sections 3.2.5, 3.3.5, 3.4.5, and 3.5.5.

Comment Summary: Previous use of the area for dumping, unmanaged OHV use has damaged area. The planned use should result in improvement.

Commenter #: 30

BLM Response: Noted.

Comment Summary: Concern about trespass onto private land where trails would be near private property.

Commenter #: 2

BLM Response: As stated on page 6 of the EA, unauthorized or illegal activities such as private land trespass are not under consideration for approval (and outside the realm of BLM authority). The BLM, however, has also utilized cadastral surveyors to locate and sign BLM/private boundary lines where trails have been proposed near private lands.

Comment Summary: Support of proposed Tiny Dancer trail and removal of existing trail from private lands.

Commenter #: 19

BLM Response: Noted.

Comment Summary: With the difficulty in getting new trails developed, should include all proposed trails and expand completely

Commenter #: 14

BLM Response: Noted

Comment Summary: Road N formalized access will increase activity which would be better focused on other parking/access options (this is a narrow, and potentially congested road, safety and emergency access/egress could be compromised). Keep accesses to Road M and L.

Commenter #: 18, 21, 29

BLM Response: Noted. The analyzed range of alternatives includes the possibility of no trail development or access from Road N.

Comment Summary: Eliminate Road 30.2 Access trail: Not a county road, no direct

connection to BLM (must pass through private), no suitable parking nearby, several arch sites at end of road, little support from 30.2 residents.

Commenter #: 28, 29

BLM Response: Noted. The analyzed range of alternatives includes the possibility of no trail development or access from Road 30.2. Also, the Preliminary EA recognizes (at pg. 15) that 'access from Road 30.2 would only be built if and when public access was perfected through the adjacent private land'. "Perfecting Access" refers to acquiring legal access from a willing landowner. If a landowner does not wish to provide such access, 'access would not be perfected' and the trail would not be constructed.

Comment Summary: Greatly concerned that lack of documentation (cultural?), public hearings, and Native American consultation will permanently adversely affect these resources.

Commenter #: 29

BLM Response: Impact analysis for cultural resources can be found in sections 3.2.1, 3.3.1, 3.4.1, and 3.5.1. Information about scoping and public involvement, including tribal consultation, is provided in section 1.5.1.

Comment Summary: Concerned that there is no way to prevent people from parking on nearest county road.

Commenter #: 29

BLM Response: The use of county roads is outside the decision space of the BLM, though the BLM has been in contact with representatives of Montezuma County leadership as well as the Montezuma County road and bridge foreman regarding this project.

Comment Summary: Surprised no alternative other than 'no action' has a phased expansion plan, developing central area first.

Commenter #: 29

BLM Response: Design Criteria #19 provides a prioritized implementation schedule for all action alternatives. Under that schedule, the central area (Highline area and Road L trailhead) would fall into the highest priority along with Tiny Dancer and Stinking Springs Connector.

Comment Summary: Could be more effort made to remove noxious weeds and reseed areas with native plants.

Commenter #: 30

BLM Response: While outside the scope of this analysis, the BLM has initiated a Memorandum of Understanding with the Southwest Colorado Cycling Association which includes elements to cooperatively identify and report noxious weed populations.

Comment Summary: (Balance trail development with resource protection) Alt B a good compromise between many opposing components, addresses resource concerns with logical and common sense approach.

Commenter #: 36, 49

BLM Response: Noted. Alternatives B - D were designed to analyze several versions of the project which take into account impacts to multiple resources including recreation.

<p>Comment Summary: Montezuma County has a unique landscape lending itself to mtn biking. Need to capitalize in a responsible way and protect land for future generations to enjoy the outdoors.</p> <p>Commenter #: 39, 52</p> <p>BLM Response: Noted. Alternatives B - D were designed to analyze several versions of the project which take into account impacts to multiple resources including socio economics, wildlife, soils, cultural resources, visual resources, and recreation.</p>
<p>Comment Summary: On page 17, is the phrase 'Department of Colorado State Land' correct?</p> <p>Commenter #: 31</p> <p>BLM Response: Changed reference to Colorado State Land Board property.</p>
<p>Comment Summary: Thought that there was going to be a re-route for Here-4-More trail?</p> <p>Commenter #: 31</p> <p>BLM Response: This trail (the Ebbs and Flows trail) was dropped from consideration at this time due to unresolved resource issues in the vicinity of the trail.</p>
<p>Comment Summary: Support construction of new trails in Cash Canyon, and around roads L and M: Already multi-use with ATV trails.</p> <p>Commenter #: 42</p> <p>BLM Response: Noted.</p>
<p>Comment Summary: Presence of Mt Biking community in SW has 'put the area on the map'</p> <p>Commenter #: 44</p> <p>BLM Response: Noted.</p>
<p>Comment Summary: Trail system is 3 miles from Cortez, directly north of one of top trafficked highways in area, surrounded by houses, farms, and ranches. Taking this into account, Alt B seems fully reasonable.</p> <p>Commenter #: 55</p> <p>BLM Response: Noted.</p>
<p>Comment Summary: Despite restrictions, target practice occurs in the areas (Cash/Simon) nearly every day. Must be stopped or serious accident will occur. How will the area be patrolled/controlled?</p> <p>Commenter #: 59</p> <p>BLM Response: BLM lands are patrolled by BLM Law Enforcement Rangers (as well as by County Sheriff and Deputies for certain violations).</p>
<p>Comment Summary: This disruption benefits a few people and will be a damaging nuisance to many who live in the affected areas.</p> <p>Commenter #: 59</p> <p>BLM Response: Trail counters have recorded about 20,000 people per year utilizing, and benefiting from, the existing trail system. See recreation (3.2.5, 3.3.5, 3.4.5, and 3.5.5) and</p>

socio-economic sections (3.2.4, 3.3.4, 3.4.4, and 3.5.4) for additional analysis.

Comment Summary: Many of the proposed trails in this trail system were user created.

Commenter #: 65

BLM Response: The proposed trails are not yet in place on the ground. The BLM has not observed any use (casual or constructed) along the proposed alignment or alternative alignments.

Appendix A, Table 2: Comments recommending an alteration of the analysis

Commenter: #1, 31

Comment: Seasonal closures north of Road M would help big game. Effects to deer and Elk could be mitigated by seasonal closures, which are common elsewhere.

Resource: Wildlife

BLM Response: In response to comments, a seasonal closure of the area north of Road L has been added and analyzed as a component of Alternative C. However, seasonal closures for wildlife in the Phil's World area were specifically addressed in the 2015 Tres Rios Resource Management Plan. Relevant sections (Appendix E: page - E3) state:" Due to connectivity with adjacent state land mountain bike trails system, seasonal closures for wildlife at Phil's World cannot be reasonably managed and therefore would not be implemented".

Commenter: #2 (conversation log from phone call)

Comment Summary: The Preliminary EA does not consider wildlife

Resource: Wildlife

BLM Response: Design Criteria 1, 4, 12, 15, 17, and 20 (pages 7-13 of EA) address wildlife. Also, wildlife impact analysis can be found in sections 3.2.3, 3.3.3, 3.4.3, and 3.5.3.

Comment Summary: Trails are too close to his private property and trespass could occur.

Resource: Realty/Trespass

BLM Response: BLM cadastral surveying staff have signed property boundaries where proposed trails could align closely to private property boundaries (the commenter acknowledged this recent work).

Comment Summary: The biking community does not pay for the maintenance of county roads by his home and thus should not be impacting them.

Resource: Realty

BLM Response: County road administration falls to the County, rather than the BLM. However, County Roads, like Public Lands, are managed and maintained for all citizens and the burden is shared through tax base.

Comment Summary: Public lands are for multiple use and bikers should not have access where motorcycles don't have access.

Resource: Travel Management

BLM Response: Multiple use does not mean every activity occurs on every acre.

Commenter: #5

Comment: PARKING: Considering the parking at the current location, which frequently has vehicles overflowing onto adjoining roads and properties; the proposed new trails **do not** at all adequately address this issue. Assuming that usage will only increase, the proposed three areas will only exacerbate the inadequacy that already exists. There is not enough proposed parking to cover the expected deluge of bikers, mostly from La Plata County.

Resource: Recreation

BLM Response: The current trailhead on State land is approximately 1 acre in size. The allowance for parking area/trailheads of approximately 1/2 acre in size should accommodate 50-60 vehicles each. In conjunction with the existing trailhead, this should provide adequate parking even on busy weekend days. However, to ensure parking is adequate into the future, Alternative C has been adjusted to consider a Trailhead area of disturbance up to .86 acres at Road M, and a split parking lot at Road L (.93 for upper lot, and .71 for the lower lot)

Comment: TRAFFIC: We have stated in previous communications with you that the increase in traffic is unacceptable for the conditions of the roads at a minimum and completely unacceptable during spring and fall ungulate and bear migration patterns.

Resource: Travel Management

BLM Response: Management of county roads falls to Montezuma county and is outside of BLM decision space. Intermittent traffic already occurs on all access points proposed in all alternatives. Traffic increases anticipated in these locations will likely not increase the amount of disturbance experienced by bears and ungulates above what is already experienced on county roads. Deer and elk mortality is typically associated with highways and not county roads similar to M and N. However, roads affect deer and elk. Wildlife impact analysis can be found in sections 3.2.3, 3.3.3, 3.4.3, and 3.5.3

Comment: TRAIL OVERUSE: As the condition of the current trail system demonstrates, adding more trails will simply destroy the wild habitat that currently exists in the proposed expansion area. Expanding the trail system to alleviate overuse is a pipe dream and all this new trail system will do is add to the destruction that currently exists in the current trail system to the proposed new trails.

Resource: Recreation

BLM Response: It is unclear what type of 'destruction' the commenter is referring to. However, as the comment relates to alleviating overcrowding, impacts to recreation can be found at 3.2.5, 3.3.5, 3.4.5, and 3.5.5. Additionally, impacts to visual resources can be found at 3.2.6, 3.3.6, 3.4.6, and 3.5.6.

Comment: WILDLIFE CORRIDORS: Once the trail system is expanded into Cash Canyon

and the tributaries of Cash Canyon, the large herds of ungulates, both American elk and mule deer will have to adjust their migration patterns and we do not believe that your study adequately takes into account the impact this will have on our big game species.

Resource: Wildlife

BLM Response: Within the Phil's World Area, only one migratory corridor has been identified by Colorado Parks and Wildlife. Impacts to this corridor have been added to the analysis on sections 3.2.3, 3.3.3, 3.4.3, and 3.5.3

Comment: Once trails are built the wild areas will cease to exist

Resource: Wilderness

BLM Response: While there are no Wilderness, Wilderness Study Areas, or Lands with Wilderness Characteristics present in the project area, impacts to wildlife can be found at sections 3.2.3, 3.3.3, 3.4.3, and 3.5.3, impacts to recreation can be found at 3.2.5, 3.3.5, 3.4.5, and 3.5.5, and impacts to visual resources can be found at 3.2.6, 3.3.6, 3.4.6, and 3.5.6.

Comment: Do we really want bike trails expanded into residential areas and wildlife corridors

Resource: N/A

BLM Response: The 2015 RMP identified the targeted resource activity in this area as mountain biking

Commenter: #10

Comment: Some of my concerns about Alternative C (as would be the same for Alternative B) center on the lack of information on the bigger picture of the inevitable increase in traffic to this area from all directions, in particular the increase that will be seen on Road 31 (which is not included in Tables 6 and 9: Estimated County Road Use, pgs 73 and 88) and the negative consequences of that increase, particularly due to the attraction of the proposed parking areas.

Resource: Recreation

BLM Response: While the use and management of county roads is outside of the decision making space of the BLM, estimations of use along CR 31 was added to the EA in Tables 6, 9, and 12.

Comment Summary: I would prefer that the Parking Areas on Road M/31, as described in Alternatives B and C, be eliminated from those plans because:

-- Recreational motorists, unfamiliar with road conditions of our neighborhood, who will be traveling NE from Cortez, will encounter several hazardous steep bends and blind spots on Road M/Road 31 before they reach, and after they leave, the proposed Parking Areas. These conditions and the extra traffic load may contribute to an increased number of collisions between vehicles and wildlife.

--they will create a significant increase in traffic on all of Road 31, not just the stretch south of the Parking Area.....Increased traffic on Road 31 will also likely contribute to a greater number of collisions between vehicles and wildlife all along Road 31 between Highway 184 and Road 29.

--The stretch of Road 31 between Highway 184 and Road 29 will likely become congested in

the early mornings in the hot summer months with recreational users and residents commuting to work, thereby contributing to an increased number of collisions between vehicles and wildlife and disrupting the peaceful enjoyment of the residents along Road 31.

Resource: Wildlife

BLM Response: The No-Action alternative represents the alternative which does result in the development of a parking area along County Road 31/M. The inclusion of the No-Action alternative, along with the three 'Action Alternatives' provides for a reasonable range of alternative levels of develop for analysis and consideration by the Authorized Officer.

Management of county roads falls to Montezuma county and is outside of BLM decision space. Intermittent traffic already occurs on all access points proposed in all alternatives. Traffic increases anticipated in these locations will likely not increase the amount of disturbance experienced by bears and ungulates above what is already experienced on county roads. Deer and elk mortality is typically associated with highways and not county roads similar to M and N. However, roads affect deer and elk. Wildlife impact analysis can be found in sections 3.2.3, 3.3.3, 3.4.3, and 3.5.3

Comment: Is the proposed parking area on Road M/31 even necessary?....whereas Road M/31 will likely be impacted by traffic to its proposed Parking areas from both the southeasterly and northerly directions, Road L will likely be impacted only by traffic in the southwesterly direction of its parking area. Given the potential hazards, disruption to wildlife and people, and the resistance already stated by Road 31 residents to increased traffic brought by the attraction of a proposed Parking area on Road M/31-is it really necessary? I did read in the report the logic of looped trails with easiest trails closest to the trailheads/parking lots...a solution would be to alter Plan C by eliminating the Carly trail as planned and instead adding the Eyrie trail as shown on Plan B so that beginners can enjoy that from the Parking area on Road L.

Resource: Multiple

BLM Response: Both the Road L and Road M parking area/trailheads could be accessed from two different directions. Both Road L and Road M parking area/trailheads could serve trails to the north and south. Therefore, there is little resource related differences between the two possible parking area/trailheads. There is analysis provided in the recreational sections 3.2.5, 3.3.5, 3.4.5 for the development of multiple access points: the more even dispersal of use and congestion across the entirety of the Phil's World area. The range of alternatives already presented in the analysis covers the development (or lack of development) of both the parking areas at Roads L and M and the Carly and Eyrie loops. The discussion of hazards associated with county road use and impacts to wildlife can be found above.

Comment: If the project is approved with Parking on Road M/31 may I suggest a study during May of before and after construction on the number of vehicle/animal collisions. If there is found to be a significant increase in carnage, close Road M/31 access, and possibly develop parking at N or 30.2 instead.

Resource: Wildlife

BLM Response: The study of Animal mortality is outside of the scope of this analysis. Intermittent traffic already occurs on all access points proposed in all alternatives. Traffic increases anticipated in these locations will likely not increase the amount of disturbance experienced by bears and ungulates above what is already experienced on county roads. Deer and elk mortality is typically associated with highways and not county roads similar to M and N. However, roads affect deer and elk. Wildlife impact analysis can be found in sections 3.2.3, 3.3.3, 3.4.3, and 3.5.3.

Commenter: #50

Comment: Thank you for the direct mailings regarding the comment period and preferred Alternative B for the Phil's World Cash Canyon expansion... I would like to at least raise the outstanding concerns that my family has with this project and the Environmental Assessment process, for the record, because the project seems to be a foregone conclusion.

Resource: N/A

BLM Response: The commenter incorrectly identifies Alternative B as 'Preferred'. Alternative B is Proposed (by proponent). There is not a Preferred (or pre-determined outcome) Alternative in the Preliminary EA.

Comment: A link to the full evaluation would be helpful in future outreach to interested citizens.

Resource: N/A

BLM Response: The letter sent on Aug 26, 2016 requesting comments included a link to the webpage with the complete Preliminary EA.

Comment: Trails were added north of Road M that were not included in the original scope of the project. It seemed as though attempts at alignments connecting to County Roads through private lands or privately maintained roads were added to compensate for potential miles lost due to environmental concerns in Cash Canyon, but proposed Alternative B doesn't even abandon those trails in Cash Canyon

Resource: N/A

BLM Response: The scoping letter sent 12/15/14 described a proposal to construct 25-30 miles of trail, including a map which depicts a very similar set of trail (length and location) to what was considered in the Preliminary EA and distributed for public comment. The access trails considered in Alt B are the same as those depicted in the Scoping Map. Multiple trails in Cash Canyon area (between roads L and M) were dropped from consideration in Alt B after the scoping letter was mailed out. Alt C and Alt D consider the impacts of even fewer trails in this area.

Comment Summary: The proposed use exceeds the Montezuma County Threshold Standards for traffic and demonstrates a proposed material increase necessitating a County High-Impact Permit. The project should be evaluated for County Road impacts and impact fees should be leveled prior to any new trail development. This is not an E.A. issue, but an additional limitation to the project that will be brought forward in other circles. County Roads L and M

are currently very dangerous for bicycle access and crossings.

Resource: N/A

BLM Response: As a result on this comment, the BLM verified with Montezuma County (James Dietrich, 9/28/16) that federal actions within the county have never been subject to the high impact permit process (including the development of the Dolores Public Lands Office) and are not applicable to this project.

Comment Summary: Cultural Resources – No evaluation by an Archaeologist or consideration for ‘secondary’ impacts. Existing Phil’s World trail system impacts eligible cultural sites, including a case where users made a ramp out of a prehistoric room block. The “avoid to extent possible” at the rock art panel along the Schuster trail would not likely be approved by any archaeologist aiming to protect that cultural resource. Rock art panels are fairly rare and always significant for cultural resources within the Montezuma Valley. Standing architecture on public lands within the special recreation area are also pretty rare. The cliff dwelling views offered by the proposed Eyrie and Aquila trails may not directly threaten the site, but once people know it is there, they will visit it. The site could potentially be hardened and interpreted for visitation, but should otherwise not be left within the viewshed of any new trails.

Resource: Cultural

BLM Response: All work completed for this analysis was done by a BLM Archaeologist. Impact analysis can be found at 3.2.1 (page 44), 3.3.1 (page 51), 3.4.1 (page 75), and 3.5.1 (page 91). The identification of impacts from the existing system of routes on BLM land to eligible cultural resources is on-going through a separate process. The referenced rock art panel is located approximately 240 feet from the Schuster Trail. The trail is located on the mesa rim, not in the drainage. The rock art panel is recessed within a rock shelter. Vegetation obscures the rock art panel from view. The site should be adequately avoided. Alternatives C and D analyze trail systems which do not include the Eyrie and Aquila trails.

Comment: Wildlife corridor – Cash Canyon and Simon Draw don’t just host an eagle’s nest! It is easy to imagine a lion from a den up the east branch of Cash canyon taking down a mountain biker who wants its canyon back. This is a wild and beautiful little patch of forest and canyons in the middle of the county and some of it should be reserved for foot (and winged) traffic.

Resource: Wildlife

BLM Response: Wildlife sections address other species that may be impacted other than golden eagles. Alternatives offer different ranges of trail development from no-new trails to approx. 27 miles of trails. These alternatives will differ in their impact to wildlife species. For wildlife analysis please refer to section 3.2.3, 3.3.3, 3.4.3, and 3.5.3.

Comment: Hunting and trapping and other user conflicts – Despite the concerns being raised many times, I did not find the concern for user conflicts addressed in the Environmental Assessment. Perhaps this isn’t part of the E.A. process, but it should certainly be a BLM recreation consideration. I have been told by Phil’s World users that people still target practice out there, even though they are not supposed to. But a responsible and wise hunter or trapper

will not be able to continue those activities once frequent bike traffic dissects the landscape.

Resource: Recreation

BLM Response: Impacts to other recreational users (including hunters) is a specific issue addressed for each alternative and can be found at 3.2.5, 3.3.5, 3.4.5, and 3.5.5.

Comment: “Perfecting access” - Private land access has been proposed seemingly with no regard for permissions... and what is “perfecting” access. “Securing” may have been the more appropriate term.

Resource: Lands/Realty

BLM Response: The Road 30.2 Access Trail is the only trail under consideration which would require access via private land. The EA (page 15) states that 'this 300' access trail would only be built if and when public access was perfected through the adjacent private land'. "Perfecting Access" refers to acquiring legal access from a willing landowner. Page 72, 87 and 102 of the Preliminary EA, under Issue #8 also states "If and/or when access along the 'Red' County Road 30.2, and through *willing* (emphasis added) private property ownership is perfected, the same would be true along that route as well." If a landowner does not wish to provide such access, 'access would not be perfected' and the trail would not be constructed.

Comment Summary: Conflicts of interest – Many BLM staff, including you (Jeff Christenson, Supervisory Outdoor Recreation Planner, and recipient of the comment letter), have a personal interest in the expansion of the Phil’s World trail system. I don’t believe that an unbiased Environment Assessment was completed, even if it was possible.

Resource: N/A

BLM Response: BLM professionals do not operate based on personal opinion. The NEPA process is designed to facilitate public disclosure, transparent decision-making and rationale that is ultimately decided by the manager, not staff specialists.

Comment: Political influence – There has been significant political pressure from the County elected officials to see this project through. That also has an element of personal interests and also a hope for economic stimulus that comes from these trails. Other than the 24 Hours of Mesa Verde ride, and even within the economic studies done for that, most frequent users are local.

Resource: Socio-Economic

BLM Response: Noted. However, no statistics or sources were cited for this assertion.

Comment: Economic Opportunity - If there is an economic opportunity, trail development should be done in a way that connects trail users to local businesses. Camping should no longer be allowed on these BLM parcels due to direct contradiction with the touted economic opportunity as well as safety considerations.

Resource: Socio-Economic/Recreation

BLM Response: The EA at 3.1.5 (Recreation Affected Environment) has been adjusted to note that the area is closed to camping per the 2015 RMP.

Comment: Phasing – Beginning with the expansion south of Road L would allow for direct

monitoring of impacts and trail use of additional trail miles. I understand that not all of the trails could be built at once, anyhow. However, it seems paramount that the phased development does not occur based on the timeline of a special interest group, but rather as a measured and monitored process guided by the Bureau of Land Management office that is supposed to be responsibly managing these lands for us.

Resource: N/A

BLM Response: Design Criteria #19 describes a phased/prioritized implementation schedule. This phasing begins in the Road L area. As a matter of course, BLM monitors the trail systems on BLM land for trail condition, illegal trail development, etc.

Comment: Name with respect – “Cash-Money” is an unjust name. That canyon was named after the first European descended family to settle in the Montezuma Valley outside of McElmo Canyon. Maybe that history should be added to the interpretive signs, and if there has to be a canyon crossing, simply “Cash canyon crossing” would do. “Stinky Springs Connector” should be “Stinking Springs Connector,” named for the actual canyon. I’m glad not to see the trash trail reference on the latest maps, and if someone decides to name the existing two track trails south of Road M as part of the trail system, please refrain from allowing derogatory trail names. Naming the other Cash system proposed trails with eagle references would probably feel like a smack on the tail if the resident eagles knew.

Resource: N/A

BLM Response: Identified names were chosen to represent 'place' as much as possible (based on existing geographic features or resource features). "Stinky" has been adjusted to 'Stinking'. Names are primarily for reference at this point, and could change in the future.

Commenter: #57

Comment: The EA p. 27 states “The SWCCA also volunteered to postpone their request for the proposed Tiny Donkey trail due to the lack of existing cultural survey work in that areas (the BLM has decided to analyze that proposed trail in this document {now called the Poquito Burrito trail} rather than revisit the area at a later date).” The EA p. 29 contradicts the above statement and states “Cultural resource inventories have been conducted for all elements of the action alternatives that have the potential to directly affect cultural resources. BLM cannot “analyze the proposed trail” if they lack a cultural survey for the trail.

Resource: Cultural

BLM Response: When initially proposed, the Tiny Donkey (Poquito Burrito) area had not been surveyed. However, during the development of the Preliminary EA, cultural survey work was updated to address data gaps, including the entire Poquito Burrito area. The EA has been updated to reflect these changes.

Comment: The EA p. 5 states “Tribal consultation is in progress.” The EA cannot be considered complete until all efforts at tribal contact have been concluded and documented.

Resource: Cultural

BLM Response: This comment is in response to a preliminary EA provided to the public for comment. It was not considered complete at this time.

Comment: The EA p 45 states "The current unplanned, unauthorized trails within portions of the planning area..." 1) EA needs to depict these trails on a large scale map, 2) EA needs to address how the BLM will prevent continued use of these trails and ensure that no further impacts to cultural resources takes place, 3) Relationship of these trails to proposed trails must be analyzed on a site (trail) specific basis, and 4) BLM needs to recognize that it has a responsibility to protect the resources impacted by these unauthorized trails.

Resource: Multiple

BLM Response: This citation was found on p 44 (referencing the central and northern part of Phil's World) and p 45 in the No Action Alternative analysis of the Preliminary EA. This sentence has been clarified to describe the limited context of these routes and management actions already taken (independent of this EA) such as signing, berming, and limitations to cross country travel identified in the 2015 RMP. The statements cited in the EA are part of the No Action alternative analysis referenced to provide background and a mechanism for baseline comparison to the action alternatives. Unauthorized trails within the analysis area not considered for designation via the action alternatives. Per the 2015 RMP, mechanized and motorized travel may only occur on designated routes in Phil's World.

Comment: The EA p 52 states "The presence of more intensive recreation management and an expected corresponding increase in recreational use would increase the risk of detection of such activities, and act as a deterrent to such activities." While this may be true, monitoring is critical to confirmation. The EA needs to specify exact steps the BLM will take to ensure that monitoring takes place (dedicated rec program funding, partnership funding), that design features are protecting sites, and that vandalism is not occurring. How many work months will be dedicated to this each year? Are staff available? what positions on table of organization will do this work?

Resource: Cultural

BLM Response: Design Feature #17 addresses trail monitoring and Design Feature #21 has been added to specifically address monitoring of historic properties: "Monitor eligible cultural sites within 50 feet of the trail annually over a three year period." The level of detail requested by the commenter does not contribute to the analysis of impacts necessary to inform the authorized officer.

Comment: The final EA should include maps documenting blocks of public land for which Class III cultural inventory reports have been completed, as well as a comprehensive list of all inventory reports completed within the project area. In addition, cultural resource surveys should be included in Reference section of EA.

Resource: Cultural

BLM Response: Previous cultural resource work within the analysis area is not required to be documented in an EA in the detail suggested. The summary of cultural resource work found in the cultural resources affected environment section is adequate. The EA will reference the cultural resource report written for this project.

Comment: Given the scope and complexity of the project, documentation of SHPO

concurrence on a determination of no effect/no adverse effect should be included in EA, regardless of whether the BLM finds no effect.

Resource: Cultural

BLM Response: The final EA contains this information.

Comment: The EA p 8 states "Final trail alignment and a variety of construction techniques would be utilized to maximize the sustainability of trails...." There does not appear to have been even preliminary alignment of the proposed trails on the ground. We have, without any success, tried to find flagging or survey lathe on the ground showing the alignment of some of the trails BLM proposes to build. Without knowing the exact location of all trails and their associated design requirements, the BLM cannot complete site specific analysis and comply with NEPA.

Resource: Multiple

BLM Response: The alignments are intentionally not flagged on the ground so that recreational users would not start utilizing trails for which a decision has not yet been rendered. BLM staff utilized GPS units in the field to align and analyze resource effects while simultaneously leaving the landscape clear of potentially misleading flagging.

Comment: From page 56 "Ledges and the Rib Cage are examples of trails with some sections located, in part, on severe hazard soils. On a limited field inspection of the existing trails on these severe hazard soils, large areas of problematic erosion were not found, which may indicate the NRCS soils hazard ratings for trails construction are very conservative." Limited Inspection of existing trails is not an adequate level of information to draw any firm conclusions regarding the impacts of the trails proposed on highly erosive soils.

Resource: Soils

BLM Response: BLM soil specialists looked at equivalent slope and soil conditions on the existing trail to improve general soil classifications with site specific knowledge. Looking at every mile of existing trail to gain this knowledge was not necessary.

Comment: "Erosion potential could be a continuous problem and require substantial and frequent maintenance to keep trails to standard and fix erosion problems...Site specific mitigation measures have not yet been identified and could not be assessed for this analysis" This EA is where site specific mitigation measures are to be identified and assessed.

Resource: Soils

BLM Response: A list of tools are described in the Design Criteria. If and when a specific trail is approved and flagged on the ground for final alignment, whether the trail goes above or below a specific rock or tree, or where the anchor point of a turn is located, and what the ground conditions are at those points (bedrock, broken rock, soil, etc.) would drive which trail design option is implemented. Until such time as that level of detail is known, which 'site specific' design feature to use is unknown. That does not mean that the general effects are not properly analyzed in this document.

Comment: There are numerous contradictions and vague qualifiers in the Design Criteria, apparently because the exact trail routes have not been determined.

--Design Criteria #4. "Final trail construction would align as close as possible to the trails depicted on the maps for each alternative. Final alignment may vary based on site specific conditions in order to achieve a sustainable and enjoyable system of trails."

Resource: N/A

BLM Response: We don't find the Design Criteria to be contradictory. They are Design Criteria, though, because they would be applied as needed based on final alignment (again, until it is known if a trail segment would go above or below a tree, for example, the appropriate tool to use from the toolbox is not known).

Comment: The following design criteria describe potential disturbance from 18" to 20 feet. No where (sic) does the EA state the allowable limits of surface disturbance and the total acres that would be disturbed. The failure to define acres disturbed and to allow this level of variability in the width of disturbance does not comply with NEPA, which requires that impacts be quantified. (Design Criteria 5: "A maximum six foot wide corridor would be cleared through undergrowth (oak, willow, etc.) unless additional clearing is necessary." Design Criteria 6: Final trail width would be 18-24" wide. Construction disturbance would be minimized as much as possible, with the greatest effect on severe wide slopes where cut and fill trail design is necessary {never to exceed 20'}).

Resource: Multiple

BLM Response: Greater disturbance would occur on steep side slopes, where cut and fill would be required. The least disturbance would be required on flat, clear ground. A chart has been added to Design Criteria 6, found in Section 2 of the EA, to better illustrate the possible disturbance levels.

Comment: Design Criteria #12. Where would bridges/boardwalks be constructed? Who would have ultimate responsibility for maintenance?... The locations and design(s) of these footbridges need to be specified in the final EA

Resource: N/A

BLM Response: Example designs and a list (and #) of bridge/boardwalk features are listed in Design Criteria #12 of the EA. Design Criteria #18 discusses maintenance responsibility and the documentation thereof.

Comment: Design Criteria #9. "Trails would be designed and signed for directional travel (traffic all in one direction) to maximize safety and minimize social issues. If any sections require bi-directional travel, they would be clearly posted." Will the trails be directional or not? Without on the ground knowledge and marking, it is impossible to address safety issues and state what the appropriate methodology would be.

Resource: Recreation

BLM Response: As stated in Design Criteria #9: Trails would be designed and signed for directional (traffic all in one direction) travel. However,, there may be instances where avoidance areas result in the need for short stretches of bi-directional travel. These would be clearly marked on the ground.

Comment: As mentioned previously the EA states "Final trail construction would align as

close as possible to the trails depicted on the maps for each alternative. Final alignment may vary based on site specific conditions in order to achieve a sustainable and enjoyable system of trails. However, trails would not 1) Encroach into areas identified for each alternative as 'unavailable for new trail development'; 2) Exceed by 10% the total miles of trails approved for each alternative; 3) Directly affect an eligible cultural resource site." Based on the language used and poor quality of this analysis, it is reasonable to assume that the BLM employees who, under the current proposal, would determine the final alignment may have a skewed, non-interdisciplinary agenda for what they want to see implemented on these public lands. The EA process must be site specific and interdisciplinary; as proposed in the EA, this poorly thought out project implementation process would circumvent the requirements of NEPA."

Resource: N/A

BLM Response: The sideboards provided by the design criteria provide the level of detail necessary for complete and adequate analysis and implementation.

Comment: Again, NEPA requires site specific analysis and development of site specific mitigation measures. IF more detail is not possible at this time, BLM should proceed with a programmatic EA that addresses the overall project, and prepare site specific EAs as the trails are identified on the ground.

Resource: N/A

BLM Response: The sideboards provided by the design criteria provide the level of detail necessary for complete and adequate analysis and implementation.

Comment: On pages 59 and 60, in regards to previously constructed Phil's World bike trails, the EA acknowledges that "Problematic for deer specifically is that nearby areas previously considered critical and severe winter range, on BLM and State Land Trust land, have lost habitat effectiveness as a result of the existing trail network. The result is that some deer have likely been displaced, pushing individuals and groups onto larger pieces of private land and BLM areas where trails would be constructed under this alternative. ". Our scoping comments and BLM's own analysis clearly identify that these proposed new trails would have further indirect impacts to adjacent private lands, as well as the State's Habitat Partnership Program. The EA has failed to analyze these significant impacts. BLM's NEPA handbook requires the BLM to analyze these indirect, as well as the cumulative, impacts

Resource:

BLM Response: Wildlife impact analysis can be found in sections 3.2.3, 3.3.3, 3.4.3, and 3.5.3. The EA has been updated to recognize that deer and elk may be displaced onto adjacent lands as a result of any new trail development.

Comment: The EA states "Guideline 2.4.5 Cortez SRMA: Critical winter range closure will be placed on Chutes-n-Ladders, Summit, and the Aqueduct portions of the SRMA and closure time periods will be analyzed during the site specific analysis." We did not find these areas in either the EA or on the maps provided. Where are these areas and what is their relevance to this proposal? Maps and the actual analysis needs to be included in a final EA.

Resource:

BLM Response: These locations are other isolated parcels of BLM managed lands that, when grouped together with Phil's World, comprise the Montezuma Triangle Recreation Management Zone (RMZ) of the Cortez Special Recreation Management Area (SRMA). They are not located within the project area, and are mentioned in the Preliminary EA only because Phil's World is part of the same SRMA. To avoid confusion, this reference has been removed from the final EA.

Comment: On page 3 the EA states "Due to connectivity with the adjacent state land mountain bike trails systems, seasonal closures for wildlife at Phil's World cannot be reasonably be managed and therefore would not be implemented." This statement contradicts RMP Guideline 2.4.5 above and is demonstrably false. Only the southernmost, closest to highway 160, minority portion of the Phil's World trail system is located on State Land.

Resource: Recreation

BLM Response: This statement does not contradict Guideline 2.4.5. Phil's World is one of 4 isolated parcels, along with Chutes-n-Ladders, Summit, and Aqueduct which comprise the Montezuma Triangle Recreation Management Zone (RMZ) of the Cortez Special Recreation Management Area (SRMA). Three of those parcels were slated in the 2015 RMP to have seasonal closures, one parcel (Phil's World) will not be encumbered by seasonal closures. This decision was made in the 2015 RMP and the rationale for that decision is not a part of this analysis.

Comment: The EA subsequently states: "As with all BLM managed roads and trails, temporary emergency closures could be utilized to prevent trail damage due to wet conditions." If the BLM is capable of implementing unplanned and unscheduled emergency closures, it should be capable of administering anticipated and scheduled winter closures. The deception and contradictions found in many of the positions BLM has taken are an embarrassment to the agency.

Resource: Multiple

BLM Response: This reference can be found on page 8 of the EA under Design Criteria #4. It goes on to say "Utilization of these types of closures are not anticipated as use of the existing trail system has been observed to be largely self-limiting during periods of wet conditions (for example, the Ledges Trail loop, which holds snow longer into the spring due to its northern aspect, is generally the last trail to be utilized each spring)." Emergency closures are a tool, but they are not anticipated for use as described above. Unlike the other 3 portions of this Recreation Management Zone (which includes Phil's World, Summit, Aqueduct, and Chutes and Ladders), Phil's World is the only unit where trails originate on State Managed Lands. These state lands do not have a seasonal closure. As such, the RMP opted to not provide for seasonal closures at this (one of 4) parcel within the RMZ.

Comment: Protecting wintering deer and elk is an emphasis for these public lands in the Tres Rios RMP. The BLM NEPA Handbook states that: All actions approved or authorized by the BLM must conform to the existing land use plan". The EA acknowledges negative impacts to wintering big game from the proposed mountain biking trails and also finds that winter

closures "cannot reasonably be managed". The stated professional consensus of BLM staff is that implementing alternatives B through D would degrade winter habitat quality for deer and elk. If the EA is correct on these topics, then the BLM does not have the option to approve alternatives B through D and no further analysis or consideration of the proposal is needed. Please focus BLM's limited resources on activities that are, at a minimum, in compliance with the RMP, and drop consideration of this non-RMP compliant proposal.

Resource: Wildlife

BLM Response: The project area is not identified in the RMP as an emphasis area for the protection of wintering deer and elk. However, the RMP does provide emphasis on these public lands for non-motorized recreation as denoted by management as a Special Recreation Management Area. Disclosing effects to a resource does not necessitate choosing only the No-Action alternative or dropping a project for consideration.

Comment: For the golden eagle, the EA dismisses the warnings related to the effect of human disturbance on nesting golden eagles. The EA ignores BLM's own guidance referenced in Table 1: Application of Desired Conditions, Goals, and Objectives: "Raptor Timing Buffer Zone Distance, Standards, and Guidelines (paraphrased): Structural improvements: New structures, (including trails) must not occur within a 0.5 mile radius of an active nest." It instead attempts to justify minimizing the 1/2 mile buffer by using the RMP's buffer opt out, "Where literature and other evidence shows, exceptions may occur when individuals are adapted to human activity" and claiming "habituation by the eagle". The EA ignores research indicating that golden eagles do not habituate to human presence and disturbance, as some other raptor species do (pp.33-34). The inconvenience of a golden eagle nest within the project area does not justify the BLM's failure to comply with its own RMP requirements. Regarding golden eagle management, Alternatives A and D are the only options that would comply with the Tres Rios RMP.

Resource: Wildlife

BLM Response: The EA does not dismiss warnings. It addresses effects to golden eagles by alternative in sections 3.2.3, 3.3.3, 3.4.3, and 3.5.3.. Additionally, the allowance in the RMP to adjust buffer distances is not an 'opt out'; it is just as much a part of the guidance as the 1/2 mile buffer. Finally, the EA does not ignore research about golden eagle habituation. Section 3.1.3 addresses this topic specifically, acknowledging that 1) golden eagles as a species are not known to habituate as regularly as Bald Eagles, and that 2) for golden eagles, behavior varies by individual.

Comment: The Notice of Availability for this preliminary (as described by the BLM) EA was postmarked on August 27, 2016. The deadline for comments, i.e. "optional reply", was September 15, 2016. The BLM spent more than 18 months preparing this still incomplete document, but allowed only 3 weeks (approximately) for review and comment. Given the length of the EA, acknowledged by the BLM in the Notice of Availability letter ("Due to the length of the Environmental Assessment"), and complexity of the project, the relatively short deadline indicates that the BLM is not serious about receiving substantive public comments. The timing of the process indicates that the BLM is more concerned about being able to state

that they have a completed EA on September 30, the deadline for a substantial grant application tied to this project (see "S" below) rather than preparing a thorough, complete, site-specific EA that takes an honest look at resource impacts.

Resource: N/A

BLM Response: The length of time it takes to prepare an EA and the time it takes to review and comment are not commensurate. Only Colorado Department of Parks and Wildlife requested an extension (as a result of receiving the Preliminary EA a week late due to a missing mailing label). There were no predetermined time frames based on grant applications: No commitments have been made to any person or group in terms of a decision date or a predetermined decision.

Comment: The pre-decisional statements made by BLM management to staff in internal meetings in regards to this project (essentially 'get behind it and get it done') relayed by both current and former employees are reinforced by the quality of the EA with incomplete analysis and numerous contradictory statements, failure to follow BLM NEPA guidance, and rush to seek public comment. The pre-decisional nature of the EA is further substantiated by an online article in the Cortez Journal dated Wednesday, Sept. 14, 2016: "council members voted to authorize Mayor Karen Sheek to sign a letter to Colorado Parks and Wildlife in favor of a trail construction grant for the 27-mile trail expansion at Phil's World...The Southwest Colorado Cycling Association is pursuing the grant, which would be awarded in fall 2017. The expansion is pending final environmental assessment by the BLM, which must be completed by the grant's Sept. 30th deadline." We assume that, because the BLM is the landowner, the grant proposal required a letter of support from the BLM, If that is true it would add documentation to BLM's pre-decisional stance-a clear violation of NEPA.

Resource: N/A

BLM Response: 1) BLM management encouraging staff to finish an EA that was initiated in 2014 is not pre-decisional. 2) The article in the September 14, 2016 Cortez Journal was in reference to the City of Cortez voting to support a trail grant being pursued by the SW Colorado Cycling Association. The statement that an EA must be completed by September 30th did not come from the BLM. The SWCCA submitted a (likely) similar grant in 2016 for which the BLM offered a letter of support, stating, in part: "Tres Rios Field Office is in the process of developing an Environmental Assessment which includes alternatives to the proposed action. Until a decision is signed which is based on the analysis of impacts, the BLM cannot commit at this time to the development of all, or any, of the proposed trails. However, it would be remiss not to support SCCA in their grant application which would allow for the implementation of any approved trails at the conclusion of the Environmental Assessment process. As such, the BLM supports this grant application and will commit \$4,000 in cash match to implementing any trail construction supported by the Environmental Assessment and approved in the Decision Record. There is no set timeframe for this Decision Record, though the completion of the Environmental Assessment is a priority workload for our staff over this winter". The BLM has not been approached for any such letter for this grant cycle to date. As a matter of clarity, the BLM is not the landowner. We manage public lands on behalf of the citizens of the United States.

Comment: In addition, the Notice of Availability did not inform the public of its privacy rights as required (NEPA Handbook). In order to comply with BLM policy, all interested parties who submitted comments should receive the privacy notice required by the BLM NEPA handbook, and be given the opportunity to have their comments discarded. The EA cannot be considered complete until this procedural step has been accomplished.

Resource: N/A

BLM Response: Thank you. This oversight was rectified on September 21, 2016 in just such a manner.

Comment: Although the EA acknowledges the potential for increased traffic, the BLM diverts all responsibility for public safety to Montezuma County and does not analyze concrete measures, as the result of Consultation with the County, for ensuring that impacts resulting from increased use will be addressed (more frequent maintenance of the gravel road surface, the potential (if any) of paving, lower speed limits, bike crossing signs, etc.). There are indirect and cumulative impacts here that must be addressed.

Resource: N/A

BLM Response: Design Criteria # 11 states "11) Action: Road (County) crossings, signage, and access would be coordinated with Montezuma County Road and Bridge.

Responsive to Issue: 1.6.2.5- Recreation

Rationale: While management of County Roads falls to the County rather than the BLM, coordination with the County for development of access points is both necessary and prudent for the safety of all users." Montezuma County Traffic Records and reasonable estimations of increased County Road use were developed for each Action Alternative (Table 6, Table 9, and Table 12). Ultimately, though, management of these roads does fall to the County.

Comment: "If the TRFO lacks the resources to properly administer its existing system of roads and trails (and other resources), it is arbitrary and capricious to undertake the design, construction, and maintenance of two new BLM parking lots and 25+ miles of additional trails, new signage, additional compliance patrols, etc., even if a portion of the costs might be borne by a local volunteer bicycle advocacy group. As you must observe every day, administering volunteers is a time consuming and often costly process. If this complex new project was not carried forward, scarce BLM resources could be set to work implementing travel management actions prescribed in the 2015 Tres Rios RMP for existing roads and trails."

Resource: N/A

BLM Response: The BLM, and all agencies serving a diverse public, face times of tight budgets and staffing challenges. The task of managing resources, staffs, and budgets falls to the line officers based on a myriad of factors. The use of partner organizations and volunteers to assist in the accomplish of agency goals and objectives is an ever increasingly important component of public land management for all aspects of plan implementation.

Commenter: #63

Comment: The 2015 Tres Rios Field Office Resource Management Plan (TFRO RMP) sets an

objective of maintaining effective raptor nesting habitat to sustain populations (Desired Condition 2.3.8). To that end, the RMP outlines Standard 2.3.35 in Table 2.3.2 for Golden eagles. The RMP states that new structures (including trails and parking lots) must not occur within 0.5 mile of an active nest. The 0.5 mile buffer represents the best available science as outlined in TRFO RMP (2015), CPW Raptor Buffer guideline (2008), and the United States Fish and Wildlife Service (USFWS) Utah Guidelines for Raptor Protection from Human Land Use Disturbances (2002).....We are concerned that Alternative B and C would result in trail development within 0.2 mile and 0.4 mile of an active golden eagle nest. Alternative B also includes a parking lot within 0.5 mile of the nest. Physical surface disturbance of this development is of less concern than the human activity associated with trail and parking lot use. BLM trail monitoring data in 2015 recorded 1,000-2,800 trail users per month (February-July) on the existing Phil's World trail network. Assuming a similar use pattern for the new development, the highest recreational use period at Phil's World coincides with the most sensitive time for nesting golden eagles which is from February through June.

Resource: Wildlife

BLM Response: The Preliminary EA considers a range of alternatives for development ranging from the No-Action (Alternative A) to the Proposed Action (Alternative B), with two intermediate levels of development (Alternatives C and D). Impact analysis, including impacts to golden eagles, can be found for the entire range of alternatives at sections 3.2.3, 3.3.3, 3.4.3, and 3.5.3.

Comment: Sections of the EA (pg 18, 33, 34) suggest that it is possible that golden eagles will habituate to new proposed human disturbance (trail and parking lot use) due to the existing anthropogenic features, which include residences, county roads, agricultural lands, etc. within 0.5 miles of the nest. However, past monitoring of the existing nest territory suggests this eagle pair may already be sensitive to new human disturbance as evidenced by the change in nest location in response to residential development (pg. 32). While habituation is possible with slight incremental changes in human activity and development levels, given the anticipated rapid rate of trail/parking lot development, and an anticipated first-year visitation rate of thousands of cyclists every month during the nesting period, it is unlikely that the eagles would adapt.

Resource: Wildlife

BLM Response: Golden eagle habituation is addressed on page 3.1.3 (Habituation to Human Disturbance). Additionally, impacts were addressed assuming that habituation would not occur. Chapter three addresses the potential impacts of the timing and number of individuals expected as a result of the Phil's World Trail Addition Project. For analysis pertaining to impacts associated with high user rates, please see sections 3.2.3, 3.3.3, 3.4.3, and 3.5.3.

Comment: The EA fails to analyze the potential loss of foraging habitat and prey base within the golden eagle nest territory as a result of trail development and use. A decrease in local populations of small mammals, the presence of domestic dogs, and avoidance of otherwise suitable eagle foraging habitat due to human use, constitute potential negative impacts to

nesting golden eagles under Alternatives B, C, and D. The increased human activity in close proximity to the golden eagle nest combined with the loss of suitable foraging habitat could result in a 'take' as defined in the Bald and Golden eagle Protection Act (16 U.S.C. 668-668c.). We recommend contacting USFWS for more guidance on avoiding take.

Resource: Wildlife

BLM Response: The Fish and Wildlife Service was contacted for guidance on golden eagle management. They recommended that we use 1/2 mile buffer around known nests to prevent violation of the Bald and Golden eagle Protection Act with the caveat that they also recognize that some activities that are out of sight of golden eagle nests and perching areas may have less of an impact than activities that are easily visible from the nest and perching sites.

Foraging was not specifically analyzed in the EA because areas that could be potentially impacted by the proposed action are not golden eagle foraging habitat. Areas where trails would be constructed consist largely of Pinon-Juniper woodland and canyon habitats. Golden eagle's prefer areas that are generally more open than pinon-juniper ecosystems.

Additionally, while trail construction would be anticipated to result in an increase of human use of the area (including the presence of domestic dogs), a lack of trail development does not necessarily mean that the project area would equate to a landscape devoid of either humans or domestic dogs. The area currently impacted by a variety of uses including shooting, dumping, hunting, walking (presumably with dogs), etc..

Comment: CPW is likely to incur an increase in agricultural damage liability as big game animals are displaced from public lands and move to nearby farm/ranch fields seeking food and shelter... The EA fails to disclose and does not address the displacement of mule deer from BLM lands to adjacent private lands and the associated increase in agriculture/wildlife conflicts.

Resource: Wildlife

BLM Response: Impact analysis of the 'action alternatives' for wildlife resources (sections 3.3.3, 3.4.3, and 3.5.3) have been adjusted to recognize the potential for displacement onto private lands and subsequent potential for agricultural damage.

Comment: CPW scoping comments outline in detail why seasonal trail closures and enforcement are critical to minimizing functional winter habitat loss from trail development/use and the corresponding impacts to big game. Seasonal winter trail closures are not included or analyzed under any of the Alternatives.

Resource: Wildlife

BLM Response: Alternative C has been adjusted to include a seasonal closure for the portion of Phil's World north of Road L (December 1-April 30).

Comment: The TRFO RMP desired condition of public lands specifies that big game winter range is capable of supporting CPW population objectives, and that these areas will continue to provide sufficient forage and habitat with acceptable levels of disturbance (Desired Condition

2.3.2) (actual reference 2.4.2). Alternatives B, C, and D do not meet this Desired Condition, and do not follow TRFO Guidelines 2.3.60 (actual reference 2.4.14 and 2.4.49), 2.3.61 (actual reference 2.4.50), 2.3.62 (actual reference 2.4.2, 2.4.51, and 2.4.52), 2.3.63 (actual reference 2.4.1 and 2.4.2) with respect to seasonal timing limitations and maintenance of habitat effectiveness for big game (*Note: phone conversation with Brian Magee to cross reference the above citations from USFS Plan to Final Tres Rios RMP and ROD from 2015*). Without seasonal trail closures this project results in additional winter habitat loss that prevents CPW from meeting herd population objectives.

Resource: Wildlife

BLM Response: Alternative C has been adjusted to include and analyze a seasonal closure for the portion of Phil's World north of Road L (December 1-April 30) to determine to what extent seasonal closures would benefit big game. Desired Conditions (such as 2.4.2-which is the Desired Condition for Wildlife, rather than 2.3.2) are broad-scale direction that guide future land management actions and subsequent site-specific implementation decisions (generally referred to as 'goals' in conventional BLM resource management plans). In the context of 'multiple use', Desired Conditions are not expected to be met on every acre of BLM managed lands. Rather, they are landscape level goals. TRFO RMP Guidelines pertaining to seasonal timing limitations (2.4.49 and 2.4.50) provide for seasonal closures across the majority of the parcels in the Durango SRMA (Special Recreation Management Areas) and Cortez SRMA in big game winter concentration areas in severe winter range and winter concentration areas. However, the Phil's World area was specifically excluded from these closures. Additionally, TRFO RMP Figures 2.4.1 and 2.4.2 depict Elk and Deer Severe Winter Range and Winter Concentration Areas. At the time the RMP was signed CPW did not identify areas north of Road L (where the majority of new trails are being considered in the Phil's World Area) as either Winter Concentration Areas or Severe Winter Range.

Commenter: #64

Comment: Because the trails are to be available to mixed uses which includes equestrians it should address that usage up front....On page 10, Item 12 and Photos 2-5 Example Bridge and Boardwalk Structures-any bridge/boardwalk or other such structures to protect sensitive live water and riparian areas should be at least 4 foot wide and constructed to support the safe use by equestrians. If the structure is otherwise constructed there should an at-grade crossing where the equestrians may safely negotiate the obstacle.

Resource: Recreation

BLM Response: Design Criteria #12 in Section 2 of the EA has been adjusted to include edge protection in design of boardwalks (to keep horses from slipping off surface). Due to New Mexico meadow jumping mouse habitat, parallel crossings (boardwalk with adjacent at grade crossing) in riparian areas were not analyzed further.

Comment: The proposed Trailhead access and parking areas throughout the Proposal appear to be too small to allow for the day-parking and maneuvering for equestrians. This must be addressed and adequate area must be provided for the required maneuvering and parking of

horse trailers in addition to other users.

Resource: Recreation

BLM Response: To ensure equestrian use is not un-intentionally excluded, Alternative C has been adjusted to consider a larger Trailhead area of disturbance up to .86 acres at Road M, and a split parking lot at road L (.93 for upper lot, and .71 for the lower lot).