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Submitted via email: jason.gross@usda.gov

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RE: West Mamm Creek Pipeline Project #64353; DOI-BLM-CO-G020-2023-0048-EA

Dear Mr. Fitzwilliams, Mr. Gross, Ms. Colon, and Ms. Bogdanovich:

Please accept these comments on behalf of Colorado Sierra Club, Roaring Fork Audubon and ColoradoWild. We appreciate the opportunity to comment on this project of great public concern.

Sierra Club's mission is "to explore, enjoy, and protect the wild places of the earth; to practice and promote the responsible use of the earth's ecosystems and resources; and to educate and enlist humanity to protect and restore the quality of the natural and human environments. Roaring Fork Audubon's mission is to promote the enjoyment, conservation and understanding of birds, other wildlife and their habitats through birding, education, advocacy and fellowship. ColoradoWild 's mission is to connect science with ethics and advocacy to accomplish the restoration and conservation of Colorado's Wildlife and Wild Lands.

Accordingly, we support Alternative "c" – the least impactful alternative – and *which would not authorize the Proposed Action*. We urge the BLM and USFS to deny pipeline permits within the West Mamm Creek watershed and instead protect High Priority Wildlife Habitat and Wildlife from the negative impacts of pipeline development including direct disturbance to wildlife from mortality, displacement and habitat conversion to industrial facilities, indirect disturbance from habitat fragmentation that inhibits migration and alters ecosystem processes and functions and cumulative effects that ultimately have resulted in climate warming.

Further, we ask that BLM-managed lands in the West Mamm Creek watershed by considered for ACEC designation and that USFS-managed lands be stewarded to protect the numerous forest-sensitive species that occur there.

As conceived, the draft EA (fDOI-BLM-CO-G020-2023-0048-EA) fails to take a meaningful and hard look at the direct, indirect and cumulative impacts to special status plants, wildlife and sensitive habitats upon which these species depend.

We support option "c" the No Action Alternative. However, either if option "a" or "b" are selected then, because there is high potential for significant impacts, an EIS should be prepared.

We contend that there is high potential for significant direct, indirect and cumulative impacts from development of the proposed pipelines to special status plant and wildlife species and to the ecosystems upon which they rely that have not been addressed in draft the EA (#64353; DOI-BLM-CO-G020-2023-0048-EA). We assert that the biological surveys, upon which the analysis of the draft EA was based, are insufficient to determine whether the pipeline project will impact special

status plant and wildlife species and the ecosystems upon which they depend. We also maintain that by neither including an evaluation of edge effects, nor key pipeline-related cumulative impacts the analysis of indirect and impacts was insufficient to adequately analyze the potential for significant impacts.

Further, we contend that because there is high potential for pipeline-related direct, indirect and cumulative impacts to negatively affect special status species and their ecosystems, an EIS is warranted and should be prepared.

Thorough and accurate biological surveys are the foundation of an Environmental Analysis that correctly considers the actual extent and intensity of impacts from proposed developments. Table 1 provides a list of special status species documented to be present in the project area, many of which were not included in the draft EA analysis. Table 1 also includes species that have high potential to occur in the project area but were not included in the analysis - most were not included in the draft EA analysis. Because the EA' analysis does not consider the impacts to several special status species that occur in the project area, the analysis may inaccurately portray the extent of impacts, and the preparation of EIS is thus called for.

1. **INADEQUATE INFORMATION.** BLM' and USFS' draft EA is based on incomplete and thus insufficient biological information with which to make a reasonably informed decision that protects special status species and the ecosystems upon which they depend. As revealed by Roaring Fork Audubon's breeding bird surveys, several special status species bird species breed in the project area. Given the incompleteness of the breeding bird surveys upon which the EA analysis was based, it's reasonable to presume that other surveys that were used too inform the EA' analysis were also insufficient. Table 1 provides a list of plant and animal species that were documented to occur in the project area as well as those that are likely to be present in the project area as well as oil and gas related threats to those species.

    a. **Migratory Birds**. Information provided in Table 4 of the draft EA indicates that a detailed analysis of Migratory Birds and Raptors was <u>not conducted</u>. The reason given for not conducting a detailed analysis is that <u>no special status birds were observed during WestWater's 2023 surveys.</u>

    Conversely, Roaring Fork Audubon conducted breeding bird surveys in the project area in June of 2024. Those surveys documented the presence of several special status bird species including Purple Martin (*Progne subis*), Olive-sided flycatcher (*Contopus cooperi*), Cassin's Finch , Brewer's sparrow (*Spizella breweri*), Broad-tailed Hummingbird, Western Flycatcher, Western Bluebird, Lazuli Bunting, Chipping Sparrow, Mountain Chickadee, Red-naped Sapsucker, Woodhouse's Scrub Jay, Evening Grosbeak, Williamson's Sapsucker, Virginia's Warbler, Plumbeous Vireo, Violet-green Swallow, Green-tailed Towhee (Table 1) and (Appendix 1).

    b. **Special Status Plants**. Table 4 in the draft EA indicates that a detailed analysis of Special Status Plant species was conducted, and that this analysis was based on WestWater surveys. The only special status plant species identified by WestWater in the project area was *Penstemon harringtonii*.

Based on personal expert knowledge of the area, and on information from the Colorado Natural Heritage Program (CNHP) (Spackman et. al. 1997) other special status plant species including *Astragalus debequaeus* and *Physaria vicina*, occur near the pipeline project area in habitat similar to that which also occurs in the project area. Given these factors, these species may also be present in the pipeline project area and with sufficient surveys may be documented to be present in the project area.

c. Wildlife. Special status wildlife species. Table 4 in the draft EA indicates that a detailed analysis of Special Status Wildlife species was conducted and that this analysis was based on WestWater's biological surveys.

Gray Wolf. One of those special status species considered was the gray wolf (*Canis lupus*). Based on these surveys the BLM and Forest Service determined that the Proposed Action "...would not jeopardize the continued existence of the nonessential, experimental 10(j)gray wolf (*Canis lupus*) population in Colorado" and that " on August 26, 2024, the USFWS concurred with the determinations and conclusions.

However, this determination is not based on best available science and does not consider that humans are the primary threat to gray wolf survivability and long-term viability.

With recent additional reintroductions of gray wolves in January of 2025, Colorado now has a total of twenty-nine gray wolves. Population viability analysis instructs that small populations are more vulnerable to loss, and that because the effective (breeding) population of wolves is smaller than the total population, each of these wolves is especially essential to the viability of this nascent wolf population (Maletzke et al. 2016, Merli et al. 2023).

Colorado Parks and Wildlife (CPW) has documented that wolves are present in Garfield County (CPW releases updated collared gray wolf activity map on general areas inhabited by gray wolves in Colorado | Colorado Parks and Wildlife) ensuring their safety and not increasing threat risk is incumbent on Federal agencies.

Human-caused mortality is the primary threat to wolf' survival (CRS 2020). Roads facilitate human invasion and thus poaching. The male of the Copper Creek wolf pack, Colorado's first breeding pair of reintroduced wolves, was illegally killed and the adult female and her four pups were put into captivity to protect them from a similar fate (Colorado Parks and Wildlife announces Copper Creek wolf pack capture operations are complete | Colorado Parks and Wildlife). The roads and increased human presence associated with this proposed pipeline project would directly increase the threat to these wolves from human killing (SWAP 2015).

Midget faded rattlesnake. BLM and the Forest service made a determination in the EA that "due to the high availability of suitable habitat for the midget faded rattlesnake in the region surrounding the project, this Project is unlikely to impact the local population."

However, habitat fragmentation, such as occurring with pipelines, can impair migration in response to climate change. The midget faded rattlesnake is ranked highly vulnerable to Climate Change due in part to habitat fragmentation that can significantly impair

movement, the low to moderate genetic variability of the snake lessening the adaptability of the snake to climate change, and the increase in temperatures projected for the assessed area due to climate change (Siemers et al. 2015).

Additional special status species documented to be present near the project area (CODEX 2025) were not included in the EA' analysis. Further, suitable habitat for these species is present in the project area. These species include Great Basin spadefoot toad (*Spea intermontana*), and Northern leopard frog (*Lithobates pipiens*).

Great Basin Spadefoot toad (*Spea intermontana*). Recent population trends are unknown, a continuing decline in number of mature individuals is inferred and projected (TNC 2024). Although climate vulnerability analysis indicates that spadefoot toads are not vulnerable to climate change their dependence on specific hydrology (ephemeral and permanent water sources) for breeding and the potential disruption of the timing of breeding and larval development may increase vulnerability to climate change; and oil and gas development could impact habitat by fragmenting habitat and increasing barriers to migration (Siemers et al. 2015).

Northern leopard frog (*Lithobates pipiens*). Many populations appear to have declined, especially in the Rocky Mountains of Colorado, Wyoming, and Montana, where the species no longer is extant in most localities where historically it occurred (TNC 2024).

Northern leopard frogs live in the vicinity of springs, slow streams, marshes, bogs, ponds, canals, flood plains, reservoirs, and lakes; usually they are in or near permanent water with rooted aquatic vegetation. In summer, they commonly inhabit wet meadows and fields (TNC 2024).

Climate vulnerability analysis indicates that leopard frogs are moderately vulnerable to climate change; the frog's dependence on specific hydrology for breeding and the potential disruption of the timing of breeding and larval development by climate change; additional vulnerability results from development and habitat fragmentation (Siemers et al. 2015) such as would occur with pipeline development.

d. Key Habitats for Wildlife and Plants in Project Area. As identified in the draft EA, vegetation along the ROW consists of sagebrush shrublands, oakbrush shrublands, mixed mountain shrublands, mixed spruce-fir woodlands, and riparian woodlands along West Mamm Creek. Gambel oak stands and mountain shrub communities dominate the lower elevation areas, which give way to aspen and spruce stands at the higher elevations. Disturbance to these habitats was not analyzed in detail because, according to the EA, "While removal of vegetation would occur within the right-of-way, reclamation of all disturbed areas would be required to BLM/Forest Service standards. As a result, BLM and USFS considers that this disturbance is temporary".

Colorado's Biodiversity Score Card (Rondeau et al. 2011) ranks species and natural communities as either effectively conserved, moderately conserved, weakly conserved or under conserved. Under conserved or weakly conserved species and communities would greatly benefit from conservation action and although the urgency is not as great,

moderately to effectively conserved species and communities would also benefit from conservation action (Rondeau et al. 2011). The scorecard indicates that both Aspen and mixed spruce-fir woodlands are moderately protected. However, both sage and oakbrush shrublands in Colorado are weakly conserved – indicating that they are threatened or not well protected. Recovery in sage ecological systems is slow and, many remaining sagebrush patches are now being fragmented by fast-paced and widespread energy development (Rondeau et al. 2011).

Shrubland communities are not readily or easily restored. Restoration science informs that impacts to sage shrublands from this pipeline development are not temporary, as purported by the EA, and an EIS should be conducted. Further shrubland communities are recognized in the Colorado SWAP (2015) as having high conservation priority. These ecosystems face threats from climate change, invasive species, altered fire regimes, and land-use change including oil and gas infrastructure development and associated disturbance.

Although habitat reclamation after oil and gas development increases the recovery rate for early-successional habitat types (forbs and grasses and perennial grasses) it does not improve recovery rate of late-successional types, particularly big sagebrush and perennial forbs (Rottler et al. 2017). Estimates for the amount of time that it takes for Wyoming big sagebrush to recover naturally from oil and gas development in Wyoming are at least 87 years (Avirmed et al. 2015) although grasses and non-sagebrush shrubs recovered rapidly. However, the forbs that account for the largest portion of plant species richness in semiarid ecosystems and promote consumer diversity showed very little indication of recovery even after 87 years (Avirmed et al. 2015).

Given the extensive length of time that sage shrubland communities take to recover from oil and gas development, their high conservation priority, and due to climate warming impacts of increased drought intensity and/or frequency which is likely to increase the impacts of fire in sagebrush shrublands, as well as play a role in the spread of invasive species (Decker et al. 2015), sage shrublands are threatened and should be protected from development.

Wetland ecosystem' impacts from the proposed pipeline were not adequately considered in the draft EA. Wetland ecosystems in Colorado sustain a high diversity of plant and wildlife species; up to 80% of the wildlife species in Colorado depend on wetlands and riparian areas for some part of their life cycle, but these areas currently occupy only 3% of the land area in the state (CWIC). Wetlands also help sustain water flows in streams and rivers, recharge groundwater supplies, provide temporary storage for flood waters, and slow the flow of water so that impurities settle out of the water supply (CWIC 2025).

Climate change vulnerability analysis for western areas in Colorado ranks riparian areas and shrublands, and their community assemblages, as having high to very high vulnerability to the effects of climate change by mid-century (Decker et al. 2015). Oil and gas production is a potentially significant source of impact to wetland ecosystems (SWAP 2015).

Riparian ecosystems are functionally connected to upstream and downstream ecosystems and are laterally connected to upland and aquatic ecosystems. Alteration to upland landscapes by oil and gas, urban or agricultural development often disconnects upland from riparian and aquatic habitat. Alteration of the riparian zone by activities, such as livestock grazing or urbanization, or oil and gas infrastructure development that disturb riparian community structure and/or species composition may destabilize streambanks, resulting in excessive bank erosion and downcutting thereby disconnecting the stream from its' floodplain and riparian habitat (CWIC 2025) and degrading ecosystem function.

Approximately two miles of the proposed pipeline development would occur adjacent to West Mamm Creek, disconnecting the stream from riparian and stream habitat, potentially resulting in vegetation alteration because of hydrologic alteration and excess streambank erosion and sedimentation. Sediment is one of the primary threats to stream function in the West (McCauley et al. 2000), threatening water quality and impacting plant and wildlife viability from the bottom to the top of the food chain (U.S.EPA 2025).

Table 1. Species of concern that are present or with high potential to be present in the West Mamm creek sub-watershed proposed pipeline project area.). (Table 1 and Apemdix 1).

NATIVE BIRD SPECIES OF CONCERN				
Bird Species	**Special Status Species**	**Documented presence in/near project area**	**Considered in draft EA**	**Oil and Gas related Threats (Colorado SWAP) and Species' impacts.**
Brewer's sparrow	SWAP Tier 2, BLM, USFS, USFWS	**YES**	**NO**	Oil & Gas development, pipelines, and infrastructure (SWAP); Reduced reproductive success due to habitat loss and or disturbance with consequent local population declines.
Broad-tailed hummingbird	USFWS, PIF	**YES**	**NO**	Reduced reproductive success due to habitat loss and or disturbance with consequent local population declines.
Cassin's Finch	USFWS, SWAP Tier 2, PIF (regional stewardship)	**YES**	**NO**	Reduced reproductive success due to habitat loss and or disturbance with consequent local population declines.
Chipping Sparrow	PIF (Common bird in steep decline)	**YES**	**NO**	Reduced reproductive success due to habitat loss and or disturbance with consequent local population declines.
Evening Grosbeak	PIF (Watchlist)	**YES**	**NO**	Reduced reproductive success due to habitat loss and or disturbance with consequent local population declines.
Green-tailed Towhee	PIF (regional stewardship)	**YES**	**NO**	Reduced reproductive success due to habitat loss and or disturbance with consequent local population declines.
Juniper titmouse	SWAP Tier 2, USFWS	**YES**	**NO**	Natural system modification; Altered native vegetation (SWAP); Reduced reproductive success due to habitat loss and or disturbance with consequent local population declines.

Lazuli Bunting	SWAP Tier 2, PIF (regional concern)	**YES**	**NO**	Reduced reproductive success due to habitat loss and or disturbance with consequent local population declines.
Lewis's woodpecker	SWAP Tier 2, USFS, USFWS, PIF,	**YES**	**NO**	Altered native vegetation; Habitat degradation; invasive plants(SWAP); Reduced reproductive success due to habitat loss and or disturbance with consequent local population declines.
Mountain Chickadee	PIF (regional concern)	**YES**	**NO**	Reduced reproductive success due to habitat loss and or disturbance with consequent local population declines.
Olive-sided flycatcher	SWAP Tier 2, USFS, USFWS, PIF	**YES**	**NO**	Altered native vegetation (SWAP); Reduced reproductive success due to habitat loss and or disturbance with consequent local population declines.
Pinyon jay	SWAP Tier 2, USFWS	**YES**	**NO**	Altered native vegetation; Tree removal (SWAP); Reduced reproductive success due to habitat loss and or disturbance with consequent local population declines.
Plumbeous Vireo	PIF(regional stewardship)	**YES**	**NO**	Reduced reproductive success due to habitat loss and or disturbance with consequent local population declines.
Purple Martin	USFS , SWAP Tier 2	**YES**	**NO**	Altered native vegetation (SWAP); Reduced reproductive success due to habitat loss and or disturbance with consequent local population declines.
Red-naped Sapsucker	PIF (regional concern)	**YES**	**NO**	Reduced reproductive success due to habitat loss and or disturbance with consequent local population declines.
Steller's Jay	PIF (regional concern)	**YES**	**NO**	Reduced reproductive success due to habitat loss and or disturbance with consequent local population declines.
Violet-green Swallow	PIF(regional stewardship)	**YES**	**NO**	Reduced reproductive success due to habitat loss and or disturbance with consequent local population declines.
Virginia's warbler	SWAP Tier 2, USFWS, PIF (watchlist)	**YES**	**NO**	Habitat degradation (SWAP); Reduced reproductive success due to habitat loss and or disturbance with consequent local population declines.
Western Bluebird	PIF(Regional Concern)	**YES**	**NO**	Reduced reproductive success due to habitat loss and or disturbance with consequent local population declines.
Western Flycatcher	PIF (regional stewardship)	**YES**	**NO**	Reduced reproductive success due to habitat loss and or disturbance with consequent local population declines.
Williamson's Sapsucker	PIF (reginal concern)	**YES**	**NO**	Reduced reproductive success due to habitat loss and or disturbance with consequent local population declines.

Woodhouse's Scrub Jay	PIF (regional stewardship)	**YES**	**NO**	Reduced reproductive success due to habitat loss and or disturbance with consequent local population declines.
NATIVE PLANT SPECIES OF CONCERN				
Plant Species	**Conservation Rank**	**Documented presence in/near project area**	**Considered in draft EA**	**Oil and Gas related Threats (Colorado SWAP) and Species' impacts.**
Astragalus debequaeus	BLM, SWAP tier 2	**YES**	**NO**	Oil & Gas Drilling; Fragmentation of native habitat due to oil/gas development & associated infrastructure(SWAP);
Penstemon harringtonii	BLM, USFS	**YES**	**YES**	Oil and gas development, livestock grazing and exurban development act as barriers to migration; alteration to the natural fire disturbance regime; pollinator limitations;non-native species invasions; Suitable habitat reduced and reproductive success diminished as this species' range becomes drier
Physaria vicinia	BLM, SWAP Tier 2	**YES**	**NO**	Fragmentation and/or ROW maintenance (SWAP);
NATIVE MAMMAL SPECIES OF CONCERN				
Mammal Species	**Conservation Rank**	**Documented presence in/near project area**	**Considered in draft EA**	**Oil and Gas related Threats (Colorado SWAP) and Species' impacts.**
Gray wolf (*Canis lupus*)	USFS, SWAP Tier 1, ESA listed endangered	**YES**	**YES**	Road Fragmentation; Roads facilitate poaching; additionally human presence, and disturbance from motorized recreation can lead to wildlife avoiding or abandoning habitat. (SWAP P. 73).
NATIVE REPTILE AND AMPHIBIAN SPECIES OF CONCERN				
Species	**Conservation Rank**	**Documented presence in/near project area**	**Considered in draft EA**	**Oil and Gas related Threats (Colorado SWAP) and Species' impacts.**
Midget faded rattlesnake	SWAP Tier 2, BLM	YES	YES	Oil & gas development, pipelines, and infrastructure; Off-road and trail development and use.
Spadefoot Toad	SWAP Tier 2	YES	NO	Fragmentation of habitat (roads, culverts, etc.); impact on quality, impact on ground water availability; sedimentation of ponds; loss of habitat
Northern Leopard Frog	SWAP Tier 1,	YES	NO	Fragmentation of habitat (roads, culverts, etc.); impact on quality, impact on ground water availability; sedimentation of ponds; loss of habitat.
KEY HABITATS FOR WILDLIFE AND PLANTS IN PROJECT AREA				

Habitat	Habitat Priority (SWAP)	Documented presence in/near project area	Considered in draft EA	Oil and Gas related Threats (Colorado SWAP) and Ecosystem' impacts.
Shrublands including sage shrublands	High	YES	NO	Roads, pipeline corridors, and infrastructure result in habitat fragmentation and loss (SWAP).
Riparian and Wetland Habitat	Moderate	YES	NO	Hydrologic alteration (SWAP); disconnection from upland habitat; Riparian and wetland habitats on the west slope are vulnerable to loss and alteration of community assemblage from climate warming.

SWAP = Colorado's 2015 State Wildlife Action Plan; USFWS = U.S. Fish and Wildlife Service Birds of Conservation Concern 2021; CNHP = Colorado Natural Heritage Program tracked species; USFS = U,S. Forest Service sensitive species list; PIF = Partners in Flight database scores.

2. DIRECT, INDIRECT AND CUMULATIVE IMPACTS.

a. Direct, indirect and cumulative impacts were not adequately addressed. The Forest Service is directed by the CEQ regulations and its own NEPA regulations, in considering the potential impacts of the action proposed by TEP, to evaluate direct, indirect and cumulative impacts. The CEQ regulations provide the following definition for cumulative impact: "Cumulative impact" is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

Even if this proposed project were limited to the development of the pipeline, both direct and indirect impacts from this pipeline will contribute cumulatively with impacts from past and present direct, and indirect development actions to exacerbate threats to species' survivability.

Although this pipeline is estimated to directly alter only 44.56 acres, when considered with other oil and gas development in the area, cumulatively the direct and indirect impacts are large and pose a threat to native plant and wildlife species' populations.

The ultimate cumulative impact that results from the myriad of oil and gas development-related alterations which diminish ecosystem processes and functions is our excessively warming climate. Scientific evidence shows that human activities have warmed the earth's surface and that warming is having dramatic consequences to earth's natural systems (NASA 2025). Streams and rivers are drying - and there is growing concern that this trend will only continue as climate change produces warmer and drier conditions (USGS 2025). Seventy-five percent of the Earth's land surface has been significantly altered by human actions, including eighty-five percent of wetland areas. (IPBES 2024).

In Colorado, climate models project increased warming and drought across the proposed project area with annual average temperatures rising by 2.5°F to 5.5°F by 2041-2070 and by 5.5°F to 9.5°F by 2070- 2099 with continued growth in global emissions (A2 emissions scenario), with the greatest increases in the summer and fall (Melillo et al. 2014). Projections based on 17 models (NASA Earth Exchange Downscaled 30 Arc-Second CMIP5 Climate Projections dataset for the conterminous U.S., Thrasher et al. 2013), run under RCP8.5 and RCP4.5 for the 30-year period centered on 2050 indicate that all areas of Colorado will experience some degree of warming, and potentially changes in precipitation as well (Decker). Projected changes indicate average seasonal temperature increases of anywhere from about 3.5-5.8 ⍰F, with mean increases of about 4.1-5.4 ⍰F; Somewhat greater increases are projected under RCP8.5 in comparison with RCP4.5 at mid-century; in all other seasons the greatest increases are projected in maximum temperatures, and the least in minimum temperatures (Decker et al. 2015).

b. The draft EA has not adequately assessed direct, indirect and cumulative impacts to special status plant and wildlife species from the proposed pipeline.

Oil and gas pipelines significantly impact wildlife by fragmenting habitats, disrupting migration patterns for plants and wildlife, causing direct harm through spills or leaks, generating noise pollution, and altering local ecosystem processes and functions, often leading to declines in wildlife populations due to reduced access to food and shelter and increased stress levels (A review of the impact of pipelines and power lines on biodiversity and strategies for mitigation | Biodiversity and Conservation).

Individually and cumulatively degradation, fragmentation, and loss of habitat are major reasons plant species and their habitats are imperiled or vulnerable in Colorado. The primary contributors to habitat degradation for imperiled plants are energy development, motorized recreation, residential development, and road construction and maintenance (CNHP and TNC 2011). Other risk factors include altered hydrologic regime, invasive species, agricultural development, loss of pollinators, incompatible grazing/trampling, and plant collecting (CNHP and TNC 2011). Additionally, there is strong scientific consensus that human-induced climate change is affecting species and ecological systems, and this is likely to exacerbate the effects of other human activities on plants (Enquist and Gori 2008).

c. The draft EA analysis does not address threats from habitat fragmentation to special status species, to native ungulates or to ecosystem processes and functions.

Linear infrastructure such as pipelines and power lines are ubiquitous and responsible for loss of habitats and disruption of landscape connectivity creating a physical and visual barrier to animals, while also changing the structure of local plant communities and affecting plant mortality rates (A review of the impact of pipelines and power lines on biodiversity and strategies for mitigation | Biodiversity and Conservation). Even a single pipeline may substantively threaten plant and wildlife species' survivability by fragmenting and altering habitat. Taken together the cumulative impacts of oil and gas infrastructure development, which includes pipelines, can diminish the survivability of entire populations.

d. The draft EA does not address edge effects. Although the proposed project would directly alter only 44.56 acres of public land, when edge effects are considered, the area of alteration increases greatly. Alteration to natural communities would occur both directly due to pipeline construction-related activities and indirectly due to edge effects,

Habitat fragmentation, such as occurs with pipeline corridors, divides habitats and often changes the microenvironment at the fragment edge. The edges of these fragmented habitats experience altered environmental conditions – edge effects. These edge effects often result in increased light levels, higher daytime temperatures, higher wind speeds, and lower humidity (Laurance 2000). Each of these edge effects can have a significant impact on the vitality and composition of plant and animal species in the interior habitat. Species that are sensitive to humidity such as amphibians, many insects, and herbaceous plants, may be eliminated from the interior; and increased wind, lower humidity, and higher daytime temperatures make fires more likely in habitat fragments (Laurance 2000).

Edge effects have been a dominant driver of fragment dynamics, strongly affecting forest microclimate, tree mortality, carbon storage, fauna, and other aspects of fragment ecology (Laurance et al. 2011). Plant and animal species are often closely adapted to specific environmental conditions, temperature, humidity, light etc., Environmental changes in the edge will often eliminate many species from the edge and alter interspecies interactions.

Changes in abiotic and biotic aspects at edges can extend for dozens or even hundreds of meters toward habitat interiors (Nicholas et al. 2022, Laurance et al. 2002). Pronounced spatial variability arises from local factors () which vary over the length of the proposed pipline and thus calls for detailed analysis during the preparation of an EIS (Laurance et al. 2007).

3. **INADEQUATE MITIGATION MEASURES**. Mitigation measures proposed for those species that were analyzed in the draft EA are inadequate to protect those species and ecosystems.

   a. ***Penstemon harringtonii*** is ranked as Extremely Vulnerable to climate change. This Colorado state-wide rank is based on: predicted precipitation decreases; the presence of high mountain uplifts that present natural barriers, and oil and gas development, livestock grazing and exurban development that act as anthropogenic barriers; limited seed dispersal distance; alteration to the natural fire disturbance regime; and pollinator limitations. Suitable habitat is likely to be reduced and reproductive success diminished as this species' range becomes drier (Handwerk et al. 2015).

   Mitigation measures proposed in the draft EA to minimize impacts to *Penstemon harringtonii* as Conditions of Approval include, "No vegetation clearing or construction would occur within 100 meters of Harrington's beardtongue plants from May 15th to July 15th, encompassing the Harrington's beardtongue flowering season."

   These mitigations do not address the threats to the species and are thus insufficient to mitigate project impacts.

b. **Gray Wolf (*Canis lupus*).** The draft EA states that the "Proposed Action would not jeopardize the continued existence of the nonessential, experimental 10(j)gray wolf (Canis lupus) population in Colorado. On August 26, 2024, the USFWS concurred with the determinations and conclusions".

   This response from the BLM, USFS and USFWS neither takes into consideration the primary threat to wolf survivability, illegal human killing, nor the fragile state of a population that consists of only 29 wolves. A dramatically increased human presence in what is prime wolf habitat would result from this project and would greatly increase the threat to wolf survivability. Given that, as documented by CPW, wolves are present in Garfield County, if this project is approved, mitigation strategies to prevent increased human threat to wolves is essential to protect this endangered species.

c. **Vegetation.** Detailed analysis of vegetation impacts was not undertaken because, as stated in the draft EA " removal of vegetation would occur within the right-of-way, reclamation of all disturbed areas would be required to BLM/Forest Service standards. As a result, this disturbance is considered temporary". However, the time frame for restoration is, as informed by restoration ecology, at minimum several decades () and, alteration to upland ecosystems impacts adjacent riparian ecosystems.

   The lack of analysis and proposed mitigation measures are insufficient to protect ecosystems or their processes and functions. A

We respectfully request that the BLM and USFS deny TEP's West Mamm Creek Pipeline Project permit request. However, if alternative "a" or "b" are selected then an EIS should be prepared that: 1) Adequately and thoroughly conduct surveys that account for the presence of all biological resources that may be present in the project area and in the area that would be impacted by edge effects; 2) Includes an analysis of direct, indirect and cumulative impacts including fragmentation impacts, edge effects and climate change to special status plant and animal species, native ungulates and ecosystem function and processes that may result from the pipeline development; and 3) develop mitigation measures based on best science that protect and conserve special status plant and animal species, native ungulates and ecosystem function and processes from the impacts of habitat alteration, fragmentation, edge effects and climate change.

Respectfully Submitted,

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LITERATURE CITED.

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Appendix. West Mamm Creek Breeding Bird Surveys. 6/1/2024.

American Robin	3
Black-capped Chickadee	7
Black-chinned Hummingbird	17
Black-headed Grosbeak	5
Broad-tailed Hummingbird	35
Brown-headed Cowbird	2
Bushtit	9
Cassin’s Finch	16
Chipping Sparrow	16
Downy Woodpecker	2
Dusky Flycatcher	12
Evening Grosbeak	6
Green-tailed Towhee	4
Green-tailed Towhee	7
House Wren	10
Lincoln’s Sparrow	3
MacGillivray’s Warbler	16
Mountain Bluebird	3
Mourning Dove	1
Northern Flicker	3
Olive-sided Flycatcher	1
Orange-crowned Warbler	26
Pine Siskin	20
Plumbeous Vireo	5
Purple Martin	3
Red-naped Sapsucker	6
Red-tailed Hawk	3
Red-winged Blackbird	10
Ruby-crowned Kinglet	3
Song Sparrow	9
Spotted Towhee	8
Steller’s Jay	5
Tree Swallow	13
Violet-green Swallow	1
Virginia’s Warblers	7
Warbling Vireo	3
Warbling Vireo	8

Western Bluebird	4
Western Flycatcher	6
Western Tanager	2
Western Tanager	3
Western Wood-peewee	2
White-breasted Nuthatch	2
Wild Turkey	1
Williamson’s Sapsucker	2
Woodhouse’s Scrub Jay	3
Yellow Warbler	12
Yellow-rumped Warbler	2