

**Tri-State Montrose-Nucla-Cahone Transmission Line
Improvement Project**

Draft Plan of Development

Montrose, Ouray, San Miguel, and Dolores Counties, Colorado

Appendix B

Biological Protection Plan

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Biological Protection Plan

The objective of this Draft Biological Resources Protection Plan is to detail practices designed to address potential impacts from construction of the Tri-State Montrose-Nucla-Cahone Transmission Improvement Project (Project). Tri-State Generation and Transmission Association (Tri-State) has developed this plan as part of the Plan of Development (POD) that accompanies their application to the Bureau of Land Management (BLM) for a Right of Way (ROW) grant. If the ROW grant is approved, the final POD and all appendices will be attached to the Decision Record. This plan provides guidance to construction and field personnel on measures identified by Tri-State, BLM and US Forest Service (FS) to minimize effects during construction activities associated with the Project. It will be the responsibility of Tri-State and its project contractors, working with designated environmental inspectors, to comply with measures identified in this plan.

Avian Protection Measures

Tri-State has a comprehensive Avian Protection Plan/Program (APP) that addresses avian management on our entire transmission system and substations. Tri-State's APP is not a project-specific document but instead outlines how we manage and reduce avian interactions with our facilities on system wide level. The purpose of the Avian Protection Plan and Program is to proactively work toward protecting avian (i.e., bird) species by minimizing collision and electrocution hazards for birds on its existing electrical facilities and outlines the process for proactively minimizing avian impacts during the routing, construction, and maintenance of new facilities. The program also was created to ensure compliance with federal and state regulatory requirements that protect birds, nests, and related parts.

The program dictates that Tri-State will conduct an avian collision risk assessment once final alignment and engineering is complete for new projects to identify areas with moderate to high collision risk. These areas would be marked with flight diverters during construction. Tri-State's avian program coordinator reviews engineering designs and ensures transmission line clearances are sufficient to minimize electrocution risk to eagles and smaller avian species. The results of this avian collision assessment will be included in this appendix for the Final POD.

There are no bald or golden eagle nests sites within one mile of the transmission line and this project is not part of a renewable energy project. A BLM specific APP for eagles is therefore not required.

For pre-construction survey requirements and specific construction buffers and seasonal restrictions for raptors known to occur in the project area, please see Environmental Protection Measures (EPMs) listed in Table B-1.

Table B-1: Biological Resources Environmental Protection Measures (EPMs)

<i>Biological Resources and Federally Listed Species</i>	
BR-1	Tri-State and its contractor(s) will also restrict construction activities and future major routine maintenance activities in elk production areas on lands administered by the FS from May 15 through June 30 unless previously authorized by agency authorized officer. There are also big game closures on BLM administered lands in accordance with the respective Resource Management Plans. These timing restrictions will be adhered to whenever feasible and a waiver would be required from the agency in coordination with Colorado Parks and Wildlife (CPW) if construction needs to occur in sensitive big game habitats during sensitive time periods.
BR-2	<p>Tri-State and its contractor(s) will incorporate BLM, FS, CPW, and US Fish and Wildlife Service (USFWS) guidelines for raptor protection if construction occurs during the breeding season (Migratory Bird Executive Order 13186, January 10, 2001).</p> <p>Raptor nest surveys will be conducted prior to construction. If an active raptor nest is found within the project area, seasonal buffers and timing restrictions will be determined through coordination with the affected agency and will utilize guidance as outlined in CPW's Recommended Buffer Zones and Seasonal Restrictions for Colorado Raptors (CPW 2008) on private, State, and FS administered lands. Separate guidance will be followed on lands in the BLM Tres Rios Field Office. Buffers will be determined according to species, existing disturbance in the area, and line of sight. If complete avoidance of a buffer is not feasible, a qualified biological monitor could be used to observe the nest during construction activities to ensure the activity does not disturb nesting activities. The biological monitor will have the authority to halt or modify construction if an activity is likely to result in nest abandonment.</p>
BR-3	<p>No bald or golden eagle nests are known to occur within 0.5 mile of any portion of the project. Surveys will be conducted prior to construction to identify any active nest or roost location within 0.5 miles of the transmission ROW and associated access roads. If an active eagle nest found prior to construction, no work will be permitted within 0.5 mile of the active nest from December 15 through July 15.</p> <p>Historically, bald eagle communal roosting site and winter concentration areas have been documented along the San Miguel and Dolores Rivers, Wrights Mesa, Dry Creek Basin, and Disappointment Valley. Activity will be restricted from November 15 through March 15 if an active communal roost is found within 0.5 miles the proposed project activities during pre-construction surveys unless otherwise authorized by the USFWS.</p> <p>If complete avoidance of a nest or roost buffer is not feasible, the USFWS would be contacted to approve a modified buffer or approve use of a qualified biological monitor to observe the nest during construction activities to ensure the activity does not disturb nesting activities. The biological monitor will have the authority to halt or modify construction if an activity is likely to result in nest abandonment. If USFWS determines take may occur, Tri-State would obtain an eagle take permit from the USFWS prior to construction. The same process would apply to future major maintenance activities.</p>
BR-4	Once pre-construction surveys have been completed, the Final POD would be updated to reflect appropriate seasonal restrictions and buffers to ensure construction activities are in compliance with the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. Seasonal avian restrictions would also apply to heavy maintenance activities as defined in the POD.
BR-5	<p>On State owned lands, FS, and private property, if a prairie dog colony is found within the project area prior to construction, and construction is scheduled to occur during the breeding season for burrowing owls (April 1 through September 1), surveys will be conducted using the CPW's approved protocol.</p> <p>If prairie dog colonies occur on BLM lands, burrowing owl surveys will be conducted using protocol from the Tres Rios BLM. If an active nesting burrow is found, it will be buffered 0.25 miles feet from March 15 through August 15 or until the young have fledged and left the net.</p>
BR-6	In order to preclude avian electrocutions and minimize collision risk, Tri-State will incorporate guidelines developed by the Avian Power Line Interaction Committee (APLIC) and USFWS (APLIC 2012) to protect birds on power lines.

<i>Biological Resources and Federally Listed Species</i>	
BR-7	The construction contractor will be required to avoid active burrows whenever feasible within the ROW during project construction to minimize impacts to ground dwelling species.
BR-8	Structure holes will be covered when work is completed each day to prevent entrapment of wildlife.
BR-9	Impacts to wildlife and special status species habitats will be minimized through incorporation of EPMs included under Vegetation and Water Resources.
BR-10	In order to minimize impacts to nesting migratory birds, vegetation removal required for construction and maintenance of the power line will occur to the greatest extent feasible in the fall and winter months. If this is not feasible, Tri-State will conduct nest surveys and flag and avoid any active nests identified.
BR-11	Surveys for sensitive plants will be conducted in suitable habitats prior to construction within previously un-surveyed areas within 100 feet of proposed disturbance. Additionally, sensitive species located in 2014 and 2015 will be re-surveyed to determine plant locations in relationship to proposed project impacts. Tri-State and its contractors will site transmission structures and access roads to avoid BLM/FS sensitive plant species to the greatest extent feasible. Where sensitive plants are located adjacent to the transmission structures or access roads, fencing/ropes/signs would be installed to prevent construction crews from impacting BLM/FS sensitive plants. Management of fugitive construction dust as discussed under water resources and quality will also minimize indirect effects to sensitive plant species.
BR-12	Emergency maintenance activities will be permitted any time of year to ensure electric reliability and to protect the public health and safety. Examples of emergency maintenance activities include wires on the ground, structure repairs required as a result of severe weather incidents and vandalism activities. The affected agencies will be notified as soon as possible, but within 48 hours of the activities occurring and any required reclamation will be completed as soon as possible.

Gunnison Sage-Grouse Conservation Strategy

Tri-State recognizes the importance of conserving Gunnison Sage-Grouse (GuSG) populations in the Dry Creek Basin and has prepared a draft GuSG conservation strategy to accompany the standard EPM's for the Project. This conservation strategy was designed by Tri-State through consultation with Tom Remington, a biologist with knowledge and experience with GuSG in the Dry Creek Basin and former Director of the then Colorado Division of Wildlife for agency review. The purpose of this Conservation Strategy is to minimize impacts to the GuSG and its occupied and critical habitat from construction related and long-term operational impacts of the transmission line and to provide a net conservation benefit to GuSG. This document summarizes the project design and conservation strategy for both action alternatives being carried forward for detailed analysis in the Draft Environmental Assessment (EA). Refer to Table B-2 identifying both action alternatives.

Due to the third party agreement in place for the EA, Tri-State did not have access to the data or the analysis specific to the GuSG in Dry Creek Basin. Therefore, this plan was prepared based upon Tri-State's and Mr. Remington's review of publicly available scientific data, literature review, professional knowledge and experience of sage-grouse and the Dry Creek Basin population of GuSG. It is assumed for purposes of this conservation strategy that the existing transmission right-of-way is not considered in the critical habitat designation because the Federal Register Final Rule Notice designating critical habitat for Gunnison sage-grouse states: "In all other areas, lands covered by buildings, pavement, and other **manmade structures**, as of the effective date of this rule, are not included in this designation, even if they occur inside the boundaries of a critical habitat unit, because such lands lack physical and biological features essential to the conservation of Gunnison sage-grouse, and hence do not constitute critical habitat as defined in section 3(5)(A)(i) of the Act."

Table B-2 outlines the Tri-State's voluntary, committed EPMs to be implemented for areas of occupied GuSG habitat during project construction, operation, and maintenance activities.

Table B-2: EPMs Associated with Both Action Alternatives

Gunnison Sage Grouse Environmental Protection Measures (EPMs)	
GUSG-1	Tri-State will utilize single-pole structures to reduce perching surfaces for GuSG avian predators through Dry Creek Basin.
GUSG-2	Tri-State and its contractor(s) will install perch discouragers on the remaining horizontal portions of the steel structure including the pole tops in Dry Creek Basin.
GUSG-3	Tri-State will utilize self-supporting steel structures in GuSG occupied habitat to reduce GuSG and other avian and wildlife collisions with guy wires.
GUSG-4	The project will comply with the 0.6-mile No Surface Occupancy Buffer for lek sites and there are no access roads proposed within 0.6-mile of an active lek. In addition the project does not occur within 0.6 miles of riparian habitat or documented GuSG concentration areas.
GUSG-5	Tri-State's transmission line and access road construction along the existing alignment will not occur within occupied habitat from March 15 through June 30th.
GUSG-6	Planned heavy maintenance activities by Tri-State's and its contractor(s) including structure replacement, cross arm replacement, and replacement/re-pair of the conductor/fiber optic cable (OPGW) will not occur March 15 through June 30 in GuSG occupied habitat. Light maintenance activities such as annual inspections, hardware tightening, pole testing, and insulator replacement will be permitted year-round. However, during the lekking season, these activities will occur after 10:00 a.m.
GUSG-7	Emergency maintenance activities will be permitted any time of year to ensure electric reliability and to protect the public health and safety. Examples of emergency maintenance activities include wires on the ground and structure repairs required as a result of severe weather incidents and vandalism activities. The affected agencies will be notified within 48 hours of the activities occurring and any required reclamation will be completed as soon as possible.
GUSG-8	Maintenance and construction crews will be required to drive 35 miles per hour (mph) or less on all roads associated with GuSG occupied habitat in Dry Creek Basin (with the exception of SH 141) to minimize vehicle collisions with GuSG.
GUSG-9	An agency approved environmental monitor will be present at all times during construction in GuSG occupied habitat to ensure compliance with any and all environmental protection and mitigation measures identified in the EA and BA. The environmental monitor is given full authority to stop or modify construction activities that may be affecting GuSG and other sensitive resources.
GUSG-10	Construction and maintenance crews will be required to go through formal environmental training prior to the initiation of construction and maintenance activities in GuSG habitat to ensure compliance with all approved EPMs and mitigation measures for the project.
GUSG-11	Any areas disturbed during project construction and future maintenance activities will be reclaimed using an approved weed-free native seed mix beneficial to GuSG, as provided by the affected land management agency/landowner.
GUSG-12	Tri-State and its contractor(s) will treat noxious weeds infestations associated with construction and maintenance activities within the transmission ROW and administrative only access roads to minimize habitat effects impacts to GuSG.

Gunnison Sage Grouse Environmental Protection Measures (EPMs)	
GUSG-13	Tri-State will monitor the condition of the perch discouragers for the life of the transmission line. Tri-State in coordination with BLM and CPW will monitor the efficacy of the perch discouragers installed in occupied habitat for GuSG for five years on the proposed rebuild and three years with an option to conduct two additional years, if warranted, on the reroute., This would include one year of monitoring to evaluate current perching activity on the existing 115-kV line. Tri-State will maintain and repair the perch discouragers for the life of the transmission line.
GUSG-14	A draft GuSG design minimization and conservation strategy has been prepared by Tri-State for the existing alignment through Dry Creek Basin. This draft minimization strategy can be found in the <i>Biological Resources Plan, Appendix B</i> .
GUSG-15	Establish and implement a fire prevention and suppression plan for construction activities. Adhere to seasonal fire restrictions and stipulations which may include: <ul style="list-style-type: none"> • Educate crews how to enforce and practice appropriate fire prevention and suppression actions and behavior. • Minimize idling during construction and routine maintenance activities. • Park vehicles in designated parking or construction areas. Avoid parking over tall, dry vegetation • Implement use of spark arrestors
GUSG-16	Any areas disturbed during project construction and future maintenance activities will be reclaimed using an approved weed-free, native seed mix as provided by the affected land management agency/owner.
GUSG-17	Tri-State will design access and pad sites for structures locations in a manner that minimizes effects to the greatest extent feasible while also allowing for the safe operation of construction of maintenance and construction equipment.
GUSG-18	Tri-State will treat noxious weeds infestations associated with construction and maintenance activities within the transmission ROW and administrative only access roads.

Alternative A (Upgrade in Place)

Tri-State's Committed Engineering Conservation Measures

Tri-State has voluntarily proposed and committed to multiple engineering and design modifications to their proposed action in order to minimize project related effects to GuSG and critical habitat. Tri-State has agreed, regardless of the alternative selected, to utilize single-pole steel structure configurations to minimize avian predator nesting and perching on structures in GUSG critical habitat. Utilizing steel structures relative to the originally proposed H-frame wood structures will reduce the frequency of routine maintenance needed on the line (excluding cases of vandalism), the frequency with which crews would need to access the ROW for major corrective actions, thereby reducing temporary disturbance to GuSG. Replacing H-Frame structures within the existing alignment with steel monopoles with perch discouragers would reduce the number of structures across GuSG critical habitat. Replacing H-frames with fewer and single monopole structure along with the installation of perch discouragers on the pole top and davit arms would result in a beneficial effect to GuSG if raptor predation associated with the existing line is impacting populations in Dry Creek Basin.

In order to offset potential habitat effectiveness effects to GuSG, Alternative A will incorporate the same engineering design features as discussed above in Table B-2 for Tri-State's preferred alternative including construction of single-pole steel structures, use of perch deterrents on all horizontal surfaces as well as the

pole top, and elimination of guy wires/use of self-supporting structures. Replacing H-Frame structures within the existing alignment with steel monopoles with perch discouragers would reduce the number of structures across GuSG critical habitat from **73 to approximately 50**. Replacing H-frames with fewer and single monopole structure along with the installation of perch discouragers on the pole top and davit arms will result in a beneficial effect to GuSG relative to the environmental baseline.

Alternative A would be approximately 7.6 miles in length. Tri-State has committed to changing our standard wood H-frame design to a single, self-supporting steel structure. The cost of wood pole construction on the existing alignment alternative is approximately \$3,864,600.00 (\$508,500.00/mile). The cost to change to a single pole steel structure on the existing alignment is \$5,959,920.00 (\$784,200.00/mile). This results in commitment of approximately \$2,095,320 in design features to mitigate grouse impacts. Tri-State has also committed an additional \$120,000.00 (\$40,000.00 /structure) to eliminate guy wires on three turning structures (also known as P.I.s) to make the poles “self-supporting”. Removing guy wires may reduce risk of GuSG and other collisions and the overall footprint of the structure itself. Similar to Alternative C, the remaining horizontal surfaces on the davit arm configuration and the pole top will be fitted with perch discouragers as shown in the attached figure. The perch discouragers will be inspected annually and damaged or missing discouragers will be replaced as soon as maintenance can obtain a clearance on the line (required to safely conduct maintenance on an energized line). Tri-State has committed approximately \$150,000.00 towards perch discourager design, requisition, and installation. Constructing self-supporting structures would result in an increased cost of approximately \$120,000.00 (\$40,000.00 per structure).

The proposed action, Alternative A, is expected to result in disturbance to approximately 7.27 acres of direct disturbance to GuSG occupied habitat (5.1 acres of critical habitat). This direct disturbance would occur in an existing authorized utility corridor and therefore the temporary impacts would be minimized through incorporation of EPMs listed in Table B-2.

Tri-State has proposed these design elements as incorporated into Alternative A to minimize potential avoidance and predation effects and result in a beneficial impact to GuSG in Dry Creek Basin. This project would replace the existing 115-kV line with a 230-kV line which would provide a direct and indirect beneficial effect to the grouse relative to existing conditions (the environmental baseline) by: reducing the number of structures currently on the landscape from 73 to 50 (reduces avoidance related effects as well as perching surfaces for corvids); installation of a structure type that minimizes perching surfaces to the greatest extent practical while maintaining safety clearances (minimizes potential corvid predation); installing perch discouragers to reduce the duration of corvids perching on structures; utilizing an existing electric ROW and an existing access road network (keeps impacts confined to an existing corridor and reduces impacts to critical and occupied habitat by 17% (1.3 miles) relative to Alternative C). Tri-State believes these committed design elements mitigate the potential existing affects associated with rebuilding the transmission line in place.

Given these design elements and the total cost (**approximately \$2,365,320**) of Tri-State’s proposed voluntary design features and environmental protection measures to minimize project related effects to habitat, avoidance and corvid perching related effects to GuSG for this alternative, Tri-State proposes no additional compensatory mitigation under Alternative A.

Conservation Strategy for Alternative A

No compensatory mitigation is proposed for this alternative; rather Tri-State is proposing to support a voluntary collaborative conservation strategy that will result in long-term beneficial effects to the GuSG Dry Creek Basin population. The agency biologists have been clear that the transmission line is not the primary source of direct and indirect effects to the GuSG in Dry Creek Basin. The problem is described as one of “death by many cuts” both man-made and environmental factors. In order to address long-term recovery goals, a collaborative effort between federal, state, county, and local entities and local industry is required. This proposed voluntary conservation strategy would encourage a collaborative effort to address GuSG survival in Dry Creek Basin and target those measures in a way that provides the greatest benefit to the GuSG.

Table B-3 below incorporates the various projects that may be implemented pending USFWS, BLM, San Miguel County, and CPW review. Tri-State proposes contributing \$200,000 to the San Miguel Gunnison Sage-Grouse Working Group to be used to complete habitat restoration, protection, or conservation projects that could entail one or more of the following approaches:

- Pinyon-Juniper Removal within critical habitat in areas with early stage (Phase I) pinyon-juniper communities mirroring the successful Dry Wild project that CPW conducted prior to relocating grouse from the Gunnison Basin.
- Contract with a restoration ecologist with extensive expertise in restoring grass and forb communities in arid sagebrush rangelands. This firm would visit past and current attempts by CPW and the working group to enhance habitats, many of which apparently have not been as successful as hoped, and suggest improvements to techniques that could be used to improve success. This firm could also be asked to use this information, tap local knowledge on potential habitat improvement opportunities, and their expertise to prepare a Conservation/Habitat Improvement Strategy for GuSG habitats in the Dry Creek Basin. The funds could be used for the preparation of the plan and part of the first phase of the implementation.
- If the restoration ecologist in coordination with GuSG biologists determines water development/enhancement projects within habitat for the San Miguel Basin population (which includes both the Dry Creek and Miramonte populations) may have a measurable and beneficial effect on GuSG, these types of project could also be partially funded as part of this conservation strategy. These projects may include partial funding towards the installation of Zeedyk check dams, Zuni bowls, plug and spread methods, and channel shaping. These types of projects would contribute to a larger more comprehensive conservation strategy that would include numerous partners in the Dry Creek Basin.
- Conduct habitat improvement projects such as mowing, inter-seeding, or water developments on the Dan Noble State Wildlife Area in the Miramonte sub-population where success is more likely.
- Past relocations to this point have not seemed to reverse declining population trends within the basin, and it is possible that moving a larger group of birds at one time could result in better survival and recruitment rates of GuSG and use of novel habitats. Another potential conservation strategy therefore, is providing funding to CPW to capture and collar 30-50 grouse in the Gunnison Basin and relocate them to Dry Creek Basin.

- If requested by CPW, provide additional funding to monitor and track GuSG movements in Dry Creek Basin.
- Contribute towards land acquisition/conservation easements in quality GuSG habitat within the larger San Miguel population in proximity to Miramonte, Gurley Reservoir, Cone Reservoir, or other areas as determined in coordination with CPW and San Miguel County.
- Inter-seeding, mowing, or other habitat efforts within Dry Creek Basin designed to enhance understories where needed (recognizing these efforts have had limited success in the past and likely would need refinement to enhance success).
- Fence Removal or fence marking.
- Decommissioning of U29 Road.

Table B-3: Tri-State MNC 230kV Improvement Project- Voluntary Conservation Measure Alternatives Summary for Tri-State’s Proposed Alternative (Re-build in Place) within GuSG Occupied Habitat in Dry Creek Basin

	Potential Effect	Conservation Alternative	Conservation Benefit	Description
1	Fragmentation, drought, poor habitat quality	Habitat Enhancement	Increased survival and habitat availability in Dry Creek Basin	Tri-State would contribute funds towards hiring of a restoration ecologist that specializes in arid environments to analyze and prepare a conservation strategy for improving habitat throughout Dry Creek Basin. The funding could also supplement a portion of the cost of the first year of implementation.
2	Limited Population Size and Survivability	Capture, Collar and Relocation of GuSG from the Gunnison Basin to Dry Creek Basin	Increased Survival and Genetic Variability	Tri-State would commit dollars to support the capture, collar and re-location of up to 50 grouse to Dry Creek Basin to augment the existing population and potentially increase the survivability and genetic variability in the existing population.
3	Fragmentation; Direct and indirect impacts to Critical Habitat (CH)	Habitat enhancement: Weed Management	Weed monitoring and management to improve overall habitat for GuSG (above location options apply)	Prior to pinyon-juniper (P/J) removal and mastication, Tri-State will treat noxious weeds in the treatment area to prevent spread and propagation of noxious weeds which would affect the success of grass and forb restoration after P/J removal. Tri-State will commit funding for three years to manage noxious weeds within the treatment area(s)
4	Human Disturbance	Decommission U29 Road	Reduces fragmentation and potential collision risk with vehicles	Work with local jurisdictions and operators to close and decommission U29 road

	Potential Effect	Conservation Alternative	Conservation Benefit	Description
5	Fragmentation; Direct and indirect impacts to CH	Expand State Wildlife Area (SWA)	Increase critical habitat protected in perpetuity	May provide additional funding to CPW for long-term management of land
6	Fragmentation; Direct and indirect impacts to CH	Land Acquisition	Protection of habitat	Contribute funding towards land acquisition and place under conservation easement or other protection, within CH, within Dry Creek Basin or the Miramonte portion of the San Miguel GuSG population
7	Fragmentation; Direct and indirect impacts to CH	Habitat enhancement: P/J removal/mastication within CH, within Dry Creek Basin or within the Miramonte portion of the population.	Improve forage and habitat sustainability and extent	Target areas with Phase I young P/J communities for better success with natural understory reclamation. The first entry would be completed within one year of the final agency and local agency approvals.
8	Fragmentation; Direct and indirect impacts to CH	Habitat enhancement: Water sources (<i>above location options apply</i>)	Increased brood-rearing habitat which would have a direct benefit to production and chick survival	Provide funding for water enhancements

Alternative- C (Re-Route in Dry Creek Basin)

Tri-State's Committed Engineering and Design Conservation Measures:

The same engineering features to be implemented for Tri-State's proposed alternative would also apply to Alternative C. Alternative C would result in a re-route to State Highway 141 which would require an additional 1.3 miles of transmission line (8.9 total miles) and associated self-supporting steel structures relative to the existing alignment which is 7.6 miles. The additional length would add approximately \$1,019,460 to the \$2,095,320 that would be required for steel structures on the existing alignment. Alternative C would require 7 more structures (57 total) in critical habitat relative to Alternative A

The perch discouragers will be inspected annually and damaged or missing discouragers will be replaced as soon as maintenance can obtain a clearance on the line (required to safely conduct maintenance on an energized line). Perch discourager design, requisition, and installation are expected to cost \$150,000.

Tri-State will also eliminate guy wires on four turning structures (also known as Points of Intersection or PIs) to make the poles "self-supporting". Removing the guy wires reduces risk of GuSG collisions. The structures will be built to be self-supporting which will result in an increase cost of approximately \$160,000 (\$40,000 per structure).

The total cost of Tri-State's proposed voluntary design features to minimize project related effects to GuSG from Alternative C is approximately **\$3.4 million**.

Environmental and Habitat Considerations:

The proposed action, Alternative C, is expected to result in disturbance to approximately 22.7 acres of direct disturbance to GuSG occupied habitat (19.7 acres of critical habitat). This direct disturbance would occur in a new utility corridor and temporary impacts would be minimized through incorporation of EPMs listed in Table BR-2.

Once the new line has been constructed, Tri-State will remove the existing transmission line that runs through critical habitat in Dry Creek Basin and re-route the alignment to parallel S.H. 141 to consolidate linear disturbances within critical habitat. Re-seeding/reclamation may be required where the existing access road parallels the right-of-way and to address any ground disturbance that may occur during the removal of the existing line and structures. Tri-State would work with the agencies to determine if poles should be removed entirely or cut at the base, several inches below the ground. Post-construction, Tri-State would review the ROW conditions with the affected agencies and reclaim any additional areas associated with the removal as required.

Tri-State would design access and pad sites for structures locations in a manner that minimizes impacts to the greatest extent feasible while also allowing for the safe operation of construction and maintenance equipment. This would include use of existing access roads to the greatest extent feasible. Paralleling the highway would consolidate both the transmission line ROW and associated access (primarily down-line) within an existing linear disturbance.

Direct disturbance includes any direct loss or impacts to GuSG habitat. For the purposes of this project, it was calculated by multiplying the number of proposed structures times the area of proposed structure footprints (work zone included). The majority of the Alternative C alignment would utilize down-line, overland access within the 150 foot right-of-way. Minimal direct disturbance may occur in areas where banks would need to be pulled back to cross drainages. Only one structure would require a pad site at the southern end of the alignment in Dry Creek Basin and would require cuts and fill to get equipment safely to the structure.

Conservation Strategy Proposal for Alternative C

Tri-State is not proposing a conservation strategy beyond the re-route and engineering considerations for Alternative C because of the design and engineering commitments discussed above and because the line in this alternative would require a re-route and an additional 1.3 miles of new construction to S.H. 141 in order to consolidate linear ROWs in the Dry Creek Basin. In previous conversations with CPW, BLM, and USFWS, the agencies have indicated that incorporating design features as discussed above and moving the alignment adjacent to S.H. 141 would result in a long-term net benefit to GuSG.

Tri-State would partner with BLM and CPW to monitor the effectiveness of the perch discouragers in Dry Creek Basin for three years. Monitoring funds could also be used to support ongoing annual surveys in the Dry Creek Basin.

References

Avian Power Line Protection Committee. (2012). Reducing Avian Collisions with Power Lines, The State of the Art in 2102. *Edison Electric Institute and Avian Power Line Protection Committee*.

Colorado Parks and Wildlife. (2008). Recommended buffer zones and seasonal restrictions for Colorado Raptors. Denver: Colorado Parks and Wildlife.

Federal Register. (2001, January 10). Migratory Bird Executive Order 13186.