

**Pilot Project Statement of Work**  
**Crucial Wildlife Habitats and Corridors Decision Support System**  
**for the Colorado-New Mexico Border Region**

**Pilot Title:** Crucial Wildlife Habitats and Corridors Decision Support System for the Colorado-New Mexico Border Region.

**Project Objective:** The region along the shared Colorado-New Mexico border, the focal area of this decision support system pilot project, has been identified by both states in their respective wildlife actions plans as having a high degree of both ecological and biological diversity. Both states' respective wildlife action plans identify key terrestrial habitats within these ecoregions warranting protection from further fragmentation and loss. Many important key aquatic habitats within this border region have also been identified. A high degree of species diversity is associated with the habitat diversity of this region, including a number of species of greatest conservation need (SGCN). Important elevational and latitudinal big game migration corridors, primarily for mule deer and elk, occur throughout the area and link both partner states ecologically. An abundance of mule deer, elk, pronghorn antelope, black bear and turkey provide for high quality hunting opportunities, and high-quality fishing and other wildlife-associated recreation opportunities make this region a high priority for habitat protection for both states due in large part to the significant economic benefit realized by the local communities. This region is also highly valued for its aesthetic natural beauty as evidenced by the increasing rate of development for summer and retirement homes. The area is also known for its wealth of both developed and potential renewable and non-renewable energy.

The Colorado Division of Wildlife and New Mexico Department of Game and Fish (Partners) will 1) standardize interpretations of "crucial habitat and important wildlife corridors" definitions based on Partner's respective existing wildlife distribution and migration corridor data; 2) jointly identify and prioritize crucial habitat and important wildlife corridors in the Colorado-New Mexico border region based on these interpretations for a suite of wildlife species, including, but not limited to "elk, deer, pronghorn antelope and bighorn sheep, and as identified by the two states, other key species of wildlife that migrate across the shared border..." (as directed by the December 2009 Colorado and New Mexico Governors' Memorandum of Understanding); 3) identify data gaps and fill those gaps to the extent that resources to do so are available and when such information will contribute to the project objectives; 4) evaluate threats to crucial habitat and important wildlife corridors from future renewable and non-renewable energy development and transmission, transportation, climate change and other threats as determined; 5) integrate other partners such as federal agencies, Jicarilla Apache, Southern Ute and Ute Mountain Tribes, local governments, non-governmental organizations, and interested members of the public; 6) identify desired future conditions for crucial wildlife habitat and important corridors; 7) identify areas where energy development and transmission corridors can be sited to avoid impacting

crucial habitats and corridors; 8) evaluate climate change-related threats guide the development of strategies to aid the management of crucial wildlife habitat and important migration corridors shared by New Mexico and Colorado. Ultimately, the pilot will lead to the development of a web-based, spatially-explicit decision support system presenting information at a scale supported by the available data, to be used to identify crucial wildlife habitats and important wildlife corridors and inform management decisions that have the potential to impact those habitats and corridors.

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**Secondary State Partners:** None.

**Project Description:**

Energy Nexus: The Colorado-New Mexico border region has historically experienced, and continues to experience at an increasing rate, effects to wildlife, crucial habitats and important wildlife corridors from non-renewable energy development (i.e., oil, natural gas and coal-bed methane). Within these heavily industrialized areas, rates of habitat fragmentation, habitat loss and disturbance are high due to the density of well pads, pipelines, access roads and associated traffic. Non-renewable energy development activity has been increasing in the Colorado-New Mexico border region in recent years due to increased prices for fossil fuels. Well densities (and associated road densities) within the San Juan Basin (both sides of the border) have increased with the upsurge in exploration and production. An important emerging challenge to managing crucial wildlife habitat and important wildlife corridors is the anticipated development of renewable wind and solar energy facilities within the Colorado-New Mexico border region, particularly in the Alamosa Valley and northeastern New Mexico and south-eastern Colorado, where wind and solar potential are high. The placement of new transmission corridors for both renewable and non-renewable energy could further fragment crucial wildlife habitat and important wildlife corridors within the Colorado-New Mexico border region.

Other challenges to crucial wildlife habitats and important wildlife corridors include the expansion of sub-divisions and ranchettes, transportation issues (i.e., barrier effect from existing highways and highway improvements such as wall barriers, and increasing frequencies of wildlife- vehicle collisions as a result of increased traffic volumes), increasing off-road vehicle use and other forms of recreation, and climate change. The development of the Colorado-New Mexico Border Region Decision Support System will allow the Colorado Division of Wildlife and New Mexico Department of Game and Fish, partner federal agencies, tribes, NGOs, energy and land development advocates, counties, and the general public to make informed recommendations and decisions regarding the future placement of these developments to protect crucial wildlife habitats and important corridors from additional habitat fragmentation and loss.

DSS Advancement: The Colorado-New Mexico Border Region Decision Support System development process will follow the three steps outlined in the 10 February 2010 draft of the Western Governors' Wildlife Council white paper *Western Regional Wildlife Decision Support System: Definitions and Guidance for State Systems*. The Partners will compile Tier 1 data, including 1) distribution data for species of economic and recreational importance and Species of Greatest Conservation Need (SGCN), as identified in each state's respective wildlife action plan; 2) focal species reproduction areas, winter concentration areas and other important seasonal habitats; 3) migratory and dispersal corridors for focal species, including riparian and lotic aquatic habitats; and 4) key tracts of relatively unfragmented habitats; and Tier 2 data, including but not necessarily limited to lands with high wildlife/biodiversity

conservation values identified in ecoregional assessments conducted by conservation organizations such as The Nature Conservancy. An equally important effort will be made to incorporate into the DSS geo-spatial data identifying ongoing non-renewable and renewable energy development and transmission activities, roads and highways, areas of expanding housing and recreational development, and to the extent possible, model future development scenarios for renewable and non-renewable energy development and transmission, housing and recreational development, and other threats as appropriate (e.g., climate change). Step 2 will include ranking and prioritization of these data to determine crucial wildlife habitats and important wildlife corridors, and assign a threat ranking based on an overlay of ongoing and proposed future energy, transmission, and other development. As part of Step 2, desired future condition of areas identified as crucial wildlife habitats and important wildlife corridors will be determined. Appropriate federal agencies and interested members of the public will be invited to participate during this process. The final DSS geographical information system product will be web-based to enable multiple jurisdictions making land-use decisions to plan and evaluate activities to minimize negative impacts to crucial wildlife habitats and important wildlife corridors. Cooperation and coordination with federal agencies and interested publics, process transparency, and compatibility of the DSS regionally will be emphasized throughout the 2-year process. The final Colorado-New Mexico Border Region DSS product will facilitate the development of respective state-wide DSS products for Colorado and New Mexico as requested by the Western Governors' Association.

Federal Agency Coordination: Colorado-New Mexico pilot project Partners have conducted two preliminary meetings for planning future DSS development. Rio Grande National Forest (Colorado) staff attended the second meeting. Partners anticipate conducting a series of meetings with federal agencies, including, but not necessarily limited to Rio Grande and Carson National Forests, Colorado and New Mexico field offices of the Bureau of Land Management, U.S. Fish and Wildlife Service, and the Natural Resources Conservation Service. Other potential federal agencies involved include the National Park Service and Bureau of Indian Affairs.

Stakeholder Involvement: Colorado-New Mexico pilot project Partners anticipate conducting a series of meeting to invite stakeholders, including Jicarilla Apache, Southern Ute and Mountain Ute Tribes, local jurisdictions and potentially interested state agencies, non-governmental organizations and interested industry groups, and interested private landowners and other members of the public, to participate in the process of identifying crucial wildlife habitats and important wildlife corridors. Levels of involvement by interested stakeholders will likely be varied, but efforts will be made to accommodate any level of involvement desired, and communication with stakeholders throughout the process will be maintained by email list-servs and websites updates to ensure that all participants

ultimately are empowered to use the DSS for land-use planning and decision-making. Emphasis by the Partners will be placed on transparency and inclusiveness, using a consensus-building process to identify key areas recommended for protection of crucial wildlife habitats and corridors.

Connectivity: Maintaining habitat connectivity and minimizing additional habitat fragmentation of identified crucial wildlife habitats and important wildlife corridors within the Colorado-New Mexico border region is a primary goal of the development of this DSS. Colorado has, through a partnership of NGOs, academia and state agencies, developed a statewide linkage assessment using GIS to analyze wildlife habitat permeability for a suite of species relative to topography and barriers such as highways. As this Pilot Project proceeds, consideration will be given to the need to conduct a similar analysis for the Colorado-New Mexico border region. Other contributors/partners who have expertise and relevant information to bring to the project will be sought.

*Will the Pilot address multiple species?* Based on 2 initial meetings between Partners, elk, mule deer, Rocky Mountain bighorn sheep and pronghorn antelope have been identified as focal species. Other species being considered for inclusion include Rio Grande cutthroat trout, other endemic fish species and at-risk migratory avian species. Other SGCN and game species will likely be included to the extent that data are available. There are 22 Tier 1 and 9 Tier 2 SGCN common to the New Mexico-Colorado state border.

*Do any partner states plan to integrate pilot work with any state SWAPs or otherwise address a problem that can be generalized for SWAP application?* Both Partner state SWAPs address the need to protect habitat connectivity and minimize habitat fragmentation through protection and restoration of important wildlife habitat and corridors, particularly on public lands. Development of the Colorado-New Mexico Border Region DSS will create the opportunity for enhanced protection of habitat connectivity and mitigate for additional habitat fragmentation within identified crucial wildlife habitat and important corridors along the Colorado-New Mexico border region, and will facilitate the development of respective state-wide DSSs for Colorado and New Mexico. Also, continued funding of State Wildlife Grants requires that state wildlife agencies, through their individual SWAPs, commit to monitoring conservation activities across key habitats identified in each SWAP. In implementing the State Wildlife and Tribal Grants Act, Congress identified 8 elements that state wildlife agencies are required to implement to continue to receive funding through the State Wildlife Grants Program. Element 5 directs state wildlife agencies to develop monitoring plans for SGCN and key habitats that will determine the effectiveness of conservation actions (e.g., habitat restoration), and to develop tools to assist in adapting monitoring programs and

conservation actions to respond appropriately to new information or changing conditions. Development of the Colorado-New Mexico Border Region DSS and subsequent respective state-wide DSSs will clearly be a major step toward meeting these goals as outlined in the respective Partner state SWAPs.

*Would states require or desire additional support for connectivity integration in the project (e.g., expert consulting/advising, technical assistance such as GIS modeling, technical assistance in use of specific tools (e.g., Circuitscape), climate change expertise, etc.? Yes.*

*Would states require additional funding directly to your project to add/enhance a connectivity component, and if so, approximately how much?* The partners anticipate building a connectivity feature during the later stages of the project. Funding requirements for this purpose will become clearer after the base system is developed, however, additional funding may be necessary to fully integrate a connectivity component.

*Would you be interested and willing to work with the team assembled by NaturServ for their connectivity initiative?* This would involve acting as a test bed for certain approaches and recommendations and providing feedback during your project that could contribute to development of best practices for integrating connectivity into SWAPs. Yes.

Climate Change: Focal species that will be analyzed during the development of the Colorado-New Mexico Border Region DSS have elevational and latitudinal components of migration, including north-south movements across the interstate border. By protecting crucial wildlife habitats and important wildlife corridors that facilitate north-south movement of focal species from additional habitat fragmentation and loss, these key habitats will be available to accommodate northward (and elevational) movement of species distributions as a result of predicted changing climatic regimes.

**Deliverables:** In addition to the final pilot assessment report due to the WGA at the end of the 24-month period, and the referenced updated DSS work plan, which will be emphasized once final pilot project approval is received, the Colorado-New Mexico Border Region Partners anticipate having a web-based tool available to stakeholders for land management planning and decision-making by the end of the 2-year period.

**Outcomes:** Colorado-New Mexico Border Region Partners anticipate, at the end of the 2-year pilot project, to have an easily accessible and readily useable (by stakeholders), geo-spatially accurate and scale-appropriate web-based decision support system tool for land management and

energy development planning that will enhance the ability to maintain crucial habitats and important wildlife corridors and minimize further habitat fragmentation. The process conducted by the Partners to develop this DSS will have included many federal and state agencies, Tribal interests, private landowners, non-governmental organizations, industry interests and members of the public in an open and transparent consensus-building process to identify crucial wildlife habitats and important corridors across the Colorado-New Mexico border region. This process will create a template for Colorado and New Mexico to develop respective individual state-wide decision support systems as anticipated by the Western Governors' Association Wildlife Corridor Initiative.

**Constraints:** None identified to begin developing the DSS and stakeholder involvement process. Additional funding for technical assistance may be needed as the process progresses and limitations of Partners staffing and capacities are identified.

**Assumptions:** None identified.

**Contracting:** Colorado Division of Wildlife will be the contracting entity.

**Reporting:** The Partners will comply with DOE's ARRA reporting requirements. Further, the Partners will provide reports, verbal or written, as requested by the WGA.

**Budget:** The Partners anticipate contributing significant human and fiscal resources to the project. Salaries, benefits and other associated administrative costs will be absorbed by the Partners. Additionally, the Partners have already invested substantial time and money into planning and developing data inputs for the project.

For additional budget detail, see attached.