

U.S. Department of the Interior
Bureau of Land Management
Colorado River Valley Field Office
2300 River Frontage Road
Silt, Colorado 81652

ENVIRONMENTAL ASSESSMENT

NUMBER

DOI-BLM-CO-N040-2012-0034-EA

PROJECT NAME

Programmatic Environmental Assessment of Proposed Wildlife Habitat Mitigation Plan for Oil and Gas Exploration and Development

LOCATION

Colorado River Valley Field Office (CRVFO), Oil and Gas High Potential Area (Figure 1).

PURPOSE AND NEED FOR THE ACTION

This Environmental Assessment (EA) has been prepared to analyze and disclose the environmental consequences of implementing a programmatic Wildlife Habitat Mitigation (WHM) Plan proposed by the CRVFO, Energy Pilot Program, for use in conjunction with oil and gas exploration and development. The EA tiers to the *Glenwood Springs Resource Area Oil & Gas Leasing & Development Final Supplemental Environmental Impact Statement* (FSEIS) (BLM 1999), which analyzes the impacts of oil and gas development on BLM-administered lands within the CRVFO area, previously known as the GSRA. In addition, this EA incorporates by reference the *Vegetation Treatments on BLM Lands in 17 Western States Programmatic Environmental Report* (PER) (BLM 2007), which evaluates the general effects of non-herbicide treatments (i.e., biological, physical, cultural, and prescribed fire) on public lands, and the *Glenwood Springs Field Office Integrated Weed Management Plan and Programmatic Environmental Assessment* (DOI-BLM-CO-N040-0078-EA) (BLM 2009), which analyzes use of herbicides and other weed treatments on BLM lands within the CRVFO area.

The 1999 FSEIS analyzes impacts to the natural and human environment, including wildlife, associated with oil and gas development and identifies appropriate best management practices (BMPs), standard operating procedures (SOPs), mitigation measures, and conservation measures for avoiding, minimizing, or offsetting adverse impacts. It also specifies circumstances when wildlife mitigation measures would be required by the BLM, although wildlife mitigation may also be required whenever deemed necessary to ensure that proposed projects would not have significant adverse impacts on big game or other species.

Pursuant to the 1999 FSEIS, the BLM often requires habitat (vegetation) treatments as mitigation for unavoidable adverse impacts to wildlife from oil and gas exploration and development—include impacts associated with habitat loss, modification, or fragmentation as well as year-round drilling or other special circumstances. Requests for year-round drilling have become increasingly common for development of Federal oil and gas resources within the CRVFO as a result of recent advances in drilling technology. These advances, consisting primarily of extensive use of directional drilling to access more downhole targets from a single well pad, have reduced substantially the amount of surface disturbance on an

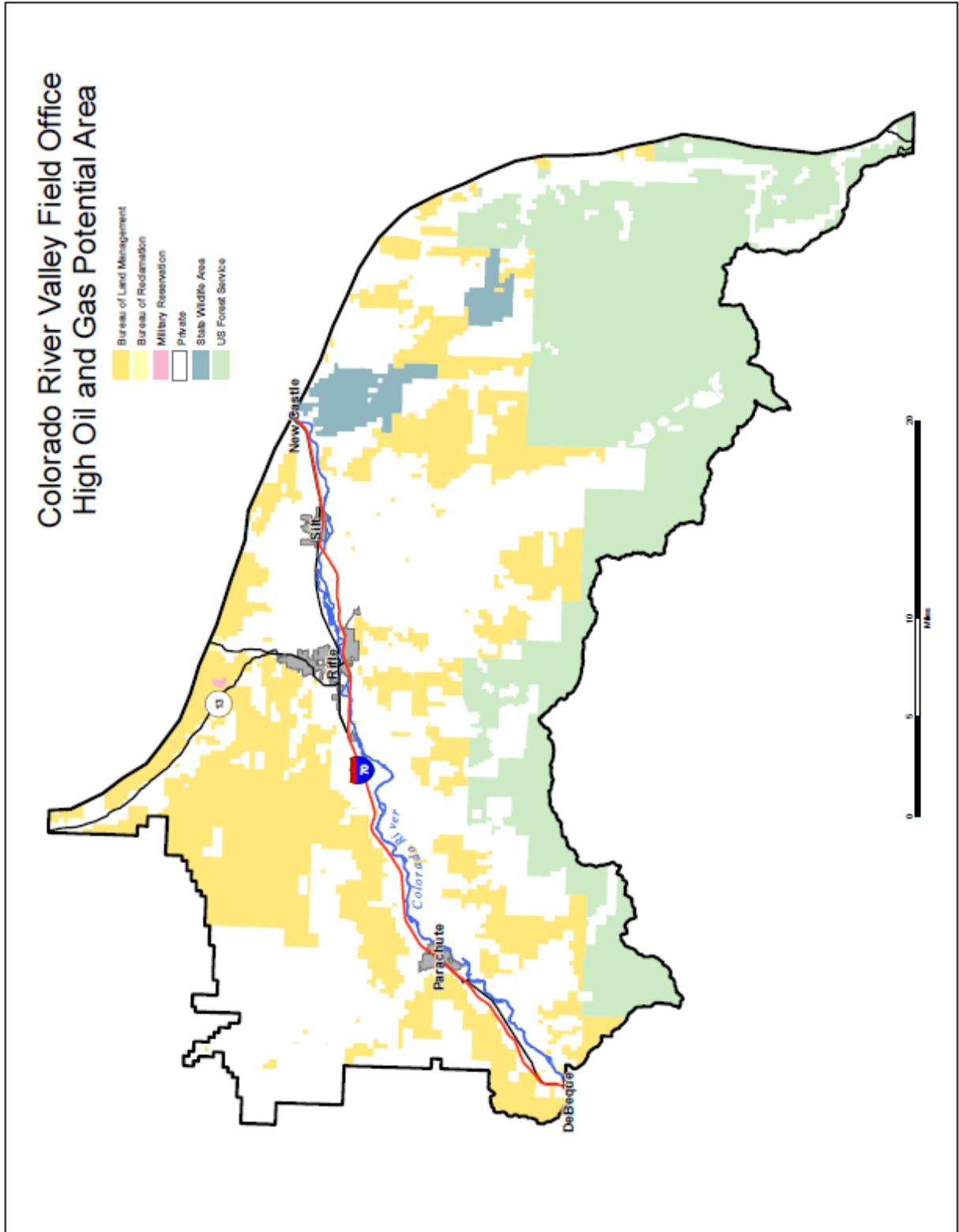


Figure 1. Project Boundary

average per-well basis. However, because many wells would be drilled during a single visit to a well pad, the duration of continuous drilling and completion activities is often greater than the window available outside typical winter timing limitations (TLs) applied as lease stipulations or conditions of approval. In considering whether to grant exceptions to big game winter range TLs to allow drilling into or through the TL period, the CRVFO, in collaboration with Colorado Parks and Wildlife (CPW), typically requires vegetation treatments or other mitigation to provide long-term benefits sufficient to offset short-term impacts.

Because vegetation treatments necessarily involve some impacts to vegetation and often also to the soil surface, an evaluation of those impacts is required. Thus, the purpose of the proposed programmatic Wildlife Habitat Mitigation (WHM) Plan analyzed in this EA is to streamline that process for individual projects by providing a comprehensive NEPA document to which the individual treatments can be tiered. This approach is in conformance with the National Environmental Policy Act (NEPA) through the process outlined in 40 CFR 1502.20. This provision encourages Federal agencies to tier new environmental documents to previously completed documents, when appropriate, for the purposes of eliminating repetitive discussions and focusing on critical project-specific natural and human environment elements present in the project vicinity and potentially affected by the project.

PROPOSED ACTION

The proposed action is to implement the programmatic Wildlife Habitat Mitigation (WHM) Plan presented in this EA as a basis for authorizing individual habitat treatments to mitigate the effects of oil and gas exploration on development on wildlife habitat and use. The intent of this plan is to provide a comprehensive range of management actions and a decision-making framework to allow resource managers to select actions or combinations of actions to meet the objectives of improving habitat conditions for a variety of wildlife species that have been impacted by energy development.

An increase in natural gas development in recent years has led to concern regarding impacts to wildlife from increased human activity and surface disturbance in valuable wildlife habitats. Big game experience an increase in stress in winter months and wildlife in areas where energy developments occur may experience additional stress from human activity occurring in winter range. In an effort to alleviate potential impacts to big game habitat, the WHM Plan sets out to provide alternative habitat and food sources for big game and other wildlife and improve the overall quality of their home and winter range.

The programmatic WHM Plan is intended to be broad in scope and to apply to vegetation treatments associated with any resource management decisions under CRVFO's current or future land use plans and plan amendments. The treatment methods, management objectives, and NEPA process for vegetation treatments under the Proposed Action are described below.

Vegetation treatments would be implemented using the best available technique(s) at the appropriate times based on the type of treatment, the vegetation type, and cost-effectiveness. The WHM Plan will analyze both mechanical and manual treatments.

Vegetation Types to be Treated

Sagebrush Steppe

For the purpose of this document, sagebrush refers collectively to all the subspecies of *Artemisia tridentata* that are distributed throughout the area identified in this document. This includes *Artemisia tridentata* ssp. *wyomingensis*, *Artemisia tridentata* ssp. *tridentata*, and *Artemisia tridentata* ssp. *vaseyana*.

Sagebrush steppe—comprised of sagebrush and some secondary shrub species with an understory of grasses and forbs (broadleaf herbaceous plants)—is a key component of big game winter range. A healthy sagebrush stand is composed of mixed age class shrubs with annual leaf and seed production as well as evidence of regeneration. Additionally, a healthy sagebrush community has a diverse understory with a variety of native grasses and forbs. Impediments on healthy sagebrush communities include encroachment and competition from pinyon and juniper trees, noxious weeds such as cheatgrass, and undesirable non-native plants. Treatments include removal of encroaching pinyon and juniper trees and cheatgrass, possibly in conjunction with seeding of native grasses and forbs. Additionally, sagebrush stands that are composed of a high ratio of decadent and mature shrubs are less likely to produce seeds for regeneration as well as annual leaf production for big game forage. Treatments include mowing of sagebrush plants to encourage leaf and seed production, possibly in conjunction with the removal of non-native understory plants.

Pinyon-Juniper Woodland

Mature pinyon-juniper woodlands provide not only forage, but high quality thermal and escape cover for big game. As pinyon-juniper woodlands expand and age, they eliminate understory vegetation by depriving other plants of sunlight and nutrients, and by intercepting moisture. A primary source of annual moisture for winter range vegetation comes via winter snowfall. As pinyon-juniper woodlands reach later seral stages, canopy cover can approach 100%. During winter months, dense canopy cover prevents snow from reaching the ground. By holding snow above ground, sublimation occurs, thereby minimizing the amount of moisture that reaches ground level via melting. The understory associated with mixed age class pinyon-juniper woodlands provides valuable forage for wild ungulates. Possible treatments include thinning the canopy, possibly in association with weed removal and native plant seeding.

Mixed Mountain Shrubland

Mixed mountain shrublands serve as transitional range between high elevation summer range and low elevation winter range for wild ungulates. Additionally during mild winters big game winter range can extend into the transitional range at higher elevations. Common species in the mountain shrub complex include Gambel oak (*Quercus gambelii*), chokecherry (*Padus virginiana*), serviceberry (*Amelanchier* spp.), big sagebrush, mountain-mahogany (*Cercocarpus montanus*), antelope bitterbrush (*Purshia tridentata*), and snowberry (*Symphoricarpos* spp.). As this habitat types matures, shrubs lose some of their value as forage for wildlife due to less palatable leaf production and less seed production. Additionally, the mature stands of mixed mountain shrubs can create barriers to movement for big game, therefore yielding large areas that no longer provide thermal and escape cover. Treatments include removal of mature shrubs and trees in a mosaic pattern to mimic natural disturbance.

Types of Vegetation Removal Treatment Analyzed

Mechanical Treatment

Mechanical treatment involves the use of vehicles such as wheeled tractors, crawler-type tractors, or specially designed vehicles with attached implements designed to cut, mulch, or chop existing vegetation. The selection of a particular mechanical method is based on the characteristics of the vegetation, seedbed preparation and revegetation needs, topography and terrain, soil characteristics, climatic conditions, and an analysis of the improvement cost compared to the expected productivity (BLM 1991a). Mechanical methods that may be used by the BLM include hydro-axing, drill seeding, mowing, roller chopping and cutting. As new technologies or techniques are developed, they could be used if their impacts are similar to or less than those associated with the methods listed below.

Hydro-axing methods are effective for removing thick stands of vegetation. This type of equipment can mulch or lop and scatter vegetation debris, so debris disposal is taken care of while the vegetation is removed. These methods are appropriate where a high level of control over vegetation removal is needed, such as in sensitive wildlife habitats or near home sites, and are often used instead of prescribed fire or herbicide treatments for vegetation control in the Wildland-Urban Interface (WUI).

Rangeland seed drills, which consist of a series of furrow openers, seed metering devices, seed hoppers, and seed covering devices, are either towed by or mounted on a tractor. The seed drill opens a furrow in the seedbed, deposits a measured amount of seed into the furrow, and closes the furrow to cover the seed.

Mowing tools, such as rotary mowers or straight-edged cutter bar mowers, can be used to cut herbaceous and woody vegetation above the ground surface. Mowing is often done along highway ROW to reduce fire hazards, improve visibility, prevent snow buildup, or improve the appearance of the area. Mowing is also used in sagebrush habitats to create a mosaic of uneven aged stands and enhance wildlife habitat. Mowing is most effective on annual and biennial plants (Rees et al. 1996). Weeds are rarely killed by mowing, and an area may have to be mowed repeatedly for the treatment to be effective (Colorado Natural Areas Program 2000). However, the use of a “wet blade,” in which an herbicide flows along the mower blade and is applied directly to the cut surface of the treated plant, has greatly improved the control of some species. In addition, chipping equipment can be used to cut and chip vegetation into mulch.

Roller-chopping tools are heavy bladed drums that cut and crush vegetation up to 5 inches in diameter with a rolling action. The drums are pulled by crawler-type tractors, farm tractors, or a special type of self-propelled vehicle designed for forested areas or range improvement projects.

Manual Treatment

Manual treatment involves the use of hand tools and hand-operated power tools to cut, clear, or prune herbaceous and woody species. Treatments include cutting undesired plants above the ground level; pulling, grubbing, or digging out root systems of undesired plants to prevent sprouting and regrowth; cutting at the ground level or removing competing plants around desired species; or placing mulch around desired vegetation to limit competitive growth (BLM 1991a).

Power tools such as chain saws and power brush saws are used, particularly for thick-stemmed plants and small trees. Power tools can be used to remove and then lop and scatter the plant matter to aid in the decomposition process, to add mulch to the area, and to help buffer possible visual disturbances.

Hand tools used in manual treatments include the handsaw, axe, shovel, rake, machete, grubbing hoe, mattock (combination of cutting edge and grubbing hoe), pulaski (combination of axe and grubbing hoe), brush hook, and hand clippers. Manual treatments, such as hand-pulling and hoeing, are most effective where the weed infestation is limited and soil types allow for complete removal of the plant material (Rees et al. 1996). Hand-pulling also works well for annual and biennial plants, shallow-rooted plant species that do not resprout from residual roots, and plants growing in sandy or gravelly soils. Repeated treatments are often necessary due to soil disturbance and residual weed seeds in the seed bank.

Manual techniques can be used in many areas and usually with minimal environmental impacts. Although they are more challenging to implement over a large area, manual techniques can be highly selective. Manual treatment can be used in sensitive habitats such as riparian areas, areas where burning or herbicide application would not be appropriate, and areas that are inaccessible to ground vehicles such as steeper slopes (BLM 1991a).

ENVIRONMENTAL ANALYSIS

Site-specific projects would require preparation of a Documentation of Land Use Plan Conformance and Documentation of National Environmental Policy Act Adequacy (DNA), tiered to this programmatic document, to identify specific project areas and select appropriate treatments based on management direction in this programmatic document. Additional on-the-ground surveys and clearances for special status wildlife, plants, and cultural resources would be required for each project plan area prior to implementing treatments.