

ENVIRONMENTAL ASSESSMENT
BLM Office: Carlsbad Field Office

Aplomado Falcon Management Area Habitat Restoration:
Solar Wildlife Water Systems

EA# DOI-BLM-NM-P020-2009-0608-EA

1. INTRODUCTION

1.1 Purpose and Need

The purpose of the Aplomado Falcon Grasslands Restoration Project is to respond to the goals and objectives of the American Recovery and Reinvestment Act of 2009, Healthy Forests Restoration Act of 2003, the New Mexico Forest and Watershed Plan, the Northern Aplomado Falcon Recovery Plan of 1990, and the Carlsbad Resource Management Plan of 1988. The Aplomado Falcon Grassland Restoration Project addresses the above-mentioned plans by investment in forms of range and wildlife improvements that will restore rangeland ecosystems to more closely match their historical structure, function, diversity, and dynamics.

This restoration project is needed for range improvements that will specifically benefit the habitat for the northern aplomado falcon (*Falco femoralis septentrionalis*), listed as a federally endangered species on February 26, 1986 and now considered an experimental non-essential population in New Mexico. The proposed water development projects will help insure an adequate and stable water system on the allotment. Reconstructing old pipeline systems and/or adding new sources of permanent water will make these pastures more viable in the grazing system utilized on this allotment. Livestock distribution within these pastures will be improved and the areas of heavy utilization will be reduced. Because the permitted number of livestock will not be increased on the allotment, lower utilization of forage should eventually lead to increased vigor and reproduction of the vegetation, improved water and nutrient cycles, and a healthier range for both wildlife and livestock. In addition, wildlife specific watering sources will be created. The improved vegetative cover and composition, and additional water sources should lead to improved habitat for prey species of the northern aplomado falcon. This, in turn, increases the potential for northern aplomado falcons to occupy former ranges.

Water sources are the limiting factor for wildlife in some areas. The vast majority of the Carlsbad Field Office resource area lacks free-standing ground water sources. The BLM will install watering facilities to provide a dependable water source for all wildlife in the area. Manipulating livestock water sites to improve free-water availability at identified locations and encompassing the use of solar-powered pumps to off-site water developments will benefit wildlife as well as livestock.

1.2 Background

Brush encroachment in the Southwest has been most frequently implicated as the principal cause for the decline of northern aplomado falcon (falcon). In the late-1800s, large numbers of cattle were introduced onto Southwest grasslands occupied by the falcon. Recognition of historic overstocking led to reductions in cattle numbers by the late- 1930s, particularly after passage of the Taylor Grazing Act in 1934. At some Arizona and New Mexico sites where the falcon occurred, brush did not extensively invade into grasslands until after the 1940s.

In the years since listing occurred, survey efforts for the falcon have increased, consideration of and planning for falcon habitat requirements on public lands has improved, and new research, focused on falcon population ecology and habitat requirements, has been initiated. In 1992, two small, isolated populations of falcons were discovered in north-central Chihuahua, Mexico in close proximity to the U.S. border. Ongoing releases, monitoring, and research efforts at these sites are providing important insights into the desert grassland ecology of this species. In 2002, the New Mexico Cooperative Fish and Wildlife Research Unit at New Mexico State University characterized falcon habitat in the northern Chihuahuan Desert and created a habitat model for use by land management agencies (Young et al. 2002). Since then, the BLM has made a commitment to assist the U.S. Fish and Wildlife Service (FWS) in its goal to conserve and enhance suitable falcon habitat on the Chihuahua desert grasslands in New Mexico in order to produce a self-sustaining falcon population that is not dependent on continued releases.

This project is consistent with the goals of the Restore New Mexico initiative, which has treated approximately 19,000 acres in suitable aplomado falcon habitat. BLM estimates that about one-fourth of the 13.4 million acres of public land in New Mexico need some restoration activity to help return these lands to a healthier natural state. Key goals of Restore New Mexico include restoration of habitat for fish, wildlife and endangered species, reversal of the expansion of invasive plant species, reversal of habitat fragmentation from historic oil and gas development while ensuring responsible energy development, improving water quality and reduction of impacts from catastrophic wildfire.

1.3 Conformance to Land Use Plans

This EA is tiered to the Carlsbad Resource Area Management Plan, which has been reviewed, and the proposed action does not conflict with the Carlsbad Resource Area Management Plan or other known Land Use Planning documents. The proposed action and alternative are consistent with the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1700 et seq.); the Taylor Grazing Act of 1934 (43 U.S.C. 315 et seq.), as amended; the Clean Water Act (33 U.S.C. 1251 et seq), as amended; the Endangered Species Act (16 U.S.C. 1535 et seq.) as amended; The Public Rangelands Improvement Act of 1978 (43 U.S.C. 1901 et seq.); Executive Order 11988, Floodplain Management; and Executive Order 11990, Protection of Wetlands.

The BLM, U. S. Forest Service (USFS) and New Mexico Department of Game and Fish (NMDGF) have set guidelines for establishing wildlife watering units in areas where permanent accessible water is a limiting factor for maximizing use of suitable habitat by wildlife. These actions conform to the Bureau's wildlife habitat management objective of placing special emphasis on the protection, maintenance, and enhancement of crucial habitats for big game and upland game birds.

1.4 Critical Elements

The critical elements subject to requirements specified in statute, regulation, or executive order listed below are either not present or not affected by the proposed action or alternative and will not be discussed in this EA.

Areas of Critical Environmental Concern
Hazardous/Solid Wastes

Prime/Unique Farmlands
Water Quality
Wild & Scenic Rivers
Wilderness
Wetlands/Riparian

1.5 Legal Requirements or considerations

The impact of the proposed action and alternatives to minority or low income populations or communities has been considered and no significant impact is anticipated. The project area has no river/stream reach as identified in the *2008-2010 STATE OF NEW MEXICO 303(d) LIST FOR ASSESSED RIVER/STREAM REACHES REQUIRING TOTAL MAXIMUM DAILY LOADS (TMDLs). FINAL RECORD OF DECISION (ROD) FOR RIVER/STREAM LISTINGS.*

2. ALTERNATIVES INCLUDING THE PROPOSED ACTION

2.1 Description of Proposed Action

The proposed action is to construct or replace fresh water livestock pipelines, troughs and storage tanks utilizing photo-voltaic power to pump water. All pipelines will be buried except when resource conditions warrant surface installation such as shallow, rocky soils. The routes will follow fencelines, existing two track roads and other existing disturbances where possible.

The BLM also proposes to install artificial structures such as dome-topped guzzlers at strategic locations extending from the livestock water pipelines to remote sites to provide water and cover for wildlife. These water developments will spur laterally to individual locations and water will be delivered via 1¼” plastic pipe.

High density crosslinked-polyethylene water storage units, with a built in drinker, float valve, and a 1,800 gallon storage capacity, will be placed in strategic locations within the project area. Construction design for each project will include installation of 1¼” plastic pipe, a storage unit, and approximately 1000 ft. of 3-strand barbed wire fence. The fence construction specifications will conform to Bureau standards for wildlife fences in mule deer/pronghorn range.

Additional livestock numbers will not be authorized based solely on implementation of this project. The livestock operator must demonstrate to the CFO range staff that any net increase in animal unit months (AUMs) is the direct result of the livestock operator’s ability to manage livestock in balance with watershed capacity to provide forage, maintain livestock distribution and proper grazing use to restore rangeland health prior to any increases in authorized grazing preference.

Mitigation Measures: To mitigate potential trapping of birds and small mammals in the water troughs, wildlife escape ramps will be installed. Fencing will be constructed around wildlife waters in a manner to discourage livestock, yet allow for wildlife to enter and exit freely. To ensure maximum water distribution for wildlife, water will be maintained in the troughs on a yearlong basis, unless the system is under repair. Pre-construction surveys in suitable habitat will be performed for Kuenzler’s hedgehog cactus. In the event that falcons or cacti are observed in the project area, CFO biologists will be consulted as to whether the project should be delayed, or potentially relocated to

avoid potential impacts on the species. When necessary, the appropriate level of consultation with the USFWS will occur. Pre-construction safety meetings will identify local hazards. Construction sites will be monitored on a regular basis to ensure noxious weeds are not present. In the event that invasive weeds encroach onto any project site, spot herbicide treatment will be implemented.

2.2 Description of Alternatives

Alternative A: No Action. Do not construct or replace fresh water livestock pipelines, troughs or storage tanks. Do not construct or install artificial structures such as dome-topped guzzlers at strategic locations extending from the livestock water pipelines to remote sites to provide water and cover for wildlife.

Mitigation: None

3. DESCRIPTION OF THE AFFECTED ENVIRONMENT

3.1 Description of the Project Area

The area analyzed by this environmental assessment is located in southeast New Mexico in northwest Eddy County and in the east side of the Chaves County 'bootheel'. The analysis area is bounded roughly on the north and west by NM Highway 24, on the east by US Highway 285, to the south by Eddy County Road 401, Eddy County Road 400, and Eddy County Road 12, and on the west by the Guadalupe Ranger District of the Lincoln National Forest, Bullis Road, and New Mexico Highway 13. The community of Hope lies in the middle of the analysis area and the community of Artesia is on the northeast perimeter of the analysis area. There are several county maintained roads in the analysis area with US Highway 285 and US Highway 82 being the primary access routes to the area. There are about 200,000 acres of public land managed by the CFO within the analysis area.

The affected environment of the area is generally discussed in the 1988 Carlsbad RMP. Refer to this plan and the following discussion for a complete description (Chapter 3). Only the resources potentially impacted by the proposed action are addressed in this document.

3.2 Vegetation

The analysis area is comprised of several vegetative communities including homogenous grasslands, shrub dominated grasslands, xeric riparian channels such as Rio Peñasco, Rocky Arroyo, Four-mile draw and desert shrub uplands.

The analysis area is primarily flat (generally less than 5% slope). The primary herbaceous species are tobosa grass, burro grass, vine mesquite, little and silver bluestem, and buffalo grass with a shrub component consisting of yucca species, littleleaf sumac, American tarbush and creosotebush.

The shrub dominated grasslands have been invaded by American tarbush and creosotebush. Their vegetative makeup is similar to the homogenous grasslands with the exception of the high shrub density. These areas have a shrub density that is greater than 600 plants per hectare.

The xeric riparian areas are ephemeral drainage channels dominated by woody species including little walnut, net-leaf hackberry, desert willow, brickillia, Apache plume and little-leaf sumac. The large dominant drainages run from west to east, draining into the Pecos River. Understory species include alkali sacaton, vine mesquite, Arizona cottontop, plains bristlegrass, tasajillo and a variety of forbs.

The dominant Ecological Sites within the Aplomado Falcon Management Area are Loamy (SD-3) and Shallow (SD-3) with a smaller percent of Swale (CP-4).

The historic Loamy ecological site plant community was dominated by grasses with shrubs and half-shrubs sparse and evenly distributed. Tobosagrass, black grama, and blue grama were the dominant species. There were a variety of perennial forbs and their production varied widely by season and by year. Globemallow, verbena, groundsels, croton and filaree were forbs commonly found. Fourwing saltbush and winterfat were two of the more palatable shrubs. Retrogression in this ecological site is characterized by the decrease in black grama and blue grama and an increase in burrograss. Continued reduction in grass cover and the resulting infiltration problems may eventually effect a change to a bare ground state, with very little or no remaining grass cover. Alternatively, creosotebush, American tarbush, or honey mesquite may expand or invade into the grassland.

Ground cover as a percent of the average percent of the surface area in the Loamy ecological site:

Grasses and forbs	15 to 30
Bare ground	40 to 50
Surface cobble and stone	1 to 5
Litter	25 to 30

Plant community composition in the Loamy ecological site by annual production:

Grass/grasslike	annual production in pounds per acre
Tobosagrass	278 -324
Burrograss	9 – 46
Black grama and blue grama	231 – 278
sideoats grama	28 – 46
Bush muhly and plains bristlegrass	46 – 93
Arizona cottontop	9 – 28
Threeawns, muhly species, and sand dropseed	46 – 93
Other grasses ¹	28 – 46
Tree/shrub/vine	
Fourwing saltbush, ephedra, winterfat	9 – 28
Broom snakeweed and javelinabush	9 – 28
Other shrubs ²	9 – 28
Forbs	
Globemallow, verbena, Threadleaf groundsel	9 – 46
wooly groundsel, croton	9 – 28
Cutleaf haplopappus, wooly paperflower	9 – 28
Texas filaree, Arizona filaree	9 – 28
Other forbs ³	9 – 28

¹Other grasses could include silver bluestem, cane bluestem, alkali sacaton, vine mesquite, Hall's panicum, hairy grama, mesa dropseed, spike dropseed and fluffgrass.

²Other shrubs could include yucca, mesquite, American tarbush, cholla, and creosote.

³Other forbs include desert holly, scorpionweed, bladderpod, flax, fleabane, Indianwheat, Indianblanket, groundcherry, deerstongue, and rayless goldenrod.

The potential natural plant community for the Loamy range site is:

Grasses and grasslike	
Tobosagrass	30 – 35
Burrograss	1 – 5
Black grama and blue grama	25 – 30
Sideoats grama	3 – 5
Bush muhly and plains bristlegrass	5 – 10
Arizona cottontop	1 – 5
Threeawns species, sanddropseed species, and muhly species	5 – 10
Other grasses ¹	3 – 5
Woody species (shrubs, half shrubs, and trees)	
Fourwing saltbush, winterfat, and ephedra species	1 – 3
Broom snakeweed and javelinabush	1 – 3
Other shrubs ²	1 – 3
Forbs	
Globemallow, verbena	1 – 5
Threadleaf groundsel, wooly groundsel, croton	1 – 3
Cutleaf haplopappus, wooly paperflower	1 – 3
Texas filaree, Arizona filaree	1 – 3
Other forbs ³	1 – 3

¹Other grasses could include silver bluestem, cane bluestem, alkali sacaton, vine mesquite, Hall's panicum, hairy grama, mesa dropseed, spike dropseed and fluffgrass.

²Other shrubs could include yucca, mesquite, American tarbush, cholla, and creosote.

³Other forbs include desert holly, scorpionweed, bladderpod, flax, fleabane, Indianwheat, Indianblanket, groundcherry, deerstongue, and rayless goldenrod.

Average ground cover in the Loamy Range Site is:

Grasses and forbs	15 – 30
Bare ground	40 – 50
Surface gravel and cobble	2 – 5
litter	25 – 30

The potential natural plant community for the Shallow range site is:

Grasses and grasslike	
Black grama	20 – 30
Sideoats grama	15 – 20
Blue grama and hairy grama	15 – 20
Bush muhly	5 – 10

