

Pine Nut Land Health Project

Finding of No Significant Impact

DOI-BLM-NV-C020-2013-0017-EA

April 2014



Background

The Bureau of Land Management (BLM) Carson City District, Sierra Front Field Office is proposing a 24,564 acre land health project in the Pine Nut Mountains, located in Douglas, Lyon and Carson City Counties, Nevada (Figure 2 of the final EA). The Pine Nut Land Health Project (Project), would be implemented over a 10 to 15 year period to protect, maintain and restore ecologically diverse, properly functioning and resilient native plant communities.

Vegetation management treatments are needed in the Pine Nut Mountains to restore ecological balance, diversity and resilience to plant communities and reduce hazardous fuels to protect people, property, infrastructure and resources from severe wildfire. Wildlife habitat quality is diminishing due to woodland expansion and is threatened by heavy accumulations of fuels that greatly increase the potential for large, high-intensity wildfires. Historically, wildfires maintained a healthy balance of vegetation types and prevented fuels from accumulating; however, the existing patterns of vegetation are not conducive to favorable effects from fire without the intervention of proposed treatments. Hazardous fuels currently need to be managed to protect vegetation from uncharacteristic, severe wildfire.

Altered disturbance regimes and climate change have resulted in major changes in plant community compositions. Since the 1860's, many bunchgrass and sagebrush-bunchgrass (*Artemisia sp.-Poaceae sp.*) communities, which dominated the Intermountain West, have shifted to pinyon-juniper woodland (*Pinus monophylla-Juniperus osteosperma*) or introduced annual dominated communities. Studies show that the expansion of pinyon-juniper has more than tripled in the areas dominated by pinyon-juniper woodlands within the last 150 years. Although pinyon-juniper woodlands have increased dramatically in the last 150 years, they currently occupy far less than they are capable of under current climatic conditions. The increasing dominance of pinyon-juniper within portions of the Pine Nut Mountains is apparent from aerial photography and presence of young pinyon-juniper expanding into sagebrush communities where soil type indicates no or very few trees should exist. Woodland expansion affects soils, vegetation structure and composition, water, nutrient and fire cycles, forage production, and plant and wildlife biodiversity.

Studies conclude that barring some major environmental change or management action, trees will continue to dominate most of the sites favorable to their expansion. This continued tree dominance could result in a stand replacement wildfire with catastrophic consequences because of continuous tree canopy. Studies show that in dense pinyon-juniper woodlands, the ability of the understory to respond after a fire is dramatically reduced and potentially opens the site to invasion by exotics. Any treatments or rehabilitation of these areas could be difficult and costly.

An increase in tree dominance results in a loss of understory vegetation, and fires in dense pinyon-juniper can be extremely difficult to control and very damaging to healthy woodlands, sagebrush, and herbaceous vegetation. Goals of pinyon-juniper management include an attempt to restore ecosystem function and a more balanced plant community that includes shrubs, grasses, and forbs, and to increase ecosystem resilience to disturbances. Mule deer (*Odocoileus hemionus*), pinyon jays (*Gymnorhinus cyanocephalus*), mountain chickadees (*Poecile gambeli*), and scrub jays (*Phelocoma californica*) depend on woodland landscapes that have a more open

canopy and park-like structure with a robust understory of forbs, grasses, and shrubs. In highly dense pinyon-juniper stands, the understory is eliminated and is in decline.

The spread of pinyon-juniper may also be a contributing factor in decreasing water availability (both limiting streamflow and shallow groundwater). Riparian vegetation communities would respond to increase water availability by expanding their distribution and improved health. The health of riparian areas is important to maintaining quality wildlife habitat on the landscape. Riparian hardwoods such as aspens (*Populus tremuloides*) and cottonwoods (*P. balsamifera ssp. Trichocarpa*) are vulnerable to intense fire, although they can survive lower-intensity fires, and reducing heavy fuel loads in riparian areas can significantly lower the risk of wildfire. Management guidelines recommend removal of conifers within and adjacent to aspen and cottonwood stands. Control and/or reduction in the density and extent of pinyon-juniper in the watershed would benefit the riparian community. Healthy springs/wet meadows support abundant and diverse forbs and insect populations that Bi-State sage-grouse¹ (*Centrocercus urophasianus*) chicks are critically dependent on.

Determination

On the basis of the information contained in the *Pine Nut Land Health Project Final Environmental Assessment* (EA) (DOI-BLM-NV-C020-2013-0017-EA), I have determined that the Proposed Action does not constitute a major federal action having a significant effect on the human environment. Therefore an environmental impact statement (EIS) will not be required.

This finding is based on my consideration of the Council on Environmental Quality (CEQ) criteria for significance (40 CFR 1508.27), both with regard to the *context* and *intensity* of the impacts described in the final EA, which is hereby incorporated by reference.

Context

The planning area for this Project is the Pine Nut Mountains, located in Douglas, Lyon and Carson City Counties, Nevada. The communities of Carson City, Minden, Gardnerville, Wellington, Smith and Dayton are spread around the edge of the range. The range, which runs north-south for 38 miles, includes approximately 397,899 acres of mixed ownership (public land, private land, Indian trust land²) (Figure 11 of the final EA). The southern portion of the range includes the 13,395 acre Burbank Canyon Wilderness Study Area. The topography of the range varies from rolling hills, approximately 5,000 feet in elevation, to over 9,000 feet in elevation at the tops of the tallest peaks. Vegetation is typical of the western Great Basin and is dominated by a mix of grasses, sagebrush, rabbitbrush, bitterbrush (*Purshia tridentata*), and pinyon and juniper trees. Temperatures can exceed 100 degrees Fahrenheit at lower elevations during July and August and can drop below 10 degrees during December and January. Average annual precipitation is strongly influenced by elevation and varies from six to 16 inches.

¹ In this document the terms “sage-grouse” and “Bi-State sage-grouse” are used synonymously. The U.S. Fish and Wildlife Service has determined that the Bi-State sage-grouse, known to occur in the planning area, is a distinct population segment (DPS) of the greater sage-grouse.

² Trust land refers to land held in trust by the United States for an Indian tribe or an individual tribal member. This means that the United States holds legal title to that land, while the tribe or individual tribal member holds beneficial title, which means that the tribe or tribal member has the right to use the property and derive benefits from it.

The life of the Project is anticipated to be 10 to 15 years. Depending on the availability of funding, the BLM anticipates treating approximately two thousand acres per year, with most of the treatment activities occurring in late summer to fall. Over the life of the Project, treatments would occur on six percent of the planning area, used in determining areas to be treated. Each year approximately 0.7 percent of the planning area would be undergoing treatment.

Intensity

1) Impacts that may be both beneficial and adverse.

The analysis contained in the final EA describes effects in terms of short-term and long-term, beneficial and adverse. No “significant” effects were identified in the final EA. As defined in Section 4.1.1 of the final EA, the word “adverse” has been used in characterizing minor, non-significant detrimental effects to a resource, and the word “negligible” has been used in characterizing minor, non-significant detrimental effects to a resource that are generally undetectable. Beneficial and adverse impacts caused by the Proposed Action are briefly described below by resource:

- Cultural Resources. No adverse effects to historic properties would occur due to resource commitments described below. Any reduction in the likelihood of large-scale wildland fire would benefit historic properties present.
- Native American Religious Concerns. Potential adverse effects to traditional uses would be avoided or minimized through on-going coordination and consultation with Tribes during each phase of the Project. Any reduction in the likelihood of large-scale wildland fire would benefit traditional uses in the Project area.
- Wetlands/Riparian Zones. Short-term adverse effects include potential crushing of riparian vegetation and increased potential for soil erosion during Project implementation. Most riparian areas would be treated by hand thinning, which has minimal impacts to vegetation and soils. Pinyon-juniper would be removed by hand in riparian areas, an adverse effect to pinyon-juniper, however a beneficial effect to riparian species such as willow, cottonwood and aspen. Those wildlife species that are dependent upon riparian communities would be expected to benefit from these treatments in the long-term.
- General Wildlife, BLM Sensitive Species (Animals) and Migratory Birds. Short-term adverse effects to animals would occur during Project implementation through localized displacement, and potential trampling or destruction of burrows by equipment or foot traffic. Woodland dependent animals would be displaced into adjacent pinyon-juniper communities. As described in the resources commitments below, most Project activities would not occur between March 1 and August 31, the critical period in the life cycle of many species (breeding, nesting, brood-rearing etc.). In the long-term, animals would be expected to benefit by the reduction in the likelihood of large-scale wildland fire, by maintaining or promoting riparian communities that are undergoing pinyon-juniper encroachment, and by promoting a mosaic of habitat types and understory species such as grasses, forbs, and shrubs.

- Vegetation and BLM Sensitive Species (Plants). Short-term adverse effects to plants would occur during Project implementation through localized crushing of plants caused by equipment or foot traffic. As described in the resources commitments below, most Project activities would not occur between March 1 and August 31, the critical period in the life cycle of many species. Surveys for sensitive plant species would be conducted in mechanical treatment units that have high potential for their occurrence based on soil types; when occupied habitat is located, implementation may be delayed, hand thinning of trees may replace use of mechanized equipment, or the occupied habitat may be delineated as an avoidance/exclusion area. In the long-term, plants would be expected to benefit by the reduction in the likelihood of large-scale wildfire, by maintaining or promoting riparian communities that are undergoing pinyon-juniper encroachment, and by promoting a mosaic of habitat types and understory species such as grasses, forbs, and shrubs.
- Fire Management. The long-term benefits of the Project would be to reduce the risks of catastrophic wildfire and potential adverse impacts to life, property and natural resources. Through thinning, tree density would be lowered and the continuity of flammable vegetation would be altered, which may result in less intense fires.
- Forest Resources. Thinning activities under the Project would benefit forest resources by: reducing the likelihood of stand replacing wildfire; reduce mortality of pinyon-juniper from insects and disease; and allow for recovery of understory species in high density pinyon-juniper woodlands. The proposed treatments includes making forest products such as firewood available, a beneficial effect.
- Visual Resources. Under the Proposed Action, hand thinning and mechanical treatment of vegetation would occur. Units within VRM Class II would be treated by hand, which is used in areas of low tree density and hand thinning has minimal surface disturbance. Negligible impacts to the visual character of the treatment units in the short-term would be reduced by using the natural patterns on the landscape for treatment boundaries. VRM Classes III and IV allow for greater degree of alteration of the visual character; all mechanical treatments would occur in VRM Class III or IV. Mechanical treatments would cause the greatest alteration to the visual character, primarily through changing the visual density of trees, from high to low.
- Air Quality. Under the Proposed Action, in the short-term there would be a negligible increase in emissions from vehicles and equipment, and from particulates caused by pile burning. Short-term increases in emissions are not expected to change the air quality status of the planning area. After implementation, air quality in the planning area is anticipated to return to pre-Project levels.
- Wild Horses and Burros. During Project implementation, short-term negligible effects would occur to wild horses through short-term and localized displacement. As described in the resource commitments below, no treatments would occur in the Pine Nut HMA during the foaling season, generally considered March 1 until July 1. In the long-term,

thinning in high density pinyon-juniper may marginally increase forage available for wild horses, a beneficial effect.

- Livestock Grazing. During Project implementation, short-term negligible effects would occur to livestock grazing through short-term and localized displacement. To minimize any potential adverse effect, the BLM would coordinate with the permittee prior to initiating treatments while an allotment is in use. In the long-term, thinning in high density pinyon-juniper may marginally increase forage available for livestock, a beneficial effect.
- Invasive, Non-Native Plant Species and Noxious Weeds. Short-term negligible effects would occur during Project implementation, as equipment and people have the potential to transport vegetative parts or seeds to new areas. Displaced livestock and wild horses also have the potential to transport vegetative parts or seeds to new areas. Long-term impacts caused by the spread of invasive, non-native plant species and noxious weeds would be addressed through monitoring and treatment (approved under a separate action). In the long-term, the reduction in intensity of wildfire would reduce the potential for spread and infestation by invasive weeds such as cheatgrass, a beneficial effect.

Resource Commitments to Avoid or Reduce Potential Adverse Impacts.

To minimize or avoid potentially adverse impacts, the BLM included 20 resource commitments in Section 2.1.1.5 of the final EA. Examples of some of the commitments include:

- To avoid potential adverse effects to historic properties, the BLM would complete pre-work surveys (Class III cultural resources inventories) to identify those resources, and establish avoidance/exclusion areas where mechanical treatments may occur;
- To minimize potential adverse effects to sensitive plant species, pre-work surveys would be conducted in mechanical treatment units that have high potential for their occurrence based on soil types; where species are located, implementation may be delayed, hand thinning of trees may replace use of mechanized equipment, or the area may be delineated as an avoidance/exclusion area;
- Potential adverse impacts to migratory birds, raptors and sage-grouse would be minimized through seasonal restrictions. Pre-work surveys for migratory birds or raptors would be conducted if treatment activities were to occur between March 1 and August 31, considered the critical nesting and young-rearing period;
- To reduce potential adverse impacts to sage-grouse, between March 1 and June 30 treatment activities would be deferred if the treatment is within 3.2 miles of an active lek, known nesting and early brood-rearing habitats; and
- To minimize potential adverse impacts to wild horses that may be displaced during treatment activities, no treatments would occur within the Pine Nut HMA between March 1 and July 1, generally considered the foaling season.

Severity of Potential Impacts.

Approximately 81 percent of the Project area would be treated by hand thinning (selective and non-selective cutting). Compared to mechanical mastication (19 percent of the Project area), hand thinning has minimal impacts. Hand crews would involve up to 20 people working in

treatment units with saws. Foot traffic would be cross-country in the treatment units, the extent of understory vegetative material that could be crushed or trampled by foot traffic would be negligible. No roads would be constructed and no motorized vehicles would be used off-road. The duration of hand thinning activities may be as brief as a few days or up to 100 days in the largest units.

2) The degree to which the proposed action affects public health or safety.

Implementation of the treatments in the Proposed Action would improve public and firefighter safety by reducing the likelihood of a large catastrophic wildland fire.

3) Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.

The Proposed Action would have no adverse effect on historic or cultural resources because of the resource commitments included in Section 2.1.1.5 of the final EA, and no effect to prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas (such as Areas of Critical Environmental Concern) because these resources are not present in the Project area.

4) The degree to which the effects on the quality of the human environment are likely to be highly controversial.

The effects of the vegetative treatments in the Proposed Action are well understood and are not highly controversial.

5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

There are no known effects of the Proposed Action which are considered uncertain or involve unique or unknown risks.

6) The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.

The Proposed Action does not establish a precedent for future actions with significant effects and does not represent a decision in principle about a future consideration. Any future actions within the Project or planning area, if they were to occur, would be subject to separate environmental review and decision-making.

7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.

To minimize or avoid potentially adverse impacts, the BLM included 20 resource commitments in Section 2.1.1.5 of the final EA. No significant cumulative effects were identified in the final EA. Any other actions proposed in the Project area would be evaluated as to whether the actions effects added to the Proposed Action would cause cumulatively significant effects.

8) The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the NRHP or may cause loss of destruction of significant scientific, cultural, or historical resources.

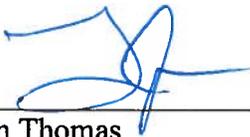
Certain treatment methods such as hand cutting do not involve ground disturbance and therefore have a very low potential to adversely³ affect historic properties. Other methods, such as those that involve mechanized equipment, have the potential to adversely affect historic properties. Due to the phased approach of this Project, anticipated to be implemented over a 10 to 15 year period, there is the potential for historic properties to be adversely affected by the treatments. To resolve potential adverse effects, the BLM has executed a Programmatic Agreement (PA) in accordance with 36 CFR 800.14 (b) (Attachment A of the final EA). The PA defines the methods through which the BLM would identify historic properties and resolve adverse effects for each phase of the Project. Resolution of adverse effects is typically through site avoidance.

9) The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the ESA or 1973.

No federally listed species under the Endangered Species Act (ESA), or its critical habitat for such species occurs within the planning area.

10) Whether the action threatens a violation of federal, State, or local law or requirements imposed for the protection of the environment.

The Proposed Action is in conformance with the Carson City Field Office Consolidated Resource Management Plan (2001). Implementation of the Proposed Action would not violate or threaten to violate any federal, State, or local law or requirement imposed for the protection of the environment.



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Date

³ 36 CFR 800.5(a)(1) defines adverse as the “alternation to the characteristics of a historic property that qualify it for inclusion in the National Register of Historic Places in a manner that would diminish its integrity.”