BACKGROUND

This decision documents the environmental analysis conducted by the Spring Mountains National Recreation Area (SMNRA) for the Clark Canyon Restoration Project. The project area provides habitat for several U.S. Forest Service regional sensitive (R4 sensitive) plant and wildlife species. The vegetation communities in Clark Canyon include steep slopes and clifflands, mixed conifer forests dominated by ponderosa pine and white fir, pinyon pine-juniper woodlands, and montane shrublands, including mountain big sagebrush and chaparral dominated by pointleaf manzanita. Two springs exist in the project area, Buck Springs and Rosebud Springs.

Mixed conifer stands (305 acres) dominated by ponderosa pine and white fir occur within the project area and are comprised of many large (greater than 20 inches in diameter at breast height (DBH)) trees in declining health due to overcrowding. There are overstocked pockets of small trees amongst the large trees.

In the 1960s, about 53 acres of ponderosa pine plantations were planted in the project area. The ponderosa pine plantations in the southeastern part of the project area are stunted due to overcrowding and competition for sunlight, water, and nutrients. High forest stand densities and stocking levels are compromising the health of these stands by increasing the risk and spread of insect and disease outbreaks, including western dwarf mistletoe (Arceuthobium campylopodum) with many pockets of heavily infected trees. Many of these pockets contain infected overstory trees near new regeneration or smaller intermediate size trees; an ideal stand structure for western dwarf mistletoe spread. Additionally, a 2011 aerial detection survey indicated tree mortality in the project area due to the mountain pine beetle (Dendroctonus ponderosae).

Pinyon pine-juniper woodlands and shrub communities (1,248 acres) located in the project area are in a late seral stage (late-successional, tree-dominated) with areas in which the canopy is closing (average canopy cover is 54 percent). These closed canopies are suppressing understory plants and can increase soil erosion. Mistletoe is also present in the pinyon pine-juniper woodlands. A 2008 aerial detection survey also indicated tree mortality in the project area due to pinyon ips (Ips confusus). In the shrub communities, the number of pinyon pine and juniper trees is increasing and their canopy is closing, decreasing shrub and understory cover.

Small, isolated patches of Clokey’s milkvetch (Astragalus aequalis), an R4 sensitive species, exist in the pinyon pine-juniper woodland and shrub communities throughout the project area. Based on preliminary survey results, larger patches of Clokey’s milkvetch occur in younger stands of Gambel’s oak, pinyon pine, and juniper where the canopy cover is more open and understory vegetation is present. In sections of the project area, pinyon pine, juniper, and Gambel’s oak have aged and outcompeted the understory, reducing suitable habitat for Clokey’s milkvetch.
R4 sensitive bat and butterfly species’ habitats and elk habitat also occur in the project area. The R4 sensitive wildlife species that may occur in the area include Townsend’s big-eared bat (*Corynorhinus townsendii pallescens*), Spring Mountains acastus checkerspot butterfly (*Chlosyne acastus robusta*), and Spring Mountains dark blue butterfly (*Euphilotes ancilla cryptica*). Additional bat species that may use the area include Allen’s big-eared bat (*Idionycteris phyllotis*), silver-haired bat (*Lasionycteris noctivagans*), fringed myotis (*Myotis thysanodes*), long-eared myotis (*Myotis evotis*), western small-footed myotis (*Myotis ciliolabrum*), and long-legged myotis (*Myotis volans*). Overstocked and homogeneous stands of mixed conifer forest and pinyon pine-juniper woodlands have reduced suitable habitat and species richness. Based on preliminary survey results, understory plants on which wildlife depend are becoming sparse as the woodlands and forest canopies close and outcompete the understory. In addition, elk avoid thick forests and bats prefer open mature stands that are maneuverable.

The Spring Mountains Multi-Jurisdictional Fuel Reduction and Wildfire Prevention Strategy (10 Year Fuel Plan) identified the project area as a priority area for hazardous fuels reduction. In 2007, the Forest Service, Bureau of Land Management (BLM) and private land management contracted with the Nature Conservancy to map Fire Regime Condition Classes (FRCC) throughout the Spring Mountains. Fire Regime Condition Class is a measure of departure of vegetation structure-composition and fire regimes between current and reference condition. The FRCC for the plant communities within the project area were identified as mostly 2 and 3 (moderate to high departure from the natural regime). The modeled fire behavior and rate of fire spread for the existing plant communities predicts passive to active crown fires with flame lengths 4-8 feet and 10-20 chains per hour, respectively (Spring Mountains Multi-Jurisdictional Fuel Reduction and Wildfire Prevention Strategy 2008).

Private land exists near the project area and the only access road to the private land passes through the project area. Forest roads 45071, 45071A, 45566, and 45566D access this private land parcel and Buck Springs through the project area. The private landowner has constructed defensible space within his private property. There is no shaded fuel break on National Forest System land to provide for safe ingress or egress along these forest roads.

**LOCATION**

Clark Canyon is located in the Spring Mountains National Recreation Area (SMNRA), Clark County, NV, on Forest Road (FR) 45071. The area is approximately 15 miles east of State Route 160 (Pahrump Highway) and Pahrump, NV, with an elevation range of 6,800 to 8,100 feet (Township 18 South, Range 55 East, Sections 26, 27, 34, and 35; and Township 19 South, Range 55 East, Sections 1, 2, and 3 of the Mt. Diablo Meridian). The proposed project area covers approximately 1,606 acres (Figure 1).

**PURPOSE AND NEED**

The purpose of the Clark Canyon Restoration Project is to restore a healthy forest mosaic and sensitive species habitats, protect private property, and provide for public safety within the WUI.

The project is needed to restore a healthy mixed conifer forest and pinyon pine-juniper woodland mosaic landscape throughout the project area, create forest and woodland conditions that are resistant and resilient to insect and disease and to wildfire, improve sensitive botanical and wildlife species’ habitats, reduce the rate of fire spread to 50 percent of existing modeled estimates, and provide safe ingress and egress along the FS roads for the private property owner, public, and fire personnel.
DECISION

I have decided to authorize the proposed vegetation treatments (Figure 1) within the Clark Canyon Restoration Project to restore forest health, increase forest heterogeneity, improve R4 sensitive species’ habitats while minimizing impacts to species, protect private property, and provide safer ingress and egress along FS roads in the project area. I based my findings on information contained in the resource specialist reports and biological evaluations prepared for this project. These reports are incorporated by reference and are included in the project file.

Treatments will occur only on slopes less than 35 percent. Access to the treatment areas will occur on existing forest roads; no new roads will be constructed. Vegetation treatments will be implemented as described below.

1. **Ponderosa Pine Plantations** (53 acres)
   a) Thin (machine or hand cut or masticate) from below to attain an average tree spacing of 20 feet with a range of 15-25 feet.
   b) Mechanically fall and lop and scatter on-site or whole-tree yard material over 2 inches DBH to designated landing zones to achieve desired spacing.
c) Provide cut materials in ponderosa pine plantations as firewood available for the public at designated firewood pick-up locations in the landing zones.
d) Mechanically pile and burn excess cut materials in the landing zones.
e) Rip compacted landing zone areas to the depth of 6 inches after cut materials are removed by the public or burned.
f) Remove mistletoe infected overstory trees within 30-60 feet of a plantation, with 30 feet as the minimum spacing on the downhill side of the plantation and 60 feet on the uphill side.

2. **Mixed Conifer Stands** (with pockets of larger (greater than 18 inch DBH) and mature ponderosa pine and white fir surrounded by a matrix of younger ponderosa pine and white fir) (305 acres).  
   a) Radially thin (masticate or machine/hand cut trees) to 5 feet past the drip line of larger ponderosa pine trees (greater than 18 inches DBH) to facilitate their survival by reducing competition for water, sunlight, and nutrients. All trees greater than 18 inches DBH will be retained.
   b) Masticate or machine/hand cut trees, lop, and scatter on-site the residual younger trees in the matrix around pockets of larger trees or individual large trees in the stand from below to an average spacing of 25 feet with a range of 20-30 feet.
   c) Remove trees less than 18 inches DBH that are infected with western dwarf mistletoe. Infected trees greater than 18 inches DBH will be retained.

3. **Pinyon Pine-Juniper Woodlands and Shrub Communities** (1,248 acres)  
   a) Masticate 1 to 10 acre patches over no more than 30 percent (approximately 375 acres within the project area) of pinyon pine-juniper and shrub communities. These patches will be located near rock outcrops used by bats and existing occurrences of Clokey’s milkvetch (Astragalus aequalis) and R4 sensitive butterfly larval host plants (Chrysothamnus viscidiflorus ssp. viscidiflorus and Eriogonum umbellatum var. subaridum).
   b) Thin trees from below within these patches with a spacing of 25 feet with a range of 20-30 feet.
   c) Thin shrubs to 30 percent cover within these patches. Spacing will vary dependent upon the size of residual shrub clumps.

4. **Wildland-Urban Interface**  
   a) The proposed treatments described above encompass approximately 262 WUI acres along the private property boundary and roads within the project area.

5. **Seeding** (dependent upon future funding)
   a) Broadcast seeding of herbaceous species may occur in treated areas where the understory seed bank and organic layer are absent due to prolonged canopy closure and understory suppression.
   b) Broadcast seeding of Spring Mountains acastus checkerspot butterfly larval host and nectar plants may occur in areas where butterfly habitat has been identified as present and in need of restoration (i.e., the seed banks have disappeared due to prolonged canopy closure and understory suppression or densities of larval host and nectar plants are too low for Spring Mountains acastus checkerspot to utilize). Species to be seeded will be Chrysothamnus viscidiflorus ssp. viscidiflorus and Eriodictyon angustifolium.
6. **Design Criteria and Monitoring**
To minimize effects to forest resources, the design features found in Appendix A will be implemented. Project monitoring is also described in Appendix A.

**CATEGORICAL EXCLUSION**
This action is categorically excluded from documentation in an environmental impact statement (EIS) or an environmental assessment (EA). The applicable category of actions is identified in agency procedures as: *Timber stand and/or wildlife habitat improvement activities that do not include the use of herbicides or do not require more than one mile of low standard road construction* (36 CFR 220.6(e)(6)). This category of action(s) is applicable because proposed vegetation treatments will restore forest health, increase forest heterogeneity, and improve R4 sensitive species’ habitats while minimizing impacts to species. No road construction will occur.

**Extraordinary Circumstances**
I find there are no extraordinary circumstances that will warrant further analysis and documentation in an EA or EIS. I took into account the following resource conditions identified in agency procedures that should be considered in determining whether extraordinary circumstances might exist.

**Federally listed threatened or endangered species or designated critical habitat, species proposed for federal listing or proposed critical habitat, or Forest Service sensitive species**

*Butterflies and Plants*: The Forest Botanist concluded that the Clark Canyon Restoration Project will have no effect on federally endangered, threatened, or proposed plant and butterfly species. The proposed action **may impact individuals but is not likely to cause a trend to federal listing or loss of viability** for the following Intermountain Region (R4) Threatened, Endangered, Proposed, and Sensitive plant and butterfly species and the following SMNRA 1998 Conservation Agreement (CA) plant and butterfly species of concern:

**Plants:**
- Clokey’s milkvetch (*Astragalus aequalis*)
- Clokey eggvetch (*Astragalus oophorus var. clokeyanus*)
- Jaeger’s beardtongue (*Penstemon thompsoniae* ssp. *Jaegeri*)
- Clokey mountain sage (*Salvia dorrii* var. *clokeyi*)
- Charleston violet (*Viola charlestonensis*)

**Butterflies:**
- Spring Mountains acastus checkerspot (*Chlosyne acastus robusta*)
- Spring Mountains dark blue (*Euphilotes ancilla purpura*)
- Spring Mountains comma skipper (*Hesperia colorado mojavensis*)
- Nevada admiral (*Limenitis weidemeyerii nevadae*)
- Spring Mountains icarioides blue (*Plebejus icarioides austinorum*)
- Carole’s silverspot (*Speyeria carolae*)

For all other R4 sensitive plant and butterfly species and SMNRA Conservation Agreement plant and butterfly species of concern, the proposed action will have no impact.

**Wildlife**: The Humboldt-Toiyabe Northeast Zone wildlife biologist concluded this project will have no effect on wildlife species listed under the Endangered Species Act. It **may impact individuals but**
**is not likely to cause a trend to federal listing or loss of viability** for the following sensitive (Forest Service, Conservation Agreement, and Clark County Conservation Plan) species:

- Fringed myotis (*Myotis thysanodes*)
- Long-legged myotis (*Myotis volans*)
- Yuma myotis (*Myotis yumanensis*)
- Palmer’s Chipmunk (*Neotamias palmeri* = *Tamias palmeri*)
- Northern goshawk (*Accipiter gentilis*)
- Western burrowing owl (*Athene cunicularia hypugaea*)
- Peregrine falcon (*Falco peregrinus var. anatum*)
- Bald Eagle (*Haliaeetus leucocephalus*)
- Flammulated owl (*Otus flammeolus*)
- Phainopepla (*Phainopepla nitens*)
- Summer tanager (*Piranga rubra*)
- Speckled rattlesnake (*Crotalus mitchellii*)
- Great Basin collared lizard (*Crotaphytus bicinctores* = *C.insularis bicinctores*)
- Banded gila monster (*Heloderma suspectum cinctum*)
- California kingsnake (*Lampropeltis getula californiae*)
- Western red-tailed skink (*Plestiodon gilberti rubricaudatus*)
- Western chuckwalla (*Sauromalus ater*)
- Sonoran lyre snake (*Trimorphodon bicuspidatus lambda*)
- Charleston ant (*Lasius nevadensis*)
- Spring mountainsnail (*Oreohelix handi*)
- Kyle Canyon mountainsnail (*Oreohelix jaegeri*)
- Spring Mountains springsnail (*Pyrgulopsis deaconi*)
- Southeast Nevada springsnail (*Pyrgulopsis turbatrix*)

For more information on effects to wildlife and botanical species, see the biological evaluations found in the project file.

**Flood plains, wetlands, or municipal watersheds**

The project area does not occur within a municipal watershed. No significant wetlands are associated with the springs found in the project area. Implementation of best management practices should result in no impacts to these springs.

No floodplains have been mapped in the project area. Clark Canyon wash is a dry wash that has a moderate-sized floodplain. Increased flows into this wash from the implementation of this project will be minimal and temporary. Any flows coming down this wash will occur from localized summer rain events. There are no records of any of the washes in the project area flowing in the winter time. Following best management practices will result in negligible impacts to the dry stream channels.

**Congressionally designated areas such as wilderness, wilderness study areas, or national recreation areas**

The project is located within the congressionally designated Spring Mountains National Recreation Area. The Clark Canyon Restoration Project addresses the following objectives identified in the enabling legislation for the SMNRA and the SMNRA General Management Plan.

**Spring Mountains National Recreation Area Act:**

(1) Preserve scenic, scientific, historic, cultural, natural, wilderness, watershed, riparian, wildlife,
threatened and endangered species, and other values contributing to public enjoyment and biological diversity in the Spring Mountains of Nevada.

(2) Ensure appropriate conservation and management of natural and recreation resources in the Spring Mountains.

*Spring Mountains National Recreation Area GMP:*

(0.1) Maintain or enhance ecosystem health, function, sustainability, and diversity (plant, animal, and community).

(0.8) Manage for endemic levels of native insects and diseases within the ecosystem.

(0.10) Increase populations of threatened, endangered, and sensitive species, and species of concern, and their suitable habitat over the long term.

(0.25) Protect lives, private property, and public recreation facilities from wildland fires.

**Inventoried roadless areas or potential wilderness areas**

No roadless areas are found within the project area.

**Research natural areas**

No research natural areas are found within the project area.

**American Indians and Alaska Native religious or cultural sites**

The SMNRA has consulted with the Las Vegas Paiute Tribe, Pahrump Paiute Tribe, Kaibab Band of Paiute Indians, Chemehuevi at Colorado River Indian Tribes, Chemehuevi Indian Tribe and Moapa Band of Paiute Indians. No religious or cultural sites were identified.

**Archaeological sites, or historic properties or areas**

The District Archeologist completed a cultural resource report for this project. All cultural resource sites will be avoided. Concurrence was received from Nevada State Historic Preservation Office on July 24, 2013.

**PUBLIC INVOLVEMENT**

This action is listed as a proposal on the Humboldt-Toiyabe National Forest Schedule of Proposed Actions and has been updated periodically during the analysis. A legal notice was published in the Las Vegas Review Journal on March 27, 2013, announcing the 30 day comment period for the Notice of Proposed Action. Six comments were received from individuals, groups, and state agencies. Responses to those comments are found in Appendix B.

**TRIBAL CONSULTATION**

This project was presented to the Las Vegas Paiute Tribe, Pahrump Paiute Tribe, Kaibab Band of Paiute Indians, Chemehuevi at Colorado River Indian Tribes, Chemehuevi Indian Tribe and Moapa Band of Paiute Indians in May and December of 2012. Tribal representatives were supportive of the project and did not raise any concerns.
FINDINGS REQUIRED BY OTHER LAWS

This project complies with all laws and executive orders affecting National Forest Management, including the National Forest Management Act, the Endangered Species Act, the Clean Air Act, and the American Antiquities Act. This decision is consistent with the 1986 Toiyabe National Forest Land and Resource Management Plan (Forest Plan) and the 1996 General Management Plan (GMP) for the SMNRA, an amendment to the Forest Plan.

IMPLEMENTATION AND APPEAL RIGHTS

Project implementation is anticipated to begin in the fall of 2013.

This decision is subject to administrative appeal pursuant to 36 CFR Part 215, only by those individuals and organizations who provided comments or otherwise expressed interest during the 30-day comment period on the Notice of Proposed Action. The appeal must meet the requirements at 36 CFR 215.14.

The Appeal Decision Officer is Bill Dunkelberger, Forest Supervisor, Humboldt-Toiyabe National Forest. Appeals filed by regular mail or express delivery must be sent to the Appeal Deciding Officer; Intermountain Regional Office; 324 25th Street; Ogden, UT 84401.

Appeals may also be hand-delivered to the above address between the hours of 8:00 a.m. and 4:30 p.m. Mountain Time, Monday through Friday, excluding holidays. Appeals may also be submitted via fax at (801) 625-5277.

Electronic appeals must be submitted in a rich text format (.rtf) or Microsoft Word (.doc) format as an email message to: appeals-intermtn-regional-office@fs.fed.us. E-mailed appeals must include the project name in the subject line. In cases where no identifiable name is attached to an electronic message, a verification of identity will be required. A scanned signature is one way to provide verification.

Appeals must be filed within 45 days from the publication date of this notice in the Las Vegas Review Journal. The publication date in the Las Vegas Review Journal, the newspaper of record, is the exclusive means for calculating the time to file an appeal.

If no appeals are filed within the 45-day time period, implementation of the decision may occur 5 business days from the close of the appeal filing period. When appeals are filed, implementation may occur on the 15th business day following the date of the last appeal disposition.

CONTACT

For additional information concerning this decision, contact: Marisa Anderson, Project Manager at (702) 515-5409 or via email at marisaanderson@fs.fed.us.

/s/ Randy Swick 9/3/2013

Randy Swick
Spring Mountain NRA Area Manager
### Appendix A – Design Features

<table>
<thead>
<tr>
<th>Design Features</th>
<th>Potential Impacts Addressed</th>
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<tbody>
<tr>
<td><strong>Air Quality</strong></td>
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<tr>
<td><strong>Burn Plan</strong>: Burning will be initiated only on “burn days” designated by the State Air Control Board. Prescription days will be outlined in an approved burn plan.</td>
<td>Minimize impacts to air quality</td>
</tr>
<tr>
<td><strong>Cultural Resources</strong></td>
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<tr>
<td><strong>Thinning Treatments</strong>: Avoid cultural sites found in areas proposed for mechanical treatments. Place brush piles a minimum of 100 feet from site boundaries should pile burning occur near sites. The District Archaeologist will provide archaeological site protection input and on-site monitoring as needed.</td>
<td>Minimization of disturbance to archaeological sites from mechanical treatment and/or from pile burning</td>
</tr>
<tr>
<td><strong>Botany</strong></td>
<td></td>
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<tr>
<td><strong>Education of Implementation Crews</strong>: Prior to implementation, crews will meet with a qualified botanist or ecologist on the SMNRA staff to coordinate on sensitive species identification, techniques to minimize impacts to sensitive species and habitats, and notification procedures if TES species are encountered.</td>
<td>Minimize accidental destruction of TES species and degradation of sensitive habitat</td>
</tr>
<tr>
<td><strong>Implementation Timing</strong>: In locations where R4 sensitive plants are present, timing of mastication treatments will be late summer to early spring (August–March) when plants are not actively growing and have dispersed their seed.</td>
<td>Minimize impacts to R4 sensitive plants found within the project area and help mitigate impacts to reproductive potential for the year</td>
</tr>
<tr>
<td><strong>Burn Pile Location</strong>: Burn piles will be located in areas determined to be free of sensitive plants and butterfly larval host plants.</td>
<td>Minimize impacts to seed banks and underground meristems that may be killed from extended fire residence times</td>
</tr>
<tr>
<td><strong>Seeding</strong>: Seeding, including the possible seeding of butterfly larval host and nectar plants, may occur within treatment areas. Any such seeding will be limited to areas where the application of seed will not alter or degrade habitats of sensitive species.</td>
<td>Reduce long-term loss of individuals, habitat, and plant diversity</td>
</tr>
<tr>
<td><strong>Native Plant Materials</strong>: Contractors will follow Forest Service Policy (FSM 2070) and use genetically appropriate native materials for rehabilitation and restoration when possible.</td>
<td>Reduce long-term loss of individuals, habitat, and plant diversity</td>
</tr>
<tr>
<td><strong>Woody Debris</strong>: Woody debris from mastication will be spread over an area no larger than 50 percent of the project or treatment area. Woody debris from mastication will be spread to an average depth of no greater than five inches throughout the project area.</td>
<td>Minimize impacts to sensitive plants and butterfly host plants</td>
</tr>
<tr>
<td><strong>Forest Pests – Insects and Diseases</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Implementation Timing</strong>: Preferred timing to begin implementation within the ponderosa pine plantations will be after September 1.</td>
<td>Minimize attraction of insect pests to treatment areas</td>
</tr>
<tr>
<td><strong>Invasive Species</strong></td>
<td></td>
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<tr>
<td><strong>Weed Prevention</strong>: USFS and Humboldt-Toiyabe NF Best Management Practices (Humboldt-Toiyabe Supplemental FSM 2080) will be employed during project implementation to prevent and control the introduction and spread of invasive species. Inspection of erosion control and road materials, equipment and vehicles will occur prior to contracted work to ensure that they are free of mud and visible plant debris. The materials, equipment, and vehicles will also be cleaned prior to moving from an infested treatment unit to a unit that is free of weeds. Any new infestations of noxious weeds discovered during implementation will be documented and locations marked on a map or GPS. Newly discovered noxious weeds will be treated prior to conducting additional fuels treatment activities within the infested area.</td>
<td>Minimize the introduction and spread of noxious and invasive species onto and throughout the project area and adjacent federal land</td>
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### Design Features

<table>
<thead>
<tr>
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<th>Potential Impacts Addressed</th>
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<tbody>
<tr>
<td><strong>Recreation</strong></td>
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<tr>
<td><strong>Visuals:</strong></td>
<td>Treatment will take into consideration visual appeal of the project area to recreationists and/or community members. Feathering of project boundaries and the utilization of tree screens to reduce visual impacts of project should be considered.</td>
</tr>
<tr>
<td><strong>Recreation Activities:</strong></td>
<td>Informative signs will be placed in the area during project implementation.</td>
</tr>
<tr>
<td><strong>Travel Management:</strong></td>
<td>In treatment areas where motorized intrusions are likely to occur, the Contracting Officer's Representative (COR) and contractor will work with a recreation specialist before and/or during implementation to retain down trees and other woody debris and to design treatment units to prevent illegal motorized expansion of existing routes or staging areas.</td>
</tr>
<tr>
<td><strong>Soils and Hydrology</strong></td>
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<tr>
<td><strong>Erosion:</strong></td>
<td>Contractor will provide an erosion control plan prior to implementation. Install erosion devices to prevent sediment and debris from clogging culverts.</td>
</tr>
<tr>
<td><strong>Soil Disturbance:</strong></td>
<td>Place slope limitations in pinyon pine-juniper woodland or desert shrub community cover types with 30 percent maximum for mechanical equipment, 35 percent for mixed conifer. No entry into entrenched channels except to cross. Hand-treat and remove material in channels. Keep travel routes at least 30 feet apart. Trails must be located and flagged in advance. Remaining ground cover on treated areas will be approximately 40 percent.</td>
</tr>
<tr>
<td><strong>Soils:</strong></td>
<td>Refer to Clark County Soil Survey, NV755, for soil types and interpretations for this project area.</td>
</tr>
<tr>
<td><strong>Equipment Use and Staging:</strong></td>
<td>Equipment will be appropriate for the site and type of mechanical vegetation treatment implemented. Use of equipment will be confined to areas intended for disturbance and unnecessary disturbance will be avoided. Establish designated areas for firewood pick-up, equipment staging and parking to minimize the area of ground disturbance. Equipment will be maintained in good operating condition; refueling areas will be minimized.</td>
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<tr>
<td>Design Features</td>
<td>Potential Impacts Addressed</td>
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<tr>
<td><strong>Areas Used for Piling of Firewood for Public Use</strong>: Excess material will be machine piled and burned, landing zones will be ripped to the depth of 6 inches, and erosion control devices will be installed as per erosion control plan.</td>
<td>Minimize soil compaction and erosion</td>
</tr>
<tr>
<td><strong>Springs and Riparian Areas</strong>: Delineate springs and riparian locations and boundaries in the project area using suitable markings.</td>
<td>Minimize impacts upon soil and water resources.</td>
</tr>
<tr>
<td>Maintain or reestablish these boundaries as necessary during project implementation or operation.</td>
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<tr>
<td>Specify springs/riparian zones layout, maintenance, and operating requirements in contracts, design plans, and other necessary project documentation.</td>
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<tr>
<td>No placement of burn piles or use of ground based equipment within 100 feet of springs and seeps.</td>
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<tr>
<td><strong>Dry washes</strong>: Avoid treating vegetation on banks of washes and riparian areas</td>
<td>Minimize the impacts upon soil and water in areas of mechanical use, surface runoff/erosion, and delivery of sediment and slash into channels. Minimize degradation of habitat.</td>
</tr>
<tr>
<td><strong>Wildlife</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Education of Implementation Crews</strong>: Prior to implementation, crews will meet with qualified botanist, wildlife biologist, or ecologist on SMNRA staff to coordinate on identification and avoidance of sensitive species and habitats and notification procedures if TES species are encountered.</td>
<td>Minimize accidental destruction of TES species and degradation of sensitive habitat</td>
</tr>
<tr>
<td><strong>Limited Operating Periods for Migratory Birds and Sensitive Raptors</strong>: Thinning activities will not occur between May 1 - July 20 to avoid bird breeding season. If an exception is requested, it may be granted if a nest search is conducted and substrates (i.e., trees, bushes, or ground) on which nests are found are avoided until nestlings fledge. A qualified biologist who is familiar with the birds of southern Nevada and can accurately identify nesting and breeding behaviors will conduct all nest searches. Appropriate buffers will be designated for any nests located based on the species habitat requirements. Currently there are no known sensitive raptor nests within the project area boundaries; however if any are found, a 30-acre no-disturbance buffer will be centered around the nest from March 1 to August 31.</td>
<td>Prevent nest abandonment and loss of young for migratory birds</td>
</tr>
<tr>
<td><strong>Limited Operating Periods for Sensitive Bats</strong>: Thinning activities will occur in daylight hours only (i.e. dawn to dusk) and depending on the species and type and status of habitat, seasonal operating limitations may be implemented to protect areas of maternity roosts and winter hibernacula.</td>
<td>Minimize disturbance to foraging bats</td>
</tr>
<tr>
<td><strong>Snags</strong>: Retain all snags that do not pose a threat to public safety or increase fire danger.</td>
<td>Minimize degradation of habitat for sensitive raptors, migratory birds, small mammals, and reptiles</td>
</tr>
<tr>
<td><strong>Cover Sites</strong>: Retain existing down and dead woody debris in the plantations.</td>
<td>Provide shelter locations for Palmer's chipmunk and reptile species</td>
</tr>
<tr>
<td>Maintain dead snags, fallen trees or rock cover sites and undergrowth on slopes and canyon bottoms with a density of 2 snags and 10 logs per acre in high chipmunk density areas.</td>
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</tr>
<tr>
<td><strong>Woody Debris</strong>: Woody debris from mastication will be spread over an area no larger than 50 percent of the project or treatment area.</td>
<td>Minimize impacts to sensitive plants and butterfly host plants</td>
</tr>
<tr>
<td>Woody debris from mastication will be spread to an average depth of no greater than five inches throughout the project area.</td>
<td></td>
</tr>
<tr>
<td>Monitoring</td>
<td>Potential Impacts Addressed</td>
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<tr>
<td><strong>Sensitive Species and Species of Concern:</strong> If funding allows, post-treatment monitoring of <em>Astragalus aequalis</em>, bat species, butterfly species, and butterfly host plant species may occur to monitor the direct, indirect, and cumulative effects of thinning treatments on sensitive species and species of concern.</td>
<td>Monitoring results will be used to provide for future adaptive management of these species.</td>
</tr>
<tr>
<td><strong>Soil:</strong> If funding allows, monitor soil conditions on a project basis as required by the Forest Plan and as outlined in Chapters 5 and 32 of FSH 2509.19 National BMP Handbook. Use standard methods to classify, monitor, and evaluate soils conditions.</td>
<td>Minimize long-term effects and comply with federal laws.</td>
</tr>
<tr>
<td><strong>Weeds:</strong> If funding allows, post-treatment surveys will be conducted to document any new infestations of noxious weeds, including expansion of cheatgrass. New infestations will be treated, and where appropriate, seeding of weed-treatment areas with appropriate native species will occur to reduce, through competition, further weed establishment or expansion of existing infestations.</td>
<td>Minimize spread of noxious and invasive species.</td>
</tr>
</tbody>
</table>
Appendix B – Response to Comments on the Notice of Proposed Action

**Comment:** The short and long term impacts of the proposed project to the structure and composition of the project area have not been adequately identified.

**Response:** The short and long-term impacts of the project on the structure and composition of vegetation within the project area will be contained in the Silviculture Specialist’s Report located in the project record.

**Comment:** It also appears many areas that received similar treatments previously have not and may not recover for decades.

**Response:** No previous treatments have occurred within the project area. In 1960, a wildfire burned through the Clark Canyon area. As a result of that fire, a portion of the area was replanted with ponderosa pine in 1960-1961. Over 50 years have passed, and the plantations are overgrown and need to be thinned to restore a healthy forest mosaic. After treatment we anticipate a mosaic landscape that includes open, mature stands with a healthy understory.

**Comment:** The USFS should conduct studies of butterflies and their resources in previously treated areas before implementing this project as proposed.

**Response:** This project has been designed to enhance habitat for butterfly species. As funding is available, the project area and other previously thinned areas throughout the SMNRA will be monitored to determine the level of improvement in the butterfly habitat in the area.

**Comment:** Protection of larval host plants within the project area has not been considered and the effects of the project on the environmental requirements of each plant species listed below needs to be addressed. *(Viola charlestonensis* (species of concern), *Eriogonum umbellatum* var. *subaridum*, *Eriogonum umbellatum* var. *versicolor* (possible *Euphilotes ancilla* host, Thompson 2012), *Lupinus argenteus*, *Chrysothamnus viscidiflorus*, *Penstemon* sp., *Castilleja* sp., *Populus* sp., *Salix* sp.)

**Response:** The protection needed for larval host plants and for the species listed has been analyzed in the Botany Specialist Report and Biological Evaluation found in the project record.

**Comment:** Availability of nectar sources to each butterfly species has not been considered.

**Response:** The protection needed for larval host plants and for the species listed has been analyzed in the Botany Specialist Report and Biological Evaluation found in the project record.

**Comment:** For many decades the USFS has had one primary goal. They gleefully spent our tax dollars to provide profit opportunities for natural resource extraction corporations at the expense of the natural resources in the national forests.

**Response:** This project was proposed to improve wildlife habitat and restore vegetation to a more natural state. This project does not propose removal of natural resources to profit extraction corporations. Some of the material that will be removed may be offered to the public as fuelwood.

**Comment:** The Department is generally supportive of the project and recognizes the importance of reducing wildfires through maintaining, restoring, and improving area habitats. As a signatory to the SMNRA Conservation Agreement (CA), the Department would expect the proposed improvements outlined in the project summary, when implemented, are consistent with the intent of the CA.

**Response:** Thank you for your support. The Wildlife and Botany Specialist Reports and Biological Evaluations are consistent with the intent of the SMNRA Conservation Agreement.

**Comment:** Palmer’s chipmunk (*Tamias palmeri*) is prioritized for conservation in the Nevada Wildlife Action Plan. Noted were several design criteria concepts of the Clark Canyon Restoration Project.
corresponding with Spring Mountain CA habitat restoration guidelines benefitting Palmer’s chipmunk. These restoration guidelines are: Maintain dead snags, fallen trees or rock cover sites and undergrowth on slopes and canyon bottoms with a density of 2 snags and 10 logs per acre in high chipmunk density areas. Revegetate heavily impacted areas with native vegetation.

Response: These design criteria have been added to the final list of design features for the project.

Comment: The Department also concurs with the wildlife design criteria on page 8, indicating avoidance of the migratory bird nesting season while implementing treatments. To allow for reasonably optimal time accounting for differences among breeding species and local weather patterns, broadening the proposed period from May 20-July 20 to May 1 – July 31 during which thinning activities do not occur is recommended. It is anticipated that implementation of project design criteria as requested would also lead to long-term benefits to these species (list).

Response: May 20 to July 20 is the standard limited operating period (LOP) used for the SMNRA for migratory bird protections. The Great Basin Bird Observatory has recommended May 1 to July 15 for this specific habitat type. The LOP for this project has been modified to May 1 - July 20 to extend protection to those birds that nest earlier in the season.

Comment: The SHPO supports this document as written.

Response: Thank you for your support.

Comment: Speaking for the State Land Use Planning Agency, I support the Clark Canyon Restoration Project.

Response: Thank you for your support of this project.

Comment: The density of trees is great enough in that area that either mastication with leaving the chips in place or hand/machine cutting with lop and scatter of material less than 2 inches in diameter will cover the soil to such a depth that understory regrowth will be inhibited and/or the fuel load of downed material will actually increase the danger of wildfire. The vast majority of the cut or masticated biomass should actually be removed to allow development of a healthy forest understory and shrub community.

Response: Proposed treatments will, in the short-term, increase fuel loading. The ability to attack a wildfire will be enhanced because flame lengths will be reduced; a ground fire will more likely occur than a canopy fire. Removing the vast majority of the cut or masticated biomass would require many more passes with machinery, which would increase compaction. The short and long-term impacts of the project on the structure and composition of vegetation within the project area can be found in the Silviculture Specialist’s Report, which is available in the project record.

Comment: The proposed maximum chip depth of 5 inches will almost completely stop re-growth of grasses and shrub seedlings. A maximum depth of 2 inches over any substantial area would be more appropriate.

Response: A carpet of masticated material is not planned. Results from mastication will not be a continuous layer of 5-inch chippings. Mastication will leave irregular shaped pieces or chunks of wood spread throughout the area. Mastication allows for light, air, and water to penetrate to the duff layer better than chipping of material into smaller pieces. The modeled average fuel depth generated by mastication of the pinyon-juniper woodlands, ponderosa pine plantations, and mixed conifer
stands ranges from 1.3 – 2.2 inches. It is expected there will be areas of deeper material and areas with no material. Further details of this modeling are included in the Silviculture Specialist’s Report located in the project record.

**Comment:** The creation of irregularly shaped clear cuts which mimic the effects of small fires is better than simple circular areas with minimum edge lengths. While creating irregularly shaped openings is more work than simple circles or ellipses it is better for wildlife.

**Response:** We agree with your comment and intend to create irregularly shaped patch cut openings for wildlife habitat improvement.

**Comment:** It is also helpful to thin some of the immediate areas surrounding the cleared areas.

**Response:** Thank you for your thinning suggestions. The type of thinning that is proposed will create different age classes throughout the pinyon-juniper woodlands. We will evaluate the need for thinning treatments around the patch cuts based on post-treatment monitoring and funding availability.

**Comment:** The burn piles will be most useful and cause the least soil sterilization if constructed on top of a layer of logs which will help ventilate the piles so that they burn faster, cleaner and with less smoke. If the log mats are then pulled apart as the piles finish burning the underlying soils will be protected and not as likely to turn into patches of cheat grass.

**Response:** Thank you for your pile burning suggestions. If pile burning occurs in the proposed landing zones, a burn plan will be written to specify how high (e.g., less than 5 feet high), compact, and spread apart piles will be in order to minimize sterilization of soil and impacts to surrounding vegetation and soil from radiant heat. A design criterion has been added to minimize impacts to air quality by initiating pile burning on “burn days” designated by the State Air Control Board. Prescription days will be outlined in an approved burn plan.

**Comment:** A great concern is the increased access provided for motorcycles and ATV’s that will result from thinning and removal of trees. If inappropriate vehicle use moves up the hill from the Wheeler Well Road area into this area as a result of this project that would be extremely unfortunate. The danger of this happening can be minimized by appropriate law enforcement presence but also by leaving enough large woody debris on the ground so that it is not really practical to ride vehicles through the area. If this is done properly it will not contribute to fuel loading and will help to lessen erosion danger on slopes and provide cover for small animals.

**Response:** During implementation, enough debris will be left on the ground to deter motorized travel throughout the treatment area. In treatment areas where motorized intrusions are likely to occur, the Contracting Officer’s Representative (COR) and contractor will work with a recreation specialist before and/or during implementation to retain down trees and other woody debris and to design treatment units to prevent illegal motorized expansion of existing routes or staging areas. This design feature will be analyzed in more detail in the Recreation Specialist’s Report, which will be available in the project record.
Comment: Ideally, this project will be carried out during the fall season so that bird nesting is not affected and when soils are dry and not so susceptible to compaction by machinery.

Response: No tractor or vehicle operation will occur on soils with high moisture content. The Soil and Water Conservation Practices (BMP) handbook addresses this under item 13.06, Soil Moisture limitations for tractor logging. In order to minimize compaction and soil erosion, no masticators or other motorized equipment will conduct operations during the time of year where the soil is wet when the soil is susceptible to compaction. This protective measure has been included as a design feature.