Proposed Action

Macks, Champion, and Lovell Canyon (MCL) Habitat Improvement and Fuels Reduction Project

January 2020

The Forest Service, USDA, is proposing a project to improve critical wildlife habitats in the Spring Mountains National Recreation Area (SMNRA) of the Humboldt-Toiyabe National Forest. The project area includes three treatment areas totaling 1,421 acres, and is located approximately 25 miles west of Las Vegas, NV (Figure 1). The project would include several types of habitat improvement activities in the Macks, Champion, and Lovell Canyon (MCL)areas.

Figure 1. Macks, Champion, and Lovell Canyon treatment areas in the Spring Mountains NRA.

Need for Action

Treatment in the three project areas is needed to protect and improve habitat for species categorized as sensitive within the Intermountain Region of the National Forest System (hereafter "sensitive species"). These include important plants and butterflies whose larval host species' habitat would be improved, thus improving overall forest health. This project enhances and protects habitat in and around the project area by reducing high-density, homogenous stands in late-seral stage exhibiting a closing canopy. Reduction of canopy overstory would increase suitable habitat conditions for sensitive species, and fuel reduction would reduce the risk of high-intensity landscape scale wildfires that can destroy habitat and connectivity corridors.

This project would help restore and enhance habitats in the Macks, Champion, and Lovell Canyon areas that have plants and trees in declining health due to overcrowding, primarily from lack of natural fire

disturbance. These dense stands increase the risk and spread of insect and disease outbreaks. Most of the pinyon pine-juniper woodlands are high-density, homogenous stands in late seral stages exhibiting a closing canopy. The closed canopies suppress the growth of understory plants, reducing suitable sensitive species habitat and species richness.

In addressing those needs, this project would also address several other land and resource management goals and provide for the desired conditions as identified in the SMNRA 10-year Fuels Plan:

- Improve watershed vitality within the project area.
- Conserve and restore the quality of the outdoor environment by preserving natural and cultural resources and enhancing recreational opportunities.
- Improve the connection between fuels reduction activities and wildlife habitat.
- Manage resources to improve the safety of communities by reducing the risk of wildfire.
- Protect the public and recreationists who visit these areas from the nearby Las Vegas metropolitan area (population 2.2 million within 30 miles of the project area).

Improving habitat for sensitive species by minimizing impacts to soils, and by improving the proper functioning of riparian and wetland areas. This would improve the sustainability of forest health and ecosystem function.

Proposed Action

The MCL project would include the following habitat improvement treatments:

- Broadcast burning for the removal of vegetation (prescribed fire);
- Thinning and mastication, chipping, or pile burning, of smaller trees with diameters at breast height less than 14 inches to reduce fuel loading;
- Hand pile of slash and cut material for subsequent pile burning;
- Biomass utilization of firewood through local community;

These proposed treatments are all tools and methods to be used to meet objectives and are intended to occur only as needed across the 1,421-acre landscape. Multiple treatments may be applied to some areas. Current site-specific conditions would determine which treatments to apply and in which areas of the project.

Treatment Area Locations

The three treatment areas total 1,421 acres and are shown in figure 2.

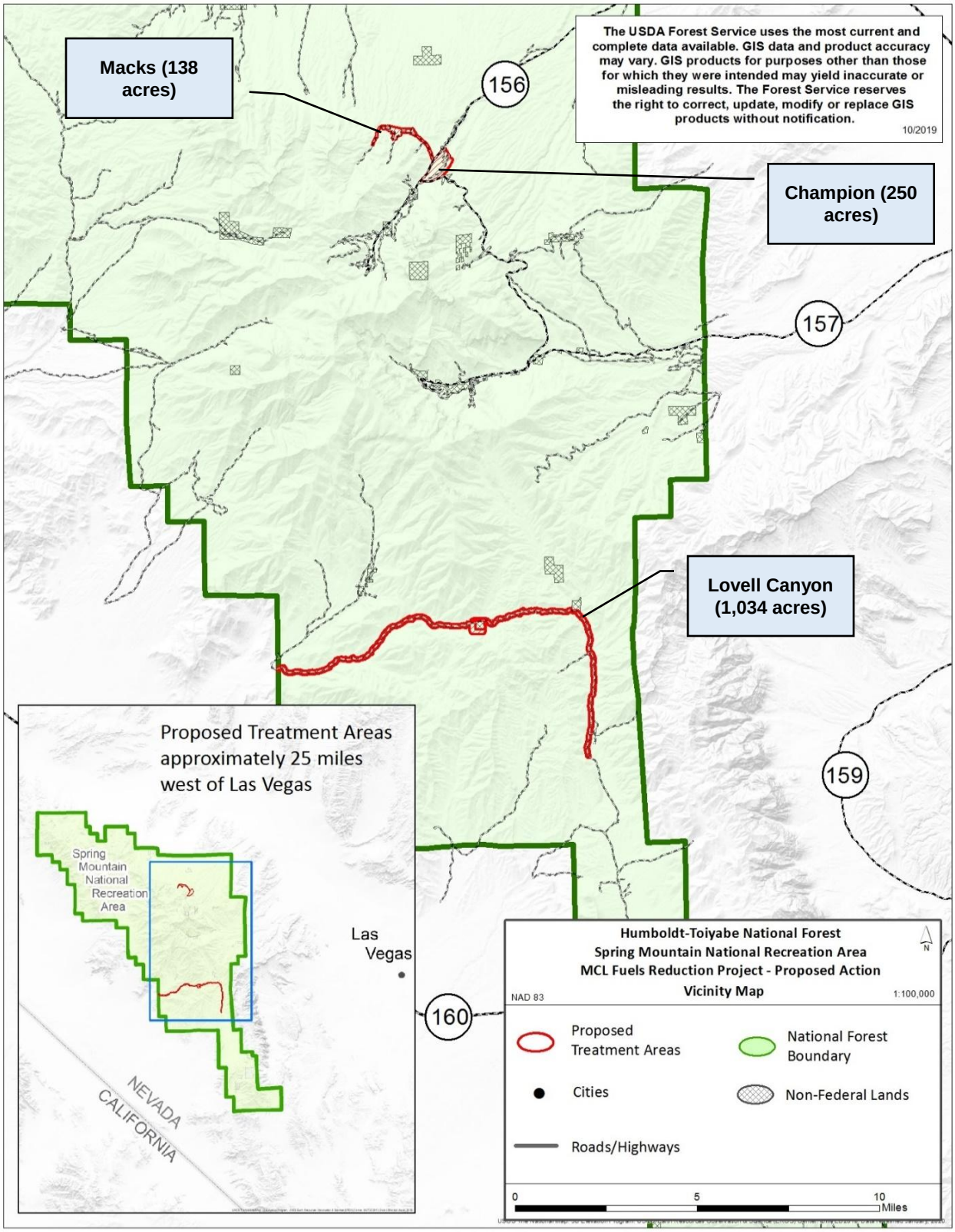

Figure 2. Macks, Champion and Lovell Canyon treatment areas.

Potential Treatment Methods

The following describes the potential treatments that can be used to implement the proposed action. Any one method may be used in combination with other methods to achieve the desired results.

Mastication

This treatment involves the use of a ground-based, tracked or wheeled equipment to shred vegetation. Masticated material could be brush, dead trees, excess fuel loading, or other material that is either live or dead. Equipment includes both drum and disc type shredders. Masticated material would be left on the ground.

Chainsaw and Hand Tool Work, Piling and Burning

This treatment involves the use of chainsaws and manual hand labor to cut and pile woody material. Cut material would be piled and burned or, if left on the ground, would be broadcast burned or sold to the public for firewood. This method may also be used on sensitive soils or in other areas where equipment use is not recommended due to resource concerns. Piles would vary in size but generally would be small enough so that adverse soils impacts would not occur.

Prescribed Fire

This treatment includes under-burning, pile burning, and broadcast burning. Prescribed fire removes existing vegetation via the planned use of fire over part or all of a designated area. Such burning would be done under a “prescription” defined in the prescribed burn plan. The prescription would consist of a set of carefully designed limits on burning conditions including maximum and minimum temperature, humidity, wind, and fuel moisture in order to meet a set of pre-determined objectives. This treatment includes the construction of control line to keep prescribed fire contained within the treatment areas and to avoid impacts listed in table 1, below.

Design Criteria

Management direction is provided by the 1986 Toiyabe National Forest Land and Resource Management Plan. The General Management Plan for the Spring Mountains National Recreation Area, as a 1996 amendment to the 1986 plan, provides more specific direction. It supplements the 1986 plan regarding the national recreation area but does not replace it. The MCL Project Proposed Action has been designed to meet the standards and guidelines provided in the 1986 Land and Resource Management Plan, as amended.

Specific design criteria have been developed to further mitigate impacts of the proposed activities (Table 1). Others design criteria may be developed to address issues presented in scoping. These criteria will be approved by the responsible official and made part of the decision.

Table 1. Proposed design criteria for the MCL project

Design Criteria	Potential Impacts Addressed
Education of Implementation Crews: Prior to implementation, crews would meet with qualified biologist and archeologist on SMNRA staff to coordinate on identification and avoidance of sensitive cultural sites, wildlife species and habitats as necessary, and on notification procedures if cultural sites, Threatened, Endangered, or Sensitive (TES) species are encountered.	Minimize accidental destruction of cultural sites, TES species and degradation of sensitive habitat.
Limited Operating Periods for Migratory Birds and Sensitive Raptors: Thinning activities would not occur between April 20 and 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 would conduct all nest searches. Appropriate buffers would be designated for any nests located based on the species habitat requirements. Raptor nesting may occur within the project areas. If treatments occur between March 1 to August 31, pre-implementation surveys should be conducted to identify these sites. A 0.5-mile-radius no-disturbance buffer would be created around the nest from March 1 to August 31, or until a qualified biologist has confirmed that the nestlings have fledged.	Prevent nest abandonment and loss of young for migratory birds and raptors.
Limited Operating Periods for Sensitive Bats: Thinning activities would 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.	Minimize disturbance to foraging bats.
Snags: Retain 60 percent of naturally occurring snags. Inspect snags that would be cut for cavities, signs of nesting, or nesting. Provide downed trees (minimum 12-inch diameter) and small brush piles to provide ground cover for small mammals, amphibians, reptiles, and invertebrates.	Minimize degradation of habitat for sensitive raptors, migratory birds, bats and other small mammals, and reptiles. Provide ground cover sites for small mammals, amphibians, reptiles, and invertebrates.
Botany/Wildlife: To minimize adverse impacts to soil and vegetation, masticated material should not exceed 3 inches in pinyon/juniper ecological types and 4 inches in ponderosa pine ecological types (Fornwall, et al. 2018, project record).	Minimize impacts to sensitive plants and butterfly host plants.
Staging Areas: Temporary equipment staging areas would be located within the project boundary and in previously disturbed area (e.g., roads, parking areas). Staging areas would avoid known invasive species populations. Vehicles, heavy equipment, and off-road UTVs/ATVs would be inspected by a certified equipment inspector or a biologist before entering the site.	Minimize loss of individuals and degradation of habitat for sensitive species.

Design Criteria	Potential Impacts Addressed
Implementation Timing: Preferred timing of mastication and hand thinning would be early fall to early spring (August 1 - March 30) when plants are not actively growing and have dispersed their seed. Preferred timing of broadcast and jackpot burning would be from fall to spring (September 1 - April 20) when soil and climate conditions lower the intensity and reduce the impacts on the vegetation and soil. Preferred locations of piles for pile burning would avoid sensitive species' known locations by a 5-meter buffer. A USFS botanist, biologist, or ecologist trained in species identification would provide avoidance areas input and on-site monitoring as needed.	Minimize impacts to larval host and nectar plant species for sensitive butterflies and minimize impacts to sensitive plant species.
Weed Prevention: USFS and Humboldt-Toiyabe NF Best Management Practices (USDA Forest Service 2004) would 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 would occur prior to contracted work to ensure that they are free of mud and visible plant debris. The materials, equipment, and vehicles would also be cleaned prior to moving from an infested treatment unit to a unit that is free of weeds. A USFS employee trained in vehicle inspection would provide time to inspect all heavy equipment before entering project site to ensure each is free of soil and plant debris. Any new infestations of noxious weeds discovered during implementation would be documented and locations marked on a map or GPS. USFS botanist, biologist, or ecologist would then be consulted on a plan of action according to weed species found.	Minimize the introduction and spread of noxious and invasive species onto and throughout the project area and adjacent federal land.
Soils: In the hand-treated areas, cut branches would be lopped and scattered across the ground to minimize any surface runoff.	Reduce potential adverse soil disturbance from vegetation treatments.
No entry would occur in entrenched channels except to cross. Any channels treated would be treated by hand. No treated material would be left in the channels. Masticator travel routes would be at least 30 feet apart. Remaining ground cover on treated areas would be approximately 40 percent.	Reduce potential adverse soil disturbance in channels from vegetation treatments.
Motorized equipment, including masticators, will not be used when soils are wet.	Minimize soil compaction and erosion due to mechanized equipment. Minimize sediment and debris from entering channels that could cause detrimental impacts downstream. Maintain soil stability.
Dry Washes: Avoid treating vegetation on banks of washes and riparian areas.	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.
Springs: Springs will be identified and ground contact by heavy equipment will be avoided within 100 feet of identified springs. • Mastication will be allowed within 100 feet of springs as long as the machine can reach the tree without tracking within the 100-foot buffer. • Hand crews may operate a chipper and may haul material from inside the buffer, but the chipper must not operate within the 100-foot buffer. • This 100-foot buffer will not apply to hand crews doing lop and scatter.	Minimize the impacts of mechanical equipment on springs.

Design Criteria	Potential Impacts Addressed
Heritage: The USFS is proposing the following avoidance plan for each of the properties (unevaluated or listed) within the project area: • Flagging to identify properties, site boundary maps would be provided to the fuels project manager, piling cut brush and vegetation at least 30 meters away from the boundaries of each historic property, and on-site monitoring during the fuel treatments. • In addition, if any buried and/or previously unidentified resources are located during the project activities, the SHPO recommends that all work near the find cease and the district archaeologist be contacted to evaluate the area per 36 CFR Section 800.13(b)(3).	Reduce potential adverse effects to historic properties.
Public Notification: All appropriate federal, state, and local agencies, and communities would be notified of any burn activity as per agency standard operating procedures for the implementation of prescribed fire activities.	Reduce public concerns regarding the possibility of wildfire near communities.