United States Department of the Interior
Bureau of Land Management
Battle Mountain District

50 Bastian Rd.
Battle Mountain, NV 89820-1420

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Environmental Assessment
NV064-EA08-108

Wildland-Urban Interface (WUI) Project
FIRE DEFENSE SYSTEM
Ione, Nevada

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1.0 Introduction

In recent years, the occurrence of catastrophic wildland fires has been on the increase throughout the western United States (U.S.). As a result, Congress developed the National Fire Plan (NFP) in August 2000, which provides funding to public land managers to address fire management strategies for fuels reduction and Wildland Urban Interface (WUI) projects (NFP, 2000). The Healthy Forest Initiative (HFI) was launched in August 2002. As part of the initiative, the President directed the Council on Environmental Quality (CEQ) to develop guidance and procedures under the National Environmental Policy Act (NEPA) that included a "model" Environmental Assessment (EA) for fuels reduction and fire-adapted ecosystem restoration projects (HFI, 2002). Subsequently, Congress passed the Healthy Forests Restoration Act (HFRA) of 2003 (P.L. 108-148). The Act contained provisions to streamline the NEPA process and expedite hazardous fuels and forest restoration projects on Federal lands at risk of wildland fires (HFRA, 2003). The Ione WUI Project - FIRE DEFENSE SYSTEM EA has been prepared in accordance with CEQ's guidelines for preparing NEPA documents authorized under the HFRA of 2003.

1.1 Purpose and Need

The following is summarized from the Site/Risk Assessment (BLM, 2008a) conducted for the Town of Ione (Completed 8/2007 and approved 2/2008) by the Bureau of Land Management's (BLM) Battle Mountain District (BMD). The Ione WUI Site/Risk Assessment (SRA) is hereby incorporated into this document by reference.

Throughout the Ione SRA area, there is a **HIGH to EXTREME** risk of catastrophic wildfire. Risks are to firefighters and civilians, primary residences, numerous structures, town infrastructure, mining improvements, watersheds and potentially culturally significant resources. While some of the fuel types within the area are not in bad shape ecologically, the mere nature of how they burn in their natural fire regime could easily move a wildfire out of these areas and into adjacent areas of heavier fuels or closed canopy pinyon-juniper woodlands. The consequences of an established wildfire in the Ione WUI could be catastrophic. The entire town of Ione is at risk of loss due to its location in Ione Canyon, fuel beds receptive to firebrands including structures and extremely flammable fuels surround most of the structures in town.

Fuels reduction work on a large scale is necessary to provide a buffer around the town of Ione to keep wildfire from spreading unabated or spotting into the Ione WUI. Fuel modification in the WUI would also protect the surrounding wildlands from a fire originating in town from destroying adjacent watersheds and large tracts of public land. Hazardous fuels reduction work in the Ione WUI is also recommended within the confines of the town proper. Defensible space needs to be improved to recommended standards (Firesafe Council, 2005) as well as modification of fuel structure to make it easier and safer for fire suppression resources to control small wildland fires starting around town structures.

Implementation of the proposed project would accomplish the goals of reducing the intensity and severity of future wildland fires in the WUI by reducing hazardous ground and aerial fuels.

Specifically:

- Improve canopy spacing in order to reduce the risk of crown fire
- Reduce woodland density from current unhealthy and hazardous levels
- Reduce overall fuel loading (burnable above-ground biomass) in the WUI PJ fuel type (woodlands)
- Reduce average height and decrease horizontal continuity to reduce anticipated fire behavior in WUI area
- Reduce sagebrush fuel loadings in hazard areas in order to reduce fire behavior in the WUI

Meeting "Purpose and Need" will:

1. Reduce the likelihood for loss of life, property and community infrastructure to include watershed, due to catastrophic wildfire in and around the community of Ione.
2. Provide fuelbreaks in order to keep fires away from the community and from reaching unmanageable sizes.

3. Serve to protect natural resources from unacceptable damage by fire in a cost-effective manner with a high regard for private property and public safety
4. Create conditions necessary for reintroduction of useful fire back into the ecosystem
5. Reduce the threat of a wildfire damaging public lands from an escaped fire on private lands

As a result of implementing the Proposed Action, buffers would be created in strategic areas which would serve to moderate fire behavior within the treated areas, therefore reducing the likelihood of a wildfire entering (or leaving) the community of Ione. It would create a safer environment for firefighters to engage in suppression operations than what is present now. Further benefits include, local watershed protection, improvement of stand structure and increased opportunities for ecological diversity within the WUI, and forest/woodland product availability. In addition, areas within the wildland-urban interface would be more resistant to fire.

Appendix D contains documentation comparing quantified existing conditions against desired conditions as supported by the completed SRA.

Table 1 describes the risk and current fuel conditions of the project area by treatment unit (BLM, 2008a). The data indicates that the Town of Ione is at risk for a high intensity / high severity wildland fire.

1.2 Relationship to Other Plans, Regulations and Statutes

The Proposed Action was developed using an interdisciplinary process consistent with the Tonopah Resource Management Plan (RMP). As stated in the Tonopah RMP (BLM, 1997), fire management objectives include, "protecting natural resources from unacceptable damage by fire in a cost-effective manner with a high regard for private property and safety;" "Promoting resource management through prescribed fire to maintain the natural component of the ecosystem and to promote a more natural fire regime;" "Protection of riparian areas from devastating wildland fire effects;" and "keeping wildfires that threaten life and property to 1 acre or less 90 percent of the time." (BLM, 1997) The Proposed Action is in accordance with the Federal Land Policy and Management Act of 1976, which requires federal lands to be managed with consideration and protection of scenic, ecological, and archaeological values, while providing multiple-use of the lands. Finally, the Proposed Action is in accordance with the Healthy Forests Restoration Act of 2003, which allow the BLM expedite hazardous-fuel reduction and forest-restoration projects on specific types of Federal land that are at risk of wildland fire or insect and disease epidemics. (HFRA, 2003)

1.3 Public Scoping Issues Identified

Broad support for the project has been documented in the project record. On May 1, 2008, the BLM presented the findings and recommendations from the Ione SRA at a public scoping meeting held on the Yomba Indian Reservation, adjacent to the town of Ione. Twelve people attended the meeting including Ione residents, local stakeholders, Yomba-Shoshone Tribal representatives including the Tribal Chairman, the Environmental Protection Specialist and Administrator and the District I, Nye County Commissioner. Tribal members expressed concerns related to disposal of residual fuel wood, weed and cheatgrass mitigation including potential impacts to medicinal plant gathering, and opportunities to provide workers for project implementation. Overwhelmingly, the implementation of a chaining alternative for tree removal was excluded from further consideration and/or analysis due to the high-impact of the treatment and the inability to easily avoid impacts to cultural sites or areas desired for retention. No new alternatives were raised by the public warranting additional alternative development or analysis. Formal consultation with the Yomba-Shoshone Tribe has not been requested to date.

Those that attended the meeting were also notified via a formal scoping letter dated Feb. 7, 2008. A list of government agencies, entities, and individuals that were scoped in the development of the proposed project are provided in Appendix A. Other scoping comments have been addressed through project design as appropriate.

Table 1

Existing Fuel Conditions

Treatment Unit and Acres	Fuel Type and Characteristics	Fuel Loading[1]	Fire Risk[2]
Buffalo Creek 354 acres	**late-successional** sagebrush with Pinyon-juniper expansion onto sagebrush steppe (bench locations) NW of town. Canopy increasing, currently @ 5-15' spacing, w/ trees 15-70 years old. Avg. tree height 8-10'. Fairly productive sagebrush understory w/ native grasses present but declining. Sage/grass understory declining.	15 - 28.5 tons/acre	Moderate – High
W. Prospects 145 acres	**early-mid-successional** Pinyon-juniper – Best described as having multiple small disturbances (wildfire, thinning, mining activity, etc). Overstory trees are present in 2 distinct layers. Older trees are 18-20' tall with DBH's of around 12" > 90 years old, and much younger trees that are 6-8' tall and pole-sized at 3-7" DBH's. These trees are between 20-50 years old. There are also an abundance of relatively even-aged seedlings (approx. 60 trees/ac). Canopy spacing ranges from less than 10' to 20'. Sagebrush understory increasing.	21.5 tons/acre	Moderate – High
E. Prospects 123 acres	**mid-successional** pinyon-juniper – Tight canopy spacing in the PJ. Would support intense crown fire. Pathogens such as boring beetles and tip-moth have been observed. Pinyon trees are showing signs of stress and decline. PJ height is 15-25' with average canopy spacing of 10'. Stands are multi aged ranging from 5-120+ year old. Developed understory of sage/grass.	28.5 – 29.5 tons/acre	Very High - Extreme
Northeast Tall Sage 31 acres	**late successional** sagebrush (dominant), rabbit brush (sub-dominant), with native grass understory and encroaching pinyon-juniper in the overstory. Mean shrub heights are 5' tall and range from 3-7', and have about 80% coverage. Most grasses are native and range in height from 2-4' with a 50-80% coverage. Cheatgrass is also present along roadways to the drainage bottoms. Cheatgrass heights range from 8-12".	14 - 15 tons/acre	Extreme
Shamrock Canyon – Cemetery 84 acres	**mid-successional** pinyon-juniper - Heavy fuel loadings and dense woodland stands. PJ averages 20' tall, 30-40% coverage. Canopy spacing varies from open stands >30' to closed stands 5-10'. Stands are multi aged ranging from 5-120+ year old. Developed understory includes sagebrush, rabbitbrush, mountain mahogany, native grasses and some willows in the canyon bottom.	8.5 – 29.5 tons/acre	Extreme
Southwest Tall Sage 18 acres	**Same as Northwest Tall Sage Unit.**	14 - 15 tons/acre	Extreme
Structure Fuels Abatement 57 acres	Various brush species including sagebrush and rabbit brush. Grasses and weeds both native and non-native. Most structures have direct fuel impingement and do not meet defensible space guidelines[3].	Up to 3.7 tons/acre (SWSB 07)[4]	Extreme

[1] Fuel loading estimates are the total aboveground biomass (alive and dead) in tons/acre.
[2] Overall risk to the community based on fuel type quantified, typical fire weather and topography combined with expected fire behavior.
[3] Defensible space guidelines adopted from National Firesafe Council publications (Firesafe Council, 2005).
[4] Stereo Photo Series for Quantifying Natural Fuels: Volume 4 (Ottmar, 2000)

2.0 Description of Proposed Action and Alternatives

2.1 Proposed Action

The BMD proposes to reduce hazardous fuels in the WUI on 812 acres of public lands administered by the BLM, adjacent to the community of Ione, Nevada. The proposed WUI project area is located near the confluence of Ione and Shamrock Canyons on the western slope of the Shoshone Mountain Range in northern Nye County, approximately 50 miles southwest of Austin, Nevada (**Figure 1**). The legal location is; Township 13N, Range 39E, Sections 32, 33 and 34 (portions of).

Treatment units are identified in **Figure 2**. Treatments could occur any time of the year, weather and accessibility permitting. Any areas treated during migratory bird nesting season would be surveyed for the presence of nesting activity prior to implementation. Completions of all treatments (excluding maintenance) are anticipated to take 5-8 years, based on current funding levels. Out-year treatment or maintenance treatments may be conducted as monitoring indicates using methods and prescriptions approved in this EA. Maintenance treatment trigger points are outlined in Appendix C.

2.1.1 Mechanical Treatment Methods:

2.1.1.1 Shrub Modification/Mastication Prescription:

Methods: Brush hog (rotary mower), or boom-mounted mower or Fecon (Timbco) / chainsaws

Within the Northeast and Southwest Tall Sage Units: Treat up to **90%** of units by masticating or removing target fuels. Implementation of shrub mastication would not occur all the way down to the soil in order to minimize ground disturbance.

PJ Thinning Units may have a need to thin "jackpot shrub areas" that is, those areas with thick shrub patches within the unit. In these areas, shrubs may be reduced to less than 1' within 10' of residual trees (after PJ thinning prescription has been accomplished).

2.1.1.2 Structure Fuels Abatement Prescription:

Methods: Chainsaws / hand removal / weed-whacker

Within the Structure Fuels Abatement Unit: Create defensible space around structures and identified fire-sensitive cultural resources, by means of: clearing burnable vegetation 0-30' from structures/resources; reducing hazardous fuels by at least 50% and eliminating ladder fuels 30-100' from structures/resources; and manage activity fuels as identified in unit specific treatment.

2.1.1.3 Pinyon/juniper Thinning Prescription:

Method 1: Single-tree selection by use of chainsaws, feller/buncher* or similar wheeled harvesting machine, bull hog* or similar wheeled tree masticator. (* only in areas <20% slope and areas cleared for cultural resources)

Trees would be thinned to obtain residual 30' canopy spacing, favoring the removal of juniper trees over pinyon trees. Flexibility of thinning prescription (leaving fewer or more trees) would allow for a "feathering effect" into untreated areas adjacent to project area or to remove sick or pathogen infested trees.

Single-tree selection involves the selection of single trees in various diameter or size classes for thinning. This is an optimum method to reduce tree densities while maintaining the integrity of uneven-age class stands. The desired direct result is the reduced potential for severe, catastrophic fire and the maintenance and/or re-establishment of the pinyon/juniper/shrub/grass matrix. The risk of canopy fire (crown fire) is virtually eliminated when canopy spacing is at least 30'. (RCI, 2004)

Table 2
Optimum Percentage of Residual Trees per Acre

DBH/DRC[1]	Less than 3"	3" – 10"	10" – 20"	Greater than 20"
Pinyon (dbh) 75%	10	15	30	20
Juniper (drc) 25%	05	05	05	10

[1]DBH – diameter at breast height for pinyon pine.
DRC – diameter at root collar for juniper.

** Under method 1:* ***Fewer or more trees may be left as long as <u>30 foot canopy spacing is maintained</u> within treatment areas.*** *This prescription is to be used as a guideline for age structure of residual trees. Conditions that are cause for deviation from prescription include but are not limited to: slope, pathogen infested areas, preferred species, old-growth retention, feathering into untreated areas, shelter-wood cutting and aesthetics.*

<u>Method 2:</u> Shelter-wood cutting by use of chainsaws, *feller/buncher or similar wheeled harvesting machine, bull hog*. (* only in areas <20% slope and areas cleared for cultural resources)

Areas would be treated to affect change in fire behavior characteristics, by modifying fuel structure throughout a designated "zone". For example, instead of 30' canopy spacing, cleared areas are intermingled with relatively untouched areas creating "patches of treated and untreated areas" (mosaic). Treated (cut) areas would cover no more than 75% of any unit identifying Method 2 as a treatment method. Treated patches should be of sufficient size to inhibit fire spread, break fuel continuity and provide for safer fireline engagement. This would meet the purpose and need by not allowing a fire to travel large distances in woodland canopies, in the WUI, while maintaining characteristics of the original stand structure, especially in old-growth areas. This method would be used in areas (large enough) that have active insect or pathogen infestations or large areas of die-off. It can also improve the management of "activity fuels," allowing the burning of patches of slash instead of piles. Method 2 is less labor intensive, thus more cost-effective.

Feathering (the cutting of progressively less trees until the untreated area is reached) of trees is desirable to help treated areas blend in better to the untreated areas. Leave patches should be a minimum of ¼-acre to no more than 1-2 acres per patch and of irregular shape.

2.1.2 <u>Slash Management Treatments: (all units)</u>

Utilize slash management methods to dispose of at least 80% of activity fuels.

Activity Fuel Disposal Methods:

2.1.2.1 Biomass Utilization:

a. Pinyon-juniper activity fuels larger than 3 inches in diameter may be made available for fire wood or posts
b. Activity fuel may be made available as mulch (would need to be chipped)
c. Activity fuel may be made available for sale for commercial biomass utilization

2.1.2.2 Chipping: (along roads only)

a. Activity fuels may be chipped and dispersed on the ground to inhibit cheatgrass
b. Activity fuels may be chipped and removed from site for private use

2.1.2.3 Prescribed Fire Treatment Methods:

May occur in any of the units where pinyon and juniper are removed or as designated in Section 2.1.3. Fuels would either be piled (thinning method 1) or distributed evenly across the shelter-wood cut area, (thinning method 2) with the slash lopped down to less than 2.5'. Slash distribution of method 2 would have a buffer of at least 30-40' from the untreated areas. This buffer would be free of activity fuels.

Method 1: Broadcast Burning

a. Utilize prescribed fire to dispose of slash in shelter-wood cuts. Prescribed fire treatment blocks will be confined only to the areas treated.
b. Burning is preferred in spring but may occur whenever conditions are within prescription.
c. A burn plan will be developed to mitigate escape potential, adverse soil impacts, smoke impacts to sensitive receptors, facilitate slash disposal and minimize burn severity.
d. A combination of ignition devices may be used to achieve project goals and objectives, including; Terratorch, driptorch, fusees, flare guns and hand-thrown ignition devices.
e. Construction of various types of control lines will be completed as necessary.
   - Fireline would be completed down to bare mineral soil, with a minimum width of 1 foot utilizing hand tools and or ATV/UTV pulled harrow.
   - Fireline may be reinforced by fuel breaks 1 to 2 times wider than the mean fuel height.
   - Wet-line may be established using water or foam.
f. Utilize existing natural features for control lines where practicable.
g. Utilize prescriptive parameters to reduce fire behavior characteristics such as fire severity, fireline intensity, and rates of spread.
h. Constrain mortality to untreated areas to less than 10%.

Method 2: Pile Burning

a. Prescribed Fire Treatment Method 1, above items b-h apply and;
b. Burn piles should not exceed 10’ long x 10’ wide x 6’ high.
c. Burn piles will be piled with fine fuels and slash on the interior and larger fuels on the exterior.
d. Pile-burning is preferred in the spring, fall, or winter but may occur whenever conditions are within prescription.
e. Burn piles will not be located under power lines.

2.1.3 Unit Specific Treatments, Design Features and Acres

2.1.3.1 Buffalo Creek Unit: Treat **354** acres **of pinyon-juniper fuels** as described.

a. Employ Method 1, Method 2, (or a combination) of the pinyon-juniper prescription to thin PJ species to achieve desired results and meet “purpose and need”
b. As needed, treat associated shrub species according to shrub modification prescription relating to “jackpot shrub areas”.
c. A public “green-wood” cutting area is identified within this unit totaling 70 acres – administered by the Tonopah Field Office.
d. Unit may be cruised and marked to delineate trees that will be left or taken.
e. Manage activity fuels using Activity Fuels Disposal Methods

2.1.3.2 E. Prospects Unit: Treat **123** acres **of pinyon-juniper fuels** as described.

a. Employ Method 1, Method 2, (or a combination) of the pinyon-juniper prescription to thin PJ species to achieve desired results and meet “purpose and need”
b. As needed, treat associated shrub species according to shrub modification prescription relating to “jackpot shrub areas”.
c. Unit may be cruised and marked to delineate trees that will be left or taken.
d. Prune lower branches (approximately 5 feet above ground) on larger diameter residual pinyon pine within 1 chain (66 ft.) on either side of roads.
e. Manage activity fuels using Activity Fuels Disposal Methods.

2.1.3.3 Northeast Tall Sage Unit: Treat **31** acres mid-late successional sagebrush as described.

a. Using the identified mechanical treatment method, treat up to 90% of the unit according to the Shrub Modification/Mastication Prescription.
b. Willows are non-target fuels for mastication within creek except for along southwest boundaries and/or against structures, where a 40'-wide fuel break would be in place against the boundary of this unit and the Structure Fuels Abatement Unit.
c. Survey for and avoid Pygmy Rabbit burrows to the extent practicable.
d. Remove pinyon and juniper trees from unit using chainsaws.
e. Manage activity fuels using Activity Fuels Disposal Methods.
f. Monitor for at least one growing season to determine seeding needs, if any.
g. Seed only if monitoring suggests the need. See common elements for seeding specifics.
h. If area is seeded, it would be rested from grazing and may be fenced to facilitate rest.
    i. After unit has met BLM recovery standards, maintenance treatments may be authorized as monitoring indicates the need (See Appendix C).

2.1.3.4 Shamrock Canyon-Cemetery Unit: Treat **84** acres **of pinyon-juniper fuels** as described.

a. Employ Method 1, Method 2, (or a combination) of the pinyon-juniper prescription to thin PJ species to achieve desired results and meet "purpose and need".
b. As needed, treat associated shrub species according to shrub modification prescription relating to "jackpot shrub areas".
c. Unit may be cruised and marked to delineate trees that would be left or taken.
d. Manage activity fuels using Activity Fuels Disposal Methods.

2.1.3.5 Southwest Tall Sage Unit: Treat 1**8** acres mid-late successional sagebrush as described.

a. Using the identified mechanical treatment method, treat up to 90% of the unit according to the Shrub Modification/Mastication Prescription.
b. Survey for and avoid Pygmy Rabbit burrows to the extent practicable.
c. Remove pinyon and juniper trees from unit using chainsaws.
d. Manage activity fuels using Activity Fuels Disposal Methods.
e. Monitor for at least one growing season to determine seeding needs, if any.
f. Seed only if monitoring suggests the need. See common elements for seeding specifics.
g. If area is seeded, it would be rested from grazing and may be fenced to facilitate rest.
    i. After unit has met BLM recovery standards, maintenance treatments may be authorized as monitoring indicates the need (See Appendix C).

2.1.3.6 W. Prospects Unit: Treat 145 acres **of pinyon-juniper fuels** as described.

a. Employ Method 1, Method 2, (or a combination) of the pinyon-juniper prescription to thin PJ species to achieve desired results and meet "purpose and need".
b. As needed, treat associated shrub species according to shrub modification prescription relating to "jackpot shrub areas".
c. Unit may be cruised and marked to delineate trees that would be left or taken.
d. Manage activity fuels using Activity Fuels Disposal Methods.

2.1.3.7 Structure Fuels Abatement Unit: Treat **57** acres of grass/shrub/brush/tree species as described.

a. Using the identified mechanical treatment method, implement Structure Fuels Abatement Prescription.
b. Chip and/or pile-burn any activity fuels.
c. Unit may be maintained as monitoring indicates the need (See Appendix C).

2.1.4 Project Committed Design Features Common to All Units

a. No new roads would be constructed; existing roads would remain open/ maintained in accordance with the Tonopah RMP.
b. In woodland fuel types (PJ) minimum prescription (leave trees or take trees) may be marked prior to implementation.
    1. Pinyon and juniper trees would be removed underneath overhead lines throughout the project area.
c. Mitigate for cheatgrass and noxious weeds and other invasive plant species using best management practices / guidance from the BMD Integrated Weed Management Plan (BLM, 2008b) and the following:
    1. In areas where cheatgrass and noxious weeds are known to occur (ie. along Ione Road), yearly monitoring for cheatgrass/noxious weeds would take place, and subsequent treatment may occur in compliance with the approved BMD Integrated Weed Management Plan. The trigger point for weed/cheatgrass treatments are affected areas >1/4 acre.
        i. This EA tiers to the National Veg. EIS to use *imazapic*, the active ingredient used in Plateau® herbicide, to treat cheatgrass and noxious weeds on public lands. Available at http://www.blm.gov/wo/st/en/prog/more/veg_eis.html.
        ii. Any application of Plateau® herbicide would occur in accordance with its label.
        iii. Plateau® herbicide may be applied on portions of or up to the maximum Project Area (812 acres)
        iv. To eliminate health concerns, the affected public to include Ione residents and the Yomba-Shoshone Tribe would be notified in advance of any application to occur, and how long to avoid contact/ingestion of plants within the treatment areas.
        v. Any units treated with Plateau® would be posted / signed with notices and avoidance timeframes.
    2. Minimize ground disturbance by monitoring native grass release for at least one growing season following mowing in sagebrush. Do not immediately drill-seed. Native grass release may not warrant an additional seeding treatment.
    3. Broadcast seeding would be preferred method for dispersing seed in order to keep the soil crust intact.
d. All fuels reduction/mastication units would be monitored for treatment objective attainment at least one growing season after initial treatment prior to any type of seeding treatment is implemented. Results of monitoring would determine the needs for seeding.
    1. Seed would be dispersed via broadcast application (preferred method).
    2. Drill-seeding would occur only in areas recommended by resource specialists.
    3. Seeding in fall-early winter is preferred prior to snow pack or as snow-pack is melting in the spring.
e. A preferred seed mix (native) would be developed to contain species associated with the project area soil types and used as monitoring necessitates when and where feasible. See Appendix B.
f. An alternative traditional green-stripping seed mix (non-native) would also be analyzed for use on BLM administered lands in the event large areas need seeding or native seed is unavailable or cost-prohibitive. See Appendix B.
g. Any fuelwood/wood products areas may be administered by the BLM through a short-term, special wood permit. This permit may be separate from the BMD's existing fuelwood programs.
h. Out-year maintenance treatments may be conducted as monitoring indicates using methods and prescriptions approved for the initial treatment. See Appendix C for maintenance trigger points.
i. The local community would have first access to wood products.
j. Mineshafts or other hazards in project area would be identified and flagged-off for safety.
k. Sensitive cultural sites would be identified and avoided. BLM may use an on-site tribal observer to assist in identification of any Western Shoshone traditional-cultural properties in the project area. Work and travel corridors would be identified as necessary.
l. Broadcast prescribed burning, pile burning and/or landings would not occur within known/identified archeological sites unless mitigated and/or cleared by archaeologist.

Figure 1: Project Location within Battle Mountain District

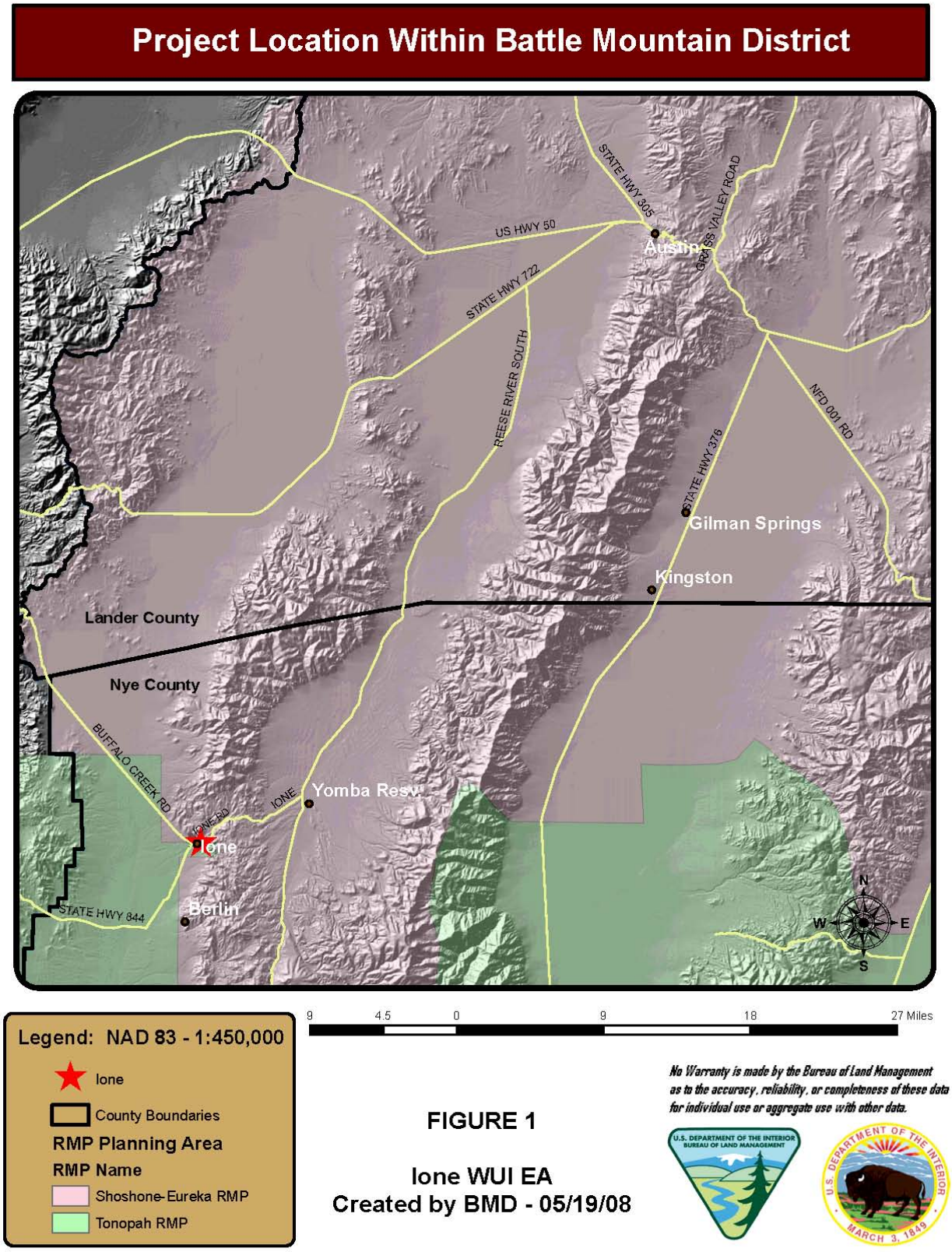
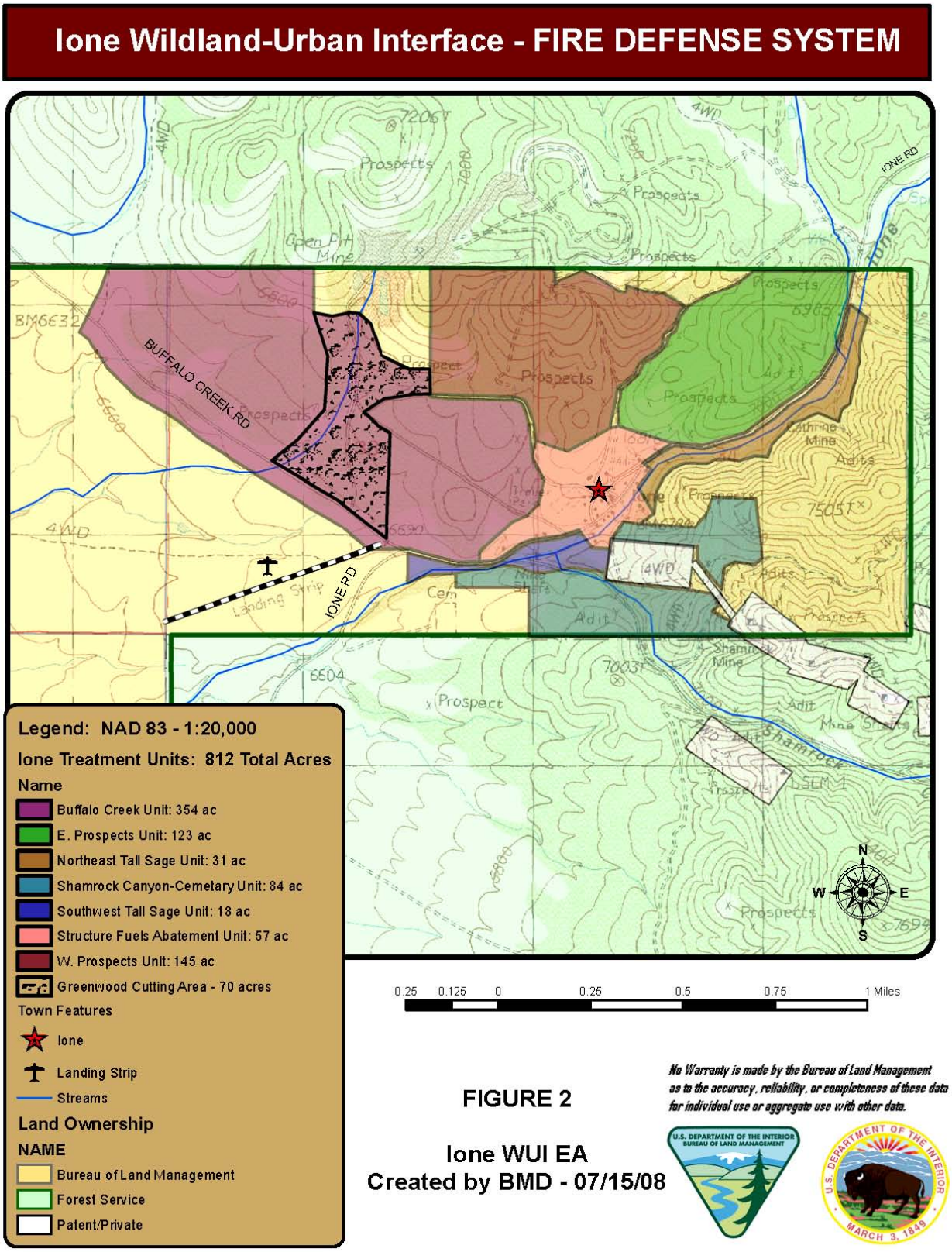


Figure 2: Ione WUI Project – Fire Defense System



2.2 No Action Alternative

Under the No Action Alternative, no fuel reduction measures would be implemented by the BLM in the Ione WUI, which would reduce the ability to protect life, property, natural resources, cultural/historic resources and community infrastructure from catastrophic fire. Should a wildfire occur, the BLM would continue to use an appropriate management response which includes full suppression action. Fuel loading would continue to increase over time, further increasing the potential for a high-severity stand-replacing wildfire. Ione would remain at a very-high risk for loss and damage from a destructive wildfire. The firefighting environment would continue to be extremely hazardous in the wildland-urban interface around the community of Ione.

There will be no further analysis of the No Action alternative throughout this document. Consensus obtained through scoping with the public, local stakeholders and the Yomba-Shoshone Tribe demonstrated broad support for the project with its design features as identified in the Proposed Action. No unmitigated significant issues remain post-scoping. Under HFRA guidelines, the BLM is not required to analyze any alternative to the Proposed Action, so long as treatment areas are inside the wildland-urban interface and within 1-1⁄2 miles of the boundary of an at-risk community.

2.3 Reasonably Foreseeable Future Actions

The NEPA requires the identification and consideration of incremental impacts that are related to the Proposed Action when added to other past, present, and reasonably foreseeable future actions (RFFAs) (40 Code of Federal Regulations 1508.7). Consideration of such impacts includes federal agency, public, and private actions that would be directly or indirectly related to the Proposed Action. The US Forest Service may pursue hazardous fuels reduction treatments in Shamrock Canyon immediately southeast of the Ione WUI Project Area, however, no formal project plans have been developed. Shamrock Canyon was identified in the Ione SRA as an extreme risk to Ione. Approximately 120 acres were identified for hazardous fuels reduction on USFS lands. The RFFA and the associated cumulative impacts considered in the Ione WUI EA include less than 1,000 acres of BLM and USFS lands proposed for hazardous fuels reduction treatment. A separate NEPA document and decision would be prepared by the USFS for any future actions associated with the RFFA.

3.0 Environmental Effects

This section describes the environmental impacts of the Proposed Action and analyzes whether there may be significant environmental effects as described at 40 CFR 1508.27. Further analysis and conclusions about the potential effects are available in the project record available at the Battle Mountain District Office. Unless otherwise stated, the cumulative effects study area is the project area.

3.1 Elements Considered (Supplemental Authorities)

3.1.1 Air Quality

Proposed Action

The project area is located in an area classified as “attainment” for each criteria pollutant as defined by the U.S. Environmental Protection Agency’s National Ambient Air Quality Standards. Potential impacts to air quality associated with implementation of the Proposed Action in all treatment units are expected to be short-term during project implementation. Increased traffic to transport workers along the existing dirt roads and equipment use would result in increased vehicle emissions and particulate matter with an aerodynamic diameter of 10 microns or less (airborne dust). Additionally, prescribed burning of activity fuels could release pollutants such as carbon monoxide (CO), volatile organic compounds (VOC) and particulate matter less than 2.5 microns; however, this release would be short-term and intermittent during project implementation. Particulate matter standards would not be exceeded during prescribed burning activity as documented by the Simple Approach Smoke Estimation Model (SASEM) run for this project, available in the Project Record.

Cumulative Impacts

Past activities/events which may have affected air quality in the area include wildfire activity, mining/exploration activity, recreation activity, driving activity, development, construction and maintenance activities and wind events. These events / activities are usually short-term in duration, with the air-shed recovering naturally from particulates and emissions.

The Proposed Action and the RFFA previously described in Section 2.3 are projects with similar goals and objectives: to develop and implement a plan that reduces hazardous fuel loadings and the risk of a stand-replacing wildland fire that would be detrimental to lives, property, community infrastructure, and cultural and environmental resources. Project treatments and potential effects would be similar through any implementation of the RFFA. Mitigation measures to reduce potential impacts would generally be the same, except where site-specific areas require additional measures. The RFFA consists of approximately 120 acres; therefore, during RFFA implementation, short-term impacts to air quality from the RFFA would be less than from the Proposed Action. Combined, the RFFA is not expected to increase the level of effects that would occur as identified with the Proposed Action.

3.1.2 Environmental Justice

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* directs federal agencies to review proposals and identify, as appropriate, disproportionately high and adverse effects of their programs, policies, and activities on minority and low-income populations to the greatest extent practicable and permitted by law.

Proposed Action

According to 2000 U.S. Census (U.S. Census 2000), data indicate that 89 percent of the population within the general area is characterized as minority; however, adverse impacts resulting from project implementation would not occur. The goal of the Proposed Action is the protection of life, property, community infrastructure and the cultural and natural resources associated with the Ione's history and present way-of-life; therefore project implementation would result in beneficial impacts to the population.

Cumulative Impacts

The Proposed Action and the RFFA previously described in Section 2.3 are projects with similar goals and objectives: to develop and implement a plan that reduces hazardous fuel loadings and the risk of a stand-replacing wildland fire that would be detrimental to lives, property, community infrastructure, and cultural and environmental resources. Project treatments and potential effects would be similar through any implementation of the RFFA. Mitigation measures to reduce potential impacts would generally be the same, except where site-specific areas require additional measures. The RFFA consists of approximately 120 acres; therefore, during RFFA implementation, short-term impacts to environmental justice from the RFFA would be less than from the Proposed Action. Combined, the RFFA is not expected to increase the level of effects that would occur as identified with the Proposed Action.

3.1.3 Water Resources

Proposed Action

Two springs occur within the Shamrock Canyon-Cemetery Unit and one in the East Prospects Unit. The overall potential for impacts to the three springs in the Ione Project Area would prove beneficial. Removal of pinyon-juniper fuels will reduce the water losses to evapo-transpiration back to the atmosphere. Increased infiltration is expected to yield an increase groundwater recharge. Fuel used for drip torches or terra-torch are anticipated to be consumed during prescribed fire activities and no residual fuel would remain after ignition has taken place. Short-term, isolated negative impacts could occur to water resources from small spills or accidental release of ignition device fuel. No fueling of drip torches or other equipment will occur in spring areas.

Cumulative Impacts

The Proposed Action and any implementation of the RFFA should increase the water budget on available water produced from the springs. All three springs have existing water right claims with beneficial use of mining and milling. Increasing the spring discharge will allow more water available for wildlife and development of water rights for utilization.

3.1.4 Cultural Resources

Proposed Action

Cultural resource investigations have not been completed in the project area; however, in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, a Class III inventory would be conducted in the project area prior to surface disturbing activities associated with the Proposed Action. All cultural resources identified during the Class III inventory considered eligible or of unevaluated eligibility, would be avoided, utilizing the standard avoidance procedures as outlined in the State Protocol Agreement between the Bureau of Land Management, Nevada and The Nevada State Historic Preservation Office (1999) Appendix F.L. (http://www.nv.blm.gov/permits/protocol.pdf). If important cultural resources are located during the Class III inventory, potential impacts would be mitigated. Therefore, no impacts to cultural resources are anticipated as a result of implementing the Proposed Action.

Cumulative Impacts

The Proposed Action and the RFFA previously described in Section 2.3 are projects with similar goals and objectives: to develop and implement a plan that reduces hazardous fuel loadings and the risk of a stand-replacing wildland fire that would be detrimental to lives, property, community infrastructure, and cultural and environmental resources. Project treatments and potential effects would be similar through any implementation of the RFFA. Mitigation measures to eliminate potential impacts to important cultural resources would generally be the same, except where site-specific areas require additional measures. Combined with the Proposed Action, the RFFA is not expected to increase the level of effects that would occur as identified with the Proposed Action.

3.1.5 Native American Religious Concerns

Proposed Action

An in-depth discussion of the affected environment pertinent to the Western Shoshone in general is available in the project record and incorporated by reference (Dixon, 2008b). Communication and coordination have and continue to occur with the Yomba-Shoshone Tribe, who reside approximately 8 miles from the project area. Cultural resources important to the Yomba-Shoshone Tribe have been identified within the project area to include: Pinyon pine trees and nuts, edible / medicinal plant gathering areas, potential grave sites and cold springs (Dixon, 2008a). *Imazapic*, the active ingredient used in **Plateau® herbicide** does not present risk to any receptors when applied in routine use situations either at the typical or maximum application rate (BLM, 2007). Treatments in areas having traditional/cultural values to Native Americans, specifically the Yomba-Shoshone Tribe, have been designed to not unduly or unnecessarily burden the pursuit of traditional religion or life ways by inadvertently damaging important specified locations or hindering access to them.

Tribal observer participation during cultural resources inventory and possibly during project implementation (depending on results of initial inventory and observer availability) may occur to facilitate identification of Western-Shoshone sensitive areas or resources. Though the possibility of disturbing Native American gravesites within most project areas is extremely low, inadvertent discovery procedures will be followed (NAGPRA, 1990). If a discovery occurs in connection with an authorized use, the activity, which caused the discovery, is to cease and the materials are to be protected until the Authorized Officer can respond to the situation. Additionally, cultural properties, items, or artifacts (stone tools, projectile points, etc…) are not to be collected by persons conducting project implementation.

As a result of project implementation, edible and medicinal plant species (pinyon pine trees, "Indian Tea" , etc…) and their locations may not fall victim to catastrophic wildfire. Fire-sensitive cultural sites (ie. antelope traps, structures, etc…) that could be destroyed by wildfire would likely remain in existence if the intensity of a wildfire is lessened, through thinning or fuels reduction. Thinning of dense pinyon and juniper tree stands would also contribute to a healthier pinyon population through limited competition, thus producing a more plentiful pine nut harvest than before project implementation. Increased canopy spacing may also allow certain plant species (grasses, wildflowers, edible/medicinal, etc…) to re-establish themselves in areas where competition with dense pinyon and juniper stands did not previously favor their prosperity.

Through formal scoping efforts and a field tour conducted with Yomba Tribal representatives on June 18, 2008 (Dixon, 2008a), concerns were identified and design features were proposed to the Proposed Action. They have been incorporated into this EA through the design features of the project.

Cumulative Impacts

The existing, growing, and developing uses of the public lands, fuels reduction and certain treatment methods have the potential to contribute to a general decline of intact traditional/cultural properties and associated activities. However, through the on-going implementation of hazardous fuels reduction around the Yomba Tribal Lands, the current action proposed and reasonably foreseeable, opportunities exist that may strengthen, repair, or maintain the integrity of certain cultural/traditional activities and sites.

The Proposed Action and the RFFA previously described in Section 2.3 are projects with similar goals and objectives: to develop and implement a plan that reduces hazardous fuel loadings and the risk of a stand-replacing wildland fire that would be detrimental to lives, property, community infrastructure, and cultural and environmental resources. Project treatments and potential effects would be similar through any implementation of the RFFA. Mitigation measures to eliminate potential impacts to important cultural resources would generally be the same, except where site-specific areas require additional measures. The RFFA consists of approximately 120 acres; therefore, during RFFA implementation, impacts to Native American religious concerns from the RFFA would be less than from the Proposed Action. Combined, the RFFA is not expected to increase the level of effects that would occur as identified with the Proposed Action.

3.1.6 Special Status Species

Under the Endangered Species Act (ESA) of 1973, the BLM is required to ensure that actions taken on federally managed lands do not jeopardize federally listed threatened or endangered species or species proposed for listing. No federally listed species or potential habitat are known to exist within the project area.

BLM special status species (SSS) may occur in or near the project area. The BLM, Nevada Department of Wildlife (NDOW) and Western Watersheds Project indicated concern regarding impacts to the following SSS.

Sage Grouse (*Centrocercus urophasianus*). The sage grouse, a BLM SSS, is not known to occur within the project area. The nearest leks are 6 Km to the east in Reese River Valley and 4.3 Km to the south off of the Ione-Berlin Rd. Negative impacts to sage grouse are not anticipated. Potential beneficial impacts include expansion of potential sage grouse habitat through thinning of pinyon and juniper trees currently expanding into range sites on bench locations, thus promoting sagebrush regeneration in declining areas.

Pygmy Rabbit (*Brachylagus idahoensis*). The pygmy rabbit, a BLM and USFS SSS, could be present within the project area. In Nevada, pygmy rabbit habitat is generally located in valley floors, drainage bottoms, and alluvial fans where rabbitbrush and sagebrush are the dominant vegetation species (Nevada Department of Wildlife, 2004). A total of 49 acres (8%) of potential habitat will be treated of an estimated 600 acres available in the immediate area (Shamrock Drainage and Ione Drainage).To further reduce the potential for impacts to the pygmy rabbit, field surveys would be conducted in sagebrush treatment units prior to project implementation to identify or locate active pygmy rabbit burrows. Identified Pygmy rabbit burrows would be avoided to the extent practicable.

Cumulative Impacts

Cumulative effects for SSS are analyzed for the Ione Allotment, encompassing 196,304 acres. Past activities/events which may have affected SSS include minimal wildfire activity, grazing activity / permits, dispersed recreation activity, rangeland improvement projects and home-site development in the community of Ione. Overall these activities have occurred periodically on the allotment over the last 10 years.

The Proposed Action and the RFFA previously described in Section 2.3 are projects with similar goals and objectives: to develop and implement a plan that reduces hazardous fuel loadings and the risk of a stand-replacing wildland fire that would be detrimental to lives, property, community infrastructure, and cultural and environmental resources. Project treatments and potential effects would be similar through any implementation of the RFFA. Mitigation measures to reduce potential impacts would generally be the same, except where site-specific areas require additional measures.

In the short term, loss of protective cover could expose smaller species to predators. Additionally, short-term loss of the herbaceous species would reduce nesting and foraging habitat. Displacement or loss of species could occur during treatment operations. Because this is a phased project, to occur over a number of years, relatively small areas would be disturbed at a time, limiting displacement and potential loss. Any implementation of the RFFA would not likely occur simultaneously with treatments associated with the Proposed Action. During implementation of the Proposed Action, islands of vegetation within treatment areas would remain untreated and provide habitat for wildlife species. Approximately 49 acres of sagebrush habitat, 706 acres of pinyon-juniper habitat and 57 acres of mixed vegetation in the Structure Fuels Abatement Unit would be altered as a result of treatments. The acres treated represent a fraction of the total available habitat in the cumulative effects assessment area. In the long-term, habitat diversity would increase within the project area following treatment, thereby potentially increasing wildlife diversity.

The RFFA consists of approximately 120 acres; therefore, during RFFA implementation, short-term impacts to SSS from the RFFA would be less than from the Proposed Action. Combined, the RFFA is not expected to increase the level of effects that would occur as identified with the Proposed Action.

3.1.7 Migratory Birds

Proposed Action

Bird species, protected by the Migratory Bird Treaty Act, could occur virtually anywhere within the proposed project area. Almost every migratory bird, with the exception of a few species such as the starling and English sparrow, is covered by this law. Any ground clearing or other vegetation-disturbing action during the migratory bird nesting season risks a violation of the Migratory Bird Treaty Act by destroying the eggs or young of common shrub-nesting birds such as the sage thrasher, sage sparrow, Brewer's sparrow, horned lark and meadow lark as well as tree nesting birds such as the pinyon jay.

A loss of migratory bird nesting habitat, young, and nests could result from implementation of the Proposed Action. Loss of migratory bird nests or young would be a violation of the Migratory Bird Treaty Act; however, it is unlikely that the proposed activities would adversely affect the overall population of any bird species. Project implementation would occur outside of the nesting season (March – July, or as recommended by the USFWS) and, therefore, reduce the potential for adverse impacts to nesting migratory birds. If treatments must occur during the nesting season, a survey of the treatment area would be conducted to verify the presence of active nests and identify acceptable work areas. The Proposed Action would result in a loss of active migratory bird habitat; however, treatments such as thinning would improve the migratory bird habitat in the long term and provide vegetative diversity. Long-term habitat management is a top goal of both the BLM and USFWS.

Cumulative Impacts

The Proposed Action and the RFFA previously described in Section 2.3 are projects with similar goals and objectives: to develop and implement a plan that reduces hazardous fuel loadings and the risk of a stand-replacing wildland fire that would be detrimental to lives, property, community infrastructure, and cultural and

environmental resources. Project treatments and potential effects would be similar through any implementation of the RFFA. Mitigation measures to reduce potential impacts would generally be the same, except where site-specific areas require additional measures. The RFFA consists of approximately 120 acres; therefore, during RFFA implementation, short-term impacts to migratory birds from the RFFA would be less than from the Proposed Action. Because this is a phased project, to occur over a number of years, relatively small areas would be disturbed at a time, limiting potential habitat loss. Any implementation of the RFFA would not likely occur simultaneously with treatments associated with the Proposed Action. Combined, the RFFA is not expected to significantly increase the level of effects that would occur as identified with the Proposed Action. The acres treated represent a fraction of the total available habitat in the cumulative effects assessment area. In the long-term, habitat diversity would increase within the project area following treatment.

3.1.8 Noxious Weeds, Invasive Non-native Species

Proposed Action

Noxious weeds, invasive & non-native species have been and are currently present in and around the Ione town site. A survey and herbicide treatment (30 acres) of the town site was conducted on June 12, 2008. Numerous patches of Hoary cress were found along the roadsides and dense infestations in Ione Canyon bottom. Both Scotch thistle and Hoary cress were growing on disturbed areas previously cleared for domestic use and Hoary cress was seen infesting areas associated with active home sites. Early growth of Russian knapweed was found, which has been known to infest areas in and around Ione in the fall months. Cheatgrass was found to be sparse along the roadsides and project area and could become more of an issue if not properly controlled following disturbance associated with the Proposed Action. Outside of the immediate town site, cheatgrass was found to be more prevalent but primarily restricted to disturbed areas. Otherwise, there is no indication of a major cheatgrass infestation in or around the Ione town site. More details of the survey and herbicide treatment are available in the project record at the BMD office and incorporated by reference.

Soil disturbance and opening of the tree canopy could potentially encourage the growth of noxious weeds, invasive and non-native species. To reduce the potential for noxious weeds, invasive and non-native species from encroaching into the treatment areas, implementation of the Proposed Action would be in accordance with best management practices found in the District's Integrated Weed Management Plan (BLM, 2008b). A copy of the District's IWM Plan and best management practices is available at the BLM Mount Lewis Field Office.

Adherence to the project committed design features, including the use of Plateau Herbicide would provide adequate mitigation for project-related potential of increasing noxious weeds and invasive, non-native species. Furthermore, to reduce disturbance to the soil crust, and potential subsequent colonization of noxious or invasive, non-native species, the growth of native understory and grass species would be monitored for at least one growing season following mowing in sagebrush to determine any seeding needs. Drill seeding would only be used as a last resort.

Cumulative Impacts

Noxious weed treatments have been conducted in the Ione area at varying intervals. Post-treatment monitoring of the June, 2008 Ione noxious weed treatment found that almost all of the Hoary cress had been controlled prior to seed set and Scotch thistle had been fully controlled. Russian knapweed is scheduled for treatment in the fall, 2008. With the implementation of the approved Integrated Weed Management Plan, a more consistent noxious weed treatment plan would call for yearly treatments in the Ione town site.

The Proposed Action and the RFFA previously described in Section 2.3 are projects with similar goals and objectives. Project treatments and potential effects would be similar through any implementation of the RFFA. Mitigation measures to reduce potential impacts would generally be the same, except where site/Agency-specific areas require supplemental or additional measures. The RFFA consists of approximately 120 acres; therefore, during RFFA implementation, short-term impacts associated with noxious weeds and invasive / non-native species from the RFFA would be less than from the Proposed Action. Combined, the RFFA is not expected to increase the level of effects that would occur as identified with the Proposed Action.

3.1.9 Wetlands and Riparian Zones

Proposed Action

Riparian habitat is present within the Southwest Tall Sage Unit, Structure Fuels Abatement Unit, and Northeast Tall Sage Unit. The eastern portion of the collective riparian zone, within the project area, is at the functioning level for Proper Function and Condition. The western third has been dominated by Russian knapweed, and is currently being treated. Riparian vegetation has not yet reestablished.

Impacts to spring/water quality could occur with the removal of vegetation from upland areas resulting in the increase of sedimentation and erosion. Once shrub and grass species become established in greater quantities following the thinning of the tree canopy, the soil would become more stable and thus reduce the potential for sedimentation runoff. Prescribed burning would occur outside of riparian zones to minimize the potential for impacts associated with sedimentation and erosion.

Cumulative Impacts

The Proposed Action and the RFFA previously described in Section 2.3 are projects with similar goals and objectives. Project treatments and potential effects would be similar through any implementation of the RFFA. Mitigation measures to reduce potential impacts would generally be the same, except where site/Agency-specific areas require supplemental or additional measures. The RFFA consists of approximately 120 acres; therefore, during RFFA implementation, any potential short-term adverse impacts to wetlands and riparian zones from the RFFA would be less than from the Proposed Action. Combined, the RFFA is not expected to increase the level of effects that would occur as identified with the Proposed Action. Implementation of the Proposed Action and the RFFA would likely benefit wetland and riparian areas in the long-term by lessening the severity and exposure to catastrophic fire as well as increasing riparian vegetation diversity.

3.1.10 Forests and Rangelands

Proposed Action

Up to 706 acres of pinyon-juniper woodlands would be treated across the project area. Implementation of the Proposed Action would result in improved forest health through less competition. A healthier forest habitat also would result, in the long term, in greater pinyon nut yields and a higher tolerance to forest pathogens and resistance to catastrophic wildfire. Adherence to prescriptions and project committed design features would ensure the residual stand is representative of a healthy, sustainable forest ecosystem while retaining stand diversity to include old-growth preservation. Residual forest products from project implementation would be available to the public.

The proposed project is located in the Ione Allotment. Treatments for Buffalo Creek, East and West Prospects Units are similar. Livestock have access to the Buffalo Creek treatment area, and to a lesser degree they have some access to the West Prospects Unit. The East Prospects treatment area is much less accessible to livestock use. On all three areas the sagebrush and grass understory has declined due to pinyon and juniper encroachment. The proposed treatment would thin trees and should release the understory as documented on similar projects. This should result in more forage for livestock and wildlife in these treatment areas. The Structure Fuels Abatement Unit, the Shamrock Canyon Unit and both Tall Sage Units have limited access to livestock use. A fence running through the SW Tall Sage treatment area blocks livestock access to the town of Ione, and thus any units which seeding may take place if monitoring determines the need. Treatments in these areas will not impact livestock grazing and vice-versa. Adverse effects to rangelands and associated improvements are not anticipated during treatment and monitoring of the proposed project. As treated areas recover, the seral stage setback for sagebrush steppe and pinyon-juniper woodland ecosystems would improve rangeland health and diversity.

Cumulative Impacts

Cumulative effects for Forests and Rangelands are analyzed for the Ione Allotment, encompassing 196,304 acres. Past activities/events which may have affected forests and rangelands include minimal wildfire activity, grazing activity / permits, dispersed recreation activity, rangeland improvement projects, mining claim activity, tree cutting and home-site development in the community of Ione. Overall these activities have occurred periodically on the allotment over the last 10 years.

The Proposed Action and the RFFA previously described in Section 2.3 are projects with similar goals and objectives. Project treatments and potential effects would be similar through any implementation of the RFFA. Mitigation measures to reduce potential impacts would generally be the same, except where site/Agency-specific areas require supplemental or additional measures. The RFFA consists of approximately 120 acres; therefore, during RFFA implementation, short-term impacts to forests and rangelands from the RFFA would be less than from the Proposed Action. Combined, the RFFA is not expected to significantly increase the level of effects that would occur as identified with the Proposed Action.

3.1.11 Wastes, Solid/Hazardous

Proposed Action

The following hazardous materials are expected to be used during varying stages of implementation: premix fuel for chainsaws (unleaded gasoline and 2-cycle oil), drip torch fuel (3:1 mix of diesel/gasoline), terra-torch fuel (gelled gasoline), fusees, flare guns and hand-thrown ignition devices. Fuel used for drip torches or terra-torch is largely volatilized upon ignition and other incendiary devices are anticipated to be consumed during prescribed fire activities. No residual fuel would remain after ignition has taken place. Short-term, isolated negative impacts could occur from small spills or accidental release of ignition device fuel. Mitigation of a spill or accidental release of ignition fuel would occur according to the Interagency Standards for Fire and Aviation Operations (BLM, 2008c). Less than 10,000 pounds of chemicals subject to reporting under Title III of SARA (40 CFR 370) are associated with this project.

Cumulative Impacts

The Proposed Action and the RFFA previously described in Section 2.3 are projects with similar goals and objectives. Project treatments and potential effects would be similar through any implementation of the RFFA. Mitigation measures to reduce potential impacts would generally be the same, except where site/Agency-specific areas require supplemental or additional measures. The chemicals and materials used are not a hazardous waste when used as intended or according to label directions. If materials are accidentally spilled or released, then standard hazmat recovery and/or cleanup methods are used resulting in minimal impact. The RFFA consists of approximately 120 acres; therefore, during RFFA implementation, potential impacts from the RFFA would be less than from the Proposed Action. Combined, the RFFA is not expected to increase the level of effects that would occur as identified with the Proposed Action.

3.2 Other Resources Considered

3.2.1 Vegetation

Proposed Action

Vegetation communities within the project area primarily consist of black sagebrush, Wyoming big sagebrush and rabbitbrush communities in the valley bottoms, sagebrush and pinyon-juniper woodlands in the foothills and mountains, and some riparian habitat intermittent stream banks that support willow. (NRCS 2004b; BLM 1997). In general, native grasses on alluvial fans and benches include Indian ricegrass, bottlebrush squirreltail, and needle-and-thread. During implementation of the Proposed Action, islands of vegetation within treatment areas would remain untreated and provide habitat for wildlife species. Approximately 49 acres of sagebrush habitat, 706 acres of pinyon-juniper habitat and 57 acres of mixed vegetation in the Structure Fuels Abatement Unit would be altered as a result of treatments. The acres treated represent a fraction of the vegetative

communities in the area. Vegetative diversity would increase within the project area following treatment, thereby encouraging healthy, sustainable ecosystems. As pinyon-juniper canopy coverage increases, understory habitat such as sagebrush and perennial grasses decrease (Journal of Range Management, 1974). Thinning of the pinyon-juniper canopy to greater than 30 feet apart and/or shelter-wood cutting would allow the re-establishment of understory shrubs and herbaceous species. Following treatment activities in the sagebrush communities, small islands of sagebrush would remain to provide nesting and forage for wildlife. Grass and forb species would increase in openings left by removal of sagebrush.

Cumulative Impacts

Cumulative effects to Vegetation are analyzed for the Ione Allotment, encompassing 196,304 acres. Past activities/events which may have affected vegetation include weed treatments, minimal wildfire activity, sporadic and small-scale mining/exploration activity to include vegetation removal or modification, dispersed recreation activity, and home-site development in the community of Ione. Overall these activities have occurred periodically on less than 1% of the allotment over the last 10 years.

The Proposed Action and the RFFA previously described in Section 2.3 are projects with similar goals and objectives. Project treatments and potential effects would be similar through any implementation of the RFFA. Mitigation measures to reduce potential impacts would generally be the same, except where site/Agency-specific areas require supplemental or additional measures. The RFFA consists of approximately 120 acres; therefore, during RFFA implementation, short-term impacts to vegetation from the RFFA would be less than from the Proposed Action. Combined, the RFFA is not expected to increase the level of effects that would occur as identified with the Proposed Action.

3.2.2 Wildlife

Proposed Action

The plant communities of the area provide foraging, nesting, and escape cover for many species of wildlife. The following species have been observed within the project area: black-tailed jack rabbit (*Lepus californicus*), ground squirrel, horned lark (*Eremophila alpestris*), mourning dove (*Zenaida macroura*), western meadowlark (*Sturnella neglecta*), mountain bluebird (*Sialia currucoides*), black phoebe (*Sayornis nigricans*), northern (red-shafted) flicker (*Colaptes auratus*), white-crowned sparrow (*Zonotrichia leucophrys*), dark-eyed junco (*Junco hyemalis*), European starling (*Sturnus vulgaris*), northern harrier (*Circus cyaneus*), and red-tailed hawk (*Buteo jamaicensis*). The Ione drainage is within deer winter range for mule deer (*Odocoileus hemionus)*, shown on map 10 of the Tonopah Resource Management Plan and Record of Decision (BLM, 1997).

Potential impacts to wildlife could result from implementation of the Proposed Action. In the short term, loss of protective cover could expose smaller species to predators. Additionally, short-term loss of herbaceous plant species would reduce nesting and foraging habitat. Displacement or loss of species could occur during treatment operations. During implementation of the Proposed Action, islands of vegetation within treatment areas would remain untreated and provide habitat for wildlife species. Approximately 49 acres of sagebrush habitat, 706 acres of pinyon-juniper habitat and 57 acres of mixed vegetation in the Structure Fuels Abatement Unit would be altered as a result of treatments. The acres treated represent a fraction of the total available habitat in the area. Habitat diversity would increase within the project area following treatment, thereby potentially increasing wildlife diversity.

Cumulative Impacts

Cumulative effects to wildlife are analyzed for the Ione Allotment, encompassing 196,304 acres. Past activities/events which may have affected wildlife include minimal wildfire activity, sporadic and small-scale mining/exploration activity to include vegetation removal or modification, dispersed recreation activity, and home-site development in the community of Ione. Overall these activities have occurred periodically on less than 1% of the allotment over the last 10 years.

The Proposed Action and the RFFA previously described in Section 2.3 are projects with similar goals and objectives. Project treatments and potential effects would be similar through any implementation of the RFFA. Mitigation measures to reduce potential impacts would generally be the same, except where site/Agency-specific areas require supplemental or additional measures. Displacement or loss of species could occur during treatment operations. Because this is a phased project, to occur over a number of years, relatively small areas would be disturbed at a time, limiting displacement and potential loss. Any implementation of the RFFA would not likely occur simultaneously with treatments associated with the Proposed Action. The RFFA consists of approximately 120 acres; therefore, during RFFA implementation, short-term impacts to wildlife from the RFFA would be less than from the Proposed Action. Combined, the RFFA is not expected to increase the level of effects that would occur as identified with the Proposed Action. The acres treated represent a fraction of the total available habitat in the cumulative effects assessment area. In the long-term, habitat diversity would increase within the project area following treatment, thereby potentially increasing wildlife diversity.

3.2.3 Soils

Proposed Action

According to NRCS data, the majority of the soils within the project area are either dominated by pinyon and juniper or by Wyoming big sagebrush. Additionally, there is a soil inclusion that occurs along the valley bottoms dominated by basin big sagebrush.

The pinyon-juniper dominated soil with an understory of mountain big sagebrush is a moderately deep, well drained soil that formed from volcanic rock. This soil occurs on side slopes of mountains and hill on slopes between 15 to 75%. The Buffalo Creek, West and East Prospects and the Shamrock Units are mainly in this soil type. The next most common soil type is dominated by Wyoming big sagebrush. It is a shallow to very shallow, well drained soil that formed from volcanic rock. This soil occurs on side slopes of mountains and hill on slopes between 8 to 50%. Portions of the Buffalo Creek, West and East Prospects and Shamrock Units contain this soil association. The third soil type occurs in low drainages on 2 to 8% slopes and is dominated by basin big sagebrush. These soils can be found in the Northeast and Southwest Tall Sage Units and portions of the Structure Fuels Abatement Unit. This soil is deep and well drained. All three soils are susceptible to water erosion (NRCS 2004c, d).

Implementation of the proposed project could increase the potential for erosion and soil instability. However, to minimize this potential, the steepest portions have been removed from treatment consideration and any fireline construction within the project area would be rehabilitated. Once shrub and grass species are re-established, and the soil stabilized, the potential for erosion and sedimentation would be reduced. Prescribed burning, including the application of small amounts of drip torch fuel (3:1 mixture of diesel to gasoline), terra torch fuel (gelled gasoline) and other activities associated with the implementation of the proposed project are not expected to appreciably change soil chemistry or soil composition. Fuel used for drip torches or terra-torch is largely volatilized upon ignition and other incendiary devices are anticipated to be consumed during prescribed fire activities. No residual fuel would remain after ignition has taken place. Short-term, isolated negative impacts could occur to soils from small spills or accidental release of ignition device fuel. Mitigation of a spill or accidental release of ignition fuel would occur according to the Interagency Standards for Fire and Aviation Operations (BLM, 2008c).

Cumulative Impacts

The Proposed Action and the RFFA previously described in Section 2.3 are projects with similar goals and objectives. Project treatments and potential effects would be similar through any implementation of the RFFA. Mitigation measures to reduce potential impacts would generally be the same, except where site/Agency-specific areas require supplemental or additional measures. The RFFA consists of approximately 120 acres; therefore, during RFFA implementation, short-term impacts to soils from the RFFA would be less than from the Proposed Action. Combined, the RFFA is not expected to increase the level of effects that would occur as identified with the Proposed Action.

3.2.4 Socioeconomics

Proposed Action

The proposed project area lies within the Ione Valley in Northwest Nye County, Nevada. Ione is a townsite within a historic mining district. Implementation of the Proposed Action would result in short-term beneficial impacts to the area as local workers could be hired to implement the fuel reduction treatments and residual firewood would be provided to the local community.

Cumulative Impacts

The Proposed Action and the RFFA previously described in Section 2.3 are projects with similar goals and objectives. Project treatments and potential effects would be similar through any implementation of the RFFA. The RFFA consists of approximately 120 acres; therefore, during RFFA implementation, similar short-term benefits could be expected for the area. Combined, the RFFA is not expected to significantly increase the level of effects that would occur as identified with the Proposed Action.

3.2.5 Land Uses

Proposed Action

The project area includes 812 acres of public land managed by the BLM. Infrastructure servicing residents of Ione include a buried fiber optic telephone cable (NVN-77508), a solar powered telephone line (NVN-051090), and a county road (NVN-54894)(BLM, 2008d). Pinyon and juniper would be removed from under the power and telephone lines in the project area only. No adverse impacts to infrastructure are expected as a result of implementation of the Proposed Action.

Cumulative Impacts

The Proposed Action and the RFFA previously described in Section 2.3 are projects with similar goals and objectives. Project treatments and potential effects would be similar through any implementation of the RFFA. Mitigation measures to reduce potential impacts would generally be the same, except where site/Agency-specific areas require supplemental or additional measures. The RFFA consists of approximately 120 acres; therefore, during RFFA implementation, short-term impacts to land uses from the RFFA would be less than from the Proposed Action. Combined, the RFFA is not expected to increase the level of effects that would occur as identified with the Proposed Action.

3.2.6 Recreation

Proposed Action

According to the BLM RMP (BLM, 1997), recreation within the project area is predominantly dispersed with no off-road restrictions. Dispersed recreation includes activities such as camping, hiking, backpacking, hunting, and off-road vehicle use. The nearest designated recreation site is Berlin Ichthyosaur State Park, located approximately 10 miles to the south, well beyond the view shed of the proposed treatment area. Access to dispersed recreation areas in close proximity to the treatment areas may be restricted during treatment implementation; however, this restriction would be short-term. Implementation of the Proposed Action would likely benefit recreation activities in the area by providing a more fire-safe environment in the long-term.

Cumulative Impacts

The Proposed Action and the RFFA previously described in Section 2.3 are projects with similar goals and objectives. Project treatments and potential effects would be similar through any implementation of the RFFA. Mitigation measures to reduce potential impacts would generally be the same, except where site/Agency-specific areas require supplemental or additional measures. The RFFA consists of approximately 120 acres; therefore, during RFFA implementation, short-term impacts to recreation from the RFFA would be less than

from the Proposed Action. Combined, the RFFA is not expected to increase the level of effects that would occur as identified with the Proposed Action. In the long term, public safety will be enhanced for both recreationists and Ione residents due to a more fire-safe environment.

3.2.7 Visual Resources

Proposed Action

Portions of the project area on BLM land are located within BLM's Visual Resource Management (VRM) Class IV. Management objectives of a VRM Class IV are "to provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high" (BLM, 2005). Project implementation would occur in rural mountain drainages with relatively few viewers. Potential impacts to visual resources could occur in the E. Prospect Unit, Structure Fuels Abatement Unit, Southeast Tall Sage Unit, and the Northeast Tall Sage Unit where treated and untreated areas would be visible to viewers from the main road. Use of the feathering technique for vegetation removal would minimize the effects of linearity between treated areas and untreated areas and thereby reduce the level of contrast to the landscape. The level of change resulting from the treatments is allowable since the level of change to the landscape can be high, considering the Class IV definition.

Cumulative Impacts

The Proposed Action and the RFFA previously described in Section 2.3 are projects with similar goals and objectives. Project treatments and potential effects would be similar through any implementation of the RFFA. Mitigation measures to reduce potential impacts would generally be the same, except where site/Agency-specific areas require supplemental or additional measures. The RFFA consists of approximately 120 acres; therefore, during RFFA implementation, short-term impacts to visual resources from the RFFA would be less than from the Proposed Action. Combined, the RFFA is not expected to increase the level of effects that would occur as identified with the Proposed Action.

3.2.8 Fire Management

Proposed Action

The goals of the project are to protect life, property, community infrastructure and the cultural and natural resources associated with the Ione way-of-life. As a result of implementing the Proposed Action, buffers would be created in strategic areas which would serve to moderate fire behavior within the treated areas, therefore reducing the likelihood of a wildfire entering (or leaving) the community of Ione. It would create a safer environment for firefighters to engage in suppression operations than what is currently present. In addition, areas within the wildland-urban interface would be more resistant to fire. Implementing the Proposed Action would improve fire management within the WUI by reducing hazardous fuels loading and enhancing natural fire breaks. By modification of the fire environment, the ability to control and manage a wildland fire in the WUI would become more effective and safer for firefighting crews. Implementation of the Proposed Action would, therefore, result in beneficial impacts to fire management.

Cumulative Impacts

Relatively few fires have occurred around Ione while the threat for catastrophic, large-scale fires has been increasing due to increasing fuel loads, declining forest health and woodland canopy closure. The Proposed Action and the RFFA previously described in Section 2.3 are projects with similar goals and objectives. Project treatments and potential effects would be similar through any implementation of the RFFA. The RFFA consists of approximately 120 acres; therefore, during RFFA implementation, similar benefits could be expected for the area. Combined, the RFFA would likely increase the level of beneficial effects that would occur as identified with the Proposed Action.

3.3 Elements Not Considered

The following elements of the human environment are not present or are not affected by the Proposed Action: Fish Habitat, Areas of Critical Environmental Concern, Prime or Unique Farmlands, Wild and Scenic Rivers and Wilderness. They have been dismissed from further consideration in this environmental assessment.

4.0 List of Preparers

Bureau of Land Management, Battle Mountain District

Donovan Walker	Project Officer/Lead Preparer, Fire Management, Forest Resources, Air Quality
Angelica Ordaz	NEPA Compliance, Environmental Justice, Socioeconomics
Chuck Lane	Lands
Bob Hassmiller	Hydrology
Michael Vermeys	Noxious Weeds, Invasive/Non-native Species
Todd Neville	Recreation, Wilderness, VRM
Kat Russell	Cultural Resources
Gerald Dixon	Native American Consultation / Tribal Liaison
Steve Drummond	Wastes, Solids/Hazardous

Bureau of Land Management, Tonopah Field Office

Valerie Metscher	Soils, Vegetation, Rangeland Resources
Bryson Code	T&E, Wildlife, Migratory Birds, Wetlands/Riparian
Scott Stadler	Cultural Resources

Nevada Department of Wildlife

Bradford Hardenbrook	Wildlife/Nevada Sensitive Species

5.0 References

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APPENDIX A

LIST OF GOVERNMENT AGENCIES, ENTITIES, AND INDIVIDUALS THAT WERE NOTIFIED OF THE PROPOSED PROJECT

Aaron Foxworthy UNABLE TO DELIVER RETURN TO SENDER
Al Drayton
Art Gale
Attn: Mark Hyde UNABLE TO DELIVER RETURN TO SENDER
Aurora Aboite, Environmental Coordinator
Battle Mountain Band Council - Michael Young, Chair
Battle Mountain Bugle
Beatty Historical Museum Society
Ben Patterson
Beth Swartz
Bill Kohlmoos
Bonnie and Chuck Matton - Wild Horse Preservation League
Brian Wood - Permits West Inc.
Bruce Delaney
Bruce Piscitello
Bureau of Indian Affairs Western NV
Bureau of Land Management, NSO
C Ranches, Inc - John Filippini
Carl Slagowski
Center for Biological Diversity
Chiara Ranch - Dan Filippini
Chuck Gentry
Clay Baty UNABLE TO DELIVER RETURN TO SENDER
Clinton and Ellen Boehringer
Colleen M. Smith
Committee for the High Desert
Cortez Gold Mines
Cortez Joint Venture - DBA Dean Ranch
Craig C. Downer
Craig C. Downer - Wild Horse Wildness and Wildlife
D. Bradford Hardenbrook - Nevada Division of Wildlife, Southern Region
Danielle Cagle
Darryl Brady
David Stine
Dee Helming
Dennis Ellistad - Becker Realty
Diane Mihal
District Ranger - US Forest Service, Austin Ranger District
Dr. James R. Marble - Nye Co. Dept. of Nat. Res. Fed. Facilities
Duckwater Shoshone Tribe - Annette George, Environmental Director
Duckwater Shoshone Tribe - Jerry Millett, Chair
Durk Pearson
EarthWorks - Attn: Lauren Pagel
Ed and Miriam Ylst
Eden
Elko Band, Te-Moak Tribe of Western Shoshone - Alfreda Jake, Environmental Coordinator
Elko Band, Te-Moak Tribe of Western Shoshone - Lynnette Piffero, Chair
Elko Daily Free Press
Ely Shoshone Tribe - Cindy Marques, Environmental Coordinator

Ely Shoshone Tribe - Diana Buckner, Chair
ENSR - Attn: Valerie Randall
Eureka County Natural Resources
Fallon Business Council - Attn: Richard Black, Chair
Fallon FSA Office - Attn: Marj Leavitt
Frank Lewis UNABLE TO DELIVER RETURN TO SENDER
Friends of Nevada Wilderness
Gary Adams
Gary L. Godfrey - Godfrey Excavation
Gary McCuin - Nevada Department of Agriculture
Goods From The Woods
Great Basin Mine Watch - Attn: Dr. Tom Myers
Great Basin Resource Watch
Greater Austin Chamber of Commerce - Attn: Dee Helming
Haas and Associates - Wine Glass Ranch
Harry Reid, Senator
Herman Lindermann
Honorable Dina Titus - Nevada State Senate
Ione Gold (Marshall)
J. Locke
Jeff Cundick
Jerry Helton - MOSO RAC
Jerry Hepworth
Jerry Todd
Jim Bennett
Jim Birchim - Yomba Shoshone Tribe
Jim Gibbons, Congressman
Jim Kracaw
Jim Price - Railroad Symposium
Joe Dahl
Johanna Wald - Natural Resources Defense Council
John and Ginger Fareio
John Ensign, Senator
John Gebhardt
John Livermore
Jon Hutchings - Eureka Co. Dept. of Natural Resources
Jon Marvel - Western Watersheds Project
Jonnie Bob
Julian Tomera Ranches, Inc - Pete Tomera
Ken Conley
Kenneth Guinn, Governor
Kuipers and Associates
Lahontan Audubon Society
Lander County Public Land Use Advisory Commission - Ray Salisbury
Leon Abrams
Loretta Hildreth, Chair-Wells Band
Maggie Garcia - Earth Knowledge
Marge Sill - Sierra Club
Mark Bennett
Martin Booth - Geothermal Associates
Maurice Frank-Churchill - Yomba Cattlemens Association
Mike Del Grosso - Dept. of Conservation Nat. Res. UNABLE TO DELIVER RETURN TO SENDER
Miles Shaw - Bureau of Mining & Reclamation - NDEP
Mitch Cantrell

Mr. Harry Brown - Harry Brown Family Trust
Mr. and Mrs. Joe B. Fallini Jr. - Twin Springs Ranch
Mr. and Mrs. Joe B. Fallini Jr. - Twin Springs Ranch
Mr. and Ms. Carl or Carole Hanks
Mr. Bud Johns
Mr. John Jones - Nevada Division of Forestry
Mr. Mark Hyde - Truckee River Ranch UNABLE TO DELIVER RETURN TO SENDER
Mr. Rex Cleary
Mr. Roy E. Clifford
Mr. Stanley Smith
Mr. Steven Carter - Carter Cattle Company
Mrs. Dawn Lappin - WHOA
Ms. Catherine Barcomb - Comm. For Preservation of Wild Horses
Ms. Laura Sheline - Sierra Pacific Power Company
Nevada Cattlemen's Association
Nevada Department of Agriculture - ATTN: Gary McCuin
Nevada Department of Environmental Protection - Attn: Connie Davis
Nevada Department of Minerals - Bill Durbin
Nevada Department of Transportation - Right-of-Way Division
Nevada Department of Wildlife - Attn: Rory Lamp
Nevada Division of Wildlife - Attn: Teri Slatauski
Nevada Division of Wildlife - Attn: Tom Donham
Nevada Division of Wildlife - Attn: Mr. Michael S. Wickersham
Nevada Mining Association
Nevada State Clearinghouse - Attn: Michael Stafford
Nevada State Clearinghouse/SPOC - Dept of Administration - Attn: Julie Butler
Nicholas Welch
Norman Sharp
NV Land & Resource Co
Nye County Commissioners
O'Toole Ranches
O'Toole Ranches
Pacific Legal Foundation - Emma T. Suarez, Esq.
Pat Rogers - JBR Environmental Consultants
Paul Burkett
Paul Corley Sr.
Paul Holcher - Beatty Cattle Co. LLC
Paul Ichauspe - Silver Creek Ranch
Paula Del Giudice - Nevada Wildlife Federation UNABLE TO DELIVER RETURN TO SENDER
Randy Spevak
Ray H. Williams, Jr.
Ray Salisbury
Resource Concepts Inc.
Richard Rukavina - Hecla Ventures Corp.
Robert M. Long
Robert Marcio - Bureau of Indian Affairs, Eastern Nevada Agency
Robert McQuiver - Nevada Department of Wildlife
Robert Williams - US Fish and Wildlife Service
Rod Johnson UNABLE TO DELIVER RETURN TO SENDER
Romarco Minerals Inc.
Rose Strickland - Sierra Club
Round Mountain Gold Corp.
Ruby Lingelbach
Russell Berg UNABLE TO DELIVER RETURN TO SENDER

Sandy Shaw
Sansinena Ranch - Hank & Dan Filippini
Sara Locke
Shelley Berkley, Congresswoman
Shoshone-Paiute Tribes of Duck Valley - Kyle Prior, Chair
Shoshone-Paiute Tribes of Duck Valley - Marcie Phillips – Environmental Director
Simpson Creek Ranch Inc. - ATTN: Jim Baumann
South Fork Band, Te-Moak Tribe of Western Shoshone - Cheryl Mose-Temoke, Chair
South Fork Band, Te-Moak Tribe of Western Shoshone - Jake Tybo - Environmental Coordinator
Stage Stop Ranch
Stage Stop Ranch - ATTN: Doris House
State Historic Preservation - ATTN: Rebecca Palmer
State Historic Preservation Office - Attn: Ron James
State of Nevada - NDEP – Bureau of Mining Regulation & Reclamation
State of Nevada, Division of Wildlife - ATTN: Terry Crawforth
State of Nevada, Natural Heritage Prog. - ATTN: James Morefield UNABLE / DELIVER RET / SENDER
Susan Dudley - Esmeralda County Commission
Suzy McCoy
Synergy Resource Solutions Inc. - ATTN: Jack D. Alexander III
Te-Moak Tribe of Western Shoshone - Davis Gonzales, Chair
Te-Moak Tribe of Western Shoshone - Lavonna Johnson, Vice Chair
Teola Brady - Yomba Shoshone Tribe
The Fund for Animals
The Toiyabe Chapter of the Sierra Club
The Wilderness Society
Timbisha Shoshone Tribe - Barbara Durham – THPO
Timbisha Shoshone Tribe - Joe Kennedy - Chair
Trish Rippie
Truckee River Ranch, LLC
U.S Army Corps of Engineers
U.S. EPA - Attn: Jeanne Geselbracht
US Forest Service Tonopah Ranger
USFS – Humboldt-Toiyabe National Forest - Attention: Fuels Management
Wayne Dyer
Western Action Mining Project - Attn: Roger Flynn
Western Shoshone Defense Project - Carrie Dann
Western Shoshone Historic Preservation Society - Attention: Larry Kibby
Western Watersheds Project - Attn: Katie Fite
Wild Horse Wildness and Wildlife - Attn: Craig C. Downer
William J. Miller
William S. Curran - Summa Minerals
Yomba Cattlemens Association
Yomba Shoshone Tribe - Dennis Bill, Chair
Yomba Shoshone Tribe – Teola Brady, EPA Director

APPENDIX B

PROPOSED SEED MIX FOR TREATED AREAS

Preferred Seed Mix (Native – For Broadcasting, if appropriate)

Common Name	Scientific Name	Lbs/acre PLS (pure live seed)
Needle and thread	*Stipa comata*	4
Bottlebrush squirreltail*	*Sitanion hystrix*	5
Galleta grass	*Hilaria jamesii*	2
Sandberg bluegrass	*Poa nevadensis*	1
Scarlet globemallow	*Sphaeralcea coccinea*	1

*Bottlebrush squirreltail has been chosen because it competes well with invasive species such as cheatgrass.

Preferred Seed Mix (Native – For Drilling, if appropriate)

Common Name	Scientific Name	Lbs/acre PLS (pure live seed)
Indian ricegrass	*Oryzopsis hymendoides* or *Achnatherum hymenoided*	3
Needle and thread	*Stipa comata*	4
Bottlebrush squirreltail*	*Sitanion hystrix*	2
Sandberg bluegrass	*Poa nevadensis*	0.5
Scarlet globemallow	*Sphaeralcea coccinea*	0.5

*Bottlebrush squirreltail has been chosen because it competes well with invasive species such as cheatgrass.

Alternative Seed Mix (Non-native)

Common Name	Scientific Name	Lbs/acre PLS (pure live seed)
Crested wheatgrass	*Agropyron cristatum*	3
Western Wheatgrass	*Pascopyrum smithii*	2
Bottlebrush squirreltail*	*Sitanion hystrix*	4
Sandberg Bluegrass	*Poa nevadensis*	0.5
Lewis flax	*Linum lewisiior* or *Linum perenne*	0.5
Small Burnet	*Sanguisorba minor*	1
Western Yarrow	*Achillea millefolium* spp. *lanulosa*	1

*Bottlebrush squirreltail has been chosen because it competes well with invasive species such as cheatgrass.

APPENDIX C

MAINTENANCE TREATMENT TRIGGER POINTS

Treatment Unit and Acres	Fuel Characteristics	Fuel Loading[1]	Fire Risk[2]
Buffalo Creek 354 acres	Pinyon-juniper canopy spacing less than 20'; Insect or disease epidemics affecting areas larger than 1/2 acre; Sagebrush "jackpot areas" with mean heights >2.5'; Cheatgrass or noxious weeds establishment > 1/4 acre.	>15 tons/acre	Moderate or greater
W. Prospects 145 acres	Pinyon-juniper canopy spacing less than 20'; Insect or disease epidemics affecting areas larger than 1/4 acre; Sagebrush "jackpot areas" with mean heights >2.5'; Cheatgrass or noxious weeds establishment > 1/4 acre.	>15 tons/acre	Moderate or greater
E. Prospects 123 acres	Pinyon-juniper canopy spacing less than 20'; Insect or disease epidemics affecting areas larger than 1/4 acre; Sagebrush "jackpot areas" with mean heights >2.5'; Cheatgrass or noxious weeds establishment > 1/4 acre.	>15 tons/acre	Moderate or greater
Northeast Tall Sage 31 acres	Shrub species with mean height > 1.5'. Grasses taller than 2' w/ > 30% coverage; Cheatgrass or noxious weeds establishment > 1/4 acre.	Sage > 3.5 tons/acre or Grass > 450 lbs/ac	Moderate or greater
Shamrock Canyon – Cemetery 84 acres	Pinyon-juniper canopy spacing less than 20'; Insect or disease epidemics affecting areas larger than 1/4 acre; Sagebrush "jackpot areas" with mean heights >2.5'; Cheatgrass or noxious weeds establishment > 1/4 acre.	>15 tons/acre	Moderate or greater
Southwest Tall Sage 18 acres	Shrub species with mean height > 1.5'. Grasses taller than 2' w/ > 30% coverage; Cheatgrass or noxious weeds establishment > 1/4 acre.	Sage > 3.5 tons/acre or Grass > 450 lbs/ac	Moderate or greater
Structure Fuels Abatement 57 acres	Vegetation is re-established within defined defensible space[3]	NA	Moderate or greater

[1] Fuel loading estimates are the total aboveground biomass (alive and dead) in tons/acre unless otherwise defined.
[2] Overall risk to the community based on fuel type quantified, typical fire weather and topography combined with expected fire behavior.
[3] Defensible space guidelines adopted from National Firesafe Council publications (Firesafe Council, 2005).

APPENDIX D

NEED FOR CHANGE WORKSHEETS (5)

NEED FOR CHANGE WORKSHEET
01/18/08

LOCATION: Ione, NV

SITUATION: Hazardous fuel situation in the Wildland-urban Interface (WUI) resulting from poor canopy spacing

Desired Condition:

1. As stated in the Tonopah FMP October, 1997.

Objectives:

To protect natural resources from unacceptable damage by fire in a cost- effective manner with a high regard for private property and safety;

Promote resource management through prescribed fire to maintain the natural component of the ecosystem; …"The sagebrush/pinyon-juniper vegetation type is considered a fire-dependent ecosystem, and adverse ecological changes may result by total fire exclusion"…

2. Desired condition stated in FLUPA, 2002:

The desired result of the Proposed Action is a healthy ecosystem characterized by a good distribution and proportion of successional stages such as what would occur over time under a natural fire regime.

3. Desired conditions as a result of meeting fire management objectives identified in the Battle Mountain District Fire Management Plan, 2004, Yomba-Ione FMU NV-060-24.

Objectives- all are incorporated by reference, specifically examples below:

Reduce wildfire fuel hazards utilizing mechanical treatments;

Keep wildfires that threaten life and property to 1 acre or less, 90% of the time;

Provide for vegetative and ecological diversity;

These desired conditions are also consistent with the Healthy Forests Restoration Act of 2003 and with the National Fire Plan which was developed in response to the 2000 fire season which mandates federal agencies to focus on: improving fire preparedness, reducing hazardous fuels and assisting communities.

Existing Condition:

Current conditions were assessed May 2003 and updated in August, 2007 with findings and recommendations cited in the "Ione Site Assessment" which is The Battle Mountain Field Office's risk assessment for the community of Ione, NV.

Summary of conditions include:

- Excellent horizontal continuity in the closed canopy PJ stands.
- Canopy spacing currently ranges from 5-15' on average. Extreme risk of sustained crown runs in the PJ canopy.
- Understory species are beginning to show signs of decline as it becomes shaded out.
- Good ladder fuels from the forest floor through the upper strata of the stands. PJ areas are able to easily propagate fire from the lower surface strata to the upper canopy.

Element:

Pinyon/juniper canopy spacing

Measure:

Mean feet between upper tree canopies

Desired Value:

At least 30'

Existing Value:

5-15'

Need for Change:

15-25'. There exists a need to improve canopy spacing in order to reduce the risk of crown fire.

POSSIBLE ACTIVITIES:	**CONSISTENCY?**
What can you do to address the need for change?	Consistent with RMP or parent document?
Woodland thinning	Yes
Shaded fuel breaks	Yes
Shelter-wood cut	Yes
Prescribed Fire	Yes
Commercial Fuelwood area	Yes

NEED FOR CHANGE WORKSHEET
01/18/08

LOCATION: Ione, NV

SITUATION: Hazardous fuel situation in the Wildland-urban Interface (WUI) caused by tree density

Desired Condition:

1. As stated in the Tonopah FMP October, 1997.

Objectives:

To protect natural resources from unacceptable damage by fire in a cost- effective manner with a high regard for private property and safety;

Promote resource management through prescribed fire to maintain the natural component of the ecosystem; …"The sagebrush/pinyon-juniper vegetation type is considered a fire-dependent ecosystem, and adverse ecological changes may result by total fire exclusion"…

2. Desired condition stated in FLUPA, 2002:

The desired result of the Proposed Action is a healthy ecosystem characterized by a good distribution and proportion of successional stages such as what would occur over time under a natural fire regime.

3. Desired conditions as a result of meeting fire management objectives identified in the Battle Mountain District Fire Management Plan, 2004, Yomba-Ione FMU NV-060-24.

Objectives- all are incorporated by reference, specifically examples below:

Reduce wildfire fuel hazards utilizing mechanical treatments;

Keep wildfires that threaten life and property to 1 acre or less, 90% of the time;

Provide for vegetative and ecological diversity;

These desired conditions are also consistent with the Healthy Forests Restoration Act of 2003 and with the National Fire Plan which was developed in response to the 2000 fire season which mandates federal agencies to focus on: improving fire preparedness, reducing hazardous fuels and assisting communities.

Existing Condition:

Current conditions were assessed May 2003 and updated in August, 2007 with findings and recommendations cited in the "Ione Site Assessment" which is The Battle Mountain Field Office's risk assessment for the community of Ione, NV.

Summary of conditions include:

- Declining closed canopy pinyon/juniper stands currently pose a HIGH to EXTREME risk to the community of Ione and its homes, infrastructure and cultural resources.
- Excessive fuel loadings creating hazardous fuel concentrations in the Wildland-Urban Interface, currently threaten the community of Ione. Proven results of high fuel loadings of natural fuels trend towards high intensity/high severity wildfires.
- Local watersheds are declining in condition with regard to woodland health and are at a major risk of catastrophic fire.

Element:

Pinyon/juniper density

Measure:

Trees per acre

Desired Value:

30-50 trees per acre

Existing Value:

100-300 trees per acre

Need for Change:

Reduction of 50-250 trees per acre. There exists a need to reduce woodland density in order to reduce fire hazard.

POSSIBLE ACTIVITIES:	**CONSISTENCY?**
What can you do to address the need for change?	Consistent with RMP or parent document?
Woodland thinning	Yes
Shaded fuel breaks	Yes
Shelter-wood cut	Yes
Prescribed Fire	Yes
Commercial Fuelwood area	Yes

NEED FOR CHANGE WORKSHEET
01/18/08

LOCATION: Ione, NV

SITUATION: Hazardous <u>fuels accumulating</u> (Mortality rate / Trees sick and dying) in the Wildland-urban Interface (WUI) caused by pathogens/drought

<u>Desired Condition:</u>

1. As stated in the Tonopah FMP October, 1997.

Objectives:

To protect natural resources from unacceptable damage by fire in a cost- effective manner with a high regard for private property and safety;

Promote resource management through prescribed fire to maintain the natural component of the ecosystem; …"The sagebrush/pinyon-juniper vegetation type is considered a fire-dependent ecosystem, and adverse ecological changes may result by total fire exclusion"…

2. Desired condition stated in FLUPA, 2002:

The desired result of the Proposed Action is a healthy ecosystem characterized by a good distribution and proportion of successional stages such as what would occur over time under a natural fire regime.

3. Desired conditions as a result of meeting fire management objectives identified in the Battle Mountain District Fire Management Plan, 2004, Yomba-Ione FMU NV-060-24.

Objectives- all are incorporated by reference, specifically examples below:

Reduce wildfire fuel hazards utilizing mechanical treatments;

Keep wildfires that threaten life and property to 1 acre or less, 90% of the time;

Provide for vegetative and ecological diversity;

These desired conditions are also consistent with the Healthy Forests Restoration Act of 2003 and with the National Fire Plan which was developed in response to the 2000 fire season which mandates federal agencies to focus on: improving fire preparedness, reducing hazardous fuels and assisting communities.

Existing Condition:

Current conditions were assessed May 2003 and updated in August, 2007 with findings and recommendations cited in the "Ione Site Assessment" which is The Battle Mountain Field Office's risk assessment for the community of Ione, NV.

Summary of conditions include:

- Prolonged drought with little relief in sight has had a compound effect on tree mortality when combined with the effects of forest pathogens
- Pinyon Ips beetles and dwarf mistle toe have infested many trees throughout the assessment area resulting in accelerated mortality
- Dead fuel loading on the forest floor is accumulating in areas where tree mortality is highest.
- Standing dead trees (red-needled) contribute to conditions responsible for extreme fire behavior and canopy fire
- Local watersheds are in declining condition and are at a major risk of catastrophic fire.

Element:

Fuel loading

Measure:

Tons/acre

Desired Value:

5-6 tons per acre in defensible areas (WUI)

Existing Value:

9-30 tons per acre

Need for Change:

Reduction of 4-24 tons per acre. There exists a need to reduce fuel loading in the PJ fuel type (woodlands) in identified defensible areas (WUI).

POSSIBLE ACTIVITIES:	**CONSISTENCY?**
What can you do to address the need for change?	Consistent with RMP or parent document?
Woodland thinning	Yes
Shaded fuel breaks	Yes
Shelter-wood cutting	Yes
Prescribed Fire	Yes
Commercial Fuelwood area	Yes

NEED FOR CHANGE WORKSHEET
01/18/08

LOCATION: Ione, NV

SITUATION: Hazardous fuel accumulations in the Wildland-urban Interface (WUI) caused by sagebrush fuel structure.

Desired Condition:

1. As stated in the Tonopah FMP October, 1997.

Objectives:

To protect natural resources from unacceptable damage by fire in a cost- effective manner with a high regard for private property and safety;

Promote resource management through prescribed fire to maintain the natural component of the ecosystem; …"The sagebrush/pinyon-juniper vegetation type is considered a fire-dependent ecosystem, and adverse ecological changes may result by total fire exclusion"…

2. Desired condition stated in FLUPA, 2002:

The desired result of the Proposed Action is a healthy ecosystem characterized by a good distribution and proportion of successional stages such as what would occur over time under a natural fire regime.

3. Desired conditions as a result of meeting fire management objectives identified in the Battle Mountain District Fire Management Plan, 2004, Yomba-Ione FMU NV-060-24.

Objectives- all are incorporated by reference, specifically examples below:

Reduce wildfire fuel hazards utilizing mechanical treatments;

Keep wildfires that threaten life and property to 1 acre or less, 90% of the time;

Provide for vegetative and ecological diversity;

These desired conditions are also consistent with the Healthy Forests Restoration Act of 2003 and with the National Fire Plan which was developed in response to the 2000 fire season which mandates federal agencies to focus on: improving fire preparedness, reducing hazardous fuels and assisting communities.

Existing Condition:

Current conditions were assessed May 2003 and updated in August, 2007 with findings and recommendations cited in the "Ione Site Assessment" which is The Battle Mountain Field Office's risk assessment for the community of Ione, NV.

Summary of conditions include:

- Current Extreme threat of fire establishing in Ione Canyon drainage, entering the identified sage and shrub stands, which are currently capable of funneling / accelerating a wildfire towards the community with the prevailing wind.
- Fuels growing in these drainage areas are very heavy and continuous
- Many structures and infrastructure interface directly with these fuels.
- Average shrub height and decadence is conducive to intense fire behavior

Element:

Fuel structure (shrubs)

Measure:

Average height and horizontal continuity

Desired Value:

Average height of 6" with poor horizontal continuity in defense areas

Existing Value:

Average height of 1.5-5' with Good – Excellent horizontal continuity

Need for Change:

Reduction of 1-4.5' in average height and a reduction in horizontal continuity is needed in order to reduce fire behavior in the identified defense areas (WUI).

POSSIBLE ACTIVITIES:	**CONSISTENCY?**
What can you do to address the need for change?	Consistent with RMP or parent document?
Mowing/mastication	Yes
Greenstripping	Yes
Prescribed Fire	Yes

NEED FOR CHANGE WORKSHEET
01/18/08

LOCATION: Ione, NV

SITUATION: Hazardous fuel accumulations in the Wildland-urban Interface (WUI) caused by sagebrush fuel loadings.

Desired Condition:

1. As stated in the Tonopah FMP October, 1997.

Objectives:

To protect natural resources from unacceptable damage by fire in a cost- effective manner with a high regard for private property and safety;

Promote resource management through prescribed fire to maintain the natural component of the ecosystem; …"The sagebrush/pinyon-juniper vegetation type is considered a fire-dependent ecosystem, and adverse ecological changes may result by total fire exclusion"…

2. Desired condition stated in FLUPA, 2002:

The desired result of the Proposed Action is a healthy ecosystem characterized by a good distribution and proportion of successional stages such as what would occur over time under a natural fire regime.

3. Desired conditions as a result of meeting fire management objectives identified in the Battle Mountain District Fire Management Plan, 2004, Yomba-Ione FMU NV-060-24.

Objectives- all are incorporated by reference, specifically examples below:

Reduce wildfire fuel hazards utilizing mechanical treatments;

Keep wildfires that threaten life and property to 1 acre or less, 90% of the time;

Provide for vegetative and ecological diversity;

These desired conditions are also consistent with the Healthy Forests Restoration Act of 2003 and with the National Fire Plan which was developed in response to the 2000 fire season which mandates federal agencies to focus on: improving fire preparedness, reducing hazardous fuels and assisting communities.

Existing Condition:

Current conditions were assessed May 2003 and updated in August, 2007 with findings and recommendations cited in the "Ione Site Assessment" which is The Battle Mountain Field Office's risk assessment for the community of Ione, NV.

Summary of conditions include:

- Current fuel loadings are heavy immediately adjacent to community structures and infrastructure
- Continuous stands of mid-late successional sagebrush and other shrubs ranging in fuel loading and density which pose a High to Extreme threat to the community
- Fuels are continuous and unbroken between woodland areas and structures / infrastructure
- Fuels are capable of producing flame lengths in excess of 20' with very high fireline intensities, depending on wind

Element:

Aboveground biomass (available fuel to burn relates directly to intensity and threat)

Measure:

Tons/acre

Desired Value:

1 ton/acre in defense areas

Existing Value:

2.5-15 tons/acre

Need for Change:

Reduction of 1.5-14 tons/acre. There exists a need to reduce sagebrush fuel loadings in order to reduce fire behavior in defense areas.

POSSIBLE ACTIVITIES:	**CONSISTENCY?**
What can you do to address the need for change?	Consistent with RMP or parent document?
Shrub thinning	Yes
Shaded fuel breaks	Yes
Prescribed Fire	Yes
Mowing / Mastication	Yes