BLM OREGON POST-FIRE RECOVERY PLAN

EMERGENCY STABILIZATION AND BURNED AREA REHABILITATION

PLAN TEMPLATE 2010

HOLLOWAY FIRE (G4ZC)

BLM Burns District Office

OREGON STATE OFFICE

FIRE BACKGROUND INFORMATION

Fire Name	Holloway
Fire Number	G4ZC
District/Field Office	Burns District Office, Vale District Office, Winnemucca District Office
Admin Number	LLORB00000
State	OREGON
County(s)	HARNEY, HUMBOLDT, MALHEUR
Ignition Date/Cause	08/05/2012 Lightning
Date Contained	08/25/2012
Jurisdiction	*Acres*
BLM	460811
Total Acres	460811
Total Costs	$33,414,000
Costs to LF20000ES (2822)	$18,744,000
Costs to LF32000BR (2881)	$14,670,000

Status of Plan Submission (check one box below)

	Initial Submission of Complete Plan
X	Updating or Revising the Initial Submission
	Amendment

PART 1 - PLAN SUMMARY

BACKGROUND INFORMATION ON FIRE.

The Holloway Fire started on August 5th at approximately 18:32 PDT as a result of a dry lightning thunderstorm. The fire began approximately 25 miles east of Denio, NV at T41S, R37E, SWNE , Sec 7 in brush between two to six feet in height. Due to limited accessibility, dry fuels, and windy conditions, by 20:00 the fire had grown to approximately 400 acres. Initial attack on this incident during the first burn period was primarily limited to aerial resources do to terrain and lack of roads.

On August 6th, suppression efforts were increased with more ground resources being able to get into the incident and engage. Aerial resources were also increased, however due to region-wide activity following a series of lightning storms, there was a region wide shortage of resources, and not all orders were being filled. By the afternoon of this burn period, fire activity increased and many agency and rural suppression resources were pulled from the incident to provide point protection on threatened structures in Cottonwood Creek Canyon (Oregon). By 1500, the head of the fire crossed to the north of Cottonwood Creek road and was spreading to the north. Due to steep topography, effectiveness of air support in the canyon was limited. Later on that afternoon smoky conditions in the area forced flight operations for SEATs (single engine air tankers) to be based out of Burns rather than the local runways.

Limitations to air resources persisted through approximately 11:33 of the following morning (August 7th) due to heavy smoke. By this point, BIFZ (Burns Interagency Fire Zone) had committed nine engines, one medium helicopter, two SEATs, along with other resources to assist Winnemucca Division of Fire Management in the suppression of this incident which now spanned two States/BLM Districts. Throughout the day structure protection continued to prioritize/pull many resources from perimeter containment efforts as the fire moved north and east through the Burns District. The Holloway incident grew roughly 48,000 acres during this burn period.

By August 8th, the fire had grown to nearly 100,000 acres with fire progressing rapidly to the north and east. About half of the fire at this point was in Oregon and Half in Nevada. The fire was 5% contained. At 1830 that evening, measures were taken to use the Water Tower fire scar as a break to guide the Holloway fire east. A fire line was constructed from the Maggie Creek Area south toward the Oregon/Nevada border securing the southern flank of the fire. Due abnormally high loads of cured fuels, limited resources within the region, unfavorable weather forecasts, and terrain that was largely inaccessible to ground resources, growth potential for this fire remained extreme.

August 9th, heavy loads of brush and high winds allowed the Holloway Fire in northern Nevada and southern Oregon to grow to over 123,000 acres. This growth involved Humboldt County, Nevada between McDermitt and Denio, and Harney and Malheur Counties in Oregon between Cottonwood Ranch Road and Whitehorse Ranch Road. At this

point 210 people were assigned to the fire with 8 bulldozers and 6 hand crews on order. Control of the incident was transferred to the Great Basin Type 2 Incident Management Team, and containment remained at 5%.

Weather conditions deteriorated on August 10th with dry thunderstorms and winds forecasted 20-25 MPH for the McDermitt area on the eastern flank of the incident. Due to these unfavorable conditions, suppression efforts were largely ineffective during this burn period, during which the largest growth of the Holloway incident occurred, approximately 100,000 acres.

Burn periods of large fire growth continued the next couple of days. August 11th, 12th, and 13th burned for approximately 60,000, 30,000, and 50,000 acres; respectively.

Due to continued growth, extreme behavior, and efforts by suppression resources being largely ineffective up to this point, a unified command system was eventually established on the Holloway Incident. The Nevada side was managed by the Great Basin Interagency Incident Management Team and the Oregon side was managed by the Pacific Northwest Team 3. Between increased suppression resources and weather conditions eventually becoming more favorable, the Holloway incident was finally contained on August 25th, 2012, at 460,811 acres.

On August 25, 2012 the Holloway Fire was declared contained. At that time, the Bureau of Land Management State Offices of Oregon and Nevada made the decision to submit one ES&R plan for the entirety of the Holloway Fire with the Burns District BLM chosen as the lead agency for the purpose of compiling and submitting the consolidated project. Because each BLM district has different resource priorities and views similar tasks differently, there will be variations in the importance of issues as well as the implementation of ES & R. Commonalities include, but are not limited to, sage grouse PPH (Preliminary Priority Habitat) and PGH (Preliminary General Habitat), aerial seeding, hand planting Wyoming big sagebrush seedlings, closures to livestock until objectives are met, treating of noxious weeds (although treatment methods will vary by district depending on NEPA) and treatment monitoring. Differences include, but are not limited to, Land Use Planning, cultural issues and objectives, water/soil stabilization concerns and monitoring methods. The overall goal of this plan is to prevent further degradation and assist in transitioning the landscape back towards pre-fire conditions for the benefit of wildlife and maintaining resource values.

LAND USE PLAN CONSISTENCY

S2 - Ground Seeding

Burns:
The proposed treatments are in conformance with the Andrews/Steens Record of Decision and Resource Management Plan (ROD/RMP), date approved August 2005, even though they are not specifically provided for, because it is clearly consistent with the following LUP goals. The proposed treatments would forward the RMP goals and objectives.

Vegetation:
Andrews RMP (RMP-24): “Manage vegetation to achieve and maintain healthy watersheds.”

Rangelands:
Andrews RMP (RMP-30) – Goal 1: “Maintain, restore or improve the integrity of desirable vegetation communities including perennial, native, and desirable introduced plant species. Provide for their continued existence and normal function in nutrient, water, and energy cycles.” Goal 2: “Manage rangeland habitats so that forage, water, cover, structure, and security necessary to meet the life history requirements of wildlife are available on public lands.”

Noxious Weeds Inventory and Treatment:
Andrews RMP (RMP 31) – Goal: “Control the introduction and proliferation of noxious weeds and reduce the extent and density of established populations to acceptable levels.”

Soil Management:
Andrews RMP (RMP-21) – Goal 1: “Manage soils on public lands to maintain, restore, or improve soil erosion classes, watershed health, and areas of fragile soils.”

Special Status Species:
Andrews RMP (RMP-34) – “Maintain, restore, or improve Special Status plant populations and animal habitats; manage public lands to conserve or contribute to the recovery of threatened or endangered species; and prevent future ESA listings.”

Wildlife:
Andrews RMP (RMP-33) – Goal: Provide diverse, structured, resilient, and connected habitat on a landscape level to support viable and sustainable populations of wildlife, fish, and other aquatic organisms.”

Wildland Fire Management:
Andrews RMP (RMP-57) Goal 2: Restore and maintain the integrity of ecosystems consistent with appropriate fire regimes and land uses.”

Vale: Does not apply.

Winnemucca:
The proposed treatments are in conformance with objectives and strategies for the Montana Mountains NV-020-16 Fire Management Unit (FMU) addressed in the Winnemucca Field Office Fire Management Plan, 2004. Non-Fire Fuels Treatment Objectives and Strategies for this FMU include:

1. “Seeding would occur on sites that do not have the likelihood of naturally recovering from fire”
2. “Seed areas with perennial species to reduce the dominance of cheatgrass”
3. “Break up monocultures through the use of chemical, biological, and/or mechanical means to stop the spread of the affected area especially in areas that border important habitats.”

Although not specifically addressed, these treatments are consistent with the wildlife and watershed management objectives (WL-1) outlined in the Paradise - Denio MFP, 1982, which states: “Provide for improvement or maintenances of wildlife habitat in the planning area in order to assure that sufficient quantity, quality and diversity of habitat exists to accommodate the needs of all species of wildlife…”

The Standard Operating Procedures for this MFP also addresses these treatments:

1. Section .45 Soil -Water-Air advises: “Consider rehabilitating areas which have had protective vegetative cover destroyed by wildfire…..Utilize seed and other watershed stabilization techniques as required. Seed mixture should include native perennial grasses and/or exotic species which have previously been introduced into the ecosystem.”

2. Section .46 Wildlife-Aquatic Wildlife states: “Initiate any necessary fire rehabilitation measures immediately after suppression of fires affecting significant areas of important wildlife habitat including but not limited to reseeding of burned areas.”

These types of actions and associated impacts have also been fully analyzed and are in conformance with the BLM, Winnemucca District, Normal Year Fire Rehabilitation Plan, EA #NV-020-04-21 August, 2004.

These treatments meet allowable emergency stabilization actions identified in the ES&R Handbook, H-1742-1 Burned Area Emergency Stabilization and Rehabilitation Handbook, Rel. 1-1702, February, 2007.

S3 - Aerial Seeding

Burns:
The proposed treatments are in conformance with the Andrews/Steens Record of Decision and Resource Management Plan (ROD/RMP), date approved August 2005, even though they are not specifically provided for, because it is clearly consistent with the following LUP goals. The proposed treatments would forward the RMP goals and objectives.

Vegetation:
Andrews RMP (RMP-24): “Manage vegetation to achieve and maintain healthy watersheds.”

Rangelands:
Andrews RMP (RMP-30) – Goal 1: “Maintain, restore or improve the integrity of desirable vegetation communities including perennial, native, and desirable introduced plant species. Provide for their continued existence and normal function in nutrient, water, and energy cycles.” Goal 2: “Manage rangeland habitats so that forage, water, cover, structure, and security necessary to meet the life history requirements of wildlife are available on public lands.”

Noxious Weeds Inventory and Treatment:
Andrews RMP (RMP 31) – Goal: “Control the introduction and proliferation of noxious weeds and reduce the extent and density of established populations to acceptable levels.”

Soil Management:
Andrews RMP (RMP-21) – Goal 1: “Manage soils on public lands to maintain, restore, or improve soil erosion classes, watershed health, and areas of fragile soils.”

Special Status Species:
Andrews RMP (RMP-34) – “Maintain, restore, or improve Special Status plant populations and animal habitats; manage public lands to conserve or contribute to the recovery of threatened or endangered species; and prevent future ESA listings.”

Wildlife:
Andrews RMP (RMP-33) – Goal: Provide diverse, structured, resilient, and connected habitat on a landscape level to support viable and sustainable populations of wildlife, fish, and other aquatic organisms.”

Wildland Fire Management:
Andrews RMP (RMP-57) Goal 2: Restore and maintain the integrity of ecosystems consistent with appropriate fire regimes and land uses.”

Vale:
Management of the big sagebrush cover in seedings and on native rangeland to meet the life history requirements of sagebrush-dependent wildlife is described on page 40 of the Southeastern Oregon Resource Management Plan (SEORMP). Managing shrub overstory for multiple-use has significant benefits for wildlife. The character of upland vegetation influences wildlife habitat quality and productivity. This treatment is further provided for on page 50 under the wildlife and wildlife habitat objectives.

Winnemucca:
The proposed treatments are in conformance with objectives and strategies for the Montana Mountains NV-020-16 Fire Management Unit (FMU) addressed in the Winnemucca Field Office Fire Management Plan, 2004. Non-Fire Fuels Treatment Objectives and Strategies for this FMU include:

1. “Seeding would occur on sites that do not have the likelihood of naturally recovering from fire”
2. “Seed areas with perennial species to reduce the dominance of cheatgrass”
3. “Break up monocultures through the use of chemical, biological, and/or mechanical means to stop the spread of the affected area especially in areas that border important habitats.”

Although not specifically addressed, these treatments are consistent with the wildlife and watershed management objectives (WL-1) outlined in the Paradise - Denio MFP, 1982, which states: “Provide for improvement or maintenances of wildlife habitat in the planning area in order to assure that sufficient quantity, quality and diversity of habitat exists to accommodate the needs of all species of wildlife…”

The Standard Operating Procedures for this MFP also addresses these treatments:

1. Section .45 Soil -Water-Air advises: “Consider rehabilitating areas which have had protective vegetative cover destroyed by wildfire…..Utilize seed and other watershed stabilization techniques as required. Seed mixture should include native perennial grasses and/or exotic species which have previously been introduced into the ecosystem.”

2. Section .46 Wildlife-Aquatic Wildlife states: “Initiate any necessary fire rehabilitation measures immediately after suppression of fires affecting significant areas of important wildlife habitat including but not limited to reseeding of burned areas.”

These types of actions and associated impacts have also been fully analyzed and are in conformance with the BLM, Winnemucca District, Normal Year Fire Rehabilitation Plan, EA #NV-020-04-21 August, 2004.

These treatments meet allowable emergency stabilization actions identified in the ES&R Handbook, H-1742-1 Burned Area Emergency Stabilization and Rehabilitation Handbook, Rel. 1-1702, February, 2007.

Treatments have been reviewed and are in conformance with the Southeastern Oregon Resource Management Plan (2002). Wildlife and Wildlife Habitat (Objective 2) Manage upland habitats in forest, woodland, and rangeland vegetation types so that the forage, water, cover, structure, and security necessary for wildlife are available on the public land(pg 51). Rangeland Vegetation (Objective 2)(pg 40) Manage big sagebrush cover in seedings and on native rangeland to meet the life history requirements of sagebrush-dependent wildlife. Management Actions: Upland shrub cover across the landscape will be maintained at moderate to heavy levels of potential for wildlife cover values and structural diversity in most native vegetation communities where potential exists and in nonnative seedings as consistent with other resource management objectives. The frequency, distribution, and ecological integrity of native stands of mountain shrubs will be restored and maintained where site potential will supports these species. (pg 39).

The proposed treatments are in conformance with objectives and strategies for the Montana Mountains NV-020-16 Fire Management Unit (FMU) addressed in the Winnemucca Field Office Fire Management Plan, 2004. Non-Fire Fuels Treatment Objectives and Strategies for this FMU include:

1. “Seeding would occur on sites that do not have the likelihood of naturally recovering from fire”
2. “Seed areas with perennial species to reduce the dominance of cheatgrass”
3. “Break up monocultures through the use of chemical, biological, and/or mechanical means to stop the spread of the affected area especially in areas that border important habitats.”

Although not specifically addressed, these treatments are consistent with the wildlife and watershed management objectives (WL-1) outlined in the Paradise - Denio MFP, 1982, which states: “Provide for improvement or maintenances of wildlife habitat in the planning area in order to assure that sufficient quantity, quality and diversity of habitat exists to

accommodate the needs of all species of wildlife…"

The Standard Operating Procedures for this MFP also addresses these treatments:

1. Section .45 Soil -Water-Air advises: "Consider rehabilitating areas which have had protective vegetative cover destroyed by wildfire…..Utilize seed and other watershed stabilization techniques as required. Seed mixture should include native perennial grasses and/or exotic species which have previously been introduced into the ecosystem."

2. Section .46 Wildlife-Aquatic Wildlife states: "Initiate any necessary fire rehabilitation measures immediately after suppression of fires affecting significant areas of important wildlife habitat including but not limited to reseeding of burned areas."

These types of actions and associated impacts have also been fully analyzed and are in conformance with the BLM, Winnemucca District, Normal Year Fire Rehabilitation Plan, EA #NV-020-04-21 August, 2004.

These treatments meet allowable emergency stabilization actions identified in the ES&R Handbook, H-1742-1 Burned Area Emergency Stabilization and Rehabilitation Handbook, Rel. 1-1702, February, 2007.

S4 - Seedling Planting
Burns: Does not apply.
Vale: Does not apply.

Winnemucca: The treatments are consistent with the documents cited in Part 1: Land Use Plan Consistency. Because of the critical noxious weed/invasive species and wildlife concerns, Nevada Department of Wildlife, Nevada Mule Deer Association, the Nevada Chukar Foundation, etc., have offered to partner with the BLM in stabilizing and rehabilitating this site; this shared responsibility will be integral in keeping these treatments cost effective. Moreover, implementing the seedling planting is consistent with section 24 in the ES&R Handbook, H-1742-1- Burned Area, Rel. 1-1702, February, 2007.

This project addresses the need for wildlife habitat restoration with sage grouse as the principle target species. While seedling planting is historically more expensive than direct seeding, this project makes efficient use of sagebrush (and other shrub) seed which is supply-limited. Hand installment of shrubs also allows for greater probability of overall treatment success since viable microsites can be identified and targeted for planting. When probability of success and recent price-increase of sagebrush seed, and required seed volumes for direct seeding are factored in, handplanting is cost-competitive with direct seeding, is less likely to be detrimentally affected by seed shortages, and can be successfully implemented outside of the first season seeding window.

S5 - Noxious Weeds
Burns:
The proposed treatments are in conformance with the Andrews/Steens Record of Decision and Resource Management Plan (ROD/RMP), date approved August 2005, even though they are not specifically provided for, because it is clearly consistent with the following LUP goals. The proposed treatments would forward the RMP goals and objectives.

Vegetation:
Andrews RMP (RMP-24): "Manage vegetation to achieve and maintain healthy watersheds."

Rangelands:
Andrews RMP (RMP-30) – Goal 1: "Maintain, restore or improve the integrity of desirable vegetation communities including perennial, native, and desirable introduced plant species. Provide for their continued existence and normal function in nutrient, water, and energy cycles." Goal 2: "Manage rangeland habitats so that forage, water, cover, structure, and security necessary to meet the life history requirements of wildlife are available on public lands."

Noxious Weeds Inventory and Treatment:
Andrews RMP (RMP 31) – Goal: "Control the introduction and proliferation of noxious weeds and reduce the extent and density of established populations to acceptable levels."

Special Status Species:
Andrews RMP (RMP-34) – "Maintain, restore, or improve Special Status plant populations and animal habitats; manage public lands to conserve or contribute to the recovery of threatened or endangered species; and prevent future ESA listings."

Wildlife:
Andrews RMP (RMP-33) – Goal: Provide diverse, structured, resilient, and connected habitat on a landscape level to support viable and sustainable populations of wildlife, fish, and other aquatic organisms."

Wildland Fire Management:
Andrews RMP (RMP-57) Goal 2: Restore and maintain the integrity of ecosystems consistent with appropriate fire regimes and land uses."

Vale:
Noxious weed treatments would be consistent with the guidelines set forth in the ESR handbook (1742-1, pages 34 – 35), the Southeastern Oregon Resource Management Plan and Record of Decision 2002, the Vale District Integrated Weed Control Plan EA (1989), the Northwest Area Noxious Weed Control Program EIS 1984, and Supplement, 1987 and the Standard Operating Procedures and Mitigation Measures identified in the Vegetation Treatments Using Herbicides on BLM Lands in Oregon FEIS and ROD (2010). Pesticide Use Proposals (plans) would be prepared for weed treatments and comply with policy (BLM Manual 9011, H-9011, and 9015).

Winnemucca:

Inventory and chemical treatments are in conformance with objectives and strategies for the Montana Mountains NV-020-16 Fire Management Unit (FMU) addressed in the Winnemucca Field Office Fire Management Plan, 2004. Non-Fire Fuels Treatment Objectives and Strategies for this FMU include:

1. “Break up monocultures through the use of chemical, biological, and/or mechanical means to stop the spread of the affected area especially in areas that border important habitats.”

These actions have been fully analyzed and are in conformance with the BLM, Winnemucca District, Normal Year Fire Rehabilitation Plan, EA #NV-020-04-21, August, 2004.

These treatments meet allowable emergency stabilization actions identified in the ES&R Handbook, H-1742-1- Burned Area, Rel. 1-1702, February, 2007.

Proposed treatments and inventory are analyzed and in compliance with identified procedures and approved herbicides as outlined in the Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States, Programmatic Final Environmental Impact Statement, June 2007.

This treatment is in conformation with the Integrated Weed Management Evironmental Assessment, EA# NV-020-02-19, 2002

S6 - Soil Stabilization (Other than seedling, planting)
Burns:
The proposed treatments are in conformance with the Andrews/Steens Record of Decision and Resource Management Plan (ROD/RMP), date approved August 2005, even though they are not specifically provided for, because it is clearly consistent with the following LUP goals. The proposed treatments would forward the RMP goals and objectives.

Soil Management:
Andrews RMP (RMP-21) – Goal 1: “Manage soils on public lands to maintain, restore, or improve soil erosion classes, watershed health, and areas of fragile soils.”

Vale: Does not apply.

Winnemucca:
The proposed treatments are in conformance with objectives and strategies for the Montana Mountains NV-020-16 Fire Management Unit (FMU) addressed in the Winnemucca Field Office Fire Management Plan, 2004. Non-Fire Fuels Treatment Objectives and Strategies for this FMU include:

1. “Seeding would occur on sites that do not have the likelihood of naturally recovering from fire”
2. “Seed areas with perennial species to reduce the dominance of cheatgrass”
3. “Break up monocultures through the use of chemical, biological, and/or mechanical

means to stop the spread of the affected area especially in areas that border important habitats."

Although not specifically addressed, these treatments are consistent with the wildlife and watershed management objectives (WL-1) outlined in the Paradise - Denio MFP, 1982, which states: "Provide for improvement or maintenances of wildlife habitat in the planning area in order to assure that sufficient quantity, quality and diversity of habitat exists to accommodate the needs of all species of wildlife…"

The Standard Operating Procedures for this MFP also addresses these treatments:

1. Section .45 Soil -Water-Air advises: "Consider rehabilitating areas which have had protective vegetative cover destroyed by wildfire…..Utilize seed and other watershed stabilization techniques as required. Seed mixture should include native perennial grasses and/or exotic species which have previously been introduced into the ecosystem."

2. Section .46 Wildlife-Aquatic Wildlife states: "Initiate any necessary fire rehabilitation measures immediately after suppression of fires affecting significant areas of important wildlife habitat including but not limited to reseeding of burned areas."

These types of actions and associated impacts have also been fully analyzed and are in conformance with the BLM, Winnemucca District, Normal Year Fire Rehabilitation Plan, EA #NV-020-04-21 August, 2004.

These treatments meet allowable emergency stabilization actions identified in the ES&R Handbook, H-1742-1 Burned Area Emergency Stabilization and Rehabilitation Handbook, Rel. 1-1702, February, 2007.

S-5/R-5 Noxious Weeds:

Inventory and chemical treatments are in conformance with objectives and strategies for the Montana Mountains NV-020-16 Fire Management Unit (FMU) addressed in the Winnemucca Field Office Fire Management Plan, 2004. Non-Fire Fuels Treatment Objectives and Strategies for this FMU include:

1. "Break up monocultures through the use of chemical, biological, and/or mechanical means to stop the spread of the affected area especially in areas that border important habitats."

These actions have been fully analyzed and are in conformance with the BLM, Winnemucca District, Normal Year Fire Rehabilitation Plan, EA #NV-020-04-21, August, 2004.

These treatments meet allowable emergency stabilization actions identified in the ES&R Handbook, H-1742-1- Burned Area, Rel. 1-1702, February, 2007.

Proposed treatments and inventory are analyzed and in compliance with identified procedures and approved herbicides as outlined in the Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States, Programmatic Final

Environmental Impact Statement, June 2007.

S7 - Fence/Gate/Cattleguard

Burns:
The proposed treatments are in conformance with the Andrews/Steens Record of Decision and Resource Management Plan (ROD/RMP), date approved August 2005, even though they are not specifically provided for, because it is clearly consistent with the following LUP goals. The proposed treatments would forward the RMP goals and objectives.

Vegetation:
Andrews RMP (RMP-24): "Manage vegetation to achieve and maintain healthy watersheds."

Rangelands:
Andrews RMP (RMP-30) – Goal 1: "Maintain, restore or improve the integrity of desirable vegetation communities including perennial, native, and desirable introduced plant species. Provide for their continued existence and normal function in nutrient, water, and energy cycles." Goal 2: "Manage rangeland habitats so that forage, water, cover, structure, and security necessary to meet the life history requirements of wildlife are available on public lands."

Grazing Management:
Andrews RMP (RMP-54) Goal: "Manage for a sustained level of livestock grazing while maintaining healthy public land resources."

Special Status Species:
Andrews RMP (RMP-34) – "Maintain, restore, or improve Special Status plant populations and animal habitats; manage public lands to conserve or contribute to the recovery of threatened or endangered species; and prevent future ESA listings."

Wildlife:
Andrews RMP (RMP-33) – Goal: Provide diverse, structured, resilient, and connected habitat on a landscape level to support viable and sustainable populations of wildlife, fish, and other aquatic organisms."

Vale:
Construction of temporary livestock management fences have been reviewed and are in conformance with the SEORMP (2002). "Fences will be designed as a barrier to livestock movement while minimally impeding wildlife movement… Established standards for fence construction on BLM land will be followed (BLM Manual Handbook H-1741-1). Design features will be developed specific to each proposed fencing project to accomplish the desired objective…" (page S-3).

Winnemucca:
This treatment is consistent with the Standard Operating Procedures outlined in the Paradise - Denio MFP, 1982. Section .46 Wildlife-Aquatic Wildlife states: "Fire rehabilitation measures will include…Closure to livestock and/or wild horse use (allotment or pasture closure, or protective fencing)."

This action has been fully analyzed and is in conformance with the BLM, Winnemucca District, Normal Year Fire Rehabilitation Plan, EA #NV-020-04-21, August, 2004.

This treatment meets allowable emergency stabilization actions identified in the ES&R Handbook, H-1742-1- Burned Area, Rel. 1-1702, February, 2007.

S8 - Road/Trail Water Diversion
The proposed treatments are in conformance with the Andrews/Steens Record of Decision and Resource Management Plan (ROD/RMP), date approved August 2005, even though they are not specifically provided for, because it is clearly consistent with the following LUP goals. The proposed treatments would forward the RMP goals and objectives.

Soil Management:
Andrews RMP (RMP-21) – Goal 1: "Manage soils on public lands to maintain, restore, or improve soil erosion classes, watershed health, and areas of fragile soils."

S9 - Cultural Protection (Stabilization/Patrol)
The proposed treatments are in conformance with the Andrews/Steens Record of Decision and Resource Management Plan (ROD/RMP), date approved August 2005, even though they are not specifically provided for, because it is clearly consistent with the following LUP goals. The proposed treatments would forward the RMP goals and objectives.

Cultural Resources:
Andrews RMP (RMP-40): Goal 1 "Preserve, protect, and manage cultural resources in accordance with existing laws, regulations, and Executive Orders, in coordination/consultation with the Burns Paiute Tribe, other American Indian tribes, Harney County Historical Society and other heritage groups to make cultural resources available for appropriate uses by present and future generations."

Conducting assessments of known cultural resources within the perimeter of the fire, stabilizing archaeological sites with low impact seeding and erosion control measures, and increasing law enforcement patrols near exposed archaeological resources is consistent with the Southeastern Oregon RMP. The objective for cultural resources within the SEORMP is to "Protect and conserve cultural and paleontological resources".

S11 - Facilities
Treatments have been reviewed and are in conformance with the Southeastern Oregon Resource Management Plan (2002).

S12 - Closures (area, OHV, livestock)

Burns:
The proposed treatments are in conformance with the Andrews/Steens Record of Decision and Resource Management Plan (ROD/RMP), date approved August 2005, even though they are not specifically provided for, because it is clearly consistent with the following LUP goals. The proposed treatments would forward the RMP goals and objectives.

Vegetation:
Andrews RMP (RMP-24): “Manage vegetation to achieve and maintain healthy watersheds.”

Rangelands:
Andrews RMP (RMP-30) – Goal 1: “Maintain, restore or improve the integrity of desirable vegetation communities including perennial, native, and desirable introduced plant species. Provide for their continued existence and normal function in nutrient, water, and energy cycles.” Goal 2: “Manage rangeland habitats so that forage, water, cover, structure, and security necessary to meet the life history requirements of wildlife are available on public lands.”

Soil Management:
Andrews RMP (RMP-21) – Goal 1: “Manage soils on public lands to maintain, restore, or improve soil erosion classes, watershed health, and areas of fragile soils.”

Grazing Management:
Andrews RMP (RMP-54) Goal: “Manage for a sustained level of livestock grazing while maintaining healthy public land resources.”

Special Status Species:
Andrews RMP (RMP-34) – “Maintain, restore, or improve Special Status plant populations and animal habitats; manage public lands to conserve or contribute to the recovery of threatened or endangered species; and prevent future ESA listings.”

Wildlife:
Andrews RMP (RMP-33) – Goal: Provide diverse, structured, resilient, and connected habitat on a landscape level to support viable and sustainable populations of wildlife, fish, and other aquatic organisms.”

Wildland Fire Management:
Andrews RMP (RMP-57) Goal 2: Restore and maintain the integrity of ecosystems consistent with appropriate fire regimes and land uses.”

Vale:
Closure to livestock grazing is specifically provided for on page 40 of the Southeastern Oregon Resource Management Plan (SEORMP). The burned area will be rested for one full year and through a second growing season at a minimum, or until monitoring data or professional judgment indicate that health and vigor of desired vegetation has recovered to levels judgment indicate that health and vigor of desired vegetation has recovered to levels adequate to support and protect upland function. Within Priority Sage Grouse Habitat, grazing should only be resumed when it does not impede recovery of sage grouse habitat.

Winnemucca:
This treatment is consistent with the Standard Operating Procedures outlined in the Paradise - Denio MFP, 1982.

1. Section .46 Wildlife-Aquatic Wildlife states: “Fire rehabilitation measures will include…Closure to livestock and/or wild horse use (allotment or pasture closure, or protective fencing).”

2. Section .45 Soil-Water-Air advises: “Rehabilitation must be protected from grazing until adequate seedling establishment has been attained. A minimum of two years is normally required for seedling establishment.”

The authority for this decision is contained in Title 43 of the Code of Federal Regulations, which states in pertinent parts:

§4110.3-3(b) “When the authorized officer determines that the soil, vegetation, or other resources on the public lands require immediate protection because of conditions such as drought, fire, flood, or insect infestation, or when continued grazing use poses a significant risk of resource damage, after consultation with, or a reasonable attempt to consult with, affected permittees or lessees, the interested public, and the State having lands or responsible for managing resources within the area, the authorized officer shall close allotments or portions of allotments to grazing by any kind of livestock or modify authorized grazing use notwithstanding the provisions of paragraph (a) of this section. Notices of closure and decisions requiring modification of authorized grazing use may be issued as final decisions effective upon issuance or on the date specified in the decision. Such decisions shall remain in effect pending the decision on appeal unless a stay is granted by the Office of Hearings and Appeals in accordance with 43 CFR 4.21.

§4190.1(a) “Notwithstanding the provisions of 43 CFR 4.21 (a) (1), when BLM determines that vegetation, soil, or other resources on public lands are at substantial risk of wildfire due to drought, fuels buildup, or other reasons, or at immediate risk of erosion or other damage due to wildfire, BLM may make a rangeland wildfire management decision effective immediately or on a date established in the decision. Wildfire management includes but is not limited to: …. (2) Projects to stabilize and rehabilitate lands affected by wildfire.”

This action has been fully analyzed and is in conformance with the BLM, Winnemucca District, Normal Year Fire Rehabilitation Plan, EA #NV-020-04-21, August, 2004.

This treatment meets allowable emergency stabilization actions identified in the ES&R Handbook, H-1742-1- Burned Area, Rel. 1-1702, February, 2007.

S13 - Monitoring

Burns:
The proposed treatments are in conformance with the Andrews/Steens Record of Decision and Resource Management Plan (ROD/RMP), date approved August 2005, even though they are not specifically provided for, because it is clearly consistent with the following LUP goals. The proposed treatments would forward the RMP goals and objectives. Objectives specific to each treatment can be found under that treatment, and would be applicable to the monitoring of that issue as well.

Vale:
Monitoring has been reviewed and is in conformance with the SEORMP (2002).

R2 - Ground Seeding
Burns:
The proposed treatments are in conformance with the Andrews/Steens Record of Decision and Resource Management Plan (ROD/RMP), date approved August 2005, even though they are not specifically provided for, because it is clearly consistent with the following LUP goals. The proposed treatments would forward the RMP goals and objectives.

Vegetation:
Andrews RMP (RMP-24): "Manage vegetation to achieve and maintain healthy watersheds."

Rangelands:
Andrews RMP (RMP-30) – Goal 1: "Maintain, restore or improve the integrity of desirable vegetation communities including perennial, native, and desirable introduced plant species. Provide for their continued existence and normal function in nutrient, water, and energy cycles." Goal 2: "Manage rangeland habitats so that forage, water, cover, structure, and security necessary to meet the life history requirements of wildlife are available on public lands."

Noxious Weeds Inventory and Treatment:
Andrews RMP (RMP 31) – Goal: "Control the introduction and proliferation of noxious weeds and reduce the extent and density of established populations to acceptable levels."

Soil Management:
Andrews RMP (RMP-21) – Goal 1: "Manage soils on public lands to maintain, restore, or improve soil erosion classes, watershed health, and areas of fragile soils."

Special Status Species:
Andrews RMP (RMP-34) – "Maintain, restore, or improve Special Status plant populations and animal habitats; manage public lands to conserve or contribute to the recovery of threatened or endangered species; and prevent future ESA listings."

Wildlife:
Andrews RMP (RMP-33) – Goal: Provide diverse, structured, resilient, and connected habitat on a landscape level to support viable and sustainable populations of wildlife, fish, and other aquatic organisms."

Wildland Fire Management:
Andrews RMP (RMP-57) Goal 2: Restore and maintain the integrity of ecosystems consistent with appropriate fire regimes and land uses."

Vale and Winnemucca: Does not apply.

R3 - Aerial Seeding
Burns:
The proposed treatments are in conformance with the Andrews/Steens Record of Decision and Resource Management Plan (ROD/RMP), date approved August 2005, even though they are not specifically provided for, because it is clearly consistent with the following LUP goals. The proposed treatments would forward the RMP goals and objectives.

Vegetation:
Andrews RMP (RMP-24): "Manage vegetation to achieve and maintain healthy watersheds."

Rangelands:
Andrews RMP (RMP-30) – Goal 1: "Maintain, restore or improve the integrity of desirable vegetation communities including perennial, native, and desirable introduced plant species. Provide for their continued existence and normal function in nutrient, water, and energy cycles." Goal 2: "Manage rangeland habitats so that forage, water, cover, structure, and security necessary to meet the life history requirements of wildlife are available on public lands."

Noxious Weeds Inventory and Treatment:
Andrews RMP (RMP 31) – Goal: "Control the introduction and proliferation of noxious weeds and reduce the extent and density of established populations to acceptable levels."

Soil Management:
Andrews RMP (RMP-21) – Goal 1: "Manage soils on public lands to maintain, restore, or improve soil erosion classes, watershed health, and areas of fragile soils."

Special Status Species:
Andrews RMP (RMP-34) – "Maintain, restore, or improve Special Status plant populations and animal habitats; manage public lands to conserve or contribute to the recovery of threatened or endangered species; and prevent future ESA listings."

Wildlife:
Andrews RMP (RMP-33) – Goal: Provide diverse, structured, resilient, and connected habitat on a landscape level to support viable and sustainable populations of wildlife, fish, and other aquatic organisms."

Wildland Fire Management:
Andrews RMP (RMP-57) Goal 2: Restore and maintain the integrity of ecosystems consistent with appropriate fire regimes and land uses."

Vale:
Treatments have been reviewed and are in conformance with the Southeastern Oregon

Resource Management Plan (2002). Wildlife and Wildlife Habitat (Objective 2) Manage upland habitats in forest, woodland, and rangeland vegetation types so that the forage, water, cover, structure, and security necessary for wildlife are available on the public land(pg 51). Rangeland Vegetation (Objective 2)(pg 40) Manage big sagebrush cover in seedings and on native rangeland to meet the life history requirements of sagebrush-dependent wildlife. Management Actions: Upland shrub cover across the landscape will be maintained at moderate to heavy levels of potential for wildlife cover values and structural diversity in most native vegetation communities where potential exists and in nonnative seedings as consistent with other resource management objectives. The frequency, distribution, and ecological integrity of native stands of mountain shrubs will be restored and maintained where site potential will supports these species. (pg 39).

Winnemucca:
Although not specifically addressed, these treatments are consistent with the wildlife and watershed management objectives (WL-1) outlined in the Paradise - Denio MFP, 1982, which states: “Provide for improvement or maintenances of wildlife habitat in the planning area in order to assure that sufficient quantity, quality and diversity of habitat exists to accommodate the needs of all species of wildlife…”

The Standard Operating Procedures for this MFP also addresses these treatments:

1. Section .45 Soil -Water-Air advises: “Consider rehabilitating areas which have had protective vegetative cover destroyed by wildfire…..Utilize seed and other watershed stabilization techniques as required. Seed mixture should include native perennial grasses and/or exotic species which have previously been introduced into the ecosystem.”

2. Section .46 Wildlife-Aquatic Wildlife states: “Initiate any necessary fire rehabilitation measures immediately after suppression of fires affecting significant areas of important wildlife habitat including but not limited to reseeding of burned areas.”

These types of actions and associated impacts have also been fully analyzed and are in conformance with the BLM, Winnemucca District, Normal Year Fire Rehabilitation Plan, EA #NV-020-04-21 August, 2004.

These treatments meet allowable emergency stabilization actions identified in the ES&R Handbook, H-1742-1 Burned Area Emergency Stabilization and Rehabilitation Handbook, Rel. 1-1702, February, 2007.

R4 - Seedling Planting
Burns:
The proposed treatments are in conformance with the Andrews/Steens Record of Decision and Resource Management Plan (ROD/RMP), date approved August 2005, even though they are not specifically provided for, because it is clearly consistent with the following LUP goals. The proposed treatments would forward the RMP goals and objectives.

Vegetation:
Andrews RMP (RMP-24): “Manage vegetation to achieve and maintain healthy watersheds.”

Rangelands:
Andrews RMP (RMP-30) – Goal 1: “Maintain, restore or improve the integrity of desirable vegetation communities including perennial, native, and desirable introduced plant species. Provide for their continued existence and normal function in nutrient, water, and energy cycles.” Goal 2: “Manage rangeland habitats so that forage, water, cover, structure, and security necessary to meet the life history requirements of wildlife are available on public lands.”

Noxious Weeds Inventory and Treatment:
Andrews RMP (RMP 31) – Goal: “Control the introduction and proliferation of noxious weeds and reduce the extent and density of established populations to acceptable levels.”

Soil Management:
Andrews RMP (RMP-21) – Goal 1: “Manage soils on public lands to maintain, restore, or improve soil erosion classes, watershed health, and areas of fragile soils.”

Special Status Species:
Andrews RMP (RMP-34) – “Maintain, restore, or improve Special Status plant populations and animal habitats; manage public lands to conserve or contribute to the recovery of threatened or endangered species; and prevent future ESA listings.”

Wildlife:
Andrews RMP (RMP-33) – Goal: Provide diverse, structured, resilient, and connected habitat on a landscape level to support viable and sustainable populations of wildlife, fish, and other aquatic organisms.”

Wildland Fire Management:
Andrews RMP (RMP-57) Goal 2: Restore and maintain the integrity of ecosystems consistent with appropriate fire regimes and land uses.”

Vale:
Management of the big sagebrush cover in seedings and on native rangeland to meet the life history requirements of sagebrush-dependent wildlife is described on page 40 of the Southeastern Oregon Resource Management Plan (SEORMP). Managing shrub overstory for multiple-use has significant benefits for wildlife. The character of upland vegetation influences wildlife habitat quality and productivity. This treatment is further provided for on page 50 under the wildlife and wildlife habitat objectives.

Winnemucca:
The proposed treatments are in conformance with objectives and strategies for the Montana Mountains NV-020-16 Fire Management Unit (FMU) addressed in the Winnemucca Field Office Fire Management Plan, 2004. Non-Fire Fuels Treatment Objectives and Strategies for this FMU include:

1. “Seeding would occur on sites that do not have the likelihood of naturally recovering from fire”
2. “Seed areas with perennial species to reduce the dominance of cheatgrass”
3. “Break up monocultures through the use of chemical, biological, and/or mechanical means to stop the spread of the affected area especially in areas that border important habitats.”

Treatments have been reviewed and are in conformance with the Southeastern Oregon Resource Management Plan (2002). Rangeland Vegetation (Objective 1)(pg 38) Restore, protect, and enhance the diversity and distribution of desirable vegetation communities including perennial native and desirable introduced plant species. Provide for their continued existence and normal function in nutrient, water, and energy cycles. The frequency, distribution, and ecological integrity of native stands of mountain shrubs will be restored and maintained where site potential will support these species (pg 39).

Although not specifically addressed, these treatments are consistent with the wildlife and watershed management objectives (WL-1) outlined in the Paradise - Denio MFP, 1982, which states: “Provide for improvement or maintenances of wildlife habitat in the planning area in order to assure that sufficient quantity, quality and diversity of habitat exists to accommodate the needs of all species of wildlife…”

The Standard Operating Procedures for this MFP also addresses these treatments:

1. Section .45 Soil -Water-Air advises: “Consider rehabilitating areas which have had protective vegetative cover destroyed by wildfire…..Utilize seed and other watershed stabilization techniques as required. Seed mixture should include native perennial grasses and/or exotic species which have previously been introduced into the ecosystem.”

2. Section .46 Wildlife-Aquatic Wildlife states: “Initiate any necessary fire rehabilitation measures immediately after suppression of fires affecting significant areas of important wildlife habitat including but not limited to reseeding of burned areas.”

These types of actions and associated impacts have also been fully analyzed and are in conformance with the BLM, Winnemucca District, Normal Year Fire Rehabilitation Plan, EA #NV-020-04-21 August, 2004.

These treatments meet allowable emergency stabilization actions identified in the ES&R Handbook, H-1742-1 Burned Area Emergency Stabilization and Rehabilitation Handbook, Rel. 1-1702, February, 2007.

R5 - Noxious Weeds
Burns:
The proposed treatments are in conformance with the Andrews/Steens Record of Decision and Resource Management Plan (ROD/RMP), date approved August 2005, even though

they are not specifically provided for, because it is clearly consistent with the following LUP goals. The proposed treatments would forward the RMP goals and objectives.

Vegetation:
Andrews RMP (RMP-24): “Manage vegetation to achieve and maintain healthy watersheds.”

Rangelands:
Andrews RMP (RMP-30) – Goal 1: “Maintain, restore or improve the integrity of desirable vegetation communities including perennial, native, and desirable introduced plant species. Provide for their continued existence and normal function in nutrient, water, and energy cycles.” Goal 2: “Manage rangeland habitats so that forage, water, cover, structure, and security necessary to meet the life history requirements of wildlife are available on public lands.”

Noxious Weeds Inventory and Treatment:
Andrews RMP (RMP 31) – Goal: “Control the introduction and proliferation of noxious weeds and reduce the extent and density of established populations to acceptable levels.”

Special Status Species:
Andrews RMP (RMP-34) – “Maintain, restore, or improve Special Status plant populations and animal habitats; manage public lands to conserve or contribute to the recovery of threatened or endangered species; and prevent future ESA listings.”

Wildlife:
Andrews RMP (RMP-33) – Goal: Provide diverse, structured, resilient, and connected habitat on a landscape level to support viable and sustainable populations of wildlife, fish, and other aquatic organisms.”

Wildland Fire Management:
Andrews RMP (RMP-57) Goal 2: Restore and maintain the integrity of ecosystems consistent with appropriate fire regimes and land uses.”

Vale:
Noxious weed treatments would be consistent with the guidelines set forth in the ESR handbook (1742-1, pages 34 – 35), the Southeastern Oregon Resource Management Plan and Record of Decision 2002, the Vale District Integrated Weed Control Plan EA (1989), the Northwest Area Noxious Weed Control Program EIS 1984, and Supplement, 1987 and the Standard Operating Procedures and Mitigation Measures identified in the Vegetation Treatments Using Herbicides on BLM Lands in Oregon FEIS and ROD (2010). Pesticide Use Proposals (plans) would be prepared for weed treatments and comply with policy (BLM Manual 9011, H-9011, and 9015).

Winnemucca:
Inventory and chemical treatments are in conformance with objectives and strategies for the Montana Mountains NV-020-16 Fire Management Unit (FMU) addressed in the Winnemucca Field Office Fire Management Plan, 2004. Non-Fire Fuels Treatment Objectives and Strategies for this FMU include:

1. “Break up monocultures through the use of chemical, biological, and/or mechanical means to stop the spread of the affected area especially in areas that border important habitats.”

These actions have been fully analyzed and are in conformance with the BLM, Winnemucca District, Normal Year Fire Rehabilitation Plan, EA #NV-020-04-21, August, 2004.

These treatments meet allowable emergency stabilization actions identified in the ES&R Handbook, H-1742-1- Burned Area, Rel. 1-1702, February, 2007.

Proposed treatments and inventory are analyzed and in compliance with identified procedures and approved herbicides as outlined in the Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States, Programmatic Final Environmental Impact Statement, June 2007.

This treatment is in conformance with the Integrated Weed Management Environmental Assessment, EA# NV-020-02-19, 2002

R6 - Soil Stabilization (Other than seedling, planting)
Burns:
The proposed treatments are in conformance with the Andrews/Steens Record of Decision and Resource Management Plan (ROD/RMP), date approved August 2005, even though they are not specifically provided for, because it is clearly consistent with the following LUP goals. The proposed treatments would forward the RMP goals and objectives.

Soil Management:
Andrews RMP (RMP-21) – Goal 1: “Manage soils on public lands to maintain, restore, or improve soil erosion classes, watershed health, and areas of fragile soils.”

Vale:
Objective 2 for Water Resources and Riparian/Wetland Areas on page 48 of the Southeastern Oregon Resource Management Plan (SEORMP) states: Restore, maintain, or improve riparian vegetation, habitat diversity, and associated watershed function to achieve healthy and productive riparian areas and wetlands. Also, Objective 1 for Fish and Aquatic Habitat on page 49 states: Restore, Maintain, or improve habitat to provide for diverse and self-sustaining communities of fishes and aquatic organisms.

Winnemucca: Does not apply.

R7 - Fence/Gate/Cattleguard
Burns:
The proposed treatments are in conformance with the Andrews/Steens Record of Decision and Resource Management Plan (ROD/RMP), date approved August 2005, even though they are not specifically provided for, because it is clearly consistent with the following LUP

goals. The proposed treatments would forward the RMP goals and objectives.

Vegetation:
Andrews RMP (RMP-24): “Manage vegetation to achieve and maintain healthy watersheds.”

Vale:
The SEORMP states on Appendix S-2 that, “Normal maintenance of existing projects and new projects will occur, as consistent with original design, through the life of the [LUP] plan in order to support authorized uses of public land. Maintenance can include activities such as replacement of …fence post and wire… cleaning of reservoirs… and cleaning and resetting cattleguards.”

Winnemucca: Does not apply.

R9 - Cultural Protection (Stabilization/Patrol)
The proposed treatments are in conformance with the Andrews/Steens Record of Decision and Resource Management Plan (ROD/RMP), date approved August 2005, even though they are not specifically provided for, because it is clearly consistent with the following LUP goals. The proposed treatments would forward the RMP goals and objectives.

Cultural Resources:
Andrews RMP (RMP-40): Goal 1 “Preserve, protect, and manage cultural resources in accordance with existing laws, regulations, and Executive Orders, in coordination/consultation with the Burns Paiute Tribe, other American Indian tribes, Harney County Historical Society and other heritage groups to make cultural resources available for appropriate uses by present and future generations.”

Conducting assessments of known cultural resources within the perimeter of the fire, stabilizing archaeological sites with low impact seeding and erosion control measures, and increasing law enforcement patrols near exposed archaeological resources is consistent with the Southeastern Oregon RMP. The objective for cultural resources within the SEORMP is to “Protect and conserve cultural and paleontological resources”.

R11 - Facilities
Burns:
The proposed treatments are in conformance with the Andrews/Steens Record of Decision and Resource Management Plan (ROD/RMP), date approved August 2005, even though they are not specifically provided for, because it is clearly consistent with the following LUP goals. The proposed treatments would forward the RMP goals and objectives.

Vale:
Treatments have been reviewed and are in conformance with the Southeastern Oregon Resource Management Plan (2002).

Winnemucca: Does not apply.

R13 - Monitoring

Burns:

The proposed treatments are in conformance with the Andrews/Steens Record of Decision and Resource Management Plan (ROD/RMP), date approved August 2005, even though they are not specifically provided for, because it is clearly consistent with the following LUP goals. The proposed treatments would forward the RMP goals and objectives. Objectives specific to each treatment can be found under that treatment, and would be applicable to the monitoring of that issue as well.

Vale:

Monitoring has been reviewed and is in conformance with the SEORMP (2002).

Winnemucca: Does not apply.

COST SUMMARY TABLES

Emergency Stabilization (LF20000ES)

Action/ Spec #	Planned Action	Unit (Acres, WMs, Number)	# Units	Unit Cost (If Appl.)	FY 2012	FY 2013	FY 2014	FY 2015	Totals by Spec.
S1	Planning (Project Management)	WM'S	16	$19,437.50	$43,000	$222,000	$23,000	$23,000	$311,000
S2	Ground Seeding	Acres	5,167	$ 904.20	$ 0	$4,672,000	$ 0	$ 0	$4,672,000
S3	Aerial Seeding	Acres	107,089	$ 105.87	$ 0	$11,337,000	$ 0	$ 0	$11,337,000
S4	Seedling Planting								
S5	Noxious Weeds	Acres	17,728	$ 14.16	$ 0	$251,000	$ 0	$ 0	$251,000
S6	Soil Stabilization (Other than seedling, planting)	#	192	$1,026.04	$ 0	$197,000	$ 0	$ 0	$197,000
S7	Fence/Gate/Cattleguard	Miles	279	$6,401.43	$ 0	$1,786,000	$ 0	$ 0	$1,786,000
S8	Road/Trail Water Diversion	Miles	1	$25,000.00	$ 0	$25,000	$ 0	$ 0	$25,000
S9	Cultural Protection (Stabilization/Patrol)	WM'S	4	$10,000.00	$ 0	$40,000	$ 0	$ 0	$40,000
S10	Tree Hazard Removal								
S11	Facilities	WM'S	2	$10,500.00	$ 0	$21,000	$ 0	$ 0	$21,000
S12	Closures (area, OHV, livestock)	#	16	$2,687.50	$ 0	$15,000	$14,000	$14,000	$43,000
S13	Monitoring	WM'S	6	$10,166.67	$ 0	$61,000	$ 0	$ 0	$61,000
S14	Other Treatments								
	TOTAL COSTS (LF20000ES)				**$43,000**	**$18,627,000**	**$37,000**	**$37,000**	**$18,744,000**
OTHER FUND CODE TOTALS:									
	TOTAL COSTS (???)								
	TOTAL COSTS (???)								
	TOTAL COSTS (???)								

Burned Area Rehabilitation (LF32000BR)

Action/ Spec #	Planned Action	Unit (Acres, WMs, Number)	# Units	Unit Cost (If Appl.)	FY 2012	FY 2013	FY 2014	FY 2015	Totals by Spec.
R1	Planning (Project Mgmt)	WM'S	10	$9,200.00	$ 0	$ 0	$46,000	$46,000	$92,000
R2	Ground Seeding	Acres	2,186	$ 282.71	$ 0	$ 0	$618,000	$ 0	$618,000
R3	Aerial Seeding	Acres	34,787	$ 155.26	$ 0	$ 0	$4,109,000	$1,292,000	$5,401,000
R4	Seedling Planting	Acres	3,833	$1,309.68	$ 0	$9,000	$2,326,000	$2,685,000	$5,020,000
R5	Noxious Weeds	Acres	84,872	$ 9.34	$ 0	$ 0	$383,000	$410,000	$793,000
R6	Soil Stabilization (Other than seedling, planting)	#	61	$3,032.79	$ 0	$12,000	$98,000	$75,000	$185,000
R7	Fence/Gate/Cattleguard	Miles	300	$7,980.00	$ 0	$8,000	$1,203,000	$1,183,000	$2,394,000
R8	Road/Trail Water Diversion								
R9	Cultural Protection (Stabilization/Patrol)	WM'S	3	$10,666.67	$ 0	$ 0	$16,000	$16,000	$32,000
R10	Tree Hazard Removal								
R11	Facilities	#	45	$1,800.00	$ 0	$43,000	$19,000	$19,000	$81,000
R12	Closures (area, OHV, livestock)								
R13	Monitoring	WM'S	2	$27,000.00	$ 0	$ 0	$27,000	$27,000	$54,000
R14	Additional Treatments								
	TOTAL COSTS (LF32000BR)				**$0**	**$72,000**	**$8,845,000**	**$5,753,000**	**$14,670,000**
OTHER FUND CODE TOTALS:									
	TOTAL COSTS (???)								
	TOTAL COSTS (???)								
	TOTAL COSTS (???)								

PART 2 - POST-FIRE RECOVERY ISSUES

EMERGENCY STABILIZATION ISSUES

1 - Human Life and Safety
N/A

2 - Soil/Water Stabilization
Post fire, during the dry hot months of August and September, and to a certain extent October, depending on the year, soils are susceptible to wind erosion with no vegetation or biological soil crusts to hold them in place. As the fall precipitation begins, generally starting in October, soils susceptible to water erosion become vulnerable to overland flow which will transport valuable seed containing top soil away from the area. If seeds cannot establish and germinate, water erosion will continue across the area with the spring precipitation and snow melt. The fire removed much of the aboveground plant material and exposed the soil surface to the forces of wind and water. Portions of the fire which occurred on steep and rocky slopes are more susceptible to the impacts for fall and spring precipitation without adequate vegetative cover to impede overland flow downhill.

Multiple drainages located within the fire perimeter are susceptible to water erosion due to the steep topography in those areas (Web Soil Survey). Over 91% of the burned area is susceptible to erosion from wind or water. Since the fire consumed soil organic matter and coarse debris in most parts of the burn, the potential for runoff generation from a given precipitation event has increased. Burned rim areas, having lost the organic structure that had helped stabilize the rocks, are at risk for rock fragmentation and movement. In areas of highest fire intensity, water repellency will increase due to soil structure and cohesion modifications will limit infiltration into the soil reducing absorption and increase surface transport of remaining surface soil nutrients.

Decreases in vegetation, debris, and litter cover will increase in runoff generation, resulting in increased susceptibility of soils to erosion from overland flow. On steeper slopes, there is also increased risk of rill erosion, in addition to an increased risk of rock fragmentation. Loss of soil through wind or water will reduce the overall site productivity and favor introduced annual plants. The increase of annual plants will increase the likelihood of future fires, dominance by annual plants, and a reduction of desirable vegetative species. Closing the area temporarily to livestock grazing would allow seedings to become established and natural recovery to occur, further promoting stabilization of soils.

3 - Habitat for Federal/State Listed, Proposed, or Candidate Species

Burns: The area is densely populated by sage-grouse, with the entire burned area within the Burns District being recognized as habitat for Greater Sage Grouse. 69,700 acres (93%) within the district perimeter have been designated as Preliminary Priority Habitat (PPH) and

5150 acres (7%) are designated as Preliminary General Habitat (PGH). There is no undesignated habitat in the Burns District burned area. There are ten known leks within the fire perimeter and an additional two leks nearby within one half mile of the western boundary of the burned area.

The burned area within the Burns District is also key winter range for mule deer and year round habitat for Pronghorn antelope and elk.

Vale: Designated Critical Habitat for Federal/State Listed, Proposed, or Candidate Species: The burned area within the Vale District has 76 miles of streams which are occupied by Lahontan Cutthroat trout, a Federally Listed species.

The area is currently occupied by greater sage grouse and is key habitat. It is one of the most densely populated sage grouse habitat areas in the region. 164,288 acres of Preliminary Priority Habitat (PPH) and 6,090 acres of Preliminary General Habitat are contained within the burned area perimeter in Vale District.

Winnemucca: The Holloway fire consumed 134,593 acres BLM managed Greater sage grouse Preliminary Priority Habitat (PPH), 10,578 acres of Private PPH, and 37,406 acres of BLM Preliminary General Habitat (PGH).

House creek, Rodeo creek, Raster creek, Log Cabin creek, Cold Springs creek and Kings River are all identified as Lahontan Cutthroat Trout (LCT) recovery streams and were all impacted by the fire. Line, Sage, Corral and Riser creeks are all Occupied LCT streams, and were impacted by the fire.

48,835 acres of bighorn sheep occupied habitat was consumed by the fire, which impacted the Trout Creeks herd and the Montana's herd. An additional 96,000 acres of potential bighorn habitat was also impacted.

Almost the entire fire area is identified as mule deer habitat, including: Crucial Winter (12,935 acres) and Year-round (101,205 acres) for the Bilk/Montana herds, Summer Range (96,693 acres) for the Bilk Creek herd, and Agricultural habitat (4,628 acres) for the Kings River Valley herd.

4 - Critical Heritage Resources

Burns: On the Burns District there are 9 known cultural heritage sites within the burn perimeter, including both historic and prehistoric sites. The area has been utilized historically and prehistorically by Native Americans, as well as by numerous ranchers and homesteaders over the last 150 years. Since the fire removed covering vegetation, artifacts on the surface will be easy to see for several years post fire; therefore, there is a high risk to artifacts from

surface collecting and acts of vandalism. Site integrity diminishes through erosion; established vegetation helps prevent this site context loss or destruction. As perennial vegetation becomes established on the site, this risk will decrease. However, if only small annual species were to become established, many artifacts may remain visible for many years due to the generally short stature of these species. Drill seeding and other on the ground stabilization methods may negatively affect Cultural Heritage Resources that were not previously discovered and avoided, however, cultural surveys will be performed prior these activities to alleviate the risk of damage to previously unknown sites.

Vale: The Holloway Fire affected 131 known cultural resource properties in the Vale District that are eligible or potentially eligible for inclusion to the National Register of Historic Places (NRHP). A class II sample survey for archaeological resources was conducted for the BLM by INFOTEC (Pettigrew and Lebow, 1989) within the fire perimeter in the Oregon Canyon Mountain uplands in 1988. This survey resulted in the identification of 57 lithic scatters, six rockshelters, and 13 stacked rock features. Of the 131 archaeological sites within the Holloway fire, 36 sites may need erosion control structures for stabilization purposes.

5 - Invasive Plants and Weeds

The combination of bare ground, ample nutrients, and sources of seeds means that the likelihood of noxious weed invasion into the burn is high particularly where there are healthy noxious weed seed sources within the vicinity of the burned area. Elevations below 5000 tend to be more susceptible to invasion from invasive and noxious annual grasses and weeds.

Burns: Treatment of weeds and temporary closure to livestock grazing will help assist with the reestablishment of desirable native and nonnative vegetation, thus decreasing the establishment and/or spread of invasive plant species. Current GIS and monitoring data show that there are both noxious and invasive species within the fire perimeter. The southwestern portion of the fire within the Burns District has a moderate infestation of cheatgrass (Bromus tectorum). Within the Trout Creek Mountain allotment, there are five noxious weed species found: Russian knapweed (0.0029 acres), whitetop (0.3939 acres), diffuse knapweed (0.0005 acres), Canada thistle (0.1021 acres) and bull thistle (4.0217 acres). All of these noxious and invasive species have a high potential of spread within the burned area. Currently these infestations, excluding cheatgrass, are managed using the best available methods, including the use of herbicides.

Vale: There are scattered populations of noxious weeds in the burn area and general vicinity of the fire, including Russian knapweed (Acroptilon repens), diffuse knapweed (Centaurea diffusa), perennial pepperweed (Lepidium latifolium), whitetop species (Lepidium ssp), Scotch thistle (Onopordum acanthium), bull thistle (Circium vulgare), Canada thistle (Circium arvense) and halogeton (Halogeton glomeratus). With the exception of roadsides, most of the weed populations occur from the valley floors to mid-slope of Trout Creek and Oregon Canyon mountains. From mid-slope to higher elevations and over the tops of mountains the burned area was relatively weed free as the intact plant communities provided little opportunity for weed invasion. Invasive species, including cheatgrass (Bromus tectorum), various annual mustards, including tumble mustard (Sisymbrium altissimum) and clasping pepperweed (Lepidium perfoliatum), Russian thistle (Salsola kali), etc., are common throughout the lower area.

Road corridors are natural conduits for noxious weeds from infested areas long distances outside of the Vale District. Multiple treatments of the identified weeds have been made in the past along the main traveled roads, including Whitehorse and Disaster Peak roads as well as the lower reaches of the roads that travel into Trout Creeks and Oregon Canyon mountains. Smaller isolated weed sites have been treated along higher elevation roads including past treatments on yellow starthistle near Steens View Reservoir in Fish Creek Seeding and Mediterranean sage near Mud Spring above Oregon Canyon ranch. Monitoring continues at these sites to assure there is no germination due to length of seed viability of these species.

A large population of saltcedar (Tamarix ramosissima) is known north of Whitehorse Ranch. Drainages with perennial or ephemeral streams, heavily damaged by the fire, would be especially vulnerable to invasion by this invasive tree via waterfowl, other wildlife and wind movement.

In the absence of competition, the burn area would be extremely vulnerable to expansion or invasion by any of these highly competitive noxious and/or invasive annuals, biennials and perennial weed species. Weed control within the burn area would help prevent invasive/noxious species from dominating the site.

Winnemucca: Scotch thistle populations are known to exist within and adjacent to the Holloway fire area. Canada thistle populations have been intermittently identified within the Bilk creek riparian corridor, and Tamarisk occurs intermittently in drainages throughout the burned area. Further inventory, particularly of Bilk Creek, is required to determine the extent of infestation. Canada thistle is an extremely aggressive noxious weed in disturbed riparian areas and populations are expected to expand rapidly without immediate inventory and treatment. Scotch thistle is greatly advantaged by fire disturbance and the Holloway fire provides an opportunity for further establishment of this species.

BURNED AREA RECOVERY ISSUES

1 - Lands Unlikely to Recover Naturally

Repair or improve lands unlikely to recover naturally from wildland fire damage by emulating historical or pre-fire ecosystem structure, function, diversity, and dynamics consistent with existing land management plans.

Quality habitat for sage-grouse and big game was lost when the wildfire burned the area. Many of the key grasses, forbs, and shrubs are not expected to regenerate naturally and cannot be included within the ES Plan. Some areas within the Holloway Fire (10-15%) experienced high severity burning with the majority having experienced moderate burn severity (70%), which consequently resulted in high mortalities of perennial species and a depletion of the soil seed bank. This change on the site will increase the likelihood of future cheatgrass and other invasive plant establishment.

The majority of the burned area was Mountain big sagebrush and low sagebrush, with Wyoming big sagebrush intermixed on some sites. Full, natural recovery of these sites may take over 100 years if a seed source is not readily available. Much of the mountain big sage that burnt was on the upper elevation mountain tops where the likelyhood of seed introduction is severely limited without assistance. Prior to this fire, many areas within the perimeter showed the presence of cheatgrass; however, no areas within the burned area had crossed a threshold from sagebrush steppe to annual grass plant community. Because cheatgrass was known to exist on the lower eleveation sites within the burn, and there is medusahead in the vicinity, there is increased risk that desirable perennial native species will not reestablish in the burned area before exotic annual grasses spread and out compete the native vegetation at the lower elevations.

Because of the unpredictability of the environmental conditions from year to year, the success of recovery of native, already present species is unknown, but it is unlikely that there would be an adequate enough recovery to prevent or even compete with introduced annual grasses. There are many examples in the Great Basin of post fire annual grass communities persisting for long periods of time and leading to a compressed fire cycle. It is unlikely that desired native plants will reestablish at acceptable levels in any management timeframe absent treatment in areas of high burn intensity at lower elevations (<10%) where annual grasses become established.

The completion of the rehabilitation efforts will be in accordance with the Standards and Guidelines for Rangeland Health, maintain sufficient cover and litter to protect the soil surface from excessive water and wind erosion, promote infiltration, detain surface flow, and retard soils moisture loss by evaporation. The action will ensure that there is progress towards the attainment of the Standards and Guidelines for Rangeland Health. Multiple-use concepts have been considered throughout the Stabilization and Rehabilitation efforts for the Holloway Fire to ensure that the efforts are completed in a sustainable manner and are in the context of multiple-use.

The Holloway Fire burned crucial habitat for a variety of wildlife including mule deer, pronghorn antelope, and sage-grouse; as well as a variety of raptors and migratory birds. Sagebrush and other shrubs provide cover, forage, nesting habitat and cover for wildlife species. Research suggests that sagebrush re-establishes into burned areas from the outside edge inward at a very slow rate. It would be expected that it may take decades or more for the area burned by the fire to recover without treatment. The burned area occurs within multiple precipitation zones ranging from 10” to 15”. The vegetative communities within the perimeter were comprised of mountain big sagebrush (Artemisia tridentata vaseyana) or low sagebrush (Artemisia arbuscula Nutt.) overstory with the perennial understory dominated by bluebunch wheatgrass (Pseudoroegneria spicata (Pursh) Á. Löve ssp. Spicata), Thurber’s needlegrass (Achnatherum thurberianum (Piper) Barkworth), bottlebrush squirreltail (Elymus elymoides (Raf.) Swezey), and Indian ricegrass (Achnatherum hymenoides (Roem. & Schult.) Barkworth). The fire has created optimal conditions for the establishment of vast acreages of annual grasses. Some areas within the burn are in lower ecological condition and are highly susceptible to annual grass invasion. This is primarily because there may not be enough residual seed in the soils within these portions of the burned area to re-establish native species naturally. Cheatgrass is the most common invasive

species within and directly adjacent to the fire perimeter and would be expected to dominate the area without treatment. In the areas where the fire burned less intense, the western edge and areas along the perimeter, there will still be a viable seed source available. Without strong competition from stressed native species, cheatgrass, which germinates during the winter and early spring, will have a greater opportunity to expand into areas previously dominated by natives.

2 - Weed Treatments

The combination of bare ground, ample nutrients, and sources of seeds means that the likelihood of noxious weed invasion into the burn is high particularly where there are healthy noxious weed seed sources
directly adjacent to the burned areas or where the fire burned less intense and natives are stressed.

Treatment of weeds and temporary closure to livestock grazing will help assist with the reestablishment of desirable native and nonnative vegetation, thus decreasing the establishment and/or spread of invasive plant species. Current GIS and monitoring data show that there are both noxious and invasive species within the fire perimeter. The southwestern portion of the fire within the Burns District has a moderate infestation of cheatgrass (Bromus tectorum). Within the Trout Creek Mountain allotment, there are five noxious weed species found: Russian knapweed (0.0029 acres), whitetop (0.3939 acres), diffuse knapweed (0.0005 acres), Canada thistle (0.1021 acres) and bull thistle (4.0217 acres). All of these noxious and invasive species have a high potential of spread within the burned area. Currently these infestations, excluding cheatgrass, are managed using the best available methods, including the use of herbicides.

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Road corridors are natural conduits for noxious weeds from infested areas long distances outside of the Vale District. Multiple treatments of the identified weeds have been made in the past along the main traveled roads, including Whitehorse and Disaster Peak roads as well as the lower reaches of the roads that travel into Trout Creeks and Oregon Canyon mountains. Smaller isolated weed sites have been treated along higher elevation roads including past treatments on yellow starthistle near Steens View Reservoir in Fish Creek Seeding and Mediterranean sage near Mud Spring above Oregon Canyon ranch. Monitoring

continues at these sites to assure there is no germination due to length of seed viability of these species.

A large population of saltcedar (Tamarix ramosissima) is known north of Whitehorse Ranch. Drainages with perennial or ephemeral streams, heavily damaged by the fire, would be especially vulnerable to invasion by this invasive tree via waterfowl, other wildlife and wind movement.

In the absence of competition, the burn area would be extremely vulnerable to expansion or invasion by any of these highly competitive noxious and/or invasive annuals, biennials and perennial weed species. Weed control within the burn area would help prevent invasive/noxious species from dominating the site.
Treatment/Activity: S5 Noxious Weed Treatment

3 - Tree Planting
N/A

4 - Repair/Replace Fire Damage to Minor Facilities
Within the perimeter of the Holloway Fire, approximately 529 miles fence and numerous gates were damaged to varying extents as the fire burned through multiple allotment boundaries and pasture fences. While these fences will not be crucial to protecting the seeded and planted areas, repairing these fences will be critical to ensure full recovery of the vegetation while providing limits to grazing activities and to manage grazing between pastures and allotments once grazing returns to the area. In addition to the interior fences, troughs and pipelines were damaged in the Holloway Fire. These facilitates will need to be repaired or replaced.

The majority of the fences within the area were steel post construction; however, there were fences that consisted primarily of wood posts. Repair/replacement of these range improvements is needed to control livestock and prevent trespass livestock from straying into rehabilitated areas in violation of nonuse agreements and ensure that grazing management systems can be resumed following successful rehabilitation efforts. Damage to the fences generally consists of wire which burned hot and lost the galvanized coating/tensile strength, and burned wood posts, braces, and gates. The fences provide for rotation grazing management systems throughout the affected allotments and effective livestock management following vegetation establishment will not be possible without these interior fences. Without these fences the Standards and Guidelines for Rangeland Health cannot be achieved. The pipelines are part of spring developments that transport water from the springs to troughs and waterholes, and are needed to protect riparian areas and promote proper livestock distribution while creating additional water sources for wildlife. Without these crucial water sources, wildlife populations will not exist within otherwise suitable habitats.

Informational signs were also damaged or destroyed during the fire. Replacement of these informational and directional signs will prevent visitors from driving in critical recovery areas lessening the chances of further damage to the areas burned in the fire.

PART 3 - DESCRIPTION OF TREATMENTS

Issue 2 - Soil/Water Stabilization

S6 Soil Stabilization (Other than seedling, planting)

A. Treatment/Activity Description

Burns: The Holloway Fire burned through multiple major drainages, and burnt to bare soil in many areas. This increases the amount of runoff that will occur in the area. Approximately 200 erosion control structures will be placed within major drainages. Locations will depend on access and material availability to construct the structures. Check dams will be constructed of weed-free straw or rock placed on the surface (no ground disturbance) and anchored to resist movement. Height and width will depend on channel morphology and potential for water movement; dams placed within the same drainage would be place on alternating sides of the drainage to help create a natural sinuosity. This would be done in the fall of 2012 (FY13). A BLM Hydrologist would determine the exact locations of the check dams. These structures will be located in drainages known to have large amounts of runoff to protect the grade from further damage due to flooding and sediment deposits.

Thirty seven catchment basins will be cleaned in preparation for the collection of sediment and ash that is anticipated to be transported down slope by precipitation during the first water year following the fire. Monitoring will occur until plant cover increases enough to protect the sites. A dozer or excavator will be utilized to clean the catchment basins. Cleanout will begin in October to prepare for fall rains. A second cleanout may also occur as necessary in the late spring of 2015 to remove collected sediment and allow catchment basins to continue to operate as intended. Cultural surveys will be conducted prior to any ground disturbing activities. If found, such resources would be avoided where needed to comply with applicable laws, polices, or agreements.

Winnemucca: This treatment would include the installation and construction of erosion control structures within Bilk and China creeks: In order to protect the soil surface, limit sedimentation/siltation flow into LCT streams and to provide an organic layer to assist seedling establishment, approximately 20 acres of WoodStraw or mulch would be applied to Bilk and China creeks in areas with high erosion potential.

To establish grade control, decrease water velocity and reduce accelerated stream channel down-cutting rock "stabilizers" (using local rock sources) would be implemented to slow the flow of the creeks and filter existing sediment.

Existing, standing brush and/or tree structures will be selectively cut and placed within stream channel to reduce velocity and potential streambank scouring.

Implementation locations will be focused on intensively burned areas within the creeks, in locations with highly erodible and sensitive soils and areas with de-stabilized channels.

To enhance stream bank stability, increase biodiversity, create wildlife habitat, and improve water quality we would install "living filters" (cottonwood, willow pole, and other plantings of locally adapted native plants) in and along the streams.

B. How does the treatment relate to damage or changes caused by the fire?

Burns: Surviving vegetation will not express to any significant degree until spring 2013. Some plants may green up in the fall following fall rainfall, but the growth will be limited by the low precipitation and night temperatures. Large areas of bare soil and ash will continue to be present for the fall, winter and the early spring. Approximately 87% of the annual precipitation falls from October thru June. Spring runoff in March and April will occur before residual plants grow to any extent, moving ash and soil off site. The debris dams will help to slow the flow of water and allow the soil to drop out of suspension. These structures would slow runoff, reducing the effects of water erosion, thereby limiting soil loss and excessive sediment deposits off site.

The BLM administered lands burned during the fire contain numerous drainages and intermittent creeks. The fire burned with greatest intensity in areas upslope from many of these drainages. There will be little revegetation in the fall of the year. The majority of soil and ash movement will occur during fall and early winter rains. Another flush will likely occur with snow melt in the spring. The sediment catchments will contain the sediment movement. The sediment threatens down slope private structures and developed lands associated with ranchlands.

Winnemucca: The fire removed soil stabilizing vegetation on the steep slopes adjacent to these creeks leaving them vulnerable to high levels of erosion, especially following heavy storm events. The fire also removed the riparian vegetation which had previously been metering the sediment release through the system. Siltation/sedimentation produced would degrade water quality and impact riparian and aquatic habitat (including adjacent LCT streams and recovery sheds). The proposed treatments will provide hillslope, streambank and stream stabilization to mitigate potential erosion issues.

C. Why is the treatment/activity reasonable, within policy, and cost effective?

Burns: These activities are essential in implementing the emergency stabilization effort. The treatment is worthy of the investment and expense to assure that soil loss can be reduced by slowing sediment flow with the use of erosion control structures. The treatment will help to trap sediment in channels and prevent the creation of gullies. The investment, if successful, will eliminate the necessity of gully treatments that would require the use of heavy equipment and investment large amounts of dollars. The creation of gullies would also indicate a loss of top soil and a reduction in overall site productivity and sustainability. Catchment clean out represents a small investment for the protection of private structures and developments in the area. The treatments are within the scope of the Andrews RMP, and Oregon State laws. Cleaning existing catchments will reduce the cost of construction and engineering needed for the development of new catchment basins. This action is necessary for emergency stabilization to keep valuable seed bearding soils on site. High precipitation times on the Burns portion of the Holloway fire occur in late fall and spring generally so applying soil stabilization measures now will prevent soil loss within the first

year after containment of the fire. Trying to stabilize soils after erosion has begun becomes extremely costly and in many cases, permanent.

Winnemucca: Mulching/applying WoodStraw would limit the amount of soil erosion from the exposed slopes. The cost is minimal compared to the risks to the LCT habitat. Pole plantings will be harvested from local, native stands, and rock "stabilizers" will be constructed using local rock sources and will be of minimal cost. Written notification will be submitted to the local Corps of Engineers District Office prior to implementation of any sediment control structures as per policy.

S8 Road/Trail Water Diversion

A. Treatment/Activity Description

Burns: The treatment will be to spot clean ditches located along 40 miles of roads within and adjacent to the burned area and monitor these areas to ensure that runoff is able to continue flowing through the culverts and ditches, and that no pooling sediment deposition or erosion occurs, which could result in roads being impassable or washed out.

B. How does the treatment relate to damage or changes caused by the fire?

Burns: The potential combined long term fire effects on upper elevation roads create a situation in which roads may become hazardous to the point of a rollover threat, landslide hazard, or impassible road conditions. Roads and ways along the western face of the Trout Creek Mountains are characterized by steep terrain (32% of the area between 31 and 60% slope) and highly confined valleys. In many places, road width is insufficient to allow two oncoming vehicles to pass requiring one vehicle to back up to a wide spot in the road. Steep terrain and road location inhibit visibility between valley thus decreasing warning time of hazards (fire, flood) or obstructions (fallen rocks or washouts) would increase risks to both visitors and local landowners.

C. Why is the treatment/activity reasonable, within policy, and cost effective?

Burns: Drainage clean out represents a small investment for the protection of roads and human safety within and adjacent to the burned area. The treatments are within the scope of the prioriies and allowable actions for emergency stabilization, Andrews RMP, and Oregon State laws. Cleaning of drainages will reduce the risk of roads washing out and decrease the risk of people travelling along these roads as well as reduce the future costs associated with any damaged caused by erosional forces.

S11 Facilities

A. Treatment/Activity Description

Vale: Wilderness Study Areas on the Vale District are closed to cross country travel. The Holloway fire burned vegetation that physically restricted motorized vehicle access across the landscape. BLM is proposing to place an additional 120 informational carsonite signs along existing routes to inform visitors of the limited access in WSAs. Signs are intended to inform the public and ensure their safety while protecting the recovering resources as it is

our mission to sustain the health, diversity and productivity of the public lands for the use and enjoyment of present and future generations. The carsonite signs are an effective management tool in notifying the public where areas are closed to off road vehicles. The fire burned five Directional and Informational signs posted along roads and at points of interest within the Holloway North fire. Directional and Informational signs are in place to guide visitors to better maintained travel routes and also to key points of interest. Many of our roads are poorly maintained, and these signs assist the public in making route choices that are appropriate for their vehicle and outdoor experience level. Directional and Informational signage plays a significant role in the safety of public lands visitors. Without these signs visitors could mistake a dozer line for a travel route identified on a map further decreasing already fragile soil stability. All of the signs requested to be replaced will have the same design, dimensioning, mounting and roadway location as had pre-burn.

Vale District would like to complete implementation of this treatment by November 30, 2012. This will ensure signs are in place at the start of the 2013 recreation season. These signs are a critical management tool to inform visitors of appropriate route choices. Cross County vehicle travel in WSAs can create unauthorized trails that could cause erosion problems, introduce noxious weeds, or even degrade the wilderness character for which they were designated.

B. How does the treatment relate to damage or changes caused by the fire?

Vale: The Holloway North fire increased the potential for unauthorized motorized cross country travel within WSAs. Additional signs are needed to inform the public of the travel limitations. Placement of informational and directional signs which burned in the fire is necessary for public safety in addition to protecting the recovering resources. This treatment is anticipated to be a relatively effective method of informing the public of the risks posed by rehabilitated fire lines post-fire.

C. Why is the treatment/activity reasonable, within policy, and cost effective?

Vale: The signs are ordered from a government based sign shop that provides the most cost effective way of keeping costs low. Sign design, dimensioning, mounting, and roadway locations all meet the BLM sign standards and guidelines and follow directly in line with the Vale District Sign Plan. Signs are intended to inform the public and ensure their safety while protecting the recovering resources as it is our mission to sustain the health, diversity and productivity of the public lands for the use and enjoyment of present and future generations. This treatment is cost effective, because the sign design can be easily implemented. They will provide important information to members of the public at a reasonable cost.

It is considerably less expensive to prevent damage to a WSA than to repair damage. These sign are intended to keep visitors on authorized routes; delaying instillation of the signs would increase the chance of damage to the WSA from cross-country vehicle travel.

Issue 3 - Habitat for Federal/State Listed, Proposed, or Candidate Species

S2 Ground Seeding

A. Treatment/Activity Description

Burns: This treatment consists of drill seeding approximately 4639 acres on the Burns Portion of the Holloway Fire using rangeland drills. Drill seeding was determined to be the best seeding option due to the moderate infestation of invasive annual grass, namely cheatgrass (Bromus tectorum). Seeding will occur in the fall and early winter of 2012, and possibly into 2013 depending on weather conditions. Native and non-native desirable seed mixes will be utilized in the drill seeding treatment areas. Two mixes were selected by an ID team with utilization of each mix determined by: 1) location within the Red Mountain WSA; 2) the potential to reestablish native seed; and 3) the condition of existing seedings. The first mix, the Crested WSA mix, is for the area within the Red Mountain WSA which was an existing crested wheatgrass seeding. The WSA handbook allows for the maintenance of existing improvements, including seedings within a WSA. The second mix is comprised solely of native species and falls within the Red Mountain WSA.

Approximately 1424 acres will be seeded using the WSA Crested Mix and approximately 3215 acres will be seeded using the WSA Native mix. This method increases variation for seed sites and reduces the visual impression of vegetative rows across the treatment area. The species in these seed mixes were selected for specific characteristics (from USDA Plants, 2012).

The WSA Crested Mix is made up of the following species:

Crested wheatgrass (*Agropyron cristatum*) possesses a deep root system with early growth giving it an advantage when competing in an area threatened by annual grasses. Their drought tolerance, fibrous root systems, good seedling vigor, and ability to quickly stabilize soils and slow runoff make this species ideal for reclamation in areas with 8 to 20 inches annual precipitation.

Bluebunch wheatgrass (*Pseudoroegneria spicata*) is very drought resistant, persistent, and adapted to stabilization of disturbed soils. Its drought tolerance, combined with extensive root systems and good seedling vigor, make this species ideal for reclamation in areas receiving 10 to 20 inches annual precipitation.

Great Basin Wild Rye (*Leymus cinereus*) is well adapted to stabilizing disturbed soils. Basin wildrye's drought tolerance, combined with fibrous root system, fair seedling vigor, and ability to stabilize soil make it desirable for reclamation in areas receiving 8 to 20 inches annual precipitation. Since basin wildrye is a tall upright bunchgrass, it is considered excellent cover habitat for small animals and birds, excellent nesting cover for upland birds, and excellent standing winter feed and cover for big game animals.

Indian ricegrass (*Achnatherum hymenoides*) is a native perennial bunch grass used for erosion control, forage and cover. This grass adds complexity to the seed mix and performs well in precipitation zones of less than 10". It is well adapted to stabilization of disturbed sandy soils in mixes with other species. It is naturally an early invader onto disturbed sandy sites. Due to the abundance of plump, nutritious seed produced by Indian ricegrass, it is

considered an excellent food source for birds, such as mourning doves, pheasants, and songbirds. Rodents collect the seed for winter food supplies and it is considered good cover habitat for small animals and birds.

Bottlebrush squirreltail (*Elymus elymoides*) is a short-lived native perennial grass which can act as an early-seral species by competing with and replacing annual weedy species following fire. Its ability to germinate in the late fall and very early spring, at a wide range of temperatures, adds to its capability to compete with cheatgrass.

Western yarrow (*Achillea millefolium L* .) is a key sage-grouse food. This native forb adds complexity to the seed mix and provides a seed source for sage grouse.

Lewis flax (*Linum lewisii Pursh*) is a forb noted for its erosion control abilities, as well as its forage value for wildlife. This forb has also been used as a fire suppressant species.

The Native WSA seed mix differs with the deletion of crested wheatgrass and western yarrow and the addition of:

Needle and thread grass (*Hesperostipa comata*): It is desirable forage for elk in winter and spring and considered desirable forage for deer in spring. It is a very effective grass in preventing wind erosion on sandy soils. It is one of the first grasses to naturally establish in disturbed sandy sites. It can be used in seeding mixtures for revegetation of sandy sites and sites disturbed by mining activities.

Sandberg bluegrass (*Poa secunda*): Upland game birds, especially pheasants, choose fields of Sandberg bluegrass for nesting sites because Sandberg bluegrass has more early spring growth than other dryland grasses and the basal leaves provide good shade. It is recommended in mixtures on sites needing an early spring perennial grass to compete against annual weeds. Sandberg bluegrass is known to fill in interspaces between larger bunchgrasses and effectively impedes the spreading of cheatgrass (Monsen and others 2004). Seed may be consumed by songbirds, upland game birds, and small mammals and spread through feces. Sandberg bluegrass is not aggressive, and therefore is not considered to be invasive.

Fourwing saltbush (*Atriplex canesens*): Fourwing saltbush provides excellent browse for deer season long. It is a good browse plant for bighorn sheep, antelope, and elk in fall and winter. It is also a food source and excellent cover for sharptail grouse, gray partridge (Huns), sage grouse, and other upland birds, rabbits, songbirds, and small mammals. Fourwing saltbush makes excellent screens, hedges, and barriers. It is especially useful on saline-sodic soils. It has excellent drought tolerance. Its extensive root system provides excellent erosion control.

Winnemucca: Ground seed 528 acres with the following seed mix: Bottlebrush squirreltail, Sandberg bluegrass, Lewis' flax, Western yarrow, and Crested wheatgrass. Siberian wheatgrass will be utilized as an alternative to Crested wheatgrass depending on seed availability. Project will be implemented in FY13.

B. How does the treatment relate to damage or changes caused by the fire?

Burns: The fire burned with high intensity and resulted in severe fire effects. Plant mortality appears to be high in the burned area with invasive annual grasses as a plant community component. The burn was fueled to some level by exotic annual grasses and by perennial native grasses and sagebrush. In the Great Basin it has been found, by research and management, that once annual grasses ecologically dominate a plant community and establish shorter fire return intervals, the plant community is unlikely to return to a native plant community. Additionally, annual grass communities are known to transition to other noxious weed dominated communities.

The proposed treatment will provide direct competition to the establishment of new annual grass seedlings by species that have been shown to compete successfully with annual grasses and diminish their invasive ability. Some non-natives, specifically crested wheatgrass, have been found to be successful at establishing and competing with invasive annual grasses. These species can do two things: they can compete with the annual grasses and they provide greater biological diversity and structure than an annual grass community. This allows a better chance for succession toward a plant community closer to the potential natural community by forestalling the conversion to an annual grassland.

Seeding the burned area is intended to forestall the conversion of the burned areas from sagebrush steppe to an annual grass compressed fire cycle plant community. Seeding of desirable perennial species will help to limit the expansion of the invasive species and facilitate weed control treatments. It will also promote soil stability and provide vegetative cover reducing the potential for erosion.

Winnemucca: These treatments are also vital in mitigating the potential loss of Greater sage grouse habitat in the Montana, Granite and Bilk Creek mountain ranges. Without these treatments the burned areas are extremely susceptible to exotic annual dominance; this would jeopardize the Greater sage grouse, mule deer herds and other wildlife that depend on this area year-round and especially in the winter months. NDOW has been an active participant in selecting a seed mix that will provide the necessary shrub and understory components to meet wildlife needs.

C. Why is the treatment/activity reasonable, within policy, and cost effective?

Burns: Seeding will stabilize the soils and limit expansion of invasive species. Species selected are readily available in most years and based on data from USDA Plants Database, as well as ecological site descriptions, these species will have the greatest chance at survival with the current site conditions. The selection of crested wheatgrass and native species in the seed mix provides what experience and research have generally shown to be the best chance for successful post-fire seeding in an area described as a mountain big sagebrush ecological sites that already have exotic annual grasses.

Because the drill seeding areas are located within the Red Mountain WSA, using native species, except in the existing crested seeding will maintain the current wilderness values. The infestation of annual grasses is moderate compared to other locations on the Burns district which will afford the native species a greater chance at establishment success and

prevent the site from transitioning to an annual grassland. Because drill seeding is occuring in a WSA, the cost is significantly higher due to the use of native seed (except where crested wheatgrass is used in an existing seeding). Soil stabilization and the prevention of the spread and introduction of invasive species is an important part of the burned area emergency stabilzation. If this treatment does not occur, then costs in out years will be significantly higher due to soil loss and the increased cost associated with attempting to treat a large infestation of invasive species.

The proposal is within policy, complying with the Andrews RMP. The costs are in line with other alternatives, because there is a reliable supply of native and desirable non-native seed. Drill seeding is more successful than aerial seeding and other methods of broadcast seeding from ground vehicles.

Winnemucca: The treatments are consistent with the documents cited in Part 1: Land Use Plan Consistency. Because of the critical noxious weed/invasive species and wildlife concerns, Nevada Department of Wildlife, Nevada Mule Deer Association, the Nevada Chukar Foundation, etc., have offered to partner with the BLM in stabilizing and rehabilitating this site; this shared responsibility will be integral in keeping these treatments cost effective.

Areas proposed for drill seeding occur within Wyoming big sagebrush ecological sites which had a high incidence of invasive annual grass infestations. These sites will likely trend towards dominance by invasive annuals if drill seeding of desirable perennial species does not occur. Drill seeding generally produces a more cost effective and reliable product than aerial seeding, particularly in areas where competition from invasive annuals is high. The proposed seed mix makes use of both native species and crested wheatgrass to ensure that the final product is competitive with invasive annuals and retains historic ecological values. Seeding within the first season following fire provides the best opportunity for successful establishment of native and other desirable perennials.

S3 Aerial Seeding

A. Treatment/Activity Description

Burns: Approximately 28,240 acres within the Holloway Fire will be aerially seeded. The area to be seeded consists of steep slopes and rough terrain common to the western face of the Trout Creek Mountains. This area will be seeded to help stabilize the soils on slopes typically used for grazing reducing the potential for overland flow to erode sites. Seeding will be done utilizing fixed wing aircraft. Seeding will occur in the late fall to early winter, which is the time research suggests will be most successful for the selected seeding species.

There are three aerial seed mixes consisting of species selected for specific characteristics (from USDA Plants, 2012).

The high elevation native seed mix consists of bluebunch wheatgrass (*Pseudoroegneria spicata*), needle and thread grass (*Hesperostipa comata*), mountain brome (*Bromus marginatus*) and Sandberg bluegrass (*Poa secunda*).

Bluebunch wheatgrass is very drought resistant, persistent, and adapted to stabilization of disturbed soils. Its drought tolerance, combined with extensive root systems and good seedling vigor, make this species ideal for reclamation in areas receiving 10 to 20 inches annual precipitation.

Needle and thread grass is desirable forage for elk in winter and spring and considered desirable forage for deer in spring. Erosion Control/Reclamation- It is a very effective grass in preventing wind erosion on sandy soils. It is one of the first grasses to naturally establish in disturbed sandy sites. It can be used in seeding mixtures for revegetation of sandy sites and sites disturbed by mining activities.

Mountain brome germinates and establishes quickly when seeded making it a good choice for quick cover of disturbed sites such as highway right-of-ways, coal mine spoils, heavy metal mine tailings, spent oil shale and wildfire revegetation. It is a short-lived pioneer perennial species and when planted with slower developing native plants, provides excellent cover crop attributes for the slower establishing species. It has good root production, especially when combined with a legume. Mountain brome roots decompose slowly providing long lasting erosion control even after the plants have died. Mountain brome is an excellent plant for the revegetation of livestock and big game ranges in foothill and mountain locations. It is highly palatable in the spring providing good forage for wildlife and livestock. The leaves provide excellent grazing for elk, cattle and horses and are also eaten by sheep and deer. The seeds are readily eaten by small mammals and birds.

Sandberg bluegrass has more early spring growth than other dryland grasses and the basal leaves provide good shade making it preferable to upland game birds, especially pheasants for nesting sites. It is recommended in mixtures on sites needing an early spring perennial grass to compete against annual weeds. Sandberg bluegrass is known to fill in interspaces between larger bunchgrasses and effectively impedes the spreading of cheatgrass (Monsen and others 2004). Seed may be consumed by songbirds, upland game birds, and small mammals and spread through feces. Sandberg bluegrass is not aggressive, and therefore is not considered to be invasive.

The low elevation native mix is comprised of Idaho fescue (Festuca idahoensis), bottlebrush squirreltail (Elymus elymoides) and Sandberg bluegrass.

Idaho fescue is a fair to good forage for all types of domestic livestock (Stubbendieck, J. et al., 1992). It is good year-around forage for elk and is grazed in spring by deer. Idaho fescue begins senescence later in the growing season than most other range plants. Idaho fescue produces an extensive, deep root system. Therefore, it is an excellent erosion control grass for cutover forest areas (Hafenrichter et al., 1968). Idaho fescue is fairly drought resistant, stands are persistent and it is adapted to stabilization of disturbed soils. It does not compete well with aggressive introduced grasses. Its drought tolerance, combined with extensive root systems and good seedling vigor, make this species ideal for reclamation in areas receiving 14 to 20 inches annual precipitation.

Bottlebrush squirreltail is a short-lived native perennial grass which can act as an early-seral species by competing with and replacing annual weedy species following fire. Its ability to germinate in the late fall and very early spring, at a wide range of temperatures, adds to its capability to compete with cheatgrass.

Sandberg bluegrass has more early spring growth than other dryland grasses and the basal leaves provide good shade making it preferable to upland game birds, especially pheasants for nesting sites. It is recommended in mixtures on sites needing an early spring perennial grass to compete against annual weeds. Sandberg bluegrass is known to fill in interspaces between larger bunchgrasses and effectively impedes the spreading of cheatgrass (Monsen and others 2004). Seed may be consumed by songbirds, upland game birds, and small mammals and spread through feces. Sandberg bluegrass is not aggressive, and therefore is not considered to be invasive.

The third aerial mix is comprised solely of mountain big sagebrush (*Artemisia tridentata vaseyana*).

Big sagebrush is perhaps the most important shrub on western rangelands. Evergreen leaves and abundant seed production provide an excellent winter food source to numerous species of large mammals including mule deer, black-tailed deer, white-tailed deer, elk, pronghorn antelope, bighorn sheep and jack rabbits. Nearly 100 bird species depend on sagebrush ecosystems for their habitat needs. Additionally, there are several animal species having an obligate relationship with big sagebrush including sage grouse, sharp tailed grouse, pygmy rabbits, sage thrashers, sage sparrows and Brewers sparrow. Sagebrush also provides habitat and food for hosts of invertebrates which in turn support birds, reptiles and small mammals. In addition to the numerous species of animals that depend on sagebrush for food and cover, there are several plant species having close relationships with sagebrush as well. Because of its wide range of adaptation and ease of establishment, big sagebrush can be a very important species for use in revegetation efforts.

Vale: Mountain big sagebrush (*Artemisia tridentata ssp. vaseyana*) was a prominent vegetative component at the higher elevations in the Oregon Canyon Mountains. This species does not resprout after fire and depends on a seed source for repopulating an area.

Approximately 5,000 acres of public land in the burned area on the Vale Disttrict would be aerial seeded with mountain big sagebrush in late fall or on snow. The seed is broadcast over the surface, which places the seed in contact with the soil and positions the seed near the soil surface to insure the greatest possibility for growth within the treatment areas. Seeding areas were selected based on 1) presence of mountain big sagebrush prior to the fire, 2) presence of PPH, and 3) areas identified by Oregon Department of Fish and Wildlife as a priority for sagebrush restoration.

Aerial seeding treatments were selected over other methods, because a large area within the fire perimeter was previously undisturbed or minimally disturbed. Additionally the higher elevation of the treatment area is not accessible as late in the fall or as early in the spring as the lower elevations which reduced the number of days available for planting seedlings.

Mountain big sagebrush is proposed to be aerially seeded at a rate of 2 lb/acre. Sagebrush seed has been readily available in the past; however this application rate or number of acres can be reduced depending on seed availability.

Vale BLM anticipates completion of this treatment by March 2013. In talks with Oregon Department of Fish and Wildlife, this area is a very high priority to reestablish sagebrush for the Greater sage-grouse. The area identified for treatment is Preliminary Primary Habitat. Seeding of mountain big sage will accelerate the recovery of the sagebrush habitat which is critical to Greater sage-grouse.

Winnemucca: Aerially seed 83,883 acres within the burned area with five mixes:

Wyoming sage community: Wyoming big sage, Indian ricegrass, Great Basin wildrye, Western yarrow, Sandberg bluegrass, Fourwing saltbush, Shadscale, Crested wheatgrass and Forage kochia. If Crested wheatgrass is unavailable, Siberian wheatgrass will be utilized as an alternative species. Project is 13,981 acres. Forbs and grasses would be applied to the entire project area in FY13. Sage seed would be applied to 4660 acres in FY13.

Mountain sage community mix: Mountain big sage, Antelope bitterbrush, Lewis' flax, Western yarrow, Bluebunch wheatgrass, Idaho fescue, . Project is 37,713 acres. Forbs and grasses would be applied to the entire project area in FY13. Sage seed would be applied to 12571 acres in FY13.

Low sage community mix: Low sage, Antelope bitterbrush, Indian ricegrass, Thurber's needlegrass, Sandberg bluegrass, Western yarrow. Project is 24004 acres. Forbs and grasses would be applied to the entire project area in FY13. Sage seed would be applied to 8001 acres in FY13.

Drainage Mix: Great Basin wildrye, Western yarrow, Perennial flax, and Bluebunch wheatgrass. Project is 1,385 acres. This seeding would occur within LCT occupied and LCT recovery stream drainages to stabilize the soils adjacent to the streams.

WSA/Wildlife Native Mix: Wyoming sagebrush, Mountain big sagebrush, Western yarrow, Sandberg's bluegrass, Thurber's needlegrass. Project is 6802 acres. Grasses and forbs would be applied to the entire project area in FY13. Sage seed would be applied to 1700 acres in FY13.

B. How does the treatment relate to damage or changes caused by the fire?

Burns: The seeding will help to increase ground cover rapidly and help to reduce the potential for erosion and establishment of invasive species. Species and method selected have proven to be successful in the area. The goal of the treatment is to establish protective ground cover of perennial vegetation to protect the exposed soils from wind and water erosion. Failure to complete seeding operations will leave the burn area open to erosion leading to decreased sage grouse PPH, hazardous road conditions, blocked drainages and

proliferation of invasive plants, decreasing the amount of PPH for sage grouse and increasing risk to travelers through the Trout Creek Mountain area due to washed out roads

Vale: Prior to the Holloway fire most of the proposed treatment area contained stands of sagebrush with understories of desired vegetative communities. Aerial seeding treatments are specifically targeted at stabilizing, protecting, rehabilitating, and restoring the significant loss of habitat to sage-grouse and other sagebrush obligate species. Every effort has been made to select and apply treatments to areas with the highest probability for jump-starting the restoration process for sagebrush and their related understory habitat. The slow mountain big sagebrush recovery post fire shows the need for reestablishment of the sagebrush communities as quickly as possible. The importance of the sagebrush communities including PPH/PGH is to maintain the habitat for the sagebrush obligate species. Sage grouse populations are allied closely with sagebrush habitats. The dependence of sage grouse on sagebrush for winter habitat has been well documented. (Eng and Schladweiler 1972). Leks, or breeding display sites, typically occur in open areas surrounded by sagebrush. The treatments of these areas will stabilize and minimize erosion and establish much needed critical habitat for the sage grouse and other sagebrush obligate species.

Winnemucca: These treatments are also vital in mitigating the potential loss of Greater sage grouse habitat in the Montana, Granite and Bilk Creek mountain ranges. Without these treatments the burned areas are extremely susceptible to exotic annual dominance; this would jeopardize the Greater sage grouse, mule deer herds and other wildlife that depend on this area year-round and especially in the winter months. NDOW has been an active participant in selecting a seed mix that will provide the necessary shrub and understory components to meet wildlife needs.

C. Why is the treatment/activity reasonable, within policy, and cost effective?

Burns: Seeding following a wildfire for stabilization, rehabilitation and to reduce invasive weeds is within policy and guidance. In the Burns District, approximately 28,200 acres are proposed for aerial seeding. The areas selected are predominantly upland areas where topography is unsuitable for drill seeding due to slope and accessibility. Seed costs will be more expensive than drill seeding because of the high rates for use of an aircraft. One airplane can cover approximately 1,000 acres per day depending on a number of factors.

The application cost of aerial seeding is fairly high, but the risk of not seeding is the loss of species and structural diversity that will reduce the overall short and long-term value of the land. The areas proposed for aerial seeding are 95% high eleveation (above 5000 ft) were access is limited and seed source is practically absent in areas where the fire burned moderately hot and severe. The rationale for seeding these high elevations is that species will establish upslope and move downward through time. The cost of the treatment will be offset by a reduction in the need for cultural clearances, risks of seeding over steep and rocky terrain and the improvement in biological integrity and production of the area.

Vale: Broadcast seeding is the most cost effective method for reestablishing sagebrush on a

landscape scale, particularly at higher elevations. Rehabilitating healthy shrub-steppe communities promotes sagebrush dependent species and other intrinsic benefits. This project complies with the Southeastern Oregon RMP, is compliant with BLM Washington IM 2012-043 Greater Sage-Grouse Interim Management Policies and Procedures issued on December 27, 2011, and is consistent with habitat recommendations from Oregon Department of Fish and Wildlife. Delaying implementation of this treatment would delay the recovery of the sagebrush habitat that is critical to the Greater sage-grouse. There would be no difference in cost if treatment was delayed.

Winnemucca: The treatments are consistent with the documents cited in Part 1: Land Use Plan Consistency. Because of the critical noxious weed/invasive species and wildlife concerns, Nevada Department of Wildlife, Nevada Mule Deer Association, the Nevada Chukar Foundation, etc., have offered to partner with the BLM in stabilizing and rehabilitating this site; this shared responsibility will be integral in keeping these treatments cost effective. Moreover, implementing the proposed aerial seeding is consistent with section 24 in the ES&R Handbook, H-1742-1- Burned Area, Rel. 1-1702, February, 2007.

The areas selected are predominantly upland areas where topography is unsuitable for drill seeding due to slope and accessibility. Seed costs will be more expensive than drill seeding because of the high rates for use of an aircraft. One airplane can cover approximately 1,000 acres per day depending on a number of factors.

The application cost of aerial seeding is fairly high, but the risk of not seeding is the loss of species and structural diversity that will reduce the overall short and long-term value of the land. The areas proposed for aerial seeding are 95% high elevation (above 5000 ft) where access is limited and seed source has been greatly reduced or eliminated due to burn severity. The rationale for seeding these high elevations is that species will establish upslope and move downward through time. The cost of the treatment will be offset by a reduction in the need for cultural clearances, risks of seeding over steep and rocky terrain and the improvement in biological integrity and production of the area.

All proposed aerial seeding on the Winnemucca district will occur in sage grouse PPH that was severely burned. Sage grouse habitat in the Bilk, Trout Creek, and Montana Mountains is widely regarded as being exceptionally productive when compared with other areas designated as sage grouse PPH. The proposed aerial seeding provides the best avenue to restore the greatest amount of quality sage grouse habitat within the shortest amount of time and allow for genuine recovery of this important population.
This treatment reflects the limited availability of sagebrush seed in FY13.
Aerial seeding of indian ricegrass without coordinated soil scarification activities has been repeatedly proven to be successful in multiple ecoregions and precipitation zones. The following are excerpted from monitoring reports of aerial ricegrass application on the Ely, NV district.
“All seeded species applied as part of the Stokes Aerial Seed Mix are common within the burned area after three growing seasons (Table 2). Especially common is Linum lewisii, at over 13 plants per square meter on average. A majority of Linum individuals are small seedlings present under the canopy of larger, mature Linum individuals. The establishment

of these seedlings is a result of direct seed rain. Seeded perennial grasses such as Agropyron cristatum, Elymus lanceolatus, Poa secunda, and Achnatherum hymenoides are also quite common within the burned area." -Stokes Fire (2004) closeout summary
"Seeded species are increasing in density on the Jacob Fire. Appar blue flax (Linum perenne), sainfoin (Sanguisorba minor), and Indian ricegrass (Achnatherum hymenoides) make up the majority of the perennial density on the fire. No seeded species were encountered in the unseeded brushbelts in 2009, 2010, or 2011." - Fossil Fire (2008) closeout summary
"The density and diversity of perennial plants increased from the first to second year and from the second to third year. A diverse mix of Indian ricegrass (Achnatherum hymenoides), bottle-brush squirreltail (Elymus elymoides), needle-and-thread grass (Hesperostipa comata), thickspike wheatgrass (Elymus lanceolatus), Siberian wheatgrass (Agropyron fragile), Sandberg's bluegrass (Poa secunda), muttongrass (Poa fendleriana) and sand dropseed (Sporobolus cryptandrus) are found at the plots among native perennial forbs. Several seeded species were seen for the first time in density in 2011 including thickspike wheatgrass, Siberian wheatgrass and sainfoin (Sanguisorba minor)." - Irish Fire (2008) closeout monitoring report
"Seeded species density within the brushbelts is more than double the seeded species density within the unseeded plots (Table 6). The density of seeded species is also higher in the AA plots than in the unseeded brushbelts. Seeded species diversity is very high. All seeded species have been seen on the fire though sainfoin (Onobrychis viciifolia) was not recorded in density in 2010. The most abundant seeded species are Indian ricegrass (Achnatherum hymenoides), bottlebrush-squirreltail (Elymus elymoides), and Sandberg bluegrass (Poa secunda). Invasive annual grasses expanded greatly in density and cover from 2009 to 2010. They are currently a concern on the fire as their extremely high density, height and cover could lead to a potential reburn of the area." -Tippets Fire (2007) closeout monitoring report (aerial seeding)

S4 Seedling Planting

A. Treatment/Activity Description

Winnemucca: Handplant 90 acres of severely burned critical Sage Grouse Habitat: Project will install container seedlings of Wyoming big sage at an approximate spacing of 20' x 20'. Container plants are provided by Nevada Dept. of Wildlife.

B. How does the treatment relate to damage or changes caused by the fire?

Winnemucca: These treatments are also vital in mitigating the potential loss of Greater sage grouse habitat in the Montana, Granite and Bilk Creek mountain ranges. Without these treatments the burned areas are extremely susceptible to exotic annual dominance; this would jeopardize the Greater sage grouse, mule deer herds and other wildlife that depend on this area year-round and especially in the winter months. NDOW has been an active participant in selecting a seed mix that will provide the necessary shrub and understory components to meet wildlife needs.

C. Why is the treatment/activity reasonable, within policy, and cost effective?

Winnemucca: The treatments are consistent with the documents cited in Part 1: Land Use

Plan Consistency. Because of the critical noxious weed/invasive species and wildlife concerns, Nevada Department of Wildlife, Nevada Mule Deer Association, the Nevada Chukar Foundation, etc., have offered to partner with the BLM in stabilizing and rehabilitating this site; this shared responsibility will be integral in keeping these treatments cost effective. Moreover, implementing the proposed seedling planting is consistent with section 24 in the ES&R Handbook, H-1742-1- Burned Area, Rel. 1-1702, February, 2007.

S7 Fence/Gate/Cattleguard

A. Treatment/Activity Description

Burns: The Holloway Fire burned through multiple allotment and pasture boundary fences (totaling approximately 127 miles) that are needed to keep livestock out of the burned area until objectives are met. Of these miles of fence to be reconstructed, approximately 70 miles fall on the boundary of, or across private property. These fences are included since they were originally constructed by the BLM and have valid Rangeland Improvement Project System (RIPS) numbers, and are needed by the BLM to properly control livestock within the respective allotments. Approximately 7 miles of 4-wire fence will be reconstructed along identified portions of the fire. In addition, 10 miles of new temporary fence, including 3 miles of 8ft wildlife exclosure fence, will be constructed to keep livestock out of the majority of the burn and the reseeded area.

All fencing would be required to limit domestic livestock grazing until objectives are met. If objectives are not met after two growing seasons, the probability of success will be reevaluated and new management actions will be considered. Gates will be installed at all road crossings. In addition, two cattle guards will be installed at the corners of the temporary fence to prevent livestock from entering the burn, but allowing vehicle traffic.

Cultural surveys will be conducted prior to new fence construction. If found such resources would be avoided where needed to comply with applicable laws, polices, or agreements.

Vale: Approximately 15 miles of fence would be constructed to protect the recovering vegetation in portions of 4 pastures. The fences would be built to BLM specifications this fall or next spring. Approximately 1.0 mile of the Upper Red Mountain temporary fence would be built within the Willow Creek WSA and approximately 1.0 mile of the Oregon Canyon fence would be built within the Oregon Canyon WSA. The fences would be removed in two years or after fire rehabilitation objectives are met.

Vale BLM anticipates this treatment to be completed by April 2013. Temporary fencing is critical to enforce the grazing closure and allow the vegetation time to recover from the fire.

Winnemucca: Repair 250 miles of existing allotment fence throughout the fire area. Construct seven miles of fence along the western border of the fire to protect the burned portions and allow access to the unburned areas and watering areas.

Temporary fences would be constructed using 3-wires, EZ panels and steel posts to BLM specifications. The burned area excluded from grazing would benefit by allowing the vegetation to recover as quickly as possible without the negative impacts of grazing. The

vegetation would soon provide cover and litter for watershed protection. It would also begin to provide forage and cover for wildlife. Sage-grouse is one of the many sagebrush obligate species that would benefit by the increased cover. As the vegetation continues to recover Lahontan cutthroat trout would benefit due to the improved watershed conditions. To reduce the potential of sage-grouse contact with temporary fences, the fences would be marked if it lies within two miles of a lek.

B. How does the treatment relate to damage or changes caused by the fire?

Burns: The reconstruction, and construction, of these fences will allow the area to be rested from grazing by domestic livestock. Cattle have the propensity to congregate on the burned area and utilize the new, green grasses and forbs. Utilization by cattle immediately following burning, especially at above average utilization levels, could slow, or even postpone vegetation recovery, as well as potentially decreasing the success of seedings and plantings. Establishment of perennial plants will help to stabilize the soil surface by increasing soil cover and decreasing the chances of wind and water erosion. Established plants will also reduce the influence of raindrops by absorbing the force of their impact. The installation of the cattleguards would occur as necessary where the road crosses the fence, allowing continued access across the burned area for administrative purposes, permittee access, private land owner access, and recreation access. A gate would be ineffective at these points due to the amount of traffic these roads receive, and the likelihood of a gate being left open or damaged if locked, allowing livestock back into the protected area.

Vale: The fire burned 13 percent of the 15-Mile allotment, 22 percent of the McCormick allotment, 52 percent of the Whitehorse Butte allotment and 56 percent of the Zimmerman allotment. A large portion of the 15- Mile allotment was also burned in the Long Draw fire one month before the Holloway fire began. Over 170,000 acres of vegetation were burned and the associated forage is no longer available in the immediate future. The loss of forage will require substantial changes to the livestock operations of the permittees. The temporary fences will help alleviate some of the lost forage and associated economic hardships and at the same time protect the burned areas.

Winnemucca: The treatment is required to protect proposed treatments from grazing during the seedling establishment period, and until soils are stabilized. The success of the treatments requires that normal grazing operations be eliminated until ES and range objectives are met. Uncontrolled large animal grazing within the boundaries of the fire could inhibit the successful establishment of seeded species and re-establishment of native species in the burned area.

C. Why is the treatment/activity reasonable, within policy, and cost effective?

Burns: The fencing treatment is in conformance with the Andrews RMP. Control of livestock, especially in drier habitats will help to move the burned plant communities toward perennial plant dominance, as well as protect the small unburned islands that provide refuge for wildlife remaining in the burned area. Because 100% of the Burns portion of the Holloway Fire falls within PPH and PGH for sage grouse, it is important to protect this resource and allow vegetation to meet objectives before allowing livestock to return to the area. The direct costs associated with the construction of new, temporary fence and the

mainenance of existing fence damaged in the fire will be relatively similar regardless of the year the work is performed; however, the indirect costs, such as those associated with removing livestock and the decrease of seeding success will only become more expensive without these preventative measures. Because seeding will take place in the fall immediately following the burn, it is imperative to protect these resources, which can be accomplished by building new, temporary fence and repairing fence damaged in the fire.

Vale: The treatment is reasonable because it allows the permittees to graze the unburned portions of pastures and therefore not add additional grazing reductions to already substantial loss forage base. It is cost effective because the fences can be built quickly and when removed the materials can be reused. The Taylor Grazing Act, as well as other acts, and therefore the grazing regulations, direct the BLM in the use or construction of range improvements so this action is well within BLM policy. Delay of implementing this treatment would cause further impacts to livestock permittees because unburned portions of pastures would not be available for grazing.

Winnemucca: Constructing new temporary fences and repairing existing fences is the most cost effective way to exclude livestock from the burn area. The treatment is consistent with ES&R policy which states that temporary fencing to exclude livestock grazing from seeded areas may be necessary (page 36, H-1742-1, Burned Area ES&R Handbook). The success of the seeding treatment is dependent on allowing the seeded species an opportunity to establish and develop healthy root systems to stabilize the critical soils within the burn area; fencing will improve seeding success and assure that the investment made in the seeding treatment is protected.

S12 Closures (area, OHV, livestock)

A. Treatment/Activity Description

Burns: Portions of the fire that are seeded or where native plants are capable of positively responding to the fire would be temporarily closed to domestic livestock grazing until vegetation objectives are met. If after two growing seasons objectives are not met, the probability of success will be reevaluated and new management actions will be considered. This closure will be accomplished through an agreement with permitees or grazing decition, by monitoring the area, as well as by the construction of a temporary protection fence.

Vale: Closing the burned portion of affected allotments and pastures to livestock grazing is essential for plant recovery and soil stabilization. Closure would facilitate the recovery of the shrub and herbaceous (forage) components of the burned plant communities, including perennial grasses, forbs and shrubs. As the vegetation recovers, absent grazing, vegetative and litter cover will increase. This increases infiltration and reduces overland flow and therefore, sediment yield. Any attempt to reduce overland flow of water will reduce soil erosion. It will also reduce sediment yield to perennial streams occupied by the Federally Listed Lahontan cutthroat trout. The Lahontan cutthroat trout will also benefit as the

vegetation continues to recover along streamsides because water temperatures will moderate i.e. cooler in the summer and warmer in the winter. Closure of the burn to livestock will result in the quickest recovery of wildlife habitat including that needed for the greater sage-grouse.

Vale BLM anticipated the grazing closure to remain in effect for two growing seasons at a minimum or until desired vegetation has recovered to levels adequate to support and

protect upland function.

Winnemucca: Implement grazing closures for the impacted allotments (see grazing allotment table in Part 1.). The closure will remain in effect for two years or until monitoring demonstrates attainment of treatment objectives (See Part 7 Monitoring Plan).

B. How does the treatment relate to damage or changes caused by the fire?

Burns: The fire caused loss of forage and cover in the fire perimeter. Reintroduction of livestock to areas that have been seeded or have native vegetation capable of recovering, prior to objectives being met may slow recovery. By removing domestic livestock grazing until objectives are met increases the chances of seeding and planting success, and of natural recovery in non-seeded areas.

Vale: The fire removed all or a very large percentage of the vegetative cover on over 170,000 acres of the Oregon Canyon Mountains. The area is now very susceptible to extreme runoff events and therefore soil erosion. The watershed will remain susceptible until such time as the vegetation recovers to near pre-fire conditions. The next two years are crucial for recovery.

Closing the burned portion of affected allotments and pastures to livestock grazing is essential for soil stabilization and to provide the opportunity for seeding treatments to become established and existing vegetation to stabilize. Closure would facilitate the recovery of the shrub and herbaceous (forage) components of the burned plant communities, including perennial grasses, forbs and shrubs. Recovery of plant cover in the burned areas would stabilize the burned landscape and reduce the potential for wind and water erosion.

Winnemucca: Pasture closure is needed to exclude livestock from the burned area with the intent of reducing any additional soil disturbance which may lead to accelerated soil erosion. This closure will remove grazing pressure from seeding treatments or the recovery of surviving native vegetation. This action will also reduce the introduction of noxious weeds into the burned area or the further spread of existing weed populations.

C. Why is the treatment/activity reasonable, within policy, and cost effective?

Burns: Site recovery direction requires limits on grazing in these post-wildland fire

situations. Control of livestock, especially in drier habitats, will help to move the burned plant communities toward perennial plant dominance. Temporary fences and cattleguards will be removed after objectives are met ensuring that soil stabilization, protection of critical habitat for a candidate species and the prevention of the spread of invasive species are accomplished in the most cost effective manner available. Closures will prevent significant out year costs and further degredation of resources.

Vale: In accordance with BLM policy and the Southeastern Oregon Resource Management Plan, the burned area would be closed to livestock grazing for at least two growing seasons at a minimum or until desired vegetation has recovered to levels adequate to support and protect upland function. The Malheur/Jordan Field Office will prepare rangeland agreements or grazing
decisions to implement the closure.

For the best chance of vegetation recovery grazing needs to be closed right after the fire. The vegetation is most vulnerable to grazing impacts right after the fire, if closure was delayed it would result in a longer closure period to achieve the same results.

Winnemucca: The cost of this treatment is reasonable when compared to risks of excessive soil erosion and improved success of natural recovery areas and seeding operations. Reduced livestock use will increase soil stability and reduce long term noxious weed control costs.

S13 Monitoring

A. Treatment/Activity Description

Burns/Vale/Winnemucca: Monitoring would be implemented in treatment areas to determine treatment need and success. Monitoring for vegetation, including seedings and planting, would be implemented beginning in fall 2012 by establishing photo and study plots, and visually inspecting the area. Existing monitoring plots will be utilized when possible with additional plots established in order to compare seeded to non-seeded areas to ensure vegetation objectives are being met. The plots would be read and photos taken in the spring of 2013, 2014, and 2015. Monitoring for treatment needs (i.e. ditch cleanout, catchment basin cleanout, etc…) will occur annually and will include photographs. This monitoring will determine if treatments are necessary or not. Monitoring specifics, including objectives are found within the monitoring plan.

Compliance monitoring will also be conducted for the livestock closure. Compliance monitoring will also be conducted to ensure that seedings have sufficiently protected and stabilized cultural resource sites.

B. How does the treatment relate to damage or changes caused by the fire?

Burns/Vale/Winnemucca: Monitoring of treatments is important to determine success and need of treatments, preventing treatments from occurring unless deemed necessary. Establishment of study sites will aid in determining whether appropriate seed species were utilized in this area. Rangeland monitoring provides a baseline for future land activities on this site, as well as additional data on appropriate ESR techniques when fires occur in the

future. Compliance monitoring for both livestock and cultural resources will ensure that appropriate measures are being taken to establish the seeding and protect cultural resources as required by law.

C. Why is the treatment/activity reasonable, within policy, and cost effective?

The Holloway Fire crossed state lines (Oregon and Nevada) and three BLM District Boundaries (Burns, Vale and Winnemucca). Monitoring methods to ensure objectives are met are going to vary slightly between states and districts. Variations are resultant from differences in Land Use Plans, as well as from different resource uses and objectives between districts. Landscape topography and accessibility as well as burn severity will determine, to a certain extent, how each district develops and executes their monitoring plans. Because this fire was 460,811 acres, there were variations in rangeland health, ecological sites and burn severity which will determine whether or not objectives are met. Precipitation regimes also vary across the fire with one location or district receiving average amounts while another may not. All of these factors, plus others we cannot yet determine will all play a part in determining whether or not objectives are met and closures can be lifted.

Burns/Vale/Winnemucca: Monitoring is an essential component for any BLM activity and helps to justify current actions and plan for additional ESR actions. Such visits help to protect the investment made by the BLM and potential partners for this type of project. The treatments would be monitored under ES & BAR for three years in accordance with BLM standards, and would continue to be monitored on a 5-10 year rotation.

Issue 4 - Critical Heritage Resources

S9 Cultural Protection (Stabilization/Patrol)

A. Treatment/Activity Description

Burns: District archaeological staff will conduct surveys prior to drill seeding and ground distrubing soil stabilization measures to ensure that non-documented cultural sites are not impacted. Existing sites will be flagged as avoidance areas. The Burns District Law Enforcement Officer will increase patrol in the Holloway Fire until perennial vegetation becomes established enough to cover cultural heritage sites and the risk of surface collection or vandalism decreases.

Vale: Assess 36 known archaeological sites and document fire effects. Conduct low impact seeding and installation of erosion control structures if necessary for stabilization purposes. Increase law enforcement patrols to deter unauthorized collection of artifacts from significant sites with increased visibility.

Vale District anticipates the assessment and stabilization of the 36 sites to occur during the FY 13 field season, patrol would occur from FY 13 through FY 15. These treatments are necessary to protect cultural resources within the Holloway fire.

B. How does the treatment relate to damage or changes caused by the fire?

Burns: Nine documented cultural heritage sites are located within the fire perimeter, including both historic and prehistoric sites. These sites have not yet been surveyed to analyze the impact, if any, of the fire on these sites. The area has been utilized historically and prehistorically by Native Americans, as well as by numerous ranchers and homesteaders over the last 150 years. Since the fire removed covering vegetation, artifacts on the surface will be visible several years post fire; therefore, there is a high risk to artifacts from surface collecting and acts of vandalism. As perennial vegetation becomes established on the site, this risk will decrease. However, if only small annual species were to become established, many artifacts may remain visible for many years due to the generally short stature of these species.

Vale: The Holloway Fire burned 131 previously known cultural resources entirely or partially, 36 of these sites are located in areas that could see increased erosion due to the fire. All were eligible for inclusion to the National Register of Historic Places (NRHP) or their NRHP eligibility status was undetermined. Sites with undetermined NRHP eligibility status are afforded the same protection as sites evaluated as eligible according to the Protocol for Managing Cultural Resources on Lands Administered by the BLM in Oregon.

C. Why is the treatment/activity reasonable, within policy, and cost effective?

Burns: The proposed treatment will help meet objectives of the Bureau of Land Management's ES&R program to reduce the risk of cultural resource looting, as discussed in H-1742-1 Burned Area Emergency Stabilization and Rehabilitation Handbook. The costs associated with surveying are necessary to prevent unintended loss to critical cultural resources due to emergency stabilization measures such as drill seeding.

Vale: Patrol would take place in the spring and summer for the first three years until ground cover is re-established. Stabilization of archaeological sites is considered reasonable and cost effective, because it is only being proposed within the burned area to stabilize previously known sites. Without stabilization measures, significant cultural resources could be damaged or lost by increased erosion or by vandalism and looting.

Issue 5 - Invasive Plants and Weeds

S5 Noxious Weeds

A. Treatment/Activity Description

Burns: During the first year, the portion of the burn that is the highest risk for noxious weeds will be inventoried. The majority of this inventory will be in the portion of the burn along the major roads within the fire perimeter. This inventory will determine the extent of noxious weeds expansion, and small areas will be spot treated with the appropriate approved herbicide or effective mechanical treatment to prevent expansion when possible. Through a contract, the BLM will utilize the Strategic Weed Accelerated Treatment (SWAT) crew for Early Detection and Rapid Response (EDRR). Large areas of noxious weeds will be

identified and treated as necessary. The Burns District Weeds Specialist will work with the SWAT crew to inventory and spray identified weeds patches. Identified areas will be mapped and entered into GIS. Large patches will be mapped for future treatments.

Vale: There are scattered populations of noxious weeds in the burn area and general vicinity of the fire, including Russian knapweed (Acroptilon repens), diffuse knapweed (Centaurea diffusa), perennial pepperweed (Lepidium latifolium), whitetop species (Lepidium ssp), Scotch thistle (Onopordum acanthium), bull thistle (Circium vulgare), Canada thistle (Circium arvense) and halogeton (Halogeton glomeratus). With the exception of roadsides, most of the weed populations occur from the valley floors to mid-slope of Trout Creek and Oregon Canyon mountains. From mid-slope to higher elevations and over the tops of mountains the burned area was relatively weed free as the intact plant communities provided little opportunity for weed invasion. Invasive species, including cheatgrass (Bromus tectorum), various annual mustards, including tumble mustard (Sisymbrium altissimum) and clasping pepperweed (Lepidium perfoliatum), Russian thistle (Salsola kali), etc., are common throughout the lower area.

Noxious weed inventory and treatment would help to control existing populations, help discover new populations, and reduce the risk of further establishment of noxious weeds. Initial treatments would begin in FY 2013; in FY 2014 and 2015, the noxious weeds inventory and treatment would be included as a rehabilitation treatment. Chemical treatment of noxious weed populations and closing the area to livestock would reduce the likelihood of their spread to new unoccupied areas and help to re-establish higher quality vegetation. Noxious weeds also threaten adjacent private range and agricultural lands. Furthermore, noxious weed infestations have little to no value to wildlife or livestock and are considered one of the greatest threats to loss of sage grouse habitat.

Winnemucca: Imazapic (Plateau) herbicide will be applied to soils at a rate of 2-4 oz/acre immediately following drill seeding operations and before seed germination begins.

B. How does the treatment relate to damage or changes caused by the fire?

Burns: Within perimeter of the Holloway Fire, there were four acres of containing five species of noxious weeds prior to the fire, in addition to areas of cheatgrass. In many areas within the fire, it burned to mineral soil leaving a receptive seed bed for the expansion of invasive species from adjacent infested areas. The inventory and treatment will help to keep small infestations manageable. Larger areas will be identified for a broadcast treatment. This method is currently being utilized on the Burns District with exceptional results. Without intervention, noxious and invasive weeds could spread and dominate the area causing increased fire occurrence and associated suppression costs and a loss of ecological diversity and integrity.

The proposed re-seeding would enable sufficient key herbaceous plant seedling and young plant recruitment. In addition, seedling establishment would reduce soil compaction and aid in proper permeability and infiltration rates. Reduced soil compaction would increase the production of the dominant and/or co-dominant native perennial grass and forb components on the range sites. The seeding would provide direct competition between invasive noxious weeds and perennial vegetation limiting infestations

An aggressive early detection-rapid response action is a priority for the BLM to ensure that other noxious weeds and invasive annual grasses do not establish on the site. A thorough noxious weed inventory with spot treatments the first year post-fire will help detect any areas where noxious weeds may begin to establish. Follow up treatments are needed each year to eradicate noxious weeds that may try to establish on the site. Proliferation of noxious weeds may impact grazing, recreation, and wildlife and resource values in an area.

Vale: Noxious weeds are the first plants to reestablish following a wildfire and take advantage of the vulnerability of the fire weakened and stressed desired species. The objective of the noxious weed treatment and survey is to continue treating previously known infestation sites and identify and treat new sites to halt the spread of noxious weeds in the burned area. The identified weeds are present in the burned area and if not treated, are expected to increase due to the removal of existing vegetation by the Holloway Fire. Past treatments in the area have been relatively successful and by continuing to inventory and treat infestation and introductory sites the frequency of noxious weeds is expected to be reduced.

Winnemucca: Scotch thistle populations are known to exist within and adjacent to the Holloway fire area. Canada thistle populations have been intermittently identified within the Bilk creek riparian corridor, and Tamarisk occurs intermittently in drainages throughout the burned area. Further inventory, particularly of Bilk Creek, is required to determine the extent of infestation. Canada thistle is an extremely aggressive noxious weed in disturbed riparian areas and populations are expected to expand rapidly without immediate inventory and treatment. Scotch thistle is greatly advantaged by fire disturbance and the Holloway fire provides an opportunity for further establishment of this species.

C. Why is the treatment/activity reasonable, within policy, and cost effective?

Burns: This method will be effective at treating new populations created by firefighting activity and the fire, but will not treat areas where the noxious weeds were known to exist. Only 4 acres of noxious weeds had been found in the burned area prior to the fire. Large areas of bare ground within the burned area are at risk of establishment of many low successional invasive species, including many noxious weeds. The most likely sources of new noxious weeds are vehicles, people, animals, wind and water. An aggressive early detection-rapid response action is a priority for the BLM to ensure that other noxious weeds and annual grasses do not establish within the burn perimeter. Treating newly discovered noxious weed infestations will help the burned area recover with desirable vegetative species. Treatment of new, small, noxious weed infestations is more likely to be successful than treating large established infestations. Treating noxious weeds on the public lands is expensive; however, it only becomes more expensive as infestations are allowed to become established and expand. Burns District will use the most applicable approved herbicides to treat weed infestations. Herbicides and adjuvant will be used in compliance with label instructions.

The proposed treatments will help meet objectives of the Bureau of Land Management's ES&R program to mitigate the adverse effects of fire on the local resources in a cost effective and expeditious manner and to minimize the possibility of wildland fire recurrence and/or invasive plant establishment and proliferation.

Vale: Noxious weed treatments are completed in conjunction with the inventory for effective cost and efficient time management. By continuing ongoing treatments and inventorying for introductory sites in the burned area the treatment is reasonable and will maintain the success of previous treatments. All BLM personnel record and report new noxious weeds as they are found. Noxious weed treatments would be consistent with the guidelines set forth in the ESR handbook (1742-1, pages 34 – 35).

Weeds are the first species to grow after a fire and increase exponentially each year. Delaying treatment greatly increases the number of acres impacted and increases the amount of herbicide needed, which increases treatment cost. Additionally delaying treatment would cause a greater loss of desirable vegetation and habitat for the Greater sage-grouse.

Winnemucca: The treatments are consistent with the documents cited in Part 1: Land Use Plan Consistency. This treatment, at this time, is the most cost effective response to the risk of further infestation by Scotch Thistle, Canada thistle and other noxious weeds. Populations of noxious weeds within the burned area are currently manageable, with a high probability of treatment success. Failing to address the issue at this time will result in more infested acres, denser populations of noxious weeds requiring higher labor costs/acre to address, and a significant increase of banked seed in soils.

Scotch thistle, which occurs within the fire-affected area, aggressively exploits soil disturbance and is known to continue to spread in Great Basin landscapes in undisturbed habitat as well. Canada thistle is an aggressive invader of springs and streams and can be extremely difficult to eradicate once well-established. Riparian areas in the Great Basin are extremely valuable and sensitive habitats, and potential detrimental effects to these habitats greatly outweigh “early detection-rapid response” treatment costs. In addition to the potential detrimental effects to habitat from unchecked invasive species infestation, attempting to control well-established noxious weed infestations can prove to be completely infeasible due to cost, labor or material shortage, or increased need for use of herbicide which is often politically contentious.

Issue 1 - Lands Unlikely to Recover Naturally

R2 Ground Seeding

A. Treatment/Activity Description

Burns: There will be 2186 acres of Antelope bitterbrush hand seeded. A significant stand of old growth bitterbrush was consumed by the fire. Based on sage grouse lek location, this area provided important cover for sage grouse, as well as providing important forage for wildlife, including mule deer, elk and antelope.

B. How does the treatment relate to damage or changes caused by the fire?

Burns: Bitterbrush is easily killed by fire. Hand seeding will allow for the greatest opportunity of bitterbrush establishment. Seeding will only occur in the area previously occupied by antelope bitterbrush. Literature suggests that bitterbrush has the greatest chance of success if left undisturbed for 3 – 4 years. To this end, three temporary wildlife enclosures will be erected to protect 160 acre “islands” within the bitterbrush seeding.

C. Why is the treatment/activity reasonable, within policy, and cost effective?

Burns: Planting by hand is expensive because of the high labor cost. Only areas where antelope bitterbrush existed prior to the fire are considered for planting. Sites will be selected that have soils conducive to hand planting and that have a favorable moisture regime. Becasue bitterbrush does not resprout after fire, hand seeding bitterbrush greatly increases the immediate presence of bitterbrush within the burned area and returning the area to suitable sage-grouse and wildlife habitat in a shorter time than would happen naturally or by seeding alone. This action falls under the lands unlikely to recover naturally in the BAR portion of the ES&R handbook. This stand of bitterbrush was an important element to the Burns portion of the Holloway Fire and providing every opportunity for this area to recover, including hand planting and installing wildlife exclosures to establish "islands", is a critical element in the rehabilitation of the Holloway Fire.

R3 Aerial Seeding

A. Treatment/Activity Description

Burns: Approximately 20,000 acres within the Holloway Fire will be aerially seeded. The area to be seeded consists of steep slopes and rough terrain common to the western face of the Trout Creek Mountains. This area will be seeded to help stabilize the soils on slopes typically used for grazing reducing the potential for overland flow to erode sites. Seeding will be done utilizing fixed wing aircraft. Seeding will occur in the late fall to early winter, which is the time research suggests will be most successful for the selected seeding species. Approximately 1500 acres of mountain big sagebrush and all acres of the native grass mixes will be seeded under emergency stabilization. Aerial treatments for rehabilitation will consist solely of mountain big sagebrush.

Big sagebrush is perhaps the most important shrub on western rangelands. Evergreen leaves and abundant seed production provide an excellent winter food source to numerous species of large mammals including mule deer, black-tailed deer, white-tailed deer, elk, pronghorn antelope, bighorn sheep and jack rabbits. Nearly 100 bird species depend on sagebrush ecosystems for their habitat needs. Additionally, there are several animal species having an obligate relationship with big sagebrush including sage grouse, sharp tailed grouse, pygmy rabbits, sage thrashers, sage sparrows and Brewer's sparrow. Sagebrush also provides habitat and food for hosts of invertebrates which in turn support birds, reptiles and small mammals. In addition to the numerous species of animals that depend on sagebrush for food and cover, there are several plant species having close relationships with sagebrush as well. Because of its wide range of adaptation and ease of establishment, big sagebrush can be a very important species for use in revegetation efforts.

Vale: Mountain big sagebrush (*Artemisia tridentata ssp. vaseyana*) was a prominent vegetative component at the higher elevations in the Oregon Canyon Mountains. This species does not resprout after fire and depends on a seed source for repopulating an area.

Approximately 24,750 acres of public land in the burned area on the Vale District would be aerial seeded with mountain big sagebrush in late fall or on snow. The seed is broadcast over the surface, which places the seed in contact with the soil and positions the seed near the soil surface to insure the greatest possibility for growth within the treatment areas. Seeding areas were selected based on 1) presence of mountain big sagebrush prior to the fire, 2) presence of PPH, and 3) areas identified by Oregon Department of Fish and Wildlife as a priority for sagebrush restoration.

Aerial seeding treatments were selected over other methods, because a large area within the fire perimeter was previously undisturbed or minimally disturbed. Additionally the higher elevation of the treatment area is not accessible as late in the fall or as early in the spring as the lower elevations which reduced the number of days available for planning seedlings.

Mountain big sagebrush is proposed to be aerially seeded at a rate of 2 lb/acre. Sagebrush seed has been readily available in the past; however this application rate or number of acres can be reduced depending on seed availability.

Vale BLM anticipates seed application on approximately 12,400 acres annually in FY 14 and FY 15. In talks with Oregon Department of Fish and Wildlife, this area is a very high priority to reestablish sagebrush for the Greater sage-grouse. Areas identified for treatment are Preliminary Primary Habitat. Seeding of mountain big sage will accelerate the recovery of the sagebrush habitat which is critical to Greater sage-grouse.

Winnemucca: Aerial seed in FY14 and FY15 with the following mixes and acreages:

Wyoming sage community mix: Wyoming big sage seed would be applied to 4660 acres annually in FY14 and FY15.

Mountain sage community mix: Mountain big sage would be applied to 12571 acres annually in FY14 and FY15.

Low sage community mix: Low sage seed would be applied to 8001 acres annually in FY14 and FY15.

WSA/Wildlife Native Mix: Wyoming sagebrush and Mountain big sagebrush seed would be applied to 1700 acres annually in FY14 and FY15.

B. How does the treatment relate to damage or changes caused by the fire?

Burns: The seeding will help to increase ground cover rapidly and help to reduce the potential for erosion and establishment of invasive species. Species and method selected have proven to be successful in the area. The goal of the treatment is to establish protective ground cover of perennial vegetation to protect the exposed soils from wind and water

erosion. Failure to complete seeding operations will leave the burn area open to erosion leading to decreased sage grouse PPH, hazardous road conditions, blocked drainages and proliferation of invasive plants, decreasing the amount of PPH for sage grouse and increasing risk to travelers through the Trout Creek Mountain area due to washed out roads.

Vale: Prior to the Holloway fire most of the proposed treatment area contained stands of sagebrush with understories of desired vegetative communities. Aerial seeding treatments are specifically targeted at stabilizing, protecting, rehabilitating, and restoring the significant loss of habitat to sage-grouse and other sagebrush obligate species. Every effort has been made to select and apply treatments to areas with the highest probability for jump-starting the restoration process for sagebrush and their related understory habitat. The slow mountain big sagebrush recovery post fire shows the need for reestablishment of the sagebrush communities as quickly as possible. The importance of the sagebrush communities including PPH/PGH is to maintain the habitat for the sagebrush obligate species. Sage grouse populations are allied closely with sagebrush habitats. The dependence of sage grouse on sagebrush for winter habitat has been well documented. (Eng and Schladweiler 1972). Leks, or breeding display sites, typically occur in open areas surrounded by sagebrush. The treatments of these areas will stabilize and minimize erosion and establish much needed critical habitat for the sage grouse and other sagebrush obligate species.

Winnemucca: These treatments are also vital in mitigating the potential loss of Greater sage grouse habitat in the Montana, Granite and Bilk Creek mountain ranges. Without these treatments the burned areas are extremely susceptible to exotic annual dominance; this would jeopardize the Greater sage grouse, mule deer herds and other wildlife that depend on this area year-round and especially in the winter months. NDOW has been an active participant in selecting a seed mix that will provide the necessary shrub and understory components to meet wildlife needs.

C. Why is the treatment/activity reasonable, within policy, and cost effective?

Burns: Seeding following a wildfire for stabilization, rehabilitation and to reduce invasive weeds is within policy and guidance. In the Burns District, approximately 20,000 acres are proposed for aerial seeding. The areas selected are predominantly upland areas where topography is unsuitable for drill seeding due to slope and accessibility. Seed costs will be more expensive than drill seeding because of the high rates for use of an aircraft. One airplane can cover approximately 1,000 acres per day depending on a number of factors.

The application cost of aerial seeding is fairly high, but the risk of not seeding is the loss of species and structural diversity that will reduce the overall short and long-term value of the land. The cost of the treatment will be offset by a reduction in the need for cultural clearances, risks of seeding over steep and rocky terrain and the improvement in biological integrity and production of the area.

Vale: Broadcast seeding is the most cost effective method for reestablishing sagebrush on a landscape scale, particularly at higher elevations. Rehabilitating healthy shrub-steppe communities promotes sagebrush dependent species and other intrinsic benefits. This

project complies with the Southeastern Oregon RMP, is compliant with BLM Washington IM 2012-043 Greater Sage-Grouse Interim Management Policies and Procedures issued on December 27, 2011, and is consistent with habitat recommendations from Oregon Department of Fish and Wildlife. Delaying implementation of this treatment would delay the recovery of the sagebrush habitat that is critical to the Greater sage-grouse. There would be no difference in cost if treatment was delayed.

Winnemucca: The treatments are consistent with the documents cited in Part 1: Land Use Plan Consistency. Because of the critical noxious weed/invasive species and wildlife concerns, Nevada Department of Wildlife, Nevada Mule Deer Association, the Nevada Chukar Foundation, etc., have offered to partner with the BLM in stabilizing and rehabilitating this site; this shared responsibility will be integral in keeping these treatments cost effective. Moreover, implementing the proposed aerial seeding is consistent with section 24 in the ES&R Handbook, H-1742-1- Burned Area, Rel. 1-1702, February, 2007.

The areas selected are predominantly upland areas where topography is unsuitable for drill seeding due to slope and accessibility. Seed costs will be more expensive than drill seeding because of the high rates for use of an aircraft. One airplane can cover approximately 1,000 acres per day depending on a number of factors.

The application cost of aerial seeding is fairly high, but the risk of not seeding is the loss of species and structural diversity that will reduce the overall short and long-term value of the land. The areas proposed for aerial seeding are 95% high elevation (above 5000 ft) where access is limited and seed source has been greatly reduced or eliminated due to burn severity. The rationale for seeding these high elevations is that species will establish upslope and move downward through time. The cost of the treatment will be offset by a reduction in the need for cultural clearances, risks of seeding over steep and rocky terrain and the improvement in biological integrity and production of the area.

All proposed aerial seeding on the Winnemucca district will occur in sage grouse PPH that was severely burned. Sage grouse habitat in the Bilk, Trout Creek, and Montana Mountains is widely regarded as being exceptionally productive when compared with other areas designated as sage grouse PPH. The proposed aerial seeding provides the best avenue to restore the greatest amount of quality sage grouse habitat within the shortest amount of time and allow for genuine recovery of this important population.

This treatment reflects the limited availability of sagebrush seed in FY13.

R4 Seedling Planting

A. Treatment/Activity Description

Burns: Wyoming big sagebrush seedlings (plugs) will be planted on 2186 acres where the sagebrush was killed by the fire. Locally collected Wyoming big sagebrush seed would be sent to a nursery for growing a portion of the seedlings, in order to have some site adapted plants available for reestablishment. Seedlings will be planted by contractors in the spring of each year. It is estimated that 20% of the planted plugs will become established and survive a year after planting.

Vale: The Holloway North fire burned through large populations of mountain mahogany and antelope bitterbrush. The mountain mahogany communities provide excellent winter cover and forage for big game as well as provide excellent hiding or escape cover and good thermal and fawning cover for mule deer. Bitterbrush is a high quality browse source for big game species and also provides cover for small mammals and birds.

Inventory of the surviving populations of bitterbrush and mountain mahogany will take place in 2013 to decide the areas for plantings in 2014. Surveys are proposed for shrub planting locations at high probability locations. It is expected that 2,100,000 bitterbrush seedlings and 122,140 curl-leaf mountain mahogany seedlings on approximately on 7000 acres for bitterbrush and 3000 acres for mountain mahogany will need to be planted to rehabilitate the habitat. Seedling plantings for bitterbrush (*Purshia tridentata*) and mountain mahogany (*Cercocarpus ledifolious*) will consist of using hand tools to dig small holes to plant the seedlings. The project will also consist of the installation of protective tubes around each seedling. The planning will occur over two years. Monitoring would include photo-points and seedling survival rate inventories one to two times annually.

Wyoming big sagebrush (*Artemisia tridentata ssp. wyomingensis*) was a prominent vegetative component at the lower elevations in the Oregon Canyon Mountains. This species does not resprout after fire and depends on a seed source for repopulating an area.

In order to restore sagebrush for sage-grouse it is proposed to plant Wyoming big sagebrush plugs and/or bare root seedlings in key areas on 26,000 acres. Approximately 435 plants would be planted every acre to re-establish Wyoming big sagebrush habitat within the burned area. Potential planting areas were selected based on 1) presence of Wyoming big sagebrush prior to the fire, 2) habitat that has the potential to grow sagebrush, 3) presence of PPH, and 4) areas identified by Oregon Department of Fish and Wildlife as a priority for sagebrush restoration. Inventory of the populations of sagebrush in 2013 will help identify specific areas where Wyoming big sagebrush communities were consumed by the fire. These locations would be planted in 2014. Hand planting of the Wyoming sagebrush gives a greater chance of success for the plants to get established within the first year after planting. The plantings will consist of using hand tools to dig small holes to plant the seedlings.

Other sagebrush seed methods are being proposed as part of this plan under emergency stabilization. 34,400 acres of PPH within the burned area is proposed to be seeded aerially with mountain big sagebrush.

Winnemucca: Plant 2000 acres of Holloway fire area with bare-root sagebrush seedlings. Seedlings will be outplanted at an approximate spacing of 20'x20' into areas that are identified as Sage Grouse PPH/PGH habitat that is recovering poorly. Other species which may be hand-planted include Blue elderberry, Antelope bitterbrush, Mountain mahogany, Thinleaf alder, or other site-adapted, locally available native species. Project will occur in FY15.

B. How does the treatment relate to damage or changes caused by the fire?

Burns: Big sagebrush (*Artemisia tridentata sp.*) is easily killed by fire. The planting of sagebrush seedlings has been found to be more effective than seeding sagebrush. Some amount of overlap will occur between seedling planting and seeding. This overlap occurs in areas where reestablishing Wyoming big sagebrush is essential. In areas where no seeding is planned, herbaceous plants are expected to recover rapidly, and drill seeding in these areas would damage the recovering plants and slow overall recovery.

Vale: The Holloway fire affected critical winter habitat for big game species. Rehabilitating healthy shrub-steppe communities promotes sagebrush dependent species and other intrinsic benefits. Post fire sprouting by mountain mahogany and bitterbrush is weak and considered to be non sprouter on all but low severity fires. If the mountain mahogany seedbank and all nearby mature trees are consumed by fire, the recolonization will depend on an off-site seedling source and will be slow.

Prior to the Holloway fire most of the proposed treatment area contained stands of big sagebrush with under stories of desired vegetative communities. The goal of the treatment is to allow desirable vegetation to recover and minimize soil disturbance to reduce the chance of habitat conversion. After a landscape scale disturbance event like the Holloway fire re-establishing sagebrush seed sources throughout the burn area will provide benefits to all sagebrush obligate species. Sagebrush steppe communities are vulnerable to fire and most of the sagebrush habitat within the burned area is not anticipated to recover naturally, establishing islands of sagebrush to provide a seed source for future establishment of sagebrush is important after a landscape scale disturbance like the Holloway fire.

Winnemucca: These treatments are also vital in mitigating the potential loss of Greater sage grouse habitat in the Montana, Granite and Bilk Creek mountain ranges. Without these treatments the burned areas are extremely susceptible to exotic annual dominance; this would jeopardize the Greater sage grouse, mule deer herds and other wildlife that depend on this area year-round and especially in the winter months. NDOW has been an active participant in selecting a seed mix that will provide the necessary shrub and understory components to meet wildlife needs.

C. Why is the treatment/activity reasonable, within policy, and cost effective?

Burns: Planting by hand is expensive because of the high labor cost. Only areas where Wyoming big sagebrush existed prior to the fire are considered for planting. Sites will be selected that have soils conducive to hand planting and that have a favorable moisture

regime. Planting sagebrush seedlings greatly increases the immediate presence of sagebrush within the burned area and returning the area to suitable sage-grouse and wildlife habitat in a shorter time than would happen naturally or by seeding alone. The cost is accordance with manual H-1742-1 because the likelihood of Wyoming big sagebrush recovering on it's own is unlikely and this is a key component of PPH and PGH for sage grouse.

Vale: Treatments have been reviewed and are in conformance with the Southeastern Oregon Resource Management Plan (2002). The objective is to reestablish the critical wildlife habitat that is needed to maintain the life history of the communities that were affected by fire.

The installation of protective casings greatly increases the cost of bitterbrush seedling planting but it is essential to allow the plants time to become established within the critical winter range. The cost of this treatment is greater than aerial or drill seeding but the success of this treatment is greater. Additionally less seed is used, which is beneficial when seed is in short supply, as it is this year. Over the long term planting shrub species provides habitat for a multitude of species including Greater sage-grouse and big game species, as well as create a root system that provides soil stability. Planting of seedlings increases the chance of success over seeding and re-planting native species will help reduce the risk of noxious weed invasion.

Rehabilitating healthy shrub-steppe communities promotes sagebrush dependent species and other intrinsic benefits. This project complies with the Southeastern Oregon RMP, is compliant with BLM Washington IM 2012-043 Greater Sage-Grouse Interim Management Policies and Procedures issued on December 27, 2011, and is consistent with habitat recommendations from Oregon Department of Fish and Wildlife. Sagebrush seedling planting is a cost effective method of reintroducing sagebrush back onto the landscape.

Delaying implementation of this treatment would delay the recovery of the sagebrush and other shrub habitat that is critical to the Greater sage-grouse and big game species. There would be no difference in cost if treatment was delayed.

Winnemucca: The treatments are consistent with the documents cited in Part 1: Land Use Plan Consistency. Because of the critical noxious weed/invasive species and wildlife concerns, Nevada Department of Wildlife, Nevada Mule Deer Association, the Nevada Chukar Foundation, etc., have offered to partner with the BLM in stabilizing and rehabilitating this site; this shared responsibility will be integral in keeping these treatments cost effective. Moreover, implementing the seedling planting is consistent with section 24 in the ES&R Handbook, H-1742-1- Burned Area, Rel. 1-1702, February, 2007.

This project addresses the need for wildlife habitat restoration with sage grouse as the principle target species. While seedling planting is historically more expensive than direct seeding, this project makes efficient use of sagebrush (and other shrub) seed which is supply-limited. Hand installment of shrubs also allows for greater probability of overall treatment success since viable microsites can be identified and targeted for planting. When probability of success and recent price-increase of sagebrush seed, and required seed volumes for direct seeding are factored in, handplanting is cost-competitive with direct

seeding, is less likely to be detrimentally affected by seed shortages, and has a high probability of success when implemented outside of the first season seeding window.

R6 Soil Stabilization (Other than seedling, planting)

A. Treatment/Activity Description

Burns: Based on past monitoring of catchment basins following a previous fire, it is estimated that by the third year, approximately 30% of the originally cleaned catchment basins will need to be cleaned a second time. The treatment will be to cleanout 37 catchment basins in the first year following the fire and after monitoring while performing regular range duties determine which, if any, of the basins need a follow up clean out. It is estimated that 12 out of the 37 original catchment basins will require additional cleanout to remove collected sediment and ash that will be transported down slope by precipitation while plant cover increases enough to protect the site. A dozer or excavator will be utilized to clean the catchment basins. This cleanout will occur in the third year following the fire and will allow these catchment basins to continue collecting sediment and ash as needed.

Vale: A healthy and diverse population of willows existed throughout riparian areas within the Holloway Fire perimeter before the burn. The fire affected many riparian plant communities including the willow populations. Willows provide great stream bank cover. Root structures provide stability for the stream banks and above ground growth helps dissipate water energy, filter sediment, and also provide shade, creating cooler water temperatures essential to Lahonton Cutthroat Trout habitat. Stretches of some riparian communities burned hotter and more complete than others. In the areas that the fire burned more complete removing the majority of the riparian vegetation, planting willow stakes collected from intact adjacent riparian areas would be beneficial by providing species for recruitment, speeding up regeneration of woody species, increasing channel stabilization, enhancing watershed function, and improving stream habitat. Lack of riparian vegetation especially deep rooted and stabilizing woody species makes streams very susceptible to erosion and blowouts degrading the system. In the Spring/Summer of FY 2013, willow regeneration monitoring on selected streams that were affected by fire would be done to target site specific areas lacking regeneration of willow species and void of recruitment species. Collection of willow stakes from adjacent riparian areas unaffected by fire would be done in the Fall of FY 2014 followed by planting of the stakes on stretches of streams lacking regeneration due to effects of the fire. Potential sites for collection are Oregon Canyon Creek and its associated tributaries unaffected by the fire. There are also islands of unaffected riparian in areas within the burn that would be good sources for collecting willow stakes. All present local species of willow would be acceptable for use in the planting with an emphasis on species such a Yellow Willow, Lemmon’s Willow, and Whiplash Willow due to the slower regeneration rate compared to Coyote Willow. Approximately 26 miles of stream are targeted as potential willow planting sites due to the severity of burn associated with the riparian vegetation. Willow stakes would be planted in specific areas

identified in the Spring of FY 2013 as having an absence of willow regeneration. Stakes would be planted in plots of 50-200 stakes/ half mile of stream. Monitoring for survival/success would be performed in the spring summer of FY 2015.

By planting willow stakes it will provide sources for recruitment and regeneration. Success of willow planting would then provide bank stability, erosion resistance, and shade and habitat essential for Lahonton Cutthroat Trout.

B. How does the treatment relate to damage or changes caused by the fire?

Burns: The BLM administered lands burned during the fire contain numerous drainages and intermittent creeks. The fire burned with the great intensity in areas upslope from many of these drainages. As vegetation recovers to a point that it captures precipitation and reduces runoff, soil and ash will continue to move into the catchment basins. In some areas, this sediment and ash movement will be enough to fill the catchment basins. In order to ensure that these basins continue to function properly, it will be necessary to clean them again.

Vale: Due to the fire much riparian vegetation was lost. Some streams and their associated riparian areas had high burn severity leaving little or no remaining vegetation for regeneration. Due to the lack of remaining species the streams have an increased potential for erosion, and degradation.

C. Why is the treatment/activity reasonable, within policy, and cost effective?

Burns: Catchment clean out represents a small investment for the protection of private structures and developed lands in the, the treatments are within the scope of handbook H-1742-1, the Andrews RMP, and Oregon State laws. Cleaning existing catchments will reduce the cost of construction and engineering needed for the development of new catchment basins. Only a small percentage of catchment clean outs will be needed in out years if soil stabilization measures are implemented and successful.

Vale: The planting of willow stakes along streams affected by the Holloway fire is reasonable, within policy and cost effective. Using local sites for collection makes sense by increasing success rate by being adapted to the local climate and growing conditions. It is also cost effective when compared to using stakes purchased from a nursery due to the increased cost and decreased success rate from non-local sources. This action is also within policy by restoring and improving watershed function, and also restoring and enhancing habitat for special status fish species.

If treatments were delayed it would delay the recovery of the riparian system.

R9 Cultural Protection (Stabilization/Patrol)

A. Treatment/Activity Description

Burns: The Burns District Law Enforcement Officer will increase patrol in the Holloway Fire until perennial vegetation becomes established enough to cover cultural heritage sites and the risk of surface collection or vandalism decreases.

Vale: Assessment of 36 known archaeological sites and documentation of fire effects. Conduct low impact seeding and installation of erosion control structures if necessary for stabilization purposes. Increase law enforcement patrols to deter unauthorized collection of artifacts from significant sites with increased visibility.

Vale District anticipates the assessment and stabilization of the 36 sites to occur during the FY 13 field season, patrol would occur from FY 13 through FY 15. These treatments are necessary to protect cultural resources within the Holloway fire.

B. How does the treatment relate to damage or changes caused by the fire?

Burns: Nine documented cultural heritage sites are located within the fire perimeter, including both historic and prehistoric sites. These sites have not yet been surveyed to analyze the impact, if any, of the fire on these sites. The area has been utilized historically and prehistorically by Native Americans, as well as by numerous ranchers and homesteaders over the last 150 years. Since the fire removed covering vegetation, artifacts on the surface will be visible several years post fire; therefore, there is a high risk to artifacts from surface collecting and acts of vandalism. As perennial vegetation becomes established on the site, this risk will decrease. However, if only small annual species were to become established, many artifacts may remain visible for many years due to the generally short stature of these species.

Vale: The Holloway Fire burned 131 previously known cultural resources entirely or partially, 36 of these site are in locations that could see increased erosion due to the fire. All were eligible for inclusion to the National Register of Historic Places (NRHP) or their NRHP eligibility status was undetermined. Sites with undetermined NRHP eligibility status are afforded the same protection as sites evaluated as eligible according to the Protocol for Managing Cultural Resources on Lands Administered by the BLM in Oregon.

C. Why is the treatment/activity reasonable, within policy, and cost effective?

Burns: Increased patrols will help meet objectives of the Bureau of Land Management's ES&R program to reduce the risk of cultural resource looting, as discussed in H-1742-1 Burned Area Emergency Stabilization and Rehabilitation Handbook. This treatment will be of minimal cost because patrols will be performed within the scope of regular duties and will not require additional resources.

Vale: Patrol would take place in the spring and summer for the first three years until ground cover is re-established. Stabilization of archaeological sites is considered reasonable and cost

effective, because it is only being proposed within the burned area to stabilize previously known sites. Without stabilization measures, significant cultural resources could be damaged or lost by increased erosion or by vandalism and looting.

R13 Monitoring

A. Treatment/Activity Description

Burns/Vale: Monitoring would be implemented in treatment areas to determine treatment need and success. Monitoring for vegetation, including seedings and planting, would be implemented beginning in fall 2012 by establishing photo and study plots, and visually inspecting the area. Existing monitoring plots will be utilized when possible with additional plots established in order to compare seeded to non-seeded areas to ensure vegetation objectives are being met. The plots would be read and photos taken in the spring of 2013, 2014, and 2015. Monitoring for treatment needs (i.e. ditch cleanout, catchment basin cleanout, etc…) will occur annually and will include photographs. This monitoring will determine if treatments are necessary or not. Monitoring specifics, including objectives are found within the monitoring plan.

Compliance monitoring will also be conducted for the livestock closure. Compliance monitoring will also be conducted to ensure that seedings have sufficiently protected and stabilized cultural resource sites.

B. How does the treatment relate to damage or changes caused by the fire?

Burns/Vale: Monitoring of treatments is important to determine success and need of treatments, preventing treatments from occurring unless deemed necessary. Establishment of study sites will aid in determining whether appropriate seed species were utilized in this area. Rangeland monitoring provides a baseline for future land activities on this site, as well as additional data on appropriate ESR techniques when fires occur in the future. Compliance monitoring for both livestock and cultural resources will ensure that appropriate measures are being taken to establish the seeding and protect cultural resources as required by law.

C. Why is the treatment/activity reasonable, within policy, and cost effective?

The Holloway Fire crossed state lines (Oregon and Nevada) and three BLM District Boundaries (Burns, Vale and Winnemucca). Monitoring methods to ensure objectives are met are going to vary slightly between states and districts. Variations are resultant from differences in Land Use Plans, as well as from different resource uses and objectives between districts. Landscape topography and accessibility as well as burn severity will determine, to a certain extent, how each district develops and executes their monitoring plans. Because this fire was 460,811 acres, there were variations in rangeland health, ecological sites and burn severity which will determine whether or not objectives are met. Precipitation regimes also vary across the fire with one location or district receiving average amounts while another may not. All of these factors, plus others we cannot yet determine will all play a part in determining whether or not objectives are met and closures can be lifted throughout the burn perimeter and between districts. Grazing decisions and/or cooperative management agreements issued by each district will regulate closures of allotments to grazing and other activities within the burn perimeter and will be district and

allotment specific.

Burns/Vale: Monitoring is an essential component for any BLM activity and helps to justify current actions and plan for additional ESR actions. Such visits help to protect the investment made by the BLM and potential partners for this type of project. The treatments would be monitored under ES & BAR for three years in accordance with BLM standards, and would continue to be monitored on a 5-10 year rotation.

Issue 2 - Weed Treatments

R5 Noxious Weeds

A. Treatment/Activity Description

Burns: During the second and third year following the fire, the entire burn area will be inventoried, with focus along roads, facilities, seeding, and planting locations. A contract will utilize the SWAT crew for EDRR. This inventory will focus on identifying areas of noxious weeds as well as areas where it appears that annual grasses are becoming dominant. Small infestations will be spot treated. Since cheatgrass was previously present in the fire area, in varying amounts, it is expected that it will take advantage of the favorable conditions to increase throughout the burn. If monitoring shows that large areas are becoming dominated by these annual grasses, they will be treated by broadcasting on the most appropriate, approved, herbicide.

It is estimated that these treatments will be needed on approximately 10,000 acres within the fire perimeter. These treatments, if monitoring shows that they are necessary, will occur by helicopter on approximately 5000 acres, and by fixed wing aircraft on approximately 5000 acres. The helicopter treatments are necessary for areas that have rough topography and other hazards that prevent the use of fixed wing application. Specifically, the helicopter treatments will occur along rims and in drainages, as needed. The fixed wing aircraft will provide the broadcast application on areas that have less topographic variation. Aerial application of herbicides will be done by contract. The Burns District has had success using aerial applications in the past. See Map 10 for predicted weed treatment areas.

There is no R14 (monitoring) treatment since the SWAT crew uses Early Detection/Rapid Response (EDRR) (monitoring and treatment) and the associated costs are not able to be separated. There for monitoring is included in the EDRR costs.

Vale: Scotch thistle, bull thistle, Canada thistle, Russian knapweed, diffuse knapweed, perennial pepperweed, whitetop species, and halogeton are located within the burn area. Noxious weed inventory and treatment would help to control existing populations, help discover new populations, and reduce the risk of further establishment of noxious weeds. Noxious weed inventory and treatment would help to control existing populations and reduce the risk of further establishment of noxious weeds. Initial treatments would begin in FY 2013; in FY 2014 and 2015, the noxious weeds inventory and treatment would be included as a rehabilitation treatment. Chemical treatment of noxious weed populations and closing the area to livestock would reduce the likelihood of their spread to new unoccupied

areas and help to re-establish higher quality vegetation.

Winnemucca: While first year inventory and treatment should treat existing infestations within the burned area, continued inventory and treatments in year two and three are necessary in order to confirm that first year treatments have been successful, and to treat any new infestations.

Apply Plateau (Imazapic) herbicide to drill seeded areas in FY15 to continue to suppress Cheatgrass and advantage survival and vigor of seeded perennials.

B. How does the treatment relate to damage or changes caused by the fire?

Burns: Within the perimeter of the Holloway Fire, 4 acres of 5 different noxious weed species previously existed, in addition to numerous areas of cheatgrass and possibly unknown areas of medusahead. Burning of the existing vegetation opened up the site for weed invasion by burning to mineral soil, leaving a receptive seed bed for the expansion of invasive species, especially by species that were already present in or near the site, since seed sources are present and seeds are easily dispersed. It is expected that the areas surrounding these existing invasions will greatly increase in size unless treated prior to them becoming dominant on the site. Once they become dominant on the site, even large broadcast treatments alone would not likely be enough to return the site to a condition with functioning and desirable ecological functions. This method is currently being utilized on the Burns District with exceptional results.

The proposed re-seeding would enable sufficient key herbaceous plant seedling and young plant recruitment. In addition, seedling establishment would reduce soil compaction and aid in proper permeability and infiltration rates. Reduced soil compaction would increase the production of the dominant and/or co-dominant native perennial grass and forb components on the range sites. The seeding would provide direct competition between invasive noxious weeds and perennial vegetation limiting infestations. Without intervention, noxious and invasive weeds could spread and dominate the area causing increased fire occurrence and associated suppression costs and a loss of ecological diversity and integrity.

An aggressive early detection-rapid response action is a priority for the BLM to ensure that other noxious weeds and annuals do not establish on the site. A thorough noxious weed inventory the first year post-fire will help detect any areas where noxious weeds may begin to establish. Follow up treatments area needed each year to eradicate all noxious weeds that may try to establish on the site. Proliferation of noxious weeds may impact wildlife, grazing, recreation, and resource values in an area.

Vale: Noxious weeds are the first plants to reestablish following a wildfire and take advantage of the vulnerability of the fire weakened and stressed desired species. The objective of the noxious weed treatment and survey is to continue treating previously known infestation sites and identify and treat new sites to halt the spread of noxious weeds in the burned area. The identified weeds are present in the burned area and if not treated, are expected to increase due to the removal of existing vegetation by the Holloway Fire. Past treatments in the area have been relatively successful and by continuing to inventory and

treat infestation and introductory sites the frequency of noxious weeds is expected to be reduced.

Winnemucca: Scotch thistle populations are known to exist within and adjacent to the Holloway fire area. Canada thistle populations have been intermittently identified within the Bilk creek riparian corridor, and Tamarisk occurs intermittently in drainages throughout the burned area. Further inventory, particularly of Bilk Creek, is required to determine the extent of infestation. Canada thistle is an extremely aggressive noxious weed in disturbed riparian areas and populations are expected to expand rapidly without immediate inventory and treatment. Scotch thistle is greatly advantaged by fire disturbance and the Holloway fire provides an opportunity for further establishment of this species.

C. Why is the treatment/activity reasonable, within policy, and cost effective?

Burns: This strategy will locate areas of new infestations, spot treating small infestations and aerially broadcast treating new areas of large infestations that were previously discovered by monitoring. An aggressive early detection-rapid response action is a priority for the BLM to ensure that other noxious weeds and annuals do not establish on the site. In addition, no large, aerial broadcast treatments will occur the first year. This will allow the BLM to determine where exactly these treatments will need to occur, if at all. Treating new weed infestations will help the burned area recover with desirable vegetative species. Aerial broadcast treatments will allow treatment of annual grasses before they become dominant within the site, and while native species are still present. In addition, by not doing large scale broadcast treatments until the second and third years after the fire, seeded species and recovering native species have an opportunity to establish and are less likely to be damaged by herbicide treatment. Treating noxious weeds on the public lands is expensive. It only becomes more expensive as infestations are allowed to establish and expand. The proposed treatments will help meet objectives of the Bureau of Land Management's ES&R program to mitigate the adverse effects of fire on the local resources in a cost effective and expeditious manner and to minimize the possibility of wildland fire recurrence and/or invasive plant establishment and proliferation. Burns District will use the most applicable approved herbicides to treat weed infestations. Herbicides and adjuvant will be used in compliance with label instructions.

Vale: Noxious weed treatments are completed in conjunction with the inventory for effective cost and time management. By continuing ongoing treatments and inventorying for introductory sites in the burned area the treatment is reasonable and will maintain the success of previous treatments. All BLM personnel record and report new noxious weeds as they are found. Noxious weed treatments would be consistent with the guidelines set forth in the ESR handbook (1742-1, pages 34 – 35).

Weeds are the first species to grow after a fire and increase exponentially each year. Delaying treatment greatly increases the number of acres impacted and increases the amount of herbicide needed, which increases treatment cost. Additionally delaying treatment would cause a greater loss of desirable vegetation and habitat for the Greater sage-grouse.

Winnemucca: Noxious weed treatments are within the scope of the documents listed in Part 1: Land Use Planning Consistency. Weed infestations pose serious threats to the functionality of critical wildlife habitat, and must be identified and treated to prevent probable spread during the second and third year following the fire. Scotch thistle, which occurs within the fire-affected area, aggressively exploits soil disturbance and is known to continue to spread in Great Basin landscapes. Canada thistle is an aggressive invader of springs and streams and can be extremely difficult to eradicate once well-established. Riparian areas in the Great Basin are extremely valuable and sensitive habitats, and potential detrimental effects to these habitats greatly outweigh "early detection-rapid response" treatment costs. In addition to the potential detrimental effects to habitat from unchecked invasive species infestation, attempting to control well-established noxious weed infestations can prove to be completely infeasible due to cost, labor or material shortage, or greatly increased need for use of herbicide which is often politically contentious.

Issue 4 - Repair/Replace Fire Damage to Minor Facilities

R7 Fence/Gate/Cattleguard

A. Treatment/Activity Description

Burns: In order to protect the seeded and planted areas from domestic livestock grazing, approximately 7 miles of temporary fence will be constructed during the first year following the fire, and it will need to be removed after vegetation objectives are met or the probability of success is reevaluated and new management actions considered. Additionally, 3 miles of temporary wildlife fencing will be erected within the bitterbrush seeding area to protect the seeding and establish an island affect. All temporary fence will be constructed to protect treated areas, as well as allowing the rest of the burned area to recover naturally. Removal of this fence will allow management of domestic livestock to occur once grazing is reintroduced to the area. The removal of the temporary exclosure fence will allow normal access to both wildlife and livestock when bitterbrush has reached a stage where browsing will no longer impact the success of the seeding. Any associated temporary cattleguards will also be removed. In addition to the removal of the protection fences, the Holloway Fire burned through multiple allotment and pasture boundary fences that are needed to properly manage domestic livestock grazing. Approximately 107 miles of fence within the interior of the fire perimeter will be reconstructed or replaced to allow for proper management of the burned areas following the reintroduction of grazing by domestic livestock. Fence reconstruction will include the construction of replacement H-braces and rock cribs as needed.

Vale: The Holloway North fire damaged numerous range improvements. Most of these improvements were fences constructed at least partially of wood. Gate, end, stretch and corners panels were by-and-large wooden and therefore burned. The activity would repair approximately 165 miles of management fences, of which 15 miles are in Nevada (but for which the Vale District administers the allotments), and includes 72 miles of streamside

riparian protection exclosure fences, of which 50 miles are for the federally threatened Lahontan cutthroat trout, and 24 upland spring protection fences.

In addition to the range improvements burned by the fire, numerous reservoirs and cattleguards will likely act as sediment traps when snow melts and the annual spring runoff occurs the next two winters. There is little vegetation present to trap this sediment as water flows down drainages and roadways. Fifteen cattleguards and 48 reservoirs will need to be cleaned in the fall of 2014 in order to keep them functional.

Vale District anticipates minor facilities to be repaired over the next three years. Management fence repairs need to be completed at the time the grazing closure is lifted. These fences are necessary to manage grazing as stated in existing permits and allotment management plans. Enclosures need to be repaired to protect the federally listed Lahontan Cutthroat Trout.

B. How does the treatment relate to damage or changes caused by the fire?

Burns: Cattle have the propensity to congregate on the burned area and utilize the new, green grasses and forbs, making the protection fence necessary while native and seeded vegetation becomes established. Removal of the protection fence and cattleguards will allow the site to be managed as it was pre-fire, and in accordance with Standards and Guidelines. The reconstruction of fences will allow the area to ensure proper livestock management once the seeded area has been protected until vegetation objectives are met. If after two growing seasons objectives are not met, the probability of success will be reevaluated and new management actions will be considered. Temporary exclosures will protect the bitterbrush seeding allowing for a greater chance of establishment and a higher return on investment of the seed purchase.

Vale: The fire damaged fences because end, corner, stretch and gate panels were constructed of wood which burned. It is anticipated that the spring runoff, due to the loss of vegetation, will result in an increase in sediment being deposited in reservoirs and cattleguards. This will render these projects useless. The sediment will need to be removed to return the usefulness of the projects to their original intent.

C. Why is the treatment/activity reasonable, within policy, and cost effective?

Burns: The fencing removal and reconstruction is in conformance with Andrews RMP and H-1742-1. The cost of the treatment will be offset by the availability of the fence materials and cattleguards for future ES&R projects. Providing continued protection for fragile soils and new vegetation treaments will prevent the loss of the upfront investment.

Vale: This treatment is reasonable and cost effective because the reconstruction and repair of rangeland project reconstruction/repair is needed because of damages sustained as a direct result of the fire. The exclosures on Willow and Whitehorse creek have been in place for decades and have served an important function by protecting riparian habitat for listed Lahontan cutthroat trout. For administrative purposes the definition for reconstruction of a project is defined as “rebuilding an improvement after it has been damaged or has

deteriorated to the point that repair constitutes more than half of the cost of new construction." Fences for livestock grazing administration are property of BLM and designed to conform to BLM manual
handbook 1741-1 and are built to meet wildlife specifications. Maintenance responsibilities of projects generally fall to the permit holders, however events out of their control that would require them to fix fences damaged by the Holloway North fire could result in an unforeseeable economic hardship. Monitoring is detailed in part 8 of this document. Costs are detailed in part 4 of this document.

Delay of repairing management fences would delay continuation of grazing and cause further impacts to livestock permittees. If clean out of reservoirs and cattleguards was delayed it would limit their use and cause the cattle to concentrate around natural water sources which is Lahontan Cutthroat Trout habitat.

R11 Facilities

A. Treatment/Activity Description

Burns: Because of the high intensity of the fire, it is believed that approximately 27 spring developments and 17 troughs within the burned area were damaged to varying degrees during the wildfire. These facilities direct water away from the naturally perennial areas adjacent to the spring directing water away to be distributed for use by domestic livestock and wildlife in areas of limited water. These areas are particularly important during late summer months and in drought years. Repairing/replacing these developments will ensure water availability to wildlife throughout the area.

Vale: Carsonite signs are an important management tool in managing Wilderness Study Areas so that suitability for preservation does not become impaired. BLM is proposing to replace 340 carsonite signs destroyed by the Holloway North fire. These signs inform visitors to these areas that they have reached a Wilderness Study area boundary. Depending on the location of the sign, it will also inform visitors that a specific road is a designated road for motor vehicles or that the area is closed to Motor Vehicles.

Vale District would like to complete implementation of this treatment by November 30, 2012. This will ensure signs are in place at the start of the 2013 recreation season. These signs are a critical management tool to inform visitors of appropriate route choices. Cross County vehicle travel in WSAs can create unauthorized trails that could cause erosion problems, introduce noxious weeds, or even degrade the wilderness character for which they were designated.

B. How does the treatment relate to damage or changes caused by the fire?

Burns: The goal of repairing the spring developments is to re-establish useable habitat for wildlife, especially sensitive species like the sage grouse. Food, cover and water sites were

removed by the wildfire and this treatment would repair/replace the damaged springs and troughs and restore functionality to these crucial water sources.

Vale: The Holloway Fire burned 340 carsonite signs within Wilderness Study Areas and need to be replaced.

C. Why is the treatment/activity reasonable, within policy, and cost effective?

Burns: Repairing or replacing minor facilities is within policy as set forth in the BLM ES&R Handbook (H-1742-1). Because water is scarce within this part of the district, it's important to repair and replace, as necessary, these developments and troughs in order to provide wildlife and livestock with water resources after objectives are met. Repairs to spring deveolpments will prevent over utilization of riparian areas by wildlife and livestock and prevent additional rehabilitation costs from occuring.

Vale: The signs are ordered from a government based sign shop that provides the most cost effective way of keeping costs low. Sign design, dimensioning, mounting, and roadway locations all meet the BLM sign standards and guidelines and follow directly in line with the Vale District Sign Plan. Signs are intended to inform the public and ensure their safety while protecting the recovering resources as it is our mission to sustain the health, diversity and productivity of the public lands for the use and enjoyment of present and future generations. This treatment is cost effective, because the sign design can be easily implemented. They will provide important information to members of the public at a reasonable cost.

It is considerably less expensive to prevent damage to a WSA than to repair damage. These sign are intended to keep visitors on authorized routes; delaying instillation of the signs would increase the chance of damage to the WSA from cross-country vehicle travel.

PART 4 DETAILED TREATMENT COST TABLE

PART 5 - SEED LISTS

DRILL SEED

Species	Scientific Name	% PLS	PLS Seeds / sq. ft.	PLS Seeds / ac.	Seeds / lb (bulk)	Total Seeds / Acre (Bulk)	Drill Seedings (Acre)	Lbs / Acre	Total Lbs.	Cost / Lb	Total Cost
Crested Wheatgrass, Hycrest	Agropyron cristatum	85.0%	18.6	810,216	180,000	953,195	1,424.0	4.5	6,408.0	$ 4.00	$30,131.84
Bluebunch Wheatgrass, Anatone	Pseudoroegneria spicata spp. spicata	76.5%	5.28	229,997	125,680	300,649	1,424.0	1.8	2,605.9	$ 22.00	$74,866.00
Great Basin Wildrye, Trailhead	Leymus cinereus	76.5%	0.79	34,412	144,000	44,984	1,424.0	0.2	341.8	$ 20.00	$9,240.00
Indian Ricegrass, Nezpar	Achnatherum hymenoides (Roemer & J.A. Schultes) Ba	76.0%	1.94	84,506	235,000	111,193	1,424.0	0.4	512.6	$ 12.00	$8,031.36
Bottlebrush Squirreltail	Elymus elymoides ssp. elymoides	67.5%	1.54	67,082	192,000	99,381	1,424.0	0.4	498.4	$ 35.00	$25,916.80
Western Yarrow	Achillea millefolium var. occidentalis	81.0%	1.17	50,965	3,411,818	62,920	1,424.0	0.0	21.4	$ 30.00	$ 854.40
Lewis Flax	Linum lewisii	76.0%	0.14	6,098	295,000	8,024	1,424.0	0.0	28.5	$ 22.00	$ 939.84
Bluebunch Wheatgrass, Anatone	Pseudoroegneria spicata spp. spicata	76.5%	1.53	66,647	125,680	87,120	3,215.0	0.5	1,704.0	$ 22.00	$48,532.00
Sandberg Bluegrass	Poa secunda	72.0%	10	435,600	1,046,960	605,000	528.0	0.4	221.8	$ 6.00	$1,837.44
Indian Ricegrass, Nezpar	Achnatherum hymenoides (Roemer & J.A. Schultes) Ba	76.0%	5.23	227,819	235,000	299,762	3,215.0	1.0	3,118.5	$ 12.00	$49,500.00
Crested Wheatgrass, Hycrest	Agropyron cristatum	85.0%	5	217,800	180,000	256,235	528.0	1.2	638.9	$ 20.00	$14,995.20
Bottlebrush Squirreltail	Elymus elymoides ssp. elymoides	67.5%	8.82	384,199	192,000	569,184	3,215.0	2.0	6,430.0	$ 35.00	$333,074.00
Needle and Threadgrass	Hesperostipa comata	72.0%	3.49	152,024	121,500	211,145	3,215.0	1.3	4,018.8	$ 55.00	$307,675.50
Sandberg Bluegrass	Poa secunda	72.0%	9.61	418,612	1,046,960	581,405	3,215.0	0.4	1,286.0	$ 11.00	$19,804.40
Fourwing Saltbush	Atriplex canescens	31.5%	0.05	2,178	38,000	6,914	3,215.0	0.1	192.9	$ 15.00	$9,180.00
Lewis Flax	Linum lewisii	76.0%	0.14	6,098	295,000	8,024	3,215.0	0.0	64.3	$ 22.00	$1,870.00
Western Yarrow	Achillea millefolium var. occidentalis	81.0%	10	435,600	3,411,818	537,778	528.0	0.1	68.6	$ 15.20	$1,284.10
Bottlebrush Squirreltail	Elymus elymoides ssp. elymoides	67.5%	10	435,600	192,000	645,333	528.0	2.3	1,198.6	$ 15.00	$26,611.20
Lewis Flax	Linum lewisii	76.0%	10	435,600	295,000	573,158	528.0	1.5	781.4	$ 20.00	$20,592.00
Antelope Bitterbrush	Purshia tridentata	76.5%	0.87	37,897	19,000	49,539	2,186.0	2.0	4,372.0	$ 30.00	$171,450.00
TOTALS:			104.2	4,538,952	11,782,416	6,010,944		20.1		$ 423.20	$1,156,386.08

AERIAL SEED

Species	Scientific Name	% PLS	PLS Seeds / sq. ft.	PLS Seeds / ac.	Seeds / lb (bulk)	Total Seeds / Acre (Bulk)	Aerial Seedings (Acre)	Lbs / Acre	Total Lbs.	Cost / Lb	Total Cost
Mountain Big Sagebrush, Mountain	Artemisia tridentata vaseyana	16.0%	14.49	631,184	1,973,117	3,944,903	14,875.0	0.3	4,760.0	$ 30.00	$892,500.00
Western Yarrow	Achillea millefolium var. occidentalis	81.0%	8	348,480	3,411,818	430,222	3,400.0	0.1	340.0	$ 15.20	$6,201.60
Wyoming Big Sagebrush, Wyoming	Artemisia tridentata wyomingensis	16.0%	3	130,680	2,500,000	816,750	3,400.0	0.1	170.0	$ 20.00	$21,080.00
Mountain Big Sagebrush, Mountain	Artemisia tridentata vaseyana	16.0%	3	130,680	1,973,117	816,750	3,400.0	0.1	238.0	$ 20.00	$29,920.00
Sandberg bluegrass, Malhuer	Poa secunda spp. secunda	72.0%	8	348,480	1,046,960	484,000	3,400.0	0.3	1,122.0	$ 5.00	$7,820.00
Thurbers Needlegrass	Achnatherum thurberianum	45.0%	1	43,560	149,000	96,800	3,400.0	0.3	986.0	$ 84.75	$184,416.00
Low Sagebrush	Artemisia arbuscula	16.0%	6	261,360	972,000	1,633,500	16,002.0	0.3	4,320.5	$ 25.00	$676,084.50
Indian Ricegrass, Nezpar	Achnatherum hymenoides (Roemer & J.A. Schultes) Ba	76.0%	4	174,240	235,000	229,263	16,002.0	0.7	11,841.5	$ 13.00	$201,785.22
Sandberg bluegrass, Malhuer	Poa secunda spp. secunda	72.0%	12	522,720	1,046,960	726,000	16,002.0	0.5	8,001.0	$ 3.00	$33,124.14
Western Yarrow, Columbia	Achillea millefolium var. occidentalis	81.0%	8	348,480	3,411,818	430,222	16,002.0	0.0	160.0	$ 15.20	$2,432.30
Thurbers Needlegrass	Achnatherum thurberianum	45.0%	0.05	2,178	149,000	4,840	16,002.0	0.0	160.0	$ 84.75	$27,123.39
Antelope Bitterbrush	Purshia tridentata	76.5%	0.1	4,356	19,000	5,694	16,002.0	0.2	3,680.5	$ 15.00	$72,009.00
Wyoming Big Sagebrush, Wyoming	Artemisia tridentata wyomingensis	16.0%	8	348,480	2,500,000	2,178,000	9,320.0	0.1	1,304.8	$ 20.00	$164,032.00
Indian Ricegrass, Nezpar	Achnatherum hymenoides (Roemer & J.A. Schultes) Ba	76.0%	8	348,480	235,000	458,526	9,320.0	1.5	13,793.6	$ 13.00	$236,262.00
Great Basin Wildrye, Trailhead	Leymus cinereus	76.5%	6	261,360	144,000	341,647	9,320.0	1.8	16,962.4	$ 14.00	$310,542.40

Western Yarrow, Columbia	Achillea millefolium var. occidentalis	81.0%	8	348,480	3,411,818	430,222	9,320.0	0.0	93.2	$ 15.20	$1,416.64
Sandberg bluegrass, Malhuer	Poa secunda spp. secunda	72.0%	10	435,600	1,046,960	605,000	9,320.0	0.4	3,914.4	$ 3.00	$16,216.80
Fourwing Saltbush	Atriplex canescens	31.5%	1	43,560	38,000	138,286	9,320.0	1.2	10,718.0	$ 6.64	$225,879.52
Shadscale	Atriplex confertifolia	31.5%	1	43,560	60,585	138,286	9,320.0	0.7	6,710.4	$ 6.50	$138,728.20
Forage Kochia	Bassia prostrata	51.0%	1	43,560	395,000	85,412	9,320.0	0.1	1,025.2	$ 20.00	$41,008.00
Crested Wheatgrass, Hycrest II	Agropyron cristatum x A. desertorum	80.8%	4	174,240	180,000	215,777	9,320.0	1.0	9,040.4	$ 3.00	$33,552.00
Idaho Fescue, Nezpar	Festuca idahoensis	81.0%	5	217,800	450,000	268,889	2,514.0	0.5	1,206.7	$ 8.50	$12,607.71
Bluebunch Wheatgrass, Goldar	Pseudoroegneria spicata ssp. spicata	76.5%	0.5	21,780	125,680	28,471	2,514.0	0.2	427.4	$ 16.00	$8,849.28
Western Yarrow, Columbia	Achillea millefolium var. occidentalis	81.0%	12	522,720	3,411,818	645,333	2,514.0	0.0	50.3	$ 15.20	$ 764.26
Lewis Flax, Columbia	Linum Lewisii	76.0%	3	130,680	295,000	171,947	2,514.0	0.4	1,106.2	$ 6.24	$9,098.67
Mountain Big Sagebrush, Mountain	Artemisia tridentata vaseyana	16.0%	8	348,480	1,973,117	2,178,000	2,514.0	0.2	452.5	$ 20.00	$56,816.40
Antelope Bitterbrush	Purshia tridentata	76.5%	0.1	4,356	19,000	5,694	2,514.0	0.2	578.2	$ 15.00	$11,313.00
Mountain Big Sagebrush, Mountain	Artemisia tridentata vaseyana	16.0%	8	348,480	1,973,117	2,178,000	37,713.0	0.2	6,788.3	$ 20.00	$852,313.80
Low Sagebrush	Artemisia arbuscula	16.0%	6	261,360	972,000	1,633,500	24,004.0	0.3	6,481.1	$ 25.00	$1,014,169.00
Wyoming Big Sagebrush, Wyoming	Artemisia tridentata wyomingensis	16.0%	8	348,480	2,500,000	2,178,000	13,981.0	0.1	1,957.3	$ 20.00	$246,065.60
Mountain Big Sagebrush, Mountain	Artemisia tridentata vaseyana	16.0%	3	130,680	1,973,117	816,750	6,802.0	0.1	476.1	$ 20.00	$59,857.60
Wyoming Big Sagebrush, Wyoming	Artemisia tridentata wyomingensis	16.0%	3	130,680	2,500,000	816,750	6,802.0	0.1	340.1	$ 20.00	$42,172.40
Mountain Big Sagebrush, Mountain	Artemisia tridentata vaseyana	16.0%	15.85	690,426	1,973,117	4,315,163	19,912.0	0.4	6,969.2	$ 30.00	$1,308,218.40
Mountain Big Sagebrush, Mountain	Artemisia tridentata vaseyana	16.0%	15.85	690,426	1,973,117	4,315,163	726.0	0.4	254.1	$ 30.00	$47,698.20
Mountain Big Sagebrush, Mountain	Artemisia tridentata vaseyana	16.0%	14.49	631,184	1,973,117	3,944,903	5,000.0	0.3	1,600.0	$ 30.00	$300,000.00
Idaho Fescue	Festuca idahoensis	76.5%	20.66	899,950	450,000	1,176,405	3,431.0	2.0	6,862.0	$ 15.00	$134,323.65
Needle and Threadgrass	Hesperostipa comata	72.0%	1.67	72,745	121,500	101,035	3,431.0	0.6	2,058.6	$ 55.00	$157,245.00
Mountain Brome	Bromus marginatus	76.5%	2.3	100,188	80,000	130,965	3,431.0	1.3	4,288.8	$ 35.00	$195,738.55
Sandberg Bluegrass	Poa secunda	72.0%	48.07	2,093,929	1,046,960	2,908,235	3,431.0	2.0	6,862.0	$ 11.00	$104,919.98
Idaho Fescue	Festuca idahoensis	76.5%	20.66	899,950	450,000	1,176,405	4,172.0	2.0	8,344.0	$ 15.00	$163,333.80
Bottlebrush Squirreltail	Elymus elymoides ssp. elymoides	67.5%	5.99	260,924	192,000	386,555	4,172.0	1.4	5,673.9	$ 35.00	$295,260.00
Sandberg Bluegrass	Poa secunda	72.0%	2.4	104,544	1,046,960	145,200	4,172.0	0.1	417.2	$ 11.00	$6,369.00
Western Yarrow	Achillea millefolium var. occidentalis	81.0%	8	348,480	3,411,818	430,222	6,802.0	0.1	680.2	$ 15.20	$12,406.85
Sandberg Bluegrass	Poa secunda	72.0%	8	348,480	1,046,960	484,000	6,802.0	0.3	2,244.7	$ 5.00	$15,644.60
Thurbers Needlegrass	Achnatherum thurberianum	45.0%	1	43,560	149,000	96,800	6,802.0	0.3	1,972.6	$ 84.75	$368,940.48
Low Sagebrush	Artemisia arbuscula	16.0%	6	261,360	972,000	1,633,500	24,004.0	0.3	6,481.1	$ 25.00	$1,014,169.00
Indian Ricegrass	Achnatherum hymenoides	76.0%	4	174,240	128,500	229,263	24,004.0	1.4	32,645.4	$ 13.00	$558,573.08
Sandberg Bluegrass	Poa secunda	72.0%	12	522,720	1,046,960	726,000	24,004.0	0.5	12,002.0	$ 3.00	$49,688.28
Western Yarrow	Achillea millefolium var. occidentalis	81.0%	8	348,480	3,411,818	430,222	24,004.0	0.1	2,400.4	$ 15.20	$43,783.30
Thurbers Needlegrass	Achnatherum thurberianum	45.0%	0.5	21,780	149,000	48,400	24,004.0	0.2	3,600.6	$ 84.75	$671,331.87
Antelope Bitterbrush	Purshia tridentata	76.5%	0.1	4,356	19,000	5,694	24,004.0	0.2	5,520.9	$ 15.00	$108,018.00
Idaho Fescue	Festuca idahoensis	76.5%	5	217,800	450,000	284,706	37,713.0	0.5	18,102.2	$ 8.50	$201,953.12
Bluebunch Wheatgrass	Pseudoroegneria spicata spp. spicata	76.5%	0.5	21,780	125,680	28,471	37,713.0	0.2	6,411.2	$ 16.00	$132,749.76
Western Yarrow	Achillea millefolium var. occidentalis	81.0%	12	522,720	3,411,818	645,333	37,713.0	0.2	5,657.0	$ 15.20	$108,915.14
Lewis Flax	Linum lewisii	76.0%	3	130,680	295,000	171,947	37,713.0	0.4	16,593.7	$ 6.24	$136,490.89
Antelope Bitterbrush	Purshia tridentata	76.5%	0.1	4,356	19,000	5,694	37,713.0	0.2	8,674.0	$ 15.00	$169,708.50
Indian Ricegrass, Nezpar	Achnatherum hymenoides (Roemer & J.A. Schultes) Ba	76.0%	8	348,480	235,000	458,526	13,981.0	1.5	20,691.9	$ 13.00	$354,418.35
Great Basin Wildrye	Leymus cinereus	76.5%	6	261,360	139,000	341,647	13,981.0	1.9	26,284.3	$ 14.00	$481,505.64
Western Yarrow	Achillea millefolium var. occidentalis	81.0%	8	348,480	3,411,818	430,222	13,981.0	0.1	1,398.1	$ 15.20	$25,501.34
Sandberg Bluegrass	Poa secunda	72.0%	10	435,600	1,046,960	605,000	13,981.0	0.4	5,872.0	$ 3.00	$24,326.94
Fourwing Saltbush	Atriplex canescens	31.5%	1	43,560	38,000	138,286	13,981.0	1.2	16,078.2	$ 6.64	$338,843.52
Shadscale	Atriplex confertifolia	31.5%	1	43,560	60,585	138,286	13,981.0	0.7	10,066.3	$ 6.50	$208,107.19
Forage Kochia	Bassia prostrata	51.0%	1	43,560	395,000	85,412	13,981.0	0.1	1,537.9	$ 20.00	$61,516.40
Crested Wheatgrass, Hycrest	Agropyron cristatum	85.0%	4	174,240	180,000	204,988	13,981.0	1.0	13,561.6	$ 3.00	$47,815.02
Great Basin Wildrye	Leymus cinereus	76.5%	10	435,600	139,000	569,412	1,385.0	3.1	4,335.1	$ 14.00	$79,305.10

Bluebunch Wheatgrass	Pseudoroegneria spicata spp. spicata	76.5%	8	348,480	125,680	455,529	1,385.0	2.8	3,836.5	$ 15.00	$75,205.50
Western Yarrow	Achillea millefolium var. occidentalis	81.0%	10	435,600	3,411,818	537,778	1,385.0	0.1	180.1	$ 15.20	$3,368.32
Blue flax, Appar	Linum perenne	76.0%	8	348,480	295,000	458,526	1,385.0	1.2	1,634.3	$ 7.00	$15,027.25
TOTALS:			462.38	20,141,273	74,513,188	53,375,326		41.1		$1,339.56	$13,656,581.45

SEEDLINGS

Seedling Species	Scientific Name	Acres of Seedlings planted.	# of Seedlings per Acre	Total # of Seedlings	Cost / Seedling	Total Cost
Antelope Bitterbrush	Purshia tridentata	7,000.0	300	2,100,000	$ 0.56	$1,176,000.00
Curl leaf Mountain Mahogany	Cercocarpus ledifolius	1,869.0	60	112,140	$ 0.56	$62,798.40
Mountain Big Sagebrush, Mountain	Artemisia tridentata vaseyana	1,832.0	440	806,080	$ 0.56	$451,404.80
Wyoming Big Sagebrush, Wyoming	Artemisia tridentata wyomingensis	16,580.0	212	3,514,960	$ 0.56	$1,968,377.60
Wyoming Big Sagebrush, Wyoming	Artemisia tridentata wyomingensis	2,000.0	110	220,000	$ 0.30	$66,000.00
TOTALS:		29,281.0	1,122	6,753,180		$3,724,580.80

PART 6 - NATIVE/NON-NATIVE PLANT WORKSHEET

A. Proposed Native Plants in Seed Mixtures (Both ES & BAR Treatments)

1. Are the native plants proposed for seeding adapted to the ecological sites in the burned area?

Yes [X] No [ ] Rationale:

The proposed native seed is an important component of the ecological site

2. Is seed or seedlings of native plants available in sufficient quantity for the proposed project?

Yes [X] No [ ] Rationale:

These seeds are available through commercial sources

3. Is the cost and/or quality of the native seed reasonable given the project size and approved fiel unit management and Plan objectives?

Yes [X] No [ ] Rationale:

These seed costs are reasonable given the size critical habitat restoration needs and objectives of the project.

4. Will the native plants establish and survive given the environmental conditions and the curren or future competition from other species in the seed mix or from exotic plants?

Yes [X] No [ ] Rationale:

Yes. It has been our experience that these species, at these seeding rates, have effectively established under similar environmental conditions. These outcomes are expected given that normal precipitation occurs for two years following the aerial application.

5. Will the existing or proposed land management practices (e.g. wildlife populations, recreation use, livestock, etc.) maintain the seeded native plants in the seed mixture when the burned area is re-opened?

Yes [X] No [ ] Rationale:

Yes, current or proposed land management allow for both establishment and long-term maintenance of the prescribed native seeded species.

B. Proposed Non-native Plants in Seed Mixtures (Both ES & BAR Treatments)

1. Is the use of non-native plants necessary to meet objectives, e.g., consistent with applicable approved field unit management plans?

Yes [X] No [ ] Rationale:

Pre-burn vegetative conditions require a mix of native and non-native perennial species to compete with the invasive annuals. Providing forage for the critical wildlife in this area is also a major concern, and this species will assist with this goal.

2. Will non-native plants meet the objective(s) for which they are planted without unacceptably diminishing diversity and disrupting ecological processes (nutrient cycling, water infiltration, energy flow, etc.) in the plant community?

Yes [X] No [ ] Rationale:

During the process of recovery, these species often supplies structure and food resources for wildlife while stabilizing a site until native species can re-establish in the area over time. Past treatments with this species have shown no unacceptable disruption in ecological processes or diversity of the plant communities.

3. Will non-native plants stay on the site they are seeded and not significantly displace or interbreed with native plants?

Yes [X] No [ ] Rationale:

This species provides structure and forage in recovering sites without displacing or interbreeding with native plants. Past treatments show later recruitment of native species

C. Proposed Seed Species - Native & Non-Natives (Both ES & BAR Treatments)

Non-native Plants	Native Plants
Blue flax, Appar (Linum perenne)	Antelope Bitterbrush (Purshia tridentata)
Crested Wheatgrass, Hycrest (Agropyron cristatum)	Bluebunch Wheatgrass (Pseudoroegneria spicata spp. spicata)
Crested Wheatgrass, Hycrest II (Agropyron cristatum x A. desertorum)	Bluebunch Wheatgrass, Anatone (Pseudoroegneria spicata spp. spicata)
Forage Kochia (Bassia prostrata)	Bluebunch Wheatgrass, Goldar (Pseudoroegneria spicata ssp. spicata)
	Bottlebrush Squirreltail (Elymus elymoides ssp. elymoides)
	Curl leaf Mountain Mahogany (Cercocarpus ledifolius)
	Fourwing Saltbush (Atriplex canescens)
	Great Basin Wildrye (Leymus cinereus)
	Great Basin Wildrye, Trailhead (Leymus cinereus)
	Idaho Fescue (Festuca idahoensis)
	Idaho Fescue, Nezpar (Festuca idahoensis)
	Indian Ricegrass (Achnatherum hymenoides)
	Indian Ricegrass, Nezpar (Achnatherum hymenoides (Roemer & J.A. Schultes) Ba)
	Lewis Flax (Linum lewisii)
	Lewis Flax, Columbia (Linum Lewisii)
	Low Sagebrush (Artemisia arbuscula)
	Mountain Big Sagebrush, Mountain (Artemisia tridentata vaseyana)
	Mountain Brome (Bromus marginatus)
	Needle and Threadgrass (Hesperostipa comata)
	Sandberg Bluegrass (Poa secunda)
	Sandberg bluegrass, Malhuer (Poa secunda spp. secunda)
	Shadscale (Atriplex confertifolia)
	Thurbers Needlegrass (Achnatherum thurberianum)

	Western Yarrow (Achillea millefolium var. occidentalis)
	Western Yarrow, Columbia (Achillea millefolium var. occidentalis)
	Wyoming Big Sagebrush, Wyoming (Artemisia tridentata wyomingensis)

PART 7 - COST-RISK ANALYSIS

A. Probability of Treatments Successfully Meeting Objectives

Action/ Spec #	Planned ES Action (LF20000ES)	Unit (acres, WMs, Number)	# Units	Total Cost	% Probability of Success
S2	Ground Seeding	Acres	5167	$4,672,000.00	90%
S3	Aerial Seeding	Acres	107089	$11,337,000.00	50%
S5	Noxious Weeds	Acres	17728	$251,000.00	85%
S6	Soil Stabilization (Other than seedling, planting)	Acres	192	$197,000.00	80%
S7	Fence/Gate/Cattleguard	Miles	279	$1,786,000.00	100%
S8	Road/Trail Water Diversion	Miles	1	$25,000.00	100%
S9	Cultural Protection (Stabilization/Patrol)	Each	4	$40,000.00	90%
S11	Facilities	Each	2	$21,000.00	90%
S12	Closures (area, OHV, livestock)	Each	16	$42,000.00	100%
S13	Monitoring	Acres	6	$61,000.00	100%
				$18,432,000.00	

Action/ Spec #	Planned BAR Action (LF32000BR)	Unit (acres, WMs, Number)	# Units	Total Cost	% Probability of Success
R2	Ground Seeding	Acres	2186	$618,000.00	70%
R3	Aerial Seeding	Acres	34787	$5,402,000.00	50%
R4	Seedling Planting	Acres	3833	$5,020,000.00	70%
R5	Noxious Weeds	Acres	84872	$792,000.00	90%
R6	Soil Stabilization (Other than seedling, planting)	Acres	61	$185,000.00	80%
R7	Fence/Gate/Cattleguard	Miles	300	$2,393,000.00	100%
R9	Cultural Protection (Stabilization/Patrol)	Each	3	$31,000.00	95%
R11	Facilities	Each	45	$81,000.00	100%
R13	Monitoring	Acres	2	$54,000.00	100%
				$14,576,000.00	

B. Cost Risk Summary

1. Are the risks to natural resources and private property acceptable as a result of the fire if the following actions are taken?

Proposed Action Yes [X] No [ ] Rationale for Answer:

The risks are acceptable and the proposed action addresses issues identified

No Action Yes [ ] No [X] Rationale for Answer:

Failing to mitigate the habitat loss to the Greater Sage Grouse and impacts to Lahontan Cutthroat Trout stream habitat will result in significant losses of both species as well as other wildlife species.

Alternative(s) Yes [ ] No [X] Rationale for Answer:

N/A

2. Is the probability of success of the proposed action, alternatives or no action acceptable given their costs?

Proposed Action Yes [X] No [ ] Rationale for Answer:

The probability of success for this treatment is relatively good based on the results of similar treatments within the area

No Action Yes [ ] No [X] Rationale for Answer:

The costs of these treatments are minimal compared to the risks associated with the loss of crucial wildlife habitat within the area.

Alternative(s) Yes [ ] No [X] Rationale for Answer:

N/A

3. Which approach will most cost-effectively and successfully attain the objectives and therefore is recommended for implementation from a Cost/Risk Analysis standpoint?

Proposed Action [X]
Alternative(s) [ ]
No Action [ ]
Comments:
The proposed treatments are consistent with the objectives of the Bureau of Land Management (Burns, Vale and Winnemucca Districts) as well as Oregon Department of Fish and Wildlife and the Nevada Division of Wildlife regarding rehabilitation of critical wildlife habitat as well as the treatment of noxious weeds; it is therefore recommended for implementation.

C. Risk of Resource Value Loss or Damage

No Action - Treatments not Implemented

Resource Value	N/A	None	Low	Med	High
Unacceptable Loss of Topsoil					X
Weed Invasion					X
Unacceptable Loss of Vegetation Diversity					X
Unacceptable Loss of Vegetation Structure					X
Unacceptable Disruption of Ecological Processes					X
Off-site Sediment Damage to Private Property				X	
Off-site Threats to Human Life			X		
Other-loss of Access Road Due to Plugged Culverts				X	

Proposed Action - Treatments Successfully Implemented

Resource Value	N/A	None	Low	Med	High
Unacceptable Loss of Topsoil			X		
Weed Invasion				X	
Unacceptable Loss of Vegetation Diversity			X		
Unacceptable Loss of Vegetation Structure			X		
Unacceptable Disruption of Ecological Processes			X		
Off-site Sediment Damage to Private Property			X		
Off-site Threats to Human Life			X		
Other-loss of Access Road Due to Plugged Culverts			X		

PART 8 - MONITORING PLAN

S2 - Ground Seeding

Identify the objective of the treatment:

Burns: The objective of the ground seeding treatment is to have perennial native and desirable non-native grass species occupying the site at densities greater than 3 plants/meter2 by the end of the third growing season post fire (2015). Establishment of perennial grass species at this density will serve to: 1) stabilize soil on the site, 2) compete with annual grass and noxious weed establishment, 3) promote proper hydrologic functioning (tied to soil stabilization), 4) enhance biotic integrity by establishing a diversity of functional groups, and 5) augment succession back towards a sagebrush-steppe system. Seeding will be done in the fall (period dependent upon climatic conditions). It is imperative that the site be seeded the fall following the fire before there is undue competition from annual and noxious weed species.

Winnemucca: Primary objective is to accomplish an average establishment rate of no less than 3, seeded, desirable perennial plants per square meter by the end of the third year from the date of fire containment.

Describe how implementation will be monitored:

Burns: The ground seeding will be monitored to insure that the treatment is conducted as specified in the plan. Work that is contracted will be inspected by a COR/PI certified BLM employee to ensure contract specifications are met. BLM personnel will work closely together both in completing the in-house work and in overseeing contract work to assure that treatments are accomplished in a professional manner as specified in the plan. Specifics, such as weather, seeding rate, species, and general conditions that could influence the outcome of the treatment, will be noted in the project file. GPS polygons will be collected for all treated areas to ensure that treatments are implemented as planned. On the ground adjustments that are done will be documented and updated information will be put into treatment files.

Winnemucca: Implementation of the ground seeding treatment will be monitored by a BLM project inspector. The project inspector will ensure that only the areas designated for seeding are seeded and at the appropriate rates.

Describe how effectiveness will be monitored, how it will be measured, and within what time period:

Burns: The fire will be monitored each year for three years (2013-2015) with an annual monitoring summary report that will be completed by early September of each year (2013-2015). At least two monitoring plot will be established for each treatment, with treatments being: 1) Native WSA Mix, 2) Crested WSA Mix. An effort will be made to choose study sites that are representative of the burned area so that monitoring data reflects the actual degree of recovery. This will be done by stratifying the treated area by several parameters such as soil types, slopes, soil surface rock, and ecological sites, then placing study sites accordingly. Where possible, these study sites will tie into existing rangeland trend plots where baseline data is available for comparison. Proposed locations for monitoring plots have been selected (see Map 11 - Monitoring), although they will likely move slightly after ground truth assessments have been done. The monitoring protocol that will be followed on these plots utilizes the Pace 180 Method (Johnson and Sharp IN PRESS), supplemented with the Step-Point and Density (0.25 m2 frame) methodologies (Herrick et. al. 2005; Sampling Vegetation Attributes 1999) to identify success of rehab efforts and time of recovery (see attached document - Fire Rehabilitation Monitoring Protocol). This methodology was chosen for compatibility with established trend plots and sage-grouse habitat inventory implemented June 2012. Each of these trend plots will also have permanent 3’ x 3’ plot and landscape photos associated with them.

Winnemucca: All vegetation treatments will be monitored for effectiveness using point-intercept, gap intercept and frame density techniques as outlined in using ES&R /USGS monitoring methodology (modified from: Monitoring Manual for Grasses, Shrublands and Savannah Ecosystems, Herrick et al 2005) and guidance from BLM Technical Reference 1734-4 (BLM 1996), to determine cover, and density of seeded and non-seeded species during the three years following fire containment on these areas. Effectiveness monitoring activities are oriented toward addressing the following questions/objectives:

1) Have the desirable species been successfully established and do they provide sufficient cover to adequately protect the site from soil erosion?
2) Is there evidence that a self-sustaining community has established?
3) Are vegetative reproduction and establishment of the desirable seeded species occurring?

Monitoring sites will be chosen randomly within areas that have been stratified using GIS by some or all (as appropriate) of the following: treatment type, seed source, major soil units, ecological sites (ESI) and topography. All seeded areas will have adjacent non-treated, reference sites established to compare results of treatments, when possible. For areas where existing vegetative types adjacent to the burn areas are severely disturbed, appropriate ecological or range site descriptions would be used for comparative purposes. Cover and density data will be taken each year. The objectives for cover will be to obtain 70% of all perennial plant cover found in the associated reference site, or, when not possible, achieve 50% of the lowest value for perennial cover associated with the appropriate ecological or range site.

Density objectives for aerially seeded areas will be to have one seeded species firmly rooted per square meter by first or second growing season following seeding. Drill seeded density

objectives will be three seeded species firmly rooted per square meter by first or second growing season following the seeding. Vegetation treatment monitoring will be conducted by the WDO ESR Field Monitoring Team, overseen by the ESR Monitoring Coordinator through the spring and summer.

S3 - Aerial Seeding

Identify the objective of the treatment:

Burns/Vale:
The objective of the aerial seeding treatment is to have perennial grass species occupying the site at densities greater than 3 plants/meter2 by the end of the third growing season post fire (2015), where site conditions allow. Establishment of perennial grass species at this density will serve to: 1) stabilize soil on the site - important for public safety associated with highway 205 being downslope of the seeding polygon, 2) compete with annual grass establishment, 3) promote proper hydrologic functioning (tied to soil stabilization), 4) enhance biotic integrity by establishing a diversity of functional groups, and 5) augment succession back towards a sagebrush-steppe system. Seeding will be done in the fall/winter.

Winnemucca: Primary objective is to accomplish an average establishment rate of no less than 3, seeded, desireable perennial plants per square meter by the end of the third year from the date of fire containment.

Where sagebrush seed is included in the mix, objective is also to have no less than a project average of 1 sagebrush plant per square meter by the end of the third year from the date of fire containment.

Winnemucca: Primary objective is to accomplish an average establishment rate of no less than 1, seeded, desireable perennial plants per square meter by the end of the third year from the date of fire containment

Describe how implementation will be monitored:

Burns/Vale: The aerial contract will be monitored by a COR/PI certified BLM employee to ensure contract specifications are met. Specifics, such as weather, seeding rate, species, and general conditions that could influence the outcome of the treatment, will be noted in the project file.

Winnemucca: Implementation of the aerial seeding treatment will be monitored by a BLM project inspector. The project inspector will ensure that only the areas designated for seeding are seeded and at the appropriate rates.

Describe how effectiveness will be monitored, how it will be measured, and within what time period:

Burns/Vale: GPS flight lines from the pilot will be retained by the BLM to ensure contract compliance. Any discrepancies noted during on-the-ground checking or via the flight record will be noted. A minimun of two plots will be established in each arerial seeding treatment area to assess the effectiveness of the aerial seeding. Monitoring indicates the proposed locations for the native grass and mountain big sagebrysh aerial seeding monitoring plots, although these could shift slightly in location after ground truth assessment is done. Monitoring will be conduction starting with baseline transects in year one (2012/2013) and will be performed in each out year (2014 and 2015) of the rehabilitation process. As closures are lifted, continued monitoring will occur in order to evaluate objectives and use.

The monitoring protocol on these plots utilizes the Pace 180 Method (Johnson and Sharp IN PRESS), supplemented with the Step-Point and Density (0.25 m2 frame) Methodologies (Herrick et. al. 2005; Sampling Vegetation Attributes 1999) to identify success of rehab efforts and time of recovery (see attached document - Fire Rehabilitation Monitoring Protocol). This methodology was chosen for compatibility with established trend plots and sage-grouse habitat inventory implemented June 2012. Each of these trend plots will also have permanent 3’ x 3’ plot and landscape photo associated with them.

Winnemucca: All vegetation treatments will be monitored for effectiveness using point-intercept, gap intercept and frame density techniques as outlined in using ES&R /USGS monitoring methodology (modified from: Monitoring Manual for Grasses, Shrublands and Savannah Ecosystems, Herrick et al 2005) and guidance from BLM Technical Reference 1734-4 (BLM 1996), to determine cover, and density of seeded and non-seeded species during the three years following fire containment on these areas. Effectiveness monitoring activities are oriented toward addressing the following questions/objectives:

1) Have the desirable species been successfully established and do they provide sufficient cover to adequately protect the site from soil erosion?
2) Is there evidence that a self-sustaining community has established?
3) Are vegetative reproduction and establishment of the desirable seeded species occurring?

Monitoring sites will be chosen randomly within areas that have been stratified using GIS by some or all (as appropriate) of the following: treatment type, seed source, major soil units, ecological sites (ESI) and topography. All seeded areas will have adjacent non-treated, reference sites established to compare results of treatments, when possible. For areas where existing vegetative types adjacent to the burn areas are severely disturbed, appropriate ecological or range site descriptions would be used for comparative purposes. Cover and density data will be taken each year. The objectives for cover will be to obtain 70% of all perennial plant cover found in the associated reference site, or, when not possible, achieve 50% of the lowest value for perennial cover associated with the appropriate ecological or range site.

Density objectives for aerially seeded areas will be to have one seeded species firmly rooted per square meter by first or second growing season following seeding. Drill seeded density objectives will be three seeded species firmly rooted per square meter by first or second growing season following the seeding. Vegetation treatment monitoring will be conducted by

the WDO ESR Field Monitoring Team, overseen by the ESR Monitoring Coordinator through the spring and summer.

S4 - Seedling Planting

Identify the objective of the treatment:

Winnemucca: Install bare-root shrubs (sage) into critical Sage Grouse habitat which has been severely burned and is a poor candidate site for aerial seeding or has responded poorly to aerial seeding.

Describe how implementation will be monitored:

Winnemucca: A BLM project inspector will be onsite during plant installation to ensure that plants are installed according to contract specifications.

Describe how effectiveness will be monitored, how it will be measured, and within what time period:

Winnemucca: Monitoring crews will sample planted areas to evaluate planting success. Target achievement is 80% survival of installed plants after the first growing season and 65% after 3 growing seasons.

S5 - Noxious Weeds

Identify the objective of the treatment:

Burns: The objective is to minimize noxious weed establishment within the burned area. Most noxious weeds are opportunistic at acquiring readily available resources following a disturbance, such as a fire. Monitoring shows that there are 5 known noxious weed species present within the perimeter, including: bull thistle, Canada thistle, diffuse knapweed, Russian knapweed, and whitetop. There are also numerous noxious weed sites just outside the perimeter of the fire including: Russian knapweed and scotch thistle. There is a likelihood that weeds on and adjacent to this disturbed area will readily establish in open niches. Aggressive treatment methods of establishing weed populations, such as EDRR, are the most effective way to keep weed populations in check until perennial grass densities/competition is strong enough to inhibit noxious weed establishment. See appendix 8 for the potential herbicides and application rates for specific weed species.

Vale: The objective of the weed treatments is to prevent the increase of existing weed populations and the establishment of additional noxious weed species within the burn area until desirable vegetation can re-establish. Initial treatment should kill and/or control from 80-90% of targeted weed populations, depending upon the type of weed and/or density of the infestation. Retreatment by spot spraying on remaining weeds will also be completed under R5.

Winnemucca: Noxious weeds will not be permanently established within the burn area.

Describe how implementation will be monitored:

Burns: The SWAT crew will make site visits, prioritizing sites with high potential for noxious weed establishment, and treat any small establishing populations with the appropriate approved herbicides. Application of all herbicides will follow given products directions for appropriate application rates (specific to species being targeted). All located populations of noxious weeds will be recorded (GPS'd and logged into a database) to track effectiveness (see below).

Vale: Implementation would be monitored by site visits of treated areas by a COR/PI.

Winnemucca: Monitoring crews will survey the burn area for weeds and gather control efficacy data at existing populations where active treatment is occurring.

Describe how effectiveness will be monitored, how it will be measured, and within what time period:

Burns: All located populations of noxious weeds will be documented, recorded (GPS'd), entered into the appropriate database, and monitored for re-establishment of populations. Tracking of treated populations of noxious weeds, as well as newly located populations will give a good indicator of the effectiveness of treatment. Also, during the seasonal monitoring of seeding treatments (See S2 & S3), the areas will be inventoried for presence of noxious weeds. Any noxious weed populations located will be reported to the SWAT crew, whom will treat the noxious weeds with the appropriate approved herbicides.

Vale: Effectiveness would be monitored by site visits to treated areas. Noxious weed infestations are generally small and widely scattered, therefore effectiveness in most cases would be measured by presence or absence of weeds. However, treatment effectiveness on larger infestations would be determined either by stem counts or stand density. Weed treatments would be monitored on a timetable commensurate with the type of chemical used for treatment.

Winnemucca: In addition to surveys of road/route sides, the monitoring crew would walk throughout the burned area. Any noxious weed populations present in the burned area will be prioritized for immediate control effort, entered into a data dictionary, photographed, marked with UTM coordinates, and described (i.e. species, number of individuals, size of patch, and reproductive status). If multiple plants are establishing, the ES&R Coordinator

and the Noxious Weeds Coordinator will be notified immediately, and a plan amendment requesting additional funding will be written to address the weed establishment.

S6 - Soil Stabilization (Other than seedling, planting)

Identify the objective of the treatment:

Burns: The erosion control structures are intended to slow overland flow, reduce channel cutting, and catch sediments being carried by water. As such, less soil would be lost to water erosion and subsequently less sediment deposition would occur below and off the burned area. Treatment will be considered effective if 75% or more of the erosion control structures hold (i.e. do not "blow out") after the first year.

Vale: Stabilize streambanks to prevent in stream sedimentation which would adversely affect LCT.

Winnemucca: Stabilize surface soils in convex, high-angle slope areas with potential to deliver sediment directly to Lahontan Cutthroat Trout-bearing streams. Strategically cut and place fire-killed brush tops and tree boles to reduce stream velocity and reduce opportunity for streambank scouring and sediment transport. Install “living filters” using willow and cottonwood live stakes to reduce stream velocity and sediment transport.

Describe how implementation will be monitored:

Burns: BLM Operations staff would work closely together as the erosion control structures are installed to ensure that the structures are done professionally and as specified in the plan. Periodic spot checks will be done, and when needed, corrections will be made to bring quality up to standards.

Vale: Riparian specialists will conduct testing to make sure excess sediment is not reaching the stream channel.

Winnemucca: Project foreman and/or project inspector will insure that implementation occurs according to planned project specifications and rates.

Describe how effectiveness will be monitored, how it will be measured, and within

what time period:

Burns: The erosion control structures will be visited later in the year and will be inspected for intactness.

Vale: Effectiveness will be determined by comparison of the plots inside and outside of the burned area. It will be measured by the amount/percent of sediment trans-located. This will continue for a period of 3-5 years and beyond contingent on funding.

Winnemucca: Monitoring crews will review project sites annually in early summer FY13, FY14, and FY15 to document efficacy of mulch cover compared to untreated slopes, document efficacy of downed-woody-debris recruitment and living filters. Mulch treatments will be considered to be effective if surface erosion is abated on mulched slopes when compared with untreated slopes. Living filters will be considered to be successful if 50% or more of live stakes survive and sediment drop-out is occurring at that site. Brush recruitment will be considered to be successful if water velocity is significantly lowered, and sediment drop-out is occurring at project sites.

S7 - Fence/Gate/Cattleguard

Identify the objective of the treatment:

Burns: The objective of the repair and addition of the new exclosure fences is to keep cattle from impacting the ESR seeding and sagebrush planting by removing (and keeping out) 100% of the cattle from this portion of the allotments until the seeding treatments vegetation objectives are met. If after two growing seasons objectives are not met, the probabilty of success will be reevaluated and new management actions will be considered (see “effectiveness” criteria for S2 and S3).

Vale: The objective of the temporary fence treatment and livestock closure is to protect the burn area from grazing impacts to allow recovery of vegetative resources. The fencing would allow for site recovery while maximizing protection of soil and vegetative resources. The protective fence would be removed when adequate recovery of resources is achieved. The specific objective is that in the third year following treatment that herbaceous vegetation is 80% similar to preburn conditions based on ESI or Rangeland Health Assessment data.

Winnemucca: Minimize the detrimental effects of grazing on seeding treatments, while allowing normal grazing operations to continue in unburned portions of the affected allotments.

Describe how implementation will be monitored:

Burns: New exclosure fencing will be completed by BLM or by contract. The contracts will be monitored by a COR/PI certified BLM employee to assure contract specifications are met.

Vale: Implementation would be monitored by staff and project inspectors to ensure fence is constructed as specified.

Winnemucca: The fencing treatment will be monitored by a BLM project inspector to ensure that the fence line and gates are constructed in the correct location(s) and to BLM-identified specifications.

Describe how effectiveness will be monitored, how it will be measured, and within what time period:

Burns: Livestock closures and compliance will be monitored by BLM range staff. Range staff will spot check the fence and site periodically to ensure compliance. This will occur until livestock grazing is permitted to resume (see “effectiveness” criteria for S2 and S3).

Vale: Project inspector will monitor fences to assure they are within the specifications of the contract.

Winnemucca: Compliance inspectors monitoring for unauthorized livestock will walk the perimeter of the fence to check for fence maintenance or repair needs. Compliance inspectors will notify the ESR Coordinator of any such needs.

S8 - Road/Trail Water Diversion

Identify the objective of the treatment:

Burns: The treatment will be to clean 37 culverts and ditches located along roads within and adjacent to the burned area to ensure that runoff is able to continue flowing through the culverts and ditches, and that no pooling occurs due to clogged culverts, which could result in roads being washed out.

Describe how implementation will be monitored:

Burns: BLM Operations staff would work closely together to conduct cleaning operations as specified in the plan, while working under a cooperative agreement with the County (using Wyden Amendment funding). Periodic spot checks will be done, and when needed, corrections will be made to bring quality up to standards.

Describe how effectiveness will be monitored, how it will be measured, and within what time period:

Burns: Culvert and drainages will be visited later in the year and will be inspected for intactness.

S9 - Cultural Protection (Stabilization/Patrol)

Identify the objective of the treatment:

Burns: The objective of this treatment is to patrol the burned area in order to decrease the incidence of looting and vandalism of cultural resources until vegetation recovers enough to cover cultural resources within the area burned by the Holloway Fire.

Vale: The objective is to stabilize cultural resources within the burned area.

Describe how implementation will be monitored:

Burns: Effectiveness will be monitored by the number of incidents where looting or vandalism of cultural resources is prevented.

Vale: Cultural resource specialists will inspect projects once they are implemented.

Describe how effectiveness will be monitored, how it will be measured, and within what time period:

Burns: The objective of this treatment is to patrol the burned area in order to decrease the incidence of looting and vandalism of cultural resources until vegetation recovers enough to cover cultural resources within the area burned by the Holloway Fire.

Vale: Site visits will be conducted within three years of implementation to determine whether or

not further degradation of sites occurred.

S11 - Facilities

Identify the objective of the treatment:

Vale: The objective of this treatment is to repair/replace directional and information signs within the burn area which aid in public safety and enjoyment of land users.

Describe how implementation will be monitored:

Vale: Implementation will be monitored by site visits to ensure signs are placed at appropriate locations.

Describe how effectiveness will be monitored, how it will be measured, and within what time period:

Vale: Effectiveness will be monitored by site visits periodically throughout the year.

S12 - Closures (area, OHV, livestock)

Identify the objective of the treatment:

Burns: The objective of the repair and addition of the new exclosure fences is to keep cattle from impacting the ESR seeding and sagebrush planting by keeping livestock from the protected portion of the allotments until the seeding treatments for two growing seasons or until objectives have been met (see “effectiveness” criteria for S2 and S3).

Vale: The objective of the closure is to protect the burn area from adverse resource impacts from livestock.

Winnemucca: For Aerial Seedings:

1) An average of 1 or more seeded species per square-meter will be permanently established in the burned area within three years of containment date.
2) Cover objectives will be to obtain 70% of the highest potential perennial plant cover found in the associated reference site. When this is not possible, objectives are to achieve 50% of the lowest value for perennial cover associated with the appropriate ecological or range site. For example: ecological site 024XY005NV [Loamy 8-10” P. Z.] has a potential perennial cover of 20-35%. Therefore, the cover objective by the end of three years from fire containment date, would be (50% * 20%) or 10% perennial cover.
3) The aerial seeding will result in greater abundance (density and cover) of seeded species when compared to unseeded controls
4) The seeded species will have lower abundance (density and cover) of invasive annual grasses than the unseeded control areas
5) Have the desirable species been successfully established and do they provide sufficient cover to adequately protect the site from soil erosion?
6) Is there evidence that a self-sustaining community has established?
7) Are vegetative reproduction and establishment of the desirable seeded species occurring?

For Drill Seedings:
1) An average of 3 seeded species per square meter will be permanently established in the burned area within three years of the fire containment date
2) Cover objectives will be to obtain 70% of the highest potential perennial plant cover found in the associated reference site. When this is not possible, objectives are to achieve 50% of the lowest value for perennial cover associated with the appropriate ecological or range site. For example: ecological site 024XY005NV [Loamy 8-10” P. Z.] has a potential perennial

cover of 20-35%. Therefore, the cover objective by the end of three years from fire containment date, would be (50% * 20%) or 10% perennial cover.
3) The drill seeding will result in greater abundance (density and cover) of seeded species when compared to unseeded controls
4) The seeded species will have lower abundance (density and cover) of invasive annual grasses than the unseeded control areas
5) Have the desirable species been successfully established and do they provide sufficient cover to adequately protect the site from soil erosion?
6) Is there evidence that a self-sustaining community has established?
7) Are vegetative reproduction and establishment of the desirable seeded species occurring?

Sites targeted for natural revegetation will be monitored based on the same cover objectives based on the corresponding reference site, with no density objectives (as no seeded species will have been applied).

1. An average of three desirable perennial plants per square-meter will be permanently established in the burned area.

2. Re-sprouting vegetation will have good leader growth appropriate to the species and the Winnemucca region (based on available monitoring or production data from wildlife, range, NDOW and/or NRCS), this will provide vertical and horizontal cover appropriate for the site, and will show resistance to damage from grazing by pulling or tearing of the vegetation.

3. Newly sprouting vegetation, including seeded species, with young root systems will resist disruption when pulled indicating grazing would not impair established root systems.

4. Native vegetation will show vigor, health and evidence of reproduction.

Describe how implementation will be monitored:

Burns: New exclosure fencing will be completed by BLM or by contract. The contracts will be monitored by a COR/PI certified BLM employee to assure contract specifications are met. For the relocation, monitoring will be done before and during the relocation with BLM staff/contractors to inventory the entire area found within the protection fence.

Vale: Implementation will be monitored through site visits to determine if fences, structures, or barriers are in place and not being compromised.

Winnemucca: A livestock Closure agreement will be written or a decision will be issued. Livestock closure compliance will be monitored by the ESR Coordinator.

Describe how effectiveness will be monitored, how it will be measured, and within what time period:

Burns: Livestock and compliance will be monitored by BLM range staff. Range staff will spot check the fence and site periodically to ensure compliance. This will occur until livestock grazing is permitted to resume (see “effectiveness” criteria for S2 and S3).

Vale: Effectiveness will be monitored in conjunction with monitoring for vegetation recovery. Site visits would also be conducted by BLM personnel to determine if violations of the closure are occurring. If violations are observed appropriate action will be taken. Monitoring will occur until closures are lifted. During site visits the ability of the closure device or fence will be evaluated for its ability to prevent entry or exit in the case of animals.

Winnemucca: Compliance inspectors will monitor for unauthorized livestock. Any personnel on the burned area will make note of livestock animals, dung, and tracks within the burned area. If livestock or sign of livestock use is present within the burned area, spatially-referenced photographs will be taken. Personnel will notify the Range Management Specialist for the area and the ESR Coordinator concerning any sign of livestock.

S13 - Monitoring

Identify the objective of the treatment:

Burns: Management staff will oversee that monitoring and year end reporting is completed in accordance to timelines (See S3).

Vale: The objective of monitoring is to determine whether each treatment was implemented as planned and whether or not each treatment was effective in accomplishing the objectives.

Describe how implementation will be monitored:

Burns: Rangeland trend monitoring and ESR monitoring is monitored by the ESR coordinator with assistance from the range staff. Additional staff may be brought on to assist with monitoring.

Vale: Implementation will be conducted annually for three years and documented in monitoring summary reports.

Describe how effectiveness will be monitored, how it will be measured, and within what time period:

Burns: Monitoring studies will be completed as scheduled and results maintained as part of the project record.

Vale: A description of monitoring methods for each treatment are discussed under each

specific treatment.

R2 - Ground Seeding

Identify the objective of the treatment:

Burns: The objective of the ground seeding treatment is to have a 30% establishment rate (3 seedlings per 100ft transect) of bitterbrush by the end of the third growing season post fire (2015). Establishment of bitterbrush at this density will serve to: 1) stabilize soil on the site, 2) compete with annual grass and noxious weed establishment, 3) promote proper hydrologic functioning (tied to soil stabilization), 4) enhance biotic integrity by establishing a diversity of functional groups, and 5) augment succession back towards a sagebrush-steppe system. Seeding will be done in the fall (period dependent upon climatic conditions). It is imperative that the site be seeded the fall following the fire before there is undue competition from annual and noxious weed species.

Describe how implementation will be monitored:

Burns: The ground seeding will be monitored to insure that the treatment is conducted as specified in the plan. Work that is contracted will be inspected by a COR/PI certified BLM employee to ensure contract specifications are met. BLM personnel will work closely together both in completing the in-house work and in overseeing contract work to assure that treatments are accomplished in a professional manner as specified in the plan. Specifics, such as weather, seeding rate, species, and general conditions that could influence the outcome of the treatment, will be noted in the project file. GPS polygons will be collected for all treated areas to ensure that treatments are implemented as planned. On the ground adjustments that are done will be documented and updated information will be put into treatment files.

Describe how effectiveness will be monitored, how it will be measured, and within what time period:

Burns: The fire will be monitored each year for three years (2013-2015) with an annual monitoring summary report that will be completed by early September of each year (2013-2015). At least two monitoring plot will be established within the bitterbrush treatment area. An effort will be made to choose study sites that are representative of the burned area so that monitoring data reflects the actual degree of recovery. This will be done by stratifying the treated area by several parameters such as soil types, slopes, soil surface rock, and ecological sites, then placing study sites accordingly. Where possible, these study sites will tie into existing rangeland trend plots where baseline data is available for comparison. Proposed locations for monitoring plots have been selected, although they will likely move slightly after ground truth assessments have been done. The monitoring protocol that will be followed on these plots utilizes the Pace 180 Method (Johnson and Sharp IN PRESS), supplemented with the Step-Point and Density (0.25 m2 frame) methodologies (Herrick et. al. 2005; Sampling Vegetation Attributes 1999) to identify success of rehab efforts and time of recovery (see attached document - Fire Rehabilitation Monitoring

Protocol). This methodology was chosen for compatibility with established trend plots and sage-grouse habitat inventory implemented June 2012. Each of these trend plots will also have permanent 3’ x 3’ plot and landscape photos associated with them.

R3 - Aerial Seeding

Identify the objective of the treatment:

Burns/Vale: The objective of the aerial seeding treatment is to have perennial grass species occupying the site at densities greater than 3 plants/meter2 by the end of the third growing season post fire (2015), where site conditions allow. Establishment of perennial grass species at this density will serve to: 1) stabilize soil on the site - important for public safety associated with highway 205 being downslope of the seeding polygon, 2) compete with annual grass establishment, 3) promote proper hydrologic functioning (tied to soil stabilization), 4) enhance biotic integrity by establishing a diversity of functional groups, and 5) augment succession back towards a sagebrush-steppe system. Seeding will be done in the fall/winter.

Winnemucca: Primary objective is to accomplish an average establishment rate of no less than 1, seeded, desireable perennial plants per square meter by the end of the third year from the date of fire containment.

Describe how implementation will be monitored:

Burns/Vale: The aerial contract will be monitored by a COR/PI certified BLM employee to ensure contract specifications are met. Specifics, such as weather, seeding rate, species, and general conditions that could influence the outcome of the treatment, will be noted in the project file.

Winnemucca: Implementation of the aerial seeding treatment will be monitored by a BLM project inspector. The project inspector will ensure that only the areas designated for seeding are seeded and at the appropriate rates.

Describe how effectiveness will be monitored, how it will be measured, and within what time period:

Burns/Vale: GPS flight lines from the pilot will be retained by the BLM to ensure contract compliance. Any discrepancies noted during on-the-ground checking or via the flight record will be noted. Two plots will be established off of Highway 205 to assess the effectiveness of the aerial seeding. Map 11 - Monitoring indicates the proposed locations for the two aerial seeding monitoring plots, although these could shift slightly in location after ground truth assessment is done.

Winnemucca: All vegetation treatments will be monitored for effectiveness using point-intercept, gap intercept and frame density techniques as outlined in using ES&R /USGS monitoring methodology (modified from: Monitoring Manual for Grasses, Shrublands and Savannah Ecosystems, Herrick et al 2005) and guidance from BLM

Technical Reference 1734-4 (BLM 1996), to determine cover, and density of seeded and non-seeded species during the three years following fire containment on these areas.

R4 - Seedling Planting

Identify the objective of the treatment:

Burns/Vale: Due to poor success rates of sagebrush establishing from seeding treatments, coupled with encouraging results from plug seeding treatments from the EOARC (Eastern Oregon Agriculture Research Center), and others, we've chosen to attempt to get more funding for plug seeding than purchasing of sagebrush seed to be applied in initial seeding treatments. It is the Burns BLM I.D. teams conclusion (based upon local research, experience, and knowledge) that planting sagebrush plugs offers the highest chance to reestablish sagebrush for obligate species such as sage-grouse and pygmy rabbits.

Winnemucca: Install bare-root shrubs (sage) into critical Sage Grouse habitat which has been severely burned and is a poor candidate site for aerial seeding or has responded poorly to aerial seeding.

Describe how implementation will be monitored:

Burns/Vale: The sagebrush plug seeding will be monitored to ensure that the treatment is conducted as specified in the plan. Work that is contracted will be inspected by a COR/PI certified BLM employee to ensure contract specifications are met. BLM personnel will work closely together both in completing the in-house work and in overseeing contract work to assure that treatments are accomplished in a professional manner as specified in the plan. Specifics, such as weather and other conditions that could influence the outcome of the treatment, will be noted in the project file. GPS polygons will be collected for all treated areas to ensure that treatments are implemented as planned. On the ground adjustments that are done will be documented and updated information will be put into treatment files.

Winnemucca: A BLM project inspector will be onsite during plant installation to ensure that plants are installed according to contract specifications.

Describe how effectiveness will be monitored, how it will be measured, and within what time period:

Burns/Vale: Sagebrush plug seeding treatment will be monitored all years following treatment until the summer of 2015. Success of this treatment will be based upon survival of over 20% of the planted plugs within the monitoring period. Proposed locations for monitoring plots have been selected, although they will likely move slightly after ground truth assessments have been done.

Winnemucca: Monitoring crews will sample planted areas to evaluate planting success.

Target achievement is 80% survival of installed plants after the first growing season and 65% after 3 growing seasons.

R5 - Noxious Weeds

Identify the objective of the treatment:

Burns: The objective is to minimize noxious weed establishment within the burned area. Most noxious weeds are opportunistic at acquiring readily available resources following a disturbance, such as a fire. Monitoring shows that there are 5 known noxious weed species present within the perimeter, including: bull thistle, Canada thistle, diffuse knapweed, Russian knapweed, and whitetop. There are also numerous noxious weed sites just outside the perimeter of the fire including: Russian knapweed and scotch thistle. There is a likelihood that weeds on and adjacent to this disturbed area will readily establish in open niches. Aggressive treatment methods of establishing weed populations, such as EDRR, are the most effective way to keep weed populations in check until perennial grass densities/competition is strong enough to inhibit noxious weed establishment. See appendix 8 for the potential herbicides and application rates for specific weed species.

Vale: The objective of the weed treatments is to prevent the increase of existing weed populations and the establishment of additional noxious weed species within the burn area until desirable vegetation can re-establish. Initial treatment should kill and/or control from 80-90% of targeted weed populations, depending upon the type of weed and/or density of the infestation.

Winnemucca: Noxious weeds will not be permanently established within the burn area.

Describe how implementation will be monitored:

Burns: The SWAT crew will make site visits, prioritizing sites with high potential for noxious weed establishment, and treat any small establishing populations with the appropriate approved herbicides. Application of all herbicides will follow given products directions for appropriate application rates (specific to species being targeted). All located populations of noxious weeds will be recorded (GPS’d and logged into a database) to track effectiveness (see below).

Vale: Implementation would be monitored by site visits of treated areas by a COR/PI. during the contract period when treatment is conducted. Record of chemical used, rate of application and other PUP required information would be recorded for submission to the State Weed Coordinator at the end of the contract period. Any treatment by BLM crews or personel will be likewise recorded and submitted.

Winnemucca: Monitoring crews will survey the burn area for weeds and gather control efficacy data at existing populations where active treatment is occurring.

Describe how effectiveness will be monitored, how it will be measured, and within what time period:

Burns: All located populations of noxious weeds will be documented, recorded (GPS'd), entered into the appropriate database, and monitored for re-establishment of populations. Tracking of treated populations of noxious weeds, as well as newly located populations will give a good indicator of the effectiveness of treatment. Also, during the seasonal monitoring of seeding treatments (See S2 & S3), the areas will be inventoried for presence of noxious weeds. Any noxious weed populations located will be reported to the SWAT crew, whom will treat the noxious weeds with the appropriate approved herbicides.

Vale: Effectiveness would be monitored by site visits to treated areas. Noxious weed infestations are generally small and widely scattered, therefore effectiveness in most cases would be measured by presence or absence of weeds. However, treatment effectiveness on larger infestations would be determined either by stem counts or stand density. Weed treatments would be monitored on a timetable commensurate with the type of chemical used for treatment.

Winnemucca: In addition to surveys of road/route sides, the monitoring crew would walk throughout the burned area. Any noxious weed populations present in the burned area will be prioritized for immediate control effort, entered into a data dictionary, photographed, marked with UTM coordinates, and described (i.e. species, number of individuals, size of patch, and reproductive status). If multiple plants are establishing, the ES&R Coordinator and the Noxious Weeds Coordinator will be notified immediately, and a plan amendment requesting additional funding will be written to address the weed establishment.

R6 - Soil Stabilization (Other than seedling, planting)

Identify the objective of the treatment:

Burns: The erosion control structures are intended to slow overland flow, reduce channel cutting, and catch sediments being carried by water. As such, less soil would be lost to water erosion and subsequently less sediment deposition would occur below and off the burned area. Treatment will be considered effective if 100% or more of the erosion control structures hold (i.e. do not "blow out") after the second and third years.

Describe how implementation will be monitored:

Burns: BLM Operations staff would work closely together as the erosion control structures are installed to ensure that the structures are done professionally and as specified in the plan. Periodic spot checks will be done, and when needed, corrections will be made to bring quality up to standards.

Describe how effectiveness will be monitored, how it will be measured, and within what time period:

Burns: The erosion control structures will be visited later in the year and will be inspected for intactness.

R7 - Fence/Gate/Cattleguard

Identify the objective of the treatment:

Burns: Approximately 127 miles of fence within the interior of the fire perimeter will be reconstructed to allow for proper management of the burned areas following the reintroduction of grazing by domestic livestock. The objective of the repair of existing fence and the removal of the 10 miles of protection fence is to be able to properly manage allotments and associated pastures following the return of grazing into the area.

Vale: The objective of this treatment is to repair/replace damaged fences, gates, cattleguards and reservoirs.

Describe how implementation will be monitored:

Burns: Fence reconstruction and removal of the protection fence will be completed by BLM or by contract. The contracts will be monitored by a COR/PI certified BLM employee to assure contract specifications are met.

Vale: Implementation would be monitored by Rangeland Management Specalist or Rangeland Technician to ensure fence is constructed as specified and cattle guard and reservoirs are cleaned out.

Describe how effectiveness will be monitored, how it will be measured, and within

what time period:

Burns: BLM staff will monitor fence reconstruction and removal for completion.

Vale: Effectiveness will be monitored by range specialists during normal allotment inspections upon resumption of grazing activities.

R9 - Cultural Protection (Stabilization/Patrol)

Identify the objective of the treatment:

Burns: The objective of this treatment is to patrol the burned area in order to decrease the incidence of looting and vandalism of cultural resources until vegetation recovers enough to cover cultural resources within the area burned by the Holloway Fire.

Describe how implementation will be monitored:

Burns: Effectiveness will be monitored by the number of incidents where looting or vandalism of cultural resources is prevented.

Describe how effectiveness will be monitored, how it will be measured, and within what time period:

Burns: The objective of this treatment is to patrol the burned area in order to decrease the incidence of looting and vandalism of cultural resources until vegetation recovers enough to cover cultural resources within the area burned by the Holloway Fire.

R11 - Facilities

Identify the objective of the treatment:

Burns: Because of the high intensity of the fire, it is believed that approximately 27 spring developments and 17 troughs within the burned area were damaged to varying degrees during the wildfire. These facilities direct water away from the naturally perennial areas adjacent to the spring directing water away to be distributed for use by domestic livestock and wildlife in areas of limited water. These areas are particularly important during late summer months and in drought years. Repairing/replacing these developments will ensure water availability to wildlife throughout the area.

Vale: Vale: The objective of this treatment is to repair/replace WSA signs within the burn area which aid in public safety and enjoyment of land users.

Describe how implementation will be monitored:

Burns: Spring and pipeline repair and trough replacement will be completed by BLM Operations staff.

Vale: Implementation will be monitored by site visits to ensure signs are placed at appropriate locations.

Describe how effectiveness will be monitored, how it will be measured, and within what time period:

Burns: Structures will be visited following reconstruction to check for completion and functionality.

Vale: Effectiveness will be monitored by site visits periodically throughout the year.

R13 - Monitoring

Identify the objective of the treatment:

Burns/Vale: Management staff will oversee that monitoring and year end reporting is completed in accordance to timelines (See S3).

Describe how implementation will be monitored:

Burns/Vale: Rangeland trend monitoring and ESR monitoring is monitored by the ESR coordinator with assistance from the range staff. Additional staff may be brought on to assist with monitoring.

Describe how effectiveness will be monitored, how it will be measured, and within what time period:

Burns/Vale: Monitoring studies will be completed as scheduled and results maintained as part of the project record.

PART 9 - MAPS

1. - Map1_GeneralVicinity
2. - Map2_FireProgression
3. - Map3_LandStatus
4. - Map4_WSA
5. - Map5B_GeneralVeg
6. - Map5V_GeneralVeg
7. - Map5W_GeneralVeg
8. - Map6B_Soils
9. - Map6V_GeneralSoils
10. - Map6W_GeneralSoils
11. - Map7_NonAerialTreatments
12. - Map7B_NonAerial_Treatments
13. - Map7V_NonAerial_Treatments
14. - Map7W_NonAerial_Treatments
15. - Map8_Aerial_Treatments
16. - Map8B_Aerial_Treatments
17. - Map8V_Aerial_Treatments
18. - Map8W_Aerial_Treatments
19. - Map9_ReconstructionStabilization
20. - Map9B_ReconstructionStabilization
21. - Map9V_ReconstructionStabilization
22. - Map9W_ReconstructionStabilization
23. - Map10_WeedTreatments
24. - Map10W_WeedTreatments
25. - Map11_Monitoring
26. - Map10B_WeedTreatments

PART 10 - REVIEW, APPROVALS, and PREPARERS

TEAM MEMBERS

Position	Team Member (Agency/Office)	Initial	Date
Team Leader	Caryn Meinicke (BLM Burns District Office)	Initialed	09/20/2012
Botanist/ACEC	Susan Fritts (BLM Vale District)	Initialed	09/20/2012
NRS - Riparian	Daryl Bingham (BLM Burns District Office)	Initialed	09/20/2012
Wildlife Biologist	Andy Daniels (BLM Burns District Office)	Initialed	09/20/2012
Wildlife Biologist	Matt Obradovich (BLM Burns District Office)	Initialed	09/20/2012
GIS Specialist	Stacy Fenton (BLM Burns District Office)	Initialed	09/20/2012
Rangeland Mgt. Specialist	Wes Barry (BLM Winnemucca District Office)	Initialed	09/20/2012
Cultural Resources/Archeologist	Mark Hall (BLM Winnemucca District Office)	Initialed	09/20/2012
Wild Horse & Burro Specialist	Melanie Mirati (BLM Winnemucca District Office)	Initialed	09/20/2012
Wildlife Biologist	Nancy Spencer-Morris (BLM Winnemucca District Office)	Initialed	09/20/2012
Rangeland Mgt. Specialist	Dave Ward (BLM Burns District Office)	Initialed	09/20/2012
Fisheries	Greg Lynch (BLM Winnemucca District Office)	Initialed	09/20/2012
GIS Specialist	Allie Henson (BLM Winnemucca District Office)	Initialed	09/20/2012
WMD - ES&R Lead/Invasive Species	Eric Baxter (BLM Winnemucca District Office)	Initialed	09/20/2012
Wilderness Specialist	Kristine Struck (BLM Winnemucca Distict Office)	Initialed	09/20/2012
NEPA Compliance & Planning	Lynn Richi/Swaantje Rorex (BLM Winnemucca District Office)	Initialed	09/20/2012

Cultural Resources/Archeologist	Scott Thomas (BLM Burns District Office)	Initialed	09/20/2012
Wilderness Specialist	Eric Haakenson (BLM Burns District Office)	Initialed	09/20/2012
Noxious & Invasive Species Specialist	Lesley Richman (BLM Burns District Office)	Initialed	09/20/2012
NEPA Compliance & Planning	Rhonda Karges (BLM Burns District Office)	Initialed	09/20/2012
Soils/Hydrology	Todd Allai (BLM Vale District Office)	Initialed	09/20/2012
Rangeland Mgt. Specialist	Bill Reimers (BLM Vale District Office)	Initialed	09/20/2012
Cultural Resources/Archeologist	Don Rotell (BLM Vale District Office)	Initialed	09/20/2012
Noxious & Invasive Species Specialist	Lynne Silva (BLM Vale District Office)	Initialed	09/20/2012
Fisheries	Garth Ross (BLM Vale District Office)	Initialed	09/20/2012
Monitoring	Brian Watts (BLM Vale District Office)	Initialed	09/20/2012
GIS Specialist	Marissa Russell (BLM Vale District Office)	Initialed	09/20/2012
Wilderness Specialist	Josh Travers (BLM Vale District Office)	Initialed	09/20/2012
Wildlife Specialist	Philip Milburn (USFWS Ontario)		09/20/2012
Wildlife Specialist	Tom Segal (USFWS Ontario)		09/20/2012
Wildlife Specialist	Ed Oartee (State Nevada Department of Wildlife)		09/20/2012
Wildlife Specialist	Mark Freese (State Nevada Department of Wildlife)		09/20/2012
Wildlife Specialist	Brad Bauman (State Nevada Deparment of Wildlife)		09/20/2012
Wildlife Biologist	Chad Mellison (USFWS Nevada)		09/20/2012
Wildlife Biologist	Steve Abele (USFWS Nevada)		09/20/2012
Other Technical Specialists	Brad Schultz (Other Humboldt County/UNR Coop Ed)		09/20/2012

Member	Katie Fite (NGO (Non Governmental Organization) Western Watersheds Project)		09/20/2012
Member	John Marvel (NGO (Non Governmental Organization) Western Watersheds Project)		09/20/2012
Member	Ken Cole (NGO (Non Governmental Organization) Western Watersheds Project)		09/20/2012
Permittee	TJ Thompson (Other Winnemucca District Permittee)		09/20/2012
Permittee	John Ugalde (Other Winnemucca District Permittee)		09/20/2012
Permittee	John Falen (Other Winnemucca District Permittee)		09/20/2012
Permittee	Hank Dufureena (Other Winnemucca District Permittee)		09/20/2012
Permittee	Tim Dufurrena (Other Winnemucca District Permittee)		09/20/2012
Permittee	Ponche Mcerquiaga (Other Winnemucca District Permittee)		09/20/2012

PLAN APPROVAL

The Agency Administrator is responsible for developing, implementing, and evaluating emergency stabilizations and rehabilitation plans, treatments and activities. 620 DM 3.5C

FIELD OFFICE MANAGER DATE

FUNDING APPROVAL

The funding of ES treatments is approved through the appropriate administrative approval level in coordination with the National Office Budget Shop. As funding is available, ES funding requested within a plan that totals below $100,000 may be approved by the State Director, while ES funding of $100,000 and above must be approved by the WO. If the ES funding cap is reached, all ES funding will be approved through the National Office in coordination with State ES&R Coordinators to determine highest priority projects. Funding

of all BAR treatments is accomplished through a scoring process and is dependent on accurate entries into NFPORS. All funding is approved and allocated on a year-by-year basis.