BLM OREGON POST-FIRE RECOVERY PLAN

EMERGENCY STABILIZATION AND BURNED AREA REHABILITATION

PLAN TEMPLATE 2010

DOUGLAS COMPLEX FIRE (HSG9)

BLM Medford District Office

OREGON STATE OFFICE

FIRE BACKGROUND INFORMATION

Fire Name	Douglas Complex
Fire Number	LFESHSG90000 / LFBRHSG90000
District/Field Office	Medford District Office, ROSEBURG DISTRICT OFFICE
Admin Number	LLORM00000
State	OREGON
County(s)	DOUGLAS, JOSEPHINE
Ignition Date/Cause	07/26/2013 Lightning
Date Contained	09/03/2013
Jurisdiction	*Acres*
State	320
Private	23003
BLM	25349
Total Acres	48672
Total Costs	$13,285,000
Costs to LF2200000 (2822)	$5,858,000
Costs to LF3200000 (2881)	$7,427,000

Status of Plan Submission (check one box below)

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

PART 1 - PLAN SUMMARY

BACKGROUND INFORMATION ON FIRE.

The Douglas Complex was ignited by lightening on Friday, July 26th, 2013 in the early morning hours. That morning, 54 fires were ignited by lightning on lands protected by the Douglas Forest Protective Association. The majority of the fire growth occurred in the following 72 hours following ignition (Map 3). Oregon Department of Forestry Team 2 led by Incident Commander Dennis Sifford managed the suppression efforts between July 27th and August 19th. After transition with the Oregon Department of Forestry Team 1 led by Tom Savage, on August 26th, the fire was transferred to a Type 3 organization to continue mop-up and suppression rehabilitation actions. Between ignition and August 3rd, the Rabbit Mountain, Dads Creek and Farmer's Fires had cumulatively burned over 36,000 acres. The acreage affected by the fires at containment (9/3/13) comprised 48,671 acres of Bureau of Land Management, Josephine County, timber industry, and private lands. The fires occurred in the vicinity of the communities of Glendale and Riddle, Oregon.

Local Bureau of Land Management Officials identified numerous resources and values at risk of fire damage and initiated the development of a Burned Area Emergency Response (BAER) Team. Despite strained local resource availability, the Grants Pass and South River Field Offices ordered technical specialists in post-fire response and identified local resource specialists to address values at risk and provide management prescriptions to alleviate or reduce the post-fire affects.

From August 21st through August 31st, BAER Team members conducted aerial and ground reconnaissance of the fire area and downstream values at risk. Values at risk were evaluated in how they related to the Emergency Stabilization Issues (Human life and safety, Soil/Water Stabilization, Habitat for Federal/State Listed, Proposed, or Candidate Species, Critical Heritage Resources, and Invasive Plants and Weeds) and Burned Area Rehabilitation Issues (Lands Unlikely to Recover Naturally, Noxious/Invasive Weeds, Tree/Shrub Planting, and Repair/Replace Fire Damage to Minor Facilities). Risk of loss or damage of resource values was determined by team specialists utilizing an index of risk which considered the probability of occurrence and the magnitude of the consequences of an ESR issue being realized.

To meet the objectives of the Emergency Stabilization and Rehabilitation effort, treatments were developed to reduce or mitigate the probability of damage and magnitude of the consequences of effects to those values determined to be at very high or high risk. Specific issues that the BLM Field offices requested to be addressed include the safety of the public and forest users, stabilization of soils and watershed function, protection of habitats and species of management concern, and rehabilitation of forest communities. These issues are of high enough concern that there has been considerable discussion at the BLM District, State, and Washington Office levels on how some of the activities could proceed given finite available funding in the National BLM ESR Program. Funding from other sources identified at this time includes: $400,000 in fy2014 for seedling grow out, $160,000 for LIDAR and

digital imagery for planning, and $25,000 for seed purchase. Some activities, such as some associated with roads, will be done as part of the individual programs even though they would fall under ESR. For additional information please refer to the BAER Team report and attached cost estimate spreadsheet.

LAND USE PLAN CONSISTENCY

S5 - Noxious Weeds ES Issue 3
See ES Issue 5, Treatment S5.

S5 - Noxious Weeds ES Issue 5
All herbicide treatments will adhere to the BLM list of approved chemicals (most recent list updated September, 2011). Herbicide use would follow application procedures described in the chemical manufacturer's label and would be in conformance with the Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States Programmatic Environmental Impact Statement (PEIS) and the Record of Decision for Vegetation Treatments Using Herbicides on BLM Lands in Oregon (2010).

All proposed treatments are in conformance with these additional existing BLM policies and plans:
• Medford District Record of Decision and Resource Management Plan (1995)
• Medford District Integrated Weed Management Plan (1998)
• BLM Manual 1740—Renewable Resource Improvements and Treatments
• USDI/ BLM. Roseburg District. 1995. Roseburg District Integrated Weed Control Plan and Environmental Assessment.

S6 - Soil Stabilization (Other than seedling, planting) ES Issue 1
In areas of high soil burn severity the there is little to no effective ground cover remaining as most of the litter and duff was consumed. No canopy cover is remaining and there is no potential for needle cast. These factors in addition to the presence of a hydrophobic layer increase the likelihood of run off. Wood straw mulch will help reduce erosion. Approximately 1700 acres of high burn severity on slopes less than 65 percent were identified.

• Page 27 of the Roseburg District RMP (1995) states "Immediately establish an emergency team to develop a rehabilitation plan needed to attain Aquatic Conservation Strategy objectives whenever Riparian Reserves are significantly damaged by a wildfire."
• Page 141 of the RMP lists these Best Management Practices for Wildfire Control:
"Utilize information from burned area surveys to determine if watershed emergency fire rehabilitation is needed."
"Develop a fire rehabilitation plan through an interdisciplinary process."
"Select treatments on the basis of on –site values downstream values, probability of successful implementation, social and environmental considerations … and cost as compared to benefits."
"Examples of emergency fire rehabilitation treatments include … mulching with straw or

other suitable material…."

S6 - Soil Stabilization (Other than seedling, planting) ES Issue 2
See ES Issue 1, Treatment S6.

S8 - Road/Trail Water Diversion ES Issue 1
The proposed actions are consistent with the Medford District Road Maintenance Categorical Exclusion 2012-2016. DOI-BLM-OR-M000-2012-0001-CX.

The proposed actions are also consistent with the Medford and Roseburg Resource Management Plans and Records of Decision (1995).

USDI BLM. 1995. Roseburg District Record of Decision and Resource Management Plan (Under Administrative Actions, page 6): Administrative actions are the day-to-day transactions required to serve the public and to provide optimum use of the resources. These actions are in conformance with the plan, they include but are not limited to: permits or sales of traditional or special forest products; competitive and commercial recreation activities; lands and realty actions, including issuance of grants, leases, and permits and resolution of trespass; facilities maintenance . . . .

Road Maintenance BMPs from RRMP pages 137-138, specifically:

(1) Provide the basic custodial required to protect the road investment and to ensure that damage to adjacent land and resources is held to a minimum.

(2) Perform blading and shaping in such a manner as to conserve existing surface material, retain the original crowned or outsloped self-drainage cross section, prevent or remove rutting berms (except those designed for slope protection) and other irregularities that retard normal surface runoff. Avoid wasting loose ditch material or surface material over the shoulder where it will cause stream sedimentation or weaken slump prone areas. Avoid undercutting backslopes.

(3) Keep road inlet and outlet ditches, catchbasins, and culverts free of obstruction, particularly before and during prolonged winter rainfall. However, hold routine machine cleaning of ditches to a minimum during wet weather.

(4) Remove slide material when it is obstructing road surface and ditchline drainage and either utilize for needed road improvement elsewhere or place in a stable waste area. Avoid sidecasting of slide material where it will damage, overload, or saturate embankments, or flow into downstream drainage courses.

(6) Patrol areas subject to road damage during periods of high runoff.

Replacement of stream-crossing culverts on the Roseburg District can utilize a DNA to inform a decision. The DNA will tier to:

USDI BLM. 2009. Roseburg District Aquatic Restoration Environmental Assessment.

Replacement of culverts that are simply relief culverts (cross-drains) where we can make a no effect call could be done under a Departmental CX included below:

Culvert replacement, excepting stream crossings, Departmental CX Appendix 3 (1.7) as below:

1.7 Routine and continuing government business, including such things as supervision, administration, operations, maintenance, renovations, and replacement activities having limited context and intensity (e.g., limited size and magnitude or short-term effects).

S8 - Road/Trail Water Diversion ES Issue 2
See ES Issue 1, Treatment S8.

S9 - Cultural Protection (Stabilization/Patrol) ES Issue 4
These treatments address the need to protect sensitive cultural resources that were damaged or are at risk following the fire. Consistency with the Medford and Roseburg RMPs and Northwest Forest Plan is detailed in the Douglas Complex ES&BAR Plan and below:

• Page 71 of the 1995 Record of Decision and Resource Management Plan for the Medford District states that the BLM will "Develop project plans to preserve, protect, and enhance archaeological, historical, and traditional use sites, and materials under the District's jurisdiction. This would include protection from wildfires."

• Page 41 of the 1995 Record of Decision and Resource Management Plan for the Roseburg District states that the BLM will "conserve scientific, traditional use, heritage, educational, public, and recreational values of cultural sites." In addition, Oregon BLM has a working Protocol with the State Historic Preservation Office (SHPO) that identifies certain undertakings which do not warrant case-by-case review. These types of undertakings generally do not create new ground disturbance, or do not ordinarily have the potential to affect eligible or potentially eligible sites.

S10 - Tree Hazard Removal ES Issue 1

• Final-Roseburg District Proposed Resource Management Plan/Environmental Impact Statement and Record of Decision (EIS 1994 and RMP/ROD 1995).
Page 30 of the RRMP: Remove snags and logs to reduce hazards to humans along roads and trails and in or adjacent to recreation sites. Leave some materials where coarse wood is inadequate.
• Hazard tree removal along roadways is covered by the:
Medford District Emergency Stabilization and Rehabilitation FY 2013-2016 CX., DOI-BLM-OR-M000-2013-001-CX.

S11 - Facilities ES Issue 1
Several treatments address the need to replace or repair minor facilities and signs and properly inform the public of potential safety and health concerns post-fire. Consistency

with the Medford and Roseburg RMPs and Northwest Forest Plan is detailed in the Douglas Complex ES&BAR Plan.

S12 - Closures (area, OHV, livestock) ES Issue 1
Closure of roads would be for safety reasons. Closure would follow required regulations.

S13 - Monitoring ES Issue 1
The proposed treatments listed in this plan are in conformance with the Medford and Roseburg District RMPs and associated Record of Decisions dated 1995. In the Monitoring and Evaluation Plan Appendix I of the Roseburg RMP it states "The implementation of the RMP will be monitored to ensure that management actions: follow prescribed management direction (implementation monitoring), meet desired objectives (effectiveness monitoring), and are based on accurate assumptions (validation monitoring)…". Therefore, monitoring activities to determine if proposed treatments, repairs, and closures are accomplishing ESR objectives adheres to this direction and is in conformance with the RMP and CEs for the Douglas Complex ES&BAR Plan.

R4 - Seedling Planting BAR Issue 1
Seedling planting actions are consistent with the Medford District and Roseburg District's Resource Management Plans and the Northwest Forest Plan documents, and is detailed summarized below.

Medford District:
• The proposed action is in conformance with the following plan:
Final-Medford District Resource Management Plan/Environmental Impact Statement and Record of Decision (EIS, 1994 and RMP/ROD, 1995).

• Seedling Planting and Associated Treatments are covered by:
-Medford District Emergency Stabilization and Rehabilitation FY 2013-2016 CX., DOI-BLM-OR-M000-2013-001-CX includes tree planting but is limited by number of acres proposed for planting (<4200 acres), associated reforestation treatments are not listed individually but are implied.
-2012 Silviculture Practices- Reforestation, Young Stand Management, and Forest Condition Restoration Treatments (FY12-FY17) CX, DOI-BLM-OR-M070-2011-09-CX.

Actions proposed and analyzed in this CX were developed to be consistent with the management objectives for public lands identified in the MDRMP (1995):

• RMP Objectives
Late-Successional Reserve Objective:
"Protect and enhance conditions of late-successional and old-growth forest ecosystems, which serve as habitat for late-successional and old-growth forest related species including the northern spotted owl and marbled murrelet." Pg. 32

Matrix (General Forest Management Area and Connectivity/Diversity Blocks) Objectives:
"Provide connectivity … between late-successional reserves." Pg.38.
"Provide habitat for a variety of organisms associated with both late-successional and younger forests." Pg. 38.

"Provide for important ecological functions such as dispersal of organisms, carryover of some species from one stand to the next, and maintenance of ecologically valuable structural components such as down logs, snags, and large trees." Pg. 39.

Appendix E. Silvicultural Systems Utilized in the Design of the Resource Management Plan, Conifer Regeneration and/or Establishment of Non-Conifer Plant Species:

"Conifer planting would be done where appropriate to assure that reforestation objectives are promptly met [across all land use allocations]." Pg. 184.

"Late-Successional Reserves will be managed to protect and enhance conditions of late-successional and old-growth forest ecosystems, which serve as habitat for the northern spotted owl and other late-successional and old-growth related species. Silvicultural practices and salvage should therefore be guided by the objective of maintaining adequate amounts of suitable habitat." Pg. 195.

"Silvicultural practices within reserves will be limited to those practices beneficial to the creation of late-successional forest conditions and would include reforestation, maintenance and protection of existing young stands, density management, and fertilization. In addition to practices that put or maintained stands on desired developmental pathways, practices designed to restore forest conditions and other practices designed to reduce the risks of stand loss will be done to maintain long-term habitat viability." Pg. 195.

R4 - Seedling Planting BAR Issue 3
See BAR Issue 1, Treatment R4.

R5 - Noxious Weeds BAR Issue 2
All herbicide treatments will adhere to the BLM list of approved chemicals (most recent list updated September, 2011). Herbicide use would follow application procedures described in the chemical manufacturer's label and would be in conformance with the Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States Programmatic Environmental Impact Statement (PEIS).

All proposed treatments are in conformance with these additional existing BLM policies and plans:
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• USDI/ BLM. Roseburg District. 1995. Roseburg District Integrated Weed Control Plan and Environmental Assessment.

R11 - Facilities BAR Issue 4
The proposed actions are consistent with the Medford District Road Maintenance Categorical Exclusion 2012-2016. DOI-BLM-OR-M000-2012-0001-CX.

The proposed actions are also consistent with the Medford and Roseburg Resource Management Plans and Records of Decision (1995).

USDI BLM. 1995. Roseburg District Record of Decision and Resource Management Plan (Under Administrative Actions, page 6): Administrative actions are the day-to-day

transactions required to serve the public and to provide optimum use of the resources. These actions are in conformance with the plan, they include but are not limited to: permits or sales of traditional or special forest products; competitive and commercial recreation activities; lands and realty actions, including issuance of grants, leases, and permits and resolution of trespass; facilities maintenance ... .

Road Maintenance BMPs from RRMP pages 137-138, specifically:

H. (1) Provide the basic custodial required to protect the road investment and to ensure that damage to adjacent land and resources is held to a minimum.

H. (2) Perform blading and shaping in such a manner as to conserve existing surface material, retain the original crowned or outsloped self-drainage cross section, prevent or remove rutting berms (except those designed for slope protection) and other irregularities that retard normal surface runoff. Avoid wasting loose ditch material or surface material over the shoulder where it will cause stream sedimentation or weaken slump prone areas. Avoid undercutting backslopes.

H. (3) Keep road inlet and outlet ditches, catchbasins, and culverts free of obstruction, particularly before and during prolonged winter rainfall. However, hold routine machine cleaning of ditches to a minimum during wet weather.

H. (4) Remove slide material when it is obstructing road surface and ditchline drainage and either utilize for needed road improvement elsewhere or place in a stable waste area. Avoid sidecasting of slide material where it will damage, overload, or saturate embankments, or flow into downstream drainage courses.

H. (6) Patrol areas subject to road damage during periods of high runoff.

Replacement of stream-crossing culverts on the Roseburg District can utilize a DNA to inform a decision. The DNA will tier to:

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Replacement of culverts that are simply relief culverts (cross-drains) where we can make a no effect call could be done under a Departmental CX included below:

Culvert replacement, excepting stream crossings, Departmental CX Appendix 3 (1.7) as below:

1.7: Routine and continuing government business, including such things as supervision, administration, operations, maintenance, renovations, and replacement activities having limited context and intensity (e.g., limited size and magnitude or short-term effects).

R12 - Closures (area, OHV, livestock) BAR Issue 4
Closure of roads would be for safety reasons. Closure would follow required regulations.

R13 - Monitoring BAR Issue 1

The proposed treatments listed in this plan are in conformance with the Medford and Roseburg District RMPs and associated Record of Decisions dated 1995. In the Monitoring and Evaluation Plan Appendix I of the Roseburg RMP it states “The implementation of the RMP will be monitored to ensure that management actions: follow prescribed management direction (implementation monitoring), meet desired objectives (effectiveness monitoring), and are based on accurate assumptions (validation monitoring)…”. Therefore, monitoring activities to determine if proposed treatments, repairs, and closures are accomplishing ESR objectives adheres to this direction and is in conformance with the RMPs.

R13 - Monitoring BAR Issue 2

The proposed treatments listed in this plan are in conformance with the Medford and Roseburg District RMPs and associated Record of Decisions dated 1995. In the Monitoring and Evaluation Plan Appendix I of the Roseburg RMP it states “The implementation of the RMP will be monitored to ensure that management actions: follow prescribed management direction (implementation monitoring), meet desired objectives (effectiveness monitoring), and are based on accurate assumptions (validation monitoring)…”. Therefore, monitoring activities to determine if proposed treatments, repairs, and closures are accomplishing ESR objectives adheres to this direction and is in conformance with the RMPs.

R13 - Monitoring BAR Issue 3

The proposed treatments listed in this plan are in conformance with the Medford and Roseburg District RMPs and associated Record of Decisions dated 1995. In the Monitoring and Evaluation Plan Appendix I of the Roseburg RMP it states “The implementation of the RMP will be monitored to ensure that management actions: follow prescribed management direction (implementation monitoring), meet desired objectives (effectiveness monitoring), and are based on accurate assumptions (validation monitoring)…”. Therefore, monitoring activities to determine if proposed treatments, repairs, and closures are accomplishing ESR objectives adheres to this direction and is in conformance with the RMPs and CEs for the Douglas Complex ES&BAR Plan.

R13 - Monitoring BAR Issue 4

The proposed treatments listed in this plan are in conformance with the Medford and Roseburg District RMPs and associated Record of Decisions dated 1995. In the Monitoring and Evaluation Plan Appendix I of the Roseburg RMP it states “The implementation of the RMP will be monitored to ensure that management actions: follow prescribed management direction (implementation monitoring), meet desired objectives (effectiveness monitoring), and are based on accurate assumptions (validation monitoring)…”. Therefore, monitoring activities to determine if proposed treatments, repairs, and closures are accomplishing ESR objectives adheres to this direction and is in conformance with the RMPs and CEs for the Douglas Complex ES&BAR Plan.

COST SUMMARY TABLES

Emergency Stabilization (LF2200000)

Action/ Spec #	ES Issue #	Planned Action	Unit (Acres, WMs, Number)	# Units	Unit Cost (If Appl.)	FY 2013	FY 2014	FY 2015	FY 2016	Totals by Spec.
S1		Planning (Project Management)	WM'S	9	$5,000.00	$0.00	$15,000.00	$15,000.00	$15,000.00	$45,000.00
S2										
S3										
S4										
S5	5	Noxious Weeds	Acres	25,349	$4.26	$0.00	$108,000.00	$0.00	$0.00	$108,000.00
S6	2	Soil Stabilization (Other than seedling, planting)	Acres	1,700	$1,782.35	$0.00	$3,030,000.00	$0.00	$0.00	$3,030,000.00
S7										
S8	1	Road/Trail Water Diversion	#	37	$66,513.51	$0.00	$2,461,000.00	$0.00	$0.00	$2,461,000.00
S9	4	Cultural Protection (Stabilization/Patrol)	#	5	$2,200.00	$0.00	$11,000.00	$0.00	$0.00	$11,000.00
S10	1	Tree Hazard Removal	#	25	$1,000.00	$0.00	$25,000.00	$0.00	$0.00	$25,000.00
S11	1	Facilities	#	30	$333.33	$0.00	$10,000.00	$0.00	$0.00	$10,000.00
S12	1	Closures (area, OHV, livestock)	#	22	$1,000.00	$0.00	$22,000.00	$0.00	$0.00	$22,000.00
S13	1	Monitoring	Acres	25,349	$5.76	$0.00	$68,000.00	$43,000.00	$35,000.00	$146,000.00
S14										
[redacted]		**TOTAL COSTS (LF2200000)**				**$0**	**$5,750,000**	**$58,000**	**$50,000**	**$5,858,000**
OTHER FUND CODE TOTALS:						[redacted]				
[redacted]		TOTAL COSTS (???)								
[redacted]		TOTAL COSTS (???)								
[redacted]		TOTAL COSTS (???)								

Burned Area Rehabilitation (LF3200000)

Action/ Spec #	BAR Issue #	Planned Action	Unit (Acres, WMs, Number)	# Units	Unit Cost (If Appl.)	FY 2013	FY 2014	FY 2015	FY 2016	Totals by Spec.
R1										
R2										
R3										
R4	1	Seedling Planting	Acres	6,240	$879.06	$0.00	$804,000.00	$2,351,000.00	$2,330,000.00	$5,485,000.00
R5	2	Noxious Weeds	Acres	400	$90.00	$0.00	$0.00	$18,000.00	$18,000.00	$36,000.00
R6										
R7										
R8										
R9										
R10										
R11	4	Facilities	Miles	300	$5,423.33	$0.00	$788,000.00	$477,000.00	$362,000.00	$1,627,000.00
R12	4	Closures (area, OHV, livestock)	#	50	$500.00	$0.00	$11,000.00	$7,000.00	$7,000.00	$25,000.00
R13	1	Monitoring	Acres	7,155	$35.50	$0.00	$55,000.00	$94,000.00	$105,000.00	$254,000.00
R14										
[redacted]		**TOTAL COSTS (LF3200000)**				**$0**	**$1,658,000**	**$2,947,000**	**$2,822,000**	**$7,427,000**
OTHER FUND CODE TOTALS:						[redacted]				
[redacted]		TOTAL COSTS (???)								
[redacted]		TOTAL COSTS (???)								
[redacted]		TOTAL COSTS (???)								

PART 2 - POST-FIRE RECOVERY ISSUES

EMERGENCY STABILIZATION ISSUES

1 - Human Life and Safety

Approximately 36 percent of the burned area was subjected to Moderate to High Burn Severity (about 17,000 acres). Because of the high levels of human activity in the area associated with recreation, timber harvest, and land management, there is substantial threat to human life and safety within the burned area from hazard trees along roadways and the railroad, from landslides and debris flows during rainfall and snowmelt events, and from damage to roadways where organic material burned out of the road base.

2 - Soil/Water Stabilization

Approximately 17,000 acres within the Douglas Complex burned at a high to moderate severity. There are potential threats to life and property due to steep slopes with the potential for increases in overland flow that could accelerate surface erosion. Values at risk are human life and property, capital improvements, and critical natural resources located within or downstream of the fire that may be subject to damage from flooding, ash, mud and debris deposition, and hillslope erosion. Values at risk for this fire include several homes along Poorman Creek, County and other roads accessible by the public, a section of rail-line, and a listed threatened aquatic species (Oregon Coast coho salmon). There is the potential for increases in peak flows, reduced soil productivity, and changes in water quality due to suspended sediment.

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

For a detailed assessment of habitat conditions and threats to listed and candidate species, please consult the Wildlife and Fisheries Fire Damage Assessment Report section of the attached Douglas Complex BAER Assessment. General issues identified in the assessment are as follows:

• Oregon Coast coho salmon are listed as threatened under the Endangered Species Act and are present in many streams throughout the burn area. Critical habitat for Oregon Coast coho salmon is at risk of degradation or loss due to the very high risk of sediment input into fish bearing streams above background natural variability.
• Two federally listed terrestrial species and/or habitat occur within the fire area. These species are the northern spotted owl and the marbled murrelet.
• Potential effects, including loss of habitat for terrestrial species from the fire and rehabilitation actions.
• Unacceptable loss of vegetative diversity, Unacceptable loss of vegetative structure, and Unacceptable disruption of ecological processes: Loss of or reduction in conifer component within late successional reserves, Known Spotted Owl Activity Centers (KSOACs), and designated critical habitat. Loss of ecological function and process has occurred in some of these areas. Desired structure associated with conifer and mixed conifer/hardwood stands may not develop or may not develop at an acceptable rate if stands become dominated by shrubs and hardwoods. Ecological processes that require conifers may not occur or take a

long time to recover.
• Potential effects to terrestrial species from emergency stabilization actions.

4 - Critical Heritage Resources
Maintenance of cultural resource integrity is an emergency stabilization issue for the Douglas Complex. Cultural resources are known to exist within the fire perimeter. Proposed emergency stabilization and rehabilitation measures for other resources may pose a risk to known cultural resources. Consultation with appropriate parties to meet legal mandates and ensure Tribal concerns are known and considered in the mitigation of fire effects on the resources will need to be done.

5 - Invasive Plants and Weeds
Non-native invasive species and noxious weeds are present within the burn area. Invasive species and noxious weeds are recognized as posing threats to biological diversity, second only to direct habitat loss and fragmentation. Invasives and noxious weeds are known to alter ecosystem functions such as nutrient cycles, hydrology, and wildfire frequency; to outcompete and exclude native plants and animals; and to hybridize with native species. Noxious weeds and non-native invasive species that have been identified to exist in and adjacent to the burn area include: bull thistle, Canada thistle, Dyer's woad, gorse, hedgehog dogtail grass, Himalayan blackberry, Japanese knotweed, meadow knapweed, poison hemlock, purple loosestrife, rush skeletonweed, Scotch broom, Spanish broom, spotted knapweed, tansy ragwort, woolly distaff thistle, and yellow starthistle.

BURNED AREA RECOVERY ISSUES

1 - Lands Unlikely to Recover Naturally
Achievement of land management objectives is dependent upon the presence of forest stands that contain high percentages of conifer species. GIS analysis indicates that 7713 acres of forest land burned at a moderated or high severity. Approximately forty-one percent of this area is classified Riparian Reserve (RR). Thirty-four percent is classified Late-Successional Reserve (LSR). While natural seeding of burned areas by conifer species will occur in some areas, it will not be in sufficient amounts to meet land management plan assumptions or allow for management objectives such as the development of late-successional forest habitat to occur within an acceptable time frame. Seed sources capable of naturally seeding the burn have been lost in some areas. Pine species that are less able to compete with established shrubs and hardwoods are at risk of not being present within stands left to develop on their own. Sugar pine, a desired conifer species, is susceptible to the introduced pathogen white pine blister rust. Sugar pine has a wide range of resistance to the disease. Seedlings with higher degrees of resistance can be planted resulting in a much higher degree of certainty in maintaining that species within the stand.

2 - Weed Treatments
Noxious weeds have been identified to exist in and adjacent to the burn area. See ES Issue 5 - Invasive Plants and Weeds for a listing of species known to be present.

3 - Tree Planting
Achievement of land management objectives is dependent upon the presence of forest stands that contain high percentages of conifer species. GIS analysis indicates that 7713

acres of forest land burned at a moderated or high severity. Approximately forty-one percent of this area is classified Riparian Reserve (RR). Thirty-four percent is classified Late-Successional Reserve (LSR). While natural seeding of burned areas by conifer species will occur in some areas, it will not be in sufficient amounts to meet land management plan assumptions or allow for management objectives such as the development of late-successional forest habitat to occur within an acceptable time frame. Seed sources capable of naturally seeding the burn have been lost in some areas. Pine species that are less able to compete with established shrubs and hardwoods are at risk of not being present within stands left to develop on their own. Sugar pine, a desired conifer species, is susceptible to the introduced pathogen white pine blister rust. Sugar pine has a wide range of resistance to the disease. Seedlings with higher degrees of resistance can be planted resulting in a much higher degree of certainty in maintaining that species within the stand.

Forest habitat for the northern spotted owl and other forest dependent species was lost during the Douglas Complex fire. Approximately seventy-seven hundred acres of BLM managed public lands were burned with moderate or high severity. These acres are now susceptible to colonization by noxious weeds and invasive plant species. Tree planting (artificial regeneration) is necessary to achieve land management objectives and plan assumptions that depend on the presence of forest stands. Tree planting would be done to reestablish burned forest habitat, reestablish native species lost in the fire, and to create conditions that prevent the establishment of invasive plant species.

4 - Repair/Replace Fire Damage to Minor Facilities

There are approximately 126 miles of BLM-controlled roads that were within the fire perimeter. Of these 126 miles, approximately 70 miles will receive treatment with approximately 30 of those miles being paved roads.

Debris resulting from the fire was found in culvert catch basins, in ditches, and on the roadway (See Figures 1, 2, and 3, Appendix IV). This debris was generally rocky material or burnt material. These roads will have less capacity to deal with the increased runoff and debris loading resulting in a higher potential for road failures.

A high number of arterial roads (class 1) have burnt stumps/logs (See Figure 1, Appendix IV) in the roadways that have resulted in holes and caverns. Some holes have collapsed and have started to compromise the integrity of the road bed and fill slope. One road in particular had 8 visible burnt stump/log holes in a 1.10-mile section of road. Infrared was used to scan the road for more burning areas in the roadway. It was found that for every one visible hole, there were 2-3 more that had not collapsed. These caverns that have not surfaced may not show up until after one or two wet seasons. They are very much a safety concern.

Culvert issues that were noted include: some are undersized, plugged, or will have erosion problems with increased runoff and debris loading (See Figures 1 and 2, Appendix IV). A major concern is that a plugged culvert may cause flow and debris to overtop a roadway and cause a major road failure resulting in an accelerated delivery of sediment to Oregon Coast coho salmon streams, especially along the approximately 20 miles of road that is within 0.10 miles of these streams. Another 17 miles of road was found to have the potential of high impact on Oregon Coast coho salmon streams if a major road failure were to take place. Erosion was noted at locations where energy dissipaters such as splash pads or

downspouts were inadequate or not present.

Along some roads, especially along Roads 30-6-32.0, 32-8-1.0, 32-8-1.1 and 33-7-2.0, the topography is very steep with slopes over 80 percent being common. These four roads access tens of thousands of acres of public, private industry, and private individual lands. Traffic on the 30-6-32.0 and 33-7-2.0 roads is very high. Traffic on the 32-8-1.0 and 32-8-1.1 is high. These areas have been subjected to moderate to severe burn severity. High burn severity areas coupled with steep side slopes and increased runoff will result in increased raveling and an increase in the potential for land slides. Safety of the public, industry, and employees in these areas is a major concern.

The 33-7-2.3 is within 0.25 miles of Cow Creek which is a Oregon Coast coho salmon critical habitat stream. There were several draw locations with scour that did not have any culverts or armored water dips for water to cross the road. There was also one location that appeared to be a burnt out log culvert. Evidence of erosion was present on the road. The area adjacent to this road exhibited signs of moderate to high fire severity with steep slopes and heavy debris loading above the road. With increased runoff, the potential is high to very high that this road will fail resulting in large amounts of sediment to be delivered into Cow Creek.

PART 3 - DESCRIPTION OF TREATMENTS

Issue 1 - Human Life and Safety

S6 Soil Stabilization (Other than seedling, planting)

A. Treatment/Activity Description

In areas of high soil burn severity there is little to no effective ground cover remaining as most of the litter and duff was consumed. No canopy cover remains so there is no potential for needle cast. These factors in addition to the presence of a hydrophobic layer increase the likelihood of run off. Wood straw mulch will help reduce erosion. Approximately 1700 acres of high burn severity on slopes less than 65 percent were identified in the Poorman Creek, Perkins Creek, Cow Creek, and Middle Creek drainages. Aerial application of 6 tons of wood straw mulch per acre is desired to obtain approximately 60 percent ground cover of mulch to allow for nutrient cycling and soil stabilization.

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

The Erosion Risk Management Tool (ERMiT) was used to predict soil loss (Robichaud, 2000). Each soil has an assigned annual allowable soil loss, established by the USDA-Natural Resource Service. Soils will retain their productivity as long as this soil loss threshold is not exceeded. These values for the Douglas Complex fire range from 2 ton/acre per year, to 5 tons per acre/year.

Given the homogeneity of the soils within the Douglas Complex the main variables used for the ERMiT were slope and burn severity. ERMiT estimated soil erosion rates at 16 to 31 tons/acre the first year after the wildfire within the high severity areas without mulching based on a 20 percent probability sediment yields will be exceeded. ERMiT estimates that mulching will reduce the sediment yield when mulch is applied at 2 tons/acre and estimates of sediment yield are reduced to 4-7 tons/acre. It is important to recognize that these numbers are estimates and are not based on measured erosion values in this area. Research has demonstrated that the correlation between slope and flow velocity is lower than expected when slopes contain high rock surface cover (Nearing, 1998). It appears that the greater rock cover causes the surface to be hydraulically rougher, which in turn counteracts the effect of slope on flow velocity. The surface rock armoring should serve to reduce the soil loss below the values shown above. The amount of the reduction is not known. However, first-year post-fire sediment transport, due to water erosion, is expected to exceed the allowable soil loss tolerance for the area.

Due to the presence of several homes along Poorman Creek, hydrologic flow modeling was used to assess the potential risk to this area. Over 50 percent of the watershed above the highest homestead had either a high or moderate burn severity. Using the USGS streamstats program (http://water.usgs.gov/osw/streamstats/oregon.html), the 2-year and 10-year floods were calculated for the unburned watershed condition. These values were then recalculated using the ERMiT Model Peak Flow Calculator to estimate post fire runoff of these same return intervals.

Channel morphology was surveyed above the upper most structure along Poorman Creek road. A stream channel cross section was collected and estimated flow values were used to determine stream channel capacity at those flows. At the 2-year flood, no change in flow quantity was found from these model runs. At the 10 year flood, an increase in flow of about 20 percent was estimated under the burned area condition compared to the unburned. This amount of flow is equivalent to a 25-year flood under unburned conditions and would exceed the capacity of the channel enough to overtop several bridges which access homes in this area. Most homes appear to be situated on higher terraces along the channel but some homes may be at risk of minor flooding at this flow.

Another residence located along Hughes Gulch had 38 percent of the area above it burned at either high or medium severity. However, these model runs showed no significant increase in flow post fire.

Perkins Creek was one of the hardest hit drainages within the Douglas Complex. Fifty one percent of the watershed had high severity burn and 24 percent had moderate. Flow modeling shows approximately 10 percent increase in peak flow at the 10 year flood. The main value at risk in this area is the culvert crossing at the county road at the bottom of the drainage. There is a large amount of fill over this culvert and the potential for plugging is high. If plugging occurs, a large amount of water could potentially get stored before overtopping or washing out the road. This area should be monitored closely during large storm events. No other structures were found to be at risk in this area.

All other areas with large amounts of high burn severity (greater than 10 percent) are along Cow Creek or Middle Creek where the main values at risk include forest roads, the Cow Creek Road backcountry byway, and the railroad. The portion of the burn area that drains to Cow Creek is within the source water area of the Community of Riddle, OR. The intake for Riddle's water supply is approximately 17 miles downstream of the burn area. Additional sediment and turbidity inputs are expected from the burn area but due to the distance downstream, are not expected to significantly affect Riddle's water supply.

Large amounts of floatable debris are expected to enter the Cow Creek system from the burn area. All bridge crossings on Cow Creek within and below the burn area were examined to determine the risk catching debris. The only bridge found with some concern of potential debris build up is located between the Rabbit and Dads Creek burn areas. This bridge is located at a narrower constriction along Cow Creek and has a center pier located within the active channel. This area should be monitored during large storm events.

Residential structures, roads bridges, culverts, and the railroad were evaluated for risk from increased erosion, flooding or debris flows. The BAER hydrologist and soil scientist conducted a rapid assessment of life, property, and critical natural resources within and downstream of the fire.

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

From the 2012 Joint Fire Science Project Final Report 07-1-1-01, "Evaluating the Effectiveness of Wood Shreds on Post-Fire Erosion":

"Agricultural straw mulching is a commonly used post-fire hillslope erosion control

treatment that is aerially applied by helicopter. While widely used and reasonably effective at reducing erosion, agricultural straw is not native to the forest environment. There is a growing consensus among Burned Area Emergency Response (BAER) teams that mulch made from native forest material would be preferable to agricultural straw. Wood shred mulch made from post-fire road hazard trees is an alternative to agricultural straw. An optimized blend of sizes of wood shreds was effective in reducing sediment yields in both indoor rainfall simulation and outdoor field experiments. Several post-wildfire field experiments showed that wood shreds and agricultural straw were effective in reducing sediment yields as compared to the controls but neither treatment had an effect on runoff. Erosion reductions from wood shred treatments ranged from 50-96% in these experiments, and the presence and effectiveness of wood shreds appears to outlast both agricultural straw and hydromulch."

The proposed treatment will provide soil protection and reduce sediment yields to downstream culverts, roads, and Oregon Coast coho salmon critical habitat. Applying straw or wood mulch to the areas of high burn severity is a cost-effective method of reducing the risk of loss of facilities and higher costs of repair than if left untreated.

S8 Road/Trail Water Diversion

A. Treatment/Activity Description

See the Douglas Complex Fire Transportation System and Facility Damage Assessment Report, pages 20-22 for detailed specifications.

Road treatments proposed for treatment for human life and safety and critical habitat for listed species are:
1) 30-6-32.0 (Cow Creek Access)
2) 32-7-19.0 (Skull Creek Road)
3) 32-7-19.3 (up to junction w/ -24.1 road) (Dutch Henry Road)
4) 32-7-20.1 (past Junction w/ -18.0 road) (Susan Creek 101)
5) 32-8-1.0 (Middle Creek Access)
6) 32-8-1.1 (West Fork Cow Creek Road)
7) 32-8-24.0 (300 Road)
8) 32-8-24.1 (Riffle Creek Road 210)
9) 33-7-2.0 (Cow Creek Road)
10) 33-7-2.3 (Tuller Creek Road)

Roads listed above total 37.0 miles (25.3 miles are Bituminous Surface Treatment (BST), and 11.7 miles are either rocked or natural surface) and should have debris cleaned out of ditch lines and culvert catch basins prior to the wet season to help prevent blockages and plugging. This activity will reduce the probability of water overtopping the road and causing road failures. Energy dissipaters should be installed or replaced to reduce erosion at the outlet end of culverts. All gravel roads should be bladed, watered, and rolled to maintain or improve drainage patterns and ensure increased runoff can be handled. Undersized or damaged culverts should be replaced with culverts that have the capacity to pass water volumes equivalent to a 100 year flood event. ESR funds would be used to replace fire damaged culverts and where necessary for work that accommodates increased water flows

from burned areas. (Program funds would be used for work considered routine maintenance. Anticipated levels of non-ESR funding for road work are noted on the attached detailed cost spreadsheet.) Armored water dips shall be utilized to help facilitate water to flow across roads without eroding the road prism. Burnt out stump and log holes should have all organic material excavated from site. Suitable material should be used to replace excavated organic material.

An extensive monitoring plan will be implemented for a three year period. Storm patrols will be set up to patrol the road systems. On average, these drainages have 6-10 intense storms a year that could have enough increased runoff to cause major damage. Assuming the worst, storm patrols will monitor roads 10 times in the first year, 8 times the second year, and 6 times the third year as the risk of failure decreases. Storm patrols would need to be set up by both the Medford and Roseburg District's and would consist of two teams of two for each district. Storm patrol members would clean out ditches and culverts that could be cleaned out by hand tools. Sites that could not be cleaned out by hand tools would need to be reported to equipment operators that would then mobilize to remove debris from ditches, culverts, or roads. This will help reduce the probability of road failures and will also increase traffic safety.

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

There are approximately 126 miles of BLM-controlled roads that were within the fire perimeter. Of these 126 miles, approximately 70 miles will receive treatment with approximately 30 of those miles being paved roads.

Debris resulting from the fire was found in culvert catch basins, in ditches, and on the roadway (See photos 1, 2, and 3, Appendix IV). This debris was generally rocky material or burnt material. These roads will have less capacity to deal with the increased runoff and debris loading resulting in a higher potential for road failures.

A high number of roads have burnt stumps/logs (See photo1, Appendix IV) in the roadways that have resulted in holes and caverns. Some holes have collapsed and have started to compromise the integrity of the road bed and fill slope. One road in particular had 8 visible burnt stump/log holes in a 1.10-mile section of road. Infrared was used to scan the road for additional burning areas within the roadway. It was found that for every visible hole, there were 2-3 holes that had not collapsed. These caverns that have not surfaced may not show up until after one or two wet seasons. They are very much a safety concern.

Culvert issues that were noted include: some are undersized, plugged, or will have erosion problems with increased runoff and debris loading (See photo 2, Appendix IV). A major concern is that a plugged culvert may cause flow and debris to overtop a roadway and cause a major road failure resulting in an accelerated delivery of sediment to Oregon Coast coho salmon streams, especially along the approximately 20 miles of road that is within 0.10 miles of these streams. Another 17 miles of road was found to have the potential of high impact on Oregon Coast coho salmon streams if a major road failure were to take place. Erosion was noted at locations where energy dissipaters such as splash pads or downspouts were inadequate or not present.

Along some roads, especially along Roads 30-6-32.0, 32-8-1.0, 32-8-1.1 and 33-7-2.0, the

topography is very steep with slopes over 80 percent being common. These four roads access tens of thousands of acres of public, private industry, and private individual lands. Traffic on the 30-6-32.0 and 33-7-2.0 roads is very high. Traffic on the 32-8-1.0 and 32-8-1.1 is high. These areas have been subjected to moderate to severe burn severity. High burn severity areas coupled with steep side slopes and increased runoff will result in increased raveling and an increase in the potential for landslides. Safety of the public, industry, and employees in these areas is a major concern.

The 33-7-2.3 is within 0.25 miles of Cow Creek, which is a Oregon Coast coho salmon critical habitat stream. There were several draw locations with scour that did not have any culverts or armored water dips for the water to cross the road. There was also one location that appeared to be a burnt out log culvert. Evidence of erosion was present on the road. The area adjacent to this road exhibited signs of moderate to high fire severity with steep slopes and heavy debris loading above the road. With increased runoff, the potential is high to very high that this road will fail resulting in large amounts of sediment to be delivered into Cow Creek.

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

Culverts/Water dips – To ensure safety along the roads within the burned area, these actions will ensure the safety of the traveling public within the burned area, especially during precipitation events that are likely to occur. The costs associated with these actions is reasonable given the expense that could be incurred should the roads be severely damaged; public safety would be at risk due to the amount of traffic the area receives if the 20 culverts were not replaced and the three armored dips not constructed to facilitate expected flows.

Patrol/Slide Response - A high number of roads have burnt stumps/logs in the roadways that have resulted in holes and caverns. Some holes have collapsed and have started to compromise the integrity of the road bed and fill slope. One road in particular had 8 visible burnt stump/log holes in a 1.10-mile section of road. Infrared was used to scan the road for additional burning areas in the roadway. It was found that for every visible hole, there were 2-3 that had not collapsed. These caverns that have not surfaced may not show up until after one or two wet seasons. They are very much a safety concern.

Areas identified for patrol and slide response have been subjected to moderate to severe burn severity. High burn severity areas coupled with steep side slopes and increased runoff will result in increased raveling and an increase in the potential for landslides. Safety of the public, industry, and employees in these areas is a major concern.

The proposed treatment is reasonable and cost effective because the patrols will provide early detection of issues that put public safety at risk, and reduce the cost of response if culverts and ditches are cleaned before they become plugged with debris or landslides preclude safe access on major access routes.

S10 Tree Hazard Removal

A. Treatment/Activity Description

Evaluate for, and where appropriate, fall hazard trees (conifers and hardwoods) along

roadways, (removal of hazard trees along roadways will be done when feasible and where the material is not desired to meet large woody material guidelines through commercial sales), outside the railroad right of way, and within areas where emergency stabilization treatments are to be done.

For hazard tree removal (as well as other ESR treatments) determination of treatment area boundaries may be difficult or impossible due to the destruction of boundary tags and/or corner markers during the fire. At this time it is unknown as to the extent of remonumentation needed. Potential cadastral needs have been estimated and are included as an attachment to this plan. Cadastral costs were not included in this plan. Assessment of need will be done during fy2014 and appropriate costs will be included in the first year monitoring report and budget request for fy2015 and fy2016.

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

There is the potential for loss of life, injury, and damage to property from hazard trees along roads and within units proposed for ESR treatments. The Douglas Complex encompassed approximately 49,000 acres of BLM managed public lands, Oregon Department of Forestry lands, and private lands. An estimated 17,700 acres burned at a high or moderate severity (hot enough to kill conifer and hardwood trees). BLM manages over 40 percent of these acres (7700 acres). The area within the fire perimeter is well roaded. In addition to roads being used by private land owners for access to their properties, roads are used by hunters, people gathering special forest products, and sightseers. There is a rail line that goes through the burn and while the railroad is on property owned by them by fee, hazard trees from adjacent BLM lands could end up on the tracks. In addition to potential loss of life, injury, and damage along roads or rail line, there is the potential for loss of life or injury from hazard trees to woods workers doing stabilization, rehabilitation, and other treatments in areas burned by the fire.

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

Initiating efforts to identify hazard trees along roads within the interior of the burn and then safely removing them is a cost effective method of eliminating a hazard to human life and safety. While specific numbers of trees to be felled are unknown, along the over 126 miles of roads in the burned area it is anticipated that approximately 25 acres will be intensively inventoried for trees posing a threat. This estimate is more conservative than as stated in the BAER treatments catalog (2008), where treatments are estimated to cost between $340-$1200 per mile.

S11 Facilities

A. Treatment/Activity Description

This treatment is for the installation of burned area warning signs. Burned area signs consist of a warning to the public identifying of the possible dangers associated with a burned area. It shall contain language specifying items to be aware of when entering a burn area such as falling trees and limbs, rolling rocks, and flash floods. Signs will need to be installed at six locations alerting drivers of the potential dangers of falling rock and other material, slides, road failures, and snags. Those locations are on the Cow Creek Access Road (32-6-32.0) between the town of Riddle and the junction with Union Creek, one on the Middle Creek Access Road (32-8-1.0) above where the road enters the fire perimeter, one on the West Fork Cow Creek Road (32-8-1.1) just above where the road enters the fire perimeter, one

on the Cow Creek Road (33-7-2.0) at the beginning of the road near Reuben, one on the Union Creek Road (31-7-19.0), and one on the Dutch Henry Road (32-7-19.3).

The Douglas Complex fires damaged or destroyed scenic byway markers within the fire perimeter. Posts and signs will be replaced along the entire length of the route (approximately 15 signs and posts).

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

Post fire effects, such as falling trees, rolling rocks, and flash floods, have increased the risk to human and life and safety. The need to warn the public of these hazards with which they be totally unfamiliar is a direct result of the fire.

The treatment of replacing signs damaged or destroyed by the fires will re-establish signage as a protection measure for visual resources. The BAER Team considered this treatment to be the minimum necessary to achieve a reduction in risk to the backcountry byway.

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

The treatment is reasonable since protection of human life is a critical value and the loss of even one life is far more than the cost of the treatment.

S12 Closures (area, OHV, livestock)

A. Treatment/Activity Description

Six roads were identified as having the potential for notable increased risk to human life and safety from fire related falling rock and other material, slides and road failure. Barricades may need to be used when a road failure or other hazard makes a road impassable, unsafe, or while the road is being repaired. Roads may need to be closed on a temporary basis until they can be repaired if a section of road is considered unsafe to travel on or if a major road failure or slide/debris flow occurs that is not feasible or safe to repair. To facilitate the closure, purchase of 50 six to 10 foot K-rails (concrete barriers) for placement near areas expected to be at risk of landslides or debris flows will ensure quick response to events that threaten the routes and/or human safety within the burned area.

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

Due to the number of expected high-intensity flow events (6-10), it is highly likely that slides and/or debris flows will occur that will require temporary route closure within the fire area.

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

The purchase of concrete barriers to facilitate route closure is a cost effective temporary protective measure to preclude public access to dangerous areas until a response or repair crew can provide for safe passage. Alternatively, costs would be substantial to install cable netting to catch debris and material.

S13 Monitoring

A. Treatment/Activity Description

Coordination of treatment completion, monitoring, and annual reporting will be facilitated by an implementation and monitoring lead. The role of the implementation and monitoring lead would be to track expenditures, contract development, implementation of actions,

coordinating implementation and effectiveness monitoring, and completion of annual reporting. The amount of time required to complete these above base-program tasks is dependent upon levels of treatments funded. As listed in the attached detailed cost spreadsheet, for the levels of treatments proposed in this plan it is estimated that three workmonths will be required in year one, two workmonths will be required in year two, and two workmonths will be required in year three.

Specific monitoring requirements and objectives can be found in the Douglas Complex ESR Plan and Douglas Complex BAER Assessment.

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

Monitoring is a required component of the program to ensure that actions funded are carried out appropriately, meet the specifications, and are effective at mitigating the issues resulting from the fire or post-fire effects.

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

Labor costs for an implementation and monitoring lead would be more reasonable and cost effective than obtaining a contract for monitoring of each action or group of actions. Sufficient personnel exist within the two districts to allow for a lead to be assigned if funding is made available.

Issue 2 - Soil/Water Stabilization

S6 Soil Stabilization (Other than seedling, planting)

A. Treatment/Activity Description

See ES Issue 1, Treatment S6.

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

See ES Issue 1, Treatment S6.

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

See ES Issue 1, Treatment S6.

S8 Road/Trail Water Diversion

A. Treatment/Activity Description

See ES Issue 1, Treatment S8.

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

See ES Issue 1, Treatment S8.

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

See ES Issue 1, Treatment S8.

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

S5 Noxious Weeds

A. Treatment/Activity Description

See ES Issue 5, Treatment S5.

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

See ES Issue 5, Treatment S5.

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

See ES Issue 5, Treatment S5.

Issue 4 - Critical Heritage Resources

S9 Cultural Protection (Stabilization/Patrol)

A. Treatment/Activity Description

The five known historic and eligible sites within the burned area would be patrolled by district law enforcement personnel and/or archaeologist technicians to ensure the sites were not damaged or looted. It is anticipated that one workmonth of labor costs would be required to adequately patrol the areas.

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

Looting, site disturbance and vandalism are known to occur within the Douglas Complex fire perimeters. Reduced ground cover, the result of fire effects, has exposed cultural resources. Risks to cultural resources from this exposure can be minimized by law enforcement patrols and increased monitoring in selected areas.

The Tribes and SHPO have expressed concerns about potential looting of the newly identified battle site locations (OR110-1737, OR110-1738, and OR110-1798) and support having more patrols of the battle site areas.

The Susan's Creek Trestle/Sawmill (OR110-1096) has been burned over and almost completely destroyed. The remaining structural elements and artifacts exhibit heat/fire damage. Historic background research indicates this was once a thriving little town site that had its own railroad line. Although most of the site has been destroyed, there are enough remaining elements with integrity to qualify for the National Register of Historic Places. A field trip is planned with a BLM transportation engineer to assess impacts to the site from road grading. Increased monitoring is warranted to watch for looting and vandalism.

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

The protection of cultural resources is necessary under legal authorities and land use plans for the area. The cost of resource patrol is efficient given the sites are now lacking vegetative screening and efforts can be focused on protecting the sites while they recover from the fire.

Issue 5 - Invasive Plants and Weeds

S5 Noxious Weeds

A. Treatment/Activity Description

1. Conduct short-term monitoring in FY2014 using early detection and rapid response (EDRR) assessment/monitoring of noxious weed/non-native invasive plant species infestations within the burned area. Monitoring to determine the post-fire presence or spread of invasive species will be conducted.

2. Inventory/assessment, photos and map new noxious weed infestations within burned area using GPS technology and upload into the Medford and Roseburg District BLM database as well as the Bureau NISMS databases.

3. Chemical treatments using pickups, UTVs/ATVs and backpack spray units will be used on any noxious weeds located within the fire on public lands. Coordination with County Departments of Agriculture and or the private land owner will be conducted on noxious weeds found on private lands inside and outside of the burn perimeter.

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

The fire is a disturbance that provides a receptive avenue for the spread of noxious weeds and/or invasive species. Noxious weeds and non-native invasive species are a concern for biodiversity. Weed invasion is a potentially threatening process leading to competition and habitat modification. Plant communities and native species likely to be at greatest risk from weed invasion are those which occupy weed-prone habitats, such as riparian zones and disturbed areas adjacent to and near existing weed infestations. On the Douglas Complex Fires, disturbances caused by suppression forces (dozer lines, drop points, etc.) and transportation routes (roads and trails) are the main vectors for noxious weed invasion. This treatment mitigates this risk by allowing for an early means of detecting new noxious weed occurrences and a quick response for control. This treatment is necessary to prevent the establishment and to control the spread of new noxious weeds and non-native invasive species into the burned area. Chemical treatment of new and existing noxious weed infestations will reduce the likelihood of their spread to disturbed areas and help to re-establish high quality wildlife habitat within the burn.

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

The priority areas proposed for noxious weed/invasive species monitoring and EDRR are very susceptible to invasion due to fire suppression activities. Existing populations of noxious weeds are now adjacent to non-infested areas that are devoid of surface vegetation. The BLM Noxious Weed and Invasive Weed Treatment Program identified strategies for the inventory and treatment of noxious weeds and invasive species. A program of early detection and rapid response to control new infestations is cost effective because it helps to prevent new weed and invasive species invasions from becoming large and too expensive to control.

Issue 1 - Lands Unlikely to Recover Naturally

R4 Seedling Planting

A. Treatment/Activity Description

Tree planting and associated treatments would be done primarily through service contracts

administered by BLM personnel. Service contract work would be completed through competitively bid contracts. Projected treatment costs for these ESR treatments are actual contract costs within an existing service contract. These contract prices are those within an ID/IQ contract where the contractor was selected based on treatment price and ability to successfully complete the work. A limited amount of this work could be done by groups such as watershed councils, the Student Conservation Association, or individuals. It is expected that treatments done by other than reforestation contractors would be adapted to fit special situations and that costs could be higher if a “non-contractor” group did the work. Cost of fertilizer for installation at time of seedling planting is included within the treatment cost. Costs of tubes, shades, and mulches are projected costs based on purchases made in the past.

Seedling survival and the achievement of land management objectives and assumptions can be improved with silviculture treatments associated with tree planting. These treatments include: fertilizer pellet installation, tubing, shading, mulching, and maintenance brushing. Treatments prescribed within the ESR plan have been based on historical levels of treatment on previously established plantations within the fire perimeter as well as on expected growth of competitive vegetation (shrubs and hardwoods), animal browse, soil moisture constraints, and heat exposure. Re-planting of units is also a common practice on harsh sites. In addition to aiding in survival and establishment of newly planted seedlings silviculture treatments that reduce competition tend to increase growth rates. Increased growth rates of newly planted seedlings enable those seedlings to more quickly and completely capture the site from shrubs and hardwoods that sprout from unburned root masses and burls. Silviculture treatments proposed under ESR associated with planting have as their objective to increase the survival of planting seedlings. Additional growth resulting from the treatments would be a bonus.

There has been considerable discussion on the number of trees planted per acre and their spatial arrangement on the landscape after a disturbance such as a wildfire. There are two general lines of thought. The first line is that relatively high densities (500+ trees per acre) are planted. Planting at higher densities is a more conservative approach to achieving target stocking levels at the age of precommercial thinning, 15-25 years depending on site productivity, at a lower cost. Higher initial densities allow for some mortality to occur. Costs to control competing vegetation and to reduce numbers of conifers in “excess” of the target stocking level in overstocked stands are cheaper than the costs to prepare planting spots, interplant, and control competing vegetation in non-stocked stands, understocked stands, or in stands where the numbers of surviving planted conifer seedlings is insufficient to meet wildlife habitat and other management objectives. In addition to increased costs associated with interplanting a stand dominated by established shrubs and hardwoods, there is the loss of time and conifer growth over that time period. Higher density planting also allows for greater management options in the future if factors such as management objectives or economics change. The other line of thought, of planting at lower densities can work in achieving management objectives in some instances however. Initial costs of planting are reduced but the risk of increased treatment costs in the future and risk of failing to meet objectives are increased. Tree planting and associated treatments would generally meet the following guidelines. Some variation that adapted the treatment to better fit site conditions and/or land management objectives would occur.

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

To meet land management objectives, plan assumptions of reforestation within 3 years of disturbance and target stocking levels at the age of pre-commercial thinning (generally 15-25 years depending on site), the majority of areas that burned with moderate to high burn severity will require artificial regeneration. Smaller areas less than 10 acres may not require artificial regeneration depending on size, shape, location, or capability of the site. Artificial regeneration would not be done on non-forest sites.

Approximately 25,350 acres of BLM managed public lands are within the fire perimeter. Burn intensities varied from no-burn to high. Approximately 7700 acres of BLM lands burned in the moderate to high categories. Approximately 3000 acres (39 percent) were of age classes of 50 years or less. Mortality on these acres will be close to 100 percent. Thirty-four percent of the area that had moderate to high intensity burning were Late-Successional Reserves (LSR) where the land management objective is to protect and enhance conditions of late-successional and older forest ecosystems that serve as habitat for late-successional related species such as the northern spotted owl. Forty-one percent of the area that had moderate to high severity burning were categorized in the land use plan as Riparian Reserve. Approximately half of this area was within the LSR. Even though LSR lands do not have Riparian Reserve as a land use allocation within them, using the same rule-set shows how much land within that area are directly affecting the stream areas. Riparian Reserves have two primary functions, to maintain water quality and hydrologic function and to provide connectivity between blocks of older forest for terrestrial wildlife (within Matrix lands). Ecological function was lost in these areas.

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

Treatment is designed to place stands on developmental trajectories so that current RMP objectives, assumptions, and expected outputs can be achieved. Treatment design also allows for a large number of future management options to be possible should a new RMP be implemented. Treatment design allows for possibility that late-successional habitat can be developed over the next 80-100 years as well as allowing possibility of intensive management to occur. Planting and treatment costs are those currently in a competitively bid service contract. Planting at higher densities is a strategy that lowers the risk of incurring high costs to establish conifers in stands dominated by shrubs and hardwoods.

R13 Monitoring

A. Treatment/Activity Description

Monitoring would be conducted annually for three years to evaluate the effectiveness of treatments and attainment of objectives within the burned area. Monitoring will focus on soil stability, soil productivity, invasive species, and listed and special status species habitat. Monitoring data would be collected across the treated area from initiation of the proposed treatments through the year 2016 and would be implemented per the Monitoring sections of each treatment within the BAER Assessment.

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

Monitoring of treatments is required to assess and report the efficacy of actions taken to reduce risks and address the ESR issues.

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

The monitoring of the seedling planting, storm patrols, and weed treatments is necessary to meet handbook guidance on the implementation of ES&R actions. Costs are reasonable given the magnitude of the projects proposed.

Issue 2 - Weed Treatments

R5 Noxious Weeds

A. Treatment/Activity Description

In fiscal years 2015-2016, follow-up treatments will be required on a subset of 2014 treatment sites and all new infestations of high-priority species. Treatments, again, will involve the application of BLM-approved herbicides using backpack sprayers and hydraulic sprayers mounted to UTVs or trucks. Plants will be hand-pulled in sites where herbicide use may not be appropriate. Treatments will be accomplished by contractors and through existing assistance agreements with Douglas Soil and Water Conservation District. BLM vegetation management crews will conduct chemical treatments near sensitive sites, such as near streams and special status plant habitat.

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

One candidate for listing in Oregon, Rogue River stonecrop (Sedum moranii), was directly affected by the fire and may be at further risk. Rogue River stonecrop is endemic to the Rogue River gorge in Josephine County, Oregon. Plants typically grow on dry, steep serpentine (or sometimes metasedimentary) rock outcrops and cliffs at elevations below 900 m (NatureServe 2013). Habitat is typically open, sunny, exposed sites within hardwood and mixed-conifer woodlands. Associated species include Jeffrey pine (Pinus jeffreyi), Douglas-fir (Pseudotsuga menziesii), Pacific madrone (Arbutus menziesii), canyon live oak (Quercus chrysolepis), Oregon white oak (Quercus garryana), bear brush (Garrya fremontii), poison oak (Toxicodendron diversilobum), gold-fern (Pityrogramma triangularis ssp. triangularis), mountain monardella (Monardella odoratissima), silverback luina (Luina hypoleuca), other Sedum species, and several mosses.

Three known small occurrences of Rogue River stonecrop are located within the burn area. Burn severity at two sites was low-moderate and may improve habitat condition by reducing encroaching woody vegetation. Site stability is unlikely to be affected by the fire and the potential for non-native plant invasion is moderate. No plants were observed at either site.

The third site was severely burned, an observation supported by a BARC (Burned Area Reflectance Classification) map of soil burn severity. Rogue River stonecrop was not observed; however, the habitat appears suitable and should be monitored in 2014 in the event that this population recovers and requires post-fire stabilization or weed treatments. Canopy will be greatly reduced in the short-term, although Pacific madrone and canyon live oaks are likely to resprout. Beneficial effects of increased solar radiation from a reduced canopy could be offset if the site is invaded by non-native plants. The site was burned too severely to identify any existing non-native plants; however, in similar habitats on Medford District, yellow starthistle, hedgehog dogtail grass, and bulbous bluegrass (Poa bulbosa) have colonized following fire.

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

Size and abundance of noxious weed infestations as well as any needed treatments would be compared between years one, two, and three to determine treatment effectiveness. If noxious weed populations remain in the burned area beyond the third year, responsibility would be transferred to the Medford and Roseburg District's Noxious Weed Programs for ongoing inventory, treatment and monitoring using funding sources other than ESR.

The priority areas proposed for noxious weed/invasive species monitoring and EDRR are very susceptible to invasion due to fire suppression activities and existing populations of noxious weeds are now adjacent to non-infested areas that are devoid of surface vegetation. The BLM Noxious Weed and Invasive Weed Treatment Program identified strategies for the inventory and treatment of noxious weeds and invasive species. A program of early detection and rapid response to control new infestations is cost effective because it helps to prevent new weed and invasive species invasions from becoming large and too expensive to control.

R13 Monitoring

A. Treatment/Activity Description

Weed infestation treatments will be documented with Trimble Juno (or similar) GPS units loaded with the mobile components of the National Invasive Species Management System (NISMS). The NISIMS database will store all data and facilitate effective tracking and reporting. Treatment sites will be evaluated annually for two years to ensure that treatments are effective and to determine the need for follow-up control or planting treatments. BLM botanists will inspect 20 percent of herbicide application sites within two weeks of treatment to ensure treatment efficacy and determine the need to modify prescriptions. Successful treatments are those that reduce target infestations by 90 percent (as determined by ocular estimate) and prevent the establishment of any Oregon A or B listed noxious weeds not previously located within the burn area.

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

Three occurrences of Rogue River stonecrop were directly affected by the fire; however, only one site merits additional population/habitat monitoring. An additional nine occurrences, including one of the largest documented populations, is less than 300 m from the fire and could be at risk from weed invasion. Medford District botanists recommend monitoring this adjacent habitat and large population for potential post-fire impacts from invasion of noxious weeds known to occur in the vicinity of the population.

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

Size and abundance of noxious weed infestations as well as any needed treatments would be compared between years one, two, and three to determine treatment effectiveness. If noxious weed populations remain in the burned area beyond the third year, responsibility would be transferred to the Medford and Roseburg District's Noxious Weed Programs for ongoing inventory, treatment and monitoring using funding sources other than ESR.

Issue 3 - Tree Planting

R4 Seedling Planting

A. Treatment/Activity Description

See BAR Issue 1, Treatment R4. The 6240 acres proposed for planting to address BAR Issue 3 are the same acres as proposed for planting to address BAR Issue 1.

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

See BAR Issue 1, Treatment R4.

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

See BAR Issue 1, Treatment R4.

R13 Monitoring

A. Treatment/Activity Description

Monitor regeneration success. Determine the adequacy of stocking and tree distribution on all planted areas to meet land use management objectives and plan assumptions within the three year ESR timeline.

Following planting (30 days or more) and prior to the onset of the dry season a post-planting survey will be done on sample of each the seedling lots planted. The purpose of this survey is to determine the quality of seedling lot prior to any stress related mortality resulting from heat or lack of moisture. The survey is done by taking a count of the number of live, dead, and marginal trees within a sample of planted seedlings from each lot. Seedlings that have died as a result of animal browse are not included in the survey count. High numbers of dead seedlings at this time indicate substandard seedling quality and a possible replant situation.

Regeneration surveys will be conducted at the end of the first growing season after planting with follow-up surveys conducted after the third and fifth growing to assess reforestation success on planted areas. (Surveys after three years would not be ESR funded.) Surveys will be done by BLM personnel or through service contract. Silviculturists will evaluate the stocking levels and determine if they are sufficient to meet the land management objectives at that site.

Regeneration Survey standards will be in accordance with the Regeneration Stocking Surveys Handbook (H-5705-1). The presence or absence of suitable conifers less than 4.1" dbh within a fixed plot with a 7.8 foot radius (1/229 acre) will be recorded to determine stocking levels. Seedling condition, competing vegetation, and interfering conditions will be noted to help project future treatment needs. Tubing, shading, mulching, and maintenance brushing treatments contribute to meeting the objective of successful reforestation. Monitoring for those treatments would be implementation monitoring only.

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

Monitoring of treatment efficacy is neccessary to evaluate if the implemented treatment successfully addressed the rehabilitation issue.

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

Monitoring contracts are a cost effective manner of determining planting success. This is

normally done for all planting conducted within the silviculture program.

Issue 4 - Repair/Replace Fire Damage to Minor Facilities

R11 Facilities

A. Treatment/Activity Description

Signs will be replaced within the burned perimeter that were damaged in the fire. Directional and road ID signs, as well as signs for the Backcountry Byway that may be damaged post fire would be replaced.

Roads under BAR treatments:

1) 31-7-31.0 (Hare Creek Spur)
2) 31-7-31.2 (Hare Creek Spur)
3) 31-7-31.3 (Hare Creek Spur)
4) 31-7-31.4 (Hare Creek Spur)
5) 31-7-33.2 (Gold Hill Road)
6) 32-7-18.0 (Susan Creek)
7) 32-7-19.3 (from junction w/ -24.1 to fire line) (Dutch Henry Road)
8) 32-7-20.1 (from Cow Creek Road to -18.0 road junction, Susan Creek 101)
9) 32-8-26.0 (Bonnie Creek 210)
10) 33-7-3.0 (Perkins Creek Road)
11) 33-7-32.0 (Rock Creek Road)
12) 33-7-35.1 (Dry Poorman)
13) 33-8-13.0 (Pine Cone Spring Road)

The roads listed above total 33.2 miles (4.90 miles are BST and 28.3 miles are rocked) and would be extensively monitored over the next three years. Roads would have debris cleaned out of ditch lines and culvert catch basins prior to the wet season to help prevent blockages and plugging. This activity will reduce the probability of water overtopping the road and causing road failures. Energy dissipaters would be installed or replaced to reduce erosion at the outlet end of culverts. All gravel roads would be bladed, watered, and rolled to maintain or improve drainage patterns to ensure increased runoff can be handled. Undersized or damaged culverts would be replaced with culverts that meet the capacity requirements for a 100 year flood event within the drainage. ESR funds would be used to replace fire damaged culverts and where necessary for work that accommodates increased water flows from burned areas. (Program funds would be used for work considered routine maintenance. Anticipated levels of non-ESR funding for road work are noted on the attached detailed cost spreadsheet.) Armored water dips shall be utilized to help facilitate water to flow across roads without eroding the road prism. Burnt out stump and log holes should have all organic material excavated from site. Suitable material should be used to replace excavated organic material.

Culverts should be installed or replaced at approximately 40 sites to accommodate increased runoff and debris. Culvert locations have been identified in moderate to severely burnt areas where existing culverts may not be able to handle increased runoff and debris resulting from

the removal of vegetation by the fire. Priority will be assigned to culvert replacements based on location of those culverts and the effect that they may have on other resources and accessibility. Culvert sizes range from 18”-48” in diameter. All culverts will have splash pads or downspouts installed as energy dissipaters. From previous contracts and the Road Cost program that western Oregon BLM uses for appraisals, the 40 culvert replacements will cost approximately $200,000.00. These estimates include removal, installation, compaction, rip rap and/or downspouts, seeding and mulching, and rocking/repaving sections or road. In addition, 10 armored water dips would be constructed to help facilitate drainage patterns on roads due to the increased runoff expected from the burned areas.

Work that will need to be accomplished by equipment includes ditch cleaning, culvert and catch basin cleaning, slide removal, and road blading before the wet season to ensure proper drainage patterns are established to handle the increased runoff and debris. It is estimated that these roads will need this work completed twice the first year and once in years two and three. Equipment used to ensure this work is accomplished would be front end loader(s), backhoe(s), grader(s), roller(s), water truck(s), dump truck(s), and dozer(s). In heavy rainfall events, two sets of equipment may be needed to keep up with work. Operator costs are approximately $40/hour and equipment costs for rental/lease was estimated at $160.00/hour for a total hourly cost of $200.00/hour.

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

Post fire effects, such as falling trees, rolling rocks, and flash floods, have increased the risk to human and life and safety. The need to warn the public of these hazards with which they be totally unfamiliar is a direct result of the fire. Replacement of signage within the burned area will allow for the safety of the public navigating within the area. Additionally, repairing damage of the fire on facilities such as culverts and road surfaces is necessary for future safety of the public.

The treatment of replacing signs damaged or destroyed by the fires will re-establish signage as a protection measure for visual resources. The BAER Team considered this treatment to be the minimum necessary to achieve a reduction in risk to the routes within the burned area.

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

The treatment is reasonable since protection of human life is a critical value and the loss of even one life is far more than the cost of the treatment. Additionally, because of reciprocal rights agreements with local industry, the roads and culverts will need to be repaired to provide safe access. Repair of roads and facilities is allowable under the Burned Area Rehabilitation program.

R12 Closures (area, OHV, livestock)

A. Treatment/Activity Description

Barricades may need to be used in the event that a road failure makes a road impassable, unsafe, or while the road is being repaired. Roads may need to be closed on a temporary basis until they can be repaired if a section of road is considered unsafe to travel on or if a major road failure or slide/debris flow occurs that is not feasible or safe to repair. To facilitate the closure, purchase of 50 six to 10 foot K-rails (concrete barriers) for placement near areas expected to be at risk of landslides or debris flows will ensure quick response to events that threaten the routes and/or human safety within the burned area.

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

Due to the number of expected high-intensity flow events (6-10), it is highly likely that slides and/or debris flows will occur that will require temporary route closure within the fire area.

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

The purchase of concrete barriers to facilitate route closure is a cost effective temporary protective measure to preclude public access to dangerous areas until a response or repair crew can provide for safe passage. Alternatively, costs would be substantial to install cable netting to catch debris and material.

R13 Monitoring

A. Treatment/Activity Description

Monitoring of the sign installations and closures will be conducted by BLM personnel to ensure the projects were completed as specified.

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

Implementation monitoring is required for actions implemented.

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

Labor costs to determine projects are implemented appropriately is inexpensive and will meet the monitoring requirements.

PART 4 - DETAILED TREATMENT COST TABLE

Action / Spec #	Action Description	Unit Type	# Units	Unit Cost	FY13	FY14	FY15	FY16	Total Cost
S1	**Planning (Project Management)**								
1	Planning FO	Total	3	$5,000.00	$0.00	$5,000.00	$5,000.00	$5,000.00	$15,000.00
2	Planning OSO	Total	3	$5,000.00	$0.00	$5,000.00	$5,000.00	$5,000.00	$15,000.00
3	Planning WO	Total	3	$5,000.00	$0.00	$5,000.00	$5,000.00	$5,000.00	$15,000.00
	Total			**$15,000.00**	**$0.00**	**$15,000.00**	**$15,000.00**	**$15,000.00**	**$45,000.00**
S5	**Noxious Weeds** ES Issue 5								
1	Weed Treatments	Acres	108	$1,000.00	$0.00	$108,000.00	$0.00	$0.00	$108,000.00
	Total			**$1,000.00**	**$0.00**	**$108,000.00**	**$0.00**	**$0.00**	**$108,000.00**
S6	**Soil Stabilization (Other than seedling, planting)** ES Issue 2								
1	Mulch Application	Acres	3,030	$1,000.00	$0.00	$3,030,000.00	$0.00	$0.00	$3,030,000.00
	Total			**$1,000.00**	**$0.00**	**$3,030,000.00**	**$0.00**	**$0.00**	**$3,030,000.00**
S8	**Road/Trail Water Diversion** ES Issue 1								
1	Culverts/Slide Response	Number	2,461	$1,000.00	$0.00	$2,461,000.00	$0.00	$0.00	$2,461,000.00
	Total			**$1,000.00**	**$0.00**	**$2,461,000.00**	**$0.00**	**$0.00**	**$2,461,000.00**
S9	**Cultural Protection (Stabilization/Patrol)** ES Issue 4								
1	Cultural Site Patrol	WM'S	1	$11,000.00	$0.00	$11,000.00	$0.00	$0.00	$11,000.00
	Total			**$11,000.00**	**$0.00**	**$11,000.00**	**$0.00**	**$0.00**	**$11,000.00**
S10	**Tree Hazard Removal** ES Issue 1								
1	Hazard Tree Removal	Acres	25	$1,000.00	$0.00	$25,000.00	$0.00	$0.00	$25,000.00
	Total			**$1,000.00**	**$0.00**	**$25,000.00**	**$0.00**	**$0.00**	**$25,000.00**
S11	**Facilities** ES Issue 1								
1	Sign Install	Number	10	$1,000.00	$0.00	$10,000.00	$0.00	$0.00	$10,000.00
	Total			**$1,000.00**	**$0.00**	**$10,000.00**	**$0.00**	**$0.00**	**$10,000.00**
S12	**Closures (area, OHV, livestock)** ES Issue 1								
1	Closure Barricades	Each	22	$1,000.00	$0.00	$22,000.00	$0.00	$0.00	$22,000.00
	Total			**$1,000.00**	**$0.00**	**$22,000.00**	**$0.00**	**$0.00**	**$22,000.00**
S13	**Monitoring** ES Issue 1								
1	Monitoring	Acres	146	$1,000.00	$0.00	$68,000.00	$43,000.00	$35,000.00	$146,000.00
	Total			**$1,000.00**	**$0.00**	**$68,000.00**	**$43,000.00**	**$35,000.00**	**$146,000.00**
ES	**Grand Total**			**$33,000.00**	**$0.00**	**$5,750,000.00**	**$58,000.00**	**$50,000.00**	**$5,858,000.00**
Action / Spec #	**Action Description**	**Unit Type**	**# Units**	**Unit Cost**	**FY13**	**FY14**	**FY15**	**FY16**	**Total Cost**
R4	**Seedling Planting** BAR Issue 1								
1	Seedling Planting	Acres	6,240	$879.06	$0.00	$804,339.90	$2,351,485.50	$2,329,509.00	$5,485,334.40
	Total			**$879.06**	**$0.00**	**$804,000.00**	**$2,351,000.00**	**$2,330,000.00**	**$5,485,000.00**

R5	**Noxious Weeds** BAR Issue 2								
1	Weed Treatments	Acres	360	$100.00	$0.00	$0.00	$18,000.00	$18,000.00	$36,000.00
	Total			**$100.00**	**$0.00**	**$0.00**	**$18,000.00**	**$18,000.00**	**$36,000.00**
R11	**Facilities** BAR Issue 4								
1	Signs/Roads/Culverts	Number	1,627	$1,000.00	$0.00	$788,000.00	$477,000.00	$362,000.00	$1,627,000.00
	Total			**$1,000.00**	**$0.00**	**$788,000.00**	**$477,000.00**	**$362,000.00**	**$1,627,000.00**
R12	**Closures (area, OHV, livestock)** BAR Issue 4								
1	Road Closures	Each	25	$1,000.00	$0.00	$11,000.00	$7,000.00	$7,000.00	$25,000.00
	Total			**$1,000.00**	**$0.00**	**$11,000.00**	**$7,000.00**	**$7,000.00**	**$25,000.00**
R13	**Monitoring** BAR Issue 1								
1	Treatment Monitoring	Number	2,540	$100.00	$0.00	$55,000.00	$94,000.00	$105,000.00	$254,000.00
	Total			**$100.00**	**$0.00**	**$55,000.00**	**$94,000.00**	**$105,000.00**	**$254,000.00**
BAR	**Grand Total**			**$3,079.06**	**$0.00**	**$1,658,000.00**	**$2,947,000.00**	**$2,822,000.00**	**$7,427,000.00**
Project	**Grand Total**			**$36,079.06**	**$0.00**	**$7,408,000.00**	**$3,005,000.00**	**$2,872,000.00**	**$13,285,000.00**

PART 5 - SEED LISTS

DRILL SEED

AERIAL SEED

SEEDLINGS

Seedling Species	Scientific Name	Acres of Seedlings planted.	# of Seedlings per Acre	Total # of Seedlings	Cost / Seedling	Total Cost
Douglas Fir	Pseudotsuga menziesii	6,240.0	494	3,082,560	$ 0.30	$924,768.00
TOTALS:		6,240.0	494	3,082,560		$924,768.00

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 species are adapted to the ecological sites within the proposed treatment areas. These species have been extensively used in similar ecological sites with the Grants Pass and South River Field Offices.

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

Yes [X] No [ ] Rationale:

Provided funding is available, native seedlings proposed for planting within the ~7700 of moderate to high severity burn areas are available in the required quantities.

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:

Seedlings appropriate for proposed ESR treatments will be grown under contracts and/or agreements that have established costs for seedling production. These costs were negotiated to be fair to the Government as well as the Contractor/grower. Quality standards are determined by the Government.

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:

With proposed support treatments, seedlings will survive in sufficient numbers to meet or exceed ESR objectives and provide a base for more longer-term land management objectives to be met. Additional follow-up treatments may be necessary to meet long-term objectives.

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:

Achievement of RMP objectives is dependent upon the presence of site-appropriate conifer stands. Actions are designed to promote or maintain these stands. Areas will be managed to meet the objectives of the land use allocation as well as the habitat requirements of species recovery plans.

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 [ ] No [X] Rationale:

The use of non-native plants is not necessary to meet objectives. Non-native plants are not proposed for use.

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 [ ] No [X] Rationale:

Non-native plants are not proposed for use. Non-native plants if substituted for the native plants proposed for use would not meet the objectives for which they were planted without diminishing diversity and disrupting ecological processes. Note: Native plants that were not appropriate to the site (incorrect seed zone or elevation) may also not meet the objectives for which they were planted.

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

Yes [ ] No [X] Rationale:

Non-native plants are not proposed for use.

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

Non-native Plants	Native Plants
	Douglas Fir (Pseudotsuga menziesii)

PART 7 - COST-RISK ANALYSIS

A. Probability of Treatments Successfully Meeting Objectives

Action/ Spec #	ES Issue #	Planned ES Action (LF2200000)	Unit (acres, WMs, Number)	# Units	Total Cost	% Probability of Success
S5	5	Noxious Weeds	Acres	25349	$108,000.00	95%
S6	2	Soil Stabilization (Other than seedling, planting)	Acres	1700	$3,030,000.00	90%
S8	1	Road/Trail Water Diversion	#	37	$2,461,000.00	95%
S9	4	Cultural Protection (Stabilization/Patrol)	#	5	$11,000.00	95%
S10	1	Tree Hazard Removal	#	25	$25,000.00	95%
S11	1	Facilities	#	30	$10,000.00	100%
S12	1	Closures (area, OHV, livestock)	#	22	$22,000.00	100%
S13	1	Monitoring	Acres	25349	$146,000.00	100%
					$5,813,000.00	

Action/ Spec #	BAR Issue #	Planned BAR Action (LF3200000)	Unit (acres, WMs, Number)	# Units	Total Cost	% Probability of Success
R4	1	Seedling Planting	Acres	6240	$5,485,000.00	85%
R5	2	Noxious Weeds	Acres	400	$36,000.00	90%
R11	4	Facilities	Miles	300	$1,627,000.00	100%
R12	4	Closures (area, OHV, livestock)	#	50	$25,000.00	100%
R13	1	Monitoring	Acres	7155	$254,000.00	100%
					$7,427,000.00	

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:

See the Attached BAER Plan for more detailed discussion of risks.

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

See the Attached BAER Plan for more detailed discussion of risks.

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:

See the Attached BAER Plan for more detailed discussion of risks.

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

See the Attached BAER Plan for more detailed discussion of risks.

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:
None

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

S5 - Noxious Weeds - ES Issue 3

Identify the objective of the treatment:

Over nine species of noxious weeds have been identified and recorded within the burned area. It is expected that these weeds will expand their range as a result of the fire. Since these weed species are not uniformly distributed across the burn area, a quantifiable objective cannot be determined until the first year inventory occurs.

The objective for the first growing season is to conduct an inventory of the burn area. Any noxious weeds detected during the inventory would be treated. The objective for the second and third years is to decrease the acreage of noxious weeds needing treatment as compared to the first year.

Describe how implementation will be monitored:

During the first growing season treatment, locations of noxious weed populations (by species), treatment type, and the amount of herbicide used would be documented using GPS and GIS. The second and third year objective would be measured by the number and size of locations sprayed and the amount of herbicide utilized. Inventory and weed treatments would be entered into NISMS and district databases as appropriate.

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

Size and location of noxious weed populations and needed treatments would be compared between years one, two and three to determine treatment effectiveness. If noxious weed populations remain in the burned area beyond the third year, responsibility would be transferred to local Botanist/Ecologists for ongoing inventory, treatment and monitoring using funding sources other than ES&BAR.

S5 - Noxious Weeds - ES Issue 5

Identify the objective of the treatment:

Over nine species of noxious weeds have been identified and recorded within the burned area. It is expected that these weeds will expand their range as a result of the fire. Since these weed species are not uniformly distributed across the burn area, a quantifiable objective cannot be determined until the first year inventory occurs.

The objective for the first growing season is to conduct an inventory of the burn area. Any noxious weeds detected during the inventory would be treated. The objective for the second and third years is to decrease the acreage of noxious weeds needing treatment as compared to the first year.

Describe how implementation will be monitored:

During the first growing season treatment, locations of noxious weed populations (by species), treatment type, and the amount of herbicide used would be documented using GPS and GIS. The second and third year objective would be measured by the number and size of locations sprayed and the amount of herbicide utilized. 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. Treatments by BLM crews or personnel will likewise be recorded and submitted. Mapping would be input into the NISMS database.

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

Size and location of noxious weed populations and needed treatments would be compared between years one, two and three to determine treatment effectiveness. If noxious weed populations remain in the burned area beyond the third year, responsibility would be transferred to local Botanist/Ecologists for ongoing inventory, treatment and monitoring using funding sources other than ES&BAR.

S6 - Soil Stabilization (Other than seedling, planting) - ES Issue 1

Identify the objective of the treatment:

To allow for increased resiliency of sites burned in high severity fire, wood or straw mulch would be applied to meet the standard of 60 percent ground cover across up to 1700 acres.

Describe how implementation will be monitored:

Mulch application implementation will be monitored by determining if contract specifications for effective soil coverage are met and areas designated for treatment are complete.

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

Mulch application areas will be measured during treatment to ensure that along 3 linear 10 point transects, the average soil coverage equals 60 percent. In subsequent years, photo plots created post-treatment will be used to identify soil and mulch movement and effectiveness at minimizing erosion.

S6 - Soil Stabilization (Other than seedling, planting) - ES Issue 2

Identify the objective of the treatment:

To allow for increased resiliency of sites burned in high severity fire, wood or straw mulch would be applied to meet the standard of 60 percent ground cover across up to 1700 acres.

Describe how implementation will be monitored:

Mulch application implementation will be monitored by determining if contract specifications for effective soil coverage are met and areas designated for treatment are complete.

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

Mulch application areas will be measured during treatment to ensure that along 3 linear 10

point transects, the average soil coverage equals 60 percent. In subsequent years, photo plots created post-treatment will be used to identify soil and mulch movement and effectiveness at minimizing erosion.

S8 - Road/Trail Water Diversion - ES Issue 1

Identify the objective of the treatment:

The objective of the culvert replacement, water dips, ditch and culvert cleanout, burnt stump and log removal, road blading, and landslide response is to allow for continued access through the burned area, protect facilities (culverts etc.) and special status species habitat, and minimize threats of injury or damage to private individuals and property.

Describe how implementation will be monitored:

Storm patrols identified in treatment S13 – Monitoring, will be utilized to determine where actions are required to be implemented to protect the values at risk. Storm response will be indicated by monitoring of local weather forecasts. Contracts issued for construction activities will be inspected for compliance with contract specifications.

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

Effectiveness will be determined by maintaining access, documenting no injuries to members of the public resulting from infrastructure failures, and maintaining 90 percent of the approximately 1,100 culverts within the burned area over the three year post-fire recovery period.

S8 - Road/Trail Water Diversion - ES Issue 2

Identify the objective of the treatment:

See ES Issue 1, Treatment S8.

Describe how implementation will be monitored:

See ES Issue 1, Treatment S8.

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

See ES Issue 1, Treatment S8.

S9 - Cultural Protection (Stabilization/Patrol) - ES Issue 4

Identify the objective of the treatment:

The objective of the cultural resource patrols is to ensure the integrity of the sites within the burned area so that their eligibility is not diminished.

Describe how implementation will be monitored:

Patrol schedules will be developed to ensure the sites are visited during likely periods of visitation by the public. Documentation of patrols and any contacts with members of the

public will be sufficient to determine implementation.

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

Effectiveness of the patrols will be determined by the number of violations documented and the number of sites damaged due to unauthorized activities. The documentation of no violations or damages would be considered a success over the three year period.

S10 - Tree Hazard Removal - ES Issue 1

Identify the objective of the treatment:

Remove identified hazards to reduce the threat to life and property from hazard trees.

Describe how implementation will be monitored:

Evaluate the safety along roads, railroads, and treatment areas for overhead safety hazards. Were identified hazard trees removed?

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

Effectiveness will be determined by documentation of no injuries or property damage due to overhead safety hazards over the three year monitoring period.

S11 - Facilities - ES Issue 1

Identify the objective of the treatment:

The objective is to replace backcountry byway signs damaged during the fire and to ensure installation of hazard warning signs at six locations around the fire area.

Describe how implementation will be monitored:

BLM staff will visit the sign locations to ensure that signs have been replaced appropriately.

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

BLM staff will visit the sign locations to ensure that signs have been replaced appropriately. Sign installations that are in place at the end of three years will be considered to meet the objective of the treatment.

S12 - Closures (area, OHV, livestock) - ES Issue 1

Identify the objective of the treatment:

The objective of the temporary closures is to preclude public access to areas subjected to road failure, landslides, or areas that pose a risk to life or safety.

Describe how implementation will be monitored:

BLM staff will ensure timely closure of areas/roads after patrols identify threats or issues.

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

what time period:

Closures will be considered effective if implemented within 24 hours of reporting and no injuries or property damage occur after closure.

S13 - Monitoring - ES Issue 1

Identify the objective of the treatment:

The storm patrols are used to identify those road problems such as plugged culverts and washed out roads and to clear, clean, and/or block those roads that are or have received damage. The objective of the implementation and monitoring lead would be to track expenditures, contract development, implementation of actions, coordinating implementation and effectiveness monitoring, and completion of annual reporting.

Describe how implementation will be monitored:

BLM staff will ensure that patrols are completed after large storm events and all prescribed actions and monitoring are documented and reported as required.

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

Storm patrols will be considered effective if the identified roads are patrolled after large storm events. Implementation and monitoring will be considered effective if projects are completed as funded and all required reports are submitted as specified by program leads.

R4 - Seedling Planting - BAR Issue 1

Identify the objective of the treatment:

Monitor regeneration success. Determine the adequacy of stocking and tree distribution on all planted areas to meet land use management objectives and plan assumptions within the three year ESR timeline.

Describe how implementation will be monitored:

Planting contracts will be administered by BLM personnel from the Roseburg and Medford Districts. (Tubing, shading, mulching, and maintenance brushing treatments contribute to meeting the objective of successful reforestation. Monitoring for those treatments would be implementation monitoring only.)

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

Following planting (30 days or more) and prior to the onset of the dry season a post-planting survey will be done on sample of each the seedling lots planted. The purpose of this survey is to determine the quality of seedling lot prior to any stress related mortality resulting from heat or lack of moisture. The survey is done by taking a count of the number of live, dead, and marginal trees within a sample of planted seedlings from each lot. High numbers of dead seedlings at this time indicate substandard seedling quality and a possible replant situation.

Regeneration surveys will be conducted at the end of the first growing season after planting with follow-up surveys conducted after the third and fifth growing to assess reforestation success on planted areas. Surveys will be done by BLM personnel or through service contract. Silviculturists will evaluate the stocking levels and determine if they are sufficient to meet the land management objective at that site.

R4 - Seedling Planting - BAR Issue 3

Identify the objective of the treatment:

Monitor regeneration success. Determine the adequacy of stocking and tree distribution on all planted areas to meet land use management objectives and plan assumptions within the three year ESR timeline.

Describe how implementation will be monitored:

Planting contracts will be administered by BLM personnel from the Roseburg and Medford Districts. (Tubing, shading, mulching, and maintenance brushing treatments contribute to meeting the objective of successful reforestation. Monitoring for those treatments would be implementation monitoring only.)

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

Following planting (30 days or more) and prior to the onset of the dry season a post-planting survey will be done on sample of each the seedling lots planted. The purpose of this survey is to determine the quality of seedling lot prior to any stress related mortality resulting from heat or lack of moisture. The survey is done by taking a count of the number of live, dead, and marginal trees within a sample of planted seedlings from each lot. High numbers of dead seedlings at this time indicate substandard seedling quality and a possible replant situation.

Regeneration surveys will be conducted at the end of the first growing season after planting with follow-up surveys conducted after the third and fifth growing to assess reforestation success on planted areas. Surveys will be done by BLM personnel or through service contract. Silviculturists will evaluate the stocking levels and determine if they are sufficient to meet the land management objective at that site.

R5 - Noxious Weeds - BAR Issue 2

Identify the objective of the treatment:

Over nine species of noxious weeds have been identified and recorded within the burned area. It is expected that these weeds will expand their range as a result of the fire. Since these weed species are not uniformly distributed across the burn area, a quantifiable objective cannot be determined until the first year inventory occurs.

The objective for the first growing season is to conduct an inventory of the burn area. Any noxious weeds detected during the inventory would be treated. The objective for the second and third years is to decrease the acreage of noxious weeds needing treatment as

compared to the first year.

Describe how implementation will be monitored:

During the first growing season treatment, locations of noxious weed populations (by species), treatment type, and the amount of herbicide used would be documented using GPS and GIS. The second and third year objective would be measured by the number and size of locations sprayed and the amount of herbicide utilized. 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. Treatments by BLM crews or personnel will likewise be recorded and submitted. Mapping would be input into the NISMS database.

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

Size and location of noxious weed populations and needed treatments would be compared between years one, two and three to determine treatment effectiveness. If noxious weed populations remain in the burned area beyond the third year, responsibility would be transferred to local Botanist/Ecologists for ongoing inventory, treatment and monitoring using funding sources other than ES&BAR.

R11 - Facilities - BAR Issue 4

Identify the objective of the treatment:

The first objective is for culvert replacement, water dips, ditch and culvert cleanout, burnt stump and log removal, road blading, and landslide response to allow for continued access through the burned area, protect facilities (culverts etc.) and special status species habitat, and minimize threats of injury or damage to private individuals and property.

The second objective is to replace directional and location signs damaged during the fire and to ensure installation of hazard warning signs at locations around the fire area.

Describe how implementation will be monitored:

Storm patrols identified in treatment S13 – Monitoring, will be utilized to determine where actions are required to be implemented to protect the values at risk. Storm response will be indicated by monitoring of local weather forecasts. Contracts issued for construction activities will be inspected for compliance with contract specifications.

BLM staff will visit the sign locations to ensure that signs have been replaced appropriately.

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

Effectiveness will be determined by maintaining access, documenting no injuries to members of the public resulting from infrastructure failures, and maintaining 90 percent of the approximately 1,100 culverts within the burned area over the three year post-fire recovery period and BLM staff will visit the sign locations to ensure that signs have been

replaced appropriately.

R12 - Closures (area, OHV, livestock) - BAR Issue 4

Identify the objective of the treatment:

The objective of the temporary closures is to preclude public access to areas subjected to road failure, landslides, or areas that pose a risk to life or safety.

Describe how implementation will be monitored:

BLM staff will ensure timely closure of areas/roads after patrols identify threats or issues.

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

Closures will be considered effective if implemented within 24 hours of reporting and no injuries or property damage occur after closure.

R13 - Monitoring - BAR Issue 1

Identify the objective of the treatment:

See monitoring sections for all other treatments.

Describe how implementation will be monitored:

See monitoring sections for all other treatments.

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

See monitoring sections for all other treatments.

R13 - Monitoring - BAR Issue 2

Identify the objective of the treatment:

See monitoring sections for all other treatments.

Describe how implementation will be monitored:

See monitoring sections for all other treatments.

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

See monitoring sections for all other treatments.

R13 - Monitoring - BAR Issue 3

Identify the objective of the treatment:

See monitoring sections for all other treatments.

Describe how implementation will be monitored:

See monitoring sections for all other treatments.

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

See monitoring sections for all other treatments.

R13 - Monitoring - BAR Issue 4

Identify the objective of the treatment:

See monitoring sections for all other treatments.

Describe how implementation will be monitored:

See monitoring sections for all other treatments.

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

See monitoring sections for all other treatments.

PART 9 - MAPS

1. Location Map - Map 1_Douglas_ESR_Vicinity Map
2. - Map 2_Douglas_ESR_Ownership_Map
3. - Map 3_Douglas_FireProgression_IC
4. - Map 4_Douglas_ESR_Soil_Burn_Severity
5. - Map 5_Douglas_ESR_Vegetation_PAG
6. - Map 6_Douglas_ESR_Preliminary_Vegetation_Mortality
7. - Map 7_Douglas_ESR_Land_Use_Allocation
8. - Map 8_Douglas_ESR_Wildlife_Fisheries_T&E_Data
9. - Map 9_Douglas_ESR_Roads_and_Facilities
10. - Map 10_Douglas_ESR_Slope_Treatments_and_Planting

PART 10 - REVIEW, APPROVALS, and PREPARERS

TEAM MEMBERS

Position	Team Member (Agency/Office)	Initial	Date
Team Leader	Brandon Knapton (BLM Boise)		
Engineering/Operations	Jeff Brown (BLM Medford)		
Engineering/Operations	Brandy Albin (BLM Roseburg)		
NEPA Compliance & Planning	Paul Ausbeck (BLM Roseburg)		
NEPA Compliance & Planning	Leah Schofield (BLM Medford)		
Hydrologist	Daniel Dammann (BLM Roseburg)		
Soil Scientist	Alexandra Barner (BLM Roseburg)		
Silviculture/Inventory	Jim Brimble (BLM Medford)		
Silviculture/Inventory	Trixy Moser (BLM Roseburg)		
Silviculture/Inventory	Sarah Davison (BLM Medford)		
Cultural Resources/Archeologist	Merry Haydon (BLM Medford)		
Vegetation Specialist/Botany/Weeds	Bryan Wender (BLM Medford)		
Wildlife Biologist	Robin Snider (BLM Medford)		
Fisheries Biologist	Steve Clark (BLM Roseburg)		
GIS Specialist	Annette Parsons (Other Medford)		
Documentation/Computer Specialist	Jean Williams (BLM Medford)		

Other Technical Specialist	Ryan Johnson (BLM Roseburg)		

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.