BUREAU OF LAND MANAGEMENT
ELKO FIELD OFFICE
BURNED AREA EMERGENCY REHABILITATION TEAM

Elko 13 Fire Complex

VEGETATION AND RANGE RESOURCE ASSESSMENT

I. ISSUES

- Short and long-term fire impacts to plant communities and vegetative resources on lands administered by the Bureau of Land Management, Elko Field Office
- Evaluate and assess fire and suppression impacts to vegetative resources and identify values at risk
- Fire impacts to known noxious weed populations and the potential spread of other species into the burned/disturbed areas
- Fire and suppression impacts to rangeland improvement projects within the burned area
- Management strategies which provide for the natural recovery and revegetation of impacted areas including the establishment of rangeland seeding to increase the effectiveness of reducing future wildland fire size and cost.
- Determine rehabilitation and monitoring needs supported by specifications to aid in vegetative recovery and soil stabilization
- Protection and enhancement of other resource values including site productivity, wildlife habitat, vegetative resources, diversity of other life forms such as wild horses, and watershed stability

II. OBSERVATIONS

The fires within the Bureau of Land Management's Elko Field Office occurred between the dates of June 18 and July 27, 2000. Thirteen individual or multiple (complex) fires encompass a total of 64,693 acres that have impacted private, state and federal lands. This assessment will attempt to broadly describe plant communities impacted by these fires and the influence that fire will have in the short and long-term to vegetative species. However, due to the extensive geographical area they encompass a more detailed description will not be feasible. Detailed files have been left with and are being maintained by the local agencies that contain much more site specific information than can be encapsulated by this report. Detailed allotment fencelines maps, vegetative maps, soil type descriptions, field notes, rehabilitation cost documentation etc. have been utilized to provide the rehabilitation recommendations contained within this report.

Analysis work by the BAER Team has been done on a very broad-scale approach, however impacts to structural range improvements, and vegetative resources have been looked at and analyzed on a landscape and allotment level basis for each fire. Findings and recommendations contained within this assessment are based upon information obtained from field reviews, and personal interviews with private ranchers, county officials, federal land managers, and local technical staff.

Reconnaissance of impacted areas included aerial and ground survey methods. This assessment will attempt to capture the concerns expressed by the BLM, County Supervisors, Extension

Service, Natural Resources Conservation Service staff and private land owners for the future management of these lands. Summary tables contained within Appendix III will detail the known damage to vegetative resources and structural improvements while this writeup will synopsize revegetation processes and future monitoring criteria and will outline management considerations for recovery of the vegetative resources.

A. Background

The Elko 13 Fires which were ignited by lightning and humans engulfed extensive areas of range and desert mountain lands in the north central and eastern portion of Nevada. Burning conditions were generally characterized as severe with extreme observed fire intensity and rapid rates of spread.

Vegetative resources and structural range improvements were extensively impacted by these fires. As detailed later in this report, fire impacts ranged from partial to total loss of understory and shrub species, with varying degrees of losses noted in overstory species, and in many cases total consumption of all vegetative species.

Resource concerns expressed by federal, state, county and private sources concerning vegetative resources include: vegetative loss and the short and long-term impacts to wildlife habitat, wild horse Herd Management Areas (HMA's), short and long-term impacts to the forage base in northern Nevada rangelands, impacts to structural range improvements, watershed quality, noxious weed spread, site productivity, aesthetics, impacts to threatened or endangered plant and animal species, and potential long term affects to the ecological integrity of desert ecosystems.

Within the Elko Field Office, 13 fires were reviewed to determine fire suppression impacts and fire effects on vegetative resources. In all cases, burn intensities varied across the landscape with most fires consuming a significant portion of palatable species for both livestock and wildlife on public land allotments.

B. Reconnaissance and Results

On July 20, 2000, the BAER Team met with the BLM staff from the Elko Field Office to obtain baseline information pertaining to known impacts and baseline information related to vegetation resources. Resource contacts at the Field Office were contacted on a daily basis to help collect data for the assessments and specifications. Upon consultation with local staff, and after reviewing a general map of the burned areas within the fire perimeter, a field survey methodology was developed and inventory procedures established in order to conduct a timely review of each fire area. Additional resources were ordered and brought in to assist the BAER Team and BLM specialists with field inventories and data collection. In order to better facilitate the timely collection of data, the vegetation section was broken down into four divisions: range vegetation analysis; revegetation assessment and development; structural improvement inventory and mapping; noxious weed assessments. Direct fire impacts to vegetation resources and noxious weed populations have been documented on a broad scale for all fire areas.

Aerial reconnaissance and field reconnaissance was limited on the burned areas due to the critical need for resources to help fight ongoing fires, however field visits by the BAER Team Vegetation Specialists, and BLM professional staff did occur on the fires. Field visits were conducted on many fire areas to better assess damages to vegetative resources and structural range improvements although only a small portion of overall burned areas were intensively sampled. Additional analysis was conducted using Geographic Information System (GIS) data layers of pre-fire vegetative inventories, soil

survey information, and allotment data file information. Cross references were made between these data sets with field and aerial reconnaissance observations to determine fire effects on vegetative resources.

Primary plant association types were aerially surveyed to determine vegetative losses, suppression impacts, requirements for rehabilitation efforts, and long-term rehabilitation needs. Reconnaissance included analysis of plant associations impacted by previous fires adjacent to current fire areas to determine fire effects to plant community ecological integrity of native grass and shrub species.

A literature review was conducted to obtain baseline data on soils, hydrologic processes, plant communities and the dynamics of vegetative species within the burned area watersheds. Many well written documents exist that detail historic and present day vegetation descriptions. Baseline information from these documents have been included to provide the reader with a better understanding of vegetative community structure and provide insight into the fragility of these watersheds.

Plant communities within the fire area vary across the landscape based upon slope, aspect, and soil type. Generally speaking, areas on north and east facing slopes support plant communities that have conditions favorable for moderate to rapid vegetative recovery. However, on south and west facing slopes and on alkali soil in the valley bottoms, vegetative cover is scattered and vegetative recovery is slow due to hot, dry climate and shallow, droughty soil conditions.

Vegetation resources provide valuable wildlife habitat, livestock forage and watershed protection. Past land management practices (i.e. mining and grazing activities), have shaped plant community composition in the northern Nevada region. The effects of these fires will have both positive and negative short and long-term influences on these communities and in the natural regeneration processes of the impacted watersheds.

1. Vegetation

Vegetation resources were directly impacted by the Elko 13 Fires and by suppression tactics utilized to control the fire. Documented impacts to vegetation resulted from:

a) Construction of dozer lines, safety zones and hand lines on previously undisturbed sites.

b) Impacts to native tree, shrub, and grass species during line construction and suppression mop-up activities.

c) Reduction of fuels and vegetation ahead of the fire-front by night-time dozer operations and fire suppression tactics.

d) Vegetation losses due to fire intensity.

In the high burn intensity areas, seed within the soils have either been consumed or viability significantly reduced by the intense heat. In moderate burn intensity areas, seed banks have been impacted as well, but some natural regeneration will occur. On low intensity burn areas, seed banks within the soil were not severely impacted by the fire.

Within the low to moderate burn intensity areas, a faster moving fire did not injure all of the root crowns of native grass species. In many of the low to moderate burn intensity areas, root crowns were still visible and regrowth will occur during the next growing season.

In many areas, however, fire intensities were high enough to consume and kill many brush species such as Wyoming big sagebrush, fourwing saltbush, and shadscale. Loss of these shrub species has altered the makeup of some critical wildlife habitat areas and is further discussed within the Wildlife Assessment.

These fires have also set back the successional processes of many mid to late seral plant communities and provided a window of opportunity for the further encroachment of non-native invasive species, such as cheatgrass (*Bromus tectorum*). Cheatgrass has steadily increased its hold on western rangelands over the past several decades. A highly aggressive competitor, this annual species may occupy many more thousands of acres of rangelands in the Nevada area unless negatively impacted native communities are rehabilitated with perennial species to replace species killed in these fires. Cheatgrass is an undesirable species in native rangelands due to its competitive nature and ability to create monocultures and less diverse landscapes; shallow root systems that increase erosion potentials and decrease watershed health and function; low nutritional value for wildlife and domestic livestock; and it negatively impacts critical wildlife habitat.

Fire areas within the Elko 13 Fire Complex have been analyzed for the potential loss of ecological integrity as result of fire effects to native species. Using soil survey and vegetative inventories, high productivity sites have been identified that are known to be overtaken by competing vegetation following disturbance. These areas were mapped and rehabilitation recommendations compiled to treat these lands with native and introduced species to combat the spread of invasive non-native species.

2. Revegetation

The decision to re-vegetate burn areas will be based upon the following criteria:

- Watershed stability
- Control of Noxious weeds
- Protect the ecological integrity of the plant community

Areas of re-seeding were based on consultation and recommendations of the BAER team watershed and vegetation specialists. The BAER team relied heavily upon the reconnaissance data of the Resource Advisors' reports. Meetings with the local resource staff personnel to assess the individual fires and map areas of the highest productivity, and/or resource value. The areas targeted for re-seeding also considered the parameters of soil properties, erosion potential, aspect, biological diversity, threat to existing watershed and seed availability.

The Elko 13 BAER team will use the seed mixes that were agreed upon and established in the 1999 Northern Nevada Fire Complex BAER Plan. These seed mixes were developed in consultation with the public, county, and state resource advisors, as well as private landowners. The BAER team vegetation specialists and local resource staff provided data based on rehabilitation efforts that have been implemented within the region and developed seed mixes based on the criteria listed above and consideration of the general ecological requirements and broad range of plant communities.

The following re-seeding treatment types were developed in specifications:
A Table of the treatment by type, fire name, acres, and mix number is exhibited in the Appendix of this assessment. Also refer to Map Section-Treatments for display of seeding locations by fire.

Aerial seeding

Seed mixes designated will be applied by qualified fixed-wing or rotary wing aircraft at the seeding rate for each mix.

An estimated 22,562 acres is will be aerial seeded in the burned acreage, seed will be applied when weather conditions are favorable to allow for coverage by snow or adequate moisture, and thus will be applied in late fall or early winter.

The Basin and Railroad Fires would involve the use of a chemical application that prevents the germination of all seeds without affecting established perennial plants. The herbicide would be applied by a certified applicator by helicopter with spray booms on 1997 acres of the Basin and Railroad Fires.

Reseeding using rangeland drill

Drill seeding was targeted on areas with favorable access, soil conditions and slope. A total of 7713 acres is scheduled to be drill seeded on 5 different fires.

Natural resource protection

Establishment of vegetation to provide an area of resistance to invasion on exotic species is needed in areas that burned and will take time to recover. The seeding is designed to be strategically placed by utilizing existing roads, ridge tops, drainages, or any other man-made or natural feature that would make the buffer more effective. It may also provide some protection to newly seeded or established areas. The primary species to be planted is forage kochia, an introduced plant that is a semi-evergreen subshrub or small shrub. It has excellent forage quality in spring, summer, and fall. The lower 1/3 of the plant is green year round. Forage kochia can be broadcast seeded into cheatgrass stands and within two years it can provide succulent forage. Within the targeted areas, site preparation will be necessary to prepare the ground for future seed establishment and reduce competition with undesirable invasive plants. Two site preparation methods were identified in the specification that calls for the use of a rangeland disk to prepare soil in the late spring, followed by a fall seeding using a rangeland drill to establish Siberian wheatgrass or crested wheatgrass with broadcast seeding of forage kochia that can not be drilled because of small seed size. The other site preparation method would involve the use of a chemical application that prevents the germination of all seeds without affecting established perennial plants. Within the areas identified for chemical application the primary understory species is cheatgrass, an undesirable invasive annual. The herbicide would be applied by a certified applicator by helicopter with spray booms on 1997 acres of the Basin and Railroad Fires.

Seed

For the purpose of developing budgeted costs for the above mentioned specified treatments, seed costs were obtained from different major seed vendors and the BLM seed warehouse director. The BAER team vegetation specialists used a standard price for each species per pound to develop cost figures. For the magnitude of this potentially large seeding effort, it should be noted that there will be potential problems with the seed supply to meet the demands. Some species will not be available the first year; therefore substitutions may be necessary to establish some effective ground cover. It is anticipated however, that most grass species ordered would be available within the 3 year EFR window. Flexibility must be anticipated when planning the seed storage, mixing and actual seeding effort. Additional site preparation may be needed if seeding is done in year 2 and 3.

3. Seeding Effectiveness Monitoring

It is very critical that monitoring be conducted not only on proposed treatment areas, but on non-treated areas as well. The monitoring in unseeded areas will give managers an example of what could have happened without seeding. The National Research Council proposed the concept of rangeland health as a common denominator for the description of the nation's rangelands. Applying the concepts of rangeland health and thresholds to cheatgrass infested rangelands would yield valuable information for science based management decisions. Little research has been done to identify the thresholds of cheatgrass dominance where by a disruption in ecological processes, native plant composition or soil stability occurs. Young and Evans (1978) reported that native perennial plant densities of 2.5 plants per square meter were adequate to prevent cheatgrass dominance if the shrub steppe community was removed. Monitoring data, using the BLM techniques such as "freqdens" or other models will provide managers in this region, who most likely will also be conducting rehabilitation, with valuable data and applied research on treatment success and failures, as well as how certain plant communities respond to post fire effects. This information will also assist managers in providing baseline criteria for post fire grazing management.

4. Grazing

The Northern Nevada Fires have significantly altered management strategies for many grazing allotments, wildlife management areas, HMA's and recreational areas.

The AUM losses suffered by local ranchers have ranged from minor in some grazing allotments to losses from 2 to 3 years of the forage base on BLM administered grazing lands. With the aid of field inventories, rancher participation, and GIS analyses, impacted allotments have been identified and an inventory compiled of structural improvement losses, livestock deaths resulting from the fire, and other property damage estimates.

Many decisions must be made over the next several months between the BLM and permittees relating to management options within the impacted allotments. Recommended recovery periods for many of the more intensely burned areas will be 2 full growing seasons. There are many management options, however, that may influence when an allotment may be grazed, where and for how long grazing may occur. The specific AUMs that would be affected for each allotment will be identified as specific plans and grazing strategies, including closure where necessary, are developed.

It is not the intent of this report to prescribe specific management recommendations for each impacted allotment or permittee. Due to the amount of land impacted by the Elko 13 Fire Complex, the immediate and careful review of management plans must receive a high priority to determine management options that not only provide the necessary protection for rehabilitation treatments and natural regeneration processes but also provide viable management options for the ranching community. Future grazing management decisions will be based upon site specific evaluations. This process will require a concerted effort between the federal government and permittees and could take several months to complete.

Specific objectives for each fire or portions of the burned areas, or on the basis of grazing allotments, will be developed to ensure attainment of the primary goal of watershed stabilization and preventing establishment of invasive plant species or noxious weeds. In many areas, the rehabilitation of burned areas will involve a natural revegetation response of the species burned but not affected by the fire. In

some cases, re-seeding will be necessary to meet resource objectives and provide for watershed protection. In many cases, it could take two growing seasons following the burn or re-seeding for plant species to become established enough to withstand the impacts of grazing and still provide necessary watershed protection. However, because of the inherent variability in soils and site potentials within the burned areas of this size, site specific monitoring will be necessary to determine just when resource objectives have been achieved on specific burned areas. Annual site specific monitoring could show that grazing may occur sooner than two growing seasons or that longer deferment is needed. These determinations will be made on a case by case basis based on sound resource data, scientific principles, and experience. In those areas where cheatgrass invasion is a concern, a post fire grazing plan could include short duration early spring grazing as a tool to prevent cheatgrass establishment or production, therefore reducing competition with perennial grasses for available moisture. However, such grazing strategies must take into consideration the phenological needs of existing perennial plant species. Because livestock grazing is administered by individual grazing allotments, the post fire grazing management for each allotment within the burned area will be developed, monitored, and evaluated on a case by case basis consistent with site specific resource objectives. (See BLM EFR Handbook, H-1742-1, page III-1. 7/27/1999)

5. Structural Range Improvements

Assessments of fences were conducted and compiled from June to August using information from Resource Advisor reports and field reconnaissance. The burned areas on the Elko Field Office area were inventoried largely by visual inspections from helicopter Other data was obtained from Resource Advisor Reports, Resource Management Staff, permittee contacts (in-house and in the field), Allotment Management Plans, resource information on GIS, allotment maps, and allotment case files. Other range improvement damage was collected collaterally to this process.

Different states of damage were found to the fences in the burned areas. These ranged from some minor heat stress wire, to several burned posts or stress panels, to completely obliterated fence lines. To categorize these variable conditions two categories of fence and needs for rehabilitation were identified. These were termed “repair” and “replace”. The primary distinction made is if wooden posts were badly burned so as to lay the wire on the ground and the fence is entirely dysfunctional it requires “replacing” or reconstruction. The “repair” category includes fences weakened by heat, with occasional burned posts, or with stress panels and corners burned but wire is left standing and intact. The recommendations for rehabilitation of these fences are found in Specification P-2a for fences requiring replacement and P-2b for fences requiring repair.

There were 12.5 miles of fence that were within the burn perimeters. Approximate total miles of fences in need of repair or replacement is 13.5 miles. These are tallied in either specification P-2a or P-2b. Distances for these fences were derived from GIS mapping. More detailed listings of fence locations are found in the incident file. Fence are needed to protect critical riparian areas destroyed by the fire and to protect proposed rangeland seeding and natural vegetation that was burned.

Proposed new fence needed for resource protection is another category. These are standard BLM specification fences for specific resource protection efforts. There are about 38.3 miles of new fence proposed. The following is only a general assessment of these fence needs. The primary need for these fences is to manage

livestock and wild horse grazing on sensitive, native release, or seeded areas. The new fences are needed to protect and restore rangeland seedings and restore rangeland health and water quality by protecting seeding and critical riparian areas burned by the fires to allow vegetation to re-establish and stabilize soils and watersheds.

Recommendation for priorities of fencing needs are as follows:

- Protect and stabilize soils by keeping grazing animals off of seeded areas allowing plants to establish and develop effective root depths and root reserves.

- Control duration of grazing to keep a healthy and diverse plant community while utilizing the range forage for livestock production. Provide grazing management options to allow use of burned areas as range plant production permits as well as utilizing low value forage areas (cheatgrass).

- Rangeland reseeding are needed to restore and promote a healthy ecosystem and allow natural fire to assume its role assume in land management.

- Develop improved plant community management (seral stages, range condition, cheatgrass and noxious weed invasion) integrating natural fire, prescribed fire, and grazing management to meet management objectives.

- Many allotment boundary fences and pasture fences were damaged or destroyed from the fires. Construction of the new proposed fences as well as reconstruction of existing fences is essential to protect range resources.

6. Noxious Weeds

The Elko 13 Fire Complex wildfires in the Elko BLM Field Office burned in areas infested with Nevada Listed noxious weeds and other undesirable exotic species. Inventory by Field Office staff, Resource Advisors, and BAER Team personnel revealed that noxious weeds occur in 5 of the wildfires. Weeds present are Scotch thistle (*Onopordum acanthium*), Canada thistle (*Cirsium arvense*), Diffuse knapweed (*Centaurea diffusa*), perennial pepperweed (*Lepidium latifolium*), black henbane (*Hyoscyamus niger*), hoary cress (*Cardaria draba*), Cheatgrass (*Bromus tectorum*), and tamarisk or saltcedar (*Tamarix gallica)*. The fires are Beowawe, Hogan, Linka, Marys, and Squaw Valley . Considering these 5 wildfires alone, noxious weeds are scattered over approximately ???????? acres. Noxious weeds are a growing concern for most of the west and are truly an explosion in slow motion.

The recent wildfires exacerbate the problem in that the very competitive noxious weeds have a prepared seed bed in which to grow, will have reduced competition from native vegetation, and most have the ability to begin germination after the first fall rains. New and unrecorded noxious weed populations were found in the burned areas. In the 5 fires mentioned above, the weeds were found in ephemeral drainages, at springs and along riparian areas, in low basins, and along roads.

An Integrated Weed Management Program (IWMP) is in place in the Elko Field Office. One element of a IWMP is Prevention. Resource Advisors attached to fires had crews clean their fire trucks at local car wash stations after departing the incidents. This was one way the local BLM personnel helped to prevent noxious weeds from being transported to other areas.

Most weed populations located by the BAER Team were little affected by the

wildfires; the weeds had sufficient moisture in them that the fires burned surrounding vegetation but left the weeds standing. The thistles are were easily seen from the air as the only standing vegetation. Viable seed were found in some of the seed heads.

Bulldozers used to construct fire lines ran through existing populations of weeds and subsequent fire operations vehicles drove over weeds throughout the duration of the fires. The heads of Scotch thistle plants that were growing in roads were cut off; the flower heads could have been lodged under trucks and then deposited in non-weed infested locations. Given the competitive nature of weeds such as Scotch thistle and Diffuse knapweed and the ability for seeds to be produced throughout the summer, there is a high probability that noxious weeds will increase dramatically on the fires of the Elko 13 Complex. Weeds are to be expected to increase on all burned areas where weeds are known to exist.

The cumulative effects of spread of noxious weeds with the invasive exotic annual grass, cheat grass or downy brome (*Bromus tectorum*), will be evident on the burned areas. The exotic undesirable and aggressive vegetation will directly compete with native vegetation. These non-native weeds have the ability to out-compete and replace our native plants, often creating their own monotypic plant community. The loss of perennial grasses results in an increase in soil erosion due to the lack soil binding qualities of the native plants. Uncontrolled noxious weed infestations result in decreases of native vegetation diversity, reductions in forage and wildlife habitat, and declines in agricultural crop values. Once exotic weeds become established it is extremely difficult to eradicate them and bring back the native communities that have been displaced.

7. Wild Horses

There are a total of three (3) Herd Management Areas (HMA), that were burned by recent fires in northern Nevada. These areas were the Diamond Hills North Herd Management Area (HMA), the Spruce-Pequop Herd Management Area, and the Little Humboldt Herd Management Area within the Elko Field Office.

Basin Fire

The Basin fire burned 3,600 Diamond Hills North Herd Management area (HMA) in July of 2000. In October of 1999, the BLM gathered wild horses from the Diamond Hill North HMA and areas outside the HMA in response to the Sadler Complex fire which burned over 90% of the HMA. In March of 2000, the BLM conducted a census flight of the Diamond Hill North HMA and areas outside the HMA and found a total of 44 wild horses. These horses either eluded capture or moved into the area after the gather. Five of the 44 horses were found in the area of the Basin Fire. If vegetation resources are to be rehabilitated from the Sadler Complex and the Basin Fire, wild horses should be excluded from the area. When monitoring shows that the area can be re-opened to grazing, wild horses could be allowed to inhabit the area again.

Big Springs and Hogan Fires

The Hogan and Big Springs fire were both in the Spruce-Pequop Herd Management Area (HMA). The Hogan fire was total in the Spruce-Pequop Herd Management Area. Neither of these fires were large enough or impacted sufficient areas to warrent a wild horses removal. If these areas are to be excluded from grazing, this could be done with fencing and would not impact wild horses.

Kelly Creek Fire

The Kelly Creek fire burned 37,717 acres; of these 15,546 acres were with the Little Humboldt Herd Management Area (HMA). The Little Humboldt HMA encompasses a total of 64,075 acres, thus the fire burned approximately 24% of the HMA. The population of wild horses is currently 453 (approximately). Aerial census information over the last twenty years has shown that large numbers of horses do not inhabit the area of the Kelly Creek fire. Horses are normally found from the furthest northeast corner of the HMA to the Oregon Flat area. Occasionally a small number of horses can be found in the upper elevations and drainages during the summer months.

If horses are to be excluded from the burn, this can be done with the construction of a fence and possibly a small removal or relocation of any horses found in the burned area. However, if livestock use is to be re-allocated from the burned area into the lower elevations that did not burn, the unburned area would be seriously over-stocked. A wild horse gather would be necessary if this re-distribution of cattle takes place.

The draft Humboldt Allotment Evaluation as determined that the Population Management Level (AML) for wild horses is approximately 100 head. If a gather takes place, approximately 353 wild horses would have to be removed.

Conduct round-up of wild horses within identified HMA's and grazing allotments, process adoptable horses through BLM wild horse adoption centers and place remainder in the Palomino Valley Center (PVC), for the remainder of the fire rehabilitation closure period. Elko Field Office BLM staff and BAER Team Specialists recommended that in order for watershed and vegetation resources to recover from the wildfires, removal of the wild horses may be necessary. If closures are put in effect to remove cattle then horses need to be gathered in these areas also to ensure success of revegetation efforts as well as natural revegetation.

Removal of wild horses is allowed under Federal Regulation, 43 CFR 4720.1(b), and if removal off private land, 43CFR 4720.2. The horse removal is Categorically Excluded under CX 516 DM6, Appendix 5 ((5.43)(5)). As per phone conversation with the Fish and Wildlife Service on 18 August 1999 (Pat Coffin, 1530 hours), the USFWS concurs with the removal of Wild Horses from the range if indeed the forage has been temporarily reduced by the fires. The FWS said that no more than the number of horses removed may be returned to the range. Federal Regulation 43 CFR 4710.3-1 does not require preparation of an HMAP as a prerequisite for a removal action. Every effort will be made to release wild horses back to the HMA's that are representative of each age class at the time of removal.

III. RECOMMENDATIONS

- **Management** (Specification related)

1. Seeding

a. N-3c BLM 98-148 III. O Ecological Stabilization - Planting/Seeding
Fires within the Elko 13 Fire Complex have negatively impacted mid to late seral plant communities and increased the potential for erosion, loss of ecological integrity through the invasion of non-native species, and the spread of known populations of noxious weeds. Range sites within the 13 fires covered under this

plan have been analyzed and prioritized for treatment to prevent site degradation using site preparation techniques that may include chaining, disking, or chemical methods. Included within this specification is the use of chemical to reduce non-native, invasive species (cheatgrass) to allow existing native species to recover and establish following wildfires.

b. P-2a BLM 98-148 III. O Grazing Exclusion
Reconstruct and or repair allotment boundary fences and interior pasture fences.

c. P-2b BLM 98-148 III. O Grazing Exclusion
Reconstruct allotment boundary fences and interior pasture fences. Remove burned fence materials including wire. These fences are used as part of the livestock and allotment management plans. Support costs are included to provide for administrative costs and contracting issues.

d. P-2c BLM 98-148 III. O Grazing Exclusion
Construct new fence to protect and/or enhance natural resources and their management. These fences are necessary to prevent grazing by livestock of burned areas needing grazing rest or protect sensitive species and key areas from grazing.

2. Monitoring

a. M-2b BLM 98-148 III. V Monitoring and Evaluation of Emergency Treatments
Conduct re-seeding monitoring each year following treatment (2000-2002) to determine success of revegetation efforts on the Elko 13 Fire Complex. Utilize "Freqdens" Techniques or similar methods established for seeded areas. Use production/site composition methods for areas managed for natural release. A resource specialist from each Field Office will provide program oversight for this specification.

3.Weed Control

a. N-2 BLM 98-148 III. U Non-native Invasive Plant Control
Control non-native/noxious weed infestations within the Elko 13 Fire Complex prior to seed-set and maturation. Control of these Nevada Listed noxious weeds needs to be conducted or they will spread into non-infested areas of the burns. Utilize integrated pest management techniques (herbicides, biological, mechanical and cultural control methods) as appropriate to prevent the spread and establishment of noxious weeds within the fire area.

4. Noxious Weed Monitoring

a. M-1b BLM 98-148 III. Q1, V Monitoring

Conduct long-term monitoring (3 years) to monitor vegetative recovery within the burned area in order to detect the invasion of invasive/noxious weeds on roads, handlines, dozer lines and other disturbed areas within the Elko 13 Fire Complex area. Monitor existing noxious weed infestations within burned areas to determine if expansion is occurring into non-infested areas. Inventory for noxious weeds near existing locations and in areas that have a high probability for invasion within the burned areas.

5. Wild Horse Gather From Burned Area

a. P-1 BLM 98-148 III. D Measures for Protecting Investments of Resources

There are a total of 397 wild horses inhabiting two (2) areas that were burned by recent fires in northern Nevada. The burned areas are within the Diamond Hills North and the Little Humboldt HMAs. Cost figures listed below include initial round-up costs for 397 horses, the preparation costs at Palomino Valley and the feed and care cost of 318 horses until they can be placed into private maintenance in the adopt a horse program.

B. Management (non-specification related)

1. Rangeland vegetation

a. Establish vegetation database on current range data, plant communities, and their ecological health in GIS to assist future management in assessment, rehabilitation and restoration.

b. Establish vegetative objectives for grazing management and baseline criteria.

c. Use public information releases to promote rehabilitation efforts and improve community relationships.

d. Enhance public outreach programs by utilizing volunteer organizations to learn about and be involved with rehabilitation efforts. Reach out to conservation groups and grow wildlife shrubs in greenhouse nurseries and plant containerized seedlings.

2. Noxious Weeds (non-specification related)

Establish a Weed Management Area (WMA), or Areas, that include the burned areas. A multi-agency/interest group should be in place to address the noxious weed problem as a result of the wildfires. The control of noxious weeds are a problem that cross jurisdictional boundaries. A WMA, an essential part of a complete IWMP, can help with finding funding sources for lands not covered under EFR. This EFR Plan will be the beginning a concerted effort to promote future planning and address IWM on a landscape or watershed level. The wildfires could be a source of noxious weeds that invade adjacent non burned BLM, State, and private lands. A WMA will complement the EFR Plan.

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