Jackson Fire Rehabilitation Plan N032
Environmental Assessment No. OR-030-2000-010

I. PURPOSE AND NEED

A. Background

The Jackson (N 032) wildfire started on July 14, 2000, and burned a total of 79,875 acres, of which 49,516 acres is public between Vale, Ontario and Farewell Bend, Oregon in the Malheur Resource Area of the Vale District (map 1). The majority of the acres burned during a 12 hour time frame and burned a mobile home and outbuilding and threatened structures, livestock and agriculture lands in the Vale and Ontario area. The 5th Avenue Fire (N021) wildfire which is contiguous to the Jackson wildfire started on June 25, 2000, and burned a total of 2,350 acres of which 1,800 acres is public. Rehabilitation actions for that fire will be included within this plan. Grader lines and roads used for control were reshaped and smoothed to the extent possible before equipment left the fire, but due to dry soil conditions there is a need to finish repair and seed road shoulders and dozer line when sufficient moisture is available this fall.

Periodic wildfire in this area has eliminated shrub species from a large block of public land that historically has been critical big game winter habitat. Approximately 35 percent of the area burned is in a early seral stage dominated with introduced annual species. Approximately 35 percent of the area is in a middle seral stage with a minor component of perennial species such as bluebunch wheatgrass (Pseudorogneria spicata). The remaining 30 percent of the area, mainly on steeper and north slopes is in late seral stage. The burn area contains numerous isolated stands of invasive weeds such as Scotch thistle (Onopordum acanthium), whitetop (Cardaria spp.), rush skeleton weed (Chrondrilla juncea) and knapweed (Centaurea spp.). Highly erosive soils and the need for rehabilitation of annual rangeland to obtain a stable plant community that will protect the burned area from erosion and invasive weeds and break up highly flammable fuel types are identified as the key factors requiring rehabilitation.

B. Purpose and Need

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BLM manual 1742 provides for emergency fire rehabilitation where fire has an adverse impact on vegetation, soils, watershed, and to minimize other adverse changes to the extent practicable, including the following:

- loss of vegetative cover for watershed protection
- loss of soil and on-site productivity
- loss of water control and deterioration of water quality
- invasion of burned area by flammable annual and noxious weed species which increases the potential for repeated wildfire and threat to private property and loss of on site productivity.

The purpose and need for rehabilitation includes the following:

- to minimize soil loss
- preserve on-site productivity
- reduce the re-invasion of undesirable flammable annual plants

! reduce size and extent of highly flammable fuel types
! reduce the threat of destruction of private property due to wildfire
! reduce the potential for widespread noxious weed invasion

This need can be met by establishing desirable perennial plant cover. This action, as well as a no action, a limited rehabilitation alternative and a nonnative seeding alternative will be analyzed in this EA.

II. CONSISTENCY WITH LAND USE PLANS

Emergency fire rehabilitation and seeding to rehabilitate annual rangeland is fully consistent with decisions in the Northern Malheur Management Framework Plan (MFP), the Malheur County Land Use Plan, and BLM policy on emergency fire rehabilitation.

III. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

Table 1: Summarized treatments by alternative

Action	Proposed Action	No Action	Limited Rehabilitation	Nonnative Seeding
Native seeding (acres)	12,000	0	0	
Non native seeding Public: (acres)	8,500	0	8,500	20,500
Private: (acres)	1,500	0	0	1,500
Shrub Planting (acres)	2,000	0	0	0
Shrub Aerial Seeding (acres)	20,000	0	0	0
Fence Reconstruction (miles)	56	0	0	56
Temporary fencing (miles)	8	0	0	8
Erosion control, structures	50	0	0	50
Weed treatment (acres treated) (acres monitored)	1,000 70,000	0	0 0	1,000 70,000
Road Repair (miles)	45	0	0	45

A. **Proposed Action**

Vegetation establishment

Vegetation establishment would include seeding approximately 22,000 acres in the burn area using rangeland drills at a rate of approximately 9 lbs bulk seed per acre. Approximately 12,000 acres (map 2) would be seeded with a native seed mix identified below. Approximately 10,000 acres (map 3) would be seeded with a nonnative greenstrip seed mix identified below. Areas to be seeded within 1/4 mile of the Oregon Trail would be conducted

so as to lessen visual impacts of drill rows and surface disturbance.

Included within this total area to be seeded is 1,000 acres of unfenced private land within the fire and allotment boundaries which is susceptible to invasion by undesirable annual and weed species which would provide a seed source for subsequent reinvasion of public lands. Also included within the area identified for seeding is 500 acres of private land within the fire boundary which is needed to tie into and provide continuity with proposed greenstrip seedings on public lands. The purpose of the greenstrip seedings is to make continuous strips of fire resistant vegetation needed to break up the extent and continuity of more highly flammable fuel types. Coordination and cooperative agreements with private land owners would be pursued to obtain authorization to seed private lands to protect public land resource values in accordance with the Wyden Amendment of the Department of Interior and Related Agencies Appropriations Bill, FY99 (Public Law 105-277).

Two basic seed mixes would be used in the rangeland drills, a greenstrip or nonnative mix and a native plant mix. Approximately 12,000 acres would be seeded to the native mix and 10,000 acres to the nonnative mix. The mixes may be altered slightly depending upon seed availability and/or soil types. For instance compatible forbs or shrubs such as globemallow (Sphaercea spp.), lupine (Lupinus spp.) or four wing saltbrush (Atriplex canescens) if available may be substituted in suitable soil and habitat types. Forage kochia (Kochia prostrata) would be substituted for four wing saltbrush only on the proposed greenstrip running from near Alkali Spring to South Jacobson Gulch. In extremely sandy soils other species such as Indian Ricegrass (Oryzopsis hymenoides), if available, may be substituted for other native grass species. In soils with higher clay content species such as western wheatgrass (Pascopyrum smithii) may be included. The seed when mixed will be treated with a organic seed coating to enhance germination and seedling survival. A native/non-native worksheet assessing the seed mixes is attached as Appendix 1. The proposed , drill seed mixes and approximate costs are listed below:

Species	bulk lbs per acre	Total Pounds	Approximate Cost per lb	Cost per Acre
Native Mix (12,000 acres)				
Secar, bluebunch wheatgrass	4	48,000	5.00	20.00
Goldar, bluebunch wheatgrass	3	36,000	6.00	18.00
Magnar, Basin wildrye	1	12,000	10.00	10.00
Apar, Lewis Flax	1/2	6,000	3.00	1.50
Western Yarrow	1/2	6,000	10.00	5.00
Seed treatment and mixing			.30	2.70
Total	9	108,000		57.20

Nonnative Mix (10,000 acres)				
Crested wheatgrass	4	40,000	1.50	6.00
Russian wildrye or pubescent wheatgrass	1	10,000	3.00	3.00
Magnar, Basin wildrye	1	10,000	10.00	10.00
Nomad or Ladak Alfalfa	1	10,000	1.50	1.50
Apar, Lewis Flax	1/2	5,000	3.00	1.50
Western Yarrow	1/2	5,000	10.00	5.00
Four wing-saltbrush	1	10,000	8.00	8.00
Seed treatment and mixing			.30	2.70
Total	9	90,000		34.70
Broadcast seeding (40,000 acres)				
Big sagebrush	1	40,000	8.00	8.00

Total seed costs are estimated below:

Native Mix: $686,400.00
Non Native Mix: $347,000.00
Broadcast sagebrush: $160,000.00
Total: $1,193,400.00

The greenstrip mix would be used in the flatter, early seral stage areas that are dominated by annual species with little or no native perennials remaining. Approximately 4,000 acres of this area that currently have a heavy buildup and mat of medusa wildrye (Taeniatherum asperum) and/or cheatgrass (Bromus tectorum) may be pretreated with herbicides or discing to enhance establishment if restoration or hazardous fuels reduction funding becomes available.

The native mix would be used in moderate slope areas, in middle seral stage that retain a remnant component of native perennial species.

Approximately 20,000 acres of the burn area in suitable soil and habitat types would be broadcast with Wyoming and Basin big sagebrush (Artemisia tridenta ssp. wyomingensis & tridentata) at a rate of 1/8 lb pure live seed per acre. This would represent approximately 20,000 lbs bulk seed at a cost of approximately $8.00 per pound. In addition, 2,000 acres of the burned area would be planted with bitterbrush (Purshia tridentata) and sagebrush seedlings in suitable soil and habitat types throughout the burn area at a density of 50 per acre.

Protection of the burned area

Livestock grazing would be excluded from the burned area for a minimum of two growing seasons to allow for vegetation recovery and seeding establishment. Pastures that were mostly burned would be closed to livestock use during this time period. Partially burned pastures would be excluded by construction of eight miles of temporary electric fence (map 4). This would exclude livestock from the burned areas of public land for a minimum of two growing seasons.

Approximately 92 miles of fence was damaged by the fire. Of this total 45 miles are BLM project fences with the remaining 47 miles under private ownership although a good deal of that fence is boundary fence between private and public lands. Of the 45 miles of BLM project fence 21 miles are exterior boundary fence necessary to protect the burn area and are proposed to be reconstructed with EFR funds, the remaining 17 miles are interior division fences that will be reconstructed with other funds. Of the 47 miles of private fence, 35 miles are exterior boundary fence between public and private lands that will be necessary to protect the burn area and proposed seedings. Coordination and cooperative agreements with private land owners would be pursued to repair exterior boundary fences critical to protect public land resource values in accordance with the Wyden Amendment of the Department of Interior and Related Agencies Appropriations Bill, FY99 (Public Law 105-277).

Noxious Weed Control

Noxious weed control will include surveying to detect the presence and invasion of noxious weeds to be followed with treatment, then monitoring and retreatment. A complete inventory of approximately 70,000 of the burned acres on federal and private land would be conducted starting with a helicopter survey for rush skeletonweed, which readily regenerates following fire, in September 2000. Sites would be mapped during inventory, then spot treated in October/November of FY 2001 and spots retreated, when necessary, in FY 2002. Any visible sites of Russian knapweed (Acroptilon repens) and spotted knapweed (Centaurea maculosa) would be mapped and treated in conjunction with skeletonweed treatment in 2001 and 2002. Survey and treatment of whitetop (sites would start in late spring of 2001 and retreated in late spring of 2002. Because of the potential of herbicide damage to seedlings of desired species, larger patches will be reseeded by hand in the fall of 2002. To allow seedling establishment prior to treatment, Scotch thistle would not be aerially treated until fall of FY 2002 using a residual herbicide. A more detailed breakdown of weed monitoring and control practices is included in Appendix 3.

Monitoring

Intensive horseback monitoring of the burned area for rush skeletonweed, whitetop, Russian knapweed, Scotch thistle and spotted knapweed would be conducted during late summer/early fall of FY 2001 and FY 2002, to be followed by spot treatment of skeletonweed and knapweeds.

Erosion Control

Up to 50 small erosion control structures would be constructed to limit gully erosion that could potentially occur with runoff on the unvegetated soil surface. These projects will be constructed in depressional areas with large catchments on some of the highly erodible soils in the burned area. The structures will be composed of certified weed free straw bales, photodegradable mats and twine, and wooden stakes. This type of structure will be for short-term protection, as all materials will biodegrade in the long-term, until the perennial vegetation can become reestablished.

Fire suppression activities activities caused severe damage to associated road-transportation system. This damage was repaired to the extent possible before equipment left the fire. It was not possible to fully repair damage due to dry conditions. Further impacts are expected from equipment use during proposed rehabilitation work. Repair of roads-transportation would be completed as a part of this plan while equipment is on site and favorable moisture conditions exist utilizing 2821 funds.

B. **No Action**

No emergency rehabilitation would be done.

C. **Limited Rehabilitation**

Vegetation establishment

Under this alternative 10,000 acres would be reseeded with a green strip mix. No seeding of native species or browse species would be done.

Protection of the burned area

Livestock grazing would be excluded from all pastures that were mostly or partially burned for at least two growing seasons on the burned area. No temporary fences would be constructed.

Noxious Weed Control

No noxious weed control would be conducted

Monitoring

Monitoring of the burn area would be conducted. This would include use supervision for livestock, weed monitoring and vegetation monitoring

Erosion Control

No Erosion Control Devices would be constructed.

D. **Nonnative Seeding Alternative**

Rehabilitation actions under this alternative would be similar to those identified in the proposed action though the entire area of public land and private land proposed for drilling, would be seeded to the nonnative mixture identified above. No Wyoming big sagebrush would be seeded, nor would shrub seedlings be planted. Livestock would be excluded from the burned area utilizing temporary fencing as described in the proposed action for two growing seasons or until seeded species are established.

Monitoring of the burn area would consist of livestock use supervision, weed monitoring and vegetation monitoring. (For additional detail, refer to Section VII).

IV. AFFECTED ENVIRONMENT

A. Vegetation

Vegetation in the burned area consists of three primary types:

Annual range with cheatgrass, medusa wildrye, tumblemustard (Sisymbrium altissimum) and Russian thistle (Salsola kali) occurs in the valley bottoms and along the base of the foothills. A transition zone occurs between the annual range and native vegetation types which supports scattered perennials including bluebunch wheatgrass (Agropyron spicatum) and basin wildrye (Leymus cinereus) along with annual grasses and forbs. Native range includes two types: those of bluebunch wheatgrass communities in the more loamy soils and those of Indian ricegrass communities in the sandy areas. Shrubs consist of basin big sagebrush, Wyoming big sagebrush, bitterbrush, green rabbitbrush (Chrysothamnus viscidiflorus) and grey rabbitbrush (Chrysothamnus nauseosus).

Special Status Plants

Three Special Status plant species are found within the general area: Mulford's milk-vetch (Astragalus mulfordiae), Malheur forget-me-not (Hackelia cronquistii), and Malheur prince's plume (Stanleya confertiflora). The first two speices are recognized as Species of Concern by the US Fish and Wildlife Service (USFWS). The milk-vetch is listed as Endangered by the State of Oregon, and the forget-me-not is listed as Threatened by the State of Oregon. Both occur on the sandy hills in the southern portion of the burned area, with Mulford's milk-vetch growing at the summit of the sandy hills on two ridges, and Malheur forget-me-not occurring on numerous north facing slopes throughout the sand hills. Mulford's milk-vetch is currently under status review for potential listing by USFWS. Malheur prince's plume is a Bureau Sensitive (BS) species. It occurs on odd ash-clay inclusions at three known locations within the burned area. All three species are on Oregon Natural Heritage Program's List 1 (taxa endangered or threatened throughout their range). All three species are endangered due to loss of habitat and invasion of noxious weeds across their range.

B. Noxious Weeds

Rush skeletonweed, an invasive, perennial noxious weed, is present inside and outside the

burned area, as are whitetop and Russian knapweed, both persistent, deep-rooted perennial noxious weeds. Two small sites of spotted knapweed, a short-lived perennial noxious weed capable of invading good condition areas and dominating disturbed areas, have been found within the burn perimeter. An aggressive biennial, Scotch thistle is established within the burn area. None of these species, although present at this time, dominate the burned area.

C. Livestock Grazing

Public land within eight grazing allotments was burned by the fire. Allotments, active AUMs, total public acres within each allotment and public acres burned within each allotment are listed below:

Allotment	Active AUMs	Total Public acres	Public Acres burned
King Field Individual	61	1085	300
Dry Creek Individual	99	2085	200
South Alkali	6837	35348	34000
Alkali Spring	5757	26901	7700
East Moores Hollow	54	54	400
Wickiup Gulch	118	855	400
Bridge Gulch	169	3931	3800
Wheel Gulch	50	760	400

D. Soils

There has not been a soil survey of the entire area although potions of the burned area were surveyed in 1975. Soils are derived from sediments, ash and loess deposits, alluvium, and colluvium. They are well-drained and moderately to slowly permeable. Slopes range from 0 – 80 percent so there is the potential for the soils to be highly erosive without vegetative cover. Soils in the depressional areas and floodplains are similar to a coarse-silty, mixed, superactive, mesic Xeric Haplodurid (Dolman series). Soils on the steeper slopes are similar to a clayey, skeletal, smectitic, mesic Lithic Argixeroll (Ruckles series) or an ashy, mesic, shallow Vitrixerandic Camborthid (Weash series). The edges of the burn that are along the Malheur River and Snake River floodplains approach flatter topography and agricultural soils. Some of the soils in these areas are coarse-silty, mixed, mesic Xeric Haplodurids (Nyssa series) and fine-silty, mixed, superactive, mesic Xeric Calciargids (Greenleaf series). Soils on the south end of the burned area near Vale are extremely sandy with some active dune formation and are highly erosive, especially without vegetative cover.

E. Watershed/Wetlands/Riparian Areas/Floodplains

The fire burned acreage in the Willow Creek and Snake River subbasins. Water flowing into Willow Creek flows into the Malheur River and eventually reaches the Snake River north of Ontario. The area is a low precipitation region with an average of 8 – 12 inches per year. It contains many ephemeral water courses that are incised due to gully erosion. There are several identified riparian and wetland areas in or near the burned area. These occur in some of the deep gulches in the area or in depressional basins. Some of these areas did not burn during the fire.

F. Wildlife

The proposed treatment area is critical winter range for both mule deer and pronghorn antelope. Depending upon weather conditions between 600-1000 mule deer, 400-500 antelope and 100 elk make use of the area. Previous fires near Tub Mountain burned extensive areas of shrubs, causing the loss of winter cover and browse. Little recovery of shrub species has occurred. Wildlife depredation on adjacent private land continues to be a problem. Other wildlife species found in the area include long-billed curlews and burrowing owls (both Bureau Sensitive). Both species nest in the annual vegetation habitat type typical of the low elevation bottoms in the treatment area.

There are no threatened or endangered wildlife species in the proposed treatment area.

G. Recreation and Visual Resources

Dispersed outdoor recreation in the proposed fire rehabilitation area consists primarily of hunting of upland birds and big game animals. Some dispersed general sightseeing and day hiking occurs. The burn is within a visual resource management class IV area, with low visual sensitivity and a low (class C) scenic quality rating. While interesting in its setting, Tub Mountain is a feature commonly found in Vale North Scenic Quality Rating Unit.

H. Cultural Resources

The route of the Oregon Trail heads north from Alkali Spring, past Tub Mountain to Willow Spring and then east and northeast toward Farewell Bend. Previous wildland fires have burned along the western edge of the Oregon Trail north of Tub Mountain. In this area, the Oregon Trail is a maintained county road and subjected to periodic road blading activities by Malheur County road crews. Known prehistoric sites in the area were not affected by fire suppression activities. A hearth located along the Oregon Trail yielded calibrated radiocarbon dates of AD 1680 to 1760 and AD 1800 to 1940 (with 95 percent probability)

In 1994, another fire east of Tub Mountain burned approximately 1,000 acres along the east side of Alkali Gulch. Prior to rehabilitation efforts for the 1994 fire, the area was surveyed with 30 meter transects. No cultural resources were located during that survey. In 1986, M. Plew surveyed approximately 2,680 acres using 150 meter transects on the west side of Alkali Gulch and the base of Tub Mountain after another fire in the area. Plew's survey located one

historic homestead.

Limited cultural resource surveys have been conducted in adjacent areas. Portions of the western half of the proposed treatment area were surveyed by M. Plew (1986). One historic homestead was located during that survey. No other cultural resources are known in the area.

In 1996, the cultural resource survey for the Tub and South Tub Fires inventoried approximately 3000 acres at 50 meter transects. No prehistoric cultural resources were located. One historic homestead consisting of a cistern and two pits was located on private land in section 1, T 17 S., R. 45 E., at the head of Jackson Gulch. The route of the Dallas Military Road, which was the main freight road from Boise to Canyon City to The Dallas passed to the north of this homestead and is still used as a existing dirt road.

I. Other Mandatory Elements

The following mandatory elements are either not present or would not be affected by the proposed action or alternatives:

1. Air Quality
2. Wild and Scenic Rivers
3. Native American Religious Concerns
4. Hazardous wastes
5. Prime or unique farmlands
6. Wilderness Study Areas
7. Areas of Critical Environmental Concern
8. Wild Horse/Burro Management
9. Wetlands/Riparian, Flood Plains
10. Environmental Justice

V. ENVIRONMENTAL CONSEQUENCES

A. Proposed Action

1. Vegetation

Seeding would provide an opportunity and seed source for a more stable perennial vegetative cover. With successful establishment of seedings, perennials would replace more flammable annuals, reducing the frequency of wildfire. Establishment of greenstrips would break up highly flammable fuel types and reduce the threat to adjoining private property and land. Establishment of sagebrush would provide vegetative community diversity and retain structure to the vegetative community that has been lost to the cumulative effect of brush control and vegetation manipulation in this area. Risk of poor establishment of native species, especially in the event of limited spring moisture in the spring of 2001, would be greater than the similar risk of planting crested wheatgrass (Agropyron cristatum) which is adapted to drier conditions and is tolerant of greater grazing impacts. Wildlife habitat values and species diversity

would be greater with establishment of native species as compared to nonnative species used for rehabilitation actions.

Exclusion of livestock from the burned area and areas seeded and/or planted would allow recovery of residual desirable species and establishment of seeded species without impacts from sheep and cattle grazing.

Special Status Plants

Minimal direct impacts would occur to the three special status plant species. Beneficial impacts would occur in the long-term as noxious weeds would be controlled and as numerous areas would support native species, thus excluding potential for extensive weed invasion and future fires of catastrophic proportions .

2. Noxious weeds

Establishment of perennial species would help prevent the spread and takeover of the site by noxious weeds, particularly medusa-head wildrye, Scotch thistle, rush skeletonweed, knapweed and whitetop. Seeding of private lands to a nonnative mixture would provide competition for undesirable annual and weed species on degraded lands adjacent to public lands, thus protecting public land resource values by limiting seed production and transport. Establishment of a diverse shrub component would more fully occupy the soil profile with roots of desirable perennial species as compared to shallow rooted perennial grasses and forbs alone. Full occupation of the soil profile with roots of desirable species would provide additional competition to reduce dominance by deep rooted weedy species. Establishment of diverse perennial vegetation communities including grasses, forbs and shrubs would help prevent or minimize the proliferation and invasion of noxious weed species within the burned area and adjacent to roads impacted by suppression actions. A reduction in the occurrence of weeds adjacent to roads would limit transport of seed to new sites within the burn area and offsite.

3. Livestock Grazing

Livestock would be excluded from the treated area for at least two growing seasons. Annual livestock reductions are identified by allotment below:

Allotment	AUMs lost annually	Percent of active AUMS
King Field Individual	16	27
Dry Creek Individual	9	9
South Alkali	6837	100
Alkali Spring	1611	28
East Moores Hollow	35	62
Wickiup Gulch	54	46
Bridge Gulch	169	100
Wheel Gulch	26	52

Livestock permittees would be required to maintain the temporary electric fences when livestock are in areas adjacent to those fences increasing operational costs to those permittees. In the long term, positive benefits would accrue to livestock operators due to the establishment of perennial vegetation. An increased and more stable forage base would be established, allowing for increased livestock gains and more stable livestock operations over the long term.

4. Watershed

Soil erosion would increase in the short term as a result of loss of vegetative cover from the fire. Erosion control structures would decrease gully erosion and prevent sedimentation downstream in the watershed. Soil erosion rates would decrease as the perennial species revegetate the site over a period of a year or two. The annual species which currently vegetate much of the area provide much less protection of the soil surface than would perennial species. Under this alternative, erosion rates would decrease further than under the no action alternative due to establishment of perennial species. Perennial vegetation would reduce soil surface runoff, gully erosion and downstream sedimentation by providing improved protection of the soil surface and by reducing the frequency of wildfire.

5. Wildlife

The proposed action would result in more winter browse and cover for mule deer and pronghorn antelope within the project area. Quality and quantity of spring forage should also increase for wildlife species. The project area would not eliminate depredation on private farmlands; however, the proposed action should decrease the amount of depredation.

There could be some loss of long-billed curlew and burrowing owl habitat in the

bottoms. The proposed project area is a small percentage of the potential nesting habitat available in the vicinity. Therefore, impacts on curlew and burrowing owl populations should be minimal.

Structural habitat for sagebrush dependent species would be restored in the long term with reestablishment of desirable shrub species. Foraging and habitat values provided by perennial herbaceous species would be improved.

6. Recreation and Visual Resources

Impacts to dispersed recreation activities would be insignificant. Should rehabilitation activities occur during game hunting seasons, any wildlife close to the activities would be temporarily disturbed.

Surface impacts of the proposed rehabilitation efforts do not exceed management objectives for visual resource class IV. Long term visual evidence of drilled seedings would remain evident.

7. Cultural Resources

A preliminary reconnaissance would identify high probability areas for cultural resources and a Class III cultural resources survey of those areas be conducted prior to surface disturbing activities. Sites will be flagged and recorded. A single pass with a rangeland drill through the area would be permitted to avoid “islands” without vegetation which could draw unwanted attention. Historic trash dumps would be flagged and avoided to reduce the area impacted by previous dumping activities. Temporary fences are considered casual use and will not require an inventory.

B. No Action

1. Vegetation

Annual species and noxious weed species would dominate. The potential for invasion of noxious weeds would remain high. Potential for repeated wildfire would be high. The cumulative effects of repeated wildfire has caused a loss of vegetative diversity and structure which would continue to decline with no action.

Special Status Plants

No Special Status species would be directly affected by rehabilitation efforts. However, as the area may be invaded by increasing numbers of noxious weeds and annual vegetation, a much larger source of seed would be available for invasion into the nearby status plant species habitat, and the areas would continue to burn on an increasingly short-term fire cycle. Invasion by noxious weeds pose a significant threat to existence of the three special status plants.

2. Noxious weeds

In the absence of competition from desirable, perennial vegetation, the entire burn would be highly susceptible to domination by noxious weeds found in and adjacent to the site. Rush skeletonweed, Scotch thistle and spotted knapweed are aggressive and highly invasive species. Root systems on whitetop, Russian knapweed and rush skeletonweed are damaged little by wildfire. Livestock production and wildlife habitat may be further negatively impacted in the long term if noxious weed species increase in the burn area, further reducing forage production. Special status plant species would be at risk from invasion, especially by rush skeletonweed which prefers the lighter, sandy soils inhabited by Mulford's milkvetch.

Livestock Grazing

Livestock would not be allowed to graze the burn area for two growing seasons as required by BLM policy. Livestock would have to be removed from all pastures either entirely or partially burned increasing annual loss of AUMs of forage. No long term benefits would occur as there would be no improvement to forage production or vegetative conditions. Livestock production may be further negatively impacted in the long term if noxious weed species increase in the burn area further reducing forage production.

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4. Watershed

Soil erosion would increase in the short term as a result of loss of vegetative cover. New gullies would be created or existing ones would become larger. Surface runoff the first year could create large amounts of sheet erosion, increasing sedimentation downstream. Erosion rates would decrease as the annual species revegetate the site over a period of a year or two. Soil erosion rates would remain higher than under the proposed action due to the lack of perennial vegetative cover.

5. Wildlife

Wildlife habitat and forage quality would not improve. The loss of shrub habitat would negatively affect big game and sagebrush dependant species. Depredation of adjacent farm land would increase.

6. Recreation and Visual Resources

The return of game species for hunting may be somewhat delayed. Reinfestation by undesirable weed species would hinder efforts to improve game species habitat in the burn area. There would be an insignificant delay in returning the area to a preferred visual setting of some type of vegetative cover.

7. Cultural Resources

There would be no effect to cultural resources from mechanized equipment as a result of the no action alternative. However, surface disturbance may be greater from livestock trampling and erosional factors without vegetation to provide surface stability.

C. Limited Rehabilitation

1. Vegetation

The partial seeding would provide for a more stable perennial vegetative cover on that area seeded. Potential for repeated wildfire would remain high, although the partial seeding would help to break up annual fuel types which may help to reduce fire size. The cumulative effects of past nonnative seeding, brush control and fire has caused a loss of vegetative diversity and structure which would continue to decline under this alternative.

Exclusion of livestock from the burned area and areas seeded and/or planted would allow recovery of residual desirable species and establishment of seeded species without impacts from sheep and cattle grazing.

Special Status Plants

No Special Status species would be directly affected by rehabilitation efforts. However, as the area would be invaded by increasing numbers of noxious weeds and annual vegetation, a much larger source of seed would be available for invasion into the nearby Status Plant species habitat, and the areas would continue to burn on an increasingly short-term fire cycle.

2. Noxious Weeds

Establishment of perennial species would prevent the spread of some weedy species, though failing to seed a significant portion of public land within the fire boundary and failing to seed private land would provide sites for the establishment of weedy and noxious plant species. Production and transport of weed seed would be significant, limiting success of rehabilitation efforts. The area previously dominated by sagebrush and not seeded would be susceptible to further invasion by noxious and weedy species. These areas would decline in seral condition and lose the remaining native perennial vegetation. Lack of shrubs would leave the area susceptible to invasion by rush skeleton weed and other weedy species which utilize mid summer and fall deep soil moisture.

3. Livestock Grazing

Livestock would not be allowed to graze the burn area for two growing seasons as required by BLM policy. Livestock would not be allowed to graze all pastures entirely

or partially burned by the wildfire similar to the no action alternative. Some long term benefit would occur due to the limited seeding which may provide for a more stable forage base.

4. Watershed

Soil erosion would increase in the short term as a result of loss of vegetative cover. New gullies would be created or existing ones would become larger. Surface runoff the first year could create large amounts of sheet erosion, increasing sedimentation downstream. Erosion rates would decrease as the annual species revegetate the site over a period of a year or two. Soil erosion rates would remain higher than under the proposed action due to the limited reestablishment of perennial vegetative cover.

5. Wildlife

Wildlife habitat and forage quality would not improve. The loss of shrub habitat would negatively affect big game and sagebrush dependant species. Depredation of adjacent farm land would increase.

6. Recreation and Visual Resources

The return of game species for hunting may be somewhat delayed. Reinfestation by undesirable weed species would hinder efforts to improve game species habitat in the burned area.

There would be an insignificant delay in returning the area to a preferred visual setting of some type of vegetative cover.

7. Cultural Resources

Sites will be flagged and recorded. A single pass with a rangeland drill through the area would be permitted to avoid “islands” without vegetation which could draw unwanted attention. Historic trash dumps would be flagged and avoided to reduce the area impacted by previous dumping activities. A class III cultural resources survey would be conducted prior to the implementation of this alternative. If cultural resources are located they would be flagged and recorded.

D. Nonnative Seeding Alternative

1. Vegetation

Positive and negative impacts to vegetation resources would be similar to those identified in analysis of the proposed alternative, though risk associated with establishment of crested wheatgrass as compared to risk of establishment of native species would be reduced. Vegetative community diversity and structure resulting from implementation of this alternative would be less than the proposed alternative due

to the lack of reintroduction of sagebrush and bitterbrush to the burned area. Exclusion of livestock from the burned area and areas seeded and/or planted would allow recovery of residual desirable species and establishment of seeded species without impacts from sheep and cattle grazing.

Special Status Plants

Mulford's milk-vetch would receive significant competition from crested wheatgrass, and populations may decline in the long-term. Studies conducted by the National Biological Service have found that Mulford's milk-vetch numbers and reproduction are reduced in sites which have been seeded to crested wheatgrass.

2. Noxious weeds

Benefits of establishing competitive perennial herbaceous vegetation within the burn area and adjacent to roads would be similar to those identified in the proposed alternative. Competition with undesirable weed species for late season deep soil moisture would not be provided in the absence of sagebrush and bitterbrush reintroduction to the site.

3. Livestock Grazing

Impacts to authorized livestock grazing and associated commodity production would be similar to those identified in the proposed alternative. Benefits of increased forage production from the establishment of nonnative species which are more tolerant of grazing impacts and limited establishment of shrub species would be greater than with implementation of the proposed action.

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4. Soils/Watershed

Impacts to watershed values would be similar to those identified in the proposed alternative. Limited shrub establishment would result in less stabilization of deep soils in the absence of deeper rooted species.

5. Wildlife

Habitat values provided by nonnative seedings and limited shrub reintroduction would be diminished for mule deer, pronghorn antelope and sagebrush dependent species. Timing, season and intensity of big game depredation on private crop lands adjacent to the burned area would be expected to increase as animals chose forage sources as well as thermal and hiding cover.

Impacts to special status animal species would be similar to those in the proposed action.

6. Recreation and Visual Resources

Impacts to recreation and visual resources would be similar to those identified in the propose action, though visual lines between the nonnative seeding and adjacent vegetation communities would be less consistent with natural topographic features and aspect changes. A long term lack of sagebrush and other shrub species in the burned area would also be visually obvious.

7. Cultural Resources

Impacts to cultural resources would be similar to those identified in the proposed alternative.

VI CONSULTATION AND COORDINATION

Oregon Department of Fish and Wildlife
Affected Allotment permittees
Private landowners within the treatment area
Malheur County Court

VII. MONITORING

A. Noxious weeds

Intensive monitoring of the burned area for three years would be required to locate and control noxious weeds. Intensive ground surveys would be conducted monthly from May through October.

B. Vegetation

The burned area would be monitored to determine degree and extent of establishment of seeded areas as well as vegetative recovery of non-seeded areas. Monitoring will be done in representative areas of the seeding treatments and the untreated burned area in at least the first three years of the project. Monitoring will include photo plots and techniques to determine species occurrence, composition and vigor.

Special status plant sites would be monitored for noxious weed invasions, success of rehabilitation efforts where applied, and plant survival. Length of time required to recover reproductive potential would also be evaluated. Monitoring would include assessment of density, vigor, seed set, seed viability and over-all reproductive success for the three special status species. The four monitoring stations currently established for Mulford's milkvetch and Malheur forget-me-not would also be read.

C. Livestock

Periodic use supervision will be conducted on the project area to ensure livestock are excluded during establishment and recovery vegetation on the burned area.

VIII. SUMMARY

The Jackson fire burned an area of highly erosive soils that is dominated with highly flammable annual vegetation. The history of repeated wildfire has greatly reduced critical winter wildlife habitat and increased wildlife depredation on private lands. There is potential for increased erosion, invasion of noxious weeds, loss of soil repeated wildfire and threats to private land and property. The proposed action would provide an opportunity to establish perennial vegetative cover that would protect the soil resource; reduce erosion; prevent noxious weed invasion; reduce sedimentation; enhance wildlife habitat and reduce the threat of repeated wildfire.

IX. ANNUAL WORK PLAN SECTION

A cost/risk assessment is attached as Appendix 2. Listed below by fiscal year is a summary of EFR (2822) funding needs for the proposed action:

Item	FY 2000	FY 2001	FY2002
Plan Preparation/Administration	8,000	8,000	
Seed Purchase	1,193,400		
Monitoring of treatment effectiveness		8,000	8,000
Section Corner Survey	4,000	4,000	
Cultural Survey		8,000	
Drill Seeding, 22,000 acres @ $18 per acre		396,000	
Shrub Seeding application, 20,000 acres		100,000	
Shrub Planting, seedlings		21,000	
Shrub Planting application, 2000 acres		9,000	100,000
Weed Treatment and Monitoring	23,500	88,950	88,950
Exterior Fence Reconstruction, 56 mi: labor materials		33,500 40,000	
Fence Removal, 8 miles			8,000
Temporary Electric Fence, 8 miles: labor materials		8,000 12,000	
Road Repair		65,000	
Erosion Control, 50 structures		32,250	
Totals	1,228,900	768,700	204,950

Total: $2,202,550

Listed below are funding needs associated with this plan that would need to be funded outside of EFR (2822) funds.

Item	Cost/source
pretreatment of 4000 acres to reduce fuels and enhance greenstrip establishment	$120,000/ fuels reduction or restoration funding
Reconstruct 17.5 miles of interior BLM project fence to allow post grazing management	$40,000 / 8100 or restoration funding
Road Repair	$65,000/ 2821 or restoration funding
Reconstruct 45 miles of private fence not listed as BLM project fence to protect the burned area from livestock.	$55,000/ private sources

D. EFR PROJECT SUMMARY

DATA COLUMN

Fire Name: Jackson, 5th Avenue

Fire Number: N032, N021

Fire Control Date: 7/17, 6/26

Acres BLM Burned: 49,516, 1800

Start of Rehabilitation Project (Mo./Yr):08/2000

Completion of Rehabilitation Project (Mo./Yr): 09/2002

Miles of New Fence: 8

Miles of Fence Rebuilt: 21

No. of Soil/Watershed Structures: 50

Acres Reforestation:

Acres of Revegetation[1]: 34,000, approximate 10,000 acre overlap between broadcast and drill seeding

Acres of Burned Area Protected for Natural Regeneration[2]: 17,316

Total Acres Rehabilitated[3]: 51,316

Estimated Funding Current Year (FY2000): 1,228,900

Estimated Funding Second Year (FY2001): 768,700

Estimated Funding Third Year (FY2002): 204,950
Total Cost Rehabilitation Project: 2,202,550

XI. LIST OF PREPARERS/REVIEWERS

Randy Eyre	Range Management Specialist
Bob Alward	Outdoor Recreation Planner
Jean Findley	Botanist
Roy Masinton	Malheur Resource Area Manager
Diane Pritchard	Archaeologist
Shaney Rockefeller	Hydrologist/Soil Scientist
Al Bammann	Wildlife Biologist
Richard Martinez	Engineering Technician
Jerry Bourasa	Range Technician
Jerry Erstrom	Weed Coordinator
Lynne Silva	Range Technician
Dave Evans	Force Account Work Leader

XII. ENVIRONMENTAL ASSESSMENT DECISION REPORT

Finding of No Significant Impact / Decision Record

On the basis of the information contained in this Environmental Assessment and all other information available, it is my determination that the proposed action is in conformance with the land use plan for the area and does not constitute a major federal action significantly affecting the quality of the human environment and that an EIS is not required. It is my decision to implement the proposed action described in this EA (Or-030-2000-010).

S/Juan Palma 08/02/00
Authorized Official Date

Appendix 1

NATIVE/NON-NATIVE PLANT WORKSHEET

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Proposed Native Plants in Seed Mixture

1. Are the native plants proposed for seeding adapted to the ecological sites in the burned area?
Yes [X] No [ ] Rationale: Proposed native seed mix species are present in the project area and adapted to the sites proposed for the native seed mix.

2. Is seed or seedlings of native plants available in sufficient quantity for the proposed project?
Yes [x] No [ ] Unknown Rationale: Sufficient seed of most species should be available provided it is not diverted to other projects. Quantities of some species such as sagebrush which is harvested in the fall is unknown. Bitterbrush seedlings are available at the Lucky Peak nursery and are adapted to the site.

3. Is the cost and/or quality of the native seed reasonable given the project size and Land Use and Rehabilitation Plan objectives and the guidance in BLM Manual 1745?
Yes [X] No [ ] Rationale: Although the native seed is more costly than comparable introduced species its use is reasonable given the project size and direction in BLM Manual 1725 and 1745 on the use of native seed.

4. Will the native plants establish and survive given the environmental conditions and the current or future competition from other species in the seed mix or from exotic plants?
Yes [X] No [ ] Rationale: Native plants should have a reasonable chance for establishment and survival in those areas proposed for the native plant mix. In the other areas proposed for a greenstip mix native plants would have a low chance for establishment and survival given the intense competition of established introduced species such as medusa head and cheatgrass in those areas.

5. Will the current or proposed land management (livestock, recreation use, wildlife populations, etc.) after the seeding establishment period maintain the seeded native plants in the seed mixture?
Yes [X} No [ ] Rationale: Seeded plants should be able to be maintained on the project area under current uses and proposed uses.

Proposed Non-native Plants in Seed Mixture

1. Is the use of non-native plants necessary to meet objectives, e.g., consistent with applicable land use/activity plans ?
Yes [X] No [ ] Rationale: The area identified for the non-native seed mix is dominated with cheatgrass and medusa head. Non-native perennials would have a significantly improved chance of successful establishment and maintenance in these areas.

2. Will non-native plants meet the objective(s) for which they are planted without unacceptably diminishing diversity and disrupting ecological processes (nutrient cycling, water infiltration, energy flow, etc.) in the plant community?
Yes [X] No [X] Rationale: The proposed seed mix would significantly improve vegetative diversity and ecological processes by establishing perennial vegetation in areas dominated by annual invasive and noxious species.

3. Will non-native plants stay on the site they are seeded and not significantly displace or interbreed with native plants?
Yes [X] No [ ] Rationale: The proposed mix of non-native plants are species that have not been shown to significantly displace or interbreed with native plants.

Appendix 2.

"Modified Cost - Risk Analysis"

Treatment	**Cost**
Revegetation	$ 1,819,400
Protective Fence	$ 20,000
Fence Reconstruction	$ 73,500
Soil/Watershed Structures	$ 32,250
Weed Control	$ 201,400
All Other Costs (administrative, clearances, etc.)	$ 56,000
TOTAL	$ 2,202,550

Probability of Rehabilitation Treatments Successfully Meeting EFR Objectives

Treatments	Units	NA	%
Revegetation (overall rating)	44,000		80
Drill Seeding (acres)	22,000		85
Aerial Seeding (acres)	20,000		70
Transplant Seedlings (acres)	2,000		80
Other Weed treatment (acres)	1,000		80
Protective Fence to Exclude Grazing (miles)	8		95
Fence Repair to Exclude Grazing (miles)	56		99
Soil/Watershed Structures (overall rating)	50		85
Ripping, contour furrows, etc.			
Matting, watersheds cover, etc.			
Other-Clean culverts			

Risk of Resource Value Loss or Damage

Identify the risk (high, medium, low, none or not applicable (NA)) of unacceptable impacts or loss of resources.

No Action- Treatments Not Implemented (check one)

Resource Value	NA	None	Low	Mid	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 (check one)

Resource Value	NA	None	Low	Mid	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			X		

SUMMARY

The costs of the project and probability of success of the proposed treatments are compared with the risks to resource values if: 1) no action is taken, and 2) the proposed action is successfully implemented. Alternatives may be included in this analysis to assist in the selection of the treatments that will cost effectively achieve the EFR objectives. Answer the following questions to determine which proposed EFR treatments should be selected and implemented.

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

Proposed Action Yes |_x| No |__| Rationale for answer: The threat of weed invasion will be greatly reduced with a successful seeding. Erosion will be reduced. The threat of repeated wildfire will be reduced with a more diverse perennial vegetation that will meet wildlife needs and rangeland health standards. Seeding and fencing costs are satisfactory considering seed mixtures and demand.

No Action Yes |__| No |x_| Rationale for answer: The threat of weed invasion, erosion and repeated wildfire will be increased without treatment. Wildlife habitat and Rangeland health standards will not be met. Wildlife depredation on adjacent private lands will increase.

Alternative(s) Yes |__| No |x_| Rationale for answer: The limited rehabilitation alternative would only partially reduce the threat of weed invasion, erosion and repeated wildfire. Wildlife and Rangeland health standards would not be met.

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: Recent seedings on adjacent areas on similar soils have been successful under normal climatic conditions and protection from grazing for 2-3 growing seasons.

No Action Yes |__| No |x_| Rationale for answer: Adjacent areas with similar soils and vegetation that have not been seeded following fire have become annual monocultures that do not meet wildlife and Rangeland Health needs.

Alternative(s) Yes |__| No |x_| Rationale for answer: The limited rehabilitation alternative would not meet identified needs.

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

Proposed Action |x_|, Alternative(s) |__|, or No Action |__|

Comments: The proposed action best meets the need for reducing weed invasion and repeated wildfire while providing for wildlife and rangeland health needs.

Appendix 3

Jackson)FIRE
WEED DETECTION, CONTROL AND MONITORING - COST ESTIMATES

FY 2000

Aerial Detection - (70,000) acres @ $4.60/acre $15,000
(fall low level helicopter flight for rush skeletonweed that has regenerated in the burned area)
Work Months for planning, and detection
2WM @ $ 4,000 /WM $8,000
Supplies (herbicide dye, safety equipment, misc.) $500
Total for FY-00 . . . . . $23,500

FY 2001

Aerial Spray (fall treat) - (800) acres Scotch thistle @ $8.00/acre . . . . . $ 6,400
ODA contract to treat rush skeletonweed(15) acres
125 hours of treatment @ $75.00 hour
To treat approximately 200 single plants/sites less than .001 acre in size scattered over the entire burn area $9,500
Contract to treat whitetop, Russian and spotted knapweed
-(200) acres @ $75.00/acre $15,000
Work Months for detection, control and monitoring
6 Perm WM @ $ 4,000 /WM $24,000

6 Temp WM @ $ 3,000/WM $18,000

Herbicide Tordon 22K- (100) gallons @ $80/gallon $8,000

Herbicide 2,4-D LV4 Solventless (100) gallons @ $26/gallon. $2,600

Supplies (herbicide dye, safety equipment, misc.) $750

Survey and detection of rush skeletonweed

Horse Rental for (8) months @ $ 400 /month $3,200

Horse Trailer Rent for (3) months @ $ 500/month $1,500

Total for FY 2001 . . . . . $88,950

FY 2002

Aerial Spray (fall treat) -(800) acres Scotch thistle @ $8.00/acre . . . . . $ 6,400

ODA contract to treat rush skeletonweed(15) acres

125 Hours of treatment @ $75.00 hour

treat approximately 200 single plants/sites less than .001 acre in size scattered over the entire burn area $9,500

Contract to treat whitetop, Russian and spotted knapweed

-(200) acres @ $75.00/acre $15,000

Work Months for detection, control and monitoring

6 Perm WM @ $ 4,000 /WM $24,000

6 Temp WM @ $ 3,000/WM $18,000

Herbicide Tordon 22K- (100) gallons @ $80/gallon $8,000

Herbicide 2,4-D LV4 Solventless (100) gallons @ $26/gallon. $2,600

Supplies (herbicide dye, safety equipment, misc.) $750

Survey and detection of Rush Skeleton weed

Horse Rental for (8) months @ $ 400 /month $3,200

Horse Trailer Rent for (3) months @ $ 500/month $1,500

Total for FY 2002 . . . . . $88,950

Rationale:

The entire burn area (both private and BLM) is infested with several noxious weed species. Rush skeletonweed (Chondrilla juncea), whitetop or hoary cress (Cardaria spp.), Russian knapweed (Acroptilon repens) and spotted knapweed (Centaurea maculosa) are the perennial noxious weeds of concern. Scotch thistle (Onopordum acanthium), an aggressive biennial, is also present None of these species currently dominate the entire burn area. With the elimination of shrubs and other desirable plant competition all weed species are expected to

“explode” making the reintroduction of desirable species and the recovery of remnant native and sensitive plant communities difficult to impossible.

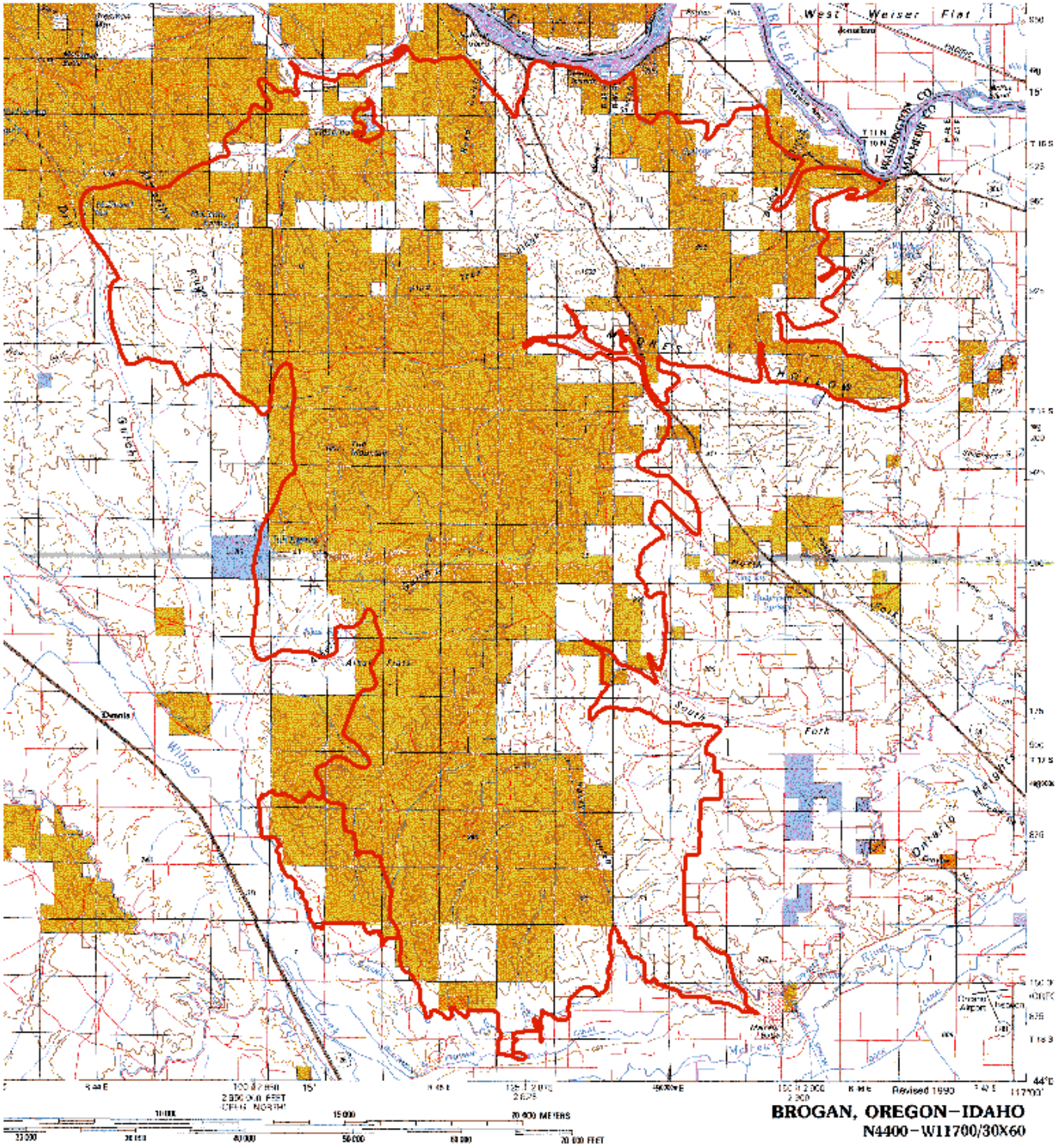
Whitetop, Russian knapweed and spotted knapweed occupy approximately 200 acres in patches varying in size from .001 to .1 acre. Scotch thistle infestations amount to 800 acres and are from 50 to 100 acres in size. Two hundred known rush skeletonweed sites are present in the burned area and occupy less than fifteen net acres. These sites range from single plants to patches less than .001 acre.

Beginning this fall, we propose to enter into a cooperative agreement with the Malheur County Weed Board and the local Soil and Water Conservation District (SWCD) to inventory nearly all of the burned area (70,000 acres) for noxious weeds with the focus on rush skeletonweed. This fall’s effort will consist of an intensive inventory with a helicopter to look for rush skeletonweed regeneration and all weeds of concern and continue for two subsequent years with horseback inventories. Spot treatment will begin this fall and continue in the fall of 2001 and 2002 on all discovered rush skeletonweed, and knapweed locations. Treatment of all species will be the responsibility of the affected landowner.

Late spring treatment on whitetop will be begin in 2001 with sites also being retreated in 2002. Because of the potential of herbicide damage to seedlings of desired species, larger patches will be reseeded by hand in the fall of 2002.. Scotch thistle will be aerially treated starting in the late fall of 2001 and finishing in the fall of 2002.

All five of these weed species will potentially completely dominate their present location and totally eliminate any potential for regeneration or reestablishment of desirable species. Treatment of these weeds is imperative to insure the success and protect the investment of the rehabilitation effort.

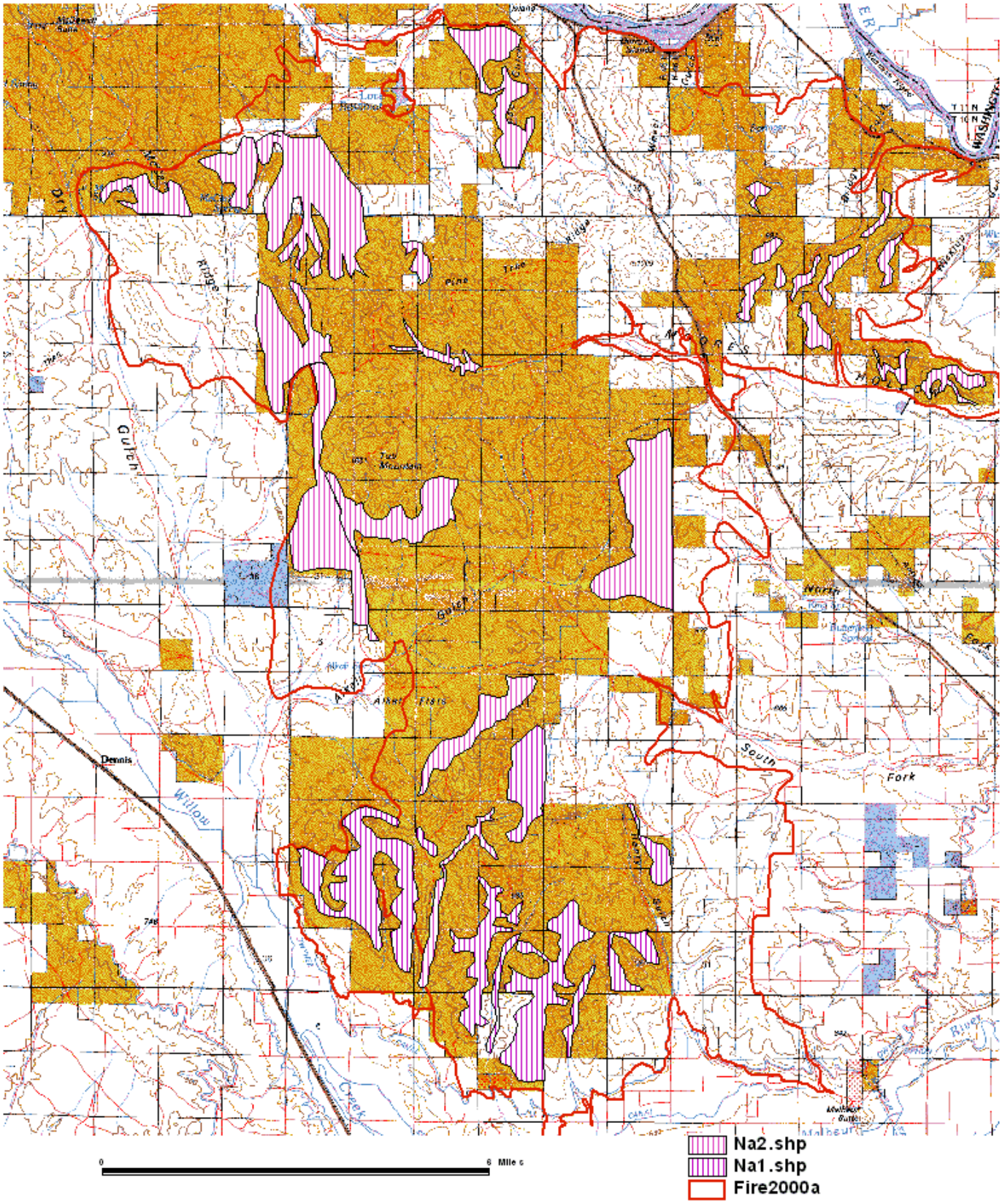
Map 1, Jackson Fire



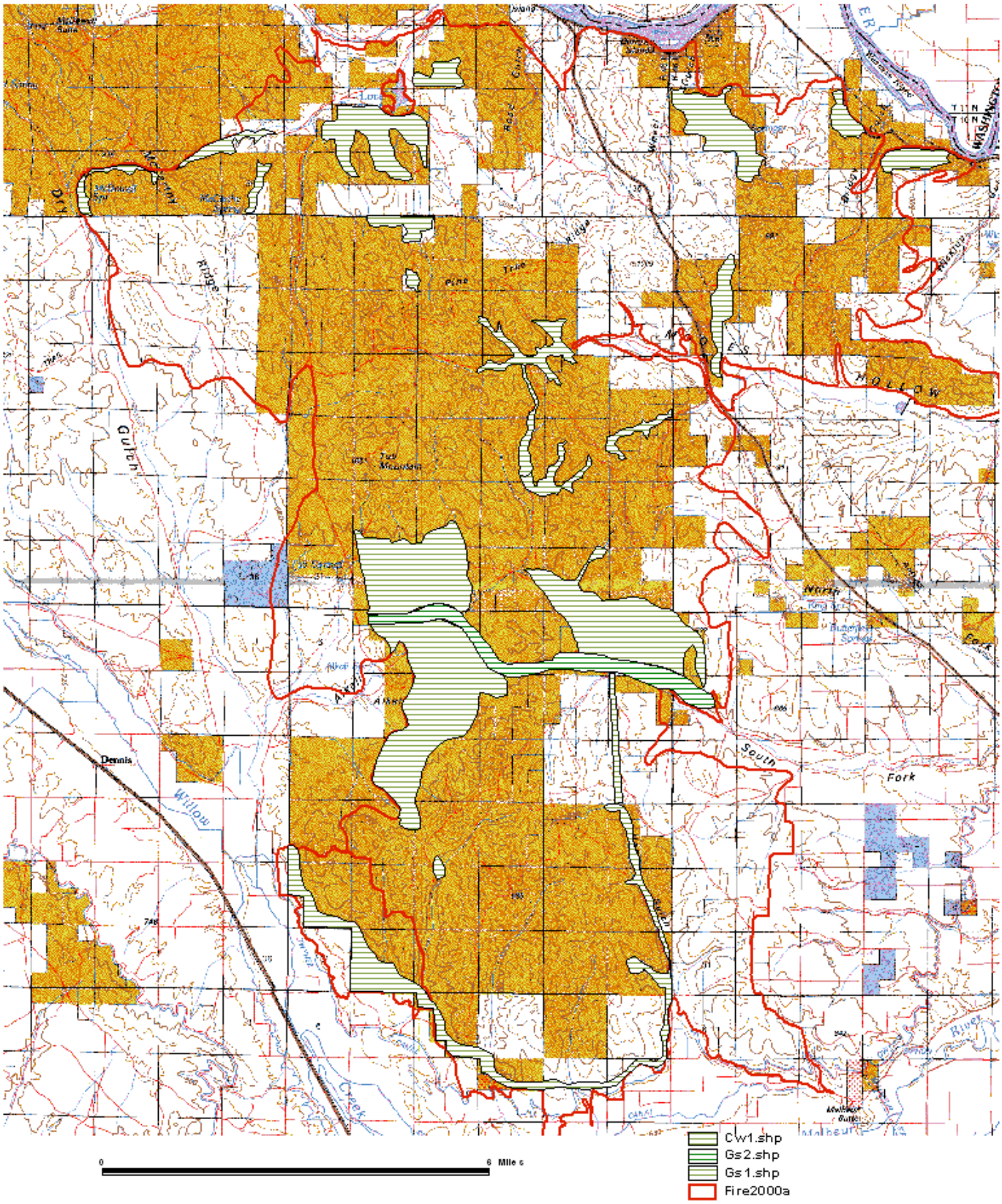
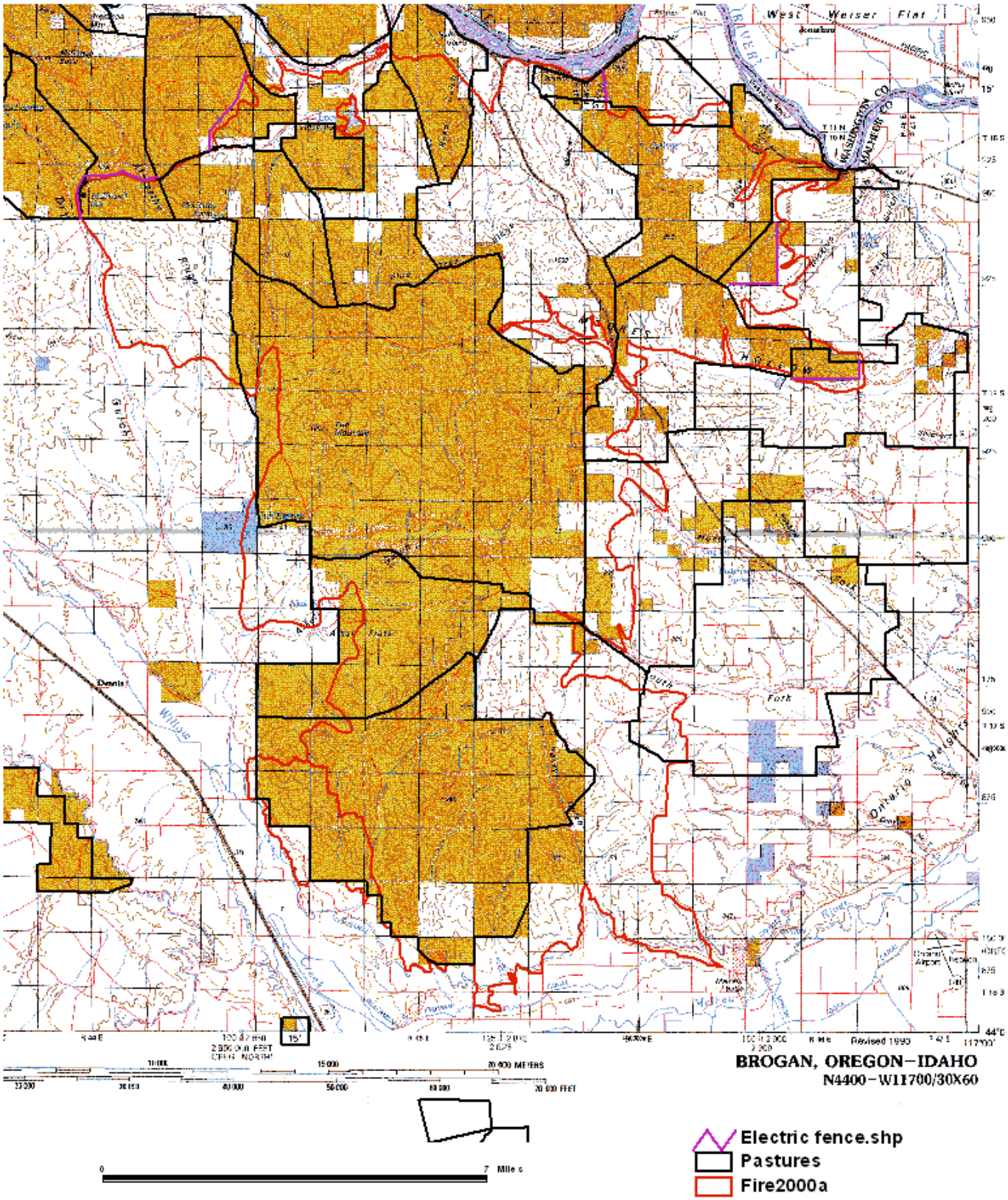
0 7 Miles

Fire2000a

Map 2, Native Seeding



Map 3, Greenstrip, non native seeding



Map 4, Temporary Fences