

Rangeland Management Specialist Report

Flagtail Restoration Projects



Malheur National Forest Blue Mountain Ranger District

Grant County, Oregon

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Date

Rangeland Resources

Affected Environment

Livestock grazing has been a part of the landscape of the Malheur National Forest since the 1860's when the first miners and homesteaders entered this area. Allotments within the planning area have been grazed by both domestic cattle and sheep, becoming almost exclusively grazed by cattle in the past 40 years. Although livestock grazing on National Forest System lands has decreased since the early 1900s, the ranching industry remains an important part of the Grant County economy.

Early grazing was essentially unregulated and resulted in resource impacts, some of which are still observable today. During the middle part of the century, the Forest Service took significant action to regulate livestock numbers, and to establish workable grazing seasons and allotments. In the latter part of the century, emphasis shifted to development of range management systems and regulation of effects on specific resources. During the past twenty years or so, emphasis has been on protection and management of riparian and aquatic habitats.

According to Area Ecologist, Charlie Johnson, there has been a marked improvement on most rangelands on the Malheur National Forest since the 1970s. However, the impacts at the turn of the century and continuing into the 1950s were sometimes too severe for the dry, warm non-forested communities to sustain. The result was degraded rangeland ecosystems with little opportunity (time) for natural rectification (reasserting of balance) for the natural community. He notes the improvements since the 1970s were mainly where rotational grazing (deferred or rest) were implemented, generally with added fencing.

Charlie Johnson's notes from the mid 1990s characterize the vegetation within the planning area as outside the normal range of variation. He asserts key factors influencing this are severe disturbance and a lack of maintenance disturbance processes. Because fire has such a profound influence on the ecosystem the curtailment of fire's natural cycle combined with livestock grazing has significantly contributed to the ecosystems being outside natural variation. Although his report was generated for other reasons, he adds that present health of vegetation within allotments also relates to the incursions by administrative projects to harvest trees. The removal of larger trees coupled with removal of fire from the ecosystem has led to promotion of later seral tree species when fire seral tree species were favored in the removal. These plant communities are now far outside the natural range of variation, which effects the overall rangeland/allotment health and production. (Charles G. Johnson, Jr; Summary Report for Rangeland Health on Selected Allotments, 6/6/95). For these reasons, prior to the Flagtail Fire, it was difficult to state that upland range conditions were continuing to improve, as the reverse may be more appropriate.

The non-forested riparian areas are recovering from past grazing practices; however, Kentucky bluegrass continues to dominate many sites where native grasses once resided. The willows are not recovering as rapidly due to a number of possibilities such as ungulate browsing, competition for sunlight and soil nutrients and site changes from sediment deposits and lowering of the water table (Upper Silvie's Ecosystem Analysis).

The Malheur National Forest Land and Resource Management (USDA Forest Service 1990) both allows for and encourages grazing. Stated goals (FLMP IV-2) include;

- Provide a sustained production of palatable forage for grazing by domestic livestock and dependent wildlife species (FLMP, 1990).
- Manage rangelands to meet the needs of other resources and uses at a level which is responsive to site-specific objectives.
- Permit livestock use on suitable range when the permittee manages livestock using prescribed practices.

Forage species (grasses, grass likes and forbs) recovery response time is often very rapid to change, such as green up the year following a fire. Because of this, short term effects are generally under five years and long term effects are over five years.

In areas burned at high intensity, the capacity for the native vegetation to provide cover of the soil may have been diminished. Thus, burned areas provide opportunities for invasive plants to become established quickly because of disturbed soil, release of nutrients, and lack of competition. Noxious weeds could have been introduced to the areas during fire suppression. There were no wash stations at the fire for vehicles or equipment.

Nineteen noxious weed species listed by the Oregon Department of Agriculture occur on the Malheur National Forest:

Canada Thistle	Dalmatian Toadflax	Diffuse Knapweed
Field Bindweed	Hound's-tongue	Leafy Spurge
Musk Thistle	Perennial Pepperweed	Poison Hemlock
Purple Loosestrife	Scotch Broom	Scotch Thistle
Spotted Knapweed	St. Johnswort	Sulfur Cinquefoil
Tansy Ragwort	White Top	Yellow Star Thistle
Yellow Toadflax		

Roadways support the heaviest known populations of noxious weeds and pose the biggest threat for invasion. Principal species include dalmatian toadflax, yellow toadflax, tansy, perennial pepperweed, hound's-tongue, bull thistle, Canada thistle, white top, knapweed, tarweed and sulfur cinquefoil. Hound's-tongue is widespread throughout the District along roads. These weeds can spread quickly, crowding out native plants, and are difficult to eradicate once established. Inventories conducted on the Malheur National Forest over the past decade have mapped 1,713 noxious weed sites.

A large site of yellow toadflax occupies the Bear Valley Work Center horse pastures and along the County 63 roadway. Scotch thistle is prevalent in several areas along Scotty and Damon Creeks. Tarweed and sulfur cinquefoil cover hundreds of acres on the west end of the District in the drier scabby areas and along many road right-of-ways, and may only be brought under control with an intensive herbicide program.

Current Condition

Three grazing allotments were impacted by the Flagtail Fire. They are the Flagtail, Jack Creek, and Scotty C&H Allotments. The fire impacted 6,979 acres but only burned 5,661 acres on these allotments (refer to Table 1). Of those acres burned only 3,571 acres were identified as receiving a moderate to high severity burn.

The Flagtail Allotment is permitted for use by 359 cow/calf pairs for a period of June 10 through September 30 under a five unit deferred rotation system. The portion of the Swamp Creek Unit that was burned is planned for rest from grazing for at least two growing seasons in compliance with the Forest’s Post Burn Grazing Policy.

The Jack Allotment is permitted for use by 219 cow/calf pairs for a period of June 6 through September 25 under a four unit deferred rotation system. Because most of this allotment was burned it will be rested for at least two growing season in compliance with the Forest’s Post Burn Grazing Policy.

The Scotty Creek Allotment is permitted for use by 700 cow/calf pairs for a period of June 1 through September 30. The area burned is planned for rest for at least two years in compliance with the Forest’s Post Burn Grazing Policy.

TABLE 1 – Summary of Acres by Unit

ALLOTMENT	UNIT	ACRES BY SEVERITY				TOTAL ACRES	TOTAL BURNED
		UNBURNED	LOW	MOD.	HIGH		
Flagtail	Swamp Creek	230.92	100.18	164.06	337.08	832.24	601.32
Jack Creek	Bald Hills	108.62	665.65	906.81	1024.00	2705.08	2596.46
	Jack Creek	289.11	529.67	124.46	14.82	958.06	668.95
	Jack/Snow	721.22	719.14	533.70	135.34	2109.4	1388.18
	Silvies	16.14	70.52	173.65	113.44	373.75	357.61
Total Jack Allotment		1135.09	1984.98	1738.62	1287.6	6146.29	5011.2
Scotty	Scotty Creek	5.59	34.11	9.09	0.00	48.79	43.2
Total All Allotments		1366.01	2090.75	1936.79	1624.68	6978.53	5661.31

The Flagtail Fire destroyed an estimated 5.8 miles of boundary and interior fences (refer to Table 2).

TABLE 2 – Summary of Estimated Miles of Fence Destroyed

ALLOTMENT	FENCE LOCATION	EST. MI. DESTROYED
Jack Creek	Between Silvies & Jack/Snow Units	1.28
	Between Silvies & Jack Cr. Units	0.63
	Between Jack/Snow & Jack Cr. Units	0.63
	Between Jack Cr. & Bald Hills Units	1.28
	Between Bald Hills & Road Corridor	0.38
		4.2
Flagtail	Between Swamp Cr. Unit & Road Corridor	1.55
ESTIMATED TOTAL MILES OF FENCE DESTROYED BY FIRE		5.75

Those fences needed for livestock control that were damaged by the fire will need to be reconstructed prior to the resumption of grazing on the burned areas of the allotments. If other methods for effective control of livestock can be agreed upon by the permittee and the responsible official grazing may resume before fences are reconstructed.

Environmental Consequences

Noxious weeds and other invasive species are not discussed here, but are discussed in the Botany Specialist Report.

Resting the area from domestic livestock grazing for at least two growing seasons (all alternatives) would promote the re-establishment of high forage quality grasses and forbs.

Direct, Indirect, and Cumulative Effects

Alternative 1 - No Action

Forage Availability

In this alternative short term effects (up to 10-15 years) would be increased forage availability (following rest) as grasses and forbs would have little competition from shrubs and trees for a number of years.

The long-term effects (after 10-15 years), however, would be decreased forage availability as snags fall and material accumulates on the forest floor, inhibiting the growth of ground vegetation.

Distribution of Livestock

In the long term, after 10–15 years, as the large quantity of snags fall the difficulty in getting proper livestock distribution will increase. There would be decreased distribution of cattle through the units, resulting in an increased possibility of overuse of forage in some areas, and no use in others. As debris accumulates access to water sources could be impaired which will further disrupt livestock distribution patterns. The lack of application of prescribed fire under

the no action alternative would directly affect the amount of downed material hindering cattle distribution.

Range Improvements

Under Alternative 1, no action, existing spring developments and fence lines, about 11.2 miles (map in Range Project Record), will require more intensive maintenance, as falling snags and accumulating debris will likely cause damage to the structures and impede fence rights-of-way and routes to water sources.

Permittee/Range Management Access

Under the no action alternative there would be no closures or decommissioning of roads. This would allow current road access to spring developments, salt grounds and fence lines.

The eventual accumulation of fallen debris under the no action alternative would result in impediment of horseback riders in moving cattle, as well as ATV's used to inspect and maintain fence lines and spring developments away from established roads.

In the long term, as forage becomes less available the number of permitted livestock or period of use may need to be reduced.

Alternatives 2, 3, and 5

With the implementation of Alternatives 2, 3, and 5 during the recovery period, grazing management techniques to achieve desired use levels would be implemented. This could include adjusting location of livestock turnout, placement of salt blocks or other management practices that would promote use by livestock in those portions of the pasture away from the fire. Specific grazing management adjustments would be developed in coordination with the allotment permittee and incorporated into the annual plan.

Forage Availability

Alternatives 2, 3, and 5 will promote increased forage availability in the short term, (following rest) as grasses and forbs will have little competition from shrubs and trees for water, sunlight and soil nutrients for a number of years.

Forage will be more readily available in the long term (15 years or more) as salvage harvest and reduces the number of snags that will fall and accumulate on the forest floor. Fuels treatment associated with these alternatives will reduce the accumulation of large material on the ground, which will also increase forage availability.

Reforestation under alternatives 2, 3, and 5 would impair forage availability to some extent, as the young trees become competition for grasses and forbs. Management of the planted trees may at some point include thinning and commercial harvest, which could open up the canopy and allow more ground vegetation growth in the long term. Decommissioning of roads under these alternatives will also provide more forage as grasses become established in the old roadbeds.

Seeding included as mitigation in these alternatives would delay the recovery of herbaceous forage, though grasses may provide short-term low-palatability forage in seeded areas.

Subsoiling to eliminate compaction meets Forest Plan standards but will increase the amount of time it takes to meet or exceed pre-fire vegetation conditions on these acres.

Distribution of Livestock

Harvest and fuel treatment under Alternatives 2, 3, and 5 would result in the reduction in the potential abundance of downed logs, which would, over time, present physical difficulties to

livestock grazing operations. Fewer impediments to travel from large log accumulations on the ground would facilitate cattle movement, and thus distribution, over the allotment, resulting in more even utilization of forage resources. The expected reduction in large materials on the ground would allow more open travelways for livestock to salt and water sources, further enhancing livestock distribution patterns.

Closure and decommissioning of roads will, over time, affect changes in livestock use patterns, as fallen snags fall across roads that currently provide open and unobstructed routes. This may result in better distribution of cattle, as in negotiating around downed materials the animals may be channeled to sources of forage overlooked in the past.

In the long term, Alternative 3 will impact livestock distribution more than Alternative 2 or 5 because it leaves 13 snags per acre, whereas Alternative 2 leaves only 2.39 snags per acre. Alternative 5 would have a moderate impact on livestock distribution, when compared to Alternatives 2 and 5 because snags per acre will vary by unit from 2.39 to 13.

Range Improvements

Under Alternatives 2, 3, and 5 the reduction in the potential for falling snags will lessen the chance of damage to fence lines and spring troughs, resulting in standard maintenance rather than the excessive repairs expected from large numbers of falling snags. Activities occurring in these alternatives increase the likelihood that remaining fences, about 11.2 miles, could be damaged, removed, or altered during treatment. However, mitigation measures in Chapter 2, Management Requirements, Constraints, and Mitigation Measures, will assure that fences scheduled for maintenance that are damaged will be repaired or replaced in a timely manner (map in Range Project Record). Fuels treatment will likely provide more open access along fence rights-of-way and routes to water sources, to properly utilize these structures.

Permittee/Range Management Access

Closure and decommissioning of roads within the fire area will limit access to some salt grounds, springs and fences which otherwise could be accessed by vehicle. However, horseback or ATV access along fence lines and to salt grounds and spring developments away from roads will be enhanced by the reduction in the quantity of snags and lesser accumulations of large materials on the ground.

Access by horse or ATV will be improved under alternatives 2, 3, and 5. In general most permittee or range management work is accomplished by either of these methods, so road closure or decommissioning is not likely to be a hindrance in general.

Alternative 4

With the implementation of Alternative 4, during the recovery period, grazing management techniques to achieve desired use levels would be implemented. This could include adjusting location of livestock turnout, placement of salt blocks or other management practices that would promote use by livestock in those portions of the pasture away from the fire. Specific grazing management adjustments would be developed in coordination with the allotment permittee and incorporated into the annual plan.

Forage Availability

Alternative 4 will promote increased forage availability in the short term (up to 10-15 years), (following rest) as grasses and forbs will have little competition from shrubs and trees for water, sunlight and soil nutrients for a number of years. Likewise, short-term benefits will result from treatment of unmerchantable fuels, providing more open area for increased ground vegetation.

In the long term fallen snags and material accumulation on the forest floor will inhibit the growth of ground vegetation.

Reforestation under Alternative 4 would impair forage availability, as the young trees become competition for grasses and forbs. Management of the planted trees may, at some point, open up the canopy and allow more ground vegetation growth in the long term, where accumulated fuels did not impede the growth of ground vegetation.

Decommissioning of roads under this alternative will provide more forage as grasses become established in the old roadbeds.

Distribution of Livestock

The short-term reduction of fuel loads under this alternative would result in fewer impediments to travel from fuels accumulation on the ground. This would facilitate cattle movement, and thus distribution, over the allotment, resulting in more even utilization of forage resources but not as much as the action Alternatives 2 and 3 would.

In the long term, 10 –15 years, as the large quantity of snags fall, the difficulty in getting proper livestock distribution will increase. There would be decreased distribution of cattle through the units, resulting in an increased possibility of overuse of forage in some areas, and no use in others. As debris accumulates, access to water sources could be impaired which will further disrupt livestock distribution patterns.

Range Improvements

Under Alternative 4, existing spring developments and fence lines will require more intensive maintenance, as falling snags and accumulating debris will likely cause damage to the structures and impede fence rights-of-way and routes to water sources.

In the short term, fuels treatment will likely provide more open access along fence rights-of-way and routes to water sources, to properly utilize these structures but not as much as alternatives 2, 3, and 5 would.

Permittee/Range Management Access

Closure and decommissioning of certain roads within the fire area will limit access to salt grounds, springs and fences which otherwise could be accessed by vehicle. In general, most permittee or range management work is accomplished by ATV or horseback, so road closure or decommissioning is not likely to be a hindrance in general.

Under Alternative 4, horseback or ATV access along fence lines and to salt grounds and spring developments away from roads will be enhanced for the short term, by the reduction in fuel accumulations following fuels treatment but not as much as Alternatives 2, 3, and 5.

In the long term, the eventual accumulation of fallen snags under Alternative 4 would result in impediment of horseback riders in moving cattle, as well as the use of horses or ATVs to inspect and maintain fence lines and spring developments away from established roads.

In the long term as forage becomes less available the number of permitted livestock or period of use may need to be reduced but, possibly not as much as would be needed in Alternative 1.

Cumulative Impacts of All Alternatives

As described above, past activities and occurrences (such as the Flagtail Fire) have affected the range resource. Past and proposed activities that could affect range resources have been analyzed in direct and indirect effects.

In review of Appendix J (Cumulative Effects), ongoing and future actions that could affect the range resource include the following: Treatment of noxious weeds will help maintain the

rangeland forage resource. Aspen fencing will continue to exclude livestock grazing from fenced areas. Future/additional aspen and hardwood fencing will exclude additional small parcels within the allotments reducing the total available forage for livestock to a minor degree. Locations of fences may affect control of livestock and increase utilization of forage near the enclosure sites. Recreational use of the area could cause dispersal of uncontrolled livestock via open gates, and recreational livestock may use some forage. Placing large wood into stream channels (wood addition to channels) will help disperse livestock around riparian areas. All other ongoing and future actions in Appendix J would not affect range. The cumulative effect of livestock use on other resources is discussed in each resource section if applicable.

Consistency With Direction and Regulations

As previously mentioned the project will not prevent grazing of the allotments. The effects of the wildfire will require a cessation of grazing for a period to allow recovery of herbaceous vegetation.

Irreversible and Irretrievable Commitments

The project as described will not result in any irreversible or irretrievable effects to the range resource. Thus this project is consistent with guidelines for range set forth in the Forest Plan.

Recommended Mitigation:

Coordinate repair of allotment facilities and resumption of grazing with proposed harvest treatment.	Ensure worker safety and provide control over livestock.	Timber Sale Officer, Rangeland Management Specialist
Any fences scheduled for maintenance that are damaged, removed, or altered during harvest or other proposed activities shall be repaired or replaced by the function that did the damage within one week of completing operations in that unit or sooner if required by Rangeland Mgmt. Specialist.	Provide control over livestock.	Sale Administrator, Rangeland Management Specialist

Opportunities:

- Collection of K-V funds for treatment of noxious weeds along harvest travel routes.
- Collection of K-V funds to assist in reconstruction of fire damaged fences.