

Salmon-Challis Fuels Reduction and Restoration Project

Salmon-Challis National Forest
Lemhi and Custer Counties, Idaho

Purpose of Project Activities

Restoring the role of fire in ecosystems that are adapted to historical fire occurrence is identified in the National Cohesive Wildland Fire Management Strategy and similar national directives as a key to improving ecosystem resiliency. The purpose of this project is to improve resiliency on the Salmon-Challis National Forest by reducing existing natural fuels build-up, improving timber stand and wildlife habitat conditions, and restoring aspen and whitebark pine species.

Need for Project Activities

Currently, many forested stands are densely populated with smaller tree species and stands lack the diversity and complexity historically present on Salmon-Challis. Existing conditions have intensified trends in insect and pathogen outbreaks, drought-related tree mortality, and conifers encroaching into non-forested habitats. Dense vegetation conditions have increased the likelihood of large-scale fires, which, in turn, puts timber stands and wildlife habitats on the Salmon-Challis at risk for negative impacts.

Historically, fire shaped the composition, structure, and function of the many ecosystems within the Salmon-Challis National Forest's management boundaries. From 1900-2016, an average of approximately 10,000 acres burned in a wildfire each year outside of designated wilderness. This is far less than the average of 77,000 acres estimated to have burned annually in preceding centuries (Landfire 2019).

Previous treatments have not adequately addressed the issue. From 2008 – 2018, the Salmon-Challis treated an average of 3,917 acres annually with prescribed fire. From 1960 – 2018, the Forest treated an average of 2,673 acres annually with thinning, timber harvest, and timber salvage treatments. This pace and scale of prescribed fire and hand treatments of vegetation is not sufficient to maintain ecosystem health or to mitigate wildfire hazard.

Proposed Project Activities

The Salmon-Challis proposes to authorize prescribed burning and hand treatment of vegetation on acres in need of restoration or maintenance outside of designated wilderness (see maps). Project activities would include prescribed burning, fire line construction, and vegetation treatments using chainsaws and hand tools. The number of acres treated annually will depend on a variety of factors, including funding, weather conditions, resource protection measures, and resources available to accomplish treatments.

Prescribed burning would involve removing vegetation through the planned use of fire over a designated burn unit. Such burning is done under a prescription, which identifies the parameters for how fire will be applied that meet the purpose, need and conditions of this project. Both ground and aerial ignition may be used. Access to prescribed burning treatment units may occur on any road or trail authorized for administrative use by the District Ranger. Unauthorized roads used in conduct of this project would be considered temporary roads while in use and treated following project activities.

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Fireline would be constructed where existing features, such as roads, trails, or wet drainages, are not sufficient to meet prescribed fire control objectives. The amount of fireline would vary depending on the size of the burn area and site-specific conditions. Fireline construction may include removing vegetation using hand-tools and chainsaws, pruning, and clearing all vegetation down to mineral soil. Fireline would be rehabilitated.

Hand treatment of vegetation would include thinning, piling, lop and scatter, pruning, and girdling.

As areas are considered for implementation, the Forest will reach out to stakeholders. This approach will allow land managers to better respond to variations in burn widows, staffing and funding.

All project activities would be consistent with the Salmon and the Challis national forests land and resource management plans and any relevant laws and regulations.

Conditions & Prioritization of Project Activities

Project activities would be implemented using the following programmatic considerations to create a general prioritization for unit implementation:

1. Areas located within the Wildfire Protection Zone;
2. Degree of departure from historic conditions using Vegetation Condition Class, with the highest departures given greater priority; and
3. Ability to implement based on capacity, funding, complexity, local site conditions, and other relevant factors.

The Wildfire Protection Zone shows where high likelihood exists for wildfire impacts to infrastructure, private property and other identified socials and economic values within or near the Forest boundaries. It is based on the potential for wildfire occurrence, expected fire behavior, and the ability of suppression resources to control a wildfire.

The Vegetation Condition Class dataset spatially defines historic fire regime conditions and the relative departure from those conditions. Fire regimes are based on historic wildfire frequency and severity for the different vegetation communities in the project area. Relative departure ratings are used to determine the conditions needed to restore or maintain fire adapted ecosystems. The resulting mosaic of vegetation conditions, age classes, and understory structures would reduce natural fuel buildup, improve ecosystem resiliency, and reduce wildfire hazard.

Coordination Prior to Project Activities

Coordination with appropriate Forest Service personnel would occur before and during project implementation to ensure all project work would be compliant with the standards, guidelines, and other practices applicable at the time of implementation. Topics for coordination include:

1. Outreach with local publics, tribes, agencies, and organizations;
2. Timing of treatments;
3. Viability for commercial timber sale;
4. Necessity of commercial and non-commercial treatments prior to prescribed burning;
5. Treatments within riparian habitat conservation areas (RHCA's);
6. Newly acquired information regarding wildlife, fish, botanical species, and pollinators;

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7. Newly acquired information regarding invasive species, prevention techniques, and past infestations;
8. Appropriate pile sizes for minimizing impacts on soil;
9. Required protective measures for cultural sites and special management areas;
10. Design, specifications, and location of fireline;
11. Location of operational sites, such as camps, helicopter landing sites, staging areas, safety zones, and fueling and servicing sites;
12. Options for seeding, seed mix selections, and erosion- and sediment-control products;
13. Strategies for prescribed burning in pollinator foraging habitat;
14. Measures to limit impacts to sensitive plants;
15. Strategies for minimizing effects of prescribed fire on grasslands, shrublands or areas with high erosion potential and where invasive annual grasses are present;
16. Selection of water drafting sites;
17. Silvicultural prescriptions that meet Visual Quality Objectives and Research Natural Area direction contained in the respective Decision Notice and Establishment Records, as applicable;
18. Options for minimizing effects of prescribed fire on big game thermal cover in winter range; and
19. Necessity of timing and location adjustments to reduce impacts to permittees' allotment operations.

Project Design Features by Resource Type

Fire, Fuels, and Silviculture

1. When practical, piles will be located at least 30 feet from any cone-producing whitebark pine.
2. When pile burning, piles will be constructed in a way that facilitates burning and reduces impacts to soils, adjacent vegetation, and other resources.
3. When practical, mortality from prescribed fire within tree plantations would be limited to allow for adequate stocking of trees.
4. Staff will determine whether commercial timber harvest would be a viable option prior to the use of prescribed burning and non-commercial hand treatments.
5. Tree cutting in Wildland Recreation Idaho Roadless Area Theme would only be done to support fire line construction.

Heritage Resources

1. If unanticipated heritage resources are discovered during project implementation, crews will stop work and notify appropriate Forest Service personnel within 24 hours.
2. Crews will avoid and protect heritage sites identified as eligible for the National Register of Historic Places or other sites identified as culturally important.
3. Project leads will assure needed heritage inventories and consultation are completed prior to implementation.

Range

1. Where practical, prescribed fire units should be contained within individual grazing allotment units to allow for coordination of grazing rotations with permittees prior to implementation.

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2. Project leads will give as much advanced notice as possible to permittees and range staff prior to burning. Range staff would notify permit holders.
3. Range staff will identify all range improvements inside burn areas and will locate and prep, as needed, to protect the infrastructure from prescribed fires.

Recreation

1. Crews will restore or rehabilitate any trails affected by project activities to their pretreatment condition.
2. Staff will place signs in key locations to inform recreationists about project objectives. When practical, crews will not use developed recreation sites, including campgrounds and trailheads, for staging areas.
3. Prior to burning, staff will notify outfitters with permits in the project area as to the location and duration of prescribed burns.

Sensitive Plants

1. Staff will avoid known sensitive plant occurrences when laying out fire containment lines and piling material.

Transportation

1. Following project implementation and any subsequent allowance for firewood gathering, the Forest will place closed National Forest System roads used for project access into storage for future use. Treatments such as the following may be used: blocking access; scarification; water bar installation; revegetation; seeding; mulching; and replacing a culvert with a rolling ford if it may fail. The intent of the storage treatments will be to stabilize the road to prevent soil and water resource damage while considering needs for future administrative and emergency access.
2. Following project implementation and any subsequent allowance for firewood gathering, the Forest will return temporary roads used for project access to their pre-project condition. Resource concerns would also be treated at this time. Treatments such as the following may be used: light scarification; seeding; mulching; water bars; scattering woody debris; and re-establishment of natural drainage. The intent of the temporary road treatments following use is to stabilize the roads to prevent soil and water resource damage while considering needs for authorized firewood gathering, camping, and recreation.
3. On National Forest System roads with seasonal closures, gates will not be left open during seasonal closure periods.
4. Where earthen barriers are removed from closed National Forest System roads, the Forest will use a combination of temporary traffic control devices to manage unauthorized traffic. Crews will replace earthen barriers during extended periods of inactivity and at project close.
5. Crews will not pile slash in or near a drainage structure.

Soils, Water, and Fisheries

1. Crews will locate piles at least 20 feet from the ordinary high-water mark of live streams.
2. Staff will rehabilitate all fire lines by water barring and pulling in debris and topsoil.

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3. Where practical, implementers will locate operational sites, such as camps, helicopter landing sites, staging areas, safety zones, and fueling and servicing sites, outside of RHCAs, wetlands, and sensitive soil areas. In order to prevent petroleum products from entering the stream channel, staff will place pumps and their fuel containers on an impermeable liner capable of containing 1.5 times the total volume of fuel, oil, or other hazardous liquids. Excluding pumps, staff will refuel equipment outside of RHCAs.
4. Only propane torches will be used for hand ignition within RHCAs.
5. Ignition in RHCAs will only occur if consistent with standards in the Pacific anadromous and inland native fish strategies, more commonly referred to as PACFISH and INFISH.
6. When practical, crews will retain 15 tons of down woody material per acre but strive to achieve no less than five tons per acre.
7. Drafting will not remove more than 25% of the stream flow to reduce the possibility of stranding fish. These drafting sites would be in streams so as not to disturb spawning fish and their redds. Work will not physically block fish migration or reduce stream flows to the point of preventing fish migration. The intake hose will be equipped with a fish screen, and velocities at the screen will be maintained in accordance with NOAA criteria.
8. Staff will design practices that minimize fire effects to existing vegetation that is stabilizing the edges of natural springs, wetlands, ponds, and streambanks.

Wildlife

1. If active boreal owl, flammulated owl, great gray owl, or goshawk nests sites are identified in the burn area, preventative measures would be used to reduce nest abandonment.
2. Crews will strive to meet recommended burn plan objectives for old growth stands on lands subject to the Salmon LRMP by:
 - a. Maintaining appropriate large diameter lodgepole, spruce, whitebark, ponderosa, and Douglas-fir, as defined by diameter-at-breast-height (DBH) classes from Hamilton 1993;
 - b. Maintaining and creating decadent component of existing stands, such as log debris, snags and understory; and
 - c. Including treatments like ladder and tree-well fuel reduction for each old growth unit if needed prior to prescribed burning.
3. Patches of mountain mahogany will be identified during the implementation process. Crews will avoid prescribed fire in distinctly identifiable patches of mountain mahogany, when practical, and avoid ignition and placement of fuel piles in mahogany stands. Where mahogany stands are small inclusions in a larger vegetation type, project leads will emphasize mosaic burn patterns and minimize high intensity fire.
4. Crews will design burn plans that maintain big game habitat features at levels that support populations.

Visual Resources

1. Best management practices will be identified in the Continental Divide National Scenic Trail (CDT) Vegetation Treatments - Best Practices dated Oct. 8, 2019, or any subsequent amendments, and implemented accordingly. This guidance would also be used along other national and scenic trails on the Forest.

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2. Project leads will assign personnel knowledgeable in the CDT best practices and scenic requirements to work collaboratively with fuels personnel during project implementation.

References

LANDFIRE. 2019. Vegetation, Fire, and Fuels related data obtained for analysis purposes. U.S. Department of Agriculture and U.S. Department of the Interior. <http://www.landfire.gov/fuel.php>.