Environmental Assessment for Elected Prescribed Fires
(Barnes Valley and Pitch Log Creek)
Bureau of Land Management - Lakeview District
Klamath Falls Resource Area

***Project Title*: *Barnes Valley Canyon Prescribed Burn Project* (1,500 acres)**

NEPA Document Number: OR-014-99-7

Location of Projects: southeast of Gerber Reservoir *(See Maps 1 and 2)*:
Barnes Valley Canyon:
T. 38 S., R.14 E., Sec. 21, 22, 23, 24 & 25 W.M. (1,300 acres)

Pitch Log Creek:
T. 39 S., R.15 E., Sec. 31 & 32 W.M. (200 acres)

BACKGROUND

The Barnes Valley Canyon Project area has varied fuels, ranging from grass, brush, juniper and ponderosa pine. The historical fire history in this area included small fires, but not a catastrophic fire event. Low intensity natural fires burned through these stands at 8 to 12 year intervals. The lack of natural fire over the last 100 years has allowed the continuous buildup of fuels to extreme levels. This includes natural fuels, old logging slash and thinning slash, which presents a wildfire hazard. A wildfire in these fuels could reach intensities that jeopardize fire crew safety, the adjacent timber stands, and critical wildlife habitat.

During summer 1992, the John Springs Wildfire burned the area to the north and west of the Barnes Valley Canyon and Pitch Log Creek Projects. The Norcross Barnes Timber Sale, which logged 215 acres in the project area, included slash treatment of lop and scatter. There was no reduction in the pre-harvest fuels in the project area.

Both Barnes Valley and Pitch Log creeks are important spawning areas for short-nosed suckers (a federal endangered species). Healthy streamside forests are important to provide shade, large woody debris and to maintain proper hydrologic functions in the streams. Wildfire would jeopardize these conditions.

NEED FOR PROPOSED ACTION

The primary reasons for prescribing fire use in Barnes Valley and Pitch Log Creek areas are to:

Reduce potential for a catastrophic wildfire (that could result in major losses of sustainable ecosystem resources) in areas having heavy fuel loadings and vegetation changes that developed with fire exclusion.

Achieve lower overall fire management cost by reducing the potential for numerous large acreage multi-burn period fires, as well as the number and type of suppression resources needed in extended attack and project fire situations.

Secondary reasons for prescribing fire in these two areas are to:

- Reintroduce fire into areas where fire has influenced natural development and maintenance on ecosystem composition, structure, and function.
- Restore sustainable function and structure to plant communities to improve forest health in fire-adapted ecosystems.

Reference EA#OR-014-94-9 for additional discussion about the need for prescribed fire.

AFFECTED ENVIRONMENT

The general affected environment is described in chapter 3 of the Klamath Falls Resource Area Resource Management Plan/Environmental Impact Statement (September 1994).

Vegetation: Forest vegetation in both the Barnes Valley Canyon and Pitch Log Creek proposed burn areas is an uneven-aged ponderosa pine stand intermixed with western juniper woodlands. Approximately 215 acres in the Barnes Valley Canyon area were commercial thinned in the Norcross Barnes Timber Sale which closed out in 1997. Although harvest operations required that trees be whole-tree yarded, some residual slash or pre-existing slash remains.

In Pitch Log Creek, fuels treatment in previous timber sales were lop and scatter. This method did not reduce fuel loadings.

Special Status Animal Species: A golden eagle nest is located in the proposed Barnes Valley burn area. This species is a BLM Special Status Species. Also, the Barnes Valley and Pitch Log Creeks are listed as proposed critical sucker habitat; the creeks are used for spawning (the short-nose sucker is federally listed as endangered).

Special Status Plants: No known populations occur within the project area.

Noxious Weeds: Several populations of noxious weeds occur within the project area, including musk thistle, Canada thistle, and Russian knapweed.

Cultural Resources: Cultural resources are known to occur throughout much of the Gerber Reservoir area. Native American sites range from small lithic scatters to areas exhibiting evidence of intense utilization. Prominent drainages and areas of rimrock occurring within the proposed burn areas can often contain substantial archaeological resources. Within the general area, historic sites are often represented by small can dumps, linear features, and various structures.

Surveys were conducted throughout much of the Bames Valley Canyon and Pitch Log Creek by the University of Oregon in 1986 in association with the Barnes Valley Creek Timber Sale. Numerous Native American sites and isolates were recorded. One historic site was encountered within the Pitch Log drainage. A limited amount of the proposed burn areas was also encompassed within a survey conducted by Washington State University (WSU) in 1994 for bald eagle management activities. Two archaeological sites were recorded by WSU.

Areas remaining to be surveyed are along Barnes Valley Creek above its confluence with Pitch Log Creek, as well as along a portion of Pitch Log Creek west of Burnt Log Spring. Survey will focus on proposed fire lines, staging areas, and areas of particular high archaeological sensitivity.

DESCRIPTION OF ALTERNATIVES

Three action alternatives were developed to present a range of actions for managing fuels on approximately 1,500 acres in the project areas. These three alternatives and the no action alternative are described below. Three of the Alternatives (A, B and C) involve prescribed fire; and Alternative (D) is no action.

Alternative A - Proposed Action

Under the Proposed Action, management-ignited prescribed fire would be used to achieve the objectives listed above. Specifically, in these areas, the reduction of fuel loadings would provide wildfire suppression opportunities. These areas were elected (as opposed to the random process described in EA#OR-014-94-09) to achieve presuppression fuel treatment.

Up to three prescribed burn entries would be conducted within approximately a 10-year period to achieve the objectives. All entries would be ignited to achieve a mosaic burn pattern. The first burn would normally be scheduled in the spring when there is less chance of burning off all of the duff and causing tree mortality. The second burn would occur a few years after the first burn, either in the spring or fall, contingent on conditions that limit tree mortality and retain duff and soil. The third burn would be in the fall, a few years after the second burn, with its design being to reduce the 1000-hour fuels. This combination of prescribed burns would prepare the stand for random maintenance burns or low intensity wildfires.

Under Alternative A, the prescribed fire would primarily be a broadcast underburn. There would, however, be an option in some areas for handpile and burn. Handpile and burn would be considered in areas needing resource protection for such values as cultural sites or wildlife trees, or in areas having concentrated fuels that may produce an intense fire under broadcast burning conditions.

Alternative B - Handpile and Burn

Under Alternative B, the proposal would be to cut brush with small mechanical devices, handpile concentrated fuels, and burn those piles in the fall after sufficient curing. There would not be any broadcast underburn done.

Alternative C- Mechanical Hazard Reduction

Under Alternative C, areas having concentrated fuels would be treated with a spider hoe or similar machine to pile fuels. Piles would be burned at a later time. There would not be any broadcast underburns.

Alternative D- No Treatment (No Action)

Under Alternative D, the areas would not be treated with prescribed fire.

PROJECT DESIGN FEATURES COMMON TO ALL ALTERNATIVES

- Follow Best Management Practices for soils and water identified in the Klamath Falls Resource Area's RMP ROD (Appendix D, pages D-28 through D-31).

  Avoid storing petroleum products or the refueling of equipment and the use of other chemicals in or adjacent to Riparian Reserves.

  Initiate Section 7 consultation, as required, for the short-nosed sucker.

  Protect the area around the golden eagle nest in Barnes Valley Canyon by adhering to the advice of the Wildlife Specialist regarding the timing of the burn (spring versus fall). Such protection may involve manual clearing of brush away from the nest tree or construction of a fire line.

  Fire lines will be constructed, where needed, to stop fire spread, protect cultural sites, or protect important vegetative characteristics (such as raptor nests and important brush patches).

  Adjacent landowners and residents, as well as any grazing permittees, will be notified 30 days prior to implementation of prescribed burning activities.

  No fire will be ignited within 50 feet of Riparian Reserves. Fire will be allowed to back into the Riparian Reserves, contingent on maintaining a light intensity burn.

  To prevent additional noxious weeds from spreading onto BLM-administered lands, all equipment and vehicles will be cleaned prior to operating or leaving a job site that has noxious weed populations. All dirt, grease and plant parts potentially carrying noxious weed seeds or vegetative parts would be removed; removal may be accomplished with a pressure hose.

  Protect pine seedlings/saplings as much as possible, particularly clumps of several trees.

  Cultural resources will be protected as follows:
  - Survey areas of anticipated ground disturbance, including fire lines and staging areas, for cultural resources prior to project activity. Do not construct fire lines through cultural sites.
  - Conduct reconnaissance-level cultural resource surveys in areas of high archaeological sensitivity where prescribed fire could negatively impact cultural sites and values.
  - Consult Klamath Tribes prior to commencing proposed project activities and provide opportunity for their input.

- Protect sites known to be particularly susceptible to fire damage, such as historic structures.
- Do not incorporate areas of stacked rock features within burn units.
- Implement procedures that discourage ignition within known cultural site boundaries and that retain archaeological sites within unburned islands.
- Monitor for potential impacts (such as unauthorized collection of cultural resources) in connection with increased visibility of cultural sites resulting from removal of organic material

ENVIRONMENTAL CONSEQUENCES

In general, impacts associated with elected burns would be the same as those described for random burns in Environmental Assessment #OR-014-94-09 on fire management.

Alternative-Specific Impacts

Alternative A: The proposed action would reduce the fuel levels and encroaching junipers with minimal impact to the existing trees. Similar stands treated with prescribed fire have resulted in minimal mortality to residual trees.

The Proposed Action (Alternative A) would mimic natural forces by creating a mosaic of burned and unburned areas, which would change the fuel loading and future fire behavior. The resulting mosaic would benefit big game habitat by diversifying the vegetation available for food and cover. There is a trade-off on air quality, because a planned and executed prescribed fire would impact air quality for a short time, but avoid more detrimental smoke impacts associated with an unplanned wildfire event. Soil disturbance and compaction associated with fire trail construction would be minimal compared to mechanical methods in Alternative C.

Previous burning projects completed in the same geographical area (Ben Hall Creek and Norcross), which have similar affected environment, provide examples of impacts expected with Alternative A.

Alternative B: This alternative would reduce only a small portion of duff and could also damage soils by the intense heat from pile burning. Alternative B would also have high costs associated with the amount of slash concentrations being individually handpiled and burned.

Alternative C: Under Alternative C, areas treated with a spider hoe or similar machine could displace and compact soils and would reduce only a small portion of duff. Also, the pile burning could damage soils if fire intensities were severe. Additionally, like Alternative B, this alternative involves piling and burning of individual piles, equating to high implementation costs.

Alternative D: Under the No Action alternative, vegetation would continue dying and accumulating, resulting in excessive fuel loadings that could contribute to increased fire intensity in the event of a wildfire. Such fire potential could jeopardize crew safety during wildfire control

efforts, potentially impacting private and public lands. In the event of a wildfire, suppression costs would be higher.

Also, the ecological condition of the proposed burn units would be dependent on the occurrence of wild fires. Wild fires occurring in areas having heavy fuel concentrations could damage soils and alter the ecological function and trend of the area.

The John Springs Wildfire is a good example of expected impacts associated with the No Action alternative.

Resources Not Expected to be Impacted: None of the resource elements listed below are known to occur on the proposed burn area and therefore will not be impacted by any of the alternatives:

Prime Farmlands
Floodplains
Wastes (Hazardous/Solid)
Wetlands
Wild & Scenic Rivers
Wilderness
Special Status Plant Species

Environmental Justice: No disproportionately high or adverse human health or environmental effects are expected to result from implementation of the proposed prescribed burning.

Residual Impacts:

Fire trails would be visible from the air until vegetation grows back.
Some soil erosion would result from construction and use of fire trails.

CONSULTATIONS

The U.S. Fish and Wildlife Service will be consulted on potential impacts of prescribed fire to threatened and endangered species (golden eagle and short nose sucker).
The Klamath Tribes will be consulted and given an opportunity to comment prior to commencing proposed burning activities.
Adjacent landowners and residents, as well as grazing permittees, will be notified at least 30 days prior to burning.
In addition, the Klamath Falls Resource Area's Interdisciplinary Team reviewed the proposal (see attached signature page).

CONFORMANCE WITH APPLICABLE LAND USE PLANS

The proposed project is expected to conform with the following land use plans:

Klamath Falls Resource Area Management Plan/Record of Decision (June 2, 1995)(RMP)
Final Supplemental Environmental Impact Statement (FSEIS) on Management for Late Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl (also referred to as the Northwest Forest Plan), April 13, 1994.
Klamath Falls Resource Area Fire Management EA #OR-014-94-09 (June 10, 1994)

FINDING OF NO SIGNIFICANT IMPACT/DECISION RECORD

I have reviewed this environmental assessment, including the four alternatives and their environmental impacts, and have determined that burning for fuels reduction is in conformance with the Klamath Falls Resource Area RMP. Further, it is my determination that implementation of the Proposed Action (Alternative A) would not significantly impact the human environment and that an environmental impact statement is not required.

This determination of no significant impact is based on the analysis in EA#OR014-94-9, as well as this environmental assessment and its project design features, including among others the use of Best Management Practices for soils and water and other resources, and notification of adjacent landowners. Another consideration for my determination is that the absence of prescribed fire in these areas could result in wild fires that alter the ecosystem in ways that result in undesirable cumulative effects.

Based on these determinations, it is my decision to implement Alternative A (Proposed Action) as described in this environmental assessment. This alternative provides for prescribed burning and the option of doing handpile and burn in selected areas if warranted by the need to protect important resource values or to reduce heavy concentrations of fuel to avoid extensive damage to soils or vegetation or potential hazards to humans.

__/s./ Teresa Raml_____ ___3/29/99_____
Manager, Klamath Falls Resource Area