Picket Pin Prescribed Burn

Best Management Practice/NEPA Implementation and Effectiveness Monitoring
J.A. Efta, Custer NF Hydrologist
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Background:

The Picket Pin Prescribed Burn was analyzed under the Meyers Creek Area Grazing Allotments EA. The FONSI associated with the analysis was signed in November 2006. Prescribed burning was analyzed as a mechanism for range vegetation improvement and fuel reduction:

- "Prescribed fire would be used as a management tool to improve vegetative health on 296 acres of the Picket Pin Allotment where mountain big sagebrush is located in the primary livestock range. Prescribed fire would also be used to control scattered individual Douglas fir, limber pine and lodgepole pine trees in this same area." (Pg. 30 of EA)
- "… a prescribed burning program may be implemented across portions of the analysis area in order to control encroachment of woody species and to reduced fuel buildup in the area." (Pg. 12 of EA)

The prescribed burn was implemented in 2012. Implementation started in 2010 and was finalized in spring of 2012. In 2013, the Custer Gallatin FLT nominated the project as a candidate for annual Implementation and Effectiveness (I&E) monitoring. This monitoring fulfilled a biannual commitment signed by Forest Supervisor Mary Erickson to conduct BMP/I&E Monitoring on the Custer. The commitment was complimented in 2013 by WO/RO request to complete two BMP reviews per forest from the new National Core BMP initiative.

Methods:

Prior to visiting the site in the field, the project EA, DN/FONSI, and prescribed fire burn plan were reviewed. A list of evaluation items, which included a combination of project objectives, design criteria, and mitigations were compiled for field review.

Monitoring by an interdisciplinary team was conducted September 23rd, 2013. Team members included:

- Scott Schuster, Custer FMO/Fire Program Manager
- Jeff Stockwell, Beartooth District FMO
- Drew Grimes, Beartooth District Fuels Management Specialist
- Terry Jones, Beartooth District Range Management Specialist/NEPA IDT Leader for project
- Andy Efta, Custer Forest Hydrologist/Soils Specialist

Other team members that were consulted but could not make the field day included:

- Barb Pitman, Beartooth District Wildlife Biologist
- Halcyon LaPoint, Custer Heritage Program Manager/Forest Archaeologist
- Mike Bergstrom, Custer Archaeologist

Project objectives and mitigation measures were evaluated in terms of implementation and effectiveness using a modified version of the Forestry Best Management Practices (BMP) review protocol developed as a part of the Montana interagency timber BMP review process coordinated by Montana DNRC. The application and effectiveness rating system consisted of the following scoring system:

Application	**4 points**. Operation meets requirements of objective or measure
	3 points. Minor departure from objective or measure, requirements mostly met
	2 points. Major departure from objective or measure, requirements marginally/barely met
	1 point. Gross neglect of objective or measure, requirements not met at all

Effectiveness	**4 points**. Objective: Completely met Mitigation Measure: Adequate Protection of resources, effective
	3 points: Objective: Substantially met Mitigation Measure: Minor & temporary impacts on resources, moderately effective
	2 points: Objective: Partially or minimally met Mitigation Measure: Major & temporary or minor & prolonged impacts on resources, slightly effective
	1 point: Objective: Not met at all Mitigation Measure: Major and prolonged impacts on resources, not effective

Monitoring Results:

The completed rating form can be found in Table 2 below. Primary themes that emerged through the review include:

1. The prescribed burn constituted a relatively small part of the overall proposed action. As a result, analysis was disparate to the other elements of the proposed action. In some cases, design criteria from specialists were not succinct or even implementable. Monitoring elements have not been getting carried out, in part because of lack of knowledge of those monitoring elements by specialists not included in the original ID team.
2. There is a continued need for improved communication between resource specialists and the fuels program. Fuels worked through the course of implementation to engage specialists when a specific resource issue was of concern, but in some cases fuels was not aware that an issue may be of concern.
3. When it came to implementation, the interest in removing encroaching conifers across the burn area while concurrently trying to maintain 50% sagebrush resulted in competing objectives.

Of the six project objectives, two had departure from complete application. As a result, those two objectives were rated as being less than fully met. While several evaluation factors were given a “1”

application rating, in no instance was an evaluation factor given a "1" effectiveness rating. So, while some design criteria were not applied as intended, no significant resource impacts were sustained. In addition, where project objectives were not implemented as intended during the planning process, objectives were not fully met.

To resolve these issues in the future:

1. NEPA analysis must be thorough and succinct in order to be fully implemented. Project objectives must be evaluated to make sure that they can be realistically implemented and not have competing/conflicting desired outcomes.
2. Continued improvements in communication between project proponents/implementation crews and affected resource specialists will ensure successful implementation of projects while avoiding and/or mitigating resource impacts.
3. During implementation, project objectives defined post-NEPA analysis should be evaluated to ensure that they do not compete with one another.

EVALUATION WORKSHEET

Evaluation Items	**Source**	**Applic**	**Effect**	**Comments**
Project Objectives				
Burning would be completed in a manner that would leave a mosaic pattern of vegetation.	Alt. 3: Pg. 30 of EA	4	4	
Approximately 50 percent of the sagebrush community within the proposed area would remain intact after burning.	Alt. 3, Pg. 30 of EA; Picket Pin Burn Plan Objective 1, pg. 7	4	4	Likely > 50% burned
The pasture with prescribed burned portions would be deferred from grazing until after seed set of forage plants to prevent damage to the plants during the first growing season after the burn (except during drought when a pasture would be deferred until seed set for two consecutive growing seasons after the burn).	Alt. 3, Pg. 30 of EA	4	4	Deferred for 2 years instead of one in part due to last year's drought conditions
Reduce conifer encroachment by 80% (Doug fir, Limber Pine, and	Picket Pin Burn Plan Objective 2,	2	2	Acreage left out due to landowner visual concerns.

Lodgepole Pine)	pg. 7			
Increase productivity, vigor, and quality of forage	Picket Pin Burn Plan Objective 3, pg. 7	4	4	Some noxious weeds were gained but will leave system within another couple of years. Some cheatgrass has been gained on-site. Fire lines were treated for weeds and will be monitored for the next 2-4 years.
Continue District fuels management strategy of reducing fuel loading along the Forest boundary to better protect private property/homes from unwanted wildfires.	Picket Pin Burn Plan Objective 4, pg. 7	3	3	Grazing will improve flashy fuels and better distribute cattle. Per NEPA, there has been a 20% reduction in AUMS and better distribution of that grazing post-burn.
Comment: Some general discussion in field regarding the competing objectives of reducing conifer encroachment while trying to maintain sagebrush. Difficult to get enough heat in burn to get rid of conifers and not remove sagebrush.				
Individual specialist mitigations/BMPs				
Soils				
All management activities undertaken during implementation of the Meyers Creek Area Range EA must not create detrimental soil conditions across greater than 15% of the project area	FSM direction, Soils Specialist Report pg. 7	1	4	Burn site has not been monitored yet; forest soils specialist was not aware of need. Regardless, field observation indicated that 15% DSD regional standard was not exceeded.
The burned area would be monitored for litter, ground cover, and accelerated erosion the first year following prescribed burning. This would be crucial if soil productivity is to be maintained.	Soils Specialist Report pg. 10	4	4	As stated above, not monitored by CNF soils personnel. Site was, however, reviewed by district personnel. District personnel would have called soils specialist if exceptional circumstances been found on site. Seeding and erosion mat were applied on dozer lines at problem areas.

Leaving a mosaic pattern of vegetation would minimize the extent of negative effects of prescribed burning to soils.	Soils Specialist Report pg. 10	4	4	Mosaic across burn area achieved positive effects; no negative effects soils effects noted as a result of the burn.
Deferring grazing for at least one growing season after the prescribed burn to allow for seed set and prevent damage to plants may not be adequate for protection of soils in the burned area.	Soils Specialist Report pg. 10	4	4	Grazing was deferred for two years instead of one due to minimal forage availability.
Implementing the prescribed burn during most favorable conditions will maintain adequate soil surface cover for soil protection.	Soils Specialist Report pg. 10			This element was not rated; item was highlighted because not enough detail is contained here to implement this BMP. This also highlights the need for discussion of soil moisture conditions between fuels and soils prior to initiating project work.
Heritage				
Heritage sites types consisting of combustible materials—such as log cabins, cribbed log structures and wickiups—require site avoidance and possibly site protection measures to insure they are not damaged or destroyed during implementation of prescribed fire.	Heritage Report pg. 13	n/a	n/a	No combustible heritage sites occurred within the burn perimeter.
Specific stipulations addressing avoidance, protection or treatment of sites will be determined by the Forest Archaeologist prior to implementation of the prescribed fire.	Heritage Report pg. 14	4	2	Ditch was hit at north end. Also, dozer line came quite close to two rock cairns. All sites pre identified by CNF Heritage personnel were avoided with dozer line.
All sites within the prescribed burn area will be monitored to document the success of the site avoidance, site protection or site treatment measures and to document any effects to the sites by the prescribed fire.	Heritage Report pg. 14	4	4	Heritage did not inform fire of issues found on the ground.

The proposed 296 acre prescribed fire area within the Picket Pin Allotment, along with all burn control dozer lines and/or hand lines, will be reviewed by the Forest Archaeologist—working with the burn boss—to determine the strategy for pre burn heritage resource inventory, site avoidance/protection/treatment (where required) and post burn heritage resource inventory.	Heritage Report pg. 14	4	2	While hard copy maps with all locations and detailed descriptions of heritage sites within the project perimeter would be of help in avoiding resources of concern, it is acknowledged that the sensitivity of that information is why all site information is not made publicly available. Through the course of implementation, fuels worked to improve communication with heritage personnel by increasing notification pre-implementation and inviting coordinated field review prior to implementation.
Air Quality				
All actions will be compliant with the Montana/Idaho Airshed Management protocols, State Implementation Plan for Montana DEQ.	Picket Pin Burn Plan Element 19 A.	4	4	Burn was registered with MDEQ
Annual FS burn permits will be acquired from MDEQ	Paraphrased from Picket Pin Burn Plan Element 19 C.	4	4	
Signs will be posted when burning near primary roadways and road guards will be used if smoke is observed to be reducing visibility and safe driving along these roads.	Picket Pin Burn Plan Element 19 E.	4	4	Sighns were posted. Most of smoke column went straight up during burn.
Monitoring weather forecasts for favorable winds will occur along with using firing patterns to safely provide enough heat to the interior to draw smoke in from the perimeter and generate a smoke column which creates convective lift moving the smoke up into transport winds.	Picket Pin Burn Plan Element 19 E.	4	4	Incident meteorologist was on site. RAWS station was set up at staging area; spot forecasts were made during burn activities. Two burn windows were required, separated by one week.

Smoke will be monitored by the Burn Boss and FEMO (if assigned) on the days of the burn to determine that proper mixing and dispersal is occurring.	Picket Pin Burn Plan Element 20 E.	4	4	
General comment: Stillwater Mine was notified of planned burn activities. Only one of two people, however, that required notification, were called. This constituted a lesson learned- in the future, both individuals will be notified.				
Aquatic Habitat, Amphibian Protection, and Water Quality				
Wildlife				
Activities associated with the prescribed burn would be completed in less than five days.	Wildlife Report, pg. 26	1	?	Time of year was not included in NEPA document, important item to have clarified. Effects differ if project will take longer than 5 days (cumulative OR consecutive); NEPA did not adequately address effects in this case. It is unknown whether this oversight had negative wildlife impacts.
Control lines for the prescribed fire would not function as roads or trails and would be reclaimed after the fire.	Wildlife Report, pg. 26	4	4	Seeding and placing of erosion mat has occurred. The review team acknowledged that this is a difficult issue because there are few access points to the fire perimeter, making avoidance of repeat traffic on dozer lines difficult. Control lines have been in place for four years, which is not ideal from both a wildlife and soils standpoint.
The group discussed the potential for using larger project areas in the future in effort to reduce number of control lines per unit area.				

<u>Photos of project area taken during review:</u>

Picket Pin prescribed burn unit looking north adjacent to the ATV trail accessing the unit.

Looking southeast from ATV trail toward burned conifers in burn unit.

Burn unit as viewed facing west toward the north end of the unit.

Erosion mat installed on ATV trail accessing burn unit.