

A Concerned Citizens Review of the Buffalo Municipal Watershed Project

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What the customer wanted and what they got!!!

This paper will review the stated objectives from the Buffalo Municipal Watershed (BMW) Notice of Opportunity to Object signed by Acting District Ranger Lou Conroy on July 27, 2018 compared to the on-the-ground implementation. The stated objective of the BMW is to prevent catastrophic wildfire and sedimentation of the Clear Creek municipal watershed. The watershed was designated a municipal watershed in the Bighorn National Forest (BNF) Land and Resource Management Plan (LRMP) revision of 2005. It is one of four Watersheds so designated on the BNF.

The review will be formatted with the stated objectives from the EA (italicized) and then the documentation of the resulting implementation on the ground.

Page 1 of BMW EA:

*The **Buffalo Municipal Watershed (BMW) project area encompasses approximately 38,000 acres** of the Powder River Ranger District and is located along U.S. Highway 16 within the Clear Creek watershed.*

Page 3 of BMW EA:

*Historically, the watershed has been the setting for disturbances from wildland fires. **About 50 percent of the project area burned in the late 1800s. In 1943 and 1988, the Duck Creek and Lost fires, respectively, burned about 20,000 acres. In total, approximately 70% of the project area has been impacted by wildfire in the “recent” past.** The West Range fire burned approximately 2,000 acres of Bureau of Land Management, private, and State of Wyoming lands in 2015, adjacent to the project area. Fire is a natural process, whether caused by lightning or people, and its effects should be anticipated on the landscape, as evidenced by ignitions every year that are suppressed both on and off the Forest.*

***A primary threat to municipal water supplies is sedimentation.** Depending on severity, topography, soil types, and proximity to stream courses, large fires can pose a significant risk to water quality. Out of concerns for its municipal water supply, the city of Buffalo and the Wyoming Water Development Office contracted for an assessment of conditions and the possible effects from wildfire within the Buffalo municipal watershed. The assessment found that, “The city of Buffalo’s municipal water supply is sourced from a heavily forested watershed in the Bighorn Mountains and is particularly vulnerable to wildfire” (RESPEC 2017). The assessment highlighted the need to alter fuel conditions and examine other potential actions to reduce the likelihood of negative impacts to water quality that could result from a wildfire. Emphasis added.*

The EA states that about 70% of the watershed has been impacted by wildfire. The city of Buffalo has used Clear Creek surface water without disruption of previous wildfires since its establishment. The first Europeans called Clear Creek the Clear Fork of the Powder River. Fort McKinney was established on the banks of Clear Creek in 1877. One of the reasons was clean water. This was prior to designation of the Bighorn National Forest in 1905 and its predecessor Big Horn

Forest Reserve in 1897. The main reason for establishment of NFs in the late 1800s was to protect watersheds from over cutting of timber.

Purpose and need for action (Page 4 of BMW EA)

The **purpose** of the BMW project is to maintain and enhance long-term water quality in the Buffalo municipal watershed by reducing sources of sediment and debris that may impact the city’s water intake and supply system.

The interdisciplinary team of resource specialists identified these **needs** for the proposed project, consistent with the Forest Plan. Proposed actions that achieve these needs must be consistent with the project’s purpose.

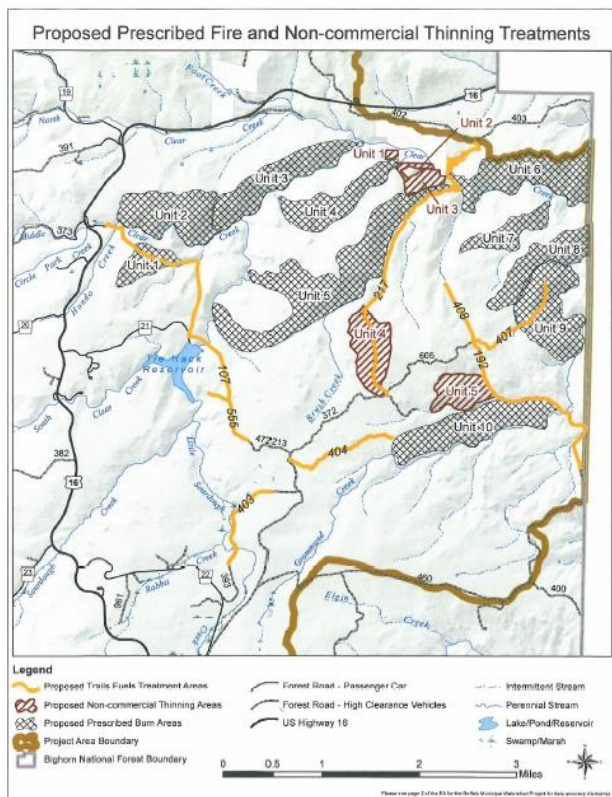
1. Achieve a more diverse mix of forest structural stages (age classes and density) to enhance resiliency to wildfires, reduce fire intensity, and minimize insect and disease occurrences
2. Restore aspen to provide natural fuelbreaks, wildlife habitat, and species diversity
3. Reduce water quality impacts from road systems and sediment-producing sites that are connected to streams
4. Provide wood products commensurate with management emphases in the watershed.

Issues (Page 5 of BMW EA)

The following key issue statement captures the logic behind which the proposed action was iteratively developed, as well as the consideration for alternatives considered but not analyzed in detail.

Would the proposed actions help sustain and improve the long-term water quality within the Buffalo Municipal Watershed project area, by reducing sources of sediment and debris that may impact the city’s water intake and supply system, given the likelihood of a wildfire occurring within the watershed?

Map 2. Proposed prescribed burning, hand thinning, and trails fuelbreak units within the project area.



Trails fuels treatment: (Page 11 of BMW EA)

As displayed in **Map 2** above, **treat the fuels and vegetation along existing numbered trail systems to make them more usable for potential fire control lines.** In the event of a wildfire, these trails could be used as fireline, improving the fire management options readily available should a wildfire occur. This proposed treatment would be **limited to within 30 feet either side of existing trails** within the project area, and conducted by hand when within the Grommund Cr RACR area, but may be done with mechanized treatment outside of the RACR area. Dead and down fuels would be cut up and piled for burning. Conifer trees would be thinned and piled producing up to approximately a 10 foot crown spacing between trees, or approximately 25 feet apart from the next tree. Trees may also be pruned within this treatment area. However, entire lengths of trails would not be treated, only those areas that are of benefit for a potential control line. Implementation planning would consider scenic values, economic feasibility, fuel loading, and recreational values. **Slash piles that result from this treatment would be burned** when snow cover was present or wet enough conditions to prevent fire spread beyond the piles.



TR 107 Example of trails fuel treatment. Tree mortality caused by scorch from burning of slash pile too close to live tree.

In addition to the scorching of residual trees, the actual clearing was done on an old designated snow mobile trail not the original location of TR 107. The original location was east from now Camp Roberts downstream along Middle Fork of Clear. The route cleared for the BMW project was a designated snowmobile trail. The trail is still marked with the orange diamonds used for snowmobile trails. However, the 1993 Topographic map also shows the snow mobile trail as TR 107. Highly unlikely as just east of Camp Roberts the snowmobile trail leaves the drainage and climbs steeply, at least a 60% slope, out of the creek. A steep route works for a motorized users but not conducive for non-motorized users such as hike or horse use. The 1967 USGS topographic map shows a portion of TR 107 terminating at Middle Fork of Clear Creek.

Review continues:

Road Management and Maintenance (Pages 11 and 12 of BMW EA)

There are approximately 92 miles of system roads within the Buffalo Municipal Watershed project area. Approximately 40 miles would be utilized for access. This includes roads that are open year around, roads that are seasonally closed, and roads that are gated and locked year around. System roads are assigned a maintenance level (from 1 to 5) by Bighorn National Forest personnel to describe their uses and required maintenance. Proposed actions would only take place on maintenance level 1 and 2 roads. These roads have a dirt surface and the lowest required maintenance standards. Maintenance level 2 roads are system roads maintained for use by high-clearance vehicles. Maintenance level 1 roads are system roads that are closed, typically with a gate, and are only used for administrative access on an intermittent basis.

In this project, we propose decommissioning (removing the roads from the system) two maintenance level 2 roads (a total of 0.8 miles) and eight maintenance level 1 roads (a total of 10.1 miles) (see following discussion and figure 3). Decommissioning could include ripping and seeding, placement of rock or slash, and removal of drainage structures. The objective would be to avoid disturbing the road beds as much as possible to minimize sediment production.

Sourdough Cow Camp Road (#378)

This maintenance level 2 road is no longer used to access a cow camp. It has been closed for several years, except for the first 100 yards which is a motorized all-terrain vehicle trail. It is 0.1 miles long. The proposed action would leave the first 100 feet as motorized trail, decommission the remainder of the road, and remove it from the road system.

Sawmill Spur Road (#493)

This maintenance level 2 road is an old logging road that receives low public use. It is 0.7 miles long and is within 50 feet of a stream and contributing sediment. The proposed action would leave the first 100 feet for dispersed camping, then decommission the road after project use and remove it from road system

Lynx Park Spur B (473224), Old Sourdough Spur 1 (521111), Little Sourdough (531415), Old Sourdough (534102), Pole Creek #1 (534117), Pole Creek #3 (534416), and Upper Sawmill (534415)

These maintenance level 1 roads are a total of 9.5 miles long. They are currently closed in the summer to motorized use and open to hiking, horse travel, and winter over-snow travel. They are within 50 feet of a stream and contributing sediment. The proposed action would decommission them after project use and remove them from road system.

Several system roads would be utilized for the project and would need maintenance work (for example, adding, replacing, or maintaining drainage structures) to reduce possible sedimentation. Some roads that would need maintenance work are #22 Old Highway – Elgin, #23 Sourdough Creek, #460 Elgin Park, and #521112 Old Sourdough Spur 2. The following roads in the project area would not be used for access but would require drainage work to meet the purpose and need for the project: #20 Circle Park, #383 Circle Cut Across and #491 Hanson Sawmill. Bighorn National Forest personnel conduct routine road maintenance annually and as needed to reduce sediment.

Other Roads – Level 2 through 5

A thorough road condition survey was conducted in the project area. Numerous maintenance items were noted that would reduce the amount of sediment, including hardening road surfaces and replacing or maintaining drainage structures, such as culverts and ditches. There are 82 miles of these roads in the project area.

Yellow highlight added.

FDR 382 from US 16 to Cloud Peak Wilderness boundary is classified as a Level 2 system road. It is now a surfaced road of at least a Level 3 category. The BMW EA does not disclose the change of road maintenance levels for FDR 382. In fact, as stated above no change of road management standards were disclosed in the EA. Surfacing is not needed for log trucks to haul out the timber. In addition to the surfacing, tree clearing and culverts were installed. The surface material is very fine material and likely to erode during spring snow melt or heavy rain events. The BMW EA stated an objective

of this project was to reduce sedimentation into Buffalo's municipal watershed. This surfacing material will likely increase sedimentation.



FDR 382 – Approximately 2.8 miles of the road is now surfaced. Travel time from US 16 to the CPW boundary now takes about 20 minutes versus the one-hour time before the road was surfaced. Surfacing was not authorized in the BMW EA. Road maintenance level upgraded from Level 2 to Level 3.



FDR 382 in Lynx Park. Note new culverts marked by the delineator posts. Culverts not needed for log trucks to remove timber.



FDR 382 as a level 2 maintenance road with native surface. The entire length of FDR 382 used to be at this road maintenance level and should have remained at this level according to the BMW EA.

The BMW EA did not disclose this change of road maintenance or the possible impacts from the higher level of road maintenance on access to the Cloud Peak Wilderness.

Temporary Roads: (Page 12 of BMW EA) The "Roads" report contains a complete list of current roads proposed for use, as well as a description of the approximately 13 miles of temporary road that would be constructed during the project for mechanical harvest treatments. After their use, temporary roads would be removed from use by ripping to a depth of 8 inches and placing slash, rocks, or both on the roadbed for the first 100 feet.



Unit 1 off of FDR 21 just east of US 16. The BMW EA did not identify any temporary road to this unit. Nor is closure done in accordance with the requirements of the EA. Note- Roadbed is not ripped at all nor is it slashed in or rocks placed for the first 100 feet.



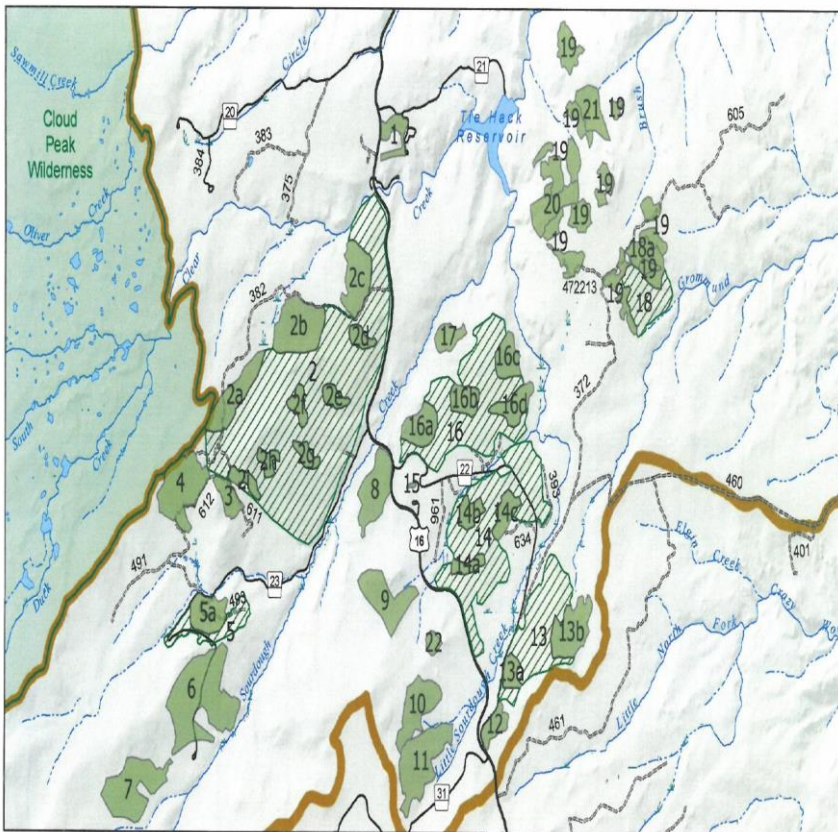
Temporary road not ripped to a depth of 8 inches. Not ripped at all. Vehicle tire tracks are the last use of this temporary road.

Mechanical fuels reduction/timber harvest (Page 19 of BMW EA)

Table 6. Acres of mechanical harvest and precommercial thinning summarized

Silvicultural treatment	Estimated Acres
Clearcut	1215
Precommercial Thin	370
Shelterwood – Seed Cut or Overstory Removal	310
(Timber stand improvement thinning will occur after the shelterwood harvest on these units.)	
Group Selection	13

Mechanical Timber Harvest Treatment Map



Legend

- Proposed Areas of Mechanical Fuels Reduction; Approximately 1,848 acres
- Outer Extent (gross area) of Proposed Mechanical Fuels Reduction; Individual Units May Be Moved Within This Area
- Project Area
- Forest Road - Passenger Car
- Forest Road - High Clearance Vehicles
- US Highway 16
- Wilderness Boundary
- Bighorn National Forest Boundary
- Intermittent Stream
- Perennial Stream
- Lake/Pond/Reservoir
- Swamp/Marsh

0 0.5 1 2 3 Miles

Please see page 2 of the EA for the Turbine Municipal Watershed Project for data accuracy disclaimer.

Following pictures display some of resulting Mechanical Fuels Reduction:



Unit 2C bordering FDR 382. This cut is part of the 370 acres of clear cuts for Unit 2a, 2b and 2c. Example of what the clear cuts look like.



Unit 6 near the end of FDR 23, Sourdough Road. Unit is 150 acres. Another example of the resulting clear cuts.



Unit 1 near Tie Hack Campground. BMW EA stated this unit was to have 60 feet by 60 feet spacing.



East end of Unit 1. Note blowdown occurring into Tie Hack Campground.



Precommercial Thinning unit along FDR 23, Sourdough Road. Spacing about 10 feet by 10 feet. Slash is hand piled for later burning.



Precommercial Thinning unit along FDR 23, Sourdough Road. Spacing of remaining trees same as above picture.



Example of tree mortality after burning of hand piles. Not in the BMW project area. Similar results should be expected when the hand piles are burned along FDR 23, Sourdough Road. Hand piles on Page 11 are on FDR 23 and similar mortality should be expected along the Sourdough Road.



Area of small trees is the result of hand pile burning for a WUI project which killed the remaining overstory. This results in essentially more clearcuts.

Conclusion:

The BNF management has failed to comply with their own EA and its mitigation requirements. The most egregious failures are not adequately closing the miles of temporary roads. As the pictured examples show, there was no attempt to meet the requirements to either rip to an 8-inch depth or to slash in or rock the first 100 feet of the road.

The second biggest failing is the changing of the level of road maintenance of Forest Development Roads without acknowledging that in the EA or the total lack of the need to increase the level of the FDR. The removal of the timber could have been done on FDR 382 at a level 2 maintenance. The surfacing of this road will most likely increase use of the Cloud Peak Wilderness (CPW) through the Trigger Lake access. This reduces the opportunity for solitude in the CPW. Solitude is one of the goals in designated Wilderness. Additionally, the surface material will likely be eroded during spring snow melt or during heavy rain events. The increased sedimentation is in direct conflict with one of the stated objectives in the BMW EA.

The third area of concern will be the proposed road decommissioning. As of January 2023, no road decommissioning has been done. If the change of the maintenance level of FR 382 and the failure to adequately close temporary roads is an indication of disregarding the intended actions as stated in the BMW EA, road decommissioning is not assured.

Finally, the expenditure of \$3 million of taxpayer money for the dubious hope of reducing catastrophic wildfire stretches the imagination. After the 10,000-acre Lost Fire in 1988, the city of Buffalo spent roughly \$15,000 in the spring of 1989 and 1990 cleaning sedimentation from their intake in Mosier Gulch. Nearly 30 years later, in 2017 the Wyoming Water Development Commission spent \$150,000 conducting a report stating the Clear Creek watershed could have catastrophic wildfires. The WWDC report lead the BNF to propose and implement the BMW project. The project costs around 200 times the cost to the city of Buffalo after the 1988 Lost Fire.

Report and pictures by Craig Cope.