File Code: 1940 Monitoring **Date:** 9/11/2014

To: Yellowstone and Bozeman District Rangers

Subject: Gallatin Travel Management Plan –Road Decommissioning Implementation Monitoring: 3-5 years Post Implementation

IMPLEMENTATION REVIEW DATE AND PARTICIPANTS

On September 5, 2014 an Implementation Monitoring Review was held to evaluate road decommissioning associated with the Gallatin Travel Management Plan. The intent of the review was to examine several road decommissioning projects 3-5 years after decommissioning was carried out in order to:

- assess whether original project objectives continue to be met,
- identify any issues or concerns that may have arisen since implementation, and
- provide recommendations to help guide future road decommissioning projects.

Attendees included Alex Sienkiewicz, Lauren Oswald, Kimberly Schlenker, Rachel Feigley, Grant Morrison, Andy Kehler, Barb Ping, Mark Story, and Dale White.

OBJECTIVES

The review examined portions of road decommission projects completed between 2009-2010 in the Mill and Smith Creek drainages of the Yellowstone Ranger District and the Flathead Creek drainage of the Bozeman Ranger District. In addition to inspection and evaluation of the decommissioned roads, the review team assessed adherence to:

- applicable Gallatin NF road and trail improvement project DN & FONSI, standard operating procedures, additional mitigations; and,
- GNF Travel Plan goals, objectives, standards, and guidelines.

This review is consistent with Appendix B of the Gallatin NF Travel Plan (FEIS Appendix B-12) which calls for an Implementation Review Team to evaluate the implementation/application, effectiveness, and adherence to Travel Plan goals, objectives, standards, and guidelines. Travel Plan direction includes the following evaluation criteria.

Implementation: Were the Goals, Objectives, Standards and Guidelines implemented?
Effectiveness: Were they effective in mitigating effects?
Validation: Are they still valid?

The following is added here as an additional monitoring objective:

Recommendations for Improvement: How can we improve future travel plan implementation on the Custer Gallatin National Forest?

EVALUATION PROTOCOL

BMP implementation and effectiveness was evaluated using a modified form of the Forestry BMP review protocol developed by the 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**. Adequate Protection of resources, effective
	3 points: Minor & temporary impacts on resources, moderately effective
	2 points: Major & temporary or minor & prolonged impacts on resources, slightly effective
	1 point: Major and prolonged impacts on resources, not effective

EVALUATION WORKSHEET

Mill Creek (Implemented 2009-2010)				
Rating item	*Source*	*Applic*	*Effect*	*Comments*
1. Travel Plan Goal D. Obj. D-1. Close and rehabilitate existing roads that are in excess to administration, recreation, and access needs.	GNF Travel Plan Detailed Description of Decision FEIS pg. 1-11	4	4	
2. Mill Creek Travel Planning Area Goal 1, OBJ. 1-2: Provide 1 or 2 ATV/Motorcycle loop trails within this Travel Planning Area	GNF Travel Plan, Detailed Description of the decision pg. II-136	4	4	Decommissioning removed excess roads in the area, leaving an approximately 15 mile long motorized loop trail
3. Mill Creek Travel Planning Area Goal 4, Other Resource Protection: Provide a road and trail system that accommodates traffic consistent with protecting soil and watershed condition.	GNF Travel Plan, Detailed Description of the decision pg. II-136	4	4	Sediment production from decommissioned road segments is essentially zero
4. Treatment Type I: This treatment is applied to roads that will remain open to administrative traffic but closed to public highway vehicles. Roads may be designated for motorized trail uses. • Install drivable cross drains on the road grades. Armor drainage dips as needed to improve functionality. • Lightly scarify road surface for seeding • Seed scarified surfaces • Block entrance road entrance with gate	Road and Trail Work DN & FONSI p 25	4	4	The motorized loop trail (see Item #2 Notes above) also serves as an admin road.

5. Treatment Type III: This treatment is used for closing roads and decommissioning them from the system. It may also be used on road segments that are at high risk for mass wasting into stream courses, even though the entire road may remain on the road system. • Recontour the prism to original ground profile as close as practical. This is usually considered to be around ¾ of the original on this Forest. • Remove all drainage structures and dispose of them. • Remove all fills from drainages to as close to the original geometry as practical. • Armor stream bottom if needed to prevent excessive erosion • Slash open soils • Seed open soils	Road and Trail Work DN & FONSI p 25	4	4	Full recontouring treatment was prescribed based on visual and OHV trespass concerns.

PHOTOGRAPHS

Photo 1. Decommissioned road above Snowbank Campground

Photo 2. Decommissioned road on Wicked Creek divide

Photo 3. Decommissioned roads in Wicked Creek drainage

Photo 4. Culvert removal site on Wicked Creek (from west side)

Photo 5. Culvert removal site on Wicked Creek (from east side)

Smith Creek (Implemented 2009-2010)				
Rating item	*Source*	*Applic*	*Effect*	*Comments*
6. Travel Plan Goal D. Obj. D-1. Close and rehabilitate existing roads that are in excess to administration, recreation, and access needs.	GNF Travel Plan Detailed Description of Decision FEIS pg. 1-11	4	4	
7. Shields Travel Planning Area Goal 4, Other Resource Protection: Provide a road and trail system that accommodates traffic consistent with protecting soil and watershed condition.	GNF Travel Plan, Detailed Description of the decision pg. II-136	4	4	
8. Treatment Type II: This treatment is for closing roads that may be reused in the future or for roads that will be decommissioned and of low risk for sediment production into stream courses. • Remove road surface compaction by ripping road to 12" depth. • Remove at risk culverts from drainages and remove road fills within drainage. • Plug and store ditch relief culverts for future use. • Install frequent cross drains. • Slash road surfaces.	Road and Trail Work DN & FONSI p 24	4	4	Examined roads were not ripped, but surfaces have begun to revegetate effectively. Road blockage by slashing/logs was effective at the two sites examined which were adjacent to ATV trails but

• Seed any exposed soils. • Block road entrances with an earthen berm, ripping and slashing, recountouring & slashing, or a mix.				approximately ½ mile from open roads. Blockage by jackleg fence (examined at lone site) was effective adjacent to an open road, but fence was degrading.

PHOTOGRAPHS

Photo 6. Damaged Jackleg fence used as hitching post (site adjacent to open road).

Photo 7. Road closed by slashing (site adjacent to ATV trail, approx. 1/2 mile from open road)

Photo 8. Road closed by felled trees (site adjacent to ATV trail, approx. 1/2 mile from open road)

Flathead Pass – East Side (Implemented 2011)				
Rating item	*Source*	*Applic*	*Effect*	*Comments*
10. Travel Plan Goal D. Obj. D-1. Close and rehabilitate existing roads that are in excess to administration, recreation, and access needs.	GNF Travel Plan Detailed Description of Decision FEIS pg. 1-11	4	4	
12. North Bridgers Travel Planning Area Goal 4, Other Resource Protection: Provide opportunities for low-level summer recreation use with an emphasis on horse and pack stock use. In addition, allow for some motorcycle/ATV use.	GNF Travel Plan, Detailed Description of the decision pg. II-150	4	4	
12. North Bridgers Travel Planning Area Goal 4, Other Resource Protection: Provide a road and trail system that accommodates traffic consistent with protecting soil and watershed condition.	GNF Travel Plan, Detailed Description of the decision pg. II-150	4	4	
13. Treatment Type III: This treatment is used for closing roads and decommissioning them from the system. It may also be used on road segments that are at high risk for mass wasting into stream courses, even though the entire road may remain on the road system. • Recontour the prism to original ground profile as close as practical. This is usually considered to be around ¾ of the original on this Forest. • Remove all drainage structures and dispose of them. • Remove all fills from drainages to as close to the original geometry as practical. • Armor stream bottom if needed to prevent excessive erosion • Slash open soils • Seed open soils	Road and Trail Work DN & FONSI p 25			Decommissioned road beds have recovered well considering the dry site and relatively thin, rocky soil. However, vandalism and trespass have occurred and could eventually undo the decommissioning work. Much of the closure was by untreated jackleg fence which, in addition to being tipped over and perhaps removed (see photos below), will deteriorate relatively quickly without maintenance.

PHOTOGRAPHS

Photo 9. Tipped-over Jackleg fence

Photo 10. Decommissioned road above tipped over Jackleg fence

Photo 11. Decommissioned hill climb viewed from top

Photo 12. Decommissioned hill climb viewed from bottom. Note missing segment of jackleg fence and tire tracks from recent illegal off-road incursions.

OBSERVATIONS AND CONCLUSIONS

1. As expected by review team members weeds were found at most of the sites examined. However, extensive infestations were not observed and in general there was no indication that the observed weeds issues were caused or even exacerbated by the decommissioning work. At one site in Mill Creek an extensive, dense patch of houndstongue observed on a decommissioned road in 2010 was found to be greatly reduced (perhaps absent) when inspected in 2014. It was not determined whether the dissappearence of the houndstongue was due to it being sprayed or whether site conditions favored other vegetation, or both.

2. The full recontouring treatment (Treatment Type III) utilized extensively in Mill Creek was extremely successful from a number of standpoints including re-vegetation, visuals, water quality, OHV management, weeds, and wildlife. The dramatic success of this treatment was due in part to the plentiful sub and topsoil available in most areas and the predominantly north to northwest-facing aspects of the treatment areas (i.e., *relatively* damp sites).

3. Illegal motorized use of recountoured roads was not observed in the Mill Creek road decommissioning area. District personnel suggested this may be due to the short season of permitted motorized use of the loop trail that traversed the area, low trail use in general, and the sole trail access point being located adjacent to a campground well-used by the general public.

4. After reviewing three sites in the Smith Creek area where decommissioning Treatment Type II was utilized (closure without recontouring) and two sites in Flathead Pass where Treatment Type III was utilized the review team made the following observations.

   - The farther a road closure location is from an open road the more likely a low effort treatment (such as slashing) will be sucessful. Closure locations adjacent to an open road appear significantly more vulnerable to being breached and/or vandalized.
   - Although jackleg fence and slash closure methods have endured at many locations they are vulnerable to vandalism. It was clear that inspection and maintenance will be required as jackleg fence closures age or are vandalized and as slash closures degrade or are removed by trail users. Two instances of fence removal/vandalism were noted at Flathead Pass, and part of a fence closure in Smith Creek was falling down – apparently due to disrepair.
   - A Kelley hump on the road just north of the Flathead Pass has been compromised and people are driving well beyond that Kelly hump on a closed road.
   - We may lack adequate funding to monitor and repair closures effectively in the future. In fact, we may already lack adequate funding to do so.

RECOMMENDATIONS

1. Weed treatment associated with decommissioned roads

   - Protocal for weed inspections and treatment pre- and post-project that appear in the Road and Trail Work DN & FONSI should be followed for all road decommissioning efforts.
   - Broader monitoring of weed issues on decommissioned roads should be carried out in order

to better determine the effectiveness of the established inspection and treatment protocol (the information resulting from this implementation review is encouraging but is far from comprehensive or conclusive).

2. Closure at heads of decommissioned roads (or OHV trails)
    - Consider use of full recontouring to achieve closure at heads of decommissioned roads and OHV trails whenever possible. Ideally, full recontouring should visually erase the road/trail prism and create an non-driveable surface extending as far as one can see the recontoured road/trail from its intersection with an "open" road/trail. This distance will vary based on topography, vegetation, and road layout. The consideration of this method should include assessment of terrain (including the ability of motorized vehicles to circumvent the closure), cost, and the presence of existing weed infestations which could be exacerbated by the significant ground surface disturbance typically associated with full recontouring.
    - When the head of the decommissioned road/trail lies on a steep sidehill, a non-driveable surface can sometimes be created by recontouring alone. Other locations may also require boulder placement, hummocking plus rootwads/trees (partially bury wood to discourage cutting), or an alternative method in order to create a non-driveable surface.
    - Jackleg fences or slash (in absence of other methods) are most likely to be effective where off-road pressure is minimal. This closure method should be employed with the understanding that it will require ongoing monitoring and maintenance.
    - Consider use of heavy slashing and felling of trees across the road/trail for closure in areas with lower risk of vandalism/trespass (e.g., areas approximately ½ mile or more from *open system roads*). Such lower cost closure alternatives, which can often be implemented by hand crews, should only be prescribed after consideration of potential future mainenance costs as well as potential effects to resources should the closure prove ineffective.

3. When decommissioning a road that has an established or traditional non-motorized use such as hiking or skiing consider modifying the closure/decommissioning methods to allow for continued non-motorized access and use (e.g., immobile boulders placed so as to allow foot traffic passage but preclude OHV passage).

4. The Forest should consider:
    - identifying locations where road closure was carried out using primarily jackleg fence or slash, which are particularly vulnerable to vandalism and/or deterioration; and,
    - in higher risk areas (most notably where decommissioned roads intersect open system roads) making a systematic effort to enhance or reconstruct identified closures using more robust closure methods.

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