CHAPTER 2- ALTERNATIVES, INCLUDING THE PROPOSED ACTION

Introduction

This chapter describes and compares the alternatives considered for the Upper Williams River Watershed Improvement Project. It includes a description of both alternatives considered, No Action and the Proposed Action. A Maps detailing site-specific locations of proposed activities is located in Appendix A. Because no major issues were identified during scoping, no additional alternatives were developed and the decision is essentially whether to implement the projects or not.

2.1. Alternative 1 – No Action

Under Alternative 1, current management plans would continue to guide management of the Upper Williams River Watershed. No new watershed or aquatic habitat improvements would be implemented to improve existing conditions and contribute to Forest Plan goals and objectives. This alternative provides a baseline against which to describe the environmental effects (Chapter 3) of the proposed action.

Alternative 1 would allow ecological processes to control watershed and aquatic ecosystem processes along with effects associated with past, present and future land management activities. Ongoing management activities such as vegetation management, road maintenance and recreation would continue through current management direction, or other management decisions in the future.

2.2. ALTERNATIVE 2 – PROPOSED ACTION

Road Decommissioning: The proposed action reduces the impact of roads in the Upper Williams River Watershed by correcting existing road-related problems and reducing the overall road density. Roads that are no longer necessary for future management needs would be closed and decommissioned. The long-term goal of road decommissioning is to eliminate the hydrologic impacts associated with the roads and restore the long-term productivity of the land by returning it to a natural vegetative state. Activities to decommission roads may include ripping, outsloping, recontouring, removing culverts, constructing water bars or dips, seeding and mulching. Old skid roads that are associated with the roads proposed for decommissioning would also be treated to correct hydrologic and soil productivity problems prior to closing out the road access.

In some cases, roads that have not been used in several years have healed and do not pose a risk to streams or watershed conditions. Little or no work has been proposed on these roads and decommissioning would constitute a decision to administratively remove them from the transportation system. Approximately 21.2 miles of roads are proposed for decommissioning. This includes mostly woods roads (WR or M) and some Forest Service system roads (FR). Woods roads are typically roads that are not considered part of the Forest transportation system and are not scheduled to be maintained. They are

labeled with a WR for woods road, or with the first letter of the Ranger District they are found on (e.g. M for Marlinton). See Table 2.1 for a list of roads proposed to be decommissioned.

Road Storage: Roads identified for storage would remain a part of the overall transportation system, but their use would not be needed for several years. Rather than require routine maintenance, these roads would be placed into "storage" by activities similar to those used in decommissioning. The intent is to restore the hydrologic conditions along the road so it does not create resource problems during its dormant period. The road would remain on the transportation system, but would not be used in the near future and should not require maintenance until it is re-opened. Approximately 1.2 miles of road are proposed for storage. See Table 2.1 for roads proposed for storage.

Table 2.1. Roads Identified for Decommissioning and Storage.

Road	Action	Length (mi.)		Road	Action	Length (mi.)
FR 170	Decommission	1.5		M 169	Decommission	0.7
FR 170A	Decommission	0.4		M 170	Storage	0.5
FR 171	Decommission	0.9		M 171	Decommission	0.8
FR 216A	Decommission	2.4		M 171A	Decommission	1.2
FR 216B	Decommission	1.5		M 174	Decommission	0.3
M 132	Storage	0.7		M 176	Decommission	1.2
M 137	Decommission	0.4		WR 10	Decommission	0.5
M 139	Decommission	0.7		WR 11	Decommission	0.3
M 140	Decommission	0.7		WR 12	Decommission	0.2
M 142	Decommission	0.9		WR 15	Decommission	0.2
M 144	Decommission	0.6		WR 22	Decommission	0.5
M 145	Decommission	0.3		WR 27	Decommission	0.2
M 147	Decommission	0.4		WR 33	Decommission	0.3
M 151	Decommission	0.4		WR 6	Decommission	0.1
M 154	Decommission	1.0		WR 7	Decommission	0.7
M 157	Decommission	0.1		WR 8	Decommission	0.4
M 158	Decommission	1.1		WR 9	Decommission	0.3

Aquatic Passage Improvement: Two areas where roads restrict movement of aquatic species would be corrected. One location is on Forest Road 999 along the main stem of the Williams River, and the other is on Forest Road 216 along Black Mountain Run. Existing structures would be replaced by structures that better fit the natural channel width, grade and stream substrate to facilitate passage.

Channel Structure Improvement: LWD is important for a number of watershed and aquatic ecosystem functions. In perennial streams, LWD increases habitat complexity by scouring pools, traps spawning gravels, provides hiding cover, and helps to dissipate stream energy. In the Proposed Action sent out for scoping, large woody debris would be added to approximately one-mile long reaches of Black Mountain Run, Mountain Lick Run, and the main stem of the Williams River between Black Mountain and Mountain Lick Runs. Upon further field reconnaissance, the treatment along the Williams River

main stem is dropped in this analysis due to the size of the channel and because the existing habitat conditions are relatively good and improving.

Onsite trees would be directionally felled towards the channels from adjacent timber stands. Trees selected for felling would be distributed along both sides of the channels to avoid modifying riparian conditions such as stream shading, and would represent a mix of species. The intent is to mimic the recruitment of LWD when trees naturally fall into stream channels. The trees would generally be left in place, or in some cases winched into more desirable channel orientation.

Bank Stabilization: Three areas of bank instability are proposed to be treated along the Williams River downstream of Day Run near Handley. The treatments would use riparian planting and/or channel structures to improve bank stability. The structures are designed to redirect the stream energy away from unstable banks and towards the center of the channel and would be used where banks are actively eroding. They are constructed of boulders and placed in a series along the channel in the area of bank instability. Boulders would be delivered to the project area from a local source and placed in the channel with heavy equipment. The banks would also be re-vegetated to improve stability. See project map (Appendix A) for approximate areas to be treated. The bank stabilization areas range in size from approximately 300 to 750 feet in length.

Riparian Planting: The lower reaches of Little Laurel Creek, and two sites along the Williams River main stem, would be planted with riparian vegetation to improve bank stability and stream shading. Sources of the planting material would include cuttings and transplants, primarily willow, from local vegetation. Approximately five acres would be planted.

Black Mountain Mine: An abandoned mine is located along WR 33 and erosion and runoff associated with the mine site and access road would be corrected, if necessary, when the road is decommissioned.

2.2. Mitigation Measures and Monitoring for the Action Alternative

Mitigation measures were developed to be used as part of the action alternative. These mitigations measures were developed to minimize, reduce, or eliminate some of the potential resource impacts from the proposed activities and maintain the environmental quality of the Upper Williams River Watershed. Monitoring plans were also developed to determine the effectiveness of the mitigations within the project.

Design Features

Road Decommissioning: Mulching, liming, fertilizing, seeding exposed soils, and installing temporary silt fences in areas where the road crosses streams would minimize the movement of sediment off site.

Seeding would be done with an annual grass and a non-invasive seed mixture if needed. Often in these soil types native grasses do not establish quick enough to prevent gully erosion or sheet erosion; therefore it may be justified to use a more aggressive seed mixture that does contain non-native species as long as those species are not considered to be invasive. Consultation with the Forest Ecologist would occur prior to the purchasing of the seed mixture.

Road Storage: Culverts would be removed or in rare cases large drain dips would be placed in front of the culverts. The large drain dips would intercept water running towards the culverts, reducing the risk of a plugged culvert causing a road failure. Armoring of the areas above and below culverts is recommended in order to prevent head cutting of these severely erodible soil types. Armoring can be accomplished through woody debris, rock of varying sizes, synthetic materials, or other acceptable materials.

The surface of the road would be grassed for long-term storage. This organic material can be removed in the future down to the existing gravel surface in the future for use when needed.

Soil Disturbance near or adjacent to a stream channel: Soils would be stabilized as soon as possible with mulch and seed. Silt fences would be installed next to channels and cleaned periodically. Once vegetation is established the silt fences would be removed.

Large Woody Debris Additions: Trees located along the immediate edge of the stream bank would not be selected for directional felling. Trees would be well distributed to avoid modifying riparian conditions. Trees would be felled in the winter (Nov. 16-Mar. 31), while Indiana bats are in their hibernation period.

Recreation: Campsite #30 would be closed during the decommissioning of FR 171 to provide public safety during these activities and heavy equipment use.

Heritage Resources: During the course of project planning and implementation, Forest Service staff would be aware of the potential, albeit unlikely, for locating additional historic and prehistoric sites in the Assessment Area, particularly rock shelters along the Princeton sandstone formation along the western and southwestern edge of the project area and around the middle slopes of Big Spruce Knob. If a site is located, then the Forest Archaeologist would be notified and an appropriate avoidance strategy determined.

If any on-Forest sources for gravel or borrow material are used, they would be inspected prior to use to insure that they are free of invasive plant material.

To the extent possible, inspect off-site sources of gravel and borrow material for invasive plant material. Do not use material that is known or suspected to contain invasive plants with the potential to invade forested ecosystems. *(Ref. VE22, p. II-20)*

Ideally, all seed mixtures used for soil stabilization should be certified weed-free. However, there is a good possibility that certified seed will not be available. In this case the seed vendor's test results for noxious weed content would accompany the seed shipment and would demonstrate that the seed is substantially free from noxious weed seeds.

All seeding for soil stabilization or other purposes would use a site-appropriate mix of native grasses and/or forbs. A cover/nurse crop would be included in the mix to insure adequate soil stabilization while the native grasses and forbs become established. The cover/nurse crop does not have to be native as long as it is not invasive. *(Ref. VE06, p. II-18)*

Because a local source for weed-free mulch is not yet available, use straw or coconut fiber matting instead of hay mulch. *(Ref. VE20, p. II-19)*

Before entering National Forest land, all construction equipment and vehicles must be free of all soil, seeds, vegetative matter, or other debris that could contain or hold seeds. Equipment and vehicles that are used in the project area must be washed thoroughly before being moved to any other area of National Forest land outside the project area. Vehicle and equipment washing would not be conducted on National Forest land. *(Ref. VE20 through VE24, pp. II-19 through II-20)*

Monitoring and Control Measures

Infestations of non-native invasive plants with the capability to invade forested ecosystems (high priority invasive plants, Table 2-1) would be monitored and controlled to limit potential spread by road decommissioning, road storage, and mine site rehabilitation. Sites subject to soil disturbance, seeding, or mulching would be monitored the second growing season after stabilization activities are completed. Although all disturbed sites should be monitored, of particular importance is monitoring the mine rehabilitation site and roads 1796, M-169, M-171, WR-33, M-176, M-147, M-144, WR-27, M-154, and M-145. These sites are known to support or lie adjacent to infestations of high priority invasive plants. If infestations of high priority invasives appear, follow-up control and monitoring measures would be designed and implemented. Follow-up monitoring, with control measures applied as needed, would continue until infested areas are shown to be free of these species for three consecutive growing seasons, or until the Responsible Official determines that effective control cannot be achieved. Prior to implementation of any necessary control measures, an interdisciplinary team review would be conducted to determine whether additional NEPA analysis is necessary.

Table 2-1. High priority non-native invasive plant species[a] to be controlled or monitored at activity sites in the Upper Williams Watershed Improvement project.

Scientific Name	Common Name
Acer platanoides	Norway maple
Ailanthus altissima	tree of Heaven
Alliaria petiolata	garlic mustard
Ampelopsis brevipendunculata	porcelain berry
Berberis thunbergii	Japanese barberry
Butomus umbellatus	flowering rush
Celastrus orbiculata	Oriental bittersweet
Dioscorea oppositifolia	Chinese yam
Hydrilla verticillata	hydrilla
Ligustrum vulgare	European privet or common privet
Lonicera japonica, L. maackii, L. morrowii, L. tatarica, L. tatarica.x L. morrowii	Japanese honeysuckles
Lysimachia nummularia	moneywort or creeping jenny
Lythrum salicaria	purple loosestrife
Microstegium vimineum	Japanese stiltgrass
Paulownia tomentosa	princess-tree
Polygonum cuspidatum	Japanese knotweed
Polygonum perfoliatum	mile-a-minute vine
Polygonum sachalinense	sachaline or giant knotweed
Pueraria lobata	kudzu
Ranunculus ficaria	lesser celandine or fig buttercup
Rhamnus cathartica	common buckthorn
Rhodotypos scandens	jetbead
Rubus phoenicolasius	wineberry
Vinca minor	periwinkle

[a]Many of these species are not known to occur in the project area. Nevertheless, they should be controlled if they are discovered at the activity sites.

Table 2.2. Comparison of Alternatives

Actions	Alt. 1 - No action	Alt. 2 - Proposed Action
Roads Decommissioned (mi.)	0	21.2
Roads Stored (mi.)	0	1.2
Aquatic Passage Imp. (Sites)	0	2
LWD Addition (mi.)	0	2
Bank Stabilization (Sites)	0	3
Riparian Planting (ac.)	0	5