

Draft Decision Memo

BIG TIMBER CANYON VEGETATION TREATMENT PROJECT

USDA Forest Service
Gallatin National Forest
Big Timber Ranger District
Sweet Grass County, Montana

March 2006

INTRODUCTION OF PURPOSE AND NEED

Introduction

The Big Timber Ranger District of the Gallatin National Forest is initiating a proposal for a vegetation treatment project on approximately 220 acres in Big Timber Canyon, which is located approximately twenty miles northwest of Big Timber, Montana on the eastern slopes of the Crazy Mountains near Crazy Peak (See the attached Vicinity Map). The legal description for the proposal is T3N, R12E, Sections 2 & 4, Sweet Grass County, MT.. The proposal includes approximately 190 acres in Section 2 (Unit 1), approximately 25-30 acres in Section 4 (Unit 2), and consists of thinning densely stocked stands of Douglas-fir, to increase the health and vigor of the remaining trees and make them less susceptible to future Douglas-fir bark beetle attacks (See the Attached Project Proposal Map).

Project Background

The Big Timber Canyon Vegetation Treatment Project analysis area encompasses approximately 26,500 acres of forested and non-forested lands. The analysis area consists of timber Compartments 104 and 105, which range from 5,700 to 10,600 feet in elevation across a variety of aspects and have slopes ranging from 10 to 90 percent, with average slopes of approximately 30-50 percent.

Landtypes for the proposal area vary from 35-1C (Unit 1) to 34-1C and 35-1B (Unit 2). All of these landtypes consist of reasonably stable, productive soils that are capable of handling some disturbance, as long as Best Management Practices (BMPs) are utilized. The Forest Soil Scientist has completed on the ground reviews of both proposed units (See initial soils report located in the Project File).

The Big Timber Canyon Vegetation Project analysis area is approximately 40 percent forested (almost 50 percent of this general area is rock/scree). This was determined by using Satellite Imagery Land Cover Classification System 3 (SILC3) data, which is a classification system developed by the Wildlife Spatial Analysis at the University of Montana, to create regional land cover type, tree size and tree canopy databases for Montana and Idaho. The forested areas are mainly composed of cool to moist Douglas-fir habitat types on the lower elevations, with cooler and moister subalpine fir habitat types at the higher elevations.

Several of the low elevation Douglas-fir dominated stands within the analysis area are densely stocked, having stand conditions that are especially conducive to supporting Douglas fir beetle outbreaks. The 2004 and 2005 Aerial Insect and Disease Detection Surveys noted scattered pockets of mortality from Douglas-fir bark beetles in stands throughout the Big Timber Canyon area. Much of the mortality is likely associated with the ongoing drought common throughout much of this part of the United States and the high tree densities (measured in basal area per acre) commonly found in moist Douglas-fir forests.

In September of 2005, Ken Gibson, the Forest Service Northern Region Entomologist visited the project area to assess the situation. Small groups (10-20) of beetle killed Douglas-fir were noted in a widely distributed pattern throughout the drainage, verifying the results of the annual aerial survey that was conducted in July of that year. Observations confirmed the presence of Douglas-fir beetles in the drainage, not at outbreak levels, but at a level to suggest that increasing beetle-caused mortality and populations of beetles are certainly possible, especially if any major stand disturbance (such as windthrow, insect defoliation, or wildfire) were to occur in the area.. The Regional Entomologist suggested that reducing the basal area to 80-100 per acre would be the optimum level for increasing stand vigor in order to reduce the likelihood of future Douglas-fir bark beetle epidemics in the treated areas (See the Regional Entomologist Trip Report located in the Project File).. Stand density reduction has been shown to be the most effective method of reducing beetle-caused mortality by reducing tree competition for moisture and exposing material to sunlight (USDA 1994, Leslie E. and Bradley, T. 2001).

Approximately 1,550 acres or 26% of the forested area in Timber Stand Compartment 104 and 1,570 acres or 30% of the forested area in Timber Stand Compartment 105 is considered to be old growth as defined by Region 1 Guidelines (Green et. al.). Old growth stands were queried using ArcView, the Timber Stand Management Recordkeeping System (TSMRS), which is a Forest Service stand exam database and the SILC3 database, using ground-truthed data when it was available. The Forest Plan (page III-41) requires that we strive to maintain at least 10% old growth by timbered compartment. Presently, both compartments are well above the 10% standard (See the vegetation specialist's report located in the Project File).

The Crazy Mountains are somewhat unique having checkerboard ownership patterns, limited access to and within the Forest, as well as severe topography limiting public use and recreation opportunities on the National Forest System (NFS) lands. The Big Timber Canyon Road, #197 represents the only public access to NFS lands on the entire east side of the Crazies (including the Lewis and Clark National Forest). Due to this limited access, legal public recreation use is concentrated on those NFS lands immediately accessible from Big Timber Canyon and Big Timber Creek Trail, #119. Besides system trails, the only developed recreation facilities are located along the Big Timber Canyon Road. The Halfmoon area at the end of the road consists of the Halfmoon Campground and day use Picnic Area as well as the Big Timber Creek Trail Trailhead. The Big Timber Canyon Picnic Area near the Forest boundary also provides picnicking and dispersed camping opportunities adjacent to the Big Timber Canyon Road.

The project area is not located in an inventoried roadless area. The vast majority of the Crazy Mountains, located on the Big Timber Ranger District, are within the Crazy Mountain Roadless Area No.1-541. No Wilderness designation exists in the Crazies.

The Forest recognizes the outstanding scenic quality of the Crazy Mountains. The 1987 Gallatin National Forest Plan directs that the NFS lands in the vicinity of the proposed treatment units are to be managed as Partial Retention Visual Quality Objectives (VQOs). This means that management activities remain visually subordinate to the characteristic landscape. Historic cutting on private land below Half Moon Campground has been rather extensive but, does not dominate the viewshed. Past cutting that has occurred on NFS lands in the drainage is within the acceptable bounds of Forest Service visual objectives.

Past, Present, and Reasonably Foreseeable Actions

A map of past timber-related activities is located in the vegetation specialist report in the Project File. The activities were queried from the TSMRS database for Compartments 104 and 105, which encompass the Big Timber Canyon Vegetation Project analysis area.

From 1969 through 1979 there were no recorded harvest activities on USFS lands. In Compartment 104, from 1980 through 1989, approximately 51 acres were regeneration harvested and approximately 48 acres were partially-cut with shelterwood harvests. No additional harvests have occurred in this area after the 1980s on USFS lands.

On private lands in Compartment 104, about 150 acres were regeneration harvested in the 1960s, 70 acres in the 1980s, and 20 acres in the late 1990s. There were also approximately 90 acres of shelterwood harvests in the 1980s and 50 acres of shelterwood harvests in the late 1990s.

No harvest activities have occurred in Compartment 105 on either USFS or Private lands. There are no other foreseeable harvest activities planned in the analysis area at this time.

Purpose and Need

The main purpose and need for the proposed project is to:

- Initiate insect control methods including commercial and non-commercial sanitation harvesting techniques as recommended by the Regional Entomologist to help control and prevent the spread of Douglas-fir bark beetles and improve the overall health and productivity of the forest community in Big Timber Canyon.

Other objectives associated with implementation of the proposed project include:

- Improve wildlife habitat/forage by increasing the abundance and diversity of shrubs and other understory plants within the forest community to help sustain a forage base for big game.
- Maintain and protect values that are consistent with sustaining visual quality objectives within the Big Timber Canyon corridor.
- Provide a sustained yield of timber products and improve and productivity of timber growing lands (FP. Pg. II-1).
- Reduce fuels to create a more sustainable stand structure.



PROPOSED ACTION

Overview of Proposal

The proposed action would mechanically thin approximately 220 acres of mostly Douglas-fir forest, reducing stand densities to around 80 to 100 square feet of basal area per acre. These mechanically treated acres would have fuel treatments that combine lop and scatter, whole tree yarding, yarding unmerchantable material (YUM) with piling where down woody levels exceed 10 to 15 tons per acre in the greater than 3” diameter class or where material less than 3” in diameter exceeds 3’ high X 10’ wide. The proposed silvicultural treatments to meet management objectives will vary slightly between units. Table 1 provides a summary of treatment units.

Table 1 - Treatment Units and Objectives

Unit #	Location	Approx. Size (Acres)	Objective of Treatment
1	Section 2	190	Remove Douglas fir bark beetle infested trees, thin to a basal area of 80-110 to increase health and vigor of remaining stand, blend with adjacent private previously thinned land, increase species diversity of understory vegetation for wildlife forage
2	Section 4	30	Remove Douglas fir bark beetle infested trees, thin to a basal area of 80-110 to increase health and vigor of remaining stand, blend with adjacent previously thinned National Forest System land.

Detailed Treatments by Unit

Unit 1

Unit 1 consists of approximately 190 acres located on NFS lands in Section 2 on the south side of Big Timber Creek (See attached map of Proposed Treatment Unit #1) and is adjacent to thinning that occurred on private lands in Section 1 in the late 1990s. This proposal would create a less abrupt visual transition between private and NFS lands. Soils are highly productive and moderately fine textured with few rock fragments. The only evidence of past harvest activity is occasional stumps (>40 years old), near the northern boundary of the unit, which were likely harvested for local ranches. The Forest Soils Scientist completed an on the ground review of Unit 1 and found no evidence of past mechanical disturbance.

Helicopter logging is proposed for the southern 3/4ths of the unit, which has slopes >35%. Trees would be handfelled and whole tree yarded (where necessary to accomplish fuels objectives of 10-15 tons per acre) to landings located on the bench on the northern edge of the unit. The northern 1/4th of the unit, which has slopes

<35%, would likely be tractor logged. The northern boundary of the unit would be located on the bench, which is well outside of the riparian corridor for Big Timber Creek. The southern boundary of the unit near the ridge would be irregular to help meet visual concerns for the area.

Treatment would consist of thinning the existing stand to approximately 80 to 100 square feet of basal area per acre (presently this forested area has an average of around 175 to 290 square feet of basal per acre). Based on this stand's current average stand diameter (of between 8" to 10" dbh), such thinning would leave about 145 to 285 trees per acre (this equates to around 17' X 17' to 12' X 12' between boles if uniform spacing between leave trees occurs). Fuels treatments would be as described in the above overview.

Adjacent private landowners have been approached to acquire temporary access utilizing their existing private road and stream ford in Section 1 to access Unit 1, which lies on the south side of Big Timber Creek in Section 2. The neighboring landowners have previously utilized this private road and ford to thin their adjacent land in Section 1. The private road would be utilized for hauling purposes only. In addition, approximately ½ mile of temporary road would be constructed on NFS lands, off the end of the existing private road (on the bench), to facilitate both helicopter and tractor harvesting operations. All landings would be located on NFS lands. The landings and temporary road would be recontoured and/or rehabilitated (restored to natural slope, drained, seeded and/or slashed to be minimally discernible) following completion of treatment activities.

Another harvest option for Unit 1 would be helicopter logging of this entire unit and flying materials to existing landings from past harvest units on NFS lands in Section 2. This would require flying logs over the adjacent private property. This option would need to be used if the temporary access described in the preceding paragraph cannot be obtained.

Unit 2

Unit 2 consists of approximately 30 acres in Section 4 on the north side of Big Timber Creek, adjacent to Half Moon Campground (See attached map of Proposed Treatment Unit #2). Soils are medium textured with many rock fragments. The Forest Soils Scientist has completed an on the ground review Unit 2 and found no evidence of previous harvest in the proposed treatment area. NFS lands adjacent to the north and east sides of Unit 2 were thinned in the mid 1980s. Thinning of Unit 2 would create a less abrupt visual transition between these areas, as well as remove the Douglas-fir mortality that is currently occurring in this previously unthinned area. No current Douglas-fir beetle attacks were noted in the thinned areas. Unit 2 is located on gentle slopes of < 35% and would be tractor logged. The south edge of the unit would be located on the bench, outside of the riparian corridor of Big Timber Creek.

Treatment would consist of thinning to the same 80 to 100 square feet of basal area per acre as in Unit 1 and yarding trees to landings with ground-based equipment. Existing stand conditions consists of 150 square feet of basal area per acre. However, the spacing would vary from Unit 1 by leaving around 57 to 94 trees per acre (this equates to around 28' X 28' to 22' X 22' between boles if uniform spacing between leave trees occurs) to better match adjacent residual densities and spacing. Fuels treatments would be as described in the above overview.

Unit 2 can be easily accessed from Big Timber Canyon Forest Road No. 197.

Common to all Treatment Units

Woody Debris and Snags

The Forest Plan coarse woody debris requirement of approximately 10-15 tons per acre would easily be met in both units with the proposed action. The stands currently contain moderate diameter logs scattered throughout the project area. In addition, snags created from insect caused mortality would fall to the ground over time and continually replenish the coarse woody debris component. It is also estimated that approximately 3 tons per acre of fine debris (needles and fine branches) would remain on the site following the mechanical treatment. This material has a high nutrient content (Daniel, T.W., Helms J. A. and Baker, F.S. 1979) that is important in these relatively infertile forest soils. Although it would be optimal to retain all of the fine debris to maintain soil productivity, the high fuel loading and fire hazard associated with this action make it undesirable.

Old Growth

About 25 acres (a portion of Unit 1 in Compartment 104) of identified old growth would be mechanically thinned under the proposed action. In Compartment 104 there is approximately 1,500 acres of old growth forest. The 25 acres to be thinned in Unit 1 is <.02% of the old growth identified in this compartment. The Forest Plan states that a least 10 percent of commercial forest land within each timber compartment meet old growth conditions. Currently Timber Compartments 104 and 105 meet the old growth requirement (as stated above, Compartment 104 has about 26% old growth and Compartment 105 has about 30% old growth) and would still remain well above forest plan old growth requirements after treatments. .

Upland Meadows

No actions are planned in upland meadows.

Insects & Disease

Thinning activities associated with the proposed action would open up the existing stands, individual tree stress would decrease, and tree health/vigor would increase.

The amount of increased vigor would be dictated by the actual residual density around trees and future moisture availability. Improved tree vigor would reduce tree susceptibility to bark beetle attack since trees would be better able to pitch-out or wall-off beetles. In addition, by reducing tree density, more open conditions create an environment that is inhospitable to the beetle.

Reducing stand densities to around 80 to 100 square feet of basal area per acre would improve Douglas-fir tree vigor and resistance to Douglas-fir bark beetle. Additionally, although tree diameters would be within the susceptible size classes, reduced competition and improved vigor would increase the probability that individual trees could pitch-out or wall-off bark beetles to prevent mortality. See the Regional Entomologist Trip Report located in the Project File.

Mitigation Identified for Proposal

- 1) Groundbased harvest operations would be conducted over frozen and/or snow covered ground.
- 2) Apply standard BT timber sale protection clauses to the commercial harvest activities to protect against soil erosion and sedimentation. Of particular importance are drainage and addition of slashing materials to the temporary road and skid trails upon unit completion and slashing to the Big Timber Creek ford approaches after use.
- 3) Apply BMP's for Forestry in Montana (DNRC, 2002) for all commercial thinning operations.
- 4) Coordinate with the Montana/Idaho Smoke Management Unit at <http://www.fs.fed.us/r1/fire/nrcc/smoke.html> for permitting and scheduling of pile burn operations.
- 5) Topsoil on landings should be stripped and stockpiled before use and replaced after logging, reseeded, and monitored to prevent weed invasion.
- 6) Any temporary roads and/or landings would be recontoured and/or rehabilitated within one year following completion of treatment activities.
- 7) Spray access roads for noxious weeds prior to seed production each year during harvest and follow-up operations.
- 8) Remove all mud, dirt, and plant parts from all off-road equipment before moving into the project area. Cleaning must occur off of national Forest lands. This does not apply to service vehicles that will stay on the main Big Timber Canyon roadway.
- 9) Any gravel or other surfacing/fill materials brought or moved on-site for project related activities must be from a weed seed free source. Any straw used for road stabilization and erosion control must be certified free of weed seeds.
- 10) Minimize the creation of sites suitable for weed establishment. Do not employ harvest practices such as scarification that result in disturbed soil. Identify and approve all skid trails prior to use.
- 11) Construct a temporary crossing by installing a series of small culverts (or similar mitigation devices that obtain the same objective) in the crossing and covering

with a washed gravel/cobble substrate. The culverts would need to be pulled prior to spring snowmelt runoff. This mitigation alternative is preferred by MFWP. Monitor streambed stability at the ford crossing. If concerns arise, then cease and desist hauling until the ford can be hardened, and or a temporary crossing structure can be built. Monitor shelf ice formation along the channel margins at the ford crossing. If shelf ice becomes a problem, then cease and desist hauling until a temporary crossing structure can be built. Minimize disturbance at the riparian crossing site, since weeds located in riparian areas and on streambanks are especially difficult to treat. (this crossing will be used if temporary access is obtained).

- 12) Revegetate bare and disturbed soil, except the travel way on surfaced roads, in a manner that optimizes plant establishment. Use native plant seed where appropriate. Use weed-free seed as tested by a certified seed laboratory.
- 13) Limit harvest duration to one year with reclamation, road restoration and other ground disturbing activities, etc. to be completed during the following year.
- 14) Whole tree yard in portions of the units to keep remaining slash to a maximum of 10-15 tons to the acre, which is the Forest Plan coarse woody debris requirement.
- 15) Utilize winter harvest operations to eliminate most potential direct impacts to wildlife species of concern.
- 16) Transect surveys will be conducted between March and June in all proposed treatment units for northern goshawks using taped playback alarm calls to aid in identifying the presence of any active nesting birds. In addition, all nests/nest trees located during this survey will be marked for retention and buffering.
- 17) There will be no harvest of trees containing goshawk or any other large raptor nests, whether they are active or inactive
- 18) Leave a minimum 50 -foot diameter buffer around trees with raptor nest trees.
- 19) No activity within ¼ mile of an active goshawk nest between March 1 and June 31 and a 100 foot diameter buffer would be retained around the nest tree thereafter.
- 20) Marking along the east boundary on Unit 1 should match adjacent residual density and pattern in section 1.
- 21) West edges of Unit 1 should be feathered and undulated over approximately 300 feet to reduce the contrast with adjacent private land (Section 3).
- 22) The uphill (south) edge of Unit 1 should also be feathered and undulated over a few hundred feet to avoid an obvious break of untreated conifers just below the ridge top.
- 23) The pattern of tree removal in both units should not leave uniform spacing, taking advantage of leaving larger trees with full crowns and include clumping to end up with patterns that are somewhat similar to the light patchiness visible on adjacent slopes.
- 24) For Unit 2, stumps that may be visually dominant within 50 ft of the Big Timber Canyon Road should be a maximum of six inches with the cut face angled parallel to the slope.
- 25) Any temporary roads or skid trails that join the Big Timber Canyon Road should be rehabilitated to become minimally discernible from the surrounding area.

- 26) If the small road to the east of Halfmoon Campground is enlarged or improved for equipment access, it should be returned to its fairly primitive condition within one year following completion of the project.
- 27) For Unit 2, staging areas and slash piles that might be discernible beyond one year after completion of the project should be located as much as possible out of sight of the Big Timber Canyon Road.
- 28) For Unit 2, all marking visible from the Big Timber Canyon Road should be removed within a year after completion of harvest activities (recommend cut tree mark).
- 29) If any historic or cultural sites are discovered during operations, they would be avoided and protected

DECISION

The decision to be made is whether to implement vegetation treatment as described in the proposal. The decision would also incorporate the identified mitigation as described above.

- There would be no permanent road construction. Access to Unit #1 would be obtained by utilizing a privately owned road, for which an access agreement is currently being negotiated with the adjacent private landowner. If the access agreement is obtained, approximately ½ mile of temporary road would be constructed connecting to the existing private road, providing an area on National Forest System lands to facilitate landings and harvest operations. This temporary road would be permanently closed and rehabilitated within one year following the completion of project activities.

If the access agreement is not obtained by the Forest Service, then another harvest option for Unit 1 that would have to be considered would be to helicopter log this entire unit and fly materials to existing landings from past harvest units on NFS lands in Section 2.

Unit #2 is immediately adjacent to and can be accessed by the Big Timber Canyon Road, so no new road construction would be necessary.

- This project would not adversely affect any resource values including wetlands or floodplains; water quality; threatened, endangered, or sensitive species; archeological, cultural, prehistoric, historic, or scientific values.
- This project would not have long term affects to the administration or public use of the area; and would not negatively affect the visual quality of the area.
- The project is consistent with the Gallatin Forest Plan, Management Area (MA) 9 (Forest Plan, pp.III-27 through III-29).

- The project is outside of designated wilderness, wilderness study areas, Research Natural Areas, and inventoried roadless boundaries.

Harvest activities would be anticipated to begin in late fall/winter of 2006. Project related activities could continue for up to two years.

CATEGORICAL EXCLUSION

Forest Service actions may be categorically excluded from documentation in an EA or EIS only if the action: (a) is within a category listed in Chapter 30 of FSH 1909.15, and (b) there are no extraordinary circumstances related to the action.

The proposed actions should qualify under either provision of the Environmental Policy and Procedure Handbook (FSH 1909.15), W.O. Interim Directive No.: 1909.15-2003-1, dated June 5, 2003 as indicated below:

31.2 - Categories of Action for Which a Project or Case File and Decision Memo are Required.

14. Commercial and non-commercial sanitation harvest of trees to control insects or disease not to exceed 250 acres, requiring no more than ½ mile of temporary road construction, including removal of infested/infected trees and adjacent live uninfested/uninfected trees as determined necessary to control the spread of insects or disease.

This project:

- (a) Would be consistent with agency and Departmental procedures and the Gallatin National Forest Plan.
- (b) Would comply with all applicable Federal, Tribal, and State laws for the protection of the environment.
- (c) Would not be conducted in wilderness areas, wilderness study areas, national recreation areas, inventoried roadless areas, or other specified areas of significance..
- (d) Would not include the construction of new permanent roads or other permanent infrastructure.

Therefore these actions should be categorically excluded from documentation in an environmental impact statement (EIS) or an environmental assessment (EA).

CONSIDERATION OF EXTRAORDINARY CIRCUMSTANCES

An Interdisciplinary Team of resource specialists has reviewed the proposed action and submitted initial reports to the Project File. After considering their findings, I feel strongly that no extraordinary circumstances exist. I base this opinion on the following findings:

➔ **Threatened, endangered, and proposed species or their critical habitat and Forest Service sensitive species.**

There is no critical habitat for threatened, endangered, proposed, or sensitive species within the project area. Grizzly bears are not known to inhabit the Crazy Mountains. The Fish and Wildlife Service (FWS) does not require the Forest Service to analyze the effects of vegetation treatment to grizzly bears north of Interstate 90. Although reports of wolves have been verified in the Crazy Mountains, there has been no known occurrence of wolves in the project analysis area or recent occurrence on the east side of the Crazy Mountains. There may be some fall and winter usage of the project area by bald eagles, however the eagles are primarily found along the Yellowstone River. There is no evidence that individual eagle or potential eagle habitat would be impacted by implementation of this project. There are no known occurrences of lynx, goshawk or wolverine in the analysis area. Neotropical birds representing over 30 different species are present annually during the breeding season, but rely primarily on riparian habitat along Big Timber Creek. Canada lynx habitat has been mapped in the analysis and project area, but this species is not likely to be present because of limited snow depth in winter and the lack of appropriate foraging habitat and forage prey species. Wolverines are rare, having extremely large home ranges. The scale of this project is unlikely to affect the species even if it were present. Northern goshawks are likely to inhabit the drainage and may utilize the project area for nesting or foraging. Extensive surveys will be conducted prior to implementation of any project activities (see mitigation section). Migratory birds will have no direct impacts because they will not be present during proposed project activities. Some indirect impacts may occur that limit nesting of interior forest nesting species, although this will be offset by the abundance of interior forest nesting habitat available for these species within 1-3 miles of the proposed project area. Effects to threatened, endangered, or sensitive species will be documented in a biological assessment/ evaluation as appropriate.

➔ **Floodplains, wetlands, or municipal watersheds.**

There would be no negative impacts to floodplains, wetlands or municipal watersheds associated with the project. The Big Timber Canyon Vegetation Project is not located near any municipal watersheds. No timber harvest activities, including road or landing construction, would occur within riparian areas. The nearest harvest to Big Timber Creek is located a few hundred yards upslope from the stream and upslope from a topographic bench between the harvest area and the stream. Therefore, there is

no potential for riparian harvest related effects. Harvest related activities will follow the Best Management Practices (BMPs) for Montana.

A total of approximately 75 acres in Units 1 and 2 would likely be harvested by tractor skidding, but skidding would occur over frozen ground, which significantly reduces potential for soil disturbance and sediment yield increases. Helicopter logging is proposed for the majority of Unit 1, which also significantly reduces the potential for harvest related sediment increases. The ½ mile of temporary road necessary to access Unit 1 is located on the bench above Big Timber Creek, so sediment delivery efficiency from that segment of road is minimal. In addition, hauling would occur when the road is frozen, and the road would be rehabilitated following harvest. The R1/R4 sediment model estimates show that sediment yield for the Big Timber Creek drainage is currently 3.8% over natural, which accounts for all roads and previous harvest activities. This proposal is predicted to increase sediment yield 1.1% (Water and Air Resources Report). Existing and predicted increases are well below the 50% threshold guideline established for Gallatin National Forest streams of this type.

The primary source of potential sediment increase would occur at an existing stream ford on private land that may be used to access Unit 1. The ford was previously constructed by a private landowner to haul logs and access a harvest unit on private land. Because hauling would occur over a frozen road surface, truck tires would not accumulate mud that would otherwise be washed into Big Timber Creek at the ford crossing. There is some potential to disturb the streambed at the ford crossing, which could release embedded sediments. Streambed substrates at the ford are predominately large cobble and gravel and appear to be tightly packed and consolidated with low potential for rutting. These conditions would be closely monitored during hauling. See mitigation #21 and #22 and the fisheries report located in the Project File.

➤➤ **Congressionally designated areas, such as wilderness, wilderness study area, or National recreation areas.**

No wilderness designation, wilderness study areas, or national recreation areas exist within the analysis area for the proposal. There is no designated wilderness in the Crazy Mountains.

➤➤ **Inventoried roadless areas.**

The project area is not in an inventoried roadless area.

➤➤ **Research Natural Areas.**

There are no Research Natural Areas within or adjacent to the project area.

➤➤ **Native American religious or cultural sites, archaeological sites, or historic properties or areas.**

No Native American religious or cultural sites have been located in the proposed units. Consultation and concurrence with members of the Crow tribe will occur before a decision on the proposal is made. The Crazy Mountains are considered to be an area of religious and cultural importance to the tribe. No archeological sites have been found in the project area. If any cultural or archeological sites are found during implementation of the proposal they would be protected.

SCOPING AND PUBLIC INVOLVEMENT

This Draft Decision Memo also serves as a scoping document, seeking public comments regarding this project. Your comments are appreciated. They will be used to help with our final environmental analysis and to aid in further developing the proposed action and the issues associated with implementation of it. This project proposal is being sent to individuals, groups, and organizations, who have shown an interest in similar projects or who reside in the project vicinity. A 30-day comment period is being provided. A final decision regarding this proposal is anticipated to be released in May of 2006. Please refer to the How to Comment and Timeframe section located at the end of this document.

The Big Timber Canyon Vegetation Treatment Project is included in the Summer and Fall Quarters 2005, and the Winter and Spring Quarters 2006 proposed project listings for the Gallatin National Forest.

FINDINGS REQUIRED BY OTHER LAWS, REGULATIONS, AND FOREST PLAN DIRECTION

The proposed action is consistent with guidelines set forth in the Federal Land Policy and Management Act (FLPMA, P.L. 94-579, 10/21/76 as amended). The action does not violate any federal, state, or local laws or requirements imposed for the protection of the environment. Specialist input supporting consistency determinations can be found in the Project File.

Findings of Consistency with the Forest Plan and National Forest Management Act

Management direction appears in the Land and Resource Management Plan for the Gallatin National Forest approved in 1987. This project falls within Management Area (MA) 9 (FP, pp. III-27 through III-29), which consist of suitable timberlands that have high dispersed recreation value and are visually sensitive. The management goals for MA 9 include providing for a variety of dispersed recreation activities in a roaded setting, harvest of timber that is consistent with recreational activities, and meeting State water quality standards and maintaining stream channel stability.

Management of vegetation is possible as long the above goals are met or maintained. Specifically, even and uneven harvest can be used along with commercial and precommercial thinning that focuses on actively controlling tree damaging agents and providing a natural mix of conifer species and levels of stocking densities that improves the visual quality within the area. Visual quality objectives range from retention to partial retention with the shape and scale of even-aged openings to replicate natural openings. Mitigation actions identified with this project are consistent with MA 9 direction. The project would also be consistent with MA9 visual quality objectives of retention to partial retention.

The Gallatin Forest Plan Forest Wide Standards applicable to this project for each resource and the findings of consistency include:

- **Visual Quality** – Forest-wide standards 4.1 and 4.2 (page II-16) require an analysis for landscape altering activities.
- **Cultural Resources** – The Gallatin Forest Plan incorporates the requirements under the following statutes: the National Historic Preservation Act (1966) and the American Indian Religious Freedom Act (1978). Forest Plan standards applicable to this project reflect the mandates under the above statues include inventory procedures, evaluation procedures, protection/preservation procedures, and coordination consultation procedures (see FP II-14 and II-17). The Big Timber Canyon Vegetation Project is consistent with the laws, regulations, and Forest Plan direction.
- **Wildlife and Fish** – Forest-wide standards 6.1, 6.7, 6.11, 6.12, 6.13, 6.14 and 6.15 pages II-17-19) provide for snag and downed woody debris management and protection of riparian habitat and cold-water fisheries.

→ **Timber –**

MA Standards: **MA 9** (page III-27) ‘Classified as suitable for timber production.

- (page III-28) ‘Include even-aged and uneven-aged harvest method systems’.
- (page III-28) ‘Shape and scale even-aged openings to replicate natural openings.’
- (page III-28) ‘Permit commercial and pre-commercial thinning consistent with management goals’.
- (page III-28) ‘Stocking density standards may be varied to add variety to the visual resource.’
- (page III-28) ‘Actively control tree damaging agents.’

Appendix A. Criteria for Selecting Preferred Silvicultural System:

- (p. A-1) The system should develop stand conditions required to meet management area goals over the longest possible time.
- (p. A-4) The system should permit enough control of competing vegetation to allow establishment of an adequate number of trees growing at acceptable rates.
- (p. A-5) The system should promote stand structures, compositions and conditions that minimize damage from pest organisms, animals, wind and fire.

→ **Water and Soils –** Forest-wide Standards 10.2 (page II-23) requires that Best Management Practices (BMP's) be used in all Forest watersheds in the planning and implementation of project activities. Use all necessary measures to minimize soil damage and soil erosion on project areas.

→ **Fire –** Forest-wide Standards 14.3 (page II-28) provide for treatment of activity created dead and down woody debris to be reduced to a level commensurate with risk analysis.

→ **Noxious Weeds –** Forest-wide Standards 15.1 (page II-28) states that an integrated weed management program would be implemented to confine present weed populations and prevent establishment of new areas of noxious weeds.

National Forest Management Act

The National Forest Management Act (NFMA) requires that Forest plans "preserve and enhance the diversity of plant and animal communities...so that it is at least as great as that which can be expected in the natural forest" (36 CFR 219.27). Furthermore, implementation regulations for the NFMA specify that, "Fish and wildlife habitat shall be managed to maintain viable populations of existing native and desired non-native vertebrate species in the planning area".

There are currently 8 terrestrial species identified as "Sensitive" that are known or suspected to occur on the Gallatin National Forest (USFS 2004). There is no suitable habitat for the peregrine falcon, trumpeter swan, harlequin duck, black-backed woodpecker, flammulated or Townsend big-eared bat; a "no impact" determination would be likely for these species. A species for which habitat is suitable and will be analyzed include the wolverine and goshawk. It is likely that the Big Creek Timber Canyon Vegetation Treatment Project "may impact individuals or habitat, but will not likely result in a trend toward federal listing or reduced viability for the population or species". The initial wildlife report is in the Project File. A biological evaluation (BE) for the proposal will be completed before a decision is made.

Sensitive plants surveys will be completed for the individual units within the treatment area and results included in the biological evaluation and Project File before a final decision is made. It is highly unlikely that any sensitive plant occurrences will be found due to lack of potential suitable habitat. If any sensitive plants are found, they would be protected.

Endangered Species Act

Under Section 7 of the Endangered Species Act, each Federal agency must ensure that any action authorized, funded, or carried out is not likely to jeopardize the continued existence of any threatened or endangered species. A Biological Assessment will be prepared for the project before a decision is made. It is likely that the project would not *adversely affect* the Canada lynx, would have *no effect* on the grizzly bear and bald eagle, and *would not be likely to jeopardize* the gray wolf. There are no plants listed as threatened or endangered in the project area.

Montana State Water Quality Standards and Clean Water Act

State Laws: The State of Montana Water Quality Act requires the state to protect, maintain, and improve the quality of water for a variety of beneficial uses. Section 75-5-101, MCA established water quality standards based on beneficial uses. Big Timber Creek in the project area was characterized using the Level II classification scheme outlined by Rosgen (1996). Big Timber Creek is the only perennial stream within the proposed project area and there are no intermittent or ephemeral streams. The channel throughout the project area is generally characterized as a C3/C4 type (Rosgen 1996) with intermittent B3/B4 reaches where gradient increases and the channel has less access to its floodplain.). Sediment supply for C3 and C4 channels is generally low, unless the banks are in a highly erosive condition. B3 and B4 channel beds and banks are considered stable and contribute only small quantities of sediment during runoff events. Channel sensitivity to increased streamflow or sediment discharge is low for B3 and B4 channels. Streambank erosion potential is low and riparian vegetation has negligible controlling influence on streambank stability.

The 1991 Streamside Management Zone law and 1993 SMZ Rules of Montana apply to all commercial timber harvest treatments. The State of Montana Water Quality Act requires the state to protect, maintain, and improve the quality of water for a variety of beneficial uses. Section 75-5-101, MCA established water quality standards based on beneficial uses. No stream segments in the project area are on the Montana 303(d) list for TMDL development. The Montana 303(b) database lists 5.1 miles of Big Timber Creek from Swamp Creek to the mouth of the Yellowstone River as impaired from dewatering due to irrigation diversions <http://deq.mt.gov/CWAIC/default.aspx>. A TMDL is not required since no pollutant related use impairment is identified. The Big Timber Canyon Vegetation Treatment Project will not result in additional dewatering of Big Timber Creek.

Trout Unlimited Agreement

The goals, policies and objectives for aquatic resources outlined in the Forest Plan have been further defined within an agreement with the Madison-Gallatin Chapter of Trout Unlimited (TU) in 1990. One intent of the Agreement was to provide more specific direction on timber harvest in riparian areas. Forest Service Action #4 (outlined in the Agreement) states: “The Gallatin National Forest agrees that vegetative manipulation within riparian areas will occur only for the purpose of meeting riparian dependent resource objectives such as watershed, wildlife, or fisheries. Timber harvest activities designed to meet timber management objectives will not be scheduled in riparian areas. The Agreement further defines riparian areas as “the land and vegetation for approximately 100 feet from the edges of perennial streams, and intermittent streams of sufficient size, to include a distinct riparian vegetation community and rock substrate stream channel. This area should correspond to at least the recognizable area dominated by riparian vegetation.” No timber harvest activities, including road or landing construction, would occur within riparian areas. The nearest harvest to Big Timber Creek is located a few hundred yards upslope from the stream and upslope from a topographic bench between the harvest and the stream. Therefore, there is no potential for riparian harvest related effects. Mitigation measures outlined in the proposal are intended to protect riparian dependent resource objective including fish habitat.

Heritage Program Laws (National Historic Preservation Act (amended 1992), American Indian Religious Freedom Act, and Native American Graves and Repatriation Act)

The Forest Service is mandated to comply with the National Historic Preservation Act (as amended 1993) [Public Law 89-665], (36CFR800.1) on such undertakings that affect properties included in or eligible for inclusion to the National Register of Historic Places (NRHP). Historic properties are identified by a heritage resource inventory and are determined as either eligible or not eligible properties for the National Register. Eligibility is reviewed, and concurrence given by the Montana Historic Preservation Office (MTSHPO). Sites that are determined eligible are then

either protected in-place or adverse impacts must be mitigated. No historic sites have been located within the project area.

The Forest Service has obligations under the American Indian Religious Freedom Act (AIRFA) of 1978 to “protect and preserve for American Indians their inherent right of freedom to believe, express, and exercise the traditional religions of the American Indian” [Public Law 95-442]. Executive Order 13007 of 1996 further directs federal agencies to accommodate access to, and ceremonial use of, Indian sacred sites by Indian religious practitioners and to avoid adversely affecting such sites.

Consultation activities will take place with the Crow tribe before a final decision on the project is signed. The Crazy Mountains are considered to be an area of religious and cultural importance to the tribe. No cultural sites have been located within the proposed units. There are no actions related to this project that are applicable to the intent of the Native American Graves and Repatriation Act.

Executive Order 12898 (Environmental Justice)

The Big Timber Canyon Vegetation Treatment project was assessed to determine whether it would disproportionately impact minority or low-income populations, in accordance with Executive Order 12898 (EA, page 3-119). No impacts to minority or low-income populations have been identified during the initial effects assessment.

Migratory Bird Treaty Act

On January 10, 2001, President Clinton signed an Executive Order outlining responsibilities of federal agencies to protect migratory birds. On January 17, 2001, the USDA Forest Service and the USDI Fish and Wildlife Service signed a Memorandum of Understanding to complement the Executive Order. Upon review of the information regarding neotropical migratory birds in the initial wildlife report, the Big Timber Canyon Vegetation Treatment Project would not result in significant loss of migratory bird habitat or be an extirpation threat to any migratory birds.

Clean Air Act

Activities to be implemented with the Big Timber Canyon Vegetation Treatment Project would be coordinated to meet the requirements of the State Implementation Plans, Smoke Management Plan, and Federal air quality requirements. Potential smoke emissions have been calculated using USFS R1 NEPA evaluation procedures for prescribed fire projects (Story and Dzomba 2005), which can be downloaded from USFS R1 air quality website at <http://www.fs.fed.us/r1/gallatin/air.index.shtml>. The Smoke Impact Spreadsheet (SIS) was utilized for the modeling as specified in the USFS R1 guidance. Results indicated the Big Timber Canyon Vegetation Project combined PM_{2.5} emissions of 7.1 tons, which would occur as slash piles from thinning and landings are burned. This level of emissions is much too low to pose violations of Montana air quality. During periods of pile burning concentrations of wood smoke would result in visible plumes in and near the units. No smoke

concentration visibility or health problems are anticipated near Forest Road #197, at Half Moon Campground or the private residences and ranches.

Land Use Strategy for WCT and YCT:

The Upper Missouri Short Term Strategy for Conserving Westslope Cutthroat Trout (UMWCT short term strategy) was finalized into a “Land Use Strategy” in April 2001. The Strategy calls for preventing habitat degradation and improving existing populations and their habitat until a long-term recovery strategy can be established and implemented. The Strategy ensures that land-use activities, like timber sales, will be implemented in a manner that results in a “beneficial impact” or “no impact” biological decision. Big Timber Creek has local significance as a recreational fishery with species composition consisting primarily of brook trout, with fewer rainbow and brown trout. Fishery surveys have been conducted. Neither Yellowstone or westslope cutthroat trout, sensitive fish species on the Gallatin NF, inhabit the stream. Thus, activities associated with the proposed action would meet the requirements of the Land Use Strategy.

Cooperative Conservation Agreement for Yellowstone Cutthroat trout within Montana.

This agreement establishes a framework of cooperation between the participating parties to work together for the conservation of YCT. The primary goal of the Agreement and accompanying Yellowstone Cutthroat Trout Conservation program is to ensure the persistence of the Yellowstone cutthroat trout subspecies within the historic range in Montana at levels and under conditions that provide protection and maintenance of both the intrinsic and recreational values associated with the subspecies. Fishery surveys have been conducted. No Yellowstone cutthroat trout, a sensitive fish species on the Gallatin NF, inhabit the stream.

Executive Order 12962 (June 1995)

Section 1. Federal Agencies shall, to the extent permitted by law and where practicable, and in cooperation with States and Tribes, improve the quantity, function, sustainable productivity, and distribution of U.S. aquatic resources for increased recreational fishing opportunities by:

- b. identifying recreational fishing opportunities that are limited by water quality and habitat degradation and promoting restoration to support viable, healthy, and where feasible, self-sustaining recreational fisheries....
- h. evaluating the effects of federally funded, permitted, or authorized actions on aquatic systems and recreational fisheries and document those effects relative to the purpose of this order...

Habitat surveys were completed in Big Timber Creek in 1998 in Section 4 above Halfmoon Campground where the stream is more incised, has higher gradient and has a boulder dominated substrate. Habitat conditions were typical of high gradient

mountain streams. Banks were 99.9% stable. Surveys were not conducted downstream through private property in Section 2 where gradient is less steep. However, based on visual observation, habitat conditions have not been degraded and are typical for C3/C4 channel types. The streambanks are stable and riparian vegetation has not been disturbed.

Big Timber Creek has local significance as a recreational fishery. Species composition consists primarily of brook trout, with fewer rainbow and brown trout. Yellowstone cutthroat trout, a sensitive fish species on the Gallatin NF, do not inhabit the stream. Trout populations are robust, especially brook trout, with several year classes represented. Recruitment success, or survival of incubating eggs, does not limit the numbers of adult fish in the population (personal communication, Jim Olsen MFWP).

With the proposed action, no timber harvest activities, including road or landing construction, would occur within riparian areas. The nearest harvest to Big Timber Creek is located a few hundred yards upslope from the stream and upslope from a topographic bench between the harvest and the stream. Therefore, there is no potential for riparian harvest related effects.

CONTACT PERSONS

For further information regarding this proposal, contact myself, Bill Avey, District Ranger at the Big Timber Ranger District, (406) 932-5155 or Barbara Ping, Interdisciplinary Team Leader (406)-522-2558.

How to Comment and Timeframe

Written, facsimile, hand-delivered, oral, and electronic comments will be accepted for 30 calendar days following publication of notice in the Bozeman Daily Chronicle, which is March 20, 2006. The publication date in the newspaper of record is the exclusive means for calculating the comment period for these proposals. You should not rely upon dates or timeframe information provided by any other source.

In submitting comments, please provide: (1) your name, address, telephone number, and organization represented, if any; (2) identification of the specific action from the attached list on which the comment is being submitted; (3) specific facts along with supporting reasons that you believe should be considered by me; and (4) your signature.

Those who do not submit timely and substantive comments will not be eligible for any appeal opportunity that may be provided under the 36 CFR 215 appeal rule. Comments received in response to this solicitation, including names and addresses of those who

comment, will be considered part of the public record and will be available for public inspection.

Submit written comments to: Barbara Ping, Forest Ecology Group, Bozeman Ranger District, 3710 Fallon St., Suite C, Bozeman, MT. 59718. Phone (406)- 522-2558. The office business hours for those submitting hand-delivered comments are: 8:00 A.M. to 4:30 P.M. Monday through Friday, excluding holidays. Oral comments must be provided to Bill Avey, District Ranger for the Big Timber Ranger District Office during normal business hours via telephone (406)-932-5155 or in person at the Big Timber office. Electronic comments must be submitted in rich text format (.rtf), Word (.doc) or Word Perfect format to “comments-northern-gallatin@fs.fed.us”. The subject line must contain the name of the specific activity for which you are submitting comments. For electronically mailed comments, the sender should normally receive an automated electronic acknowledgement from the agency as confirmation of receipt. If the sender does not receive an automated acknowledgement of the receipt of comments, it is the sender’s responsibility to ensure timely receipt by other means.

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