



File Code: 1950
Date: November 27, 2017

Dear Interested Party:

The Bozeman Ranger District of the Custer Gallatin National Forest is proposing the North Bridgers Forest Health project to address forest health and hazardous fuel concerns in the Bridger Mountains (Gallatin and Park County). The project area is approximately 10,200 acres; however, treatments are only proposed on 2,296 acres.

The Responsible Official, Forest Supervisor Mary Erickson, is requesting feedback on the project during scoping to identify any potential issues that have not already been identified during the collaborative process being used to develop this project. The attached Proposed Action document provides information on the project area, how the project was developed and details about actions being proposed.

In order for your scoping comments to be reviewed and considered in a timely manner, we ask that you **please submit comments by January 3, 2018** which is longer than the “normal” 30 days in order to accommodate the holidays. Comments specific to the proposed action that identify a cause-effect relationship are most helpful. Comments received in response to this solicitation, including names and addresses of those who comment, will be considered part of the public record for this project and will be available for public inspection. Additional information on how to submit comments is included in the Proposed Action document.

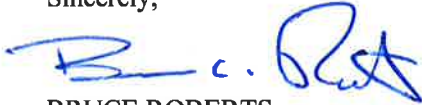
There is potential to use a Categorical Exclusion (CE) for this project (discussed in more detail in the attached Proposed Action document). If a CE is used, there would not be an additional period where written comments are solicited for the project. Potential use of a CE for a project of this size, along with the fact that the purpose and need and proposed action are being developed through a collaborative process, has generated the need to include more detailed information than what is generally provided during scoping. However, it should be understood that, based on comments received during scoping and additional field work and analysis conducted by specialists after scoping, some aspects of the proposed action and/or preliminary resource conclusions described here could change prior to a decision being signed.

The Forest Supervisor and I would like to thank those of you that have participated in collaboratively developing the project so far. The collaborative process started with a public meeting in Bozeman, MT (August 30, 2017) followed by a field trip to the project area and some previously treated areas. This was followed by another public meeting/open house on October 3, 2017 to provide information on the how the proposal changed during the collaborative process and to accept additional feedback.

Following scoping and prior to signing a decision, another public meeting may be held to let participants know how scoping feedback was considered and to take any additional input on design features/mitigation measures or monitoring requirements that should be considered prior to signing the decision. Should another meeting be held, information will be sent to the project mailing list, posted to the project webpage and sent to local media.

Thank you for taking the time to review the actions proposed for this project. If you have any questions, please direct them to Teri Seth, Project Leader, or the Acting District Ranger at 406-522-2520.

Sincerely,

A handwritten signature in blue ink, appearing to read "B. C. Roberts". The signature is stylized with a large initial "B" and a cursive "C" and "R".

BRUCE ROBERTS
Acting District Ranger

Enclosure: Proposed Action Document

Scoping Proposed Action for North Bridger’s Forest Health Project

Table of Contents

Overview of the Project Area	1
Conditions Observed in the Project Area.....	2
Purpose & Need.....	5
Proposed Action	6
Proposed Activities	7
Preliminary Resource Effects Analysis.....	8
Use of Insect & Disease Infestation Categorical Exclusion (CE).....	8
Requirements and Limitations for Use of the CE	9
Preliminary Extraordinary Circumstance Conclusions.....	9
Other Wildlife Considerations	12
Other Resources	14
Consideration of Cumulative Effects	14
How to Submit Comments during Scoping	15
APPENDIX A: Vegetation Management Treatment Descriptions, Summary and Map.....	A-2
APPENDIX B: Draft Design Criteria.....	B-1
APPENDIX C: How the 2014 Farm Bill Amended HFRA	C-1

Overview of the Project Area

The North Bridger Forest Health Project is located approximately 13 miles northeast of Bozeman, MT in the Bridger Mountains (see Figure 1: Project Vicinity Map). The project area is approximately 10,200 acres in size. Treatments/activities are proposed on approximately 2,300 acres. The project area lies entirely within Gallatin County in Montana. Specifically, the project lies within the following township and range sections: T2N R6E Sections 22, 23, 24, 26, 27, 35, 36; T2N R7E Sections 30-32; T1N R6E Sections 11, 12, 13, 24; T1N R7E Sections 5, 7, 8, 9, 14, 16, 18, 20-23 . While there are non-Forest Service lands in the vicinity and within the project area, activities proposed for this project would only occur on National Forest System (NFS) lands.

The North Bridgers project area was designated part of an insect and disease treatment program in accordance with Title VI, Section 602, of the Healthy Forest Restoration Act (HFRA), as amended by Section 8204 of the Agriculture Act (Farm Bill) of 2014. For additional information on how the 2014 Farm Bill amended HFRA and areas designated, see Appendix C. To be designated, areas must be:

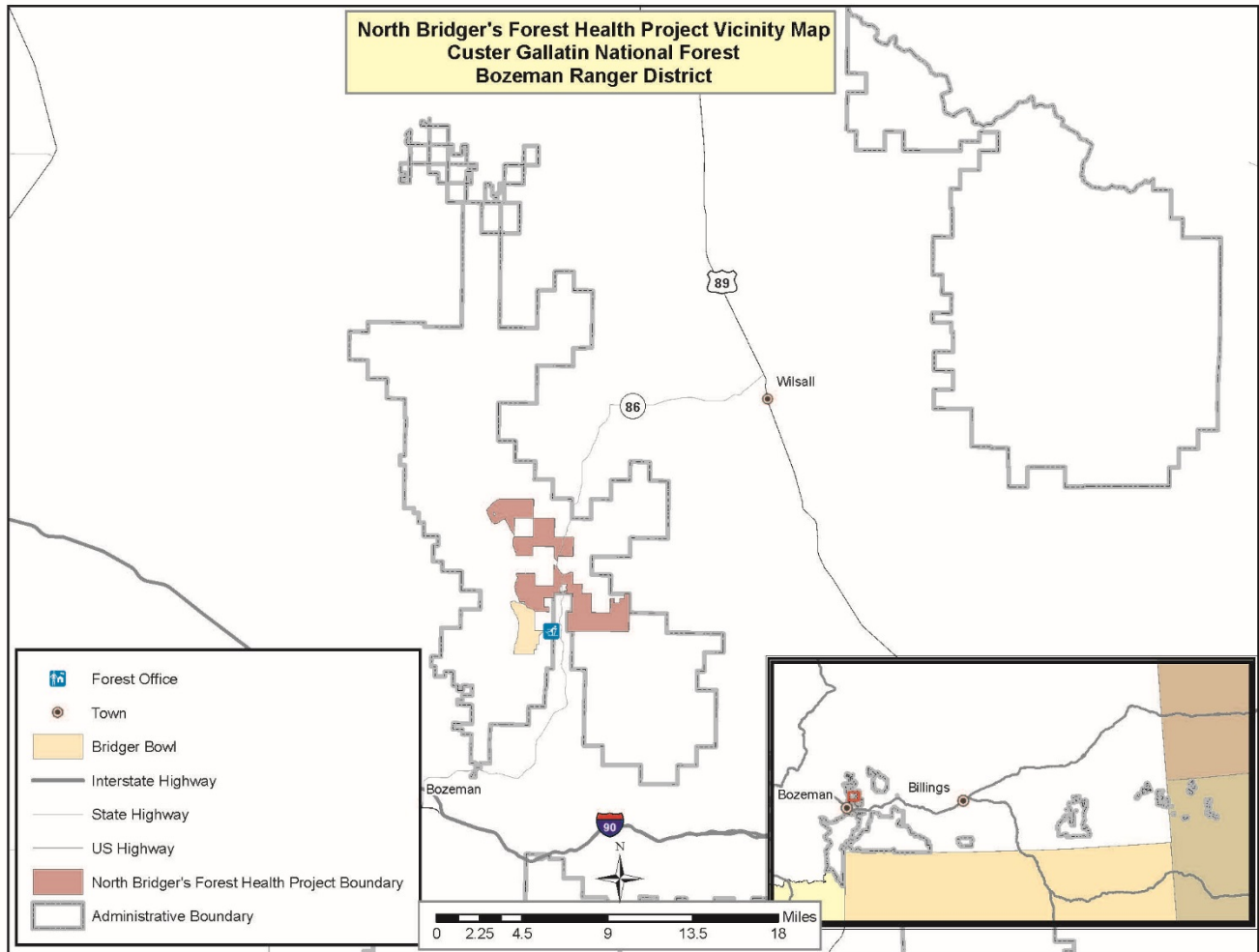
- Experiencing declining forest health, based on annual forest health surveys conducted by the Secretary;
- At risk of experiencing substantially increased tree mortality over the next 15 years due to insect or disease



infestation based on the most recent National Insect and Disease Risk Map published by the Forest Service;
or

- In an area in which the risk of hazard trees poses an imminent risk to public infrastructure, health or safety.

Figure 1. Vicinity map of the Project Area.



Conditions Observed in the Project Area

Vegetation Conditions

During the summers of 2016 and 2017, a silviculturist surveyed stands in the project area to assess the severity and types of insects and diseases impacting the stands, as well as assess hazardous fuel conditions. A silviculture crew conducted exams to evaluate old growth conditions and general stand condition.. Additionally, in June 2016 a forest pathologist and forest entomologist from the Missoula Field Office of the U.S. Forest Service Northern Region Forest Health Protection Group visited the project area to observe and document the forest health conditions. The following insects or diseases are present in the project area.

Douglas-fir bark beetle (*Dendroctonus pseudotsugae*)

Past Douglas-fir bark beetle (DFB) activity has caused mortality in the project area as shown in Figure 2. National

Forest Insect and Disease Risk Assessment data show that as much as 90% of the Douglas-fir in the project area is at a size and density that is moderately to highly susceptible to DFB attack (Egan and Lockman, 2016). There is also the potential for a severe and widespread DFB outbreak. Vegetation within the project area is susceptible to further insect activity based on conditions observed.

For a severe and widespread DFB outbreak to occur in this area three conditions are required:

1) susceptible host, 2) beneficial climate/weather, and 3) exposure to bark beetle population pressure. Currently host conditions are susceptible and it can be assumed another severe drought period will occur during the management horizon of this project. If a catalyst (wildland fire, windthrow event, or other disturbance) were to occur and increase DFB populations to epidemic levels during a period of beneficial climate (most commonly a protracted drought period), estimated mortality levels in Douglas-fir would range from 50-80% basal area loss.

Figure 2. These photos were taken near Battle Ridge. The forest stands show signs of mortality and defoliation from Douglas Fir Beetle and Western Spruce budworm.



Figure 3. Forest stands in the project area exhibiting western spruce budworm defoliation

Western spruce budworm (*Choristoneura freeman*)

This area has experienced persistent insect activity including a western spruce budworm (WSB) outbreak that caused defoliation, crown dieback, and small tree mortality. Forest health aerial survey data show that western spruce budworm (WSB) has been chronic in the project area since 2003, defoliating Douglas-fir, Engelmann spruce, and subalpine fir (Egan and Lockman, 2016). Forested stands with these species remain susceptible to continued WSB attack and defoliation, especially in dense stands with multiple canopy layers. WSB can cause crown dieback, reduce growth rates and tree vigor, and increase physiological stress, which in large Douglas-fir can increase susceptibility to DFB similar to Figure 2. WSB can and has caused mortality in understory canopy layers as indicated in Figure 3.

Mountain pine beetle (*Dendroctonus ponderosae*) and lodgepole pine dwarf mistletoe (*Arceuthobium americanum*)

Lodgepole pine in the project area experienced a mountain pine beetle (MPB) outbreak in 2007-2010 with most stands having some level of past mortality. Still, severe mortality is possible within limited, individual stands with many stands rating at moderate to high susceptibility of MPB attack. Although it is somewhat unlikely for a widespread MPB outbreak to occur due to the relative lack of lodgepole pine in the project area, lodgepole pine stands present could experience over 90% mortality if an outbreak happened (Egan and Lockman, 2016).

Lodgepole pine dwarf mistletoe (DMT) is present in much of the project area. This parasitic plant causes physiological stress, growth loss, general decline, and potential mortality in host trees with severe DMT infections. Additionally, DMT infection spreads to young lodgepole pine and prevents or delays these small trees from replacing the existing larger pine.

Root rots: Tomentosus (*Onnia tomentosa*) and schweinitzii (*Phaeolus schweinitzii*)

These rots have been documented in several Douglas-fir stands within the project area, although they can also affect other conifers. Both diseases are not aggressive tree killers; rather, they are generally slow acting and result in gradual weakening and progressive physiological stress in host trees. They can also increase the host trees' susceptibility to windthrow. These agents are diseases of the site and there is no practical way to eliminate them from an infected site.

Figure 4. A) Defoliation from western spruce budworm; B) Dwarf mistletoe in lodgepole pine stand; C) Tomentosus root rot similar to the project area.



The treatments proposed would reduce the risk or extent of, or increase resilience to, insect or disease infestations in the project area by improving resiliency of stand structure, function and composition.

Aspen Health

Aspen exists throughout the project area in scattered, small clones. A majority of the aspen stands that were surveyed show a lack of sprouting, a general decline in the health of the stand, and moderate to extensive colonization by conifers. Aspen thrive only if they are able to obtain the proper combination of sunlight, soil warmth, and adequate soil moisture. Conifer removal through mechanized harvest can create the proper growth environments to improve aspen health and promote aspen sprouting and clone expansion (Sheppard, 2001; Jones et al., 2005).

Hazardous forest fuels

The project area is located within the wildland urban interface (WUI) as defined in the Gallatin County Community Wildfire Protection Plan (GC CWPP-2006). The majority of proposed treatments are bordered by a private land boundary within ½ - 1 miles. Firefighter and public safety is the number one concern related to wildland fires. Wildland fire suppression in WUI can be uniquely hazardous. Hazards may include structures (homes, outbuildings), access (or lack thereof), power lines, propane tanks, and septic systems to name a few. Even though

many of the adjacent private land owners have thinned their forest vegetation, there is a possibility of a fire start spreading from private property onto the Forest or vice versa.

During field reviews by the fuels management specialist, he observed that the insects and diseases noted above are killing and/or weakening trees in many forest stands in the project area. This causes elevated levels of surface fuels on the forest floor and creates small openings in the upper forest canopy where understory trees can grow and develop into “ladder fuels”. The high surface fuels, along with the ladder fuels, can create conditions where surface fires can jump into the upper crowns and spread from crown to crown, called crown fires. Surface fires that transition to crown fires are usually wind driven and the most difficult to attack and most dangerous to suppress. High rates of spread and spotting ahead of the main fire are common. Firefighting tactics are often not effective in those conditions. Modifying the fuel structure would allow fire managers to use more effective suppression tactics. The proposed treatments would help to break up the continuous fuels across the landscape that can help limit large fire growth and uncharacteristic fire behavior. The project would provide for more effective and safer firefighting response, especially in the WUI.

Wildlife Habitat Conditions

Throughout summer and fall of 2016 and 2017, the wildlife biologist assessed habitat conditions in the project area. There have been ongoing discussions and meetings with the Montana Fish, Wildlife, and Parks biologists for this area. Those discussions mainly focused on big game considerations. All three of the Elk Analysis Units (EAUs) identified in the project area currently meet Forest Plan standards for hiding cover. Treatments could open up areas and improve summer big game forage, which would reduce cover but still maintain 2/3 of Douglas-fir, lodgepole pine, and subalpine fir stands in a cover condition in the Elk Analysis Units in the project area (as required by the Forest Plan). Goshawk habitat was observed and surveyed within the project area during the spring and summer of 2017. No nests were found this year; however, design features would protect raptor nests that may be found during implementation. Surveys will continue in proposed treatment units next spring and summer. Other species, including some migratory birds, will benefit from treatments that reduce older stands and provide edge habitat and earlier successional stages within the project area. Aspen stands are present in the project area. Aspen stands have experienced varying degrees of conifer encroachment. Aspen is a deciduous tree that contributes to ecological diversity, supports a variety of plant associations, and provides habitat for many species of wildlife. Aspen and riparian areas are considered the most biologically diverse communities in the West (USDA FS 2014).

Watershed Conditions

Although much of the proposed project area was effected by past land management activities, primarily logging during the 1960's – 1980's, watershed conditions have recovered substantially since that time. Recent modeling of stream sediment yield, which is a principal water quality indicator in forest watersheds, shows existing sediment yield to range from 5-11% above “natural” conditions in project area watersheds. This sediment yield is likely well within the natural range of variability of historic levels, fluctuations of which would have been caused by natural disturbances such as wildfire and floods. The 2006 Forest Travel Plan directed management of the forest roads and trails within the project area including designation of motorized routes and seasonal route closures for resource protection. This paved the way for decommissioning of excess roads, approximately 17 miles have been decommissioned since that time. Stability assessments of streams within the project area conducted in 2016 and 2017 found the majority to have good stability, with only two streams rated at fair stability and no streams rated as poor. A number of design features would be employed within the project to prevent/mitigate water quality impacts. Several areas identified to be particularly susceptible to water quality impacts have been identified and specific design measures prescribed to mitigate impacts in those locations are already incorporated.

Purpose & Need

Based on observed existing conditions, and other supporting information including annual insect and disease aerial detection surveys, national insect and disease risk maps, the community wildfire protection plan, the Gallatin Forest Plan and input from local community members there is a need to:

- Respond to the designation under the 2014 Farm Bill of the North Bridger landscape as an area susceptible to insect or disease threats;
- Reduce the susceptibility of vegetation to subsequent insect and disease activity;
- Minimize tree mortality that would contribute to surface fuel loading;
- Minimize fuel load levels in the wildland urban interface;
- Supply forest products to support local economies and industries.

The purpose of action, developed in coordination with the North Bridger Forest Health Collaborative Group, is to:

- Reduce the risk or extent of, or increase resilience to, insect or disease infestations in the project area by improving resiliency of stand structure, function and composition;
- Promote aspen regeneration by reducing conifer encroachment;
- Reduce hazardous wildland fuels in the wildland urban interface in order to change fire behavior near infrastructure and private property, which would reduce threats to values at risk and improve firefighter and public safety;
- Provide forest products to support the local economy.

Proposed Action

Process for Developing the Proposed Action

Silviculturists and foresters reviewed existing data sources and surveyed the project area to identify potential priority areas for treatment. The following conditions precluded areas from or helped to prioritize some areas for consideration. First we considered the requirements and limitations for use of the categorical exclusion (CE) as discussed on page 9. Areas where there is past harvest in management area (MA)11 (which emphasizes forested big game habitat and timber management) were eliminated from consideration to avoid possible conflicts with forest plan direction related to elk cover. Areas in close proximity to developed recreation sites like Bridger Bowl, Cross Cut Ranch and campgrounds were prioritized for treatment due to the desire to maintain healthy forest cover around those areas and to provide for human safety as it relates to hazard trees and wildfire risk. All treatment units that had the potential to be old growth were evaluated either by a stand exam crew or silviculturist to determine whether they met the old growth characteristics in Green et. al. 2011. When proposed units met old growth criteria, the unit was eliminated from treatment consideration or the treatment was tailored to retain old growth character.

Proposed treatment areas were presented to the North Bridger Forest Health Collaborative Group on 30 August 2017 at a meeting and field trip. Initial pre-scoping comments after that meeting were collected along with initial internal review of the proposed treatment areas to develop a preliminary proposed action. The preliminary proposed action was shared with the collaborative group and other individuals on 3 October 2017 at a North Bridger Forest Health Project open house. The Bozeman District Ranger made it clear at the first collaborative group meeting on 30 August 2017 that the Responsible Official was not seeking consensus around a proposed action and would not rely solely on any single individual or group perspective, but that feedback and input would be equitably valued and considered.

In response to feedback received during the collaborative process up to this point (prior to scoping), the interdisciplinary team has already taken or is taking the following actions:

- Unit 55 was dropped at the request of Bridger bowl management because the units was within their special use permit boundary.
- Units 61, 62 and associated temporary road were dropped for watershed and recreation concerns.
- Unit 51, 52, 53 were modified or dropped due to watershed concerns.

- Units 3, 4, 10 and 48 were modified or dropped because of moose habitat and big game concerns as expressed by MT Fish, Wildlife and Parks.
- Collaborators expressed support for design features related to soils, revegetation, weed control, watershed, temporary road locations and wildlife which will be a part of the decision (Appendix B).

As stated above, preliminary treatment areas and temporary road locations were adjusted based on initial feedback from the 30 August 2017 meeting. Additional adjustments and modifications to the preliminary proposed action were made in response to the 3 October 2017 public open house and prior to public scoping.

Proposed Activities

Vegetation management, fuels management and road management activities are proposed for this project. As with all projects on national forest system lands (NFS) the actions proposed must comply with law, regulation and policy, including the Gallatin Forest Plan (as amended). The project, as designed, would be consistent with direction.

Approximately 2,296 acres are proposed for vegetation treatment. Vegetation management activities include intermediate treatments and regeneration harvests. See **Appendix A: Vegetation Management Treatment Descriptions, Summary and Map** for more detailed treatment descriptions. These are the same types of activities discussed during the field trip to the project area and at the public meetings. Regeneration harvest areas would be restocked with trees within five years of harvest, either by natural regeneration or planting of seedlings. Younger stands of smaller trees comprise 519 acres of thinning treatment and the remaining 1,777 acres of treatment are in stands with saw timber size trees. Treatments have been designed to minimize the potential for blowdown, however, because of the prevalence of root rot in the area, blowdown risk may still exist. Therefore, in all treatment units containing Douglas-fir an additional entry may be required to remove blowdown material to limit increases in Douglas-fir bark beetle populations. Salvage (removal of dead trees, described in **Appendix A**) may be conducted in any saw timber treatment unit. Trees smaller than saw timber size may be cut or removed in saw timber units, either in conjunction with the timber sale or as a follow-up activity.

Vegetation management activities described in Appendix A, which includes **Table 3. Proposed Treatments, Acres and Logging System** and **Figure 5. Proposed Treatment Units and Transportation System Map**. **Table 1: Acres of Treatment by Silvicultural System** is a treatment summary. These treatments would address all aspects of the purpose and need.

*Table 1. Acres of Treatment by Silvicultural System**

Treatment type	Acres
Even-aged (clearcut, patch cut, overstory removal)	680*
Uneven-aged (group selection)	87*
Intermediate (thinning, aspen, precommercial, sanitation)	1,529
Total	2,296

* A portion of these acres are thinning acres. For example, if a proposed treatment is "Patch cut/Thin," then thinning would occur in the portions of units not patch cut.

Farm Bill criteria includes "maximizing old growth and large trees to the extent the trees promote stands that are resilient to insect and disease threats". Potential treatment stands were surveyed for old growth, and units were dropped from the proposed action if treatments intended to increase resilience to insect and disease threats would take the stand out of old growth character. About 212 acres of old growth forest would be treated and would retain old growth characteristics (Green et. al. 2010) post treatment.

In all other units, treatments promote large trees to the extent possible while still meeting the purpose of “reducing the risk or extent of, or increase resilience to, insect or disease infestations in the project area.” However, for many insect threats in the project area, large trees are the preferred hosts and treatments intended to meet the purpose and need involve removing large trees. This is especially true for large Douglas-fir which are considered “high hazard” for Douglas-fir bark beetle and is present across so much of the project area that there is a risk of a large scale outbreak of the insect (Kegley, 2005; Egan and Lockman, 2016).

Whole-tree yarding would be used in the majority of sawtimber treatment units (except skyline units). This method gets most of the activity fuels out of the woods to a landing which would then be burned. Other follow-up fuels activities may be required and would include: slashing, broadcast burning in regeneration harvest units, lop and scatter, crushing, yarding of dead and down material, and/or hand- or machine-piling and burning. Treatments in young stands may have fuels masticated or hand-piled and burned. The desired condition for surface fuels would be to leave no more than 15 tons per acre of large woody debris (3” diameter or greater) in treatment areas. Areas being broadcast burned may have burn boundaries that extend beyond the cutting unit boundary in order to take advantage of natural and man-made features such as ridgetops and roads. This helps to facilitate the efficiency and safety of the burning and holding operations.

Road management activities are needed to provide safe access and to facilitate log removal (e.g. maintenance, reconditioning, reconstruction, temporary road construction). Temporary roads are anticipated to be constructed and proposed locations are identified in *Appendix A. Proposed Treatment Units and Transportation System* map. Approximately nine miles of temporary road would be needed to access the proposed units. These roads must be decommissioned within three years of the project being completed. No permanent roads would be constructed.

Preliminary Resource Effects Analysis

Use of Insect & Disease Infestation Categorical Exclusion (CE)

The Council of Environmental Quality (CEQ) regulations provide for categorical exclusions (CEs) to implement the National Environmental Policy Act (NEPA) for the purpose of reducing delay and paperwork. CEQ regulations allow Federal agencies to exclude from documentation in an Environmental Assessment (EA) or Environmental Impact Statement (EIS) *categories of actions* that do not individually or cumulatively have a significant effect on the human environment. Based on the Agency’s experience and knowledge, the responsible official can conclude that if the action fits within an identified category and analysis shows there are no extraordinary circumstances, then the action would not have significant effects.

Resource conditions that should be considered in determining whether extraordinary circumstances related to a proposed action warrant further analysis and documentation in an EA or EIS are:

- (i) Federally listed threatened or endangered species or designated critical habitat, species proposed for Federal listing or proposed critical habitat, or Forest Service sensitive species;
- (ii) Flood plains, wetlands, or municipal watersheds;
- (iii) Congressionally designated areas, such as wilderness, wilderness study areas, or national recreation areas;
- (iv) Inventoried roadless area or potential wilderness area;
- (v) Research natural areas;
- (vi) American Indians and Alaska Native religious or cultural sites; and
- (vii) Archaeological sites, or historic properties or areas.

The **mere presence** of one of these resource conditions in the project area **does not preclude use of a CE**. It is the **existence of a cause-effect relationship** between a proposed action and the potential effect on these resource

conditions and if such a relationship exists, the **degree of the potential effect** of a proposed action on these resource conditions **that determine whether an extraordinary circumstance exists**.

A preliminary assessment indicates that the actions proposed for this project fall within a category of action authorized under Section 603 of the Healthy Forest Restoration Act (and also found in FSH 1909.15 Ch. 30, Section 32.3 – Categories Established by Statute, #3. Insect & Disease Infestation) that is excluded from documentation in an Environmental Assessment (EA) or Environmental Impact Statement (EIS).

Requirements and Limitations for Use of the CE

The Insect & Disease Infestation category is applicable for this project because:

- ✓ The project is in an area designated in accordance with section 602(b) and (c) of the Healthy Forest Restoration Act.
- ✓ The entire project area is in the Wildland Urban Interface.
- ✓ The project is **not** located: in congressionally designated Wilderness and Wilderness Study Areas; in areas where the removal of vegetation is restricted or prohibited by statute or by Presidential proclamation; or in areas where the activities described above would be inconsistent with the applicable Land and Resource Management Plan.
- ✓ The project's number of acres **treated** will not exceed 3,000 acres.
- ✓ The project does not include the establishment of permanent roads. Additionally, if any temporary roads are constructed they will be removed no later than three years after the project is completed.
- ✓ The project is being developed and implemented through a collaborative process that includes multiple interested persons representing diverse interests and is transparent and non-exclusive.
- ✓ The best available scientific information is being considered to maintain or restore ecological integrity, including maintaining or restoring structure, function, composition and connectivity.
- ✓ The project maximizes the retention of old growth and large trees, as appropriate for the forest type, to the extent that the trees promote stands that are resilient to insect and disease.
- ✓ Public notice and scoping is being conducted.

Preliminary Extraordinary Circumstance Conclusions

Resource considerations of the types and location of actions proposed, design features to be applied, and/or previous monitoring of similar actions indicates that the degree of potential effect from the proposed action to the following resources is expected to be no effect or minimal effect, resulting in no extraordinary circumstances.

❖ Federally listed Threatened, Endangered and Sensitive Species or designated critical habitat

Threatened Species

Canada Lynx: May Affect, But Is Not Likely To Adversely Affect - The Bridger Mountains contain some boreal forest types that provide suitable habitat for lynx, but lynx habitat is patchy and interspersed with drier montane forest types and non-forest areas. The project area is within the Bridger/Bangtails lynx analysis unit (LAU). LAUs are typically larger in less contiguous, poorer quality or naturally fragmented habitat. The Bridger/Bangtails LAU is 151,250 acres. The Bridger's are considered unoccupied secondary habitat. Lynx habitat was classified using the definitions from the NRLMD ROD. Lynx habitat in the Bridger/Bangtails LAU contains a broad spectrum of structural conditions ranging from the early stand-initiation stage to mature multi-storied stands. The majority of lynx habitat in the LAU (56%) fell into the "other" category, which does not currently provide snowshoe hare foraging habitat. Areas proposed for treatment were overlaid with

potential lynx habitat to assess impacts to habitat. Most **proposed treatment acres** also fell into the “other” category of lynx habitat. The project complies with the Northern Rockies Lynx Management Direction (NRLMD) as amended into the Gallatin Forest Plan. The project area is located in a wildland urban interface (WUI) identified in the Gallatin County Community Wildfire Protection Plan and treatments provide a fuels benefit.

Canada Lynx Critical Habitat: No Effect – The project lies entirely outside the critical habitat boundary. Therefore, the project would have no effect on the primary constituent elements of designated critical habitat.

Species Proposed for Listing or Proposed Critical Habitat

Wolverine: Would Not Jeopardize the Continued Existence of the DPS of the Species – There have been verified sightings of wolverines in the project area. It is recognized that project activities may have a negative impact on individual wolverines and/or their habitat, but not to the point where the species’ existence is jeopardized. Proposed activities would not jeopardize the continued existence of the distinct population segment (DPS) of the North American wolverine because:

- The projects would not contribute to the identified Primary or Secondary threats to the wolverine DPS (climate change, inadequate regulation of climate change, harvest, and small population size);
- None of the proposed activities are considered a threat to the DPS;
- The individual project activities and cumulative actions would result in relatively small-scale disturbances in relation to the large wolverine home range size. Wolverine are able to adjust to and co-exist with moderate levels of disturbance;
- The projects and cumulative effects would not result in barriers to dispersing individuals.

Forest Service Sensitive Species

No Impact (NI) to the following species

Bald Eagle, Harlequin Duck, Townsend’s Big-eared Bat, Trumpeter Swan, Bighorn Sheep – Not currently known or suspected to be present in the project area, and there are no treatment units that would impact essential habitat in the project area.

All Forest-listed sensitive plant species except Whitebark Pine: Habitat components for the all sensitive plant species listed for the Forest except Whitebark Pine do not exist within the proposed treatment areas. As a result, no effects would be anticipated.

Grizzly Bear: There have been no verified sightings or other documented detections (e.g. tracks, DNA samples, photos with landmarks) of grizzly bears in the Bridger or Bangtail Mountain Ranges for several decades. The US Fish and Wildlife Service does not indicate that grizzly bears may be present north of Interstate 90 on the Custer Gallatin National Forest. The proposed action is in an area that may prove suitable as a travel corridor for grizzly bears between the Greater Yellowstone Ecosystem and the Northern Continental Divide Ecosystem in the future. Implementation of the project is not expected to result in any impediments or barriers to grizzly bear movement. Therefore, the proposed action would have no effect on grizzly bears.

Northern Leopard Frog - are riparian area dependent and thought to occur within the project area. They have been documented just east of the project area within the same elevation band and riparian vegetation type. They have not been documented within the project area, but that doesn’t mean they are not present. Since proposed treatments units do not include streams, ponds, wetlands and/or associated riparian vegetation, the proposed like would have “No Impact” on this species.

May Impact Individuals or Habitat (MIIH), But Would Not Likely Contribute To A Trend Towards Federal Listing Or Cause a Loss of Viability To the Population or Species for the following species:

Peregrine Falcon – Transient individuals have been observed in the project area. Not currently known to breed in the project area. The nearest known eyrie is located several miles north of the project area. Potential nesting cliffs are present in the Bridgers, but are not closely associated with any proposed treatment units.

Black-backed Woodpecker, Flammulated Owl – Not currently known or suspected to be present in the project area. However, habitat is present in the project area and some habitat may be impacted during implementation.

Gray Wolf – Gray wolves are habitat generalists, and make use of a variety of habitat types throughout the course of their lives. Big game winter range is a key component of wolf habitat. Wolves are known to occur in the vicinity. The project area provides habitat for big game species, which would be the primary attraction for wolves. Reducing the forest canopy could stimulate forage production in treatment units, which could attract big game species in summer/fall, but is not expected to notably change the character of the project area for big game use, or associated use by wolves. Reductions in forest canopy due to proposed treatment would impact winter range for moose and deer that use the area, but would not notably affect wolves, since wolves would key in on other parts of big game winter range.

Boreal Western Toad – are located throughout the project area. Toads are typically wide spread from wetlands to uplands. Toads bask on road prisms during dusk and dawn hours. There is a potential for incidental mortality of individual toads from heavy equipment use.

Yellowstone Cutthroat Trout - Potential concerns for Yellowstone cutthroat trout from vegetation manipulation and associated treatment activities (construction of temporary roads, hauling, skidding, and landings) include: soil disturbance resulting in increased erosion and transport of sediment; and changes to water yield and flow duration and magnitude. Vegetation treatment unit layout and design criteria are being developed to mitigate these potential concerns and have proven effective on past Custer Gallatin National Forest vegetation management projects. It is anticipated that a small amount of sediment would be generated from project-related activities and enter the stream channel, particularly at road crossings. However, the amount of sediment is expected to be immeasurable compared to background levels and associated impacts to stream habitat would be short lived.

Whitebark Pine (WBP) (*Pinus albicaulis*) - WBP is a Northern Region sensitive species, as well as candidate species under the Endangered Species Act. The primary threats to the species are white pine blister rust, mountain pine beetle, altered fire regimes and habitat loss due to climate change. Habitat for WBP is found at higher elevations in the project area but not where treatments are proposed. Scattered individual mature WBP were observed in treatment units 1, 2 and 5. These units are subalpine fir habitat types. No WBP of seedling or sapling size were observed during stand exams or walkthroughs. WBP, where it exists in treatment units, would not be designated for removal and would be protected from damage as called for in project design features. Since WBP would be protected from impacts and because treatments are not proposed in whitebark pine habitat types, treatments in these units may impact individuals but would not contribute to a trend towards federal listing or cause a loss of viability to the population or species.

❖ **Flood plains, wetlands or municipal watersheds**

Minimal Effect – Riparian areas would be avoided and the buffers applied for streams and unclassified incised draws according to Table 4 in Appendix B. It is expected that project related sediment impacts to stream channels, floodplains, and wetland areas would be negligible with the application of planned buffers and use of best management practices (Appendix B).

❖ **Congressionally designated areas, such as wilderness, wilderness study areas, or National Recreation Areas**

No Effect – There are no wilderness, wilderness study areas, or national recreation areas in or near the project area; therefore no activities are proposed in these designated areas.

❖ **Inventoried roadless areas (IRA) or potential wilderness areas; Research Natural Areas**

No Effect – There are no potential wilderness or research natural areas (RNAs) in close proximity to the project area or proposed activities therefore there would be no impact to these areas. There is a roadless area in proximity to the project area boundary in several locations, but no project related activities are proposed inside or adjacent to the roadless area boundary so there would be no effect to roadless areas.

❖ **American Indians and Alaska Native religious or cultural Sites; Archaeological sites, or historic properties or areas**

No Effect – Surveys were completed on all units being proposed for treatment. Two identified sites were avoided through unit delineation.

Other Wildlife Considerations

Management Indicator Species

Presence of and potential habitat for some **Management Indicator Species (MIS)** are known to occur in the project area. MIS species for the Custer Gallatin National Forest, as identified in the Gallatin Forest Plan, include Rocky Mountain elk, American marten, northern goshawk and wild trout, all of which are known to occur in the project area. Grizzly bear and bald eagle are also MIS but were discussed in the previous section under “sensitive species” (p. 10).

Elk – There may be short term individual impacts, but these would be minor and temporary and have no impact on populations forest-wide. The proposed treatments would likely have some short-term negative impacts on big game in the project area resulting from habitat alteration due to reductions in cover, as well as short term disturbance impacts due to noise from equipment and human presence. Not all the units would be treated at the same time, so disturbance would be spread out over time and space. These impacts may affect individual animals, but are not expected to affect population levels for elk (MIS), or other big game (moose and mule deer) across the Forest. Elk populations have consistently been maintained at or above state population objectives in the project vicinity. Moose and deer populations have experienced fluctuations at local and regional scales, due to a variety of complex ecological factors. The major impact to deer and moose under the proposed treatments would be a reduction in hiding and thermal cover. While reductions in cover are not always desirable, they are already occurring due to forest health concerns (insect and disease activity). Proposed treatments are designed to reduce tree mortality from insects and improve overall forest health in the project area. The proposed action, while having some short-term negative impacts, would benefit elk and other big game species by maintaining habitat integrity and providing cover to a higher degree than is expected if no treatments were to occur.

Northern Goshawk – There may be short term individual impacts, but these would be minor and temporary and have no impact on populations forest-wide. Goshawks are identified in the Forest Plan as indicators for mature forest related species. Goshawks use large landscapes, integrating a diversity of vegetation types over several spatial scales to meet their life-cycle needs. This species has shown a pattern of nest site selection in mature forests with closed canopy and open understory, but is considered a forest habitat generalist at larger spatial scales. There is potential nesting and foraging habitat for the northern goshawk in the project area, but nesting activity was not detected in any of the units. Individual northern goshawk were noted during surveys in the project area. Proposed treatments can alter forest habitat and thus affect suitability as nesting, post fledging, and foraging habitat for goshawks. Habitat modification resulting from proposed treatment would

affect suitability for nesting habitat by reducing canopy closure. Proposed treatment would alter foraging habitat as well. Some treatments may not change the overall size class of trees in the units, but would reduce canopy cover and horizontal structure in treatment units, which could affect prey species composition, distribution, and abundance. Also, because the habitat of many prey species is linked to structural components such as snags and down wood, changes in these habitat components could affect goshawk prey species composition and availability. Snag and down woody debris management direction would be followed to maintain a proportion of these components within proposed treatment units. Indirect effects of proposed treatment are anticipated as a result of overall improved health of individual forest stands. Over time, remaining healthy trees would grow larger, increasing canopy cover in treatment units.

American Marten – Marten are identified in the Forest Plan as indicators for mature forest related species. There may be short term individual impacts, but these should be minor and temporary and have no impact on populations forest-wide. Martens are found in a variety of successional stages in coniferous habitat throughout the Custer Gallatin National Forest, although they appear to be more abundant in cool, moist types. Martens select for late-successional forest types with complex structure and abundant coarse woody debris on and near the ground. Marten are known to occur in the Bridger and Bangtail Mountain Ranges. There are four records in the Montana Natural Heritage Program data for marten in the Bridger and Bangtail Mountains since 2001. The project area contains some areas with cool, moist, mature forest conditions preferred by marten. Natural processes and past land management activities have influenced the existing forest structure pattern within and adjacent to the project area. Commercial timber harvest alters habitat structure by removing overhead cover and coarse woody debris. In the project area, overhead cover has been and is currently declining due to insect and disease activity and resulting live tree mortality. Harvest is targeted to reduce tree mortality from insect and disease activity and improve overall stand health. Under the proposed action, snag management and coarse woody debris direction would be implemented to retain a proportion of standing dead trees and down logs, which are important components of marten habitat. Snag and downed wood levels would meet Forest Plan standards following implementation in the project area.

Wild Trout – There may be short term individual impacts, but these should be minor and temporary and have no impact on populations forest wide.

Migratory Birds

Management direction for conservation of migratory bird species primarily falls under the umbrella of the Migratory Bird Treaty Act (MBTA). Under the MBTA it is unlawful to take, kill or possess any migratory birds, except as regulated by authorized programs. Vegetation management on NFS lands is an authorized program. Mitigation measures are recommended to minimize incidental take of migratory bird species. Executive Order 13186 requires agencies to evaluate the effects of federal actions on migratory birds with emphasis given to species of concern and to weigh the long-term benefits of projects against any short-term adverse effects. This executive order also calls for agencies to develop bird conservation principles, measures, and practices into agency activities and by avoiding or minimizing, to the extent practicable, adverse impacts on (and unintentional take of) migratory birds when conducting agency actions and to restore and enhance the habitat of migratory birds, as practicable.

Given the extreme variation in habitat needs across the spectrum of migratory bird species that may use the project area at some point, habitat modification resulting from the proposed action could have negative impacts on some individual birds while at the same time benefiting others. However, considering existing and predicted impacts from insect and disease activity, habitat modification is occurring and expected to continue at a noticeable rate in the project area. Noise and disturbance from equipment and increased human presence associated with the proposed action would have negative impacts on birds of species likely to be present. Considering the geographic scale and the limited temporal scale (not all treatments would occur at once), neither habitat alteration nor disturbance impacts are expected to affect (positively or negatively) the numbers of birds that would have impacts at the population level for any of the migratory birds species that may be affected. The end results of the proposed treatment units differ and would have negative impacts on some

species and benefit others. However, widespread insect and disease activity in the project vicinity has produced an abundance of beetle-killed forest and insect prey base. The proposed action would help preserve old and young live trees in some of the proposed treatment units, maintaining habitat diversity rather than promoting homogeneity associated with widespread mortality of older forest. Habitat diversity benefits migratory birds because of the wide range of habitat conditions required by this diverse group of species.

Management Area 7 consists of riparian areas, with a standard to maintain suitable habitat for birds. Riparian areas provide important habitat for a large proportion of migratory bird species. Habitat within riparian areas would be protected through the application of buffers discussed on page C-5. Gallatin Forest Plan Amendment No. 15 provides direction for management of snags and coarse woody debris to accommodate the needs of cavity nesting birds. The proposed action includes these design requirements (p. C-1).

Other Resources

There are a number of other resource that have been considered and more work is yet to be done. However, Design features in Appendix B would minimize potential impacts and bring the project into compliance with applicable Forest Plan and other direction. The resources areas include: fuel reduction, heritage, invasive weeds, visuals, soils, recreation, timber management, watershed and aquatics

Consideration of Cumulative Effects

While the actions proposed for this project are categorically excluded from documentation in an EA (Environmental Assessment) or EIS (Environmental Impact Statement), resource specialists will consider cumulative effects as needed to make a final extraordinary circumstances determination that this category of actions does not individually or cumulatively have a significant effect on the human environment. Cumulative effects consider the impact on the environment which results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. Effects of past, present and reasonably foreseeable actions must overlap in *time* and *space* with the effects of the activities proposed for this project in order to be cumulative. At this time, specialists anticipate considering the following types of activities for the North Bridgers Forest health project area with regards to cumulative effects. Not all activities may need to be considered for every resource.

Table 2: Anticipated cumulative effects considerations

Activity/Event	Past	Ongoing	Reasonably Foreseeable Future
Small & Large Wildfires	X		X
Fire Suppression	X	X	X
Prescribed burn activity	X		X
Insects/Disease – Beetles, Budworm, Dwarf Mistletoe, Root Rot - Current and Predicted	X	X	X
Timber Harvests/Salvage – Private Lands	X	X	X
Timber Harvests - FS Lands including South Bridger Interface	X		
Timber Stand Improvement (Improvement cuts, Release, Pruning, Pre-commercial Thinning)	X	X	X
Site Preparation (Slashing, Dozer Piling, Dozer Trampling, Prescribed Burning, Pile Burning)	X	X	
Road Construction - Private	X		X

Activity/Event	Past	Ongoing	Reasonably Foreseeable Future
Road Construction – FS Lands	X		
Trail Construction - FS Lands	X		
Road Improvement Projects	X		X
Road and Trail Maintenance – FS and County	X	X	X
Mass Failures/Washouts	X		
FS Road Decommissioning	X		
Non-native Fish Introductions	X		
Invasive Weed Treatments	X	X	X
Residential Development	X	X	
Defensible Space Projects (Private)	X	X	X
Land Sale/Exchanges	X		
Grazing	X	X	X
Hunting	X	X	X
Battle Ridge and Fairy lake Campground maintenance and use	X	X	X
Fishing	X	X	X
Non-motorized Recreational Use	X	X	X
Motor Vehicle, ATV, and Snowmobile use on Designated Routes and Areas	X	X	X
Motor Vehicle use off Designated Routes and Areas	X	X	X
Special Forest Products Collection	X	X	X
Firewood Gathering	X	X	X
Bridger bowl Ski Area – improvements and ongoing activity	X	X	X
Cross Cut Ranch/Bohart Ski Area– improvements and ongoing	X	X	X

How to Submit Comments during Scoping

In order for scoping comments to be reviewed and considered in a timely manner, it is most helpful if comments are received by January 3, 2018, are specific to the proposed action and identify a cause-effect relationship. Comments received in response to this solicitation, including names and addresses of those who comment, will be considered part of the public record for this project and will be available for public inspection. The following options are available for submitting comments:

Electronic comments must be sent to the [Custer Gallatin National Forest's comment inbox](mailto:comments-northern-gallatin@fs.fed.us). (For those receiving a hardcopy, the email address is: *comments-northern-gallatin@fs.fed.us*.) Please be sure to include "North Bridgers" in the email subject line. An automated response should confirm your electronic submission has been received. Acceptable formats for electronic submission are text or html e-mail, Adobe portable document format (PDF), and formats viewable in Microsoft Office applications (e.g. Word).

Hardcopy comments can be mailed, hand-delivered or faxed as follows:

Mailed to:

Bozeman Ranger District, Custer Gallatin National Forest
Attn: Teri Seth
3710 Fallon St., Ste. C.
Bozeman, MT 59718

Hand delivered to: The same as “mail to” address.

Bozeman Ranger District
Front Desk (Specify comments are for North Bridgers Forest Health Project)

Faxed to (406) 522-2534. Be sure to annotate on the cover page that these are comments for the North Bridgers project, Attn: Teri Seth.

Information about the project, in addition to what is presented here, can also be found on the [Custer Gallatin National Forest Project webpage](http://www.fs.usda.gov/projects/custergallatin/landmanagement/projects) (click on North Bridgers Forest Health Project). (For those receiving a hardcopy, the Custer Gallatin National Forest Project webpage address is: [http://www.fs.usda.gov/projects/custergallatin/landmanagement/projects.](http://www.fs.usda.gov/projects/custergallatin/landmanagement/projects))

References Cited

- B.E. Jones, T.H. Rickman, A. Vazquez, Y. Sado, K.W. Tate. 2005 Removal of encroaching conifers to regenerate degraded aspen stands in the Sierra Nevada. *Restor. Ecol.*, 13 (2005), pp. 373-379
- Egan, J. and Lockman, B. 2016. Evaluation of Insect and Disease Issues for Bridger Forest Health Project Area on the Custer-Gallatin National Forest. MFO-TR-16-41. August, 2017.
- Green, P., J. Joy, D. Sirucek, W. Hann, A. Zack, and B. Naumann, 2011. Old-Growth Types of the Northern Region. R-1 SES 4/92 (errata corrected 12/11). USDA Forest Service, Northern Region, Missoula, MT.
- Kegley, S., 2011. Douglas-fir Beetle Management. USDA Forest Service Forest Health Protection and State Forestry Organizations. In: *Forest Insect and Disease Identification and Management Handbook*. Chapter 4.5.
- Shepperd, W. D. 2001. Manipulations to regenerate aspen ecosystems. pp. 355-365 In: Shepperd, Wayne D.; Binkley, Dan; Bartos, Dale L.; Stohlgren, Thomas J.; and Eskew, Lane G., compilers. 2001. *Sustaining aspen in western landscapes: symposium proceedings; 13-15 June 2000; Grand Junction, CO. Proceedings RMRS-P-18*. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. 460 pp.
- USDA, Forest Service 2014, Gallatin Forest Aspen Project Decision Memo.

APPENDIX A: Vegetation Management Treatment Description, Summary and Map

Descriptions of Proposed Vegetation Treatments

Proposed silvicultural treatments are dependent on numerous factors, including the current and desired forest vegetation conditions at the stand and landscape scales, biophysical setting, management direction and emphasis for the area, and project purpose and need for action. Silvicultural treatments proposed trend the forest vegetation toward conditions that are more resistant and resilient to disturbances and stressors. Descriptions of the proposed vegetation treatments are defined below and a list of the treatments by unit is provided in **Table 3. Proposed Treatments, Acres and Logging System** below.

There are multiple kinds of treatments proposed in the North Bridger Forest Health project area. Below are descriptions of the specific types of treatments that fall under one of two major categories:

- Intermediate
- Regeneration harvest

Intermediate treatments leave a stocked stand¹ post-treatment, while regeneration harvests leave an unstocked stand. The National Forest Management Act requires regeneration harvest areas to be stocked within five years post-treatment.

Intermediate Treatments - Intermediate treatments leave a stocked stand when completed.

Thinning

Reducing stand densities to 60-100 ft²/acre of basal area. Tree distribution would range from clumped to widely-spaced. Thinning in old growth stands would retain minimum old growth criteria as defined by Green et al., 2011. Precommercial thinning would thin small trees to a 12-22 foot spacing.

Aspen Release

Removal of conifers within 50-150' of healthy aspen clones. Fencing of clones may be required if browsing pressure is deemed to be too high.

Sanitation

Removal of individual trees infected by insect or disease where they occur in a unit to reduce actual or anticipated spread of insects or disease. The specific insect- or disease-affected trees being removed varies by unit, but is usually lodgepole pine with dwarf mistletoe or conifers with genetic spruce budworm susceptibility.

Salvage

Removal of a portion of the dead trees within a stand. Forest Plan standards of snag retention would be met.

Regeneration Harvests - Regeneration treatments seek to create a new age class, either as the only age class in a stand or as part of an uneven-aged stand. The National Forest Management Act requires stands to be restocked within five years post-treatment. Restocking would occur by natural regeneration or by planting. If planting is used, Douglas-fir would be the primary species planted.

¹Stand. A contiguous group of trees sufficiently uniform in age class distribution, composition, and structure, and growing on a site of sufficiently uniform quality, to be a distinguishable unit, such as mixed, pure, even-aged, and uneven-aged stands. A stand is the fundamental unit of silviculture reporting and record-keeping.

Stocking — A description of the number of trees, basal area, or volume per acre in a forest stand compared with a desired level for balanced health and growth.

Clearcut

Removal of almost all trees within a stand. Snags and snag recruitment trees, as directed by the Forest Plan, would be maintained.

Patch Cuts

A form of clearcutting that would have almost total tree removal over 60-80% of unit acres. Patches would range in size from 5-25 acres. Snags and snag recruitment trees, as directed by the Forest Plan, would be maintained within patches.

Overstory Removal

A form of clearcutting where advance reproduction (small trees existing in the unit) acts as the desired new generation of trees. Most overstory trees would be removed (snags and snag recruitment trees, as directed by the Forest Plan, would be maintained). The new stand would already be stocked with the existing advance reproduction. Stocking surveys would be conducted post-harvest to ensure that natural regeneration or planting is not necessary.

Group Selection

Removal of all trees in 2-5 acre groups, which in total comprise 30% of the stand. The result is the first step (or a continuation) to creating three age groups in a stand or an unevenaged stand.

Table 3. Proposed Treatments, Acres, Logging System, and Old Growth Status

Unit	Acres	Proposed Treatment Prescription	Logging System or Method
01	39	Thin	Tractor
02	13	Group selection/Natural regeneration	Tractor
05	13	Thin	Tractor
06	21	Group selection/Thin/Natural regeneration	Tractor
07	15	Clearcut/Natural regeneration	Tractor
08	32	Aspen/Thin	Tractor
09	34	Aspen/Clearcut/Natural regeneration	Tractor
10	76	Patch cut/Natural regeneration	Tractor
11	23	Aspen/Thin	Tractor
12	26	Thin	Tractor
13	17	Aspen/Clearcut/Plant	Tractor
14	49	Aspen/Thin	Tractor
15	17	Aspen/Thin	Tractor
16	22	Clearcut/Natural regeneration	Tractor/Skyline
17	21	Clearcut/Overstory removal/Natural regeneration	Tractor
18	14	Clearcut/Natural regeneration	Tractor
21	30	Thin/Sanitation	Tractor

North Bridger's Forest Health Project

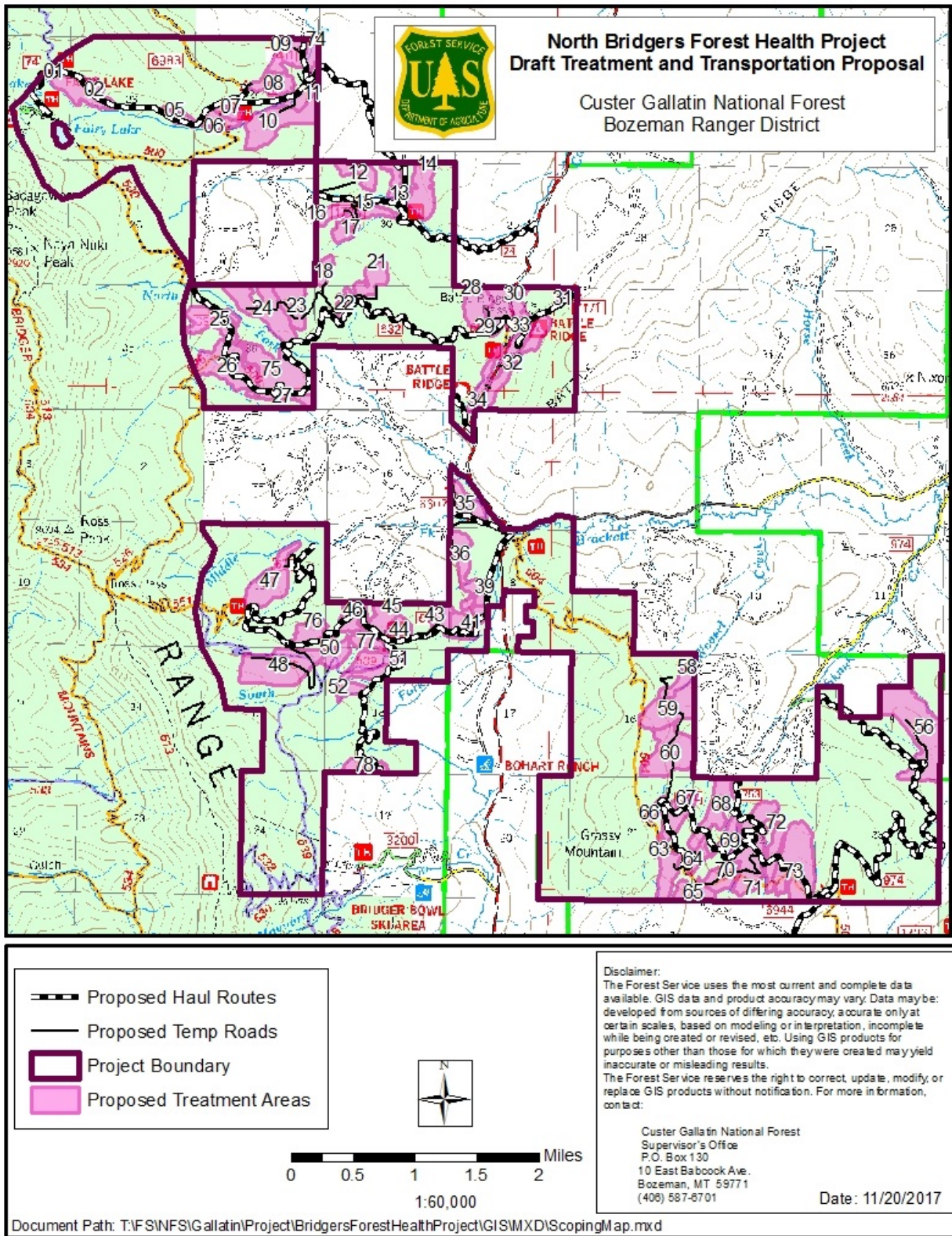
Unit	Acres	Proposed Treatment Prescription	Logging System or Method
22	14	Thin	Tractor
23	40	Clearcut/Plant	Tractor
24	76	Thin	Tractor
25	48	Thin	Tractor
26	78	Patch cut/Thin/Plant	Tractor
27	19	Thin	Tractor
28	35	Clearcut/Plant	Tractor
29	46	Thin	Tractor
30	19	Thin	Tractor Swing
31	10	Thin	Skyline
32	45	Thin	Tractor
33	26	Patch cut/Thin/Plant	Tractor
34	19	Thin	Tractor
35	28	Patch cut/Thin/Natural regeneration	Tractor
36	30	Aspen/Clearcut/Natural regeneration	Tractor
37	8	Thin/Sanitation	Tractor
38	5	Clearcut/Natural regeneration	Tractor
39	12	Thin/Sanitation	Tractor
40	8	Sanitation/Clearcut	Tractor
41	6	Aspen/Thin/Sanitation	Tractor
42	22	Thin/Sanitation	Tractor
43	23	Thin	Tractor
44	17	Thin	Tractor
45	30	Thin/Sanitation	Tractor
46	29	Group selection	Tractor
47	61	Thin	Tractor Swing
48	98	Thin	Tractor
50	25	Group selection/Thin	Tractor
51	32	Patch cut/Thin/Plant	Tractor
52	33	Thin	Tractor
56	133	Patch cut/Thin/Plant	Tractor Swing

Unit	Acres	Proposed Treatment Prescription	Logging System or Method
58	21	Thin	Tractor/Skyline
59	64	Patch cut/Natural regeneration	Tractor/Skyline
60	75	Thin	Tractor/Skyline
63	39	Thin	Tractor
64	17	Overstory Removal/Clearcut/Plant	Tractor
65	25	Thin	Tractor
66	10	Precommercial Thin	Hand/Machine
67	32	Precommercial Thin	Hand/Machine
68	48	Precommercial Thin	Hand/Machine
69	14	Precommercial Thin	Hand/Machine
70	28	Precommercial Thin	Hand/Machine
71	94	Precommercial Thin	Hand/Machine
72	28	Precommercial Thin	Hand/Machine
73	102	Precommercial Thin	Hand/Machine
74	16	Aspen	Hand
75	80	Precommercial Thin	Hand/Machine
76	27	Precommercial Thin	Hand
77	17	Precommercial Thin	Hand
78	23	Precommercial Thin	Hand/Machine
Total Acres: 2,294			

North Bridger's Forest Health Project

Figure 5. Scoping Proposed Action Map

View a larger scale map on the Custer Gallatin National Forest Project webpage (click on North Bridgers Forest Health Project): <http://www.fs.usda.gov/projects/custergallatin/landmanagement/projects>



APPENDIX B: Draft Design Criteria

The design criteria in this appendix are provided as a working draft to the North Bridger Forest Health Project. These are subject to change, addition or deletion but are typical design features.

Wildlife	
1.	No more than 113 acres of hiding cover (40% canopy closure in the Douglas-fir, subalpine fir, and lodgepole pine cover types) would be treated in the Kelly Canyon Elk Analysis Unit. This would maintain at least 2/3 of Douglas-fir, subalpine fir, and lodgepole pine cover types on NFS lands in the Kelly Canyon EAU with at least 40% canopy cover.
2.	Protect raptor nests discovered during recon, layout and marking. At a minimum, the nest tree would be retained; further protection, if needed, would be prescribed by the Wildlife Biologist
3.	Wallows, springs, and moist meadows would be buffered from treatment to protect these key habitat features. A minimum of 50 feet surrounding these features would be dropped from treatment.
4.	Retain an average of 30 snags (> 18 ft. in height and > 10 inch DBH) per 10 acres within harvest units. Retain the largest snags available and those with complex structures (existing cavities, hollows, large complex limbs, multiple tops, etc.). If there are not sufficient dead trees meeting these size criteria, the largest available dead trees should be retained.
5.	Retain snags as singles and clumps in treatment units; design proposed treatment (through layout and marking) to minimize impacts to large, complex legacy snags, where feasible.
6.	Retain a minimum of 15 tons per acre of three-inch diameter or larger debris (if available) be left scattered after machine site preparation and/or hazard reduction within harvest units. Retain a mix of size classes, lengths, and decay classes to provide for the needs of wildlife species through time.
7.	Retain at least 2 downed logs per acre (> 10 inches in diameter and > 20 feet long) in log classes 1 and 2 (recently fallen and early stages of decomposition), and all logs, where feasible, in log classes 3, 4, and 5 (moderate to advanced decay classes) for wildlife in treatment units where machine piling occurs. If available downed wood does not meet the size and length requirements above, leave the largest and longest pieces available.
8.	Retain downed wood as singles and in piles/ clumps within treatment units, particularly where piling of harvest-created debris occurs, to provide for heterogeneity.
9.	All attractants (food, garbage, etc.) would be stored in compliance with the Custer Gallatin National Forest food storage order. Contractors would be informed of possible risks associated with working in bear habitat, and would be required to comply with the Custer Gallatin National Forest Food Storage Order.
Fuels	
1.	Areas of heavy fuel concentrations greater than 30-40 tons per acre may require yarding unmerchantable material (YUM) treatment, including units 2, 6, 9, 16, 18, 23, 35 and 59.
2.	Areas being skyline yarded with a Thinning treatment would require lopping and scattering of fuels to a height of 18" or less, including Units 7, 16, 18, 31, 35, 58, 59 and 60.
3.	Areas being skyline yarded with a clearcut or patch cut treatment would require yarding tops or some percentage of tops where feasible, including Units 16 and 59.
Invasive Weeds	
1.	Survey and treat weeds for three years following final reclamation of treatment units.
2.	Re-vegetate all disturbed soil (temporary roads, skid trails, landings and burned areas) by planting native grass species (certified noxious weed seed-free).
3.	Pre-treat weeds along haul roads and accessible temporary roads at least one year prior to starting soil disturbance and do follow-up treatments along haul roads and temporary roads three out of the first five post project years.

4.	Power wash and inspect all off-road vehicles prior to entering Forest Land.
5.	Avoid existing “new invader” weeds by leaving a 30 foot buffer around the perimeter of existing infestations.
6.	Any gravel and borrow sources needed for construction of temporary roads or enhancement of existing roads would be inspected for noxious weeds and approved before use and transport. County approved weed free gravel pits are acceptable.
Range Allotments	
	Existing stock improvements would be protected.
	Natural barriers that limit stock presence in sensitive riparian areas would be maintained or replaced.
	Coordinate with allotment permittees to ensure grazing during permitted grazing rotations, unless otherwise agreed by the District Ranger.
Rare Plants	
	<i>The following design features are required to reduce the risk of adverse impacts to and/or ensure compliance with the regulatory framework for rare plants. A description is provided as to when, where and how the design feature should be applied and/or what conditions would trigger the need to apply the design feature.</i>
	1. Management actions where whitebark pine is present as an incidental component should retain healthy trees where possible.
	2. Any changes to the proposed action that may occur during layout would be reviewed by a botany coordinator, and rare plant surveys would be conducted as necessary prior to project implementation. If there are newly documented occurrences, they would be evaluated, with specific protection measures implemented to protect population persistence. Such measures could include the following: <ul style="list-style-type: none"> • Dropping units from harvest activity; • Modifying unit boundaries to provide adequate buffers around documented occurrences, as determined by a botany coordinator; • Modifying harvest methods, fuels treatment or logging systems to protect rare plants and their habitats; and/or • Implementing, if necessary, Timber Sale Contract provisions B6.24, Protection Measures Needed for Plants, Animals, Cultural Resources, and Cave Resources; C6.24#- Site Specific Special Protection Measures; and B8.33, Contract Suspension and Modification.
Recreation	
1.	Visitors to recreation sites (including the Battle Ridge Campground and dispersed campsites), trails/trailheads and rental cabins (Battle Ridge Cabin) would be notified via clear signage, visitor contacts, public notices, and press releases that there may be increased noise, traffic, logging trucks, heavy equipment in the area, on forest roads and trails. Any temporary road closures or blockages must be clearly marked well ahead of time so visitors have ample time to plan their trips to the forest for recreation purposes
2.	Holders of special use permits (such as recreation event organizers and outfitters) would be notified prior to treatment in the vicinity of their authorization.
3.	Hauling activities would be limited to weekdays to accommodate increased weekend visitor use. If there is a need to extend hauling over a weekend, the District Ranger must be consulted prior to approving weekend hauling.
4.	No equipment use, staging or storage, nor the decking or piling of slash would occur at trailheads or on Forest Service trails or roads, unless otherwise agreed to by the District Ranger.
5.	All recreation infrastructure such as campground improvements, trailhead improvements, trail

North Bridger's Forest Health Project

	signs, etc. would be protected from damage. If damaged, infrastructure would be repaired or replaced.
6.	Cutting unit boundaries adjacent to the Inventoried Roadless Area (IRA) would be clearly marked and mapped to avoid the IRA.

Transportation

1.	Temporary project roads would be decommissioned within three years following completion of project-related activities. While decommissioning may include a wide range of activities (log, debris, and barrier placement, water-barring and hydrological stabilization, full re-contouring, etc.), at a minimum these temporary routes would not be drivable for either the public or administrative use. No public motorized use of temporary roads constructed for this project would be allowed.
2.	Roads #6310 and 631B through the Crosscut Mountain Sports Permit Area would not be plowed between November 1 st and the closure of the ski area in the spring.
3.	In Unit 51 the Crosscut Mountain Sports Center trails would be marked and slash would be minimized on ski trails and on Road #6310.
4.	Slash piles for units 51 and 52 (along Road #6310) would be located such that they do not interfere with Crosscut Mountain Sports Center operations.
5.	Use gates, barricades, or earthen barriers to close temporary roads not open to public motorized use during project implementation.
6.	After tree and slash removal work has been completed, the temporary roads should be re-contoured to blend with adjacent, undisturbed grades and seeded with a native seed mix appropriate for the area. Permanent barricade devices would be installed if decommissioning techniques are not sufficient to prevent future motorized use.

Visuals

1.	Avoid rigid, unnatural-appearing spacing patterns.
2.	In visual quality retention areas, edges should avoid discernibly straight lines, sharp corners or abrupt transitions between dense trees and open areas. <ul style="list-style-type: none"> a. To help accomplish this, a boundaries zone should be created in which the density of leave or removal is adjusted to transition into adjacent areas. b. To soften edges of units and avoid edges that appear like a wall of trunks, leave healthy younger trees, where possible, that are progressively taller towards the adjacent uncut forest if possible. c. Edges should be irregularly shaped to the extent possible – even if that would mean that there might be somewhat increased wind-throw along the edges. d. Link edges of units into natural meadows or existing open areas where possible.
3.	In areas of partial retention and retention VQO's, where the start of new temp project roads would be visible from publicly-driven roads, locate and orient roads to minimize cut and fill.
4.	When possible, locate log landings, roads, gravel pits, borrow areas, and bladed skid trails outside of sensitive viewsheds near Battle Ridge Campground.
5.	If a project road must cross existing popular single-track trails, they should be designed to do that as close to perpendicularly as possible, to minimize their visual dominance.

Soils

1.	Ground-based harvest systems would be used only on slopes having sustained grades less than 35 percent.
2.	Skidding and Skid Trails Require a systematic skid trail pattern during logging. Maintain an average separation distance of at least 75 feet between skid trails. Lay out skid trails in a manner that minimizes or eliminates sustained grades steeper than 15%. All skid trails would be constructed with water erosion

	<p>control and drainage measures installed as required by standard timber sale provisions.</p> <p>Ground based skidding and mechanical harvesting equipment may travel off of the established skid trails but only to the extent reasonably necessary to harvest the available timber, and only when the top 6 inches of soil is sufficiently dry to minimize soil compaction problems. Repeat passes over the same ground would be minimized.</p> <p>Rip skid trails to a depth of 6 to 8 inches at the completion of timber harvesting on areas where detrimentally compacted mineral soil is exposed at the surface or where wheel ruts have formed at least 2 inches deep on grades of 15% or greater or continuous to grades of 15% or greater. Broadcast seed disturbed areas with the appropriate seed mix after ripping.</p>
3.	<p>Landings</p> <p>Landings with Burn Piles --- Exposed areas of landings around burn piles would be ripped (scarified) to a depth of 6 to 8 inches. See Soil BMP's for details of rock fragment exclusion to ripping due to abundant large rock fragments. Broadcast seed all disturbed areas with the appropriate native seed after ripping.</p>
4.	<p>Temporary Roads</p> <p>Minimize the depth of blading in construction of temporary roads to the extent reasonable within the constraints of Forest Service standards for temporary road construction.</p> <p>All temporary roads would be slashed at an approximate rate of 10 to 15 tons per acre along those portions of the road that run through forest stands. Slash left should be oriented at primarily right angles to the road corridor. Where needed, additional leave trees would be left standing adjacent to the temporary roads during harvesting to facilitate slashing the road prism at the end of the project.</p> <p>Rip the road prism to a depth of 6 to 8 inches along the entire length of all temporary roads at the conclusion of this project. Broadcast seed all disturbed areas with the appropriate seed mix after ripping.</p>
5.	<p>Coarse Woody Debris</p> <p>No pre-existing, downed coarse wood material would be removed from treatment units during timber harvesting from stands where the 15 tons per acre standard cannot be reasonably met because of a lack of available coarse woody material.</p>
Cultural	
1.	Avoid archaeological sites during unit layout.
Timber	
1.	A detailed site specific silvicultural prescription would be prepared for all treatment areas requiring vegetation manipulation. Windthrow reduction guidelines would be incorporated as needed.
2.	Silviculturist would be consulted where treatment deviations are required during contract execution, as a result of changed or unidentified conditions that materially affect the intended treatment as described in the detailed site specific silvicultural prescription. As needed, the silvicultural prescription would be modified and re-approved by a certified silviculturist.
3.	If encountered and where feasible, protect all five-needled pine trees from mechanical damage. In mechanical situations, take precautions to avoid damage from machinery or felling of trees.
4.	Reforestation surveys would be scheduled in conifer regeneration units. Typically this is done prior to reforestation activities and first, third and fifth year after harvest.

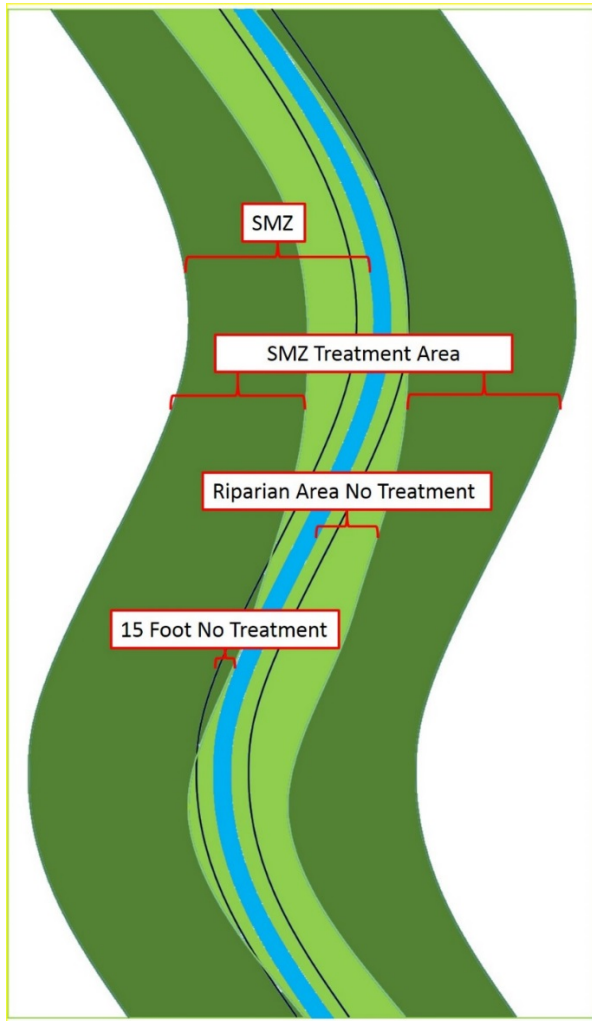
North Bridger's Forest Health Project

5.	Mechanical logging activities of clearcut, patch cut, and group selection units would be done at times of the year with no snow cover in order to achieve ground scarification necessary for planting or natural regeneration.
6.	Design thinning treatments in old growth stands to retain minimum old growth structure (as defined by Green et al., 2011) post-harvest.
Watershed and Aquatics	
1.	There would be no fuel storage, mixing of fuels, or refueling equipment in riparian areas. If there are no alternatives, refueling in riparian areas may occur, but must be pre-approved by the fisheries biologist or hydrologist, and have an approved spill containment plan.
2.	Temporary roads would not enter riparian areas except where necessary to cross streams or wetlands with appropriate permits (Gallatin National Forest Travel Plan Standard E-5)
3.	Reshape road prism, improve cross drainage, stabilize in slope ditch, and surface (or roll in) with pit run rock along FS Road # 631 for approximately 2/3 mile from Loggers Loop Trailhead up hill to Pot Smoker Point.
4.	Stabilize slump along FS Road # 632 located approximately ¼ mile east of the North Fork Brackett Creek culvert.
5.	Spot gravel road stream crossings along FS Road # 6983 within South Fork Carroll Creek sub-watershed to reduced sediment delivery from project related activities.
6.	<p>All streams and unclassified incised draws would be buffered according to Table 4 below to reduce sediment delivery and comply with Montana Streamside Management Zone Law and Rules.</p> <ol style="list-style-type: none"> a. No treatment buffers would be defined as 50 feet upslope from the ordinary high water mark (OHWM) along Class 1 and 2 streams on slopes less than 35%. For slopes >35%, the no treatment buffer boundaries would extend to 100 feet. b. For Class 3 stream and unclassified incised draws, treatments can be laid out according to modified SMZ direction previously used: <ol style="list-style-type: none"> i. No trees would be cut within 15 feet of the Ordinary High Water Mark (OHWM) along any class of stream. No treatment buffers may be expanded in areas with wider floodplains and areas that meet the functional definition of riparian (See Figure 6 below). This includes areas within the hydrologic zone of influence of streams characterized by riparian vegetation ii. Tree retention guidelines along Class 3 streams and incised draws between 15-50 feet would follow SMZ Rule #5. iii. Ground-based equipment would be prohibited from entering SMZs without the appropriate variance from Montana DNRC (SMZ Rule #4). iv. The 15 feet no treatment buffers, floodplain & riparian expansions and leave trees would be delineated by a Forest Service fisheries biologist or hydrologist. Streams are defined as, “a natural water-course of perceptible extent that has a generally sandy or rocky bottom or definite banks and that confines and conducts continuously or intermittently flowing water.

Table 4. Treatment Buffers by Stream Management Zone (SMZ) Stream Class and Incised Draws.

SMZ Stream Classes & Unclassified Incised Draws	Slope	
	< 35%	> 35%
Class 1	50 feet no treatment	100 feet no treatment
Class 2	50 feet no treatment	100 feet no treatment
Class 3 & Incised Draws	Modified SMZ direction with 15 feet no treatment	Modified SMZ direction with 15 feet no treatment

Figure 6. Aquatic mitigation zones for Class 3 streams and incised draws.



APPENDIX C: How the 2014 Farm Bill Amended HFRA

Section 8204 of the Agriculture Act of 2014 (Public Law 113-79) (also referred to as Farm Bill) amended Title VI of the Healthy Forests Restoration Act of 2003 (HFRA) (16 U.S.C. 6591 et seq.) to add Sections 602 and 603 to address qualifying insect and disease infestations on National Forest System lands. The Secretary of the U.S. Department of Agriculture delegated authority to implement the provisions of the Farm Bill to the Chief of the Forest Service on March 6, 2014.

Section 602 provides, in part, the opportunity for Governors to request designation to areas in their State that are experiencing, or at risk of, an insect or disease epidemic. The Forest Service received letters from 35 states requesting designations. These requests were reviewed to ensure they met at least one of the following eligibility criteria outlined in the Farm Bill: experiencing forest health decline based on annual forest health surveys; at risk of experiencing substantially increased tree mortality based on the most recent Forest Health Protection Insect and Disease Risk Map; or contains hazard trees that pose an imminent risk to public infrastructure, health, or safety.

Upon reviewing the States' requests, the Chief designated approximately 45.6 million acres of National Forest System lands across 94 national forests in 35 States. Over 6.6 million acres were designated in the Northern Region (1,708,628 million acres in Idaho; 4,955,159 million acres in Montana). These areas will be further evaluated to identify potential projects that reduce the risk or extent of, or increase resilience to, insect and disease infestations. Information on the request and designation process, by state, can be found [here](#) (For those receiving a hardcopy, the webpage address is *<http://www.fs.fed.us/managing-land/farm-bill/area-designations>*.)

Section 603 establishes a categorical exclusion for qualifying insect and disease projects in designated areas on National Forest System lands. An insect and disease project that may be categorically excluded under this authority is a project that is designed to reduce the risk or extent of, or increase the resilience to, insect or disease infestation in the areas (HFRA, Sections 602(d) and 603(a)).