Background

Existing Condition

Aspen is a relatively rare element on the Beaverhead-Deerlodge National Forest (BDNF) compared to other vegetation communities. Modeled historic aspen populations compared to the existing condition, indicate aspen have dwindled to less than 20 percent of the minimum Historic Range of Variability (FP FEIS, pg. 14). Aspen occurs throughout the BDNF mostly in small stands (less than 10 acres). There are a few places where aspen is more wide spread and connected (e.g. Gravelly Landscape). Though some aspen stands are healthy, many of the stands inventoried on the BDNF show a lack of sprouting, a general decline in the health of the stand due to insects and/or disease and extensive colonization by conifer tree species. A lack of fire has resulted in older aspen stands that have been overtopped and crowded out by conifer species; in essence, out-competed for sunlight and water.

Aspen Ecology

Quaking aspen is valued for its white bark and brilliant fall color. Across the species’ range, aspen stands play a diverse ecological role. Because of the annual addition of organic matter from the leaves, aspen stands often support high primary productivity and in turn, a diverse understory of plants. Both the understory plants as well as the aspen stems themselves, since the bark is alive, are used as forage for a variety of wildlife species. In addition, older aspen stems often have heart rot, making them a preferred nest tree for cavity nesting birds. Some wildlife species that are associated with aspen include ruffed grouse, deer, elk, moose, black bears, woodpeckers, and a variety of migratory songbirds.

Aspen stands can serve as good firebreaks, dropping conifer crown fires to the ground and even sometimes extinguishing wildfires. Because aspen stands allow more ground water recharge than do conifer forests, they play a role in protecting against soil erosion.

Aspen is unique in that it most often reproduces by root suckers that are produced by a shared root system. Aspen do not thrive in shady conditions, preferring sites that are moist and where there is enough sunlight to warm the soil. Sprouting is suppressed by the hormone auxin which is found in the above ground stems. Aspen relies on fire or some other disturbance to kill the stems which breaks what is called “the apical dominance of the overstory”. When the above-ground stem is killed, cytokinin, another hormone in the roots, stimulates a new crop of root suckers.

Another role of fire (which can be simulated by mechanical removal) is to remove conifers that have grown into the aspen stand and which adversely shade the soil. Aspen is fire-adapted in that the root system can immediately respond and out compete other vegetation. Aspen is not long-lived. When fire cycles are interrupted, in as little as 40 years, conifers can dominate aspen.

Once an aspen stand sprouts, its success is affected by the quality of the environment (enough soil moisture and warmth) and the degree of browsing and/or damage from domestic livestock or wildlife.
**Desired Condition**

The desired condition would be to increase the aspen component across the forest. Increased vigor to aspen stands usually results in increased sprouting, layering of multiple age classes, and increased resiliency to natural disturbance. In addition, the sprouts should be recruited into the stand (about 7 feet in height and 1” diameter) and not be overly affected structurally by browsing. Ungulates, which include both livestock and wildlife, can have an impact on aspen, principally through browsing. Long-term monitoring on the BDNF has indicated that overall browse on aspen is low on trees taller than 5 feet.

![Figure 1: Example of the desired condition of an aspen stand (Steele Creek, east of Wisdom, MT) and an example of an encroached aspen stand (Sand Creek, east of Wisdom, MT), respectively](image)

Monitoring of aspen treatment effectiveness for the BDNF found that non-stand replacement treatments such as conifer clearing adjacent to and within aspen stands are effective in stimulating long term sprouting even if browsing continues to limit growth. Treatment areas can continue to exhibit dense sprouting after 25 years. Conifer clearing adjacent to and within aspen stands has been demonstrated to be one of the most successful treatments to improve aspen stand vigor on the BDNF.

**Purpose & Need**

The purpose of this proposal is to contribute to the achievement of the following Forest Plan vegetation objective: *Increase the aspen component within lodgepole pine and other vegetation types on 67,000 acres.*

**Proposed Action**

The proposed action is to improve conditions for aspen in the places where an assessment indicates a need and the site conditions are favorable to support aspen. This could occur in any aspen community across the BDNF outside of designated Wilderness and Wilderness Study Areas. This approach starts by identifying the limiting factor(s) and initiation of the simplest, most cost-effective management option; followed by monitoring, and adding management tools if needed (e.g. fencing from ungulates or domestic livestock).

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An assessment model[^2] would be used to identify the ecological condition of an aspen stand and to identify the intensity of risk factors to aspen survival. The model also helps guide the specific action(s) needed to maintain aspen.

Actions proposed to increase aspen[^3] component across the BDNF may include one or more of the following:

- Monitoring (photo plots or field methods to record stand health)
- Removal and/or piling and burning of small conifers with hand crews
- Piling of small conifers using mechanical equipment where allowed; followed by pile burning
- Girdling larger conifers within aspen stands
- Prescribed fire (preceded by cutting down conifers within the aspen where allowed but leaving them laying within the stand for fuel to carry a fire)
- Patch cutting or thinning (in areas with a few aspen stems surrounded by conifer forest); this could include piling and burning or removal of conifers using a service or timber sale contract.
- Protection from browsing including, but not limited to, wildlife proof fencing (6-8’ high)

The emphasis for aspen treatment is within the roaded base of the BDNF (areas where past and current active management has occurred or is occurring); however, aspen treatment could occur within Inventoried Roadless Areas (IRAs). It is estimated that about 10,000 acres of aspen would be considered for treatment in IRA. However, given not all stands are in poor condition as well as logistical and capacity constraints actual treatment acres may be less. This estimate excludes non-forested areas, inholdings, Wilderness, and Wilderness Study Areas where treatment will not occur.

Any tool or method used to treat aspen in IRAs would follow the exceptions to timber cutting, sale, removal in IRAs described at 36 CFR (294.13(b)(1)(ii)). All projects would be consistent with the Roadless Rule, including the cutting of generally small diameter timber and maintenance or improvement of one or more roadless characteristics (294.13(b)(1)). No road construction or reconstruction is proposed in this project.

At the site-specific stand level, the following would be completed where applicable and documented periodically on the Forest website:

- Map and site-specific silviculture prescriptions
- Burn plan
- Resource surveys
- Site- specific mitigation measures (e.g. protection of a trail)
- Pre- and post-treatment monitoring

Given current budgets and capacity, we anticipate implementation on 1-3 aspen projects/year with priority given to the sites we think have the best microclimates and sites with the best opportunity for success relative to ungulate or livestock grazing considerations.

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Anticipated NEPA Documentation

A preliminary review of this proposed action has been conducted in accordance with FSH 1909.15 Chapter 30. An action may be categorically excluded from further analysis and documentation in an environmental impact statement (EIS) or environmental assessment (EA) if it is within one of the categories identified by the USDA in 7 CFR part 1b.3 or a category listed at 36 CFR 220.6(d) or (e), and there are no extraordinary circumstances related to the decision that may result in a significant individual or cumulative effect on the quality of the human environment.

The responsible official with assistance from the interdisciplinary team responsible for identifying and documenting potential environmental effects of this action has made a preliminary determination that the project fits within the following category:

36 CFR 220.6(e)(6): Timber stand and/or wildlife habitat improvement activities that do not include the use of herbicides or do not require more than 1 mile of low standard road construction.

By definition, categorical exclusions do not individually or cumulatively have significant effects on the human environment (40 CFR 1508.4). Preliminary analyses considered direct and indirect effects from the proposed action coupled with past, present, and reasonably foreseeable actions. The interdisciplinary team will complete a full analysis of direct, indirect, and cumulative effects at multiple spatial scales that vary depending upon the specific resource.

The interdisciplinary team reviewed the resource conditions listed at 36 in FSH 1909.15 Chapter 30 (31.2) and other concerns applicable to this project to determine potential for extraordinary circumstances and thus suitability for categorical exclusion. The mere presence of one or more resource conditions does not preclude use of a categorical exclusion. 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 potential effect determines whether extraordinary circumstances exist.

Resource specialists have completed a preliminary environmental effects review to help inform the responsible official and the public of potential environmental effects from this proposal. The following table provides preliminary findings and is presented here to assist reviewers in providing comments on the proposal. Specialist reports determining the cause-effect relationship between the proposed action and resource conditions will be finalized before the Responsible Official reaches a decision. The final determination of the degree of the potential effect of the proposed action on the resource conditions will be disclosed in the Decision Memo. However, due to the routine nature of the actions proposed and 20 years of experience implementing projects of a similar nature 4, we do not expect these preliminary findings to change significantly, if at all, between now and the final decision.

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<th>RESOURCE CONDITION</th>
<th>POTENTIAL EFFECT</th>
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<td>Federally listed threatened or endangered species or designated critical habitat, species proposed for Federal listing or proposed critical habitat, or Forest Service sensitive species.</td>
<td>Endangered, Threatened, Proposed Species: May affect but not likely to adversely affect Grizzly Bear, Canada Lynx, Bull Trout, and Bull Trout Critical Habitat. Sensitive Species: May Impact Individuals Or Habitat, But Will Not Likely Contribute To A Trend Towards Federal Listing Or Loss Of Viability To The Population Or Species: Arctic Grayling, Westslope cutthroat trout, Western pearshell mussel, Western toad, Black-backed woodpecker,</td>
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| Townsend’s big-eared bat, Flammulated owl. | Preliminary review found the following sensitive plant species have potential to occur within or adjacent to the treatment areas:  
  **Sensitive moonworts** (*Botrychium crenulatum*, *Botrychium hesperium*, *Botrychium paradoxum*)  
  **California false-hellebore** (*Veratrum californicum*)  
  **Whitebark pine** (*Pinus albicaulis*)  
  **Beautiful bladderpod** (*Physaria pulchella*)  
  **Lemhi penstemon** (*Penstemon lemhiensis*)  
  IF present, mitigation to lessen the impact will be incorporated into project design. Therefore, the preliminary determination for these sensitive plant species, if present, is: May impact individuals or habitat, but would not contribute to a trend towards federal listing or loss of viability to the population or species.  
  No impact – all other Sensitive wildlife, aquatic, and plant species.                                                                                                                                                                                                                       |
| Floodplains, wetlands, or municipal watersheds | No ground-based mechanized harvest activities would occur within 50 feet of perennial streams and within Riparian Conservation Areas (RCAs); wet areas would be excluded from the project unless trees can be removed without affecting the soil and vegetation (e.g. winter logging over frozen ground) as described in the design features and mitigations section of the Decision Memo. With implementation of these required design features and mitigations, no extraordinary circumstances are anticipated. |
| Congressionally designated areas, such as wilderness or wilderness study areas. | No actions are proposed in these areas, therefore no extraordinary circumstances are anticipated.                                                                                                                                                                                                                                                       |
| Inventoried roadless areas or recommended wilderness areas | Approximately 10,000 total acres of treatment may occur within IRAs. This is less than one percent of the 1.9 million acres of IRA on the Forest. Treatments proposed in IRAs will enhance the biological characteristics and roadless values of these areas by increasing the presence of these underrepresented, native vegetation types. Because the proposed treatments will be beneficial to roadless values including the apparent naturalness and unique and special features values, no extraordinary circumstances are anticipated. |
| Research Natural Areas (RNA) | No actions are proposed in RNAs, therefore no extraordinary circumstances are projected.                                                                                                                                                                                                                                                                       |
| American Indians and Alaska Native  
  religious or cultural sites  
  Archaeological sites, or historic properties or areas | Extraordinary Circumstances are not anticipated related to cultural resources. Cultural and/or archeological sites will be flagged and avoided. Maps of site locations will be provided to project leader and/or sales administrater to ensure sites are avoided. Therefore, negative impacts to religious or cultural sites, archaeological sites, or historic properties or areas are not projected. |
Opportunities for Public Input:

Please share your comments, concerns, or ideas with Melany Glossa, Forest Supervisor, at 420 Barrett St., Dillon, MT 59725. She can also be reached by phone (406) 683-3900, or fax at (406) 683-3855. If you prefer, email your comments to comments-northern-beaverhead-deerlodge@fs.fed.us and type Beaverhead Deerlodge Aspen Project in the subject line.

Your comments are welcome anytime, but will be most helpful if they are submitted by February 16, 2016. Comments in response to this solicitation, including names, postal and email addresses and phone numbers, will be considered part of the public record, and available for public review. If you do not respond to this letter you will receive no further information. However, you may always find information about this a project on the web at www.fs.usda.gov/project/?project=48122

For additional information about this proposal, contact: Dillon District Ranger, Scot Shuler, (406) 683-3988 or Dillon District Wildlife Biologist, Amie Shovlain at (406) 683-3970.
Figure 2. Special Management Areas on the BDNF.