

## INVASIVE PLANTS

The purpose of this resource report is to evaluate the impacts of the Little Hogback-Meyers Fire Salvage project on invasive plants with respect to applicable legal and regulatory framework.

### Regulatory Framework

The Federal Plant Protection Act of 2000 (formerly the Noxious Weed Act of 1974) and Executive Order 13112 of February 3, 1999, require cooperation with state, local, and other Federal agencies in the application and enforcement of all laws and regulations relating to the management and control of noxious weeds. Forest Service policy (FSM 2900 Noxious Weed Management) outlines that preventing the introduction and establishment of noxious weed infestations is a high priority for the agency. This policy also directs the Forest Service to determine the factors which favor the establishment and spread of noxious weeds and design management practices to reduce the risk of spread. Executive Order 13112 states that, federal agencies will use relevant programs and authorities to prevent the introduction of invasive species, and not authorize or carry out actions that are likely to cause the introduction or spread of invasive species unless the agency has determined and made public documentation that shows that the benefits of such actions clearly outweigh the potential harm and all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions.

According to the 2009 Beaverhead-Deerlodge National Forest Land and Resource Management Plan (Forest Plan), the following applicable Forest-wide goals have been identified for noxious weeds/invasive plant species:

- The influx of persistent non-native species is minimized by using native plants, seed, and vegetative propagules for Vegetation Management work; and
- Diagnosed pest problems are addressed with an integrated pest management approach, which allows monitoring, prevention, cultural, mechanical, biological, genetic and chemical techniques; and
- Prevent, reduce, or eliminate infestations of non-native or noxious weed species with emphasis on areas where there is a high likelihood of establishment and spread. Manage noxious weeds through Integrated Pest Management as described in the most current Beaverhead-Deerlodge Noxious Weed Control Record of Decision (2002).

### Affected Environment:

The establishment and spread of invasive species is considered to be one of the top threats to National Forest System ecosystem health. Noxious weeds generally possess one or more of the following characteristics: aggressive and difficult to manage, poisonous, toxic, parasitic, a carrier or host of serious insects or disease, and being native or new to or not common to the United States or parts thereof. Additionally, it is widely accepted that 1) disturbed soil is highly susceptible to weed invasion, 2) invasive species infestations can alter the composition and function of native plant communities, and 3) certain management actions can potentially increase the density and spread of invasive plant species.

The Pintler Ranger District has had an aggressive noxious weed management/treatment program since the mid 1980's. This program has included a variety of control or management efforts, including education, mechanical, biological, and chemical. In general, noxious weeds are prioritized for treatment

based on aggressiveness, current extent of infestation, and priority of species designated by and coordinated with state and county weed programs. Within the project area, these efforts have been effective in reducing the total acres of noxious weeds.

To effectively describe the affected environment and environmental effects of project actions on invasive plant species (including Montana State listed noxious weeds and non-native invasive species), the existing condition and environmental consequences (including cumulative effects) discussions will focus on National Forest System (NFS) lands within the boundaries of the project area. A specific emphasis will be where proposed activities are expected to occur such as timber harvest units, road maintenance, and temporary road construction/decommission.

Areas most likely to facilitate introduction of weeds through disturbance and the presence of vectors are roads, trails, stream corridors, dispersed recreation areas, individual residences, horse feeding or riding areas, areas with previous fire or timber cutting activity, wildfires, and heavily grazed areas (currently or in the past). Once established, weeds may spread to adjacent, less disturbed or even undisturbed areas. Weeds are most likely to establish and spread in open areas that receive plenty of sunlight, and less likely to establish and spread in densely forested, more shaded areas. Riparian and open meadow habitats are particularly susceptible to noxious weed invasion, due to the availability of sunlight, and in riparian areas, the presence of water as a vector. Higher elevations tend to have fewer occurrences of noxious weeds, due to a combination of harsh growing conditions that deter some species and generally fewer human disturbances which provide sources of introduction. In timber harvest projects, noxious weeds are most common in heavily disturbed areas such as landing and staging areas, burned pile areas, other areas of heavy activity or where mineral soil is exposed.

Discussions of environmental direct and indirect effects will focus on the “risk” of noxious weeds becoming established and/or spreading within the project area. In the context of this effects analysis, risk is defined as the probability, or potential (i.e., low, moderate, high), that 1) invasive plant species seed would be transported and then deposited into areas that are currently not infested by weeds, and 2) proposed treatment activities would increase the density and spread of invasive species within the project area.

The Little Hogback-Meyers Fire Salvage project area boundary contains over 500 acres of known noxious weed infestations. Approximately 341 acres of the known infestations have been treated in the past. Some harvest units proposed are near or within known infestation areas. Spotted knapweed is the predominant invasive plant species present within the project area. It is mainly located in mountain grassland plant communities, along roads, and in the drier open-canopy forest plant communities. The following table provides inventory and treatment information by species:

<b>Invasives (Inventory Acres)</b>				
<b>Species</b>	<b>Fire Name</b>			
	<b>Little Hogback</b>		<b>Meyers</b>	
	<b>Project Area</b>	<b>Harvest Units</b>	<b>Project Area</b>	<b>Harvest Units</b>
Spotted knapweed	91	2.2	395	7.6
Canada thistle	<1	0	0	0
Meadow hawkweed	0	0	1.6	0
Orange hawkweed	0	0	.6	0
Oxeye daisy	0	0	33	0

<b>Invasives (Treated Acres*)</b>		
<b>Area</b>	<b>Fire Name</b>	
	<b>Little Hogback</b>	<b>Meyers</b>
Project	103	211
Harvest Unit	12	15
<b>Total Acres</b>	<b>115</b>	<b>226</b>

\*Data within the last ten years.

Existing noxious weed infestations within the project area are currently being treated with herbicides on an annual basis by Forest Service noxious weed control crews, or by contract, and will continue to be treated into the foreseeable future. Additional work (contract and Forest Service crews) for control of noxious weed infestations will occur during the 2018 season with Burned Area Emergency Rehabilitation funds following the Little Hogback and Meyers fires.

### **No action alternative**

Under this alternative, no new management activities would occur; however, previously approved and ongoing activities such as livestock grazing, motorized vehicle travel on open designated routes, firewood cutting, and noxious weed control would continue. Even in the absence of these ongoing activities there would be potential for weeds to invade due to natural disturbance, especially wildfire. Invasive plants such as spotted knapweed and cheatgrass can establish shortly after disturbance, or invasion can be accelerated by disturbance, but they can also invade relatively undisturbed perennial native plant communities where there is natural ground disturbance from rodents or predators digging in the soil, and weed seeds can be dispersed over long distances by animals and birds (Zouhar, 2001 and 2003).

Existing occurrences of noxious weeds can be expected to continue to spread into any existing disturbed areas and possibly into native ecosystems if the Little Hogback-Meyers Fire Salvage project is not implemented. The rate of weed spread without further disturbance from project activities would likely be less than the rate of spread after project implementation. There would be no road maintenance, construction, or obliteration activities that would result in ground disturbance; therefore, there would be no additional risk of invasive species establishment and spread over what is currently occurring within the project area. In the long-term, the continued treatment of weed infestations would continue to reduce the size and density of existing noxious weed infestations, keeping those infestations at a manageable level.

Treatment of existing noxious weed infestations would continue to occur on an annual basis by Forest Service weed control crews, or contract, and in accordance with the Beaverhead-Deerlodge National Forest Noxious Weed Control Environmental Impact Statement/Record of Decision. The Pintler Ranger District has an active weed control program, and current and planned weed control would continue to benefit native plant communities within the analysis area by containing and reducing the coverage and density of existing noxious weed infestations.

### **Proposed alternative**

Proposed project activities do have the potential for introduction and/or spread of noxious weeds into the project area. Project activities involving ground disturbance (i.e. timber harvest, transportation management) and mechanical treatment (i.e. skid-trails, landings, and temporary roads) with heavy

equipment can increase soil compaction and ground disturbance, which can increase the risk of noxious weed invasion. In addition, all landings are likely to have large machine piles that will be burned. In addition, the proposed temporary road construction will create additional disturbance which has the potential for spread of noxious weeds if not properly mitigated.

Based on project design features and mitigation measures and the known presence of mostly small invasive plant species infestations in proposed harvest units, as well as effectiveness of on-going and past control efforts, this alternative is estimated to have an overall low risk of increasing the density and spread of weeds into un-infested lands. This risk rating would also apply to access roads and haul routes used for project activities. The rationale for this low risk rating is that 1) existing weed infestations within the proposed harvest units are small, 2) monitoring and treatment of infestations within harvest units, along access roads, and haul routes would occur as necessary, and 3) commitment to post-activity monitoring and treatment of noxious weed infestations found within harvest units would result in a high success potential for controlling these weed occurrences within three to five years. Temporary roads will be decommissioned and would not be a vector to spread weed seed which is desirable for mitigating the spread of noxious weed infestations.

Treatment of existing and new noxious weed infestations would continue to occur on an annual basis by Forest Service weed control crews, or contract, and in accordance with the Beaverhead-Deerlodge National Forest Noxious Weed Control Environmental Impact Statement/Record of Decision. The Pintler Ranger District has an active weed control program, and current and planned weed control would continue to benefit native plant communities within the analysis area by containing and reducing the coverage and density of existing noxious weed infestations.

## **Cumulative Effects**

*Livestock Grazing:* It is accepted that livestock and native ungulates can act as dispersal agents for weed seed movement. It is also accepted that livestock grazing activities can result in ground disturbance that is susceptible to invasion by weeds. Based on existing levels of weed infestations, on-going treatment efforts, and the effectiveness of past weed control efforts, there is low risk for livestock grazing activities to result in measureable weed spread into un-infested lands within the project area.

*Public actions on Forest Service Lands (Motorized Vehicle Travel):* Current and future motorized vehicle travel on open roads would result in a continued, long-term threat of invasive plant species being introduced and/or spread within the project area. It is widely accepted that motorized vehicles have a potential for spreading weeds, and that roads are a primary source for weed dispersal. Although the Forest Service can require certain weed prevention best management practices be followed by its employees and contractors, the Forest Service cannot require the general public to adhere to them. Based on existing levels of weed infestations, on-going treatment efforts, and the effectiveness of past weed control efforts, there is low potential for continued use of open, motorized roads by the public to result in measureable weed spread into un-infested lands within the project area.

*Timber Harvest:* Ongoing timber harvest activities have the potential to create ground disturbance susceptible to weed invasion when weed infestations are found within units, or in close proximity such as along existing, open motorized routes. Based on existing levels of weed infestations, on-going treatment efforts, and the effectiveness of past weed control efforts, there is low potential for ongoing and foreseeable future timber harvest activities to result in additional weed establishment and spread.

*Fire:* The 2017 wildfires have removed overhead conifer canopy cover. These areas are susceptible to noxious weed invasion due to the availability of sunlight. Burned Area Emergency Response funds have been allocated to treat invasive plant species invasions in the fire perimeter area.

Under the proposed action, both direct and indirect effects would be expected to result in a slight increase in noxious weed infestations over time, contributing to the long term cumulative impacts of increased infestations from other past, present, and future activities. To minimize the spread or introduction of noxious weeds, appropriate preventative project design criteria were developed to be implemented with the proposed action (see Chapter design criteria in the project record). The Pintler Ranger District has an active and effective weed control program which would continue to benefit native plant communities within the project area by monitoring and treating existing and future invasive plant species infestations. See the Forest Plan consistency table in the project record.

## **Compliance**

The Forest Plan provides direction for management of invasive plant species. Under both alternatives, activities would continue to be managed in compliance with applicable direction identified in the Forest Plan as well as the Forest Noxious Weed Environmental Impact Statement and Record of Decision.

## **References**

USDA Forest Service. 2009. Beaverhead-Deerlodge National Forest Land and Resource Management Plan, Final Environmental Impact Statement. Corrected. USDA, Beaverhead-Deerlodge National Forest. January, 2009.

USDA Forest Service. 2004. National Strategy and Implementation Plan for Invasive Species Management, FS-805. Ries et al.

USDA Forest Service. 2002. Beaverhead-Deerlodge National Forest Noxious Weed Control Environmental Impact Statement and Record of Decision

USDA Forest Service. 2001. Guide to Noxious Weed Prevention Practices, Version 1.0.  
[https://www.fs.fed.us/invasivespecies/documents/FS\\_WeedBMP\\_2001.pdf](https://www.fs.fed.us/invasivespecies/documents/FS_WeedBMP_2001.pdf)

Zouhar, Kris. 2003. Bromus tectorum. In: Fire Effects Information System, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available: <https://www.feis-crs.org/feis/> [2013, June 21].