Range/Noxious Weeds Report

Beartooth Front Storm Damage Clean-up And Fuels Reduction Project

Beartooth Ranger District
Custer National Forest
September 2008

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RANGE MANAGEMENT BACKGROUND

Only the Benbow portion of the project area is within grazing allotments. The Little Rocky Allotment includes the majority of the blowdown clean-up and fuels reduction units, while Treatment Unit 60 is located in the East Fishtail Allotment (see attached map Benbow Area Blowdown).

The Little Rocky Allotment has an estimated 2,967 acres with 1,570 acres considered as primary livestock range. 591 animal unit months (AUMs) are permitted among three permittees. The Little Rocky Allotment is operated under a two pasture deferred rotation system of grazing. No existing fences have been damaged by the blowdown, although it is possible that the boundary fence between the Little Rocky Allotment and the West Fishtail Allotment may have been damaged by the blowdown (this fence needs to be inspected). There is an historical "On/Off" pasture that includes private land where a boundary fence goes through proposed Treatment Unit 03. The National Forest land fenced with this adjoining land is currently considered an encroachment situation. No permit is currently issued to allow grazing of livestock of the private landowner although this grazing does occur annually.

The West Fishtail Allotment has an estimated 2,500 acres of which 871 are considered primary livestock range. There are 386 AUMs permitted on this allotment. The Allotment is operated under a three pasture deferred rotation system of grazing. Although no field inspection has been completed to date, it appears from the map of the blowdown made from aerial reconnaissance, that both natural barriers and fences have been compromised. If this is the case, the grazing rotation will no longer work effectively until additional fence is constructed.

The East Fishtail Allotment has an estimated 1,920 acres of which 253 acres are considered primary livestock range. Currently there are 162 AUMs permitted on this Allotment. The Allotment is operated under a single pasture deferred rotation system of grazing. From a review of the map, the blowdown appears to have damaged both interior and allotment boundary fences. Also, Treatment Unit 60 goes across a portion of the boundary fence between the West Fishtail and East Fishtail Allotment Boundary Fence. A field inspection needs to be conducted to determine the extent of damage to both the fences and natural barriers. Until fences are repaired and/or additional fence is constructed, the integrity of both the East and West Fishtail Allotments may be in jeopardy and the grazing rotation systems may not work properly.

INVASIVE PLANT MANAGEMENT BACKGROUND

There are noxious weed infestations in small portions of all three storm damaged areas that are proposed for clean-up and fuel reduction. These infestations have very low canopy cover of each noxious weed species (see attached maps). In the Facts database they are listed as a trace (less than 1% cover in each mapped vegetation polygon). In the Benbow area, noxious weeds include; Canada thistle, spotted knapweed, and sulfur cinquefoil (see attached map Benbow Area Blowdown). Although not mapped, houndstongue is also found throughout the area. Treatment units in the Benbow area include an estimated 377 acres of Treatment 1 (windfall and wind damaged trees would be removed using ground-based commercial timber harvest equipment).

In the Main Fork of Rock Creek in the vicinity of the project area, spotted knapweed and Canada thistle are the two noxious weeds of concern. They are found in small scattered stands, or as individual plants along all the roads in the area (see attached map Main Fork Rock Creek). Treatment units in this area are estimated at 238 acres and would include Treatment 1 and Treatment 2 (Trees would be thinned to create a shaded fuel break. Thinning would be accomplished by hand crews or using mechanized equipment).

Most likely, the primary vectors for spread of spotted knapweed and Canada thistle are vehicles and wind, the vectors for sulphur cinquefoil are vehicles and birds, the vectors for leafy spurge are birds and wind, and the vectors for hound's-tongue are livestock, birds, wildlife and people.

Noxious weeds (seeds and reproductive plant parts) are especially easily spread by vehicles and heavy equipment. These vehicles can spread existing plants and seed as well as bring noxious weed seed into an area where ground disturbance assists in providing a good seed bed.

The Beartooth District Weed Control Program is actively monitoring and treating noxious weeds annually on all of the known weed infestation within the project area. This activity, as authorized by the 2006 Custer National Forest Final EIS for Weed Management will continue regardless of whether a decision is made to conduct all, or part, of the storm clean-up and fuel treatment. The goal for noxious weed management in the project area is to prevent noxious weeds from going to seed, reducing the number of acres infested with noxious weeds, and to eradicate, and reduce, all new starts as soon as they are found.

EFFECTS ANALYSIS *for* Issue #8 "*Effects of project implementation to noxious weed proliferation and post-project weed monitoring needs*."

Compliance with applicable law, regulation, and policy standards:

Noxious Weed Risk Assessment (see below)

Methodology - Noxious Weed Risk Assessment

In order to determine the risk of noxious weeds and other undesirable plants spreading in the analysis area due to the activity being analyzed in this environmental assessment, the following risk assessment was conducted. The Forest Service Northern Region Risk Assessment Rating Procedure for Undesirable Plants was used for this determination. This method meets the direction contained in the *Forest Service Manual Zero Code 2080 - Noxious Weed Management*.

Northern Region Risk Assessment Rating Procedure for Undesirable Plants

Factor 1: *Likelihood of Undesirable Plant Species, Including Noxious Weeds Species, Spreading to Project Area:*

NONE (0): Undesirable plants, including noxious weed species not located within or immediately adjacent to the project area. Project activity is not likely to result in the establishment of undesirable weed species on the project area.

LOW (1): Undesirable plant species present in areas adjacent to but not within the project area. Project activities can be implemented and prevent the spread of undesirable plants into the project area.

MODERATE (5): Undesirable plant species located immediately adjacent to or within the project area. Project activities are likely to result in some areas becoming infested with undesirable plant species even when preventative management actions are followed. Control measures are essential to prevent the spread of undesirable plants or noxious weeds within the project area.

HIGH (10): Heavy infestations of undesirable plants are located within or immediately adjacent to the project area. Project activities, even with preventative management actions, are likely to result in the establishment and spread of undesirable plants on disturbed sites throughout much of the project area.

Factor 2: *Consequence of Undesirable Plant Establishment in Project Area*

LOW (1): None. No cumulative effects expected.

MODERATE (5): Possible adverse effects on site and possible expansion of infestation within project area. Cumulative effects on native plant community are likely, but limited.

HIGH (10): Obvious adverse effects within the project area and probable expansion of undesirable plants, including noxious weed infestations to areas outside the project area. Adverse cumulative effects on native plant community are probable.

Risk Rating Procedure

Step 1. Identify level of likelihood and consequence of adverse effects and assign values according to the following:

None = 0, Low = 1, Moderate = 5, High = 10

Step 2. Multiply level of likelihood times consequences.

Step 3. Use the value resulting in step 2 to determine Risk Rating and action as follows:

Value	Risk Rating	Action
0	NONE	Proceed as planned.
1-10	LOW	Proceed as planned. Initiate control treatments on undesirable plant populations that get established in the area.
25	MODERATE	Develop preventative management measures for the proposed project to reduce the risk of introduction or spread of undesirable plants into the area. Monitor the area for at least 3 consecutive years and provide for control of new infestations.
50-100	HIGH	Modify project design and implement preventative management measures for the proposed project to reduce the risk of introduction or spread of undesirable plants into the area. Monitor the area for at least 5 consecutive years and provide for control of new infestations.

MITIGATION MEASURES - ACTION ALTERNATIVE

Mitigations for the Action Alternative are intended to address comments from the public concerning Issue 8, "Effects of project implementation to noxious weed proliferation and post-project weed monitoring needs". and reduce or eliminate direct, indirect or cumulative project effects.

Action Alternative Required Mitigations for Range Management Where Treatment Would Cause a Break in an Allotment or Pasture Boundary (Natural Barrier or Existing Fence)

One of the following mitigation would be required to eliminate effects to grazing allotments in the Benbow area:

1) Provide KV or other funding to construct new fence where natural barriers or existing fence would be compromised by the proposed project in the Benbow area (i.e. Treatment Units 03 and 60).

or

2) Avoid proposed treatments that would compromise an allotment or pasture boundary in the Benbow area.

Action Alternative Required Mitigations for Noxious Weeds Where Mechanical Treatment Would Occur

The following mitigations are required objectives and associated practices for timber harvest (FSM 2000 - National Forest Resource Management Zero Code 2080 - Noxious Weed Management - Supplement No.: R1 2000-2001-1)

1) Ensure that weed prevention is considered in all pre-harvest timber projects.

2) Remove all mud, dirt, and plant parts from all off road equipment before moving into project area. Cleaning must occur off National Forest lands. (This does not apply to service vehicles that will stay on the roadway, traveling frequently in and out of the project area.) Reference Contract Provision C/CT6.26

3) Minimize the creation of sites suitable for weed establishment. Soil disturbance should be minimized to meet harvest project objectives.

4) Revegetate all disturbed soil, except the travel way on surfaced roads, in a manner that optimizes plant establishment for that specific site, unless ongoing disturbance at the site will prevent weed establishment. Use native material where appropriate and available. Use a seed mix that includes fast, early season species to provide quick, dense revegetation. To avoid weed contaminated seed, each lot must be tested by a certified seed laboratory against the all State noxious weed lists and documentation of the seed inspection test provided.

5) Use local seeding guidelines for detailed procedures and appropriate mixes. Use native material where appropriate and available. Revegetation may include planting, seeding, fertilization, and weed-free mulching as indicated by local prescriptions.

6) Monitor and evaluate success of revegetation in relation to project plan. Repeat as indicated by local prescriptions.

Action Alternative Recommended Mitigation for Noxious Weeds Where Mechanical Treatment Would Occur

The following mitigations are recommended objectives and associated practices (FSM 2000 - National Forest Resource Management Zero Code 2080 - Noxious Weed Management - Supplement No.: R1 2000-2001-1)

1) Ensure that weed prevention is considered in all timber projects.

2) Consider treating weeds on roads used by timber sale purchasers. Reference Contract Provision C/CT6.26.

3) Treat weeds on landings, skid trails and helibases that are weed infested before logging activities, where practical.

4) Consider monitoring for weeds after sale activity and treat weeds as indicated by local prescriptions.

5) Consider trust, stewardship, or other funds to treat soil disturbance or weeds as needed after timber harvest and regeneration activities.

6) Consider monitoring and treating weed infestations at landings and on skid trails after harvest.

UNDESIRABLE PLANT RISK RATING FOR BEARTOOTH FRONT STORM DAMAGE CLEAN-UP AND FUELS REDUCTION PROJECT - ACTION ALTERNATIVE

Direct and Indirect Effects of Action Alternative to Noxious Weed proliferation

Step 1. Identify level of likelihood and consequence of adverse effects and assign values according to the above direction.

Direct and Indirect effects of this project are that the likelihood rating is moderate (5). Noxious weeds are present in limited quantity within all three portions of the project area, and could spread even with the current level of monitoring and treatment. Project activities, especially in treatment units where logging equipment and vehicles

are used off main roads, are likely to result in some areas becoming infested with undesirable plant species even when preventative management actions are followed. Control measures are essential to prevent the spread of undesirable plants or noxious weeds within the project area.

Direct and indirect effects of this project are that the consequence of noxious weed establishment is moderate (5). Cumulative effects on the native plant community are likely, but are limited with continued monitoring and treatment. Logging equipment and vehicles can spread spotted knapweed, Canada thistle, and sulfur cinquefoil and potential new noxious weed species within the project area either through moving noxious weed seeds from on site plants, or from bringing seed and reproductive plant parts of the same or new species into the project area.

Step 2. Multiply level of likelihood times consequences.

Likelihood (5) X Consequences (5) = Value (25)

Step 3. Use the value resulting in step 2 to determine Risk Rating.

A value of 25 gives a risk rating of moderate. Development of preventative management measures for the proposed project is required to reduce the risk of introduction or spread of undesirable plants into the area. Monitor the area for at least 3 consecutive years and provide for control of new infestations (see mitigation measures above).

Cumulative Effects of Action Alternative to Noxious Weed proliferation

Most of the existing weeds on the District are associated with past resource management or activities. The common elements associated with most weed infestations are ground disturbance, wildfire, and use of motorized vehicles. Once the weeds are introduced into an area they generally continue to spread into adjacent areas. Historically, the District has treated 150 to 200 acres of weeds annually, out of the 368 inventoried infested acres. The acres treated could increase if more funding becomes available. Weeds will continue to be spread as a result of resource management and other human activities. The recently developed mitigation measures that are addressed in the Forest Service Manual 2080 (see report below) are being implemented and will help to slow the spread of weeds. A weed risk assessment considers high-risk areas as those areas that do not require any additional disturbance in order for weeds to invade (e.g., natural meadows and grasslands). If a disturbance (such as a fire) occurred in a high-risk area with an existing weed problem and the area has motorized routes or timber harvest with ground disturbance, the cumulative impact will exasperate the problem. In this situation the weeds may spread quickly to new areas and may rapidly increase in density. For example, after a wildfire burns an area with existing weeds, the first plants to colonize the site are usually the invasive weeds and they quickly displace native plants. Having motorized travel in these areas will help to carry the weeds to new locations. Conversely, the motorized route will provide rapid access for weed treatment provided that funding is available for treatment. The best management practices outlined in Forest Service Manual 2080 will help to reduce the spread rate but it will not prevent the spread altogether. On the other hand, if a severe disturbance occurs in a low-risk area (e.g., forested environment), the area could support invasive weeds until new vegetation forms a dense canopy cover and out-competes the weeds (except for a few species that grow under a closed canopy or shaded environment such as orange hawkweed). Any ground or severe vegetation disturbing activity, such as mining in the Benbow area has the potential to increase the spread of noxious weeds. This risk comes from: 1) the equipment and people and, 2) the reduction and/or temporary elimination of the vegetation cover, providing a scarified seed bed and less vegetation competition, resulting in a higher chance of weed seed germination and weed establishment. Current on-going activities may have a cumulative negative effect by increasing the introduction and spread of noxious weeds. Livestock grazing in the Benbow area may transport weed seed between private or other lands and the Forest, or from place to place on the Forest, by carrying seed in the hair or digestive tract. Livestock may also increase seed germination by reducing vegetation competition in areas of excessive grazing and by ground disturbance in areas of excessive trailing. Wildlife and birds can similarly transport weed seed in hair, feathers and digestive tracts. Weed seeds are also transported by wind and water and wildfire provides improved germination. All of these specific activities and natural forces combine with activities affected by fuel reduction and timber harvest activities to cumulatively introduce and spread noxious weeds in the project area. Noxious weed treatment, as authorized by the 2006 Custer National Forest Final EIS

for Weed Management will continue regardless of whether a decision is made to conduct all, or part, of the storm clean-up and fuel treatment. The goal for noxious weed management in the project area is to prevent noxious weeds from going to seed, reducing the number of acres infested with noxious weeds, and to eradicate, and reduce, all new starts as soon as they are found.

Short-term Uses vs. Long-term Productivity of Action Alternative for Noxious Weeds

As stated above under the Direct and Indirect Effects discussion, the short term use of this area to treat fuels, especially in treatment units where logging equipment and vehicles are used off main roads, are likely to result in some areas becoming infested with undesirable plant species even when preventative management actions are followed. Increased would infestation could result in a potential long-term reduction in productivity due to noxious species out-competing native vegetation.

Irreversible/Irretrievable Commitments of Action Alternative to Noxious Weeds

No irreversible commitments identified.

As stated above in the cumulative effects discussion, a severe disturbance, such as pile burning and subsequent noxious weed infestation in a low-risk area (e.g., forested environment) could result in the irretrievable commitment of the area supporting invasive weeds until new vegetation forms a dense canopy cover and out-competes the weeds (except for a few species that grow under a closed canopy or shaded environment such as orange hawkweed).

Unavoidable Adverse Effects of Action Alternative to Noxious Weeds

As stated above under the cumulative effects discussion, all of these specific activities and natural forces combine with activities affected by fuel reduction and timber harvest activities to cumulatively introduce and spread noxious weeds in the project area.

Forest Plan Consistency of Action Alternative for Noxious Weeds

With application of required mitigations and continuing noxious weed treatment, as authorized by the 2006 Custer National Forest Final EIS for Weed Management, the Action Alternative would be consistent with the 1986 Custer National Forest Land and Resource Management Plan.

UNDESIRABLE PLANT RISK RATING FOR BEARTOOTH FRONT STORM DAMAGE CLEAN-UP AND FUELS REDUCTION PROJECT - NO ACTION ALTERNATIVE

No Action Alternative Mitigation for Range Management Where Treatment Would Cause a Break in an Allotment or Pasture Boundary (Natural Barrier or Existing Fence)

None Identified.

No Action Alternative Mitigation for Noxious Weeds Where Mechanical Treatment Would Occur

None Identified.

Direct and Indirect Effects of No Action Alternative to Noxious Weed proliferation

Step 1. Identify level of likelihood and consequence of adverse effects and assign values according to the above direction.

Direct and Indirect effects if no action is taken are that the likelihood rating is low to moderate (2.5). Noxious weeds are present in limited quantity within all three portions of the project area, and could spread even with the current level of monitoring and treatment.

Direct and indirect effects if no action is taken are that the consequence of noxious weed establishment is low to moderate (2.5). Cumulative effects on the native plant community are likely, but are limited with continued monitoring and treatment. Current activities in the area can spread spotted knapweed, Canada thistle, and sulfur cinquefoil and the potential new noxious weed species within the project area either through moving noxious weed seeds from on site plants, or from bringing seed and reproductive plant parts of the same or new species into the project area.

Step 2. Multiply level of likelihood times consequences.

Likelihood (2.5) X Consequences (2.5) = Value (5)

Step 3. Use the value resulting in step 2 to determine Risk Rating.

A value of 5 gives a risk rating of low for the No Action Alternative.

Cumulative Effects of No Action Alternative to Noxious Weed proliferation

Most of the existing weeds on the District are associated with past resource management or activities. The common elements associated with most weed infestations are ground disturbance, wildfire, and use of motorized vehicles. Once the weeds are introduced into an area they generally continue to spread into adjacent areas. Historically, the District has treated 150 to 200 acres of weeds annually, out of the 368 inventoried infested acres. The acres treated could increase if more funding becomes available. Weeds will continue to be spread as a result of resource management and other human activities. The recently developed mitigation measures that are addressed in the Forest Service Manual 2080 (see report above) are being implemented and will help to slow the spread of weeds. A weed risk assessment considers high-risk areas as those areas that do not require any additional disturbance in order for weeds to invade (e.g., natural meadows and grasslands). If a disturbance (such as a fire) occurred in a high-risk area with an existing weed problem and the area has motorized routes or other ground disturbance, the cumulative impact will exasperate the problem. In this situation the weeds may spread quickly to new areas and may rapidly increase in density. For example, after a wildfire burns an area with existing weeds, the first plants to colonize the site are usually the invasive weeds and they quickly displace native plants.

Because proposed fuels treatments and storm-damage clean-up will not occur under the No Action Alternative, suppression capability would not be improved and the likelihood of a large wildfire and subsequent potential for weed infestation and proliferation would be increased. Having motorized travel in these areas will help to carry the weeds to new locations. Conversely, the motorized route will provide rapid access for weed treatment provided that funding is available for treatment. The best management practices outlined in Forest Service Manual 2080 will help to reduce the spread rate but it will not prevent the spread altogether. On the other hand, if a severe disturbance occurs in a low-risk area (e.g., forested environment), the area could support invasive weeds until new vegetation forms a dense canopy cover and out-competes the weeds (except for a few species that grow under a closed canopy or shaded environment such as orange hawkweed). Any ground or severe vegetation disturbing activity, such as mining in the Benbow area has the potential to increase the spread of noxious weeds. This risk comes from: 1) the equipment and people and, 2) the reduction and/or temporary elimination of the vegetation cover, providing a scarified seed bed and less vegetation competition, resulting in a higher chance of weed seed germination and weed establishment. Current on-going activities may have a cumulative negative effect by increasing the introduction and spread of noxious weeds. Livestock grazing in the Benbow area may transport weed seed between private or other lands and the Forest, or from place to place on

the Forest, by carrying seed in the hair or digestive tract. Livestock may also increase seed germination by reducing vegetation competition in areas of excessive grazing and by ground disturbance in areas of excessive trailing. Wildlife and birds can similarly transport weed seed in hair, feathers and digestive tracts. Weed seeds are also transported by wind and water and wildfire provides improved germination. All of these specific activities and natural forces combine with activities affected by fuel reduction and timber harvest activities to cumulatively introduce and spread noxious weeds in the project area.

Short-term Uses vs. Long-term Productivity of No Action Alternative for Noxious Weeds
As stated above under the Direct and Indirect Effects discussion, the short term use of this area to treat fuels, especially in treatment units where logging equipment and vehicles are used off main roads, are likely to result in some areas becoming infested with undesirable plant species even when preventative management actions are followed. Increased would infestion could result in a potential long-term reduction in productivity due to noxious species outcompeting native vegetation.

Irreversible/Irretrievable Commitments of No Action Alternative to Noxious Weeds
No irreversible or irretrievable commitments identified.

Unavoidable Adverse Effects of No Action Alternative to Noxious Weeds
As stated above under the cumulative effects discussion, because proposed fuels treatments and storm-damage clean-up will not occur under the No Action Alternative, fire suppression capability would not be improved and the likelihood of a large wildfire and subsequent potential for weed infestation and proliferation would be increased.

Forest Plan Consistency of No Action Alternative for Noxious Weeds
With continued weed treatements as authorized by the Noxious weed treatment, as authorized by the 2006 Custer National Forest Final EIS for Weed Management , the No Action Alternative would be consistent with the 1986 Custer National Forest Land and Resource Management Plan.