TECHNICAL SPECIALIST'S REPORT – BURNED AREA EMERGENCY RESPONSE

Resource: Native Plant Communities/Noxious Weeds
Fire Name: Waldo Canyon Month/Year: 7/2012

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I. Potential Values at Risk

Natural Resources: Ecological integrity of native plant communities in the burned area that may be at risk from expanding noxious weed populations.

II. Resource Condition Assessment

A. Resource Setting

Knowledge of existing noxious weed populations in the burned area is limited. Based on surveys in other areas of the Forest and on literature reviews, it is reasonable to assume a 1% existing infestation rate in the fire area. If new infestations are established, the magnitude of the consequences could be significant and long-term.

During our on-site assessments and from speaking with subject matter experts in the local area, we identified several priority species that have the potential to adversely affect the native plant communities in the fire area. These species are designated for eradication according to the Colorado Department of Agriculture Noxious Weed Law (Attachment A) and they are known to occur in the fire area or on private lands bordering the fire.

B. Findings of the On-The-Ground Survey

1. Resource condition resulting from the fire and suppression activities: Many disturbed sites have been created and these are vulnerable to noxious weed invasion.

    a. New disturbance areas were created from fire suppression activities:
        - Construction of dozer line (estimated 87 acres)
        - Construction of hand line (estimated 5 acres)
        - Construction of fuel break on Mt. Herman Road (estimated 100 acres)
        - Construction of landing areas (estimated 7.5 acres)
        - Construction and/or use of miscellaneous sites (helispots, drop points, spike camp estimated 10 acres)

    We cannot confirm that heavy equipment used on the dozer lines was cleaned and inspected prior to use. Also, the seed purchased and used during rehab on the dozer and hand lines was not tested independently for the presence of noxious weed seed. Each increases the risk of noxious weed invasion. We can expect an increase of approximately 20 acres of noxious weeds in these new disturbance areas.

    b. Fornwalt and others (2010) determined that exotic species presence and cover increase in high and moderate burn severity areas. In the Waldo Canyon fire, we can expect an increase of approximately 145 acres of noxious weeds due to the effects of burn severity.

    c. Increased runoff and sediment flows will affect portions of roads, trails and drainages in the fire area. Each impacted site may provide the conditions needed for noxious weed expansion. We can expect an increase of approximately 40 acres of noxious weeds in these areas.

2. Resource condition resulting from BAER implementation measures: New noxious weed occurrences or expansion of existing populations are most likely to occur in disturbed sites or from introduced material.

    a. New disturbance areas are likely to be created during BAER implementation including:
        - Source sites for wood shredding activity
        - Construction of landings, helispots
        - Storage sites for straw mulch
        - Drop sites, equipment storage sites

    b. Noxious weed seed can be unintentionally introduced into the fire area as a result of BAER implementation including:
        - Contaminated straw mulch
        - Contaminated seed

    The affected acres will be determined after the measures have been completed. New noxious weed invasions as a result of implementation will not be detectable until the spring or summer of 2013. Funding for treatment of these vulnerable areas will be submitted in the 2013 Interim BAER request.

3. Condition of Values at Risk

Burn severity, increased soil disturbance and non-native material introduced into the fire area pose a risk to the ecological integrity of native plant communities in the burned area. This is a threat to the natural resources of the burned area.

III. Emergency Determination

The BAER team has concluded that the risk to this natural resource is very high.

IV. Treatments to Mitigate the Emergency

A. Treatment Type: Noxious Weed Detection Surveys and Herbicide Treatment

Treatment Objectives: Prevent the establishment and expansion of noxious weeds in burned areas. This will allow natural regeneration of native plant communities affected by the burn and prevent loss of ecological stability as a result of weed infestations.

Treatments Description:

- Detection surveys will focus on known and high potential sites in the burned area, with particular emphasis on locating new infestations due to management actions and suspected contaminated equipment and seed. Surveys will be completed on 5,000 acres.
- Apply herbicide control to 50 acres of noxious weed infestations that pose a threat for establishment, seed set, or expansion. All herbicide treatments will be ground based, using spot treatment. All treatments on NF lands will comply with the Pike and San Isabel National Forest Noxious Weed EA. All herbicide label requirements will be followed.

IV. Discussion/Summary/Recommendations

In summary, the prescribed treatments for noxious weeds are designed to help protect the ecological integrity of native plant communities in the burned area that may be at risk from expanding noxious weed populations. The treatments are designed to prevent and reduce the spread of these invasive species, which was determined to be a very high risk.

V. References

Fornwalt, Paula J.; Kaufmann, Merrill R.; Stohlgren, Thomas J. 2010. Impacts of mixed severity wildfire on exotic plants in a Colorado ponderosa pine-Douglas-fir forest. Biological Invasions. 12(8): 2683-2695.

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VI. Appendices

Table 1. List of Noxious Weed Species in or near the Waldo Canyon Fire
Map. Noxious Weed Infestations (Known Sites and Concentration Areas)

Table 1. List of Noxious Weed Species In or Near the Waldo Canyon Fire

		Watersheds in Which Species are Known or Suspected to Occur					Colorado Noxious Weed List Status*
Common Name	**Scientific Name**	Headwaters Fountain Cr	Cascade	Garden Gods	Lower Monument	West Monument	
Japanese knotweed	*Polygonum cuspidatum*	X					List A eradication
Myrtle spurge	*Euphorbia myrsinites*	X	X	X	X		List A eradication
Orange hawkweed	*Hieracium aurantiacum*	X					List A eradication
Chinese clematis	*Clematis orientalis*	X	X	X			List B eradication
Dalmatian toadflax	*Linaria dalmatica*			X			List B eradication
Houndstongue	*Cynoglossum officinale*			X			List B eradication
Spotted Knapweed	*Centaurea maculosa*	X		X			List B eradication
Bouncingbet	*Saponaria officinalis*			X			List B
Canada thistle	*Cirsium arvense*	X	X	X	X	X	List B
Dames rocket	*Hesperis matronalis*	X					List B
Diffuse knapweed	*Centaurea diffusa*	X	X	X			List B
Leafy spurge	*Euphorbia esula*			X			List B
Musk thistle	*Carduus nutans*	X	X	X	X	X	List B
Yellow toadflax	*Linaria vulgaris*	X	X	X	X	X	List B
Common mullein	*Verbascum thapsus*	X	X	X	X	X	List C
Downy brome	*Bromus tectorum*	X	X	X	X	X	List C

*According to Colorado State Noxious Weed Law, List A species in Colorado are designated by the Commissioner for eradication; List B weed species are species for which the Commissioner, in consultation with the state noxious weed advisory committee, local governments, and other interested parties, develops and implements state noxious weed management plans designed to stop the continued spread of these species. Eradication is required in specified areas. List C species are those species which the commissioner will develop programs to support the efforts of local governing bodies to facilitate more effective, integrated management efforts on public and private lands.