DECISION RECORD

for

INVASIVE PLANT MANAGEMENT (IPM)-KEMMERER, PINEDALE AND ROCK SPRINGS FIELD OFFICE(S)

ENVIRONMENTAL ASSESSMENT WY-090-EA09-52

Introduction

The Invasive Plant Management (IPM) EA (WY-090-EA09-52) is a multi-field office analysis of potential effects that could result from the implementation of the *Proposed Action*. The EA assists the BLM in project planning and ensuring compliance with the National Environmental Policy Act (NEPA), and in making a determination as to whether any "significant" impacts could result from the analyzed actions. "Significance" is defined by NEPA and is found in regulation 40 CFR 1508.27.

Invasive plants are defined as "non-native plants whose introduction does or is likely to cause economic or environmental harm or harm to human health," based on the definition provided in Executive Order 13112. Invasive plants are compromising the ability to manage BLM lands for a healthy native ecosystem and can create a host of environmental and other effects, most of which are harmful to native ecosystem processes, including: displacement of native plants; reduction in functionality of habitat and forage for wildlife and livestock; increased potential for soil erosion and reduced water quality; alteration of physical and biological properties of soil; loss of long-term riparian area function; loss of habitat for culturally significant plants; high cost (dollars spent) of controlling invasive plants; and increased cost to maintaining transportation systems and recreational sites.

Resource review and analyses has been coordinated with other federal and state agencies. Resources determined to be potentially impacted were analyzed in the EA specific to the Proposed Action. These resources include but are not limited to: Cultural and Historical Resources, Hazardous and Solid Wastes, Special Status/Sensitive Species, Invasive Non-Native Species, Land Use Authorizations, Socioeconomics, Soils, Wildlife, and Vegetation.

Increased use of public land has contributed to habitat degradation as invasive plants replace native vegetation. Invasive vegetation reduces soil productivity, water quality and quantity, native plant communities, wildlife habitat, wilderness values, recreational opportunities, and livestock forage. The percentage of land infested by invasive plants is relatively low in the KFO, PFO, and RSFO, thus providing an opportunity to aggressively treat new and existing infestations. Should a single treatment of invasive plants exceed 500 acres, a site specific EA will be required to address potential environmental impacts. The current untreated, known weed-infested acreage is estimated at 335,000 acres (not including areas infested with cheatgrass). However, most of the KFO, PFO, and RSFO areas have not been inventoried for noxious and invasive species; thus, the actual number of acres needing treatment has not been established. Historically, the KFO, PFO, and RSFO have treated approximately 25,000 acres of vegetation per year. The current treatment focus is on Wyoming state listed noxious weeds; however, controlling other invasive species (halogeton, black henbane, and cheatgrass) that cause management problems related to livestock, wildlife, and human activities is a secondary focus. Surface disturbing activities

associated with natural gas development, such as pad, road, and pipeline construction, are increasing the presence of these invasive species.

ALTERNATIVES CONSIDERED

A. **Expand herbicide use and allow for use of new herbicides in 17 western states (Preferred Alternative) -**This alternative represents the treatment of vegetation using 18 herbicide active ingredients in 17 western states (2007).

B. **Continued present herbicide use –** Under this alternative, the BLM would continue to use 20 herbicide active ingredients currently approved for use in 14 western states (1992).

C. **No use of herbicides -** Under this alternative, the BLM would not treat vegetation using herbicides and would not use new chemicals that are developed in the future. The BLM would treat vegetation using fire, manual/physical, and biological control methods.

D. **No aerial application of herbicides -** This alternative is similar to the Preferred Alternative in that it represents the treatment of vegetation using herbicides in 17 western states, including Alaska, and use of the same active ingredients as allowed under the Preferred Alternative. Under this alternative, however, only ground-based techniques would be used to apply herbicides (no aerial applications of herbicides would be allowed) to would reduce the risk of spray drift impacting non-target areas.

E. **No use of sulfonylurea and other acetolactate synthase-inhibiting active ingredients -** Under this Alternative, the BLM would not use sulfonylurea and other acetolactate synthase-inhibiting active ingredients approved in the earlier RODs, which are chlorsulfuron, imazapyr, metsulfuron methyl, and sulfometuron methyl.

RATIONAL FOR DECISION

It is my decision to implement Alternative A, expand herbicide use and allow for use of new herbicides in 17 western states. This will allow for the treatment of vegetation using 18 herbicide active ingredients in 17 western states including Alaska (2007). This alternative is selected for implementation and will include the use of chemical control. The Bureau of Land Management (BLM) has an ongoing program to identify better chemicals for use on public lands, this alternative will allow for these chemicals to be added under this EA as they are approved, and the removal of others as may be necessary. The research that is involved in adding new herbicides to the BLM list has a strict protocol. Herbicides may be removed for reasons out of the control of the BLM, and as new active ingredients come available it is vital for the opportunity to add them to the BLM list for successful control of invasive and noxious weeds on public lands.

This alternative will allow for the treatments of *Bromus tectorum (cheatgrass)* .The control of this invasive plant would not be as affective without the use of Imazapic-based herbicides. This herbicide has shown to be affective at lower rates on cheatgrass, *Centaurea repens* (Russian knapweed),*Centaurea biebersteinii* (spotted knapweed) and *Lepidium latifolium* (perennial pepperweed), while having no negative effects on native vegetation, allowing for better restoration of habitat.

Through this action the risk associated with herbicide applications to non-target plants is less compared to the other alternatives addressed in the EA, and will result in fewer pounds of active ingredient on public lands and allow for less acres treated as healthy vegetation out competes invasive and noxious weeds through the use of more efficient herbicides. To reduce impacts to soil productivity, treatments would be minimized or eliminated in areas of the Pinedale Field Office, Kemmerer Field Office, and Rock Springs Field Office that have steep slopes or the potential for soil mobility. Herbicide treatments would benefit soils by removing invasive and noxious plants allowing for the restoration of native vegetation and allowing for the restoration of native vegetation and a return to more natural fire regimes.

APPROVED APPLICATIONS

Method	Description
Manual/Physical	
Hand pulling	Pulling or uprooting plants can be effective against some shrubs, tree saplings, and herbaceous invasive plants. Annuals and tap-rooted plants are particularly susceptible to control by hand pulling. It is not as effective against many perennial invasive plants with deep underground stems and roots that are often left behind to re-sprout. The advantages of pulling include its small ecological impact, minimal damage to neighboring plants, and low (or no) cost for equipment or supplies. The key to effective hand pulling is to remove as much of the root as possible while minimizing soil disturbance. For many species, any root fragments left behind have the potential to re-sprout, and pulling is not effective on plants with deep and/or easily broken roots.
Pulling Using Tools	Most plant-pulling tools are designed to grip the plant stem and provide the leverage necessary to pull its roots out. Tools vary in their size, weight, and the size of the invasive plant they can extract. The Root Talon is inexpensive and lightweight, but may not be as durable or effective as the all-steel Weed Wrench, which is available in a variety of sizes. Both tools can be cumbersome and difficult to carry to remote sites. Both work best on firm ground as opposed to soft, sandy, or muddy substrates.
Clipping	"Clipping" means to cut or remove seed heads and/or fruiting bodies to prevent germination. This method is labor-intensive and effective for small and spotty infestations.
Clipping and pulling	Clipping and pulling" means cutting a portion of the invasive plant stem and pulling it from its substrate, generally the bole of a tree. This method is labor intensive, but can be effective for larger infestations.
Stabbing	Some plants can be killed by severing or injuring (stabbing) the carbohydrate storage structure at the base of the plant. Depending on the species, this structure may be a root corm, storage rhizome (tuber), or taproot. These organs are generally located at the base of the stem and under the soil. Cutting off access to these storage structures can help "starve" or greatly

	weaken some species.
Mechanical	
Mowing, cutting, brushing, trimming, weed eating	Mowing and cutting can reduce seed production and restrict invasive plant growth, especially in annuals cut before they flower and set seed. Some species however, re-sprout vigorously when cut, replacing one or a few stems with many that can quickly flower and set seed. These treatments are used as primary treatments to remove aboveground biomass in combination with herbicide treatments to prevent re-sprouting, or as follow up treatments to treat target plants missed by initial herbicide use. Also, mowing and cutting can be used, in conjunction with herbicide treatments, to reduce vegetative materials and to promote vigorous growth in order to decrease the amount of herbicide application needed, and to increase herbicide effectiveness.
Biological	
Grazing goats, sheep, livestock Classical biological control (insects, pathogens, nematodes, mites)	Grazing could either promote or reduce invasive plant abundance at a particular site. When grazing treatments are combined with other control techniques, such as herbicides, severe infestations could be reduced and small infestations may be eliminated. Grazing animals may be particularly useful in areas where herbicides cannot be applied (e.g., near water) or are prohibitively expensive (e.g., large infestations). Animals also could be used as part of a restoration program by breaking up the soil and incorporating in seeds of desirable native plants. Goats prefer broadleaf herbs and have been used to control leafy spurge (*Euphorbia esula*), Russian knapweed (*Acroptilon repens*), and toadflax (*Linaria spp.*). These animals appear to be able to neutralize the phytochemicals toxic to other animals that are present in these and other forbs. Goats could control woody species because they climb and stand on their hind legs, and browse on vegetation other animals cannot reach. Classical biological control agents can be introduced to an invasive plant infestation to directly damage plant tissue. Although invasive plants do not die quickly, increasing plant stress allows native plants to compete better. Biological control treatments are best used in larger infestation sites where invasive plants are well established and where short term control is not a management objective. Biological control does not eradicate invasive plants and is commonly used in conjunction with

	herbicide applications.
Chemical	
Hand/Selective Treatment	Selective treatment of individual plants to avoid spraying other desirable plants. There is a low likelihood of drift or delivery of herbicides away from treatment sites. This method is used in sensitive areas, such as near water, to avoid getting any herbicide on the soil or in the water. Hand/Selective methods could be done under more variable conditions (versus spot spraying or broadcast spraying). Specific methods include: a. Wicking and Wiping - Involves using a sponge or wick on a long handle to wipe herbicide onto foliage and stems. Use of a wick eliminates the possibility of spray drift or droplets falling on non-target plants. Herbicide can drip or dribble from some wicks. b. Foliar Application - These methods apply herbicide directly to the leaves and stems of a plant. An adjuvant or surfactant is often needed to enable the herbicide to penetrate the plant cuticle, a thick, waxy layer present on leaves and stems of most plants. There are several types of foliar application tools available. c. Basal Bark - This method applies a 6 to 12 inch band of herbicide around the circumference of the trunk of the target plant, approximately one foot above ground. The width of the sprayed band depends on the size of the plant and the species' susceptibility to the herbicide. The herbicide can be applied with a backpack sprayer, hand-held bottle, or wick. d. Frill or Hack and Squirt - The frill method, also called the "hack and squirt" treatment, is often used to treat woody species with large, thick trunks. The tree is cut using a sharp knife, saw, or ax, or drilled with a power drill or other device. Herbicide is then immediately applied to the cut with a backpack sprayer, squirt bottle, syringe, or similar equipment. e. Stem Injection - Herbicides can be injected into herbaceous stems using a needle and syringe. Herbicide pellets can also be injected into the trunk of a tree using a specialized tool. f. Cut-stump - This method is often used on woody species that normally re-sprout after being cut. Cut down the tree or shrub, and immediately spray or squirt herbicide on the exposed cambium (living inner bark) of

	the stump. The herbicide must be applied to the entire inner bark (cambium) within minutes after the trunk is cut. The outer bark and heartwood do not need to be treated since these tissues are not alive, although they support and protect the tree's living tissues. The cut stump treatment allows for a great deal of control over the site of herbicide application, and therefore, has a low probability of affecting non-target species or contaminating the environment. It also requires only a small amount of herbicide to be effective.
Spot Spraying	Spot applicators spray herbicide directly onto small patches or individual target plants only and avoid spraying other desirable plants. These applicators range from motorized rigs with spray hoses to backpack sprayers, to hand-pumped spray or squirt bottles, which can target very small plants or parts of plants.
Broadcast (Boom) Spraying	A boom, a long horizontal tube with multiple spray heads, may be mounted or attached to a tractor, ATV (all terrain vehicles) or other vehicle. The boom is then carried above the invasive plants while spraying herbicide, allowing large areas to be treated rapidly with each sweep of the boom. Offsite movement due to vaporization or drift and possible treatment of non-target plants can be of concern when using this method. The herbicide is carried in a tank and reaches the nozzles via tubing. All herbicides are metered out from the nozzles in a controlled manner. The nozzle controls the droplet size, the area (or cone) being covered by the herbicide and it could be turned on/off with ease. Some nozzles could rotate. All this flexibility permits the operator to carefully apply herbicide at specific rates over specific areas. Many of the new boom spray operations have very sophisticated electronic monitoring that delivers exact amounts of herbicides and keeps records on rates and areas covered. Offsite movement due to drift and possible treatment of non-target plants could be of concern when using this method. Not all broadcast methods include a boom; boom-less nozzles are currently in use that can reduce the risk of non-target effects. Backpacks may also be used as a broadcast tool, if not directed at individual plants.
Aerial	Herbicides applied aerially by helicopter or fixed-wing aircraft.

DECISION

It is my decision to implement Alternative A, expand herbicide use and allow for use of new herbicides in 17 western states. This will allow for the treatment of vegetation using 18 herbicide active ingredients in 17 western states including Alaska (2007).

APPEAL PROCEDURES

Under BLM regulations, this decision is subject to administrative review in accordance with 43 Code of Federal Regulation (CFR) 3165. Any request for administrative review of this decision must include the information required under 43 CFR 3165.3(b) including all supporting documentation. Such a request must be filed in writing with the State Director (920), Bureau of Land Management, P.O. Box 1828, Cheyenne, Wyoming, 82003, within 20-business days after the Decision Record is received or considered to have been received.

Any party who is adversely affected by the State Directors decision may appeal that decision to the Interior Board of Land Appeals, as provided by CFR 43 3165.4.

Signature

21 May 2010

Date

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Date

Attached: Letter/ comments from comment period May1-June 30, 2009