

## **CHAPTER 1**

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# **PROPOSED ACTION AND PURPOSE AND NEED**



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### Introduction

The United States Department of the Interior (USDOI) Bureau of Land Management (BLM) administers approximately 247 million acres in 17 western states in the continental United States (U.S.) and Alaska (Map 1-1). One of the BLM's highest priorities is to promote ecosystem health, and one of the greatest obstacles to achieving this goal is the rapid expansion of invasive plants (including noxious weeds and other plants not native to an area) across public lands. These invasive plants can dominate and often cause permanent damage to native plant communities. If not eradicated or controlled, invasive plants jeopardize the health of public lands and the activities that occur on them. Herbicides are one method employed by the BLM to manage these plants.

In 2007, the BLM published the *Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement* (2007 PEIS; USDOI BLM 2007a). The Record of Decision (ROD) for the 2007 PEIS allows the BLM to use 18 herbicide active ingredients available for a full range of vegetation treatments in 17 western states (USDOI BLM 2007b). In the ROD, the BLM also outlines a protocol for identifying, evaluating, and using new herbicide active ingredients. Under the protocol, the BLM is not allowed to use a new herbicide active ingredient until the agency 1) assesses the hazards and risks from using the new active ingredient, and 2) prepares an Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA) to assess the impacts to the natural, cultural, and social environment associated with the use of the new active ingredient on BLM-administered lands. While the protocol originally indicated that a Supplemental EIS could be prepared, further legal review determined that since the vegetation treatment program has been implemented, adding new herbicides is considered a new action rather than a supplemental action. Therefore, a separate EIS is required to assess the impacts associated with the use of new herbicides.

### Proposed Action

The BLM is proposing to add the herbicides aminopyralid, fluroxypyr, and rimsulfuron to its list of approved active ingredients for use on public lands. These herbicides have been identified by the BLM based on input from BLM field offices and a preliminary assessment of their effectiveness and suitability for the BLM's vegetation treatment needs. The three new herbicides have been registered for use by the U.S. Environmental Protection Agency (USEPA), are deemed effective in controlling vegetation, and have minimal effects on the environment and human health if used according to the herbicide label instructions.

Ecological risk assessments (ERAs) and a human health risk assessment (HHRA) have been completed as part of the PEIS process to be used in support of the assessment of potential impacts of the new herbicide active ingredients.

This action would increase the number of herbicide active ingredients available to the BLM from 18 to 21. The new herbicides would be integrated into the herbicide treatment programs that were assessed in the 2007 PEIS and accompanying Programmatic Environmental Report (17-States PER; USDOI BLM 2007c). Proposed treatments using aminopyralid, fluroxypyr, and rimsulfuron could occur anywhere on the 247 million acres of public lands in the western U.S., including Alaska, unless restricted by the herbicide label or BLM guidelines. Components of site-specific treatment programs, including treatment and herbicide application methods utilized, acres treated, and treatment locations, would be determined at the local level and by Congressional direction and funding.

While the ROD for the 2007 PEIS makes no decisions regarding the number of acres that can be treated using herbicides, the maximum treatment acreage assumed in the 2007 PEIS—932,000 acres annually—is being carried over to this action.

The three new herbicides would be available for use in vegetation treatment programs on public lands immediately after the ROD has been signed.

## **Purpose and Need for the Proposed Action**

The need for the proposed action is the ongoing spread of noxious weeds and other invasive plants, which degrade the health of public lands and affect resources such as wildlife habitat, native plant communities, threatened and endangered species habitat, soil, water, and recreation. Some invasive vegetation acts as a hazardous fine fuel and contributes to the frequency, extent, and severity of wildfires. The BLM requires effective tools for management of invasive plants in order to prevent their spread into non-infested areas, restore desirable vegetation in degraded areas, and reduce wildfire risk. In particular, the BLM has identified the need for additional herbicide active ingredients that: 1) have less environmental and human health impacts than some of the currently approved herbicides (e.g., picloram); 2) increase options for management of invasive annual grasses; and 3) address potential herbicide resistance by certain species (e.g., kochia<sup>1</sup>, marehail, and pigweed) to active ingredients currently used by the BLM.

The purpose of the proposed action is to improve the effectiveness of the BLM's vegetation management program by allowing herbicide treatments with aminopyralid, fluroxypyr, and rimsulfuron. This action would increase the number of active ingredients approved for use, and would give the BLM increased flexibility and options when designing on-the-ground herbicide treatments.

Including the three new herbicides in the vegetation management program would also help meet the purposes that were first identified in the 2007 PEIS, which are to provide BLM personnel with the herbicides available for vegetation treatment on public lands and to describe the conditions and limitations that apply to their use.

The overall goals of vegetation treatments with herbicides are to reduce the risk of wildfires by reducing hazardous fuels, stabilize and rehabilitate fire-damaged

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<sup>1</sup> Common and scientific names of plants and animals used in this PEIS are provided in Appendix A.

lands, and improve ecosystem health by 1) controlling invasive plants, and 2) manipulating vegetation to benefit fish and wildlife habitat, improve riparian and wetland areas, and improve water quality in priority watersheds. The ability to utilize aminopyralid, fluroxypyr, and rimsulfuron, in conjunction with other herbicides and vegetation treatments, would help the BLM meet these natural resource goals.

## **Scope of Analysis and Decisions to Be Made**

This PEIS analyzes the effects of using aminopyralid, fluroxypyr, and rimsulfuron to treat vegetation on public lands in the western U.S., including Alaska. These lands include Oregon and California Land Grant lands, Coos Bay Wagon Road lands, National Recreation Areas, Areas of Critical Environmental Concern, and lands administered by the BLM through its National Landscape Conservation System (NLCS), such as Wilderness Study Areas (WSAs), designated Wilderness Areas, National Monuments, and National Conservation Areas.

## **Study Area and Scope of Analysis**

The study area for this PEIS is generally the same as the study area for the 2007 PEIS. It includes all BLM-administered lands in the 17 western states of Alaska, Arizona, California, Colorado, Idaho, Nebraska, Nevada, New Mexico, North Dakota, Montana, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington, and Wyoming. The total acreage of the study area is approximately 247 million acres (USDOI BLM 2013a).

Because this PEIS is programmatic in nature, it makes broad assumptions about the acreages that would be treated annually by the three herbicides proposed for use. More specific estimates of acreages treated would be made at the regional, state, or local level, and assessed in step-down EISs or Environmental Assessments.

This PEIS provides a background source of information to which any necessary subsequent environmental analyses can be tiered. In general, the NEPA process may be done at multiple scales, depending on the scope of the proposal. This PEIS represents the broadest level of analysis; at this level, the study contains a broad environmental impact analysis, focuses on general policies, and provides Bureau-wide decisions on herbicide use. Additionally, it provides an umbrella

Endangered Species Act (ESA) Section 7 consultation for the range of activities described in the PEIS. The various scales of analysis and the tiering process are discussed in more detail in the 2007 PEIS (USDOI BLM 2007a:1-9 to 1-10).

## Decisions to be Made

The BLM will use the information in this PEIS and public comments on the draft and final PEIS to develop a ROD for the proposed action, which will be released at least 30 days after the Notice of Availability of the final PEIS is published. The ROD will indicate which alternative is selected for implementation.

As part of selecting an alternative, the BLM decision-maker may choose to implement a portion of the selected alternative (such as approving only one or two of the three herbicides), or combine features of multiple alternatives (such as restricting aerial application of only one or two of the three herbicides). The ROD will address significant impacts, alternatives, environmental preferences, and relevant economic and technical considerations.

If the decision-maker decides to approve the use of one or more new active ingredients, the ROD will also indicate what standard operating procedures (SOPs) and mitigation will be implemented to minimize the impacts of herbicide treatments with the three new active ingredients, or will identify new SOPs. These SOPs and mitigation measures would be implemented in addition to those already specified in the ROD for the 2007 PEIS.

## Documents that Influence the Scope of the PEIS

Much of the scope of this PEIS is based on the PEIS prepared in 2007 to evaluate the use of herbicides for vegetation treatments on public lands. The 2007 PEIS provides a detailed discussion of the BLM's vegetation management programs and herbicide use on BLM lands, and evaluates the risks of using the 18 herbicides currently approved for use by the BLM. Under the current proposal, the herbicides approved for usage by the 2007 PEIS would continue to be used, and overall vegetation management programs would be mostly unchanged, with the exception of the addition of the three new herbicides. Where appropriate, information in the 2007 PEIS that is relevant to analysis of the current proposal is cited and incorporated by reference.

Documents that provide policy and guidance for hazardous fuels reduction and land restoration activities to reduce the risk of wildfires and restore fire-adapted ecosystems include: the *National Fire Plan* (USDOI and USDA 2001); the Healthy Forests Initiative of 2002 and the Healthy Forests Restoration Act of 2003 (Public Law 108-148); Chapter 3 (Interagency Burned Area Emergency Stabilization and Rehabilitation) in BLM Manual 620, *Wildland Fire Management* (USDOI BLM 2004); *A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment 10-Year Strategy Implementation Plan* (USDOI and USDA 2006a); *Interagency Burned Area Rehabilitation Guidebook* (USDA and USDOI 2006b); the *Emergency Stabilization and Rehabilitation Handbook* (H-1742-1; USDOI BLM 2007d); and the *National Strategy* (USDOI and USDA 2014). Additional documents and policies that influence the scope of this PEIS are listed in the 2007 PEIS (USDOI BLM 2007a:1-6 and Appendix F).

## Relationship to Statutes, Regulations, and Policies

The 2007 PEIS details the federal laws, regulations, and policies that influence vegetation treatments on BLM-administered lands (USDOI BLM 2007a:1-6 to 1-8). These include the Federal Land Policy Management Act of 1976 (FLPMA), Taylor Grazing Act of 1934, Oregon and California Grant Lands Act of 1937, Carson-Foley Act of 1968, Plant Protection Act of 2000, Section 15 of the Federal Noxious Weed Act of 1974, as amended, Noxious Weed Control Act of 2004, Public Rangelands Improvement Act of 1978, Clean Air Act, Safe Drinking Water Act, Wilderness Act of 1964, Clean Water Act, Federal Insecticide, Fungicide, and Rodenticide Act, Federal Food, Drug, and Cosmetic Act, Food Quality Protection Act of 1996, Resource Conservation and Recovery Act, Comprehensive Environmental Response, Compensation and Liability Act, Migratory Bird Conservation Act of 1929, as amended, ESA of 1973, Wild Free-Roaming Horse and Burro Act of 1971, as amended by the Public Rangelands Improvement Act of 1978, Fish and Wildlife Conservation Act of 1980, Sikes Act of 1974, Historic Sites Act of 1935, National Historic Preservation Act of 1966 (NHPA), Archaeological Resources Protection Act of 1979, American Indian Religious Freedom Act of 1978, Native American Graves Protection and Repatriation Act of 1990, Section 810 of the Alaska National Interest Lands Conservation Act, Executive Order (EO) 11990 (*Protection of*

*Wetlands*), EO 12898 (*Environmental Justice*), EO 13045 (*Protection of Children from Environmental Health Risks and Safety Risks*), EO 13084 (*Consultation and Coordination with Indian Tribal Governments*), EO 13112 (*Invasive Species*), and EO 13186 (*Responsibilities of Federal Agencies to Protect Migratory Birds*).

Since the 2007 PEIS, the BLM has implemented a new policy requiring consultation with Alaska Native Corporations on the same basis as American Indian and Alaska Native Tribes.

## NEPA Requirements of the Program

Federal agencies are required to prepare an EIS when the proposed action is likely to have a significant impact on the quality of the human environment (42 U.S.C. [United States Code] 4321 et seq; USDO I BLM 2008a). An EIS is intended to provide decision-makers and the public with a complete and objective evaluation of significant environmental impacts, beneficial and adverse, resulting from the proposed action and all reasonable alternatives.

The intent of this PEIS is to comply with NEPA by assessing the programmatic level impacts of using aminopyralid, fluroxypyr, and rimsulfuron to treat vegetation on public lands administered by the BLM. Additional guidance for NEPA compliance and for assessing impacts is provided in the Council on Environmental Quality (CEQ) *Regulations for Implementing the Procedural Provisions of NEPA* (40 Code of Federal Regulations [CFR] Parts 1500-1508), and the *BLM National Environmental Policy Act Handbook H-1790-1* (USDO I BLM 2008a).

## Interrelationships and Coordination with Agencies

In its role as manager of approximately 247 million acres in the western U.S., including Alaska, the BLM has developed numerous relationships at the federal, tribal, state, and local levels, as well as with conservation and environmental groups with an interest in resource management, and private landowners. Included are members of the public that use public lands or are affected by activities on public lands.

## National Level Coordination

The BLM regularly coordinates with the numerous federal agencies that administer laws that govern activities on public lands, administer lands adjacent to or in close proximity to public lands administered by the BLM, or that have oversight or coordination responsibilities. These agencies include the Department of Defense; Department of Energy; National Park Service; U.S. Fish and Wildlife Service (USFWS); Bureau of Reclamation; Bureau of Indian Affairs; U.S. Department of Agriculture (USDA) Forest Service; Agricultural Research Service; Animal, Plant Health Inspection Service; Natural Resources Conservation Service; and U.S. Geological Survey Biological Services.

National level coordination that is pertinent to the proposed project includes coordination of invasive species management, and fire and fuels management. The National Invasive Species Council, which involves 13 federal departments and agencies, was established by EO 13112 to develop strategies for coordinated, effective, and efficient control of invasive species on federal lands. Participating agencies include (but are not limited to) the U.S. Departments of Agriculture, Interior, Commerce, Defense, Transportation, and Health and Human Services, and the USEPA. Other groups that coordinate invasive species management at the national level include the Federal Interagency Committee for the Management of Noxious and Exotic Weeds, the Federal Interagency Committee on Invasive Terrestrial Animals and Pathogens, and the Aquatic Nuisance Task Force. These groups are discussed further in the 2007 PEIS (USDO I BLM 2007a:1-11).

The Wildland Fire Leadership Council, Interagency Fuels Management Committee, and National Wildfire Coordinating Group are national-level interagency groups that coordinate wildland fire and fuel management issues. The *National Cohesive Wildfire Management Strategy* provides a long-term, national-level strategy for reducing the effects of wildfires throughout the U.S.

## State and County Level Coordination

The BLM is required to coordinate with state and local agencies under several acts, including: the Clean Air Act, the Sikes Act, FLPMA, and Section 106 of the NHPA.

The BLM coordinates closely with state resource management agencies on issues involving the management of public lands, the protection of fish and wildlife populations, including federal- and state-listed threatened and endangered species, invasive and noxious weeds, fuels and wildland fire management, and herbicide application. Herbicide applications are also coordinated with state and local water quality agencies to ensure treatment applications are in compliance with applicable water quality standards. At the agency or state level, vulnerability assessments are done for treatment programs to ensure that they do not result in unacceptable surface water or groundwater contamination. Thus, coordination of this issue must include a groundwater specialist either at the agency level or state level to make the vulnerability assessment.

Local and state agencies work closely with the BLM to manage weeds on local, state, and federal lands, and are often responsible for vegetation treatments on public lands. The BLM participates in exotic plant pest councils, state vegetation and noxious weed management committees, state invasive species councils, county weed districts, and weed management associations found throughout the western U.S.

## Non-governmental Organizations

The BLM coordinates at the national and local levels with several resource advisory groups and non-governmental organizations, including: BLM Resource Advisory Councils, the Western Governors' Association, the National Association of Counties, the Western Area Power Administration, the National Cattlemen's Beef Association, the American Sheep Industry, the Society of American Foresters, and the American Forest and Paper Association. The BLM also solicits input from national and local conservation and environmental groups with an interest in land management activities on public lands, such as The Nature Conservancy. These groups provide information on strategies for weed prevention, effective treatment methods, use of domestic animals to manage invasive plants, landscape level planning, vegetation monitoring, and techniques to restore land health.

## Cooperative Weed Management Areas

Cooperative Weed Management Areas (CWMAs) are composed of local, private, and federal interests. CWMAs typically center on a particular watershed or similar geographic area in order to pool resources and management strategies in the prevention and control of

invasive plant populations. Much of the BLM's on-the-ground invasive species prevention and management is done directly or indirectly through CWMAs. The BLM participates in numerous CWMAs throughout the west, several of which are showcase examples of interagency and private cooperation in restoring land health.

## Consultation

As part of this PEIS the BLM consulted with the USFWS and the National Marine Fisheries Service (NMFS), as required under Section 7 of the ESA. The BLM prepared a formal initiation package that included: 1) a description of the program, listed threatened and endangered species, species proposed for listing, and critical habitats that may be affected by the program; and 2) a *Biological Assessment for Vegetation Treatments with Aminopyralid, Fluroxypyr, and Rimsulfuron on Bureau of Land Management Lands in 17 Western States* (USDOI BLM 2015). The BA evaluated the likely impacts to listed species, species proposed for listing, and critical habitats from the proposed use of aminopyralid, fluroxypyr, and rimsulfuron in the BLM's vegetation treatment programs, and identified conservation measures to minimize impacts to these species and habitats. Consultation with USFWS addresses populations of sage-grouse that are proposed for listing, but not populations that are currently candidates for listing. However, all BLM actions must comply with land use plan decisions, as amended by pertinent sage-grouse EISs. Interim management direction is outlined in Instruction Memorandum 2012-043, *Greater Sage-Grouse Interim Management Policies and Procedures*.

The BLM initiated consultation with Native American tribes, Alaska Native groups, and Alaska Native Corporations to identify their cultural values, religious beliefs, traditional practices, and legal rights that could be affected by BLM actions. Consultation included sending out letters to all tribes and groups that could be directly affected by vegetation treatment activities, and requesting information on how treatments with the three new herbicides could impact Native American and Alaska Native interests, including the use of vegetation and wildlife for subsistence, religious, and ceremonial purposes (see Appendix B). Formal consultations with Indian tribes and Alaska Native Corporations may also be required during implementation of projects at the local level.

The BLM conducted an Alaska National Interest Lands Conservation Act (ANILCA) 810 Analysis of

Subsistence. During this process, the BLM invited public participation and collaborated with Alaska Natives to identify and protect culturally significant plants used for food, baskets, fiber, medicine, and ceremonial purposes. The findings are presented in Appendix C.

The BLM consulted with State Historic Preservation Offices (SHPOs) as part of Section 106 consultation to determine how proposed vegetation treatment actions could impact cultural resources. Formal consultations with SHPOs also may be required during implementation of projects at the local level.

### Public Involvement and Analysis of Issues

Scoping is the process by which the BLM solicits internal and external input on the issues, impacts, and potential alternatives that will be addressed in an EIS, as well as the extent to which those issues and impacts will be analyzed in the document (USDOI BLM 2008a). Scoping also helps to begin identifying incomplete or unavailable information and evaluating whether that information is essential to a reasoned choice among alternatives.

The BLM published a Federal Register (FR) Notice of Intent (NOI) on December 21, 2012, notifying the public of its intent to prepare a PEIS to evaluate the use of aminopyralid, fluroxypyr, and rimsulfuron herbicides as part of its vegetation treatment programs in 17 western states. The NOI also identified the locations and times of three scheduled public scoping meetings, and stated that comments on the proposal would be accepted until February 19, 2013.

Public notices of the scoping period and public meetings were placed in newspapers serving areas in or near locations where the meetings were held.

### Public Scoping Meetings

Three public scoping meetings were held: one in Worland, Wyoming (on January 7, 2012), one in Reno, Nevada (January 9), and one in Albuquerque, New Mexico (January 10). Decisions on where to hold meetings were based on levels of attendance at scoping meetings in these locations for the 2007 PEIS, as well as discussions with local BLM offices. The determination not to hold one or more scoping meetings in Alaska was made by the BLM District office in Fairbanks, based on low attendance at the meetings for the 2007 PEIS, low

past and projected future use of herbicides in Alaska, and the overlap of the public scoping period with that of another Environmental Assessment involving herbicide use. In lieu of a public scoping meeting, the Alaska state office offered to host a web-based meeting for anyone who wanted to learn more about the project and provide comments. As no members of the public responded to this offer, no web-based meeting for the project was held.

The scoping meetings were conducted in an open-house style. Information displays were provided at the meeting, and handouts describing the project, the NEPA process, issues, and alternatives were given to the public. A formal presentation provided the public with additional information on program goals and objectives. At each meeting, the presentation was followed by a question and answer session.

The BLM received 26 requests to be placed on the mailing list from individuals, organizations, and government agencies, and 43 written comment letters, emails, or facsimiles on the proposal. In addition to written comments received at the scoping meetings, four individuals provided oral comments. As most of the comment letters provided multiple comments, a total of 255 individual comments were catalogued and recorded during the public scoping period. A *Scoping Summary Report for the Vegetation Treatments Using Aminopyralid, Fluroxypyr, and Rimsulfuron on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement* (AECOM 2013) was prepared that summarized the issues and alternatives identified during scoping.

### Scoping Issues and Concerns

The vast majority of scoping comments received were supportive of the BLM's proposal to add aminopyralid, fluroxypyr, and rimsulfuron to its list of active ingredients. Respondents provided information on the effectiveness and safety of the three herbicides, as well as extensive comments about the need to utilize these herbicides to effectively control weeds.

The primary issues of concern identified during scoping include the following:

- Need to develop a better mechanism for notifying the public of aerial spraying of herbicides, and implement additional preventative measures for future applications to minimize impacts to human health. Establish larger buffers between herbicide application

areas and human habitation and/or sensitive, high value crops.

- Need to discuss the screening process that the BLM uses to determine whether chemical applications are necessary when other types of treatments are considered.
- Concerns about long-term persistence of aminopyralid and fluroxypyr in treated plant materials, and the potential to transport plant tissue or manure of livestock that have ingested this material to sensitive areas, croplands, and broadleaf garden plants.
- Concerns about impacts to water quality and aquatic resources, including detection of aminopyralid in groundwater and associated impacts to irrigated plants/crops.
- Concerns about the risks to human health and safety from herbicide use.
- Concerns about disproportionate adverse effects to minority and low-income populations.
- Need to evaluate options for restoration activities following invasive plant removal to prevent reestablishment of target species.
- Need to consider climate change, both in terms of its effect on herbicide efficacy and greenhouse gas emissions associated with the proposed project.
- Recommendation that vegetation treatments with the proposed herbicides be monitored to determine their effectiveness.

A summary of issues raised by scoping comments is provided in Table 1-1.

## Development of the Alternatives

Public comments were considered when developing alternatives for analysis in this PEIS. As there were several comments about herbicide drift during aerial spraying and other human health effects, alternatives addressing these issues are evaluated in the PEIS. The alternatives also reflect the alternatives that were developed for the 2007 PEIS, as applicable. They reflect public comments received during scoping for the 2007 PEIS that suggested the BLM avoid aerial applications

of herbicides or avoid the use of acetolactate synthase (ALS)-inhibiting active ingredients.

## Issues Not Addressed in the Draft PEIS

A very small number of comments were not addressed in the PEIS because they were beyond the scope of the document or did not meet the basic purpose and need of the project. These comments primarily pertained to streamlining or changing the evaluation process for new herbicides, which is outside the scope of this PEIS. Additionally, one comment requested an analysis of whether increased carbon dioxide (CO<sub>2</sub>) in the atmosphere could affect efficiency of herbicides, which is also outside the scope of this PEIS.

## Limitations of this PEIS

This PEIS is a programmatic document that addresses the broad impacts associated with the proposed action and alternatives to the proposed action. Environmental impacts are assessed at a general level because of the broad land area analyzed in the PEIS. Site-specific impacts would be assessed in NEPA documents prepared by local BLM offices and tiered to this document.

The analyses of impacts of the use of herbicides in this PEIS are based on the best and most recent information available. As is always the case when developing management direction for a wide range of resources, not all information that might be desired was available. In these cases, discussions follow the direction provided in the CEQ Regulations for incomplete or unavailable information (40 CFR 1502.22[b]). In cases where impacts could not be quantified, they have been described in qualitative terms.

## Preview of the Remainder of the PEIS

The format of this PEIS follows guidance provided by the CEQ and *BLM National Environmental Policy Act Handbook H-1790-1* (USDOI BLM 2008a).

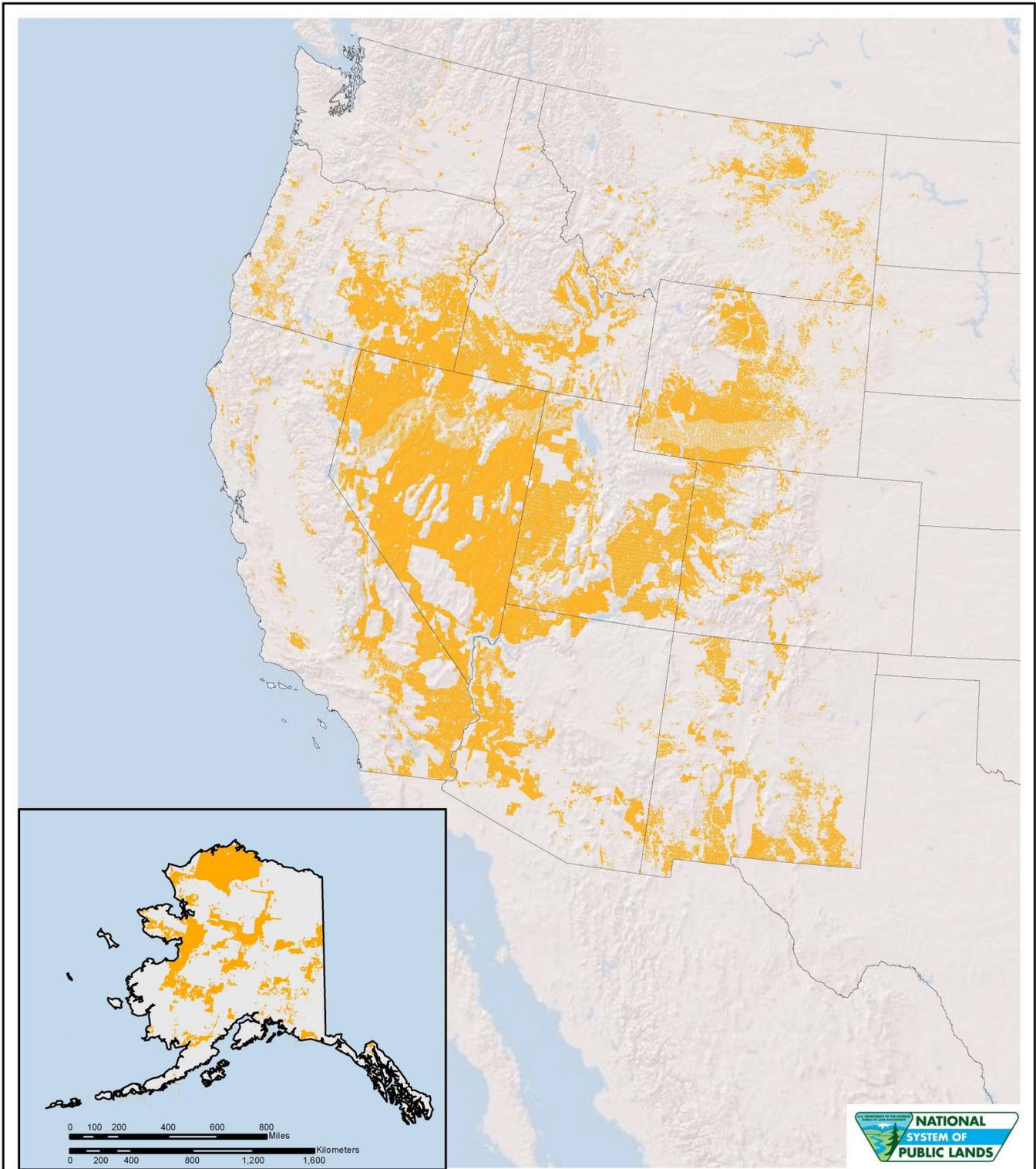
- Chapter 2, Alternatives, describes and compares the proposed alternatives.
- Chapter 3, Affected Environment, presents existing natural and socioeconomic resources on public lands in the western U.S.

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- Chapter 4, Environmental Consequences, evaluates the impacts of the alternatives on public land resources in the western U.S., and describes mitigation proposed for program-related impacts to resources.
- Chapter 5, Consultation and Coordination, describes the scoping and public hearing processes, agencies contacted, and government-to-government consultation, and lists the preparers of this PEIS.
- Chapter 6, References, lists the documents and other sources used to prepare this PEIS.
- Chapter 7, Glossary, Provides definitions for important terms used in this PEIS.
- Chapter 8, Index, lists where significant issues, resource descriptions, NEPA terms, and agencies and groups discussed in this PEIS are located.
- Appendices A through E provide supplemental information that is pertinent to the analysis presented in this PEIS.
- Acronyms, Abbreviations, and Symbols (a fold out at the end of the document) lists the acronyms, abbreviations, and symbols used in this PEIS.

**TABLE 1-1  
Key Issues (and Number of Comments) Identified During Scoping and  
Location Where Issues Are Addressed in this PEIS**

Issue	Where Addressed in PEIS
<b><i>Interrelationships</i></b>	
Consider adjacent private, state, and federally owned lands, and coordinate weed control efforts (2)	1-4
<b><i>Description of Alternatives</i></b>	
Clarify the number of acres that would be treated (1)	2-3
Clarify that the new herbicides would not replace currently approved herbicides (1)	1-1, 2-2
Incorporate BMPs for aerial applications to adequately notify the public and avoid accidental public exposures to spraying (1)	4-85, 4-86
Do not spray where there is a risk to crops (1)	2-7, 4-81
<b><i>Herbicide Treatment Standard Operating Procedures and Guidelines</i></b>	
Discuss the screening process used to decide whether chemical applications are necessary (1)	2-7
Evaluate options for restoration of treated areas following invasive plant removal (1)	2-7
Incorporate effective monitoring of treated areas (1)	2-7
<b><i>Affected Environment</i></b>	
Thoroughly discuss cheatgrass, yellow starthistle, and other noxious weeds and non-native species and the degree to which they threaten BLM lands (6)	3-16
<b><i>Environmental Consequences</i></b>	
Address the impacts of the three herbicides compared to those of other herbicides and treatment methods (6)	Chapter 4
Address the impacts associated with residual effects of aminopyralid, including its spread to sensitive areas by grazing animals and damage to crops associated with use of contaminated manure and compost materials (3)	4-11, 4-27, 4-82
Include a discussion of climate change and greenhouse gas emissions (1)	4-7, 4-103
Assess the effects of composting operations and how treated plants would be disposed of (1)	4-82
Address the potential for surface water, groundwater, and drinking water contamination by the three herbicides (1)	4-15
Address herbicide drift and potential impacts to nearby private lands (1)	4-82, 4-85
Address human health and safety risks associated with use of the three herbicides (1)	4-85
Include an environmental justice analysis (1)	4-83

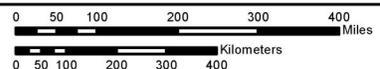


**Legend**

- BLM-administered Lands
- State Boundaries



**Map 1-1  
Public Lands Administered  
by the  
Bureau of Land Management**



Source: BLM National Science and Technology Center 2012.  
 Note: Coverage for BLM-administered lands is not available for Texas, Nebraska, or Oklahoma.

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