

CHAPTER 1

INTRODUCTION

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CHAPTER 1

**PROPOSED ACTION AND
PURPOSE AND NEED****Introduction**

The Bureau of Land Management (BLM), an agency of the U.S. Department of the Interior (USDI), administers vegetation on nearly 261 million acres (public lands; treatment area) in 17 states in the western U.S., including Alaska (Map 1-1). These lands encompass approximately 1 out of every 5 acres from the Rocky Mountains to the Pacific Ocean. Management and control of vegetation for resource and habitat enhancement is accomplished using a variety of treatment methods, including, but not limited to: herbicides, prescribed fire and wildland fire use for resource benefit (collectively termed “fire use”), manual and mechanical methods, and biological controls such as insects, pathogens, fish, and domestic grazing animals.

In recent years, the severity and intensity of wildfires in the West has increased dramatically from levels in the 1970s and 1980s. Although the recent increase in wildfires is directly related to drought conditions throughout the western U.S., it is also influenced by changes in the vegetation on public lands that have occurred during the past 50 years and have resulted in increases in hazardous flammable fuels. Hazardous fuels include living and dead and decaying vegetation that form a special threat of ignition and resistance to control. As the population has increased in the western U.S., the loss of life and property has also increased as more people live in close proximity to public lands in areas now referred to as the wildland urban interface (WUI).

Much of the change in vegetation and increase in hazardous fuels on public lands can be attributed to fire exclusion policies over the past 100 years. Contributors to this change include natural influences, such as intermittent and long-term drought over the past 40 years. They also include anthropogenic influences, such as alteration of vegetation and habitat at the local and landscape levels through authorized uses on public lands (e.g., livestock grazing and timber management), full fire suppression policies to protect infrastructure

and vegetative resources, and the increased spread of noxious weed species and invasive vegetation.

Some noxious weeds and other invasive vegetation, such as downy brome¹ (also known as cheatgrass), act as hazardous fuels in upland landscapes. Downy brome is a self-perpetuating winter annual that spreads easily across upland landscapes altered by fire, through a prolific seed source. Wind and soil erosion transport the seed over wide areas and into previously undisturbed habitats.

Invasive vegetation and noxious weeds are highly competitive and can often out-compete native vegetation, especially on recently disturbed sites. Invasive vegetation and noxious weeds are the dominant vegetation on an estimated 35 million acres of public lands (USDI BLM 2000a). The estimated rate of weed spread on western public lands in 1996 was 2,300 acres per day (USDI BLM 1996). Invasive vegetation and noxious weeds degrade or reduce soil productivity, water quality and quantity, native plant communities, wildlife habitat, wilderness values, recreational opportunities, and livestock forage, and are detrimental to the agriculture and commerce of the U.S. and to public health (National Academy of Sciences 1968, USDI BLM 2000b). Weed infestations can become permanent if left untreated.

In response to the threats of wildfire and invasive vegetation and noxious weeds, the President and Congress have directed the USDI and BLM, through implementation of the *National Fire Plan* (USDI and U.S. Department of Agriculture [USDA] Forest Service 2001a), and the *Healthy Forests Restoration Act of 2003*, to take more aggressive actions to reduce catastrophic wildfire risk on public lands. The actions would be taken to protect life and property, and to manage vegetation in a manner that provides for long-term economic sustainability of local communities,

¹ Common and scientific names of plants and animals given in this PEIS are provided in Appendix A.

improved habitat and vegetation conditions for fish and wildlife, and other public land uses.

As a result of these actions, the amount of hazardous fuels reduction and other vegetation management work conducted by the BLM are expected to increase from current levels to about 6 million acres annually; about 932,000 acres, or 16% of acres treated, would involve the use of herbicides. The BLM last assessed its use of vegetation treatment methods during the late 1980s and early 1990s, by preparing Environmental Impact Statements (EISs) and Record of Decisions (RODs) that covered vegetation treatment activities in 14 western states in the continental U.S. (all states shown on Map 1-1, except Alaska, Nebraska, and Texas; USDI BLM 1985; 1987a, b; 1988a, b; 1989; 1991a, b; 1992a). The previous EISs primarily focused on vegetation control of competing and unwanted vegetation for resource enhancement (forestry and rangelands), noxious and invasive weed control related to surface use activities (oil and gas, rights-of-way [ROW]), and reduction of hazardous fuels to protect resources at risk from wildfire damage. These EISs evaluated the environmental impacts associated with vegetation control and modification on approximately 500,000 acres of public lands a year in the western U.S. The EISs also evaluated the human health and non-target species risks of using 22 herbicide active ingredients on these public lands.

The impacts of the proposed increased level of vegetation treatments related to the use of herbicides are likely to be greater in magnitude than the impacts assessed in earlier vegetation treatment assessments prepared by the BLM for the western states. In addition, the BLM has identified several new herbicides that it would like to use that are more effective in treating certain types of vegetation than currently approved herbicides. Thus, the BLM has determined that the potential for increased use of herbicides, and approval for use of additional herbicides on public lands, requires further assessment under the National Environmental Policy Act (NEPA).

Organization of the Vegetation Treatments Assessments

The BLM’s assessment of vegetation treatment activities on public lands consists of two interrelated parts—this *Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic EIS* (PEIS) addressing the BLM’s use of herbicides, and a *Vegetation Treatments on Bureau of Land Management Lands in 17 Western*

Terminology

Active ingredient (a.i.) is the chemical or biological component that kills or controls the target pest.

Fire use a term not used in federal fire policy. It is used in the context of the PEIS/PER to refer to prescribed fire or wildland fire use to meet resource objectives.

Hazardous fuels include living and dead and decaying vegetation that form a special threat of ignition and resistance to control.

Herbicide is a chemical pesticide used to treat vegetation.

Invasive plants are plants that are not part of (if exotic), or are a minor component of (if native), the original plant community or communities that have the potential to become a dominant or co-dominant species on the site if their future establishment and growth are not actively controlled by management interventions, or are classified as exotic or noxious plants under state or federal law. Species that become dominant for only one to several years (e.g., short-term response to drought or wildfire) are not invasive plants.

Native species historically occurred or currently occur in a particular ecosystem and were not introduced.

Noxious weeds are designated by federal or state law as generally possessing one or more of the following characteristics: aggressive and difficult to manage; parasitic; a carrier or host of serious insects or disease; or non-native, new, or not common to the U.S.

Prescribed fires are any fire ignited by management actions to meet specific objectives. A written, approved prescribed fire plan must exist, and NEPA requirements (where applicable) must be met, prior to ignition.

Undesirable plants are species classified as undesirable, noxious, harmful, exotic, injurious, or poisonous under state or federal law, but not including species listed as endangered by the Endangered Species Act (ESA), or species indigenous to the planning area.

Weeds are plants that interfere with management objectives for a given area at a given point in time.

Wildfires are unplanned, unwanted wildland fires including unauthorized human-caused fires, escaped wildland fire use events, escaped prescribed fire projects, and all other wildland fires where the objective is to put the fire out.

Wildland fires are any non-structure fires that occur in the wildland. Three distinct types of wildland fire have been defined and include wildfire, wildland fire use, and prescribed fire.

Wildland fire use fires are the application of the appropriate management response to naturally-ignited wildland fires to accomplish specific resource management objectives in pre-defined designated areas outlined in Fire Management Plans.

Wildland urban interface (WUI) is an area where structures and other human development intermingle with undeveloped wildlands or vegetative fuels.

States Programmatic Environmental Report (PER; USDI BLM 2007a) describing the environmental effects of using non-herbicide vegetation treatment methods on public lands. This organization was selected because the primary issue of controversy identified through scoping, and which required NEPA review, was the BLM's continuing and proposed increase in the use of herbicides in vegetation treatment programs needed to implement the *National Fire Plan* and related initiatives. The use of herbicides has been affirmed as a central issue for analysis in all past EISs considered in this document.

The use of the other non-herbicide techniques in an integrated pest management approach has also been affirmed in all previous EIS Records of Decision, and the BLM is not proposing to make any decisions relative to the use of non-herbicide vegetation treatment methods.

Although more acres are proposed for treatment under all methods than were identified in previous EISs, the BLM has determined that additional analysis of treating these acres under non-herbicide methods in the PEIS is unnecessary. Congress and the Administration made the decision for federal agencies to treat more acres to reduce the threat of catastrophic fire. The PEIS and PER broadly estimate the acres that could be potentially treated under each method for analysis purposes in the PEIS. The acre totals used in this programmatic analysis are not site-specific as to locations or method(s) used. As identified below in [Chapter 2](#), current land use plans guide the level of treatment activity necessary to meet broad goals and objectives for vegetation. It is anticipated that acres identified for treatments in land use plans and step down activity level plans would be modified in the future as they are revised or amended to reflect the increase in activity mandated by Congress, and that those plans will provide the necessary NEPA analysis to support increased acres of treatment.

Treatment of vegetation is not a static disturbance that accumulates over time. Vegetation treatments are dynamic and typically show results within the first two growing seasons. Once vegetation objectives are met, the projects are maintained over time, resulting in viable and resilient vegetation communities over the long term. As more acres are treated, more acres of vegetation meet management objectives as outlined in local land use plans. Projects implemented over the last ten to twenty years typically have met their objectives and become part of the baseline for analysis of new projects. Because of this dynamic continuum of treatment, revegetation, monitoring, and maintenance, the BLM

does not anticipate there would be any different or significant impacts identified beyond what has been analyzed in previous EISs.

This PEIS analyzes the effects of herbicide use on humans, plants, and animals and other environmental and social resources associated with public lands. This analysis will provide the basis for a programmatic Endangered Species Act (ESA) Section 7 consultation with the U.S. Fish and Wildlife Service (USFWS) and National Oceanic and Atmospheric Administration National Marine Fisheries Service (NMFS) on herbicide use, and the potential impacts of herbicide use on plant and animal species of concern.

The PER discloses the general impacts on the environment of using non-herbicide treatment methods, including fire use, and mechanical, manual and biological control methods, to treat hazardous fuels, invasive species, and other unwanted or competing vegetation. The PEIS provides an updated analysis of impacts (direct, indirect, and cumulative) to public land environmental and socioeconomic resources from proposed vegetation treatment activities utilizing herbicides. The PER is linked to the PEIS in the cumulative impact analysis of the PEIS, where all methods of treatment, including the use of herbicides, are assessed.

Proposed Action

To maintain and improve the effectiveness of its vegetation management practices, the BLM proposes to:

- Determine which herbicide active ingredients are available for use on public lands in the western U.S., including Alaska, to improve the agency's ability to control hazardous fuels and unwanted vegetation. In addition to the herbicides currently approved for use, additional active ingredients are being considered for use by the BLM in order to address emerging weed problems associated with public lands, such as downy brome and invasive aquatic species; and
- In consultation with the U.S. Environmental Protection Agency (USEPA), USFWS, and NMFS, develop a state-of-the-science risk assessment methodology. This methodology will serve as the initial standard for assessing human health and ecological risk for herbicides that may become available for use in the future.

Actions related to the use of herbicides are addressed in this PEIS. Actions related to the use of other treatment methods are addressed in the PER.

In order to ensure that the agency fulfills its responsibility for protection of the public, Native American and Alaska Native subsistence practices, public land workers, and federally-listed species, species proposed for listing, and BLM sensitive species (collectively referred to as “special status” species), a risk assessment was conducted (see [appendices B and C](#)). The assessment consisted of a comprehensive literature search, and in some cases new toxicological analyses, for 1) active ingredients currently in use to determine if there are any new human health and ecological health risks that have been identified since the chemicals were last assessed (1988–1992); and 2) active ingredients proposed for use by the BLM. This risk assessment was used in the assessment of the human health and environmental effects of the various alternatives. An appendix was prepared in response to public comments on the risk assessments prepared for the draft PEIS ([Appendix D](#)). Specifically, this appendix addresses three concerns raised by the public about the human health and ecological risk assessments:

- Some surfactants may be more toxic to aquatic receptors than the active ingredient in the formulation. Using polyoxythyleneamine (POEA) as an example, what are the potential impacts of POEA in different formulations of herbicides containing glyphosate?
- The risk assessments only address the potential impacts of the active ingredients, what about the toxicity of degradates?
- The risk assessments did not identify endocrine disruption as a toxic endpoint. Are any of the herbicides considered to be endocrine disrupting chemicals?

In addition, the BLM developed a risk assessment methodology to be used for analyses of herbicides proposed for use in the future ([Appendix E](#)). This methodology is based upon the methodology used for the risk assessments for this PEIS.

Purpose and Need for the Proposed Action

The purposes of the proposed action 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 need for the proposed action is to reduce the risk of catastrophic wildfires by reducing hazardous fuels, restoring fire-damaged lands, and improving ecosystem health by 1) controlling weeds and invasive species, and 2) manipulating vegetation to benefit fish and wildlife habitat, improve riparian and wetlands areas, and improve water quality in priority watersheds.

Additional benefits accruing from implementation of the proposed action directly relate to restoration of fish and wildlife habitat and improvement of forest and ecological condition, which would meet BLM and USDI objectives set forth in the *Healthy Forests Restoration Act of 2003* and BLM Handbook H-4180-1 (*Rangeland Health Standards*) to improve the health of the nation’s forests and rangelands.

Decisions to be Made and Scope of Analysis

This PEIS analyzes the effects of using herbicides for treating 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, and lands administered by the BLM through its National Landscape Conservation System (NLCS), such as Wilderness Study Areas (WSAs), designated Wilderness Areas, National Monuments, National Conservation Areas, National Recreation Areas, and areas of critical environmental concern.

Decisions expected to be made through this PEIS process include:

- Which USEPA-registered herbicides will be available for use by the BLM and under what circumstances?
- Which vegetation management practices could be used with applications of herbicides and under what circumstances?

This PEIS makes broad assumptions on the numbers of acres to be treated annually by herbicides by each state or in aggregate on a national scale to assist with the impacts analysis. Because of the broad nature of this PEIS and the uncertainty associated with timing and location of treatments on a national scale, specific levels of acres to be treated by any method are appropriately assessed at the regional, state, or local level. For meaningful NEPA analysis, the BLM assesses the

overall acres to be treated by each resource program in its land use plan (LUP) EISs (see description of BLM resource programs in [Chapter 2](#)), thus these decisions would be made at a later time and at a more site-specific level.

Scope of Analysis

The focus of this PEIS is to provide an analysis of the expected increased use of herbicides related to implementing mandates to reduce hazardous fuels and manage and control vegetation affecting other resources. This PEIS does not, however, evaluate vegetation treatment activities involving herbicides that are not directly related to the need to reduce hazardous fuels, or to modify the vegetation community to improve rangeland and/or forestland health.

Thus, this PEIS does not evaluate vegetation management that is primarily focused on commercial timber or other forest product enhancement or use activities that are not related to improving forest or rangeland health or work authorized under the *Healthy Forests Restoration Act of 2003*.

This PEIS will not evaluate policies and programs associated with land use activities authorized by the BLM, such as livestock use, off-highway vehicle (OHV) use, and timber harvesting, and will not make land use allocations nor amend approved land use plans (Federal Register 2002). Human-related activities and natural processes have inherent risks and threats to the health of the land, which can lead to the decline of plant communities and ecosystems. Although this PEIS refers to activities consistent with the authorities under the Federal Land Policy and Management Act (FLPMA) and other statutes that may contribute, in some cases, to land and resource degradation (e.g., livestock grazing, OHV use, recreation), its focus is on proactive vegetation treatments to maintain and restore ecological conditions. The focus of the PEIS is not to restrict, limit, or eliminate FLPMA-authorized activities as a means to restore land health. These types of management actions are defined and considered under land use planning regulations (43 Code of Federal Regulations [CFR] 1610) and are outside the scope of this PEIS.

Commercial timber activities conducted with the primary purpose of providing a sustained yield of timber volume to commercial industries are not included in this PEIS or the associated PER. Rather, they represent a manner of vegetation harvest (i.e., the species [product] is removed and replanted for future

harvest). Commercial timber allocations and sustainable harvest were previously analyzed in BLM LUP EISs for the field offices with timber programs.

Although this PEIS addresses herbicide use in relation to vegetation treatments, it does not address vegetation treatments exclusively designed to increase forage production or the effects of livestock grazing on vegetation. The effects on vegetation that result from livestock forage use on public lands were analyzed in previous EISs, both programmatically at the national level (USDI BLM and USDA Forest Service 1994) and at the local land use planning level, in either LUP EISs or as individual EISs or Environmental Assessments (EAs) at the field office level, as well as at the allotment-specific level.

This PEIS does not address abandoned mine land reclamation, or energy production. Abandoned mine land reclamation is a form of site stabilization and remediation that does not necessarily involve vegetation treatment activities, although in some cases vegetation treatments may be associated with site stabilization. The scope of analysis for the overall use of herbicides, and other methods of control outlined in the PER associated with this PEIS, would sufficiently cover their use in these types of activities.

This PEIS will not analyze fire suppression operations, as they do not constitute vegetation treatment actions. This PEIS will address soil stabilization only where specifically related to the vegetation treatment activities. Soil stabilization effects are related to post-fire emergency stabilization (activities undertaken within 1 year of the fire control date) and rehabilitation (treatments applied up to 3 years after the fire control date).

This PEIS addresses the use of chemical herbicides in general. Herbicides are also commonly used to control vegetation by those authorized to use public lands for ROW, lease holdings, oil and gas facilities, and other mineral developments. In many cases, the control of vegetation is stipulated in the ROW, lease, or authorizing permit. These permits and authorizations are issued in conjunction with a site-specific NEPA compliance document (EA or EIS), which assess the impacts of the control method, and identifies mitigation to reduce development impacts on the environment.

Decisions to be Made

At least 30 days after the USEPA publishes the Notice of Availability (NOA) of the final PEIS, the BLM

decision-maker will evaluate public comment on the draft and final PEIS and prepare a ROD. The decision may be to select one of the alternatives in its entirety, or to combine features from several alternatives that fall within the range of alternatives analyzed in the PEIS. The ROD will address significant impacts, alternatives, environmental preferences, and relevant economic and technical considerations.

Documents that Influence the Scope of the PEIS

Much of the scope of this PEIS is based on several EISs that were prepared from 1985 through 1992 to evaluate the use of herbicides for vegetation treatment activities on public lands. These EISs include: *Northwest Area Noxious Weed Control Program EIS* (USDI BLM 1985), *Supplement to the Northwest Area Noxious Weed Control Program* (USDI BLM 1987b), *California Vegetation Management Final EIS* (USDI BLM 1988a), *Final EIS Vegetation Treatment on BLM Lands in Thirteen Western States* (USDI BLM 1991a), and *Final Record of Decision Western Oregon Program-Management of Competing Vegetation* (USDI BLM 1992a).

These documents identify vegetation treatment activities involving the use of herbicides in 14 western states and evaluate the risks of using 22 herbicide active ingredients. Where appropriate, information in these documents that is relevant to analysis of the current proposal is cited and incorporated by reference.

Other documents and policies that influence the scope of this PEIS include: 1) *National Fire Plan* (USDI and USDA 2001a); 2) *Healthy Forests Initiative of 2002 and Healthy Forests Restoration Act of 2003* (Public Law 108-148); 3) Chapter 3 (*Interagency Burned Area Emergency Stabilization and Rehabilitation*) in BLM Manual 620 (*Wildland Fire Management*; USDI 2004); 4) *A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment 10-Year Comprehensive Strategy Implementation Plan* (USDI and USDA 2006a); 5) *Protecting People and Sustaining Resources in Fire Adapted Ecosystems: A Cohesive Strategy* (USDA and USDI 2006b); 6) *Draft Interagency Burned Area Emergency Response Guidebook* (USDA and USDI 2006c); 7) *Interagency Burned Area Rehabilitation Guidebook* (USDA and USDI 2006d); and 8) *Draft Burned Area Emergency Stabilization and Rehabilitation Handbook* (H-1742-1; USDI BLM 2006a). These documents provide policy and guidance for hazardous fuels reduction and land

restoration activities to reduce the risk of wildfires and restore fire-adapted ecosystems, and to rehabilitate and restore lands damaged by wildfires. The *Meeting the Invasive Species Challenge Management Plan* (National Invasive Species Council 2001) and *Partners Against Weeds - An Action Plan for the BLM* (USDI BLM 1996) identify appropriate actions to control weeds on public lands.

Numerous other BLM manuals and handbooks were also consulted when developing the PEIS. These are listed in [Appendix F](#).

Relationship to Statutes, Regulations, and Policies

Federal Laws, Regulations, and Policies that Influence Vegetation Treatments

Several federal laws, regulations, and policies guide BLM management activities on public lands. The *Federal Land Policy and Management Act of 1976 (FLPMA)* directs the BLM to manage public lands “in a manner that will protect the quality of scientific, scenic, historic, ecological, environmental, air and atmospheric, water resources and archeological values” and to develop resource management plans (RMPs) consistent with those of state and local governments to the extent that BLM programs also comply with federal laws and regulations. The *Taylor Grazing Act of 1934* introduced federal protection and management of public lands by regulating grazing on public lands. The *Oregon and California Grant Lands Act of 1937* provides for the management of the revested Oregon and California and reconveyed Coos Bay Wagon Road grant lands for permanent forest production under the principle of sustained yield and for leasing of lands for grazing.

Several acts provide for management and control of invasive vegetation. Two weed control acts, the *Carlson-Foley Act of 1968* and the *Plant Protection Act of 2000* (Public Law 106-224; includes management of undesirable plants on federal lands) authorize the BLM to manage noxious weeds and to coordinate with other federal and state agencies in activities to eradicate, suppress, control, prevent, or retard the spread of any noxious weeds on federal lands. The *Federal Noxious Weed Act of 1974* established and funded an undesirable plant management program, implemented cooperative agreements with state agencies, and established integrated management

systems to control undesirable plant species. The *Noxious Weed Control Act of 2004* established a program to provide assistance through states to eligible weed management entities to control or eradicate harmful, nonnative weeds on public and private lands. The *Public Rangelands Improvement Act of 1978* requires the BLM to manage, maintain, and improve the condition of the public rangelands so that they become as productive as feasible.

The BLM must comply with numerous federal laws that govern activities on public lands. *The Clean Air Act*, as revised in 1990, would primarily govern prescribed fire smoke emissions, and requires the USEPA and states to carry out programs to assure attainment of the National Ambient Air Quality Standards (NAAQS). The *Safe Drinking Water Act* is designed to protect the quality of public drinking water and its sources. The *Wilderness Act of 1974* provides management directions to protect wilderness values and guides activities and permitted uses within these areas.

The Clean Water Act regulates discharges into waters of the United States, including wetlands. As authorized by the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. Based on a recent ruling by the USEPA (2006), an NPDES permit is not required for applications of herbicides directly to water in order to control aquatic vegetation, or for application of herbicides that are present over or near water, where a portion of the herbicide will unavoidably be deposited to the water in order to target the pest vegetation. The ruling does not apply to terrestrial herbicide applications that drift over and into waters of the U.S.; issues related to these applications are under review by the USEPA.

USEPA regulates pesticides under two major federal statutes. The *Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)* establishes procedures for the registration, classification, and regulation of all pesticides. Before any pesticide may be sold legally, the USEPA must register it. The USEPA may classify a pesticide for general use if it determines that the pesticide is not likely to cause unreasonable adverse effects to applicators, or the environment, or for restricted use if the pesticide must be applied by a certified applicator and in accordance with other restrictions. All the herbicides evaluated in this PEIS, except diflufenzopyr as a stand-alone active ingredient, are registered with the USEPA. Diflufenzopyr is approved as a formulation with dicamba and is labeled

as Distinct, but could not be used as a stand-alone active ingredient by the BLM until it is registered with the USEPA. All applicators that apply them on public lands (i.e., certified applicators or those directly supervised by a certified applicator) must comply with the application rates, uses, and handling instructions on the herbicide label, and where more restrictive, the rates, uses, and handling instructions developed by the BLM. Under the *Federal Food, Drug, and Cosmetic Act*, the USEPA establishes tolerances (maximum legally permissible levels) for pesticide residues in food.

The *Food Quality Protection Act of 1996* changed the way the USEPA sets residue limits (tolerances) for pesticides on foods under the Federal Food, Drug, and Cosmetic Act, and the way the USEPA reviews and approves pesticides under FIFRA. Specifically, the Act mandated a single, health-based standard for all pesticides in all foods; provided special protections for infants and children; expedited approval of safer pesticides; created incentives for the development and maintenance of effective crop protection tools for American farmers; and required periodic reevaluation of pesticide registrations and tolerances to ensure that the scientific data supporting pesticide registrations will remain up to date in the future.

The *Resource Conservation and Recovery Act (RCRA)* regulates the disposal of toxic wastes, including the disposal of unused herbicides, and provides authority for toxic waste cleanup actions when there is a known operator. *The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)* regulates how to clean up spills of hazardous materials and when to notify agencies in case of spills.

Several laws pertain to the protection of plants and animals and their habitats. The *Migratory Bird Conservation Act of 1929, as amended*, makes it unlawful to directly, or indirectly, harm migratory birds. If the USFWS determines that migratory birds could be harmed by BLM vegetation treatment actions, the two agencies would develop a site-specific assessment and mitigation to prevent harm to these birds. *The Endangered Species Act (ESA) of 1973* provides for conserving endangered and threatened species of plants and animals. The ESA also requires that federal agencies consult with the USFWS and NMFS to ensure that any actions that they authorize, fund, or carry out are not likely to jeopardize the continued survival of a listed species or result in the adverse modification or destruction of its critical habitat. The *Wild Free-Roaming Horse and Burro Act of 1971, as amended by the Public Rangelands Improvement Act of 1978*

provides for the management, protection, and control of wild horses and burros on public lands and authorizes the “adoption” of wild horses and burros by private individuals. The *Fish and Wildlife Conservation Act of 1980* encourages federal agencies to conserve and promote the conservation of non-game fish and wildlife species and their habitats. The *Sikes Act of 1974* authorizes the USDI to plan, develop, maintain, and coordinate programs with state agencies for the conservation and rehabilitation of wildlife, fish, and game on public lands.

Laws and acts that pertain to the protection of historic and cultural resources and the rights of Native American tribes and Alaska Native groups include the *Historic Sites Act of 1935*, which provides for the preservation of historic American sites, buildings, objects, and antiquities of national significance. The *National Historic Preservation Act (NHPA) of 1966* requires federal agencies to take into account the potential affects of their actions on properties that are listed or are eligible for listing on the National Register of Historic Places (NRHP), and to consult with State Historic Preservation Officers (SHPOs), Indian tribes, and local governments regarding the effects of federal actions on historic properties. The *Archeological Resources Protection Act of 1979* prohibits the excavation, removal, damage, or other alteration or defacement of archaeological resources on federal or Indian lands without a permit. *The American Indian Religious Freedom Act of 1978* requires federal land managers to include consultation with traditional Native American or Alaska Native religious leaders in their management plans. The *Native American Graves Protection and Repatriation Act of 1990* recognizes the property rights of Native Americans and Alaska Natives in certain cultural items, including Native American and Alaska Native human remains and sacred objects. *Section 810 of the Alaska National Interest Lands Conservation Act (ANILCA)* addresses the effects of proposed activities on Alaska Native subsistence uses.

This PEIS follows the guidelines in several Executive orders (EOs). *Executive Order 11990, Protection of Wetlands*, ensures that federal agencies minimize the destruction, loss, or degradation of wetlands, and enhance and preserve the natural and beneficial values of wetlands, when carrying out actions on federal lands. *Executive Order 12898, Environmental Justice*, requires that federal agencies address the environmental justice of their actions on minority populations and on low-income populations. *Executive Order 13045, Protection of Children from Environmental Health*

Risks and Safety Risks, ensures that federal agencies identify and assess the environmental health and safety risks that may disproportionately affect children. *Executive Order 13084, Consultation and Coordination with Indian Tribal Governments* directs federal agencies to respect tribal self-government and sovereignty, tribal rights, and tribal responsibilities whenever they formulate policies “significantly or uniquely affect Indian tribal governments.” *Executive Order 13112, Invasive Species*, directs federal agencies to prevent the introduction of invasive species and provide for their control, and to minimize the economic, ecological, and human health impacts that invasive species cause. *Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds*, requires that federal agencies that have, or are likely to have, a measurable negative effect on migratory bird populations develop a Memorandum of Understanding (MOU) with the USFWS that shall promote the conservation of migratory bird populations.

NEPA Requirements of the Program

Federal agencies are required to prepare an EIS under NEPA 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.; USDI BLM 1988c). 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 program impacts of using herbicides 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* (USDI BLM 1988b).

To the extent practicable, existing environmental analyses were used in analyzing impacts associated with the proposed action and alternatives, including information contained in documents listed in a previous section, Documents that Influence the Scope of the PEIS.

This PEIS provides a broad, comprehensive background source of information on 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, as shown in Figure 1-1. The broadest level, which this PEIS represents, is a national-level programmatic study. This level of study contains broad regional descriptions of resources, provides a broad environmental impact analysis, including cumulative impacts, focuses on general policies, and provides Bureau-wide decisions on herbicide use and other available tools for vegetation management. Additionally, it provides an umbrella ESA Section 7 consultation for the broad range of activities described in the PEIS.

The next scale of analysis represents a regional level of analysis, and may be prepared for regional or statewide programs. A regional level of analysis would typically focus on methods to be used, options, regional or statewide issues, and provide an ESA Section 7 consultation focused on regional issues. Examples of these types of analyses are found in such documents as the *Interior Columbia Basin Ecosystem Management Plan* (USDA Forest Service and USDI BLM 1997), and the *Northwest Area Noxious Weed Control Program EIS* (USDI BLM 1985).

Below the regional scale of analysis, there is the option to prepare a field office level of analysis. This analysis may be prepared for district or field office-wide programs. The analysis is tiered to either or both of the two higher scales of analysis and focuses on impacts of methods and options for a single program, such as a field office invasive and noxious weed program or prescribed fire and wildland fire use program. Local LUPs, such as RMPs and Management Framework Plans (MFPs), guide analysis at this level. Collectively, these LUPs outline the specific resource goals and objectives and use allocations for a specific geographic area. The uses and allocations allowed by the LUP are analyzed in an EIS associated with the development of the LUP. Land use plans are developed to include the proposed action and alternatives that identify specific management strategies to meet particular national, regional, and local goals and objectives. This scale provides ESA Section 7 consultation focused on local issues and species of concern that occur within the field office's administrative jurisdiction.

The local scale provides project level analysis and is prepared for site-specific proposals. The analysis may be tiered to any or all of the above scales of analysis. The analysis focuses on site-specific impacts of implementing a single management proposal as identified through local planning. Examples include, but

are not limited to, weed control, prescribed fire, hazardous fuel reduction, and WUI projects. Section 7 consultation under the ESA focuses on the implementing actions.

Tiering allows local offices to prepare more specific environmental documents without duplicating relevant portions of this PEIS. Analyses done by local BLM offices will be prepared in accordance with NEPA guidance and will include public involvement as regulated by the CEQ, as well as follow USDI and BLM manual and handbook guidance and pertinent instruction memoranda.

Interrelationships and Coordination with Agencies

In its role as manager of nearly 261 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 members of the public that use public lands or are affected by activities on public lands.

As noted previously, several federal agencies administer laws that govern activities on public lands. Federal agencies, including the Department of Defense, the Department of Energy, the National Park Service, the USFWS, the Bureau of Reclamation, the Bureau of Indian Affairs, and the USDA Forest Service, administer lands adjacent to or in close proximity to public lands administered by the BLM, and have vegetation management issues that are similar to the BLM's. Other agencies, such as the Agricultural Research Service, the Animal, Plant, Health Inspection Service, the Natural Resource Conservation Service, and the U.S. Geological Survey Biological Services, play vital roles in coordination with national, tribal, state, county and private interests through their oversight and coordination responsibilities. These agencies and the BLM regularly coordinate on vegetation management and control efforts to benefit all federally-administered lands. Other local coordination includes the sharing of equipment, training, and financial resources, and developing vegetation management plans that cross administrative boundaries.

(Adapted from USDI BLM 1991a)

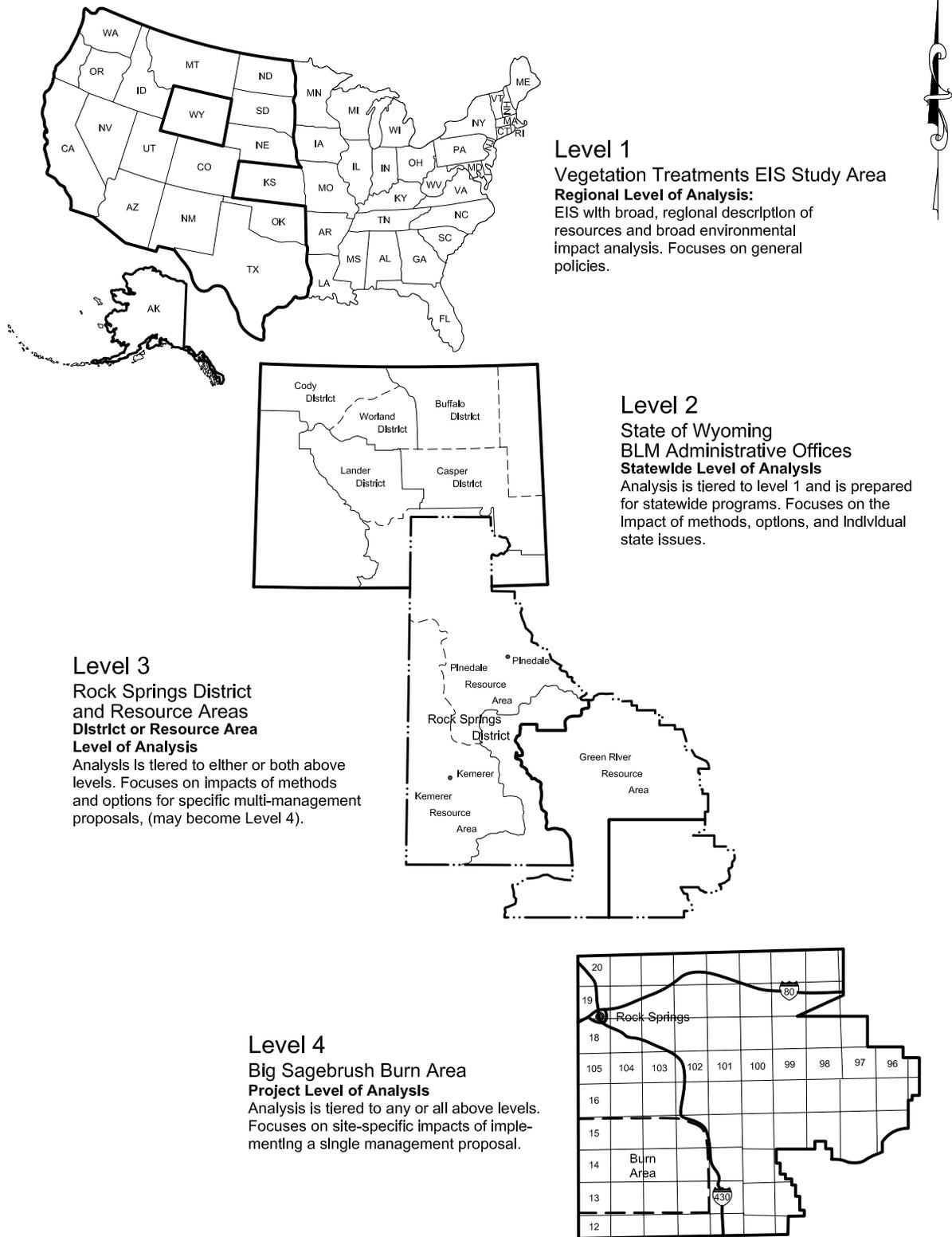


Figure 1-1
 Relationship of the PEIS to BLM Field Offices

National Level Coordination

Invasive species management is coordinated by several groups at the national level. The National Invasive Species Council was formed among several federal agencies per Executive Order 13112 to develop strategies to control invasive species on federal lands. Comprised of 16 federal agencies with direct invasive plant management responsibilities, the Federal Interagency Committee for the Management of Noxious and Exotic Weeds serves to coordinate invasive plant management activities in federal lands across the United States and its territories. A related committee is the Federal Interagency Committee on Invasive Terrestrial Animals and Pathogens, which consists of ten federal departments and agencies responsible for managing non-vegetative invasive species in terrestrial ecosystems. The BLM also coordinates with the Aquatic Nuisance Species Task Force, which is co-chaired by the USFWS and NMFS, and is responsible for coordinating efforts by the federal government and the private sector in controlling aquatic nuisance species. The BLM also produces national level strategies for invasive species prevention and management (e.g., *Partners Against Weeds: An Action Plan for the Bureau of Land Management* [USDI BLM 1996], and *Pulling Together: National Strategy for Invasive Plant Management* [USDI BLM 1998]).

Fire and fuels management coordination involves both federal and state entities. The Wildland Fire Leadership Council is a cooperative, interagency organization dedicated to achieving consistent implementation of the goals, actions, and policies in the *National Fire Plan* and the *Federal Wildland Fire Management Policy*. The National Fire and Aviation Executive Board was established to resolve wildland fire management issues on an interagency level by improving coordination and integration of federal fire and aviation programs.

The National Interagency Fuels Coordination Group, chartered under the National Fire and Aviation Executive Board, was established shortly after the *National Fire Plan* in October of 2001 under the direction and guidance of the Department of the Interior's Bureau of Indian Affairs, BLM, USFWS, National Park Service, and USDA Forest Service. The primary purpose of the group is to provide leadership and coordination in uniting the Departments' resources and fire management programs under a common purpose for reducing risks to communities while improving and maintaining ecosystem health. The Group provides assistance and guidance in the

development and implementation of an effective interagency fuels management program, which includes addressing risks from severe fires in WUI communities and restoring healthy ecological systems in other wildland areas.

The National Wildfire Coordinating Group provides coordination among the following agencies and their programs: USDA Forest Service; USDI BLM, National Park Service, Bureau of Indian Affairs, and USFWS; and the National Association of State Foresters. The BLM is also one of six federal agencies that provide scientific support for the management of fuels and wildland fires in the Joint Fire Science Program.

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, and do not result in unacceptable surface or ground water contamination.

Local and state agencies work closely with the BLM to manage weeds on local, state, and federal lands, and are often responsible for weed 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 west.

The Healthy Forests Restoration Act (HFRA) directs the USDA Forest Service and USDI BLM to develop an annual program of work for federal land that gives priority to authorized hazardous fuel reduction projects that provide for protecting at risk communities or watersheds. The recommendations made by Community Wildfire Protection Plans (described under Coordination in [Chapter 2](#)) are taken into account by the agencies in accordance with HFRA, which gives priority in allocating funding to communities that have adopted these plans, or that have taken measures to encourage

willing property owners to reduce fire risk on private property (USDA Forest Service and USDI BLM 2004). All prescribed burning is coordinated with state and local air quality agencies to ensure that local air quality is not significantly impacted by BLM activities.

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 Association, the National Wool Growers Association, 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 weed treatment methods, use of domestic animals to control weeds, landscape level planning, vegetation monitoring, techniques to restore land health, and methods to ensure that prescribed burning does not impact the safe operation of power transmission lines.

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 weed 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 NMFS as required under Section 7 of the ESA (see [Chapter 5](#) and [Appendix G](#)). 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 on Bureau of Land Management Lands in*

17 Western States (BA; USDI BLM 2007b). The BA evaluated the likely impacts to listed species, species proposed for listing, and critical habitats from the proposed use of herbicides and other treatment methods in its vegetation treatment program and identified management practices to minimize impacts to these species and habitats.

The BLM initiated consultation with Native American tribes and Alaska Native groups to identify their cultural values, religious beliefs, traditional practices, and legal rights that could be affected by BLM actions. This included sending out letters to all tribes and groups that could be directly affected by vegetation treatment activities, and requesting information on how the proposed activities could impact Native American and Alaska Native interests, including the use of vegetation and wildlife for subsistence, religious, and ceremonial purposes (see [Appendix G](#)).

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 required by ANILCA § 810 are given in [Appendix H](#).

The BLM also consulted with SHPOs as part of Section 106 consultation under the NHPA to determine how proposed vegetation treatment actions could impact cultural resources. Formal consultations with SHPOs and Indian tribes also may be required during implementation of projects at the local level (see [Appendix G](#)).

Public Involvement and Analysis of Issues

The purpose of scoping is to focus the analysis in an EIS on the significant issues and reasonable alternatives in order to eliminate extraneous discussion and to reduce the length of an EIS (USDI BLM 1988b). Scoping is an ongoing process that involves the public in developing an EIS.

The BLM published a Federal Register (FR) Notice of Intent (NOI) on October 11, 2001, notifying the public that the BLM had formed a team to prepare a PEIS on the treatment of vegetation on public lands in the western U.S., including Alaska. The NOI also stated that comments on the proposal would be accepted from October 12 through November 11, 2001.

A second Federal Register Notice of Intent was published on January 2, 2002, notifying the public of the location of public scoping meetings, and extending the public comment period until March 29, 2002.

A third Federal Register Notice of Intent was published on January 22, 2002, notifying the public of changes to the meeting schedule.

All affected states issued public notices of the scoping period, which were placed in newspapers in or near locations where public meetings were held. In addition, information on the location of scoping meetings was provided by electronic mail in early December 2001, and again in early January 2002, to all members of the public that had placed their names on the electronic mailing list for the project before the date of the announcements.

Public Scoping Meetings

Eighteen public meetings were held in 12 western states, including Alaska, and one meeting was held in Washington, D.C. The scoping meetings were conducted in an open-house style. Informational displays were provided at the meeting, and handouts describing the project, the NEPA process, and issues and alternatives were given to the public. A formal presentation provided the public with additional information on program goals and objectives. This presentation was followed by a question and answer session.

The BLM received 1,034 requests to be placed on the project mailing list from individuals, organizations, and government agencies, and 381 written comment letters or facsimiles on the proposal. In addition, the public provided comments on the project at the public scoping meetings; over 2,800 catalogued individual comments (written and oral) were given during public scoping. In many cases, multiple respondents submitted the same comment. A *Scoping Comment Summary Report for the Vegetation Treatments Programmatic EIS* (ENSR 2002) was prepared that summarized the issues and alternatives identified during scoping. This document was made available to the public in July 2002.

Scoping Issues and Concerns

A wide range of issues was identified during scoping. Issues accounting for over 80% of the comments considered in the PEIS and PER are listed in Table 1-1.

The primary issue of controversy identified through scoping, and which required NEPA review, was the BLM's continuing and proposed increase in the use of herbicides in vegetation treatment programs needed to implement the *National Fire Plan* and related initiatives. The use of herbicides has been affirmed as a central issue for analysis in all past EISs considered in this document.

After scoping, the BLM determined that a NEPA review was not required to assess the impacts of other treatment activities on environmental and social resources on public lands at the national programmatic level. The use of these techniques has been affirmed in all previous EISs, and the BLM has authority under existing statutes to utilize these methods of treatment as necessary. Program- and project-specific NEPA analysis of the use of these techniques, and under what circumstances, will occur at the land use planning and project level.

Development of the Alternatives

The public comments influenced the development of several vegetation management alternatives. As noted in Table 1-1, numerous respondents suggested that the BLM reduce or eliminate the use of herbicides, avoid aerial applications of herbicides, or avoid the use of sulfonylurea and other acetolactate synthase (ALS)-inhibiting active ingredients. Based on these comments and NEPA-review requirements, alternatives addressing the use of herbicides are evaluated in the PEIS. The effects of other non-herbicide vegetation treatments are described in the PER.

Issues Not Addressed in the Draft PEIS

Approximately 16% of comments received were not addressed in the PEIS or PER because they were beyond the scope of the document or did not meet the basic purpose and need of the project. The following are examples of comments not addressed in the PEIS or PER:

- Address the impacts of livestock grazing on aquifer recharge and wildlife habitat
- Amend the Mining Act of 1872
- Have scoping meetings in each district and extend the scoping period
- Classify wild horses as big game for sportsmen
- Increase penalties for violators of OHV rules

- The BLM is unconstitutional

Public Review and Comment on the Draft Programmatic EIS, ER, and BA

The Notice of Availability (NOA) of the *Draft Vegetation Treatments using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement* was published in the Federal Register on November 10, 2005. The public comment period was originally scheduled from November 10, 2005, through January 9, 2006; however, a notice extending the public comment period through February 10, 2006, was published in the Federal Register on January 20, 2006. Public notices announcing the comment period were placed in newspapers with circulation in or near locations where public meetings were held. The BLM issued a press release on November 10, 2006, notifying the public that the Draft PEIS, PER, and BA were available for public review, and listing the schedule for public comment hearings. Information on the Draft PEIS, PER, and BA were also posted on the interactive website. The public was able to access the website to download a copy of the Draft PEIS, PER, and BA.

Public hearings were held in Portland, Oregon on November 28, Sacramento, California on November 29, Salt Lake City, Utah on November 30, Albuquerque, New Mexico on December 1, Grand Junction, Colorado on December 5, Boise, Idaho on December 6, Billings, Montana on December 7, Cheyenne, Wyoming on December 8, and Las Vegas, Nevada, and Washington D.C. on December 13, 2006. These hearings allowed the BLM to provide an overview of the alternatives and to take public comments and subsistence testimony. Nearly 3,000 comments were received on the Draft PEIS, PER, and BA. Comments included letters, electronic mail, facsimiles, and comments provided at the public hearings in Boise and Sacramento (no public testimony was given at the other public hearings). A summary of the comments received and issues identified and specific comments and responses are presented in Volume III of this final PEIS. All comments are reproduced on the CD located in the back pocket of Volume I of the 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 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. The CEQ Regulations provide direction on how to proceed with the preparation of an EIS when information is incomplete or unavailable:

“If the information relevant to reasonably foreseeable significant adverse impacts cannot be obtained because the overall costs of obtaining it are exorbitant or the means to obtain it are not known, the agency shall include within the environmental impact statement: 1) a statement that such information is incomplete or unavailable; 2) a statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts on the human environment; 3) a summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts on the human environment; and 4) the agency’s evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community. For the purposes of this section, “reasonably foreseeable” includes “impacts which have catastrophic consequences, even if their probability of occurrence is low, provided that the analysis of the impacts is supported by credible scientific evidence, is not based on pure conjecture, and is within the rule of reason” (40 CFR 1502.22 b).

For this PEIS, the primary effect of unavailable information is the inability to quantify certain impacts. Where quantification was not possible, impacts have been described in qualitative terms. A summary of existing credible scientific evidence that is relevant to evaluating the reasonably foreseeable adverse impacts on the human and socioeconomic environment and support the BLM’s evaluation of such impacts have been included in [chapters 3 and 4](#), in the appendices that accompany this PEIS, and in supporting documents that were prepared for this PEIS that have been included on the accompanying CD or are available on the BLM website at <http://www.blm.gov>. A copy of the PER and its supporting documents are also available at this website.

If changes in the proposed vegetation treatment activities and levels occur in the future, they would be reviewed to determine whether additional environmental documentation was needed, including an EA or EIS. This PEIS would serve as a source document that would be used to support any additional documentation that may be required. Any new or additional actions would also be evaluated for compliance with federal, state, and local laws and regulations prior to implementation, and the public would be informed of any major actions that may be considered for implementation by the BLM as part of the NEPA compliance process.

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 (USDI BLM 1988b). Because this PEIS contains a broad range of information, [Figure 1-2](#) shows the types of information found in the PEIS, and where it is located.

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

Issue	Where Addressed in PEIS and (PER)
<i>Program Purpose and Need</i>	
Focus on long-term ecosystem sustainability and biological diversity; clearly define restoration objectives (39)	1-1, 1-3, 2-1, 2-5, 2-22, Ch. 4. (Chs. 1, 2)
Need to address all invasive plants, not just weeds (34)	1-1, 2-3, 2-22 (Chs. 2, 4)
Evaluate land use impacts, such as grazing and fire suppression, on the decline of ecosystem health (377)	1-1, 1-5, Ch. 4 (Chs.1, 2, 4)
Focus on addressing the causes rather than treating the symptoms (102)	2-5, 2-15, 2-23 (Ch. 2)
Address how PEIS will impact Resource Management Plans and other local planning (23)	1-,5, 1-8 (Ch. 1)
Work closely with agencies, conservation groups, and private landowners on vegetation management (93)	1-9, 1-11, 2-25, 2-39, Ch. 5 (Ch. 1)
<i>Proposed Action</i>	
Ensure that adequate funds are available to treat enough land and monitor treatment success (45)	2-22
Consider all treatment methods (11)	2-8, 2-14 (Ch. 2)
Naturally-occurring fires should be allowed to burn and restored to public lands (38)	1-1, (Chs. 2, 3, 4)
Use newer, less toxic herbicides where feasible, and limit use or avoid use of herbicides (75)	2-9, Ch. 4, App. B, C
Describe how herbicides were chosen and evaluated in the PEIS (33)	2-9, Ch. 4, App. B, C
Describe where acres will be treated and method of accounting for acres that receive multiple treatments (28)	2-21 (Ch. 1)
<i>Other Potential Alternatives</i>	
Reduce or eliminate the use of herbicides; apply from the ground rather than from the air (206)	2-19
Fuels reduction should only occur in WUI or where there is a threat of significant wildfire (39)	1-1, 2-22 (Ch. 2)
Treat more acres; treat fewer acres (8)	2-22
Develop a no-grazing alternative; develop a no-logging alternative; develop a no-OHV alternative (12)	1-5
Develop restrictions on motorized vehicle use on public lands (72)	1-5
Develop an alternative based on an ecosystem management approach (2)	2-20
<i>Restoration Goals and Best Management Practices</i>	
Identify restoration objectives and focus on preventative measures to eliminate the causes of land degradation (103)	2-22, Ch. 4 (Ch. 2)
Restoration efforts should focus on restoring natural disturbance regimes and ecosystem processes (11)	2-22, Ch. 4 (Ch 4)
Improve management of public lands for multiple use and maximum public benefit (22)	2-1 (Ch. 2)
Use native plants and certified native seed, where practical, for revegetation (59)	2-22, 2-27 (Ch. 2)
Restrict grazing on lands that are being rehabilitated or that have not been impacted by livestock (10)	2-23, 2-32 (Ch. 2)
Monitor success of treatments and establish performance measures to determine treatment success (42)	2-35 (Ch. 2)
Include public education as part of the vegetation treatment program (39)	2-39 (Ch. 2)
<i>Environmental Consequences</i>	
Address the impacts on air quality from prescribed burning (18)	(Ch. 4)
Address the impacts of herbicides on water quality (39)	4-24
Assess the role of fire in contributing to weed growth (44)	(Chs. 1, 2, 3, 4)
Evaluate the effects of herbicide treatments on non-target species (28)	4-44
Address the role of grazing in controlling weeds and other invasive vegetation and hazardous fuels (27)	(Ch. 4)
Vegetation treatments should focus on restoring habitat and natural ecological processes (25)	1-1, 1-3, 2-1, 2-5, 2-8, Ch. 4 (Chs. 1, 2, 4)
Address the impacts of treatments on species of concern (55)	4-71, 4-92, 4-124 (Ch. 4)
Describe how treatments will occur in wilderness areas (26)	2-16,2-29, 4-155 (Chs. 2, 4)
Address the impacts of prescribed fire on powerline operations and safety (12)	(Ch. 4)
Evaluate the impacts to subsistence crops used by Native Americans and Alaska Natives (10)	4-149 (Ch. 4)
Address the risks to humans and fish and wildlife from use of herbicides and smoke from prescribed fire (54)	4-101, 4-174 (Ch. 4)
Address how will vegetation treatments will affect the local economy (40)	4-163 (Ch. 4)

VOLUME 1

Chapter 1 Proposed Action and Purpose and Need

Summarizes the proposed action, purpose and need, and decisions to be made in this PEIS.

Chapter 2 Alternatives

Describes and compares the proposed management alternatives.

Chapter 3 Affected Environment

Presents existing natural and socioeconomic resources on public lands in the western U.S.

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 the PEIS.

Chapter 6 References

Lists the documents and other sources used to prepare the PEIS.

Chapter 7 Glossary

Provides definitions for important terms used in the PEIS.

Chapter 8 Index

Lists where significant issues, resource descriptions, NEPA terms, and agencies and groups discussed in the PEIS are located.

Acronyms, Abbreviations, and Symbols (fold-out at end of Volume 1)

Lists the acronyms, abbreviations, and symbols used in the PEIS.

VOLUME 2

Appendixes

- A. Common and Scientific Names of Plants and Animals Given in the PEIS
- B. Human Health Risk Assessment
- C. Ecological Risk Assessment
- D. Evaluation of Risks from Degradates, Polyoxyethylene-amine (POEA), and Endocrine Disrupting Chemicals
- E. Protocol for Identifying, Evaluating, and Using New Herbicides
- F. BLM Reference Manuals and Handbooks
- G. Consultation Agreements
- H. ANILCA Section 810 Analysis of Subsistence Impacts
- I. American Lands Alliance Alternative and BLM Analysis of Alternative
- J. Special Status Species List

VOLUME 3

Comments and Responses

Provides a summary of the comments received on the Draft PEIS, PER, and BA

Related Reports

(on the CD located in the back pocket of the PEIS)

- 1. Biological Assessment
- 2. Human Health Risk Assessment Final Report
- 3. Ecological Risk Assessments for Each Herbicide Evaluated by the BLM
- 4. Ecological Risk Assessment Protocol
- 5. Comment Letters, Facsimiles, and Electronic Mail on Draft PEIS, PER, and BA

Figure 1-2

How This Programmatic EIS is Organized.