

# Decision Record Integrated Invasive Plant Management for the Burns District (DOI-BLM-OR-B000-2011-0041-EA)

## Introduction

For the past seventeen years, noxious weeds have been managed on the Burns District following direction described in the 1998 Noxious Weed Management Environmental Assessment and accompanying Decision Record, as well as overarching Resource Management Plans: Andrews Management Unit / Steens Mountain Cooperative Management and Protection Area Resource Management Plans (2005) and Three Rivers Resource Management Plan (1992). That direction specifies aggressive control of noxious weeds using a variety of methods including public education, early detection, monitoring of activities known to facilitate noxious weed spread, inventory, and direct control using hand tools, machinery, prescribed fire, targeted grazing, biocontrols, and herbicides. The herbicides have been restricted to four; glyphosate, 2,4-D, dicamba, and picloram. Their use has been restricted to noxious weeds only.

**Invasive plants** are non-native aggressive plants with the potential to cause significant damage to native ecosystems and/or cause significant economic losses.

**Noxious weeds** are a subset of invasive plants that are county-, State-, or Federally-listed as injurious to public health, agriculture, recreation, wildlife, or any public or private property.

Thus, the term “invasive plants” includes noxious weeds in this Decision Record.

In 2007, the BLM completed a Final EIS and Record of Decision for *Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States Programmatic EIS* (PEIS) and Record of Decision. The PEIS and its Record of Decision authorized the use of 18 herbicides for a wide range of vegetation management purposes. The PEIS, and an accompanying Environmental Report looking at non-herbicide treatments, contained a summary of *Standard Operating Procedures* summarized from existing laws and BLM policies, as well as a list of mitigation measures (PEIS Mitigation Measures) suggested by the PEIS analysis and selected by its Record of Decision. Endangered Species Act (ESA) consultation on the PEIS also resulted in Conservation Measures for ESA-listed species.

Prior to implementing the 2007 PEIS Record of Decision, the BLM chose to complete an Oregon-wide Environmental Impact Statement (2010 Oregon EIS)(USDI 2010a) to examine the effects, at the Oregon-wide scale, of the use of the 18 PEIS herbicides (including the four authorized by the 1998 Decision Record) for use on invasive plants, and for other purposes. That analysis found that the use of generally newer, more target-specific herbicides would reduce the likelihood of adverse environmental effects and be more effective at controlling invasive plants. The resultant 2010 Record of Decision (USDI 2010b) authorized BLM Districts in Oregon to consider, through site-specific analyses, up to 17 herbicides for invasive plant control. The 2010 Record of Decision also adopted the PEIS Standard Operating Procedures and PEIS Mitigation Measures, as well as additional mitigation measures suggested by the 2010 Oregon EIS.

The Burns District recently completed a site-specific Environmental Assessment, DOI-BLM-OR-B000-2011-0041-EA, for a proposal to expand the current program to include, along with other control methods, the use of up to 14 herbicides where needed, and to make those herbicides available for use on other invasive plants (like cheatgrass), not just noxious weeds. That EA and its accompanying draft Finding of No Significant Impact were made available for 30-day public review ending May 26, 2015.

## Alternatives Including the Proposed Action

The EA addressed two alternatives in detail: the Proposed Action and No Action alternatives. The EA also considered several other alternatives, but did not address the potential impacts of these alternatives in detail for a variety of reasons (see EA, Chapter 2, *Alternatives Considered but Eliminated from Detailed Study*, EA:58-59). The two alternatives considered in detail addressed direct control methods, and were both set in the context of existing policy and direction for invasive plant prevention, detection, education, awareness, inventory, planning, integrated management, coordination, and monitoring (see EA, Chapter 2, *Background – Invasive Plant Management*, EA:21-24). Both alternatives also include Standard Operating Procedures developed by the BLM over decades of invasive plant management using herbicides and other direct control methods, Mitigation Measures adopted by the National and Oregon EISs to which the EA tiers, and conservation measures from national-level threatened and endangered species consultation variously applicable to BLM Special Status species (see *Appendix A* of the EA, EA: 239-276). The implementation of these measures and protections are assumed in the analysis and apply to all control activities unless site-specific analysis indicates there are other ways to accomplish their intended protections.

Both alternatives seek to control existing documented noxious weeds infestations (currently about 26,000 acres), spread from those infestations, and new invaders not currently known on the District. For both alternatives, the amount of acres treated in these three categories would be approximately the same. Current funding restricts treatments to between 3,000 and 19,000 acres per year.

The No Action Alternative was presented to examine the environmental effects and control effectiveness of continuing treatment methods authorized in the existing noxious weed management program. Control methods include hand pulling, prescribed burning, agricultural activities such as mowing, biological controls including the use of insects, pathogens, and grazing animals, and the use of four herbicides District-wide (glyphosate, 2,4-D, dicamba, and picloram) and four in limited areas where additional NEPA has analyzed their use (chlorsulfuron, clopyralid, imazapic and sulfometuron methyl). None of the herbicides available District-wide is selective for invasive annual grasses, nor may they be used on invasive plants not listed as noxious weeds, so the District conducts few projects targeting medusahead rye and most other invasive annual grasses.

The Proposed Action differs from the No Action Alternative by increasing the number of herbicides available and making those herbicides available for the control of any invasive plant District-wide, not just listed noxious weeds. The Proposed Action would also authorize landing a helicopter to access two spotted knapweed infestations in the Steens Mountain Wilderness. The additional herbicides are generally more target (species)-specific, and are capable of selectively controlling species not readily controlled with the existing four herbicides. In particular, this alternative includes herbicides (notably imazapic) that will control cheatgrass and other invasive annual grasses currently infesting hundreds of thousands of acres on the District in Greater sage-grouse habitat and other important sagebrush steppe ecosystems. With this capability, implementation of the Proposed Action could treat as many as 80,000 additional acres in some years as an invasive grass prevention treatment following wildfire, as a protection and restoration treatment in key Greater sage-grouse management areas, and/or to facilitate rehabilitation of recent wildfire and other sites infested with invasive annual grasses.

## The Decision

It is my decision to select the Proposed Action, as described herein and on pages 52 to 58 of the EA. The Burns District currently controls noxious weeds using a range of methods including manual, mechanical, biological controls (mostly insects), targeted grazing, prescribed fire, and herbicides (2,4-D, dicamba, glyphosate, and picloram). My decision expands this program by increasing the kinds of plants controlled from noxious to all invasive plants and by increasing the number of herbicides that may be used from 4 to 14.

## **Rationale for the Decision**

The selected alternative best meets the *Need* for a more effective invasive plant control program as indicated, in part, because:

- It will reduce the spread of invasive plants on the District by an estimated 40,200 acres over 15 years when compared to the No Action Alternative.
- It will allow the use of additional herbicides that are more effective at controlling the invasive plant while reducing potential risks to applicators, the public and tribes, and surrounding resources.
- It will allow the use of herbicides that can be used on invasive annual grasses currently infesting hundreds of thousands of acres on the District. These invasive grasses are seriously degrading or endangering key habitats and increasing the risk of wildfire.

Further, the analysis indicates the selected alternative best meets the five *Purposes* itemized in Chapter 1, as described below:

- *Control invasive plants to protect native ecosystems and the flora and fauna that depend on them.*

The *Invasive Plants* section in Chapter 3 describes that the spread of noxious weeds will be slowed by adoption of the Proposed Action. The *Native Vegetation*, *Wildlife*, and other sections in Chapter 3 indicate those resources would benefit, while not experiencing significant adverse effects.

- *Manage invasive plants to reduce the risk that large-scale high-intensity fires would unacceptably damage resources and human developments.*

Because of the treatment of medusahead rye and other invasive annual grasses, the *Fire and Fuels Management* section in Chapter 3 describes an increased effectiveness of green-stripping in strategic locations to slow or stop the spread of wildfires. This would increase the likelihood of successfully working with adjacent landowners on fuel breaks and related treatments to minimize damage to human development (EA:169). Successfully decreasing the presence of invasive annual grasses is expected to decrease the likelihood key habitats will burn (EA:169).

- *Cooperatively control invasive plants so they do not infest or re-infest adjacent non-BLM-administered lands.*

The *Socioeconomics* section in Chapter 3 indicates furtherance of this objective by reducing invasive plant spread rate, by more closely matching existing private land treatments, and by allowing the BLM to be a more effective partner with adjacent landowners, County, State and other Federal agencies (EA:200).

- *Prevent control treatments from having unacceptable adverse effects to applicators and the public, to desirable flora and fauna, and to soil, air, and water.*

The analysis of other resources and issues in the EA, including the *Human Health and Safety* section, indicates low or no measureable risk to these resources or human health when project design features are followed. These conclusions are based in large part on Risk Assessments conducted by the BLM and U.S. Forest Service, which examined available research pertinent to wildland uses. The examination significantly exceeds that required for EPA registration. Further, actual product formulations (brands) and adjuvants must be on the national BLM-approved list (EA Appendix C) to ensure only analyzed materials are included.

- *Minimize treatment costs and improve treatment effectiveness, so resource and economic losses from invasive plants are reduced and more of the Need can be met within expected funding.*

The *Implementation Costs* section of the EA indicates, in part because of improved efficiency of the Proposed Action, that the cost of effectively treated (controlled) acres would decrease slightly when compared to the No Action Alternative.

## **Consistency with Other Plans and Laws**

As described in the EA in Chapter 1, several laws require the BLM to aggressively control invasive plants, and this decision is consistent with, and helps facilitate, the objectives of those laws (EA:14-20). Further, as required by the Federal Land Policy and Management Act (FLPMA), my decision conforms to the 2005 Andrews Management Unit Resource Management Plan and the Steens Mountain Cooperative Management and Protection Area Resource Management Plan, and the 1992 Three Rivers Resource Management Plan and specifically to direction to control noxious weeds and other invasive plants. My decision is consistent with management for Areas of Critical Environmental Concern, Wilderness, and Wild and Scenic Rivers, as laws, policy, and existing Plans for those areas all specify that their objectives would be furthered by control of invasive plants. In such areas, my decision directs that control activities be carried out in a manner that does not conflict with the purposes for which the area was designated (EA:16-17). The EA includes analysis of the effects of landing a helicopter within a wilderness area to access remote invasive plant infestations. Though there are temporary effects to visitors and the qualities of wilderness character associated with the use of a helicopter, the long-term protections afforded to wilderness characteristics from invasive plant treatments and the safety of treatment crews warrants their occasional use to treat remote, otherwise inaccessible locations for more timely control treatments.

My decision specifically conforms to existing Resource Management Plan direction for Greater Sage Grouse, BLM Interim Management direction for Greater Sage Grouse. Parts of the Proposed Action are specifically designed to further the objectives of these direction documents by providing tools necessary to protect and restore primary Greater sage-grouse habitat from invasion by medusahead rye and other invasive annual grasses (EA:16, 18).

My decision to authorize the use of the 14 herbicides on invasive plants is consistent with the Oregon EIS and the subsequent modification of the 1984 and 1987 court orders that previously restricted herbicide use (EA:12-13, 18).

My decision is consistent with the requirements of the Endangered Species Act (ESA). As is discussed in the section entitled *Endangered Species Act Consultation* below, the effects to listed species were determined as part of the Aquatic Restoration Biological Opinion II (ARBO II). Further my decision requires protection of BLM Special Status Species, so that treatment actions do not contribute to a need to list them under the ESA in the future. Conservation Measures included in Appendix A specifically apply to Special Status species, as needed.

My decision is consistent with the National Historic Preservation Act. Clearance surveys are required prior to conducting ground-disturbing actions that may potentially affect historic and prehistoric resources. My decision adopts project design features laying out a consultation process with affected tribes and specifies providing them Annual Treatment Plans. Other measures designed (in whole or part) to protect historic and prehistoric resources are also included (EA:174).

## **Public Involvement and Consultation**

### **Scoping**

External scoping for the EA was conducted July 15 through August 15, 2011. In addition to the printing of a news release in the Burns Times Herald newspaper, scoping letters or emails were sent to 1,263 individuals, groups, and agencies. Twelve reply letters, emails, or phone calls were received and, along with other pertinent information, were used to help develop the *Purposes* and *Issues* listed in Chapter 1 of the EA.

## **EA and Finding of No Significant Impact (FONSI) Public Review**

The completed EA and FONSI were made available for 30-day public review beginning April 24, 2015. On that date, the documents were posted to the District website, a legal notice was published in the Burns Times Herald, and email or hard copy mail notices were forwarded to 1,182 persons on the Burns District mailing list who had previously indicated an interest in such analyses, who were known to be interested, and persons who contributed scoping comments for this EA. Five comment letters were received in response. Three of these letters, including one from the Oregon Department of Fish and Wildlife, were supportive of the Proposed Action and did not contain substantive comments (flaws in the analysis or incorrect conclusions). The letters referenced the rapid spread of the invasive annual grass medusahead rye as a particular concern and encouraged the BLM to take action as soon as possible. One comment from a botanist with the Fremont-Winema National Forest was supportive of the purpose and need but felt the effects analysis overstated the effectiveness of treatments and needed additional citations. The Northwest Environmental Defense Center and Center for Biological Diversity submitted a comment letter acknowledging the adverse effects of invasive species on native ecosystems and the need to use herbicides, but requested more detail about the effects on certain resources, risks of specific herbicides, and how BLM complies with federal standards. Substantive comments from the latter two letters are addressed in Appendix 1 of this Decision Record, and resulted in edits, clarifications, and new information being presented in the Revised EA.

## **Endangered Species Act Consultation**

There are no listed anadromous fish potentially affected by my decision, therefore consultation with the National Marine Fisheries Service was not initiated. For three listed resident fish species and one endangered plant species, the EA included terms and conditions from previous aquatic restoration consultation, from the programmatic *U.S. Fish and Wildlife Service Biological Opinion for Fish Habitat Restoration Activities Affecting ESA-listed Animal and Plant Species and their Designated Critical Habitat found in Oregon, Washington and parts of California, Idaho and Nevada, submitted by the U.S. Forest Service, Bureau of Land Management, and Bureau of Indian Affairs (ARBO II)*. Project Design Criteria for Invasive Plant Control outlined in the ARBO II were fully incorporated into Project Design Features of this EA.

## **Consultation with Potentially Affected Tribes**

There are three potentially affected Native American tribes with rights in the Burns District. These are the Klamath Tribes, the Confederated Tribes of Warm Springs, and the Burns Paiute Tribe. These tribes were sent letters in June 2011 and again in December 2014 describing the EA and inviting them to enter into Government-to-Government consultation. In January 2015, the Klamath Tribes stated their support of the Proposed Action but indicated they would not desire further consultation.

Prior and subsequent discussions between District staff and the tribes have identified many areas and resources about which one or more Tribes have concerns. These concerns and their relationship to the alternatives are discussed in the *Native American Interests and Uses* section of the EA in Chapter 3 (EA: 170-178). That section, and the *Native American Interests and Uses* project design features included in this decision, describes future actions that would be undertaken by the BLM annually to help ensure resources important to the tribes are protected.

## **Appeal Procedures**

This decision constitutes my formal decision and may be appealed to the Interior Board of Land Appeals (IBLA), in accordance with 43 C.P.R. Part 4. If an appeal is made, the notice of appeal must be filed in this office (Burns District Office, 28910 Highway 20 West, Hines, OR 97738), within 30 days from receipt of this decision. The notice of appeal should include a clear statement of reasons. The notice of appeal must be in written paper form and sent via certified mail. A notice of appeal transmitted electronically (e.g. email, facsimile, or social media) will not be accepted.

If you choose to file a statement of reasons separately from your notice of appeal, you must file it with the Interior Board of Land Appeals, Office of Hearings and Appeals, 801 North Quincy Street, Arlington, VA 22203, within the same 30-day appeal period. You have the burden of showing that the decision being appealed is in error.

If you wish to file a petition for a stay (suspension) of this decision (pursuant to 43 C.P.R. 4.21) during the time that your appeal is being reviewed by the IBLA, this petition must be filed with the Office of Hearings and Appeals (U.S. Department of Interior, Departmental Hearings Division, South Main Street, Suite 400, Salt Lake City, UT 84111). A copy of the petition for stay must also be submitted to this office (Burns District Office, 28910 Highway 20 West, Hines, OR 97738).

Copies of the notice of appeal and petition for a stay must also be served with the Department of the Interior Solicitor (U.S. Department of Interior, Office of the Regional Solicitor, 805 SW Broadway, Suite 600, Portland, OR 97205) (see 43 C.P.R. 4.413) at the same time the original documents are filed with this office.

If you request a stay, you have the burden of proof to demonstrate that a stay should be granted, based on the following standards.

**Standards for Obtaining a Stay**

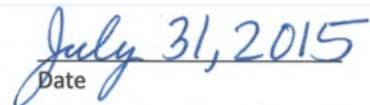
Except as otherwise provided by law or other pertinent regulations, a petition for a stay of a decision pending appeal shall show sufficient justification based on the following standards:

- 1) The relative harm to the parties if the stay is granted or denied,
- 2) The likelihood of the appellant's success on the merits,
- 3) The likelihood of immediate and irreparable harm if the stay is not granted, and,
- 4) Whether the public interest favors granting the stay.

**Signature**



Brendan Cain  
District Manager

  
Date

# Appendix 1: Response to Public Comments on the April 2015 EA

The 30-day public comment period for the Integrated Invasive Plant Management for the Burns District Environmental Assessment began on April 24, 2015. On that date, the documents were posted to the District website, a legal notice was published in the Burns Times Herald, and email or hard copy mail notices were forwarded to 1,182 persons on the Burns District mailing list who had previously indicated an interest in such analyses, who were known to be interested, and persons who contributed scoping comments for this EA. Five comment letters were received in response, and 67 substantive comment statements were identified in those letters. Comment statements are summary statements that identify and describe specific concerns with the analysis or the alternatives considered. Unique concerns generated their own comment and similar concerns voiced in multiple letters were grouped into one comment statement (40 C.F.R. 1503.4(b)). All substantive comments have responses presented in this appendix, and many resulted in improvements to the analysis presented in the Revised EA. We very much appreciate the public’s review and participation.

This appendix contains the comment statements and responses, organized to follow the order of the Revised EA. The comments and responses are intended to be explanatory in nature; if there are any inadvertent contradictions between this Appendix and the text in the Revised EA, the Revised EA prevails.

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# Chapter 1 - Purpose and Need

**1. Comment:** The EA’s purpose and need are too narrowly constrained towards herbicide use and thus constrains a reasonable range of alternatives. The EA’s purpose of “increasing the number of herbicides from 4 to 14” is inappropriately skewed towards herbicide use.

**Response:** The Purpose and Need do not specifically mention herbicides and, therefore, the Purpose and Need do not narrow the focus of the program to herbicides.

The Purpose and Need Statement (EA: 8-9) are described in the document as follows:

There is a *Need* for a more effective invasive plant control program.

*Purposes:* The district proposes to expand the existing noxious weed management program so it would more effectively:

- Control invasive plants to protect native ecosystems and the flora and fauna that depend on them.
- Manage invasive plants to reduce the risk that large-scale, high-intensity fires would unacceptably damage resources and human developments.
- Cooperatively control invasive plants so they do not infest or re-infest adjacent non-BLM-administered lands.
- Prevent control treatments from having unacceptable adverse effects to applicators and the public, to desirable flora and fauna, and to soil, air, and water.
- Minimize treatment costs and improve treatment effectiveness, so resource and economic losses from invasive plants are reduced and more of the Need can be met within expected funding.

**2. Comment:** The BLM fails to explain how the proposed increase in herbicide use will somehow be more effective.

**Response:** The description of the alternatives (EA: 24-58) provides that in the Proposed Action (EA: 52) only ¼ to ⅓ of sites will need to be retreated to effectively control the infestation, as opposed to half of sites in the No Action (EA: 37). Spread from existing documented sites is estimated at 12% under the No Action Alternative and 7% under the Proposed Alternative. The spread rate was estimated as part of the 2010 FEIS (to which this EA tiers) in the *Noxious Weeds and Other Invasive Plants* section in Chapter 4, and provides as follows: “this section attempts to estimate the differences between the alternatives in terms of ....the rate of spread of noxious weeds”. The estimates are derived from numerous published studies and estimates made by a cross section of weed control experts (see Appendix 7 of the Oregon FEIS). No public comments were received on the Draft EIS questioning the basic weed spread calculations or the premises upon which they are based.

The alternatives and the Purpose and Need of the EA describe how there are no effective herbicides available to treat hundreds of thousands of acres of annual grasses like cheatgrass, medusahead and North Africa grass. The Proposed Action includes the use of the herbicide imazapic, which is effective at treating annual grasses at low rates, leaving the native, perennial species that are critical for restoration unharmed (EA: 77). The *Native Vegetation* and *Invasive Plants* sections in Chapter 3 describe the effectiveness of each herbicide and the invasive plant species on which they would be used.

**3. Comment:** The BLM must provide support that the Proposed Action and expanded use of herbicides will meet the Purpose and Need and not exacerbate the problem.

**Response:** Support for the Purpose and Need is provided throughout the document:

- *Purpose:* Control invasive plants to protect native ecosystems and the flora and fauna that depend on them. This is addressed in the *Invasive Plants, Native Vegetation, Special Status Plants, Fish, and Wildlife* sections.
- *Purpose:* Manage invasive plants to reduce the risk that large-scale, high-intensity fires would unacceptably damage resources and human developments. This is addressed in the *Fire and Invasive Plants* sections.
- *Purpose:* Cooperatively control invasive plants so they do not infest or re-infest adjacent non-BLM-administered lands. This is addressed in the *Invasive Plants* and *Socioeconomics* sections.
- *Purpose:* Prevent control treatments from having unacceptable adverse effects to applicators and the public, to desirable flora and fauna, and to soil, air, and water. This is addressed in the *Soils, Water, Riparian and Wetlands, Human Health and Safety, Native Vegetation, Special Status Plants, Fish, and Wildlife* sections.
- *Purpose:* Minimize treatment costs and improve treatment effectiveness, so resource and economic losses from invasive plants are reduced and more of the Need can be met within expected funding. This is addressed in the *Invasive Plants, Cost, and Socioeconomics* sections.

See also response to comment number 4.

**4. Comment:** The BLM fails to explain why an expanded use of herbicides is needed to meet the demand of controlling invasive species.

**Response:** This is explained throughout the entire EA, but in particular see *The Need* section (EA: 7-8): “For some invasive plant species such as Canada thistle (*Cirsium arvense*), perennial pepperweed (*Lepidium latifolium*), whitetop (*Cardaria draba*), and medusahead rye, neither non-herbicide methods nor the four herbicides currently utilized result in effective control (USDI 2010a:6, 588, 618-19).” The existing program also does not have effective methods to control other invasive annual grasses such as cheatgrass or North Africa grass (*Ventenata dubia*) that are primary invaders following wildfires. Without effective controls, these invasive annual grass infestations continue to increase in size and density, displacing native vegetation, preventing wildfire rehabilitation, degrading Greater sage-grouse habitat, and increasing the risk of wildland fire.

“There are newer, more selective herbicides available to treat invasive plants. These herbicides can be used in lower quantities, and they pose less environmental and human health safety risk than the four herbicides currently being utilized (USDI 2010a:80 and others). In addition, if these additional herbicides were available, invasive plant treatment efficacy would improve from an estimated 60 percent to 80 percent (USDI 2010a:136)” (EA: 8).

The *Invasive Plants* section describes the effectiveness of the alternatives in reducing the spread of noxious weeds and other invasive plants (EA: 71-82).

## Tiering and Reference

**5. Comment:** This EA improperly tiers its analysis to non-NEPA documents, such as the Oregon Smoke Management Plan.

**Response:** The EA tiers to the Oregon FEIS for its herbicide treatments analysis, and to the 1985 / 87 Northwest Area Noxious Weed Control Program Final EIS and Supplement (USDI 1985, 1987) for non-herbicide control methods. The EA also tiers to the 2004 Andrews Management Unit RMP / Steens Mountain CMPA EIS and the 1991 Three Rivers RMP EIS (EA: 15). All of these are NEPA documents. Other documents (including other NEPA analyses) are referenced, cited, or referred to in the document, but the

BLM did not state nor imply that the EA tiers to them. (The Oregon FEIS tiers to the 2007 National PEIS and includes the PEIS in its entirety as Appendix 1.)

The EA states that BLM complies with the Oregon Smoke Management Plan (EA: 102), but it does not tier to it.

**6. Comment:** This EA improperly tiers its analysis to the 2010 Oregon EIS, which was legally flawed.

**Response:** Unless and until the Oregon EIS is found to be flawed, incomplete, or illegal, the BLM will tier to it for site-specific analysis. The 2010 Oregon EIS has not been found to be flawed, incomplete, or illegal. In 2011, the Record of Decision was challenged by litigants who claimed that it violated NEPA, FLPMA, Endangered Species Act, Clean Water Act, and failed to address PACFISH/INFISH requirements. The Interior Board of Land Appeals ruled that the litigants did not have standing because they had not been harmed by the action, as the Oregon EIS did not authorize any action, but rather deferred action until a site-specific analysis had been completed. This EA is the site specific NEPA for the Burns District that is required to be conducted to control invasive plants identified in the 2010 Oregon EIS. Tiering to the 2010 Oregon EIS is appropriate.

**7. Comment:** The BLM improperly tiers to a 1991 FEIS for Vegetation Treatment on BLM lands in Thirteen Western States, which is outdated.

**Response:** The EA does not tier to the 1991 FEIS. However, specific information contained in the FEIS was utilized in assessing a human health issue. The EA states, “[this analysis showed] neither workers nor the public would be expected to be at risk from herbicide residues volatilized in a brown-and-burn operation, wild or prescribed fire-volatilized herbicides were not identified as a risk in the Risk Assessments, *and more recent research was not found*” (emphasis added. EA: 207).

**8. Comment:** This EA improperly tiers its analysis to the 1987 Northwest Weed Control Program FEIS, which is outdated. Numerous improvements have occurred since then to improve the efficiency of non-herbicide methods. New information, such as the U.S. Fish and Wildlife Service’s 2008 Fire Management and Invasive Plant Handbook, shows that the most success comes from an integrated pest management framework.

**Response:** The BLM agrees that integrated pest management is the most successful way to control invasive plants and uses such an approach for its invasive plant control program presented in this EA. The EA references that many tools are best used in combination with others (EA: 25 [use of manual treatments in combination with herbicides or fire], EA: 27 [use of herbicides in combination with other treatments], and EA: 43-51 [Treatment Key]). This is why the EA analysis focuses on both herbicide and non-herbicide methods (used both separately and in conjunction with other methods) to control invasive plants.

The EA also references the 2007 *Programmatic Environmental Report (PER) on Vegetation Treatments in 17 Western States*. The PER is not a NEPA document and the EA does not tier to it. The EA provides at page 14 that, “This EA also incorporates by reference elements of the 2007 Vegetation Treatments on BLM Lands in 17 Western States Programmatic Environmental Report, which describes the integrated vegetation management program and discloses the general effects associated with non-herbicide control methods (USDI 2007b).”

While the 2008 Fish and Wildlife Service handbook looks more thoroughly at integrated pest management than the 1987 EIS, it is not inconsistent with the 1987 EIS. Both documents reflect an integrated approach to pest management. Information contained in the 1987 EIS remains relevant.

**9. Comment:** This EA improperly uses tiering: An EA may not tier to other documents that do not perform the required analysis (see *Muckleshoot Indian Tribe v. U.S. Forest Service*, 177 F.3d 800, 812) or that do not contain the requisite site-specific information about impacts (see *Oregon Natural Resources v. BLM*, 470 F.3d 818).

**Response:** Section 1502.20 of the National Environmental Policy Act states that federal agencies “are encouraged to tier their environmental impact statements to eliminate repetitive discussions of the same issues and to focus on the actual issues ripe for decision at each level of environmental review.” See response to comment number 5 for information about which documents this EA tiers to.

**10. Comment:** The BLM improperly tiers to the Ecological and Human Health Risk Assessments.

**Response:** The Risk Assessments were created as part of the 2007 PEIS analysis and are included in their entirety in both the 2007 West-wide PEIS (as Appendices B and C of that document) and the 2010 Oregon FEIS (as Appendix 8 of that document), to which this EA tiers. That being said, the EA does not claim that it tiers directly to the Risk Assessments. The EA says that the analysis “rel[ies] on” the BLM and Forest Service Risk Assessments to quantitatively evaluate the risk that herbicide use may pose harm to humans (EA: 60). Risk assessments are updated as new information becomes available, and four risk assessments (glyphosate, imazapyr, picloram, and triclopyr) were reissued between the 2010 FEIS and this 2015 EA because of updated information. The risks from herbicides stated in the EA reflect these updated risk assessments. The level of detail in the Risk Assessments far exceeds that normally found in EPA’s registration examination. Risk Assessments consider data collected from scientific literature and data submitted to EPA to support FIFRA product registration, whereas EPA uses the latter data only (EA: 297). Therefore, the BLM feels it is appropriate to utilize that information in the preparation of site-specific analysis of herbicide effects.

**11. Comment:** The BLM’s attempt to avoid discussion of non-herbicide control methods through tiering is improper.

**Response:** The EA does not avoid discussion of non-herbicide control methods; they are discussed throughout the document. Non-herbicide control methods are presented as part of the alternatives (EA: 24-27, 37, 56-57), discussed species by species in the treatment key (EA: 43-51), and presented in the *Estimated Treatment Acres by Alternative and Category* table (EA: 63). The effects of these treatments are presented in resource sections, under the headings *Treatments Planned Relating to the Issues* (Native Vegetation: 85-86, Soil: 105, Water: 115, etc.), *Effects of Treatment Methods on [Resource]* (Invasive Plants: 74-78, Native Vegetation: 87-91, Special Status Plants: 97-102, Soil: 106-112, etc.), and additionally under each resource section’s *Effects by Alternative* and *Cumulative Effects* (Invasive Plants: 78-80, Native Vegetation: 91-93, Special Status Plants: 99-102, Soil: 107-112, Water: 118-120, etc.). In addition, standard operating procedures, mitigation measures, and project design features related to non-herbicide control methods are found in Appendix A. The District’s Annual Treatment Plan (Appendix D) also includes non-herbicide control methods.

## Conformance with Land Use Plans, Laws, Policies, and other Decisions

**12. Comment:** BLM’s proposed approach is inconsistent with its mandate under Federal Lands Policy and Management Act and must consider limiting other uses on public lands such as grazing that perpetuate the invasive species problem. BLM is proposing to continue other uses without reduction and instead ramp up its use of herbicide spraying.

**Response:** A wide variety of management activities including grazing, timber harvest, mining, and public recreation are accommodated under FLPMA’s multiple-use framework and other policy and direction. These activities do contribute to the spread of weeds, and it is the role of each district’s Resource

Management Plan to identify an appropriate mix of uses and practices consistent with land capability, long-term productivity, and ecosystem health. The potential for an activity to contribute to resource degradation (such as the spread of noxious weeds and other invasive plants) is one consideration in determining appropriate uses. Such proposals are outside the scope of this EA because a reconsideration of the mix of land uses is the specific purview of the land management planning process described in the FLPMA.

Resource Management Plans identify authorized land uses within the Burns District. This EA is solely intended to evaluate options for improving invasive plant control methods, including the option of utilizing more effective and more targeted herbicides within the Burns District. Neither the EA nor the Oregon FEIS that it tiers to are intended to revisit land uses, which have been determined to be appropriate through the Resource Management Plan process. Indeed, for this reason, an alternative proposing to reduce various management activities implicated in weed spread was included in the *Alternatives Eliminated From Detailed Study* section of the Oregon FEIS (USDI 2010a:35). This EA is solely intended to evaluate options for improving invasive plant control methods, thereby assisting the BLM in meeting its obligation to manage public lands for multiple uses consistent with applicable laws, including FLPMA.

BLM policy requires that during all NEPA planning processes for ground disturbing projects and projects that have the potential to alter plant communities, the risk of introducing noxious weeds be assessed. If, through this analysis, it is determined that there is a moderate or high risk of spread, the districts are required to identify actions to be taken to reduce or prevent the spread of noxious weeds and to conduct monitoring after the completion of the project to prevent noxious weed establishment on previously uninfested sites (EA: 22-23).

The EA discusses the effects of different land uses such as roads, recreation, and mineral material sites, on the spread of invasive plants and describes how they can be responsible for transporting invasive plants (EA: 71-72). Invasive plants that are a threat in areas with potential for spread are a priority for treatment (EA: 22).

**13. Comment:** The National Pollinator Health Strategy lists exposure to pesticides as one of the key stressors leading to the severe decline of pollinator losses. It is unclear how BLM could perceive its proposal to expand herbicide use on public lands to be consistent with the President's objectives.

**Response:** The term "pesticide" covers a wide array of chemicals and substances used to kill, repel, or control certain forms of plant or animal life that are considered to be pests. This includes insecticides for insects, rodenticides for rodents, and even disinfectants intended to kill bacteria and viruses, in addition to herbicides for plants. Herbicides work on plants because they are formulated to systemically disrupt the natural mechanisms within the biology of the plant. Known effects of *herbicides* on wildlife, including invertebrates and pollinators is discussed in the EA (EA: 152-154). Several large bee kills received attention recently in Oregon when pesticide applicators sprayed insecticides containing neonicotinoids to control aphids or other problematic insects. The State subsequently banned the use of several insecticides until more research could be conducted on their safe use. Herbicides do not contain neonicotinoids and BLM is not proposing to use any insecticides in this EA.

The National Pollinator Health Strategy states that agencies "shall, as appropriate, take immediate measures to support pollinators during the 2014 growing season and thereafter. These measures may include ... avoiding the use of pesticides in sensitive pollinator habitats through integrated vegetation and pest management practices". Standard Operating Procedures and Mitigation Measures for pollinators in the EA (EA: 248) conform with the Strategy. For example, one says, "To protect host and nectar plants from herbicide treatments, follow recommended buffer zones and other conservation measures for TEP

plant species when conducting herbicide treatments in areas where populations of host and nectar plants occur” (EA: 274). Therefore, sensitive pollinator habitats will be avoided during herbicide treatments.

There is a long-term benefit from integrated vegetation management activities that control invasive plants and allow native vegetation to reestablish. The *Wildlife* section (EA: 157) describes that better control of invasive plants, including invasive annual grasses, would allow for rehabilitation of sites to restore wildlife and Special Status species habitat. This includes the improvement of pollinator habitat by removing invasive plants.

Language has been added to the EA on page 19 to help describe these points.

## Chapter 2 - The Alternatives

### Background

**14. Comment:** The BLM claims that all possible non-herbicide methods and prevention measures are being used as efficiently as possible, but there is no data to support this.

**Response:** Prevention is a major part of the invasive plant program and is discussed as part of the *Background* in Chapter 2 (EA: 21-22). The District’s Weed Prevention Schedule is included as Appendix H of the EA. The Burns District works extensively with Harney County and the public on invasive plant prevention, not just on BLM lands, but on neighboring lands as well. The spread rate of invasive plants using the four herbicides available now in conjunction with non-herbicide and prevention measures (the No Action Alternative) is 12% (EA: 71). This is because certain species, such as perennial pepperweed, whitetop and medusahead rye, have no effective control methods under the No Action Alternative. Under the Proposed Action, when 10 additional herbicides are added, the spread rate drops to 7%. Non-herbicide methods are often the first choice for invasive plant treatments. Treatments listed in the Treatment Key (EA: 43-51) are ordered by treatment preference. Of the 21 species groups in the Treatment Key, 17 list a non-herbicide method (manual, mechanical, or biocontrol) as the first priority for treatment. These treatments do not make up the majority of the treatments performed because infestation size, location, and plant stage limit non-herbicide methods.

**15. Comment:** The BLM fails to discuss monitoring in this EA.

**Response:** Monitoring is common to both alternatives, either because it was adopted by the Record of Decision for the Oregon FEIS or because it is part of local resource management plan. Effectiveness monitoring is described in the *Monitoring* section of Chapter 2 (EA: 24).

Where the BLM uses herbicides, monitoring is required by various BLM manuals, the Environmental Protection Agency and the Oregon Department of Agriculture. Pesticide Use Proposals (PUPs) are completed prior to application identifying the site, target species, herbicide and application rate, and anticipated impacts to non-target species and susceptible areas. Pesticide Application Records are filled out within 24 hours of each application documenting environmental conditions at the time of treatment, actual herbicide use, treatment method and equipment used. Both documents have sufficient detail to determine if all planning and application requirements are met.

Additional detail about the monitoring activities conducted by the District has been included under each alternative (EA: 37 [No Action] and 57 [Proposed Action]).

**16. Comment:** There are no monitoring results or studies showing the effectiveness of imazapic or the ability of the native plant community to recover over the long-term.

**Response:** The Burns District has been involved in monitoring the effectiveness of imazapic treatments on private land since 2002. Since 2008, the Burns District has worked cooperatively with private landowners to evaluate the results of landscape-scale medusahead treatments. Results have shown that fall applications of imazapic (Plateau) at 6 oz/acre can be very effective at removing medusahead from existing stands of desirable vegetation (grass, forb, shrub) with minimal adverse impacts to the desired species.

The information obtained from these projects has been incorporated into the recommendations from the manufacturer to enhance the successful use this product. Recommendations now include considerations for temperature, medusahead height, and gallons of mix/acre. The District is currently evaluating the effect of soil texture and the use of additional adjuvants to enhance the longevity of treatments as well as the impacts of treatments in multiple years.

More recently, as suggested by a restoration monitoring requirement in the Oregon Record of Decision (2010b: 17), the District has established a grid of photo points within several of the recent medusahead treatment areas conducted under EAs listed in Table 2-7 (EA: 37).

In addition to the Burns District's own monitoring, there is substantial research available regarding the effectiveness of imazapic and the effects on native plant communities. Substantial analysis was given to each herbicide authorized for use under the Oregon FEIS. The BLM only considered herbicides registered by the EPA and State of Oregon for wildland use. In analyzing impacts from wildland application of these 18 herbicides, the BLM considered more than 10,000 pages of BLM and/or Forest Service risk assessment examinations of wildland risk in addition to the EPA registration examinations (FEIS: Appendix 8). The BLM also considered and cited hundreds of additional publications and relevant information published subsequent to the completion of the risk assessments or bearing more directly on resource questions in Oregon (FEIS: 391-420). The effects of imazapic on native vegetation are summarized in the EA on page 89-90.

Language describing the Burns District imazapic monitoring efforts has been added to pages 37 and 57 of the EA.

## **Categories**

**17. Comment:** Do Low Priority species (Category 6) really fit the cited definition of invasive species, and wouldn't bare ground be the principal result of treating monotypic patches of these species?

**Response:** The classification of Low Priority species indicates that the sites are small enough that they do not threaten natural resources (EA: 32). Since they are low priority and are not inventoried, they are highly unlikely to be treated, unless they occur in conjunction with other invasive plant species that require treatment on the same site (EA: 36, 56). Even in the unlikely event they were treated, the sites are small (see Appendix E - 90% of sites are less than one acre) and their removal would not leave large bare areas.

## The Alternatives

### Common to Both Alternatives

**18. Comment:** The BLM fails to discuss treatment methods in this EA.

**Response:** Treatment methods are discussed extensively in the EA: on pages 25-27, *Elements Common to Both Alternatives / Additional Information about Treatment Methods*, on pages 37 (*No Action Alternative*) and 56 (*Proposed Action*) *Selection of a Treatment Method*, and pages 43-51 Table 2-10 (*Treatment Key*) provides the background and context for the effects from treatment methods that are discussed in each and every effects section in Chapter 3. See, for example, the *Effects of Treatment Methods* sections on invasive plants (EA: 74-78), native vegetation (EA: 87-91), Special Status plants (EA: 97-101), biological soil crusts (EA: 106-107), water (EA: 116-118), etc. This is then further carried over to the *Effects by Alternative* sections in each effects section. In addition, treatment methods are discussed throughout the Oregon FEIS to which this EA tiers (see Chapter 3), generally as they relate to herbicide use. See also response to comment number 11 for page numbers where non-herbicide treatment methods are discussed in the EA.

**19. Comment:** By using 14 herbicides instead of 4, the BLM is proposing an enormous increase in herbicide use.

**Response:** The BLM is proposing to have 14 herbicides available for use. This includes the four that are currently available for use. In Categories 1-3, the proposed acres treated with herbicide will remain approximately the same under both alternatives; 26,624 acres under the No Action compared to 28,578 acres under the Proposed Action (EA: 64). The risks associated with use of each herbicide is provided in *Appendix C: Herbicides, Risk Assessment Summaries* (EA: 295-310) and potential effects on specific resources are provided through Chapter 3. In general, the availability of a broader range of herbicides permits selection of the one that would best accomplish the control objective while minimizing site-specific adverse effects. In Categories 4 and 5, the availability of imazapic will allow the BLM to treat the hundreds of thousands of acres of invasive annual grasses that threaten habitat (particularly of sage-grouse), change fire regimes, and currently are not effectively controlled.

**20. Comment:** The introduction of invasive plants will persist despite the application of these herbicides; therefore, the additional herbicides are not the solution.

**Response:** The spread of invasive plants is a persistent problem that cannot be solved quickly or with limited methods. That is why both alternatives include a variety of tools through integrated vegetation management, not just herbicide use. Newer herbicides will reduce but not eliminate the spread of invasive plants. These herbicides will allow the agency to prioritize and focus on locations where invasive plants cause the most harm. Herbicides are used in context with prevention and other control methods. See also response to comment number 14 for a discussion of the importance of prevention and the use of non-herbicide methods to slow the spread of invasive plants.

**21. Comment:** Herbicides must be applied repeatedly, which results in herbicide tolerance among invasive plants.

**Response:** Having a selection of 14 herbicides from which to pick will reduce the chance of herbicide tolerance. The *Proposed Action* section in the *Invasive Plants* section describes that additional herbicides would improve the chances that invasive plants would be controlled with fewer retreatments and would thus be less likely to develop tolerance to the herbicide. Additional herbicides would also permit rotation of herbicides, coupled with integrated vegetation management, to reduce this risk (EA: 80). Additional information about tolerance and rotation can be found in the *Treatment Key* (EA: 43-51).

**22. Comment:** The EA should not allow a “blanket authorization for all forms of herbicide treatments” because native vegetation is critical to a functioning ecosystem. Herbicide use must be strictly limited to protect native species.

**Response:** The EA does not provide “blanket authorization for all forms” of herbicide treatments. The EA describes the label restrictions, standard operating procedures, mitigation measures and project design features that define their appropriate use in order to minimize any adverse effects and potential for risk (EA: 240-276). The effects described in the document are predicated on their application. Herbicides would be used only on invasive plants under this analysis with the goal of eliminating or damaging the target invasive plants while minimizing harm to nearby or intermixed non-target vegetation (EA: 88). The EA describes in numerous locations that, besides invasive annual grasses, most infestations are small and would be spot sprayed (EA: 71). Spot spraying reduces the likelihood that non-target species would be negatively impacted. Appendix E includes a list of invasive plant infestation sizes. Invasive annual grasses would be treated with low rates of imazapic, which is selective to invasive annual grasses (EA: 53), and applications would occur when desired species are dormant (EA: 43 and EA: 89). On the Burns District, two of the main threats to native plant communities are the interrelated problems of invasive annual grasses and altered fire regimes (Hagen et al. 2011)(EA: 83).

**23. Comment:** Manual extraction has longer-lasting beneficial results than herbicides.

**Response:** Where it is appropriate, manual control methods are used in both alternatives. Manual treatments can be very specific, minimizing damage to non-target plants. However, manual control is very labor intensive and often only appropriate for small infestations (EA: 25).

With few exceptions, it has not been the experience of the Burns District that manual treatments have longer lasting benefits than herbicides. No citations were provided with the comment, and a literature search for research supporting this comment was inconclusive. Manual treatments are not effective against many perennial invasive plants with deep underground stems and roots that are often left behind to re-sprout, such as leafy spurge, perennial pepperweed, or Russian knapweed. Treatments must typically be administered several times annually to prevent the invasive plant from re-establishing, which makes manual treatments of invasive plants in remote locations unpractical (EA: 74). Approximately 150 acres of invasive plants would be treated manually under either alternative (EA: 63). Manual treatments are not feasible or practical for the hundreds of thousands of acres of invasive annual grasses that are widespread across the District.

**24. Comment:** The potential for mechanical control methods of mowing are overstated, and generally result in mowed invasive plants simply producing seed at heights below the mowed level. Rather than be proposed as another usable tool, this should be cited as a reason for herbicide use.

**Response:** Mowing methods are useful in areas where there are high levels of public use such as recreation, administrative and communication sites. In these areas, herbicides are not utilized because there is a desire to avoid temporarily closing the treated areas as is necessary with herbicide use (EA: 74). However there are many limitations with this method that are acknowledged in the EA. Treatments are often most effective when combined with a secondary treatment such as prescribed fire or herbicide application (EA: 74). Table 3-1 Estimated Treatment Acres by Alternatives (EA: 63) shows that mechanical treatments are rarely used. Annually, approximately one acre would be treated mechanically under each alternative.

**25. Comment:** The wisdom of planting another non-native, forage kochia (*Bassia prostrata*), as a means to improve conditions appears to be another mistake waiting to be expressed.

**Response:** The planting of forage kochia is discussed as a tool for creating fuel breaks but is not part of the Proposed Action and is outside the scope of this EA (EA: 56).

**26. Comment:** It is stated that seeding, planting, and the design of fuel breaks are projects outside the scope of this EA and would have their own NEPA, but aren't these connected actions and associated effects directly related to the management of invasive species and increased wildfire effects?

**Response:** The footnote on page 24-25 explains that most invasive plant control sites are expected to retain enough existing desirable vegetation to reclaim the site. Thus, the intent of the Proposed Action is to allow the site to revegetate without seeding. In addition, the seed species mix should be tailored to the conditions of the site. In the rare event that seeding is desired, the project will receive its own NEPA analysis. Seeding and fuel breaks are listed in the Reasonably Foreseeable Actions section in Table 3-5 and their effects included where appropriate. Language about fuel breaks was added to the *Fire and Fuels Management* cumulative effects analysis (EA: 169).

**27. Comment:** The U.S. Fish and Wildlife Service directs the BLM to “[u]se herbicides only in an integrated weed or vegetation management context where all treatments are considered and various methods are used individually or in concert to maximize the benefits while reducing undesirable effects.” BLM did not do this.

**Response:** The BLM states that it will follow project design criteria defined under US Fish and Wildlife Service Aquatic Restoration Biological Opinion (Appendix F), including the general guidance to “use herbicides only in an integrated weed or vegetation management context where all treatments are considered and various methods are used individually or in concert to maximize the benefits while reducing undesirable effects” (EA:325). Both the No Action and Proposed Action alternatives within the EA are set in the context of integrated vegetation management and existing BLM policies for selecting treatment methods, so non-herbicide methods will be employed to the extent practicable. The elements of the integrated vegetation management program that would remain unaffected by the alternatives are presented in the introduction to Chapter 2 (EA: 21-24).

Table 2-10 (EA: 43-51) also helps describe how the appropriate treatment method is identified and how often it is likely to be used. Herbicide use in the EA is always described as part of an integrated approach including non-herbicide methods.

BLM policy requires that during all NEPA planning processes for ground disturbing projects and projects with the potential to alter plant communities, that the risk of introducing noxious weeds be assessed. If, through this analysis, it is determined that there is a moderate or high risk of spread, the districts are required to identify actions to be taken to reduce or prevent the spread of noxious weeds and to conduct monitoring after the completion of the project to prevent noxious weed establishment on previously uninfested sites.

## No Action Alternative

**28. Comment:** The No Action Alternative is not a true No Action alternative, but rather a baseline. A true no action alternative would consider invasive plant management without herbicides.

**Response:** A No Action Alternative identifies the expected environmental impacts of existing management; it represents no change in current management. Analysis of the No Action Alternative is used to establish a baseline upon which to compare the proposed "Action" alternative. BLM's NEPA

handbook says, “The No Action Alternative provides a useful baseline for comparison of environmental effects and demonstrates the consequences of not meeting the need for the action” (USDI 2008d: 51).

Pursuant to the Council on Environmental Quality’s 40-Most Asked Questions, “no action” is “no change” from current management direction or level of management intensity.”

(See Comment / Response 30 for more information about a no herbicides alternative.)

## **Other Alternatives**

**29. Comment:** The EA fails to look at a reasonable range of alternatives.

**Response:** The 2010 Oregon FEIS, to which this document tiers, considered three action alternatives. The 2007 PEIS, to which the Oregon FEIS tiered, considered four action alternatives. Both of these documents and the EA considered numerous alternatives not analyzed in detail. This represents a reasonable range of alternatives (EA: 58-59, USDI 2010a: 34-38, USDI 2007a: 2-22).

**30. Comment:** The BLM must analyze a no herbicide alternative in this EA.

**Response:** The Oregon FEIS, to which this document tiers, included a Reference Analysis<sup>1</sup>, which was analyzed alongside the No Action Alternative and three Action Alternatives. This Reference Analysis was included in the State FEIS to analyze the effects of not using herbicides on BLM lands in Oregon. It was not an action alternative, as it did not meet the need (“a more effective vegetation control program”). This alternative was found to increase invasive plant spread because many invasive plants simply cannot be controlled without the use of herbicides.

Specific to the Burns District, examples of plants that cannot be controlled without the use of herbicides can be found in the Treatment Key (EA: 43-51). They include invasive annual grasses (cheatgrass, medusahead, and ventenata), African rue, curly dock, and mustard species (perennial pepperweed, whitetop, and Dyer’s woad). There are hundreds of thousands of acres of invasive annual grasses threatening Malheur wire-lettuce (an endangered species) and Greater sage-grouse (a candidate species) habitat and shortening the natural fire return interval (EA:83), which in turn also threatens habitats. Imazapic applied at low rates when desired species are dormant is selective to invasive annual grasses and when used in conjunction with other non-herbicides methods (as analyzed in this EA) can aid in the restoration of these areas.

**31. Comment:** The BLM considers it a foregone conclusion that herbicide use is necessary and will only increase over time. The EA should consider an alternative that decreases the use of herbicides over time.

**Response:** Given the continued spread of invasive plants and an increasing emphasis on protecting threatened habitats, it is unlikely the need for effective invasive plant control would decrease in the foreseeable future (USDI 2010a:139, EA: 94). Based on funding, the BLM treats about 3,000 acres a year of Categories 1-3 species (with both herbicide and non-herbicide control methods) (EA: 33, 52). If more funding were available, more acres would be treated (with both herbicide and non-herbicide control methods), so as to have a more effective invasive plant program. However, additional funding is speculative, and invasive plants will continue to spread in areas the BLM has been unable to prioritize for control.

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<sup>1</sup> The Reference Analysis was called Alternative 1 in the Draft EIS. However, it was realized that it did not meet the purpose and need, and renamed to the Reference Analysis for the Final.

While overall the acres of plants to be treated will increase, the use of some herbicides, like picloram, would decrease under the Proposed Action (EA: 63), and the number of times a site would be treated would also decrease as treatment effectiveness improves (USDI 2010a:136-137, 594-597) (EA: 94). The *Invasive Plant* section states, “Overall invasive plant populations would be slowed and *herbicide use could decrease*, as BLM invasive plant spread is reduced” (emphasis added. EA: 82).

An alternative that considered a decreasing amount of herbicide use over time would not meet the Purpose and Need.

**32. Comment:** The BLM fails to consider an alternative that prioritizes non-toxic approaches before resorting to herbicides.

**Response:** Treatments listed in the treatment key (EA: 43-51) are ordered by treatment preference. Of the 21 species groups in the Treatment Key, 17 list a non-herbicide method (manual, mechanical, or biocontrol) as the first priority for treatment. These treatments do not make up the majority of the treatments performed because infestation size or plant stage limit the effectiveness of non-herbicide methods.

**33. Comment:** The agency should consider an alternative where it lists non-noxious invasive plants as noxious, to allow for a more target-specific approach.

**Response:** With the exception of cheatgrass (estimated on 500,000 acres), ventenata (estimated on 50,000 acres), and Russian olive (estimated on 10 acres), all the invasive plants proposed for treatments in the Proposed Action are already listed as noxious. It is not clear how changing the listing of invasive plants from non-noxious to noxious would allow for a more target-specific approach. Noxious weeds are identified by the State or counties; BLM does not have the authority to do so. Listing by the State or County is done on an annual basis, which means that it may take a year or more for a rapidly spreading new invader to appear on the list. Noxious weed listings at the state level are used to prioritize activities at the state level and provide direction in the development of county weed lists that guide local control programs. Priorities at those levels are often similar to priorities on the Burns District. See page 22-23 for the discussion of invasive plant treatment prioritization.

**34. Comment:** The BLM failed to consider removing the original four herbicides, despite evidence that they are ineffective or more toxic.

**Response:** Under the No Action, the four herbicides slow the spread of noxious weeds, but certain species such as perennial pepperweed and whitetop have no effective control. Under the Proposed Action, all of the invasive plant species available on the district could be effectively controlled with the use of 10 additional herbicides. The Treatment Key (Table 2-10) describes how each herbicide would be used to treat specific species of invasive plants and how their use would differ between the alternatives. In general, the availability of a broader range of herbicides permits selection of the one that would best accomplish the control objective while minimizing site-specific adverse effects.

With more treatment options to select from, the number of acres treated with each of the four herbicides available under the No Action Alternative will drop under the Proposed Action (See Table 3-1, EA: 63). Under the No Action Alternative, 38,481 acres would be treated with the original four herbicides. Under the Proposed Action, that number drops to 27,384 acres - a 29% reduction. Different herbicides are used for different species, different site conditions (near water, neighboring plant species, soil type) different stages of plant growth. For example, picloram + 2,4-D would still be used to effectively treat starthistles under the Proposed Action where soils aren't sandy, water bodies are not nearby and during the rosette to flowering stage. But clopyralid + 2,4-D would also be available to treat starthistle in the seedling to bud stage (*Treatment Key*, EA: 49).

## Treatment Key

**35. Comment:** Table 2-3 lists leafy spurge with the star thistle category; this is an oversight in the EA, as the former is a rhizomatous perennial while the latter is an annual and more susceptible to a range of treatment methods or herbicides.

**Response:** It is true that leafy spurge and starthistles are two different plant families, but the same treatment methods in the Treatment Key (Table 2-10) would be used. Therefore, leafy spurge was correlated to the starthistle species group, and the group has been renamed to “starthistles and spurges”.

# Chapter 3 - Affected Environment and Environmental Consequences:

## Risk Assessments

**36. Comment:** Statements of comparison do not reflect the actual effects of the herbicides on wildlife and flora, distort the analysis, and prevents meaningful public comment. For example, BLM states that “[i]mazapic is one of the lowest toxic risks to wildlife of herbicides evaluated in this EA”.

**Response:** Statements of comparison such as “Imazapic is one of the lowest toxic risks to wildlife of herbicides evaluated in this EA” are used to provide context for the reader, paired with specific effects on resources. Additional information is also provided about the actual effects of each herbicide beyond a statement of comparison.

For example, the full text of the effects of imazapic on wildlife says, “Imazapic is an ALS-inhibitor that rapidly metabolizes and does not bioaccumulate. It is effective against medusahead rye, leafy spurge, and cheatgrass, which adversely affect wildlife habitat. Imazapic is not highly toxic to most terrestrial animals. Mammals are more susceptible during pregnancy and larger mammals are more susceptible than small mammals. No adverse short-term exposure risks to birds were noted for imazapic, but some chronic growth reduction was noted. None of the risk ratings for susceptible or non-susceptible show any ratings that exceed the levels of concern” (EA: 153).

The effects of each herbicide on invasive plants are described on page 77-78 of the EA, pages 88-90 for native vegetation, and pages 152-154 for wildlife. In addition, see Appendix C, Risk Assessment Summaries, which summarizes in table form, the risk from each herbicide under different scenarios on different receptors. Descriptions of the effects of herbicides contained in the EA are consistent with available data.

## Standard Operating Procedures and Mitigation Measures

**37. Comment:** BLM relies on outdated mitigation measures to reach a “no impacts” conclusion. In explaining its regulations implementing NEPA, the Council on Environmental Quality (CEQ) stated that mitigation-based FONSI are inappropriate in most situations. BLM may not rely on the mitigation measures identified in that BiOp to minimize any impacts identified in this EA to a non-significant level.

**Response:** This comment references outdated CEQ guidance from 1981. On January 14, 2011, CEQ issued guidance on the appropriate use of mitigation, amending and supplementing previously issued guidance.

Further “mitigation measures included in the project design are integral components of the proposed action, are implemented with the proposed action and therefore should be clearly described as part of the proposed action that the agency will perform or require to be performed. Consequently, the agency can address mitigation early in the decision making process and potentially conduct a less extensive level of NEPA review.”

The purpose of an Environmental Assessment is to assess the potential impacts of an action and determine if those impacts are significant. It is not to reach a “no impacts” conclusion; there can be impacts without them being significant. The FONSI is a document that explains the reasons why an action will not have a significant effect on the human environment and, why, therefore, an EIS will not be required (40 CFR 1508.13).

**38. Comment:** The BLM includes outdated mitigation measures identified in the 2007 PEIS for all potential adverse effects for herbicide applications.

**Response:** The EA relies on mitigation identified since 2007 in addition to Standard Operating Procedures from the 2007 PEIS, notably 22 measures from the 2010 Oregon FEIS and measures identified in the 2013 ARBO (see Appendix F). In addition, where appropriate, BLM has also identified 11 new Project Design Features as a result of this EA that address specific issues associated with the Proposed Action.

## **Cumulative Effects**

**39. Comment:** BLM should consider the cumulative impact from the U.S. Forest Service’s herbicide treatment programs together with BLM’s projects and all other environmental stressors on BLM lands, such as grazing, timber, mineral extraction, and off-road vehicle use.

**Response:** CEQ guidance from June 24, 2005, states that “[g]enerally, agencies can conduct an adequate cumulative effects analysis by focusing on the current aggregate effects of past actions without delving into the historical details of individual past actions.” This is because a description of the current state of the environment, the description of the affected environment, inherently includes the effects of past actions. Information on the current conditions is more comprehensive and more accurate for establishing a useful starting point for cumulative effects analysis. Also from CEQ, agencies retain substantial discretion as to the extent of such inquiry and the appropriate level of explanation. *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 376-77 (1989).

Information regarding the Forest Service and other federal agency actions and their contributions to cumulative effects has been added to the Reasonably Foreseeable Actions section of Chapter 3 (EA: 67-70).

## **By Resource**

### **Native Vegetation**

**40. Comment:** The risks of direct spray, surface runoff or erosion scenarios associated with hexazinone use are uncertain (EA: 90); therefore, an EIS should be prepared.

**Response:** The paragraph (EA: 90) goes on to say that risk from off-site drift is low for susceptible plants, with no risk to tolerant (non-susceptible) plants. Hexazinone has differential toxicity to plants and is effective against woody species (EA: 90). In addition, impacts from hexazinone are limited as the estimate of proposed use is about 20 acres per year and mitigation measures limit where it can be applied. It is not

for use in riparian or aquatic areas and is limited to spot applications in rangeland, grazing areas and wildlife habitat (EA: 40), limiting the possibility of surface runoff or erosion. In the *Treatment Key* (EA: 43), hexazinone is described as being used primarily for use on rights-of-way for annual grasses and it would be used less than 1% of the time under the Proposed Action and not at all under the No Action.

However, the 2005 hexazinone Risk Assessment (SERA 2005c) does discuss the risks of direct spray, surface runoff, and erosion. The revised EA now includes further information (EA: 90) and Risk Tables in Appendix C have been updated to reflect this.

**41. Comment:** The susceptibility of native perennial plants as adults or seedlings to imazapic is stated as uncertain; therefore, an EIS should be prepared.

**Response:** “Uncertain” in this context means that imazapic has not been tested on every species, which is not required and not practical. The specificity of imazapic (in that it kills medusahead but not bluebunch wheatgrass, for example) is dependent on the rate of application. The EA addresses the effects of imazapic on native plants, including perennials, on pages 91-92. The document states “[w]hen used at low rates to control invasive annual grasses (the only proposed use in the Treatment Key as shown on page 43), imazapic did not affect perennial forb cover.” Further, “[i]mazapic applied to cheatgrass to reduce fuel continuity has been successful and has not reduced perennial grasses” (EA: 90). Imazapic applications on invasive annual grasses would be timed to coincide when desired native species are dormant.

**42. Comment:** The EA often states that applications would be applied during the fall when native plants are dormant, but this ignores the residual soil effect that can control any germinating plants for the next 1-3 years, including desired native grasses and forbs, as well as invasive annual grasses.

**Response:** While it is true that germinating seedlings would be affected, native plants do not produce seedlings every year. Once the medusahead is relatively controlled the natives will still set seed during favorable years. In areas that are not monocultures of invasive plants and a good stand of desirable vegetation still remains, recruitment is not essential for the 1 to 2 years (not 1 to 3) that imazapic would suppress new seedlings. If the herbicide treatment is on an invasive annual grass monoculture, native plants would not be present to be harmed by the treatment.

The Burns District has been involved in monitoring the effectiveness of imazapic treatments on private lands since 2002. Since 2008, the Burns District has also worked cooperatively with private landowners to evaluate the results of landscape-scale medusahead treatments on private lands. Results have shown that fall applications of imazapic (Plateau) at 6 oz./acre is effective at removing medusahead from existing stands of desirable vegetation (grass, forb, shrub) with minimal adverse impacts to the desired, native species. Language was added to page 77 of the EA describing the results of this monitoring.

## Air Quality

**43. Comment:** The BLM does not adequately address the impacts of the alternatives on air quality and instead defers to the Oregon Smoke Management Plan for its assertion that burning would comply with those objectives.

**Response:** This issue was not analyzed in detail, as the EA states “...the effects of herbicides [not alternatives] to air quality is addressed in the Oregon FEIS and would not change in Burns” (EA: 102). Other aspects of the alternatives that could affect air quality (i.e. prescribed fire) were not addressed in detail; small prescribed fires happening 1 or 2 times a decade are assumed to have no noticeable, quantifiable, or measurable effect to air quality (EA: 102). The EA goes on to note that any prescribed fires would comply with the interagency Oregon Smoke Management Plan, which includes the protection of Class I visibility areas (EA: 102).

## Soil Resources

**44. Comment:** The BLM fails to discuss the effects of herbicides on soils, particularly biological soil crusts, citing various laboratory studies that “were not conclusive” where the authors cautioned, “extrapolating this information to the field may not yield the same response.”

**Response:** Effects to biological crusts and soils from herbicides can be found on pages 106-111 in the Burns EA and pages 178-188 in the Oregon FEIS. Biological soil crust communities are a relatively newly studied subject. Soilcrust.org, a 2006 USGS project, says, “Our understanding of the biology, ecology and physiology of biological soil crusts has increased greatly in the past 10 years.” However, there is still limited information about the effects of herbicides to soil crusts, and the Metting 1981 and Youtie et al. 1989 studies on 2,4-D and glyphosate remain some of the only peer reviewed literature on the subject, and the only literature related to the herbicides that the district proposes to use. This does not affect the BLM’s ability to make a reasoned choice between the alternatives.

## Riparian and Wetlands

**45. Comment:** *The Riparian and Wetlands* section of the EA discloses that herbicide treatment in riparian areas and wetlands occurs, and that spot spraying would occur on most of the sites with chlorsulfuron and clopyralid, with options to use aquatic triclopyr, aquatic imazapyr, and metsulfuron methyl. These herbicides have numerous negative impacts to wildlife and native flora.

**Response:** Chlorsulfuron and imazapyr have no risk under any scenario to any fauna, aquatic or otherwise. Metsulfuron methyl has no risk to aquatic species, and low risk to mammals. Clopyralid has no risk to aquatic animals except under an accidental spill, which would still be low risk. Triclopyr risk would be high in case of accidental spill, and no to low otherwise (three acres of plants would be treated with triclopyr over the life of this EA). Standard Operating Procedures do not allow the mixing of herbicides near riparian areas. This all points to no adverse effects to wildlife from these herbicides. (See *Appendix C* page 301-309, and *Fish* section page 136-138.)

These five herbicides would generally have a high risk to both native and invasive plants. This is because herbicides, by definition, are designed to be effective on plants. Page 122 of the EA describes that spot spraying would occur on most of the sites where it would be appropriate to use these herbicides in order to prevent adverse effects to native plants. Standard Operating Procedures such as applying the least amount of herbicide needed for the desired effect and using drift reduction agents when appropriate would further minimize herbicide-related effects.

## Fish, Special Status Species (Aquatic), and other Aquatic Species

**46. Comment:** BLM fails to fully disclose the effects of picloram on fish. The U.S. Forest Service’s ecological risk assessment for picloram states the acute lethal potency of picloram to fish is relatively well defined, with cutthroat trout as the most sensitive fish species of those investigated. However, the EA says there is “no risk to fish” under acute and chronic exposures.

**Response:** The statement in the EA and the Forest Service ERA (SERA 2011c) are not contradictory. “No risk” means that the hazard quotient has been defined and is below a level of concern or a hazard quotient of 1.0. Table 3-26 in the EA provides that “Based on expected concentrations of picloram in surface water, all central estimates of the hazard quotients are below the level of concern for fish, aquatic invertebrates and aquatic plants”, summarizing conclusions on page 110 of the referenced SERA report. The Forest Service Risk Categories for fish are included in the EA on page 308 and show that susceptible

fish species (such as cutthroat trout) have a moderate risk to accidental spills and no risk from acute exposure.

Standard Operating Procedures to protect water resources specify that mixing and loading operations should take place in an area where accidental spill would not contaminate a water body (EA: 246) and a Project Design Feature adopting prevention measures from ARBO II says that picloram would not be sprayed within 50-100 feet of a stream where ESA listed fish occur (such as Lahontan cutthroat) (EA: 327). Therefore, the likelihood of an accidental spill affecting cutthroat is extremely low.

**47. Comment:** The agency states, “aquatic invertebrates appear to be slightly more susceptible to dicamba than fish or amphibians,” but does not discuss the degree of those impacts (EA: 152).

**Response:** The EA at page 152 also notes “There is little basis for asserting that adverse effects in aquatic animals is plausible.” Additional information regarding effects to aquatic invertebrates was provided in both the *Wildlife* and *Fish and Other Aquatic Species* sections in the EA. These have been consolidated so all effects on aquatic invertebrates are discussed in the *Fish, Special Status Species (Aquatic) and other Aquatic Species* section (EA: 136-137).

**48. Comment:** The ARBO II specifically does not include an assessment of aerial applications and ARBO also did not approve of two herbicides that BLM proposes to apply to public lands: fluridone and hexazinone.

**Response:** BLM would not use aerial applications of herbicides in aquatic/riparian areas where ARBO applies and where the listed species are likely to occur. Page 140 of the EA explains that the average size of sites adjacent to fish bearing streams is small (where spot treatments would be used, and ARBO no-applications buffers would be applied). Page 133 of the EA also explains that Category 4 and 5 treatments of invasive annual grasses could be aerially applied but would be in larger units away from streams. ARBO buffers would reduce the risk from overspray and drift. The EA does not propose using fluridone or hexazinone along streams with federally listed fish, as stated in Table 3-25 (EA: 135).

**49. Comment:** BLM attempts to avoid its consultation duties by relying on the Aquatic Restoration Biological Opinion II (ARBO) and incorporates the Project Design Criteria (PDC) for Invasive Plant Control identified in the ARBO. The extent of take authorized from ARBO is 10% of the acres in a riparian reserve within a 6th field HUC watershed/year to *all* non-native invasive plant control projects as a whole by BLM, the U.S. Forest Service, and Bureau of Indian Affairs. Reliance on a lumped “take” authorization violates the ESA. In addition, the U.S. Fish and Wildlife Service determined the invasive plant control activities covered under ARBO would be likely to adversely affect the Lahontan cutthroat trout and bull trout.

**Response:** Programmatic level consultations are frequently used to address recurring management activities and place sideboards on activities. As long as the Proposed Action stays within the sideboards (which it does) then additional consultation is not necessary.

“Likely to adversely affect” refers to the effects determination under ESA that triggers consultation with the Fish and Wildlife Service, not a NEPA effects determination. Under the ESA, a federal agency must consider whether a proposed action “may affect listed species or critical habitat” 50 CFR 402.14a. The threshold for ESA consultation is very low. If it concludes the action may affect protected species protected under the ESA, any risk of taking requires the agency to comply with ESA consultation and permitting requirements.

The EA also says that the Proposed Action was determined “not likely to jeopardize the continued existence of these fish species” (EA:14) This is the FWS’s jeopardy determination. The incidental take statement of ARBO II says (335) “[u]nder the terms of section 7(b)(4) and section 7(o)(2) of the Act, take that is incidental to and not intended as part of the agency action is not considered to be a prohibited

taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.” Page 14 of the EA says BLM will comply with the terms and conditions.

ARBO II is a Biological Opinion that applies to actions taken only by the BLM, Forest Service, and Bureau of Indian Affairs. These agencies are all required as part of ARBO II to send project notification to US Fish and Wildlife Service 30 days prior to treatments (ARBO II – Section 1.3.1.3). This coordination prevents lumped “take” over the allowed ten percent.

There are three sixth field HUCs with bull trout Riparian Habitat Conservation Areas. The amount of weed infestations within the RHCAs ranges from 0.006 percent to 0.90 percent. There are four sixth field HUCs with Lahontan cutthroat trout RHCAs. The amount of weed infestations within each RHCA ranges from 0.0 acres in two 6th field HUCs, and 0.7 percent in a third HUC. The fourth HUC, which includes Mann Lake, contains 8.68 percent weed infestations (Lahontan cutthroat in Mann Lake are not listed in the species recovery plan, and were included to be conservative). The amount of area actually treated is about one-tenth of this area (the project area is much larger than the treatment area). See the Annual Treatment Plan for treatments around Mann Lake (Appendix D page 317, 319, and 320). This information has been added to the EA on page 142.

**50. Comment:** BLM provides no explanation for how ARBO standards will avoid adverse effects to inland native fish as is required by INFISH.

**Response:** The Bureau of Land Management Interim Bull Trout Habitat Conservation Strategy (INFISH) only applies to streams and rivers that currently contain bull trout habitat or that have the potential to affect bull trout habitat (IM OR-96-010). Within the Burns District, this includes the 2.7 miles of the Malheur River that provides bull trout migration, over-wintering and foraging habitat (USDI 2002), as well as 2.67 miles of Bluebucket Creek. Bluebucket Creek does not provide habitat for bull trout, but is a tributary contributing flow to the Malheur River.

The goals outlined in the BLM-INFISH align with the Purpose and Need of this EA. Goal five of the Riparian Management Goals in INFISH is to “maintain or restore diversity and productivity of native and desired non-native plant communities in riparian zones.” One of the purposes of this EA is to control invasive plants to protect native ecosystems and the flora and fauna that depend on them.

INFISH contains six Riparian Management Objectives (RMOs) for pool frequency, water temperature, large woody debris, bank stability, bank angle and width/depth ratio. The Proposed Action would not impede the attainment of these RMOs. As noted in the affected environment, there are four sites totaling 0.14 acres of bull thistle along bull trout habitat (EA: 131). It is unlikely that the proposed spot treatments would result in a downward trend of the applicable RMOs. In addition, the ARBO II Project Design Criteria for listed streams limits treatment acreage to 10% of an RHCA within a 6<sup>th</sup> HUC/year. This ensures future vegetative treatments along listed streams would not be extensive, and in turn, the short-term reduction of vegetative cover and soil disturbance would be limited.

In contrast, controlling the existing small infestations along bull trout habitat before they become large infestations would facilitate achievement of the RMOs (see the *Beneficial Effects of Invasive Plant Control* section EA: 142).

The BLM’s proposed action is consistent with both ARBO and PACFISH/INFISH. The BLM has revised the *Conformance with Land Use Plans, Laws, Policies, and other Decisions* (EA: 20) and *Fish* (EA: 142) sections in the EA to better explain how the BLM would ensure compliance with INFISH.

## Wildlife, Special Status Species (Wildlife), and Migratory Birds

**51. Comment:** What will be the effects of decreased forb cover on species such as sage grouse?

**Response:** The expected forb reduction due to the Proposed Action as analyzed in the EA under *Native Vegetation, Invasive Plants, and Wildlife*, is a reduction in noxious weeds such as perennial pepperweed, whitetop, and Canada thistle which replace native forbs in summer and fall sage-grouse habitats where the native forbs and the insects they support are important food items for chicks and hens (added to EA: 159). Controlling the season of treatment can minimize potential effects of herbicide treatments on intermixed native forbs. Many of the biennial and perennial invasive plants can be sprayed post-frost and they will translocate herbicides to their roots, while the native forbs avoid the potential effects of drift because they have gone dormant. Table 3-13 also discusses the effects of specific herbicides on native forbs (EA: 88-90).

Herbicide treatments in the invasive annual grasses could cover several hundred thousand contiguous acres, but such treatments would be in already compromised habitat and the treatment would be designed to rehabilitate these areas, improving sage grouse habitat and big game winter range (EA: 156). Further, in Category 1-3 sites, spot treatments might cover tens of acres, but only individual plants would be treated. Standard Operating Procedures provide for spot applications or low boom broadcast operations to limit the probability of contaminating non-target food and water sources (EA: 150-151).

**52. Comment:** The BLM states it did not find any studies on the impacts of chlorsulfuron on invertebrates, amphibians, or reptiles, citing a 2004 study. The U.S. Forest Service's Invasive Plant Biological Assessment (BA) for the Umatilla Wallowa-Whitman National Forest from 2008 should be referenced. It describes a 1996 study by Kjaer and Elegard that found placing eggs of the leaf beetle on chlorsulfuron treated plants significantly decreased survival.

**Response:** Both the Forest Service and BLM rely on herbicide risk assessments conducted by the Syracuse Environmental Research Associates, Inc. (SERA) to evaluate the potential risks of herbicide use. The Forest Service biological assessment includes a reference to the 2003 Chlorsulfuron Human Health and Ecological Risk Assessment conducted by SERA. The 2004 study that is referenced in the EA is the 2004 Chlorsulfuron - Human Health and Ecological Risk Assessment conducted by SERA, so it is actually an updated version of the information used to prepare the Forest Service BA.

The 2004 Chlorsulfuron - Human Health and Ecological Risk Assessment (SERA 2004: 4-3) says "there is very little data on the toxicity of chlorsulfuron to terrestrial invertebrates." Also from the 2004 SERA report, "The open literature includes two toxicity studies involving other terrestrial invertebrates exposed to chlorsulfuron" These two reports are the 1996 study referenced in the comment and a 2001 study by Kjaer and Heimbach. The 1996 report indicated no significant change in mortality in first-instar larva and no change in weight of larvae, though development was delayed slightly. The 2001 Kjaer and Heimbach study retested the 1996 results and determined that there were no significant effects on insects from host plants treated with several herbicides including chlorsulfuron. The EA has been amended to include this information on page 153.

**53. Comment:** The agency states that it did not find any studies on impacts to invertebrates from imazapic. However, the BLM's own Ecological Risk Assessment for imazapic states that "one verifiable report suggested that chronic toxicity to aquatic invertebrates may occur at concentrations as low as 0.18 mg a.i./L."

**Response:** Information on aquatic invertebrates was provided in both the *Wildlife* and the *Fish, Special Status Species (Aquatic) and other Aquatic Species* effects section. This information has been consolidated into the *Fish, Special Status Species (Aquatic) and other Aquatic Species* effects section (EA: 136-137) for consistency.

The full text from the Ecological Risk Assessment describing Direct Spray scenarios states, “No acute risks were predicted for fish or aquatic invertebrates. Chronic risk was predicted for aquatic invertebrates under a single direct spray scenario (maximum application rate), but no other chronic risk was predicted for fish or other aquatic invertebrates.” No risks were predicted for surface runoff or accidental spill scenarios. Imazapic is not registered for riparian or aquatic areas (EA: 40), therefore a direct spray scenario would not occur.

**54. Comment:** The Ecological Risk Assessment improperly defers to the EPA pesticide registration process for its analysis of impacts on terrestrial invertebrates.

**Response:** The Risk Assessments do not “defer to” EPA’s data. The BLM and Forest Service have supplemented the EPA herbicide registration information with 8,000 pages of Environmental and Human Health Risk Assessments. The EA describes how the BLM uses EPA data to prepare the Human Health and Ecological Risk Assessments on pages 295-310. “When evaluating risks from the use of herbicides proposed in a NEPA planning document, reliance on EPA’s herbicide registration process as the sole demonstration of safety is insufficient. The U.S. Forest Service and BLM were involved in court cases in the early 1980s that specifically addressed this question (principally *Save Our Ecosystems v. Clark*, 747 F.2d 1240, 1248 (9th Cir. 1984) and *Southern Oregon Citizens v. Clark*, 720 F. 2d 1475, 1480 (9th Cir. 1983)). These court decisions and others affirmed that although the BLM can use EPA toxicology data, it is still required to do an independent assessment of the potential risks of using herbicides rather than relying on FIFRA registration alone” (EA: 297).

The level of detail in the Risk Assessments far exceeds that normally found in EPA’s registration examination and includes typical application rates, target and non-target organisms and specialized exposure rates specific to BLM’s proposed use of the herbicide (EA: 296).

**55. Comment:** The EA downplays the risks to pollinators from this expanded use of additional herbicides without providing justification for these assumptions and despite evidence to the contrary. For example, a study from 2014 stated fields regularly exposed to herbicides showed striking differences in abundance, types of plants in flower, and timing of flowering, as compared to fields managed without herbicides, creating stress on pollinators.

**Response:** This 2014 study (Boutin C., Strandberg B., Carpenter D., Mathiassen S.K., Thomas P.J. (2014) *Herbicide impact on non-target plant reproduction: What are the toxicological and ecological implications?* *Environ. Poll.* 185:295-306) referred to the annual use of chemicals on farmlands planted with corn, wheat and soy beans and immediately adjacent vegetation. The reference to stress on pollinators in this article is: “Effects on timing of flowering can have consequences on pollinating insects as they may be less able to survive in non-crop habitats during periods when crop plants are unavailable for pollination”.

There are no treatments planned for the District of this scale and seasonal repetition in which similar effects on pollinators could be expected. For example, aerial herbicide treatments may happen, but this would occur with a selective herbicide in invasive annual grasses with applications timed when vegetation is dormant, not flowering. The Proposed Action reduces the risk of adverse effects by allowing for a wider range of herbicides that are more selective to the target plant and reduce effects on non-target, native vegetation that would remain for pollinators. For example Canada thistle can be spot treated with clopyralid, which won’t affect adjacent flowering shrubs that are visited by pollinators. In addition, applications are timed to minimize the potential for adverse effects (EA: 88).

**56. Comment:** Identified best management practices for pollinators merely direct BLM to minimize herbicide application rates to “typical rather than maximum rates,” *maintain buffer zones around important pollinator habitat* [emphasis added], and minimize herbicide spraying in habitats where pollinators have sing[le] host plant species. Nowhere does BLM prohibit herbicide spraying to protect pollinators.

**Response:** The Standard Operating Procedures require the maintenance of buffer zones around important pollinator habitat (EA: 248). Herbicides are designed to target plants, not insects and effects to pollinators from spraying herbicides would generally be related to habitat loss. As described on page 27, spot treatments can target specific plants, so that effects to non-target species can be kept to a minimum. Ninety percent of known sites (other than invasive annual grasses, which do not readily attract pollinators) on the District are smaller than one acre (see Appendix E) and pollinators are unlikely to depend heavily on an invasive plant infestation as their habitat.

**57. Comment:** BLM notes that 2, 4-D has potential toxicity to birds from ingesting contaminated insects, but fails to discuss impacts to insects or pollinators in particular.

**Response:** The EA does not say that 2,4-D is toxic to birds. It says that birds are less susceptible to 2,4-D than mammals and that the greatest risk is from ingesting contaminated plants or insects (EA: 152). The 2,4-D risk assessment says, “As is the case with most herbicides, relatively little information is available on the toxicity of 2,4-D to terrestrial invertebrates. U.S. EPA/OPP (2005a) reports only two direct contact bioassays using the honey bee. One was conducted with the DMA salt (Palmer and Krueger 1997e), and the other was conducted with the 2-ethylhexyl ester (Palmer and Krueger 1997a). There was no mortality and no signs of toxicity at the limit of the test (100 ug/bee) in either study. On the basis of these results, U.S. EPA/OPP (2004a, 2005a) classifies 2,4-D as practically non-toxic to bees.”

To better highlight the effects of herbicides on pollinators, an issue was added to the EA to address the effects of invasive plant treatments on pollinators, and information on effects was added to the *Wildlife* effects section to better describe the issue.

**58. Comment:** BLM does not discuss the impacts of dicamba on insects other than honeybees, for which BLM states dicamba is practically non-toxic. The US EPA has documented that dicamba’s toxicity to honey bees ranges from moderately toxic to non-toxic, based on EPA values stated in the Environment Program Alternatives Assessment Criteria for Hazard Evaluation (2010).

**Response:** Manufacturers are required to conduct toxicity tests on honeybees as part of the registration process. The inclusion of other terrestrial invertebrates in toxicity studies varies for each herbicide. However, even the most-studied will include effects on only a small fraction of terrestrial invertebrate species potentially found in any diverse ecosystem. Risk to invertebrates can only be inferred based on the few test species for which data are available. The Environment Program Alternatives Assessment Criteria for Hazard Evaluation (2010) is no longer available on the EPA’s website since it has been updated based on public review with a 2011 version. The BLM requested a copy of the referenced 2010 report directly from the EPA. A search of the 2010 document shows no reference to effects of dicamba on honeybees. The Design for the Environment Program Alternatives Assessment Criteria for Hazard Evaluation describes an evaluation tool that can be applied to different chemicals, but does not specifically evaluate any particular chemical.

The National Pesticide Information Center (NPIC) issued a Dicamba Technical Fact Sheet that makes the statement quoted (dicamba’s toxicity to honey bees ranges from moderately toxic to non-toxic) and references values from the EPA document. The NPIC fact sheet also says when researchers fed dicamba to newly emerged honey bees (*Apis mellifera*) at concentrations up to 1000 ppm, no significant difference in survival was observed. This would support the statement in the EA that dicamba is practically non-toxic.

**59. Comment:** BLM states that glyphosate is low risk to honeybees, but little information is available for other terrestrial invertebrates. A 2014 study showed that glyphosate at concentrations resulting from standard spraying can reduce sensitivity to nectar reward and impair associative learning in honeybees.

**Response:** As stated in the response to comment number 58, manufacturers are required to conduct toxicity tests on honeybees as part of the registration process. The inclusion of other terrestrial invertebrates in toxicity studies varies for each herbicide. However, even the most -studied will include effects on only a small fraction of terrestrial invertebrate species potentially found in any diverse ecosystem. Risk to invertebrates can only be inferred based on the few test species for which data are available.

The “standard spraying” referenced in the study was associated with concentrations found in agricultural settings, especially aerial application. While broad-scale aerial glyphosate applications may have these effects, this is not how glyphosate will be used on the District so the report is not relevant to the effects analysis. See footnote 9 on Table 2-9 - “PEIS Mitigation Measures include “where practical, limit glyphosate and hexazinone to spot applications in grazing land and wildlife habitat areas” (EA:42).

Another study on honeybees showed that both technical and formulated glyphosate are practically non-toxic to honeybees (from NPIC Glyphosate Technical Factsheet citation to Frasier, W. D.; Jenkins, G. The acute contact and oral toxicities of CP67573 and MON2139 to worker honey bees. Unpublished report no. 4G1444, 1972, submitted to U.S. Environmental Protection Agency by Monsanto Company, prepared by Huntingdon Research Reregistration Eligibility Decision (RED) Glyphosate; EPA-738-F-93-011; U.S. Environmental Protection Agency, Office of Prevention, Pesticides, and Toxic Substances, Office of Pesticide Programs, U.S. Government Printing Office: Washington, DC, 1993).

**60. Comment:** In its design and mitigation measures, BLM fails to prevent impacts to pollinators. BLM explains that Standard Operating Procedures developed to minimize or mitigate impacts will not be applied in standard fashion. Rather, the Standard Operating Procedure to “‘complete vegetation treatments seasonally before the pollinator foraging plants bloom’ would *not* be applied to treatments not likely to have an effect on foraging plants (even within pollinator season).”

**Response:** This Standard Operating Procedure example was meant to show that an on-site determination would be made to determine if a given standard operating procedure needed to be applied given site specific conditions. For example, if you were treating in an area that was not pollinator habitat and where pollinators were unlikely to occur (e.g., a field of cheatgrass), there would be no reason to apply the Standard Operating Procedures about completing the treatment before plants bloom. There would be no risk to pollinators because they would not be expected to be found where they do not have habitat available. A different example has been added to the document to clarify the intent (EA: 61).

## Wild Horses and Burros

**61. Comment:** The BLM does not adequately address the impacts of herbicide treatments on wild horses and burros in the EA, and instead defers discussion to the FEIS and relies on the small acreage of treatments to conclude that impacts to populations would be unlikely. This ignores the impact that large-scale invasive annual grass treatments would have on them.

**Response:** The EA addresses both the effects of large-scale invasive annual grass herbicide treatments (Categories 4 and 5) and other invasive plant treatments. As stated in the EA on pages 165 to 166, “[u]nder the Proposed Action, large scale treatments would be implemented on Burns District to reduce the dominance of invasive annual grasses ..... with imazapic ... As analyzed in the Oregon FEIS, imazapic presents no identified risk to wild horses and burros” (EA: 166). The imazapic risk assessment found no risk from imazapic to any animal (EA:137, 153, and 210).

The effects of the 14 herbicides were analyzed in detail in the Oregon FEIS. While four risk assessments were updated between the 2010 FEIS and the 2015 EA, the effects to wild horses and burros from those herbicides did not substantially change. The risk ratings for large mammals for glyphosate, imazapyr, and picloram were lower than previously thought and have low or no risk. The risk rating on triclopyr is higher than previously thought – formerly it was Low risk at the typical rate and a Moderate risk at the maximum rate when large mammals ate grass or vegetation treated with triclopyr for an entire day, but these risks have risen to Moderate and High (see Appendix C). The Burns District proposes to treat approximately 3 acres with triclopyr over the next 15-20 years. Almost all of that would be used as cut stump treatments on tamarisk and Russian olive. Horses or burros are unlikely to consume cut stumps. Triclopyr could also be used on approximately 6 plants (0.0181 acres) of purple loosestrife. A Standard Operating Procedure limits triclopyr to typical rates where feasible, in areas associated with wild horse and burro use. Three Project Design Features adopted for this analysis, Standard Operating Procedures, the small treatment size and typical application rate minimize the risk of exposure to wild horses and burros.

Additional information describing these effects on wild horses and burros was added to the EA (EA: 165-166).

## Special Management Areas

**62. Comment:** BLM should be especially cautious of using herbicides in managing special areas, such as Wilderness Areas, Wild and Scenic River corridors, Research Natural Areas, and other areas protected for their natural values and ecological functions. These areas may pose additional analysis requirements.

**Response:** The protections afforded to special management areas and effects of treatment methods (including the effects of herbicides on Wilderness, Wild and Scenic Rivers, RNAs, ACECs, etc.) are discussed on pages 182-194 in the *Special Management Areas* section. It should be noted that these areas are a priority for treatments, as invasive plant spread would harm the qualities that make these special areas special (EA: 192). Effects of treatment methods (including herbicides) to wildlife are discussed in the *Wildlife* section (EA: 151-157) (see also Fish at 135-142). Effects to non-target vegetation is in the *Native Vegetation* and *Special Status Plants* sections (EA: 97-101), effects to water quality is in the *Water* section (EA: 116-120), and effects to soil quality is in the *Soils* section (EA: 106-112).

**63. Comment:** The potential for late-season landing of a helicopter in remote parts of the Steens Mountain Wilderness for insertion and retrieval of invasive plant strike teams is questioned, as it seems to center on the potential for such teams to be stranded in the event of wildfire. Couldn't helicopter landings only be conducted if a fire really did occur?

**Response:** As described on page 190, the EA would allow the option of using a helicopter if weather conditions posed a threat to worker safety. The only adverse effects associated with occasional (once or twice every few years) helicopter use would be a temporary reduction of solitude. There would be no effect to the other qualities of wilderness character - untrammeled, naturalness, and undeveloped (EA: 193). The protection of worker safety in the event of high fire danger outweighs the temporary reduction of solitude.

## Environmental Justice

**64. Comment:** The BLM does not adequately address how herbicide use affects minorities and low-income populations.

**Response:** The EA states that the Oregon FEIS environmental justice analysis of herbicides applies to the Burns District. The percent of low-income and minorities in Harney County reflects the State numbers (11.3% in Harney County compared to 13.1%) for all of eastern Oregon. Harney County has comparable unemployment, poverty and per capita income to other remote rural Oregon counties. The FEIS analysis found a potential for contract and other crews to include a small disproportionate number of minority and/or poor that would be mitigated by treatment designs to minimize exposure. The EA notes that additional information can be found in *the Human Health and Safety* section. While there is a measureable risk to workers under some scenarios, that risk is lower under the Proposed Action than under the No Action Alternative (EA: 202). The revised EA discusses this issue after the *Socioeconomic* section where further, related details can be found.

## Human Health and Safety

**65. Comment:** The EA fails to assess the impacts of herbicide treatment, including risks, to workers or human health.

**Response:** The *Human Health and Safety* section in the EA and the Risk Assessments upon which they are based contain a detailed examination of the risks to workers and the public under a variety of plausible exposure scenarios (EA: 207-214) The Risk Assessments, including Forest Service assessments, are included in Appendix C (EA: 300-310). The EA says “for five of the 14 herbicides addressed in this EA, the Risk Tables show a measurable level of risk, either low, moderate, or high. “ The other 9 herbicides that are not shown in this table have no effects and thus are not included in the table. This has been clarified in the EA.

The referenced Forest Service biological opinion from which these statements are taken also says “For Table C- 12, categories of the herbicides are simply relative to each other; all 10 of these herbicides are low risk compared to other herbicides, and especially when compared to other pesticides....This is general information only and background data should be reviewed before making any conclusions or conducting any analysis regarding these herbicides or NPE-based surfactants.” From the same page, for Worker Health, the Forest Service defines this relative term “moderate” as having a Hazard Quotient less than 1.0 but greater than 0. By Forest Service Risk Assessment definition, when the Hazard Quotient is less than one, the risk category is “no risk” (EA: 209). The Forest Service Evaluated Herbicide Risk Categories for Human Health are provided in the EA in Table C-8 of Appendix C - Herbicides, Risk Assessment Summaries (EA: 303-304, 309-310).

## Other Comments

**66. Comment:** Since the expanded herbicide use would improve treatment effectiveness from 60% to 80%, the Proposed Action would have significant beneficial effects. Thus, the BLM should prepare an EIS.

**Response:** Significance in the NEPA context is defined in terms of context and intensity. Significance varies with the setting of the Proposed Action and must consider both short and long term effects. The consideration of intensity must include analysis of both these beneficial and adverse effects, not just a description of the net effects. Only a significant *adverse* effect triggers the need to prepare an EIS (USDI Bureau of Land Management. 2008. BLM National Environmental Policy Act Handbook H-1790-1).

The increased number of herbicides will allow for a more effective program. Invasive plants will continue to spread, albeit at a reduced rate (from 12 percent down to 7 percent; EA: 78-80). Since 2007, BLM has prepared two environmental impact statements and this environmental assessment that discuss the use of herbicides. The EISs' analysis of the proposed actions with Standard Operating Procedures and Mitigation Measures did not find significant impacts. The current EA discloses and analyzes additional information and details specific to the Burns District.

**67. Comment:** The BLM states that standard operating procedures and mitigation measures would reduce or minimize adverse effects. However, if adverse effects are not eliminated, the effects may be significant. Thus, the BLM should prepare an EIS.

**Response:** Standard Operating Procedures and Mitigation Measures are expected to eliminate or minimize adverse effects. Therefore, an EA is sufficient. Should new information indicate the existence of unanticipated significant adverse effects, the BLM will take appropriate action, which may include undertaking supplemental NEPA analysis on the invasive plant control program. Consistent with the EA and the analysis in the FONSI, the Proposed Action would not constitute a major federal action that would have significant adverse impacts on the quality of the human environment. Therefore, preparation of an EIS for the Proposed Action is not required.