

## **Finding of No Significant Impact**

*Brown Road, Razorback, and Hancock Complex Post-Fire Herbicide EA*

DOI-BLM-OR-P000-2012-0011-EA

US Department of the Interior, Bureau of Land Management

Prineville Field Office, Oregon

### **Introduction**

The Bureau of Land Management (BLM) has completed an Environmental Assessment (EA), No. DOI-BLM-OR-P000-2012-0011-EA that analyzes the effects of one action alternative proposing to apply the herbicide imazapic to control the noxious and invasive annual grasses Medusahead rye (*Taeniatherum caput-medusae*), cheatgrass (*Bromus tectorum*), and North Africa grass (*Ventenata dubia*) on 32,714 acres affected by the Brown Road, Razorback, and Hancock Complex Fires of 2011. The EA is incorporated by reference in this Finding of No Significant Impact (FONSI).

The Council on Environmental Quality (CEQ) regulations state that the significance of impacts must be determined in terms of both context and intensity (40 CFR 1508.27).

### **Context**

The proposed action is set within the context of a comprehensive post-fire emergency stabilization and rehabilitation plan. Actions authorized under determination of existing NEPA adequacy or categorically excluded from analysis already taking place in the project area include drill and aerial seeding of native and non-invasive perennial grasses and forbs; grazing rest and deferment; fence and sign replacement; and camouflaging of cultural sites. Applications of glyphosate, 2, 4-D, dicamba, and picloram to control Medusahead rye and broadleaf noxious weeds such as thistles have also taken place under the existing Prineville District Integrated Weed Management Plan (USDI 1994). Glyphosate does not, however, reduce the seedbank and is non-selective, thereby removing native shrubs and forbs needed to revegetate proposed treatment areas (USDI 2010). Cheatgrass and North Africa grass are invasive weeds that are not included on any county, state, or federal noxious weed list, and therefore cannot be treated using glyphosate under the existing Prineville District Integrated Weed Management Plan (USDI 1994). This was due to a 1984 U.S. District Court injunction issued in *Northwest Coalition for Alternatives to Pesticides, et al. v. Block, et al.* (Civ. No. 82-6273-E) which only allowed for the use of glyphosate, 2, 4-D, dicamba and picloram to control officially listed noxious weeds. The herbicide imazapic has since been analyzed for the control of Medusahead rye, cheatgrass, and North Africa grass and a decision issued allowing for its use in the 2010 Vegetation Treatments Using Herbicides on BLM Lands in Oregon Final Environmental Impact Statement (FEIS) and Record of Decision (ROD).

## **Intensity**

I have considered the potential intensity and severity of the impacts anticipated from implementation of a Decision on this EA relative to each of the ten areas suggested for consideration by the CEQ. With regard to each:

- 1. Would any of the alternatives have significant beneficial or adverse impacts (40 CFR 1508.27(b)(1)? No.**

**Rationale:**

The proposed action would impact resources as described in the EA. Project design features to reduce impacts were incorporated in the design of the proposed action. These project design features are outlined in Chapter 3 Affected Environment and Environmental Effects and Appendix B of the EA. None of the environmental effects discussed in detail in the EA exceed the significance of those analyzed in the 2010 Vegetation Treatments Using Herbicides on BLM Lands in Oregon.

- 2. Would any of the alternatives have significant adverse impacts on public health and safety (40 CFR 1508.27(b)(2)? No.**

**Rationale:**

No significant adverse impacts on public health and safety would result from the Proposed Action due to mitigation measures (MMs), standard operating procedures (SOPs), and project design features (PDFs) as outlined in Chapter 3 Affected Environment and Environmental Effects and Appendix B. Approaches to mitigating impacts on public health and safety were analyzed in detail in the 2010 Vegetation Treatments Using Herbicides on BLM Lands in Oregon FEIS, and include no-treatment buffers surrounding private land and residential structures, post-application closures, and extensive outreach to notify the public of proposed treatments.

- 3. Would any of the alternatives have significant adverse impacts on unique geographic characteristics (cultural or historic resources, park lands, prime and unique farmlands, wetlands, wild and scenic rivers, designated wilderness or wilderness study areas, or ecologically critical areas (ACECs, RNAs, significant caves)) (40 CFR 1508.27(b)(3)? No.**

**Rationale:**

Any resource of concern identified to be at risk from the project activities will be protected from damage or disturbance by MMs, SOPs, and PDFs, inclusive of no treatment buffers, timing of application relative to appropriate environmental conditions, and method of application (i.e., ground-based application within 25-100 feet of riparian areas). There would therefore be no effects on park lands, prime farm lands, wetlands, wild and scenic rivers, or ecologically critical areas due to these protective measures.

- 4. Would any of the alternatives have highly controversial effects (40 CFR 1508.27(b)(4)? No.**

**Rationale:**

There are no effects which are expected to be highly controversial.

**5. Would any of the alternatives have highly uncertain effects or involve unique or unknown risks (40 CFR 1508.27(b)(5)? No.**

**Rationale:**

There are no known unique or unusual risks associated with the Proposed Action. Similar actions using imazapic to control Medusahead rye, cheatgrass, and North Africa grass on rangelands in Oregon with similar plant composition have been successfully implemented (Johnson and Davies 2012, Elseroad and Rudd 2011, Smith et al 2011, Butler et al 2010). Uncertainty and risks associated with the application of imazapic to control invasive annual grasses are addressed in risk assessments and analysis in the 2010 Vegetation Treatments Using Herbicides on BLM Lands in Oregon FEIS to which the EA is tiered.

**6. Would any of the alternatives establish a precedent for future actions with significant impacts (40 CFR 1508.27(b)(6)? No.**

**Rationale:**

Use of imazapic to control invasive annual grasses and noxious weeds has occurred on BLM districts located in other states (USDI, 2010), as well as on private lands in Oregon (Smith et al 2011). This management activity does not commit the BLM to pursuing further actions, and as such would not establish a precedent or decision for future actions with potentially significant environmental effects.

**7. Are any of the alternatives related to other actions with potentially significant cumulative impacts (40 CFR 1508.27(b)(7)? No.**

**Rationale:**

The actions considered in the proposed action were evaluated by the interdisciplinary team within the context of past, present, and reasonably foreseeable future actions. Significant cumulative effects are not predicted based on analysis of the effects of the proposed action described in Chapter 3 of the EA and the 2010 Vegetation Treatments Using Herbicides on BLM Lands in Oregon FEIS.

**8. Would any of the alternatives have significant adverse impacts on scientific, cultural, or historic resources, including those listed or eligible for listing on the National Register of Historic Resources (40 CFR 1508.27(b)(8)?**

**Rationale:**

The Proposed Action will not adversely affect scientific, cultural, or historic resources, including those eligible for listing in the National Register of Historic Places. Known cultural or paleontological sites will be avoided, and relocation of project implementation would occur upon discovery of previously unidentified cultural or paleontological sites.

**9. Would any of the alternatives have significant adverse impacts on threatened or endangered species or their critical habitat (40 CFR 1508.27(b)(9)?**

**Rationale:**

The Proposed Action would neither adversely nor significantly affect threatened or endangered species or their critical habitat. Mitigations to reduce impacts to special status species have been incorporated into the design of the proposed action. These project design features are outlined in Chapter 3 Affected Environment and Environmental Effects and Appendix B of the EA, and include seasonal, no-treatment buffers surrounding raptor nests and roosts.

**10. Would any of the alternatives have effects that threaten to violate Federal, State, or local law or requirements imposed for the protection of the environment (40 CFR 1508.27(b)(IO)? No.**

**Rationale:**

The project does not violate any known Federal, State, Local or Tribal law or requirement imposed for the protection of the environment. Tribal interests were given the opportunity to participate in the environmental analysis process.

**Finding**

On the basis of the information contained in the EA, the consideration of intensity factors described above, all other information available to me, it is my determination that: (1) implementation of the Proposed Action would not have significant environmental impacts beyond those already addressed in the 2010 Vegetation Treatments Using Herbicides on BLM Lands in Oregon FEIS and ROD, 1986 FEIS for the Two Rivers RMP and the 2000 FEIS for the John Day River Management Plan; (2) the alternatives are in conformance with the 2010 Vegetation Treatments Using Herbicides on BLM Lands in Oregon FEIS and ROD, 1986 FEIS for the Two Rivers RMP and the 2000 FEIS for the John Day River Management Plan; and (3) neither alternative would constitute a major federal action having a significant effect on the human environment. Therefore, neither an EIS nor a supplement to the 2010 Vegetation Treatments Using Herbicides on BLM Lands in Oregon FEIS and ROD; 1986 Two Rivers RMP FEIS and ROD; or John Day River Management Plan FEIS and ROD are necessary.

  
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Molly M. Brown  
Field Manager, Deschutes Resource Area

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Date

  
Acting For: \_\_\_\_\_  
H.F. "Chip" Faver  
Field Manager, Central Oregon Resource Area

1/10/13  
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Date

## References

- Johnson, D.D., Davies, K.W. 2012. Revegetating sagebrush rangelands invaded by medusahead. Oregon State University, Oregon Beef Council Report [online]. BEEF094. Available: <http://beefcattle.ans.oregonstate.edu/documents/BEEF094-RevegetatingSagebrush.pdf>
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- Smith, B.S., Sheley, R.L., Bingham, B.S. 2011. A working ranch with an effective medusahead management program. Eastern Oregon Agricultural Research Center. DVD.
- Butler, M. Brummer, F. Simmons, R. 2010. Restoring Central Oregon Rangeland from *Ventenata* and *Medusahead* to a Sustainable Bunchgrass Environment – Warm Springs and Ashwood. Central Oregon Agricultural Research Center Annual Report.
- U.S. Department of the Interior, Bureau of Land Management. White River Field Office. 2010. Pad Fire Emergency Stabilization and Rehabilitation Monitoring Summary.

## Decision Record

**Title of Action:** *Brown Road, Razorback, and Hancock Complex Post-Fire Herbicide EA*

**NEPA Register Number:** DOI-BLM-OR-P000-2012-0011-EA

**BLM Office:** Prineville District Bureau of Land Management, 3050 NE Third Street, Prineville Oregon, 97754

### 1. Proposed or Selected Alternative

Based on the analysis documented in the Environmental Assessment (DOI-BLM-OR-P000-2012-0011-EA) and the Finding of No Significant Impact (FONSI), it is our decision to implement the Proposed Action Alternative. The BLM has selected the proposed action to apply the herbicide imazapic by aerial and ground-based methods to populations of the noxious weed Medusahead rye (*Taeniatherum caput-medusae*), and the invasive non-native weeds cheatgrass (*Bromus tectorum*), and North Africa grass (*Ventenata dubia* (Leers.) Coss) on BLM administered lands affected by the Brown Road, Razorback, and Hancock Complex fires in the Central Oregon and Deschutes Resource Areas on the Prineville District. Ground based and aerial methods would be used to apply imazapic, at a rate of 0.0313 – 0.0469 pounds of active ingredient (a.i.) per acre per year. All project design features, mitigation measures, and standard operating procedures associated with the proposed action can be found in Attachments A and B.

### 2. Compliance

The project is expected to move the area towards desired future conditions derived from current planning direction identified in the 1986 Two Rivers RMP, including but not limited to the following:

“Provide forage to meet management objective numbers of the Oregon Department of Fish and Wildlife for deer and elk. Manage upland vegetation to achieve maximum wildlife habitat diversity. Manage all streams with fisheries or fisheries potential to achieve a good to excellent aquatic habitat condition.” (ROD, Two Rivers RMP, p. 10)

The 2001 John Day River Management Plan, Two Rivers, John Day and Baker Resource RMP Amendments and applies specifically to the Wild & Scenic River Corridor of the John Day River within the Hancock Complex provides further guidance:

“Control noxious weeds according to regional and local plans in conjunction with local weed control boards.” (ROD, John Day River Management Plan, Two Rivers, John Day, and Baker RMP Amendments, p. x)

The proposed action also conforms to the laws, executive orders, regulations, manual direction, and policies listed below.

- Executive Order 12372, Intergovernmental Review. Coordination and consultation is ongoing with affected Tribes, Federal, and local agencies.
- Executive Order 13112, Invasive Species. To prevent the introduction of invasive species and provide for their control, and to minimize the economic, ecological and human health impacts that invasive species cause.
- 2010 Vegetation Treatments Using Herbicides on BLM Lands in Oregon ROD.
- 2007 Vegetation Treatments Using Herbicides on BLM lands in 17 Western States ROD
- Clean Water Act. All proposed treatments are in compliance with this Act (33 U.S.C. 1251 - 1376; Chapter 758; P.L. 845, June 30, 1948; 62 Stat. 1155). Long-term effects are considered beneficial to water quality.
- BLM Manuals 6330 Management of BLM Wilderness Study Areas, 6320 Considering Lands with Wilderness Characteristics in the BLM Land Use Planning Process, 9015 Integrated Weed Management, 9220 Integrated Pest Management, 1112 Safety, 9011 Chemical Pest Control, 9012 Expenditure of Rangeland Insect and Pest Control Funds, and 9220 Integrated Pest Management
- BLM Handbooks H-1742-1 Burned Area Emergency Stabilization and Rehabilitation and H-9011-1 Chemical Pest Control
- Native American Consultation

All tribes of federally recognized American Indians have off-reservation interests, that requires that land managing agencies consult with tribes on a government-to-government basis over planned actions that may affect tribal interests. Tribal interests include: traditional cultural practices, ethnohabitats, sacred sites, certain plant and animal resources, and socio-economic opportunities.

### **3. FONSI Reference**

On the basis of the information contained in the EA, the consideration of intensity factors, all other information available to me, it is my determination that: (1) implementation of the alternatives would not have significant environmental impacts beyond those already addressed in the 2010 Vegetation Treatments Using Herbicides on BLM Lands in Oregon FEIS, 1986 FEIS for the Two Rivers RMP and the 2000 FEIS for the John Day River Management Plan; (2) the alternatives are in conformance with the 2010 Vegetation Treatments Using Herbicides on BLM Lands in Oregon ROD, 1986 Two Rivers RMP and the 2001 John Day River Management Plan; and (3) neither alternative would constitute a major federal action having a significant effect on the human environment. Neither an EIS

nor a supplement to the 2010 Vegetation Treatments Using Herbicides on BLM Lands in Oregon FEIS and ROD; 1986 Two Rivers RMP FEIS and ROD; or John Day River Management Plan FEIS and ROD are necessary and will therefore not be prepared.

#### **4. Public Involvement**

The BLM first requested input on this project in December, 2011, when it mailed scoping letters to the Confederated Tribes of the Warm Springs Reservation of Oregon (CTWSRO) and Burns Paiute Tribe, and in January 2012 when it mailed a scoping letter to the Confederated Tribes of the Umatilla.

Response was received from the CTWSRO. The CTWSRO support post-fire weed management, but was concerned with timing and residual effects of the herbicide treatment, particularly in areas where traditional cultural plants may occur. Both parties provided information to one another on the herbicide and its effects, seed lists, and results of weed free analysis. The BLM hosted a field trip in April 2012 with CTWSRO range and cultural specialists. A second field trip occurred in June to look at treatment areas using imazapic for control of Medusahead rye on the Reservation. Concerns were addressed by agreeing to provide herbicide treatment maps to the CTWSRO.

The BLM requested input on this project again in October, 2012, when it posted the EA to our website for comment, and provided newspaper notifications through the Central Oregonian, Blue Mountain Eagle, Bend Bulletin, and Madras Pioneer. Interested publics known to the Prineville District BLM to have interest in resources related to this project were also directly notified via mailings. One copy of the EA was requested and mailed hardcopy one month after the end of the comment period. Of the five individuals who provided feedback, three were supportive and of those three, two requested a cooperative approach across ownership boundaries. No treatment buffers adjacent to private lands will be included for treatment under the proposed action given documented landowner consent. The negligible acreage associated with treating these areas does not change analysis in the EA.

The remaining two individuals expressed concerns over the impacts of herbicide application to non-target resources. Analysis incorporated by reference from the 2010 Vegetation Treatments Using Herbicides on BLM Lands in Oregon ROD, project design features, standard operating procedures, and mitigation measures adequately address these concerns and therefore no changes were made to the EA or FONSI.

#### **5. Rationale for the Decision**

Chapter 2 of the EA described two alternatives: the "No Action" alternative and the "Proposed Action" alternative. The purpose of the project (pages 4-5 in EA) is to control noxious weeds and invasive annual grasses using imazapic on BLM lands affected by the Brown Road, Razorback, and Hancock Complex Fires. The purpose of moving the area toward desired conditions identified in the 1986 Two Rivers RMP (ROD) and the 2001 John Day River Management Plan, Two Rivers, John Day and Baker Resource RMP Amendments, includes

providing forage to meet management objectives of the Oregon Department of Fish and Wildlife for deer and elk.

The No Action alternative, to continue to treat weeds using existing approved herbicides, was not selected because it would not meet the purpose of the project. Of the three invasive annual grasses, only Medusahead rye could be treated using glyphosate, which cannot be applied aerially, leaving many portions of the proposed treatment areas untreated due to limited accessibility. The broad spectrum effects of glyphosate further limit its use, and it cannot be used to treat Medusahead rye and North Africa grass under the existing 1994 Prineville District Integrated Weed Management Plan.

Project Design Features, Standard Operating Procedures, and Mitigation Measures, described in the EA (pages 15-17 and 30-37) and attached below will protect nesting and roosting raptors, riparian areas, special status plants, adjacent private lands, special management areas, and human health and safety.

Based on the analysis of potential impacts contained in the EA, we have determined in the Finding of No Significant Impacts (FONSI) that the Brown Road, Razorback, and Hancock Complex Fires Post-Fire Herbicide project will not have a significant impact on the human environment within the meaning of Section 102(2) (c) of the National Environmental Policy Act of 1969 (FONSI pages 1-4). Thus, an EA is the appropriate level of analysis, and an Environmental Impact Statement will not be prepared.

### 6. Protest and Appeal Opportunities

This decision constitutes my final decision and may be appealed to the Interior Board of Land Appeals, Office of the Secretary, in accordance with the regulations contained in 43 CFR, Part 4 and the enclosed Form 1842-1. If an appeal is taken, your notice of appeal must be filed in this office (3050 N.E. Third Street, Prineville, OR 97754) within 30 days from receipt of this decision. Notice of appeal must be sent certified mail to one of the Field Managers listed below. The appellant has the burden of showing that the decision appealed from is in error. Any request for stay of this decision in accordance with 43 CFR 4.21 must be filed with your appeal.



Molly M. Brown  
Field Manager, Deschutes Resource Area



Date

  
Acting for:

H.F. "Chip" Faver  
Field Manager, Central Oregon Resource Area



Date

## **Attachment A – PROJECT DESIGN FEATURES**

All treatments will include the following project design features (PDFs) which impose timing restrictions and buffers (Table 3.2). See Appendix B for additional project design features incorporated from Vegetation Treatments Using Herbicides on BLM Lands in Oregon Record of Decision.

### **Paleontological and Cultural Resources**

- Any new discoveries of cultural or paleontological resources by applicators briefed on basic identification during the application of imazapic would cause the application to be temporarily relocated until an assessment of the cultural or paleontological resources is performed by a cultural specialist.
- The BLM will provide the Confederated Tribes of the Warm Springs Reservation of Oregon (CTWSRO) with maps of treatment locations and application dates. Access to treatment areas will not change due to proposed herbicide treatment.

### **Wildlife**

- No ground-based motorized vehicles, aircraft or equipment disturbance will be allowed within ½ mile line of sight or ¼ mile non-line of sight of bald eagle nests from January 1<sup>st</sup> to August 31<sup>st</sup>.
- No ground-based motorized vehicles, aircraft or equipment disturbance would be allowed within ½ mile line of sight or ¼ mile non-line of sight of golden eagle nests from February 1<sup>st</sup> to August 31<sup>st</sup>.
- No ground-based motorized vehicles, aircraft, or equipment disturbance would be allowed within ¼ mile of Bald Eagle roosts from November 1<sup>st</sup> to April 30<sup>th</sup>.
- No ground-based motorized vehicles, aircraft or equipment disturbance would be allowed within ¾ mile of Peregrine Falcons nests from February 1<sup>st</sup> thru August 31<sup>st</sup>.
- No ground-based motorized vehicles, aircraft, or equipment would be allowed within ½ mile line of sight or ¼ mile non-line of sight of any raptor nest February 1<sup>st</sup> through August 1<sup>st</sup>.

### **Water PDFs**

- No treatment would occur within a 100 feet of wells.

### **Human Health and Safety PDFs**

- Treatment areas would not be open to public entry for 12 hours following application of imazapic.
- Imazapic would not be applied within ¼ mile of human residences aerially or within 100 feet by ground based methods.
- Imazapic would not be applied aerially when wind speeds are greater than 6 miles per hour or by ground-based methods when wind speeds are greater than 10 miles per hour.

### **Range PDFs**

- After treatments, livestock grazing would not be permitted the remainder of the calendar year and through the growing season of the next year, unless the BLM determines that reintroducing livestock grazing would not result in negative impacts to native and desirable non-native perennial grasses within treatment areas, in which case grazing may be allowed to re-commence.
- Livestock grazing in treated pastures located within the project area may be deferred for a maximum of two years following treatment if the BLM determines that grazing treated pastures would result in negative impacts to rehabilitation of native and desirable non-native perennial grasses within treatment area(s).

### **Vegetation PDFs**

- Imazapic would not be applied within 25 feet of riparian areas or identified populations of threatened, endangered, or sensitive (TES) plants (USDI 2010).
- Imazapic would only be applied by ground-based application methods within 100 feet of riparian areas, and only by helicopter or ground-based methods within 300 feet of identified populations of TES plants (USDI 2010).

### **Wilderness Study Area PDFs**

- A minimum requirements analysis would be completed in WSAs that would have imazapic applied in them prior to the application of imazapic in the WSA.
- Cross-country vehicle travel would not occur in WSAs.

### **Recreation PDFs**

- BLM would ...(change to active structure)...ODFW, currently registered and previously registered boaters, and BLM-authorized hunter outfitter guides would be notified in advance, and provided maps, of proposed treatment areas.
- Public notifications of treatment locations, dates, and times will be posted at the following locations:
  - Maupin Visitor Center,
  - Mecca Flat, Trout Creek, South Junction, Clarno and Mecca Flat recreation sites,
  - Warm Springs, Harpham Flat, & Clarno boat launches,
  - Developed trailheads at North and South Criterion,
  - And on the Lower Deschutes river access road kiosk downriver from the river's junction with State Highway 216.
- Public notifications of treatment locations, dates, and times would be posted online at <http://johndayboaterpermit.com/> and <https://www.boaterpass.com/index.cfm>. Only ground-based application would be allowed within 1500 feet of developed recreation sites on the Brown Road Fire

Table 3.2 Buffer Distances for Application of Imazapic<sup>1</sup> (USDI 2010)

Buffer Distance (feet) from Aquatic Threatened, Endangered, and Sensitive Terrestrial Plants	
Ground <sup>2</sup>	25
Aerial <sup>5</sup>	300
Buffer Distance (feet) from Threatened, Endangered, and Sensitive Aquatic Plants	
Ground <sup>3</sup>	25
Aerial <sup>3</sup>	100
Minimum Buffer Distance (feet) from Riparian Areas <sup>4</sup>	
Ground <sup>3</sup>	25
Aerial <sup>5</sup>	100
Minimum Buffer Distance (feet) from Private Residences	
Ground <sup>3</sup>	100
Aerial <sup>5</sup>	¼ mile

<sup>1</sup> At an application rate of 0.0313 – 0.0469 pounds of active ingredient (a.i.) per acre per year of imazapic, equivalent to 4-6 ounces per acre per year of Plateau (USDI 2010, BASF 2011)

<sup>2</sup> Includes high and low boom, 50 and 20 inches above the ground, respectively, as well as ATV, vehicle, and backpack application methods.

<sup>3</sup> Aerial application includes fixed and rotor-wing aircraft

<sup>4</sup> No buffers are required for either special status or non-special status fish and aquatic invertebrates, but these buffers apply by default as they apply to riparian areas.

## **Attachment B – STANDARD OPERATING PROCEDURES AND MITIGATION MEASURES**

The following SOPs and MMs from Vegetation Treatments Using Herbicides on BLM Lands in Oregon (USDI 2010) will be applied to this project. Those inapplicable to the proposed action have been removed.

### General

- Prepare an operational and spill contingency plan in advance of treatment. *(SOP)*
- Conduct a pretreatment survey before applying herbicides. *(SOP)*
- Select the herbicide that is least damaging to the environment while providing the desired results. *(SOP)*
- Select herbicide products carefully to minimize additional impacts from degradates, adjuvants, other ingredients, and tank mixtures. *(SOP)*
- Apply the least amount of herbicide needed to achieve the desired result. *(SOP)*
- Follow herbicide product label for use and storage. *(SOP)*
- Have licensed or certified applicators or State-licensed “trainees” apply herbicides, or they can be applied by BLM employees under the direct supervision of a BLM-certified applicator. *(SOP)*
- Use only USEPA-approved herbicides and follow product label directions and “advisory” statements. *(SOP)*
- Review, understand, and conform to the “Environmental Hazards” section on the herbicide product label. This section warns of known herbicide risks to the environment and provides practical ways to avoid harm to organisms or to the environment. *(SOP)*
- Consider surrounding land use before assigning aerial spraying as a treatment method and avoid aerial spraying near agricultural or densely populated areas. *(SOP)*
- Minimize the size of application area, when feasible. *(SOP)*
- Comply with herbicide-free buffer zones to ensure that drift will not affect crops or nearby residents/ landowners. *(SOP)*
- Post treated areas and specify reentry or rest times, if appropriate. *(SOP)*
- Notify adjacent landowners prior to treatment, if appropriate. *(SOP)*
- Keep a copy of Material Safety Data Sheets (MSDSs) at work sites. MSDSs are available for review at <http://www.cdms.net/>. *(SOP)*
- Keep records of each application, including the active ingredient, formulation, application rate, date, time, and location. *(SOP)*
- Avoid accidental direct spray and spill conditions to minimize risks to resources. *(SOP)*
- Avoid aerial spraying during periods of adverse weather conditions (snow or rain imminent, fog, or air turbulence). *(SOP)*
- Make helicopter applications at a target airspeed of 40 to 50 miles per hour (mph), and at about 30 to 45 feet above ground. *(SOP)*
- Take precautions to minimize drift by not applying herbicides when winds exceed >10 mph (>6 mph for aerial applications), or a serious rainfall event is imminent. *(SOP)*
- Use drift control agents and low volatile formulations. *(SOP)*

- Conduct pre-treatment surveys for sensitive habitat and Special Status species within or adjacent to proposed treatment areas. (SOP)
- Consider site characteristics, environmental conditions, and application equipment in order to minimize damage to non-target vegetation. (SOP)
- Use drift reduction agents, as appropriate, to reduce the drift hazard to non-target species. (SOP)
- Turn off application equipment at the completion of spray runs and during turns to start another spray run. (SOP)
- Refer to the herbicide product label when planning revegetation to ensure that subsequent vegetation would not be injured following application of the herbicide. (SOP)
- Clean OHVs to remove plant material. (SOP)

#### Air Quality

See Manual 7000 (*Soil, Water, and Air Management*)

- Consider the effects of wind, humidity, temperature inversions, and heavy rainfall on herbicide effectiveness and risks. (SOP)
- Apply herbicides in favorable weather conditions to minimize drift. For example, do not treat when winds exceed 10 mph (>6 mph for aerial applications) or rainfall is imminent. (SOP)
- Use drift reduction agents, as appropriate, to reduce the drift hazard. (SOP)
- Select proper application equipment (e.g., spray equipment that produces 200- to 800-micron diameter droplets [spray droplets of 100 microns and less are most prone to drift]). (SOP)
- Select proper application methods (e.g., set maximum spray heights, use appropriate buffer distances between spray sites and non-target resources). (SOP)

#### Soil

See Manual 7000 (*Soil, Water, and Air Management*)

- Minimize treatments in areas where herbicide runoff is likely, such as steep slopes when heavy rainfall is expected. (SOP)
- Minimize use of herbicides that have high soil mobility, particularly in areas where soil properties increase the potential for mobility. (SOP)
- Do not apply granular herbicides on slopes of more than 15% where there is the possibility of runoff carrying the granules into non-target areas. (SOP)

#### Water Resources

See Manual 7000 (*Soil, Water, and Air Management*)

- Consider climate, soil type, slope, and vegetation type when developing herbicide treatment programs. (SOP)
- Select herbicide products to minimize impacts to water. This is especially important for application scenarios that involve risk from active ingredients in a particular herbicide, as predicted by risk assessments. (SOP)
- Use local historical weather data to choose the month of treatment. (SOP)
- Considering the phenology of target aquatic species, schedule treatments based on the condition of the water body and existing water quality conditions. (SOP)

- Plan to treat between weather fronts (calms) and at appropriate time of day to avoid high winds that increase water movements, and to avoid potential stormwater runoff and water turbidity. (SOP)
- Review hydrogeologic maps of proposed treatment areas. Note depths to groundwater and areas of shallow groundwater and areas of surface water and groundwater interaction. Minimize treating areas with high risk for groundwater contamination. (SOP)
- Conduct mixing and loading operations in an area where an accidental spill would not contaminate an aquatic body. (SOP)
- Do not rinse spray tanks in or near water bodies. (SOP)
- Minimize the potential effects to surface water quality and quantity by stabilizing terrestrial areas as quickly as possible following treatment. (SOP)
- Establish appropriate (herbicide-specific) buffer zones for species/populations (MM)
- Areas with potential for groundwater for domestic or municipal use shall be evaluated through the appropriate, validated model(s) to estimate vulnerability to potential groundwater contamination, and appropriate mitigation measures shall be developed if such an area requires the application of herbicides and cannot otherwise be treated with non-herbicide methods. (MM)
- Use appropriate herbicide-free buffer zones for herbicides not labeled for aquatic use based on risk assessment guidance, with minimum widths from water of 100 feet for aerial, 25 feet for vehicle, and 10 feet for hand spray applications. (SOP)
- Maintain buffers between treatment areas and water bodies. Buffer widths should be developed based on herbicide and site-specific conditions to minimize impacts to water bodies. (SOP)

#### Wetlands and Riparian Areas

- Use a selective herbicide and a wick or backpack sprayer. (SOP)
- Use appropriate herbicide-free buffer zones for herbicides not labeled for aquatic use based on risk assessment guidance, with minimum widths from water of 100 feet for aerial, 25 feet for vehicle, and 10 feet for hand spray applications. (SOP)
- See mitigation for Water Resources and Vegetation. (MM)

#### Vegetation

See Handbook H-4410-1 (*National Range Handbook*), and manuals 5000 (*Forest Management*) and 9015 (*Integrated Weed Management*)

- Refer to the herbicide label when planning revegetation to ensure that subsequent vegetation would not be injured following application of the herbicide. (SOP)
- Use weed-free feed for horses and pack animals. Use weed-free straw and mulch for revegetation and other activities. (SOP)
- Identify and implement any temporary domestic livestock grazing and/or supplemental feeding restrictions needed to enhance desirable vegetation recovery following treatment. Consider adjustments in the existing grazing permit, to maintain desirable vegetation on the treatment site. (SOP)
- Establish appropriate (herbicide-specific) buffer zones around downstream water bodies, habitats, and species/populations of interest. Consult the ecological risk assessments (ERAs) prepared for the PEIS for more specific information on appropriate buffer distances under different soil, moisture, vegetation, and application scenarios. (MM)

- When necessary to protect Special Status plant species, implement all conservation measures for plants presented in the *Vegetation Treatments on Bureau of Land Management Lands in 17 Western States Programmatic Biological Assessment*. (MM)

#### Pollinators

- Complete vegetation treatments seasonally before pollinator foraging plants bloom. (SOP)
- Time vegetation treatments to take place when foraging pollinators are least active both seasonally and daily. (SOP)
- Design vegetation treatment projects so that nectar and pollen sources for important pollinators and resources are treated in patches rather than in one single treatment. (SOP)
- Minimize herbicide application rates. Use typical rather than maximum rates where there are important pollinator resources. (SOP)
- Maintain herbicide free buffer zones around patches of important pollinator nectar and pollen sources. (SOP)
- Maintain herbicide free buffer zones around patches of important pollinator nesting habitat and hibernacula. (SOP)
- Make special note of pollinators that have single host plant species, and minimize herbicide spraying on those plants and in their habitats. (SOP)

#### Fish and Other Aquatic Organisms

See manuals 6500 (*Wildlife and Fisheries Management*) and 6780 (*Habitat Management Plans*)

- Use appropriate buffer zones based on label and risk assessment guidance. (SOP)
- Minimize treatments near fish-bearing water bodies during periods when fish are in life stages most sensitive to the herbicide(s) used, and use spot rather than broadcast or aerial treatments. (SOP)
- Use appropriate application equipment/method near water bodies if the potential for off-site drift exists. (SOP)
- For treatment of aquatic vegetation, 1) treat only that portion of the aquatic system necessary to meet vegetation management objectives, 2) use the appropriate application method to minimize the potential for injury to desirable vegetation and aquatic organisms, and 3) follow water use restrictions presented on the herbicide label. (SOP)
- Limit the use of terrestrial herbicides (especially diuron) in watersheds with characteristics suitable for potential surface runoff that have fish-bearing streams during periods when fish are in life stages most sensitive to the herbicide(s) used. (MM)
- When necessary to protect Special Status fish and other aquatic organisms, implement all conservation measures for aquatic animals presented in the *Vegetation Treatments on Bureau of Land Management Lands in 17 Western States Programmatic Biological Assessment* (see Appendix 5). (MM)
- Establish appropriate herbicide-specific buffer zones for water bodies, habitats, or fish or other aquatic species of interest (Tables A2-3 and A2-4, and recommendations in individual ERAs). (MM)
- Consider the proximity of application areas to salmonid habitat and the possible effects of herbicides on riparian and aquatic vegetation. Maintain appropriate buffer zones around salmonid-bearing streams. (MM)
- At the local level, consider effects to Special Status fish and other aquatic organisms when designing treatment programs. (MM)

## Wildlife

See manuals 6500 (*Wildlife and Fisheries Management*) and 6780 (*Habitat Management Plans*)

- Use herbicides of low toxicity to wildlife, where feasible. (SOP)
- Use spot applications or low-boom broadcast operations where possible to limit the probability of contaminating non-target food and water sources, especially non-target vegetation over areas larger than the treatment area. (SOP)
- Use timing restrictions (e.g., do not treat during critical wildlife breeding or staging periods) to minimize impacts to wildlife. (SOP)
- When necessary to protect Special Status wildlife species, implement conservation measures for terrestrial animals presented in the *Vegetation Treatments on Bureau of Land Management Lands in 17 Western States Programmatic Biological Assessment* (See Appendix 5) (MM)

## Threatened, Endangered, and Sensitive Species

See Manual 6840 (*Special Status Species*)

- Provide clearances for Special Status species before treating an area as required by Special Status Species Program policy. Consider effects to Special Status species when designing herbicide treatment programs. (SOP)
- Use a selective herbicide and a wick or backpack sprayer to minimize risks to Special Status plants. (SOP)
- Avoid treating vegetation during time-sensitive periods (e.g., nesting and migration, sensitive life stages) for Special Status species in area to be treated. (SOP)

## Livestock

See Handbook H-4120-1 (*Grazing Management*)

- Whenever possible and whenever needed, schedule treatments when livestock are not present in the treatment area. Design treatments to take advantage of normal livestock grazing rest periods, when possible. (SOP)
- As directed by the herbicide product label, remove livestock from treatment sites prior to herbicide application, where applicable. (SOP)
- Use herbicides of low toxicity to livestock, where feasible. (SOP)
- Take into account the different types of application equipment and methods, where possible, to reduce the probability of contamination of non-target food and water sources. (SOP)
- Notify permittees of the herbicide treatment project to improve coordination and avoid potential conflicts and safety concerns during implementation of the treatment. (SOP)
- Notify permittees of livestock grazing, feeding, or slaughter restrictions, if necessary. (SOP)
- Provide alternative forage sites for livestock, if possible. (SOP)

## Cultural Resources and Paleontological Resources

See handbooks H-8120-1 (*Guidelines for Conducting Tribal Consultation*) and H- 8270-1 (*General Procedural Guidance for Paleontological Resource Management*), and manuals 8100 (*The Foundations for Managing Cultural Resources*), 8120 (*Tribal Consultation Under Cultural Resource Authorities*), and 8270 (*Paleontological Resource Management*). See also: *Programmatic Agreement among the Bureau of Land Management, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers*

*Regarding the Manner in Which BLM Will Meet Its Responsibilities Under the National Historic Preservation Act.*

- Follow standard procedures for compliance with Section 106 of the National Historic Preservation Act as implemented through the *Programmatic Agreement among the Bureau of Land Management, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers Regarding the Manner in Which BLM Will Meet Its Responsibilities Under the National Historic Preservation Act* and State protocols or 36 Code of Federal Regulations Part 800, including necessary consultations with State Historic Preservation Officers and interested tribes. (SOP)
- Follow BLM Handbook H-8270-1 (*General Procedural Guidance for Paleontological Resource Management*) to determine known Condition 1 and Condition 2 paleontological areas, or collect information through inventory to establish Condition 1 and Condition 2 areas, determine resource types at risk from the proposed treatment, and develop appropriate measures to minimize or mitigate adverse impacts. (SOP)
- Consult with tribes to locate any areas of vegetation that are of significance to the tribe and that might be affected by herbicide treatments; work with tribes to minimize impacts to these resources. (SOP)
- Follow guidance under Human Health and Safety in the PEIS in areas that may be visited by Native peoples after treatments. (SOP)

Visual Resources

See handbooks H-8410-1 (*Visual Resource Inventory*) and H-8431-1 (*Visual Resource Contrast Rating*), and manual 8400 (*Visual Resource Management*)

- Minimize the use of broadcast foliar applications in sensitive watersheds to avoid creating large areas of browned vegetation. (SOP)
- Consider the surrounding land use before assigning aerial spraying as an application method. (SOP)
- Minimize off-site drift and mobility of herbicides (e.g., do not treat when winds exceed 10 mph; minimize treatment in areas where herbicide runoff is likely; establish appropriate buffer widths between treatment areas and residences) to contain visual changes to the intended treatment area. (SOP)
- If the area is a Class I or II visual resource, ensure that the change to the characteristic landscape is low and does not attract attention (Class I), or if seen, does not attract the attention of the casual viewer (Class II). (SOP)
- Lessen visual impacts by: 1) designing projects to blend in with topographic forms; 2) leaving some low-growing trees or planting some low-growing tree seedlings adjacent to the treatment area to screen short-term effects; and 3) revegetating the site following treatment. (SOP)
- When restoring treated areas, design activities to repeat the form, line, color, and texture of the natural landscape character conditions to meet established Visual Resource Management (VRM) objectives. (SOP)

Wilderness and Other Special Areas

See handbooks H-8550-1 (*Management of Wilderness Study Areas (WSAs)*), and H-8560-1 (*Management of Designated Wilderness Study Areas*), and Manual 8351 (*Wild and Scenic Rivers*)

- Encourage backcountry pack and saddle stock users to feed their livestock only weed-free feed for several days before entering a wilderness area, and to bring only weed-free hay and straw onto BLM lands. *(SOP)*
- Encourage stock users to tie and/or hold stock in such a way as to minimize soil disturbance and loss of native vegetation. *(SOP)*
- Revegetate disturbed sites with native species if there is no reasonable expectation of natural regeneration. *(SOP)*
- Provide educational materials at trailheads and other wilderness entry points to educate the public on the need to prevent the spread of weeds. *(SOP)*
- Use the “minimum tool” to treat noxious weeds and other invasive plants, relying primarily on the use of ground-based tools, including backpack pumps, hand sprayers, and pumps mounted on pack and saddle stock. *(SOP)*
- Use herbicides only when they are the minimum treatment method necessary to control weeds that are spreading within the wilderness or threaten lands outside the wilderness. *(SOP)*
- Give preference to herbicides that have the least impact on non-target species and the wilderness environment. *(SOP)*
- Implement herbicide treatments during periods of low human use, where feasible. *(SOP)*
- Address wilderness and special areas in management plans. *(SOP)*
- Control of weed infestations shall be carried out in a manner compatible with the intent of Wild and Scenic River management objectives. *(SOP)*
- Mitigation measures that may apply to wilderness and other special area resources are associated with human and ecological health and recreation (see mitigation measures for Vegetation, Fish and Other Aquatic Resources, Wildlife Resources, Recreation, and Human Health and Safety). *(MM)*

#### Recreation

See Handbook H-1601-1 (*Land Use Planning Handbook, Appendix C*)

- Schedule treatments to avoid peak recreational use times, while taking into account the optimum management period for the targeted species. *(SOP)*
- Notify the public of treatment methods, hazards, times, and nearby alternative recreation areas. *(SOP)*
- Adhere to entry restrictions identified on the herbicide product label for public and worker access. *(SOP)*
- Post signs noting exclusion areas and the duration of exclusion, if necessary. *(SOP)*
- Mitigation measures that may apply to recreational resources are associated with human and ecological health (see mitigation measures for Vegetation, Fish and Other Aquatic Resources, Wildlife Resources, and Human Health and Safety). *(MM)*

#### Social and Economic Values

- Consider surrounding land use before selecting aerial spraying as a treatment method, and avoid aerial spraying near agricultural or densely-populated areas. *(SOP)*
- Post treated areas and specify reentry or rest times, if appropriate. *(SOP)*
- Notify grazing permittees of livestock feeding restrictions in treated areas, if necessary, as per herbicide product label instructions. *(SOP)*

- Notify the public of the project to improve coordination and avoid potential conflicts and safety concerns during implementation of the treatment. (SOP)
- Control public access until potential treatment hazards no longer exist, per herbicide product label instructions. (SOP)
- Observe restricted entry intervals specified by the herbicide product label. (SOP)
- Notify local emergency personnel of proposed treatments. (SOP)
- Use spot applications or low-boom broadcast applications where possible to limit the probability of contaminating non-target food and water sources. (SOP)
- Consult with Native American tribes to locate any areas of vegetation that are of significance to the tribes and Native groups and that might be affected by herbicide treatments. (SOP)
- To the degree possible within the law, hire local contractors and workers to assist with herbicide application projects and purchase materials and supplies for herbicide treatment projects (including the herbicides) through local suppliers. (SOP)
- To minimize fears based on lack of information, provide public educational information on the need for vegetation treatments and the use of herbicides in an integrated vegetation management program for projects proposing local use of herbicides. (SOP)

#### Rights-of-way

- Coordinate vegetation treatment activities where joint or multiple use of a ROW exists. (SOP)
- Notify other public land users within or adjacent to the ROW proposed for treatment. (SOP)
- Use only herbicides that are approved for use in ROW areas. (SOP)

#### Human Health and Safety

- Establish a buffer between treatment areas and human residences based on guidance given in the HHRA, with a minimum buffer of ¼ mile for aerial applications and 100 feet for ground applications, unless a written waiver is granted. (SOP)
- Use protective equipment as directed by the herbicide product label. (SOP)
- Post treated areas with appropriate signs at common public access areas. (SOP)
- Observe restricted entry intervals specified by the herbicide product label. (SOP)
- Provide public notification in newspapers or other media where the potential exists for public exposure. (SOP)
- Store herbicides in secure, herbicide-approved storage. (SOP)
- Have a copy of MSDSs at work site. (SOP)
- Notify local emergency personnel of proposed treatments. (SOP)
- Contain and clean up spills and request help as needed. (SOP)
- Secure containers during transport. (SOP)
- Follow label directions for use and storage. (SOP)
- Dispose of unwanted herbicides promptly and correctly. (SOP)