Worksheet
Determination of NEPA Adequacy (DNA)

U.S Department of the Interior, Bureau of Land Management

A. Background

BLM Office: Prineville NEPA Log #: DOI-BLM-OR-P000-2014-0042-DNA

Project/Lease/Serial/Case File #: –

Applicant: None

Locations:

Brown Road - 6 miles northeast of Maupin in Township (T) 04S-Range (R) 14E, Sections 13, 14, 23, 24, and 35, and T04S-R15E, Section 18.

Razorback - 7 miles southwest of Maupin in T06S-R13E Sections 1 and 13; T05S-R13E Section 36; T05S-R14E Section 31; T06S-R14E Sections 5-10, and 13-28; T07S-R14E Sections 8-10, 17, 20, 21, 28, 29; and T08S-R14E Sections 10, 15, 21, and 27.

Hancock Complex - adjacent to and north and south of Clarno in T05S-R20E Sections 3 and 10; T04S-R20E Sections 29-21; T04S-R19E Sections 13, 24, 26, 29, and 32-35; T05S-R19E Sections 1-5 and 29-32; T06S-R18E Section 35; T06S-R19E Section 31; T07S-R18E Sections 1, 12-14, 24-27, and 34-36; T07S-R19E Sections 5-8,10, 1S, 17-23, 28,and 33; T08S-R18E Sections 1, 11-13, 24, 26, and 34; T08S-R18E Sections 4-9, 17, 18, 20-22, 26, 27, 30, 32, 34, and 3S; T08S-R20E Section 31; T09S-R19E Sections 1, 4, 10, 12, 14, 22, and 26; and T09S-R20E Section 6.

Proposed Action Title: FY14 Brown Road, Razorback, and Hancock Complex Post-Fire Herbicide Treatments

Description of the Proposed Action: The BLM proposes to apply the herbicide imazapic by aerial and ground-based methods to populations of the noxious weed medusahead rye (*Taeniatherum caput-medusae* (L.) Nevski), and the invasive non-native weeds cheatgrass (*Bromus tectorum* L.), and North Africa grass (*Ventenata dubia* (Leers.) Coss) on 12,785 acres of BLM administered lands affected by the Brown Road, Razorback, and Hancock Complex fires. Ground based and aerial methods would be used to apply imazapic at a rate of 0.09375 pounds of active ingredient (a.i.) per acre per year, equivalent to 6 ounces of Plateau, Panoramic 2SL, or Nufarm Imazapic 2SL. Areas of historic plant use by local tribes would be avoided. All Project Design Features, Standard Operating Procedures, and Mitigation Measures from the existing EA may be found attached to the Decision document.

B. Land Use Plan Conformance

Land Use Plan Name: Two Rivers RMP Date approved (ROD): 1986

The proposed action is in conformance with the applicable plan, even though it is not specifically provided for, because it is clearly consistent with the following land use plan decisions (objectives, terms, conditions): "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." (Page 10)

C. Identify applicable National Environmental Policy Act (NEPA) documents and related documents that cover the proposed action

The following NEPA documents cover the proposed action:

- 2012 Brown Road, Razorback, and Hancock Complex Post-Fire Herbicide EA, #DOI-BLM-OR-P000-2012-0011-EA
- 2010 Vegetation Treatments Using Herbicides on BLM Lands in Oregon FEIS
- 2007 Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States FEIS

The following other documentation is relevant to the proposed action (e.g., biological assessment, biological opinion, watershed assessment, allotment evaluation, and monitoring report):

- FY14 ESR Monitoring Reports – Brown Road (F9DU), Razorback (GB8K), Hancock (GB8C) (BLM Prineville District, September 2014)
- Brown Road, Razorback, and Hancock Complex Post-Fire Herbicide ESA No Effects Determination – Aquatic (BLM Prineville District, August 2014)

D. NEPA Adequacy Criteria

1. Is the new proposed action a feature of, or essentially similar to, an alternative analyzed in the existing NEPA document(s)? Is the project within the same analysis area, or if the project location is different, are the geographic and resource conditions sufficiently similar to those analyzed in the existing NEPA document(s)? If there are differences, can you explain why they are not substantial?

Yes. The current proposed action is within the analysis area in the DOI-BLM-OR-P000-2012-0011-EA (hereafter EA) and is essentially similar to the proposed action analyzed in the EA. The EA analyzed the effects of applying "the herbicide imazapic ... to populations of the noxious weed Medusahead rye (*Taeniatherum caput-medusae* (L.) Nevski), and the invasive non-native grasses cheatgrass (*Bromus tectorum* L.), and North Africa grass (*Ventenata dubia* (Leers.) Coss) located within 32,714 acres of BLM administered lands affected by the Brown Road, Razorback, and Hancock Complex fires" (EA, pages 7-8). The proposed action is within the same analysis area, "all BLM managed lands burned by the Brown Road, Razorback, and Hancock Complex fires of 2011, totaling 36,523 acres" (EA, page 17). Resource conditions are similar to what was analyzed in the existing EA.

While the current proposed action is essentially similar to the proposed action analyzed in the EA, the current proposed action is different in that it would treat 12,785 acres in 2014, while the EA analyzed only 10,459 acres of annual treatment. However, the effects of this annual increase would not exceed those previously disclosed in the existing EA, because the long-term acres treated would still be limited to the 32,714 acres analyzed in the existing EA. Further, there are

areas that the current proposed action includes that were not part of the proposed action analyzed in the EA, namely ephemeral drainages and swales. Ephemeral drainages are included in the current proposed action because post-treatment monitoring has shown that there is more Medusahead rye growth in these unsprayed areas than in the areas that were sprayed during the previous application, and this additional Medusahead rye growth is providing a seed source that needs to be treated in order to achieve the purpose of "control[ling] noxious and invasive non-native annual grasses using imazapic on BLM lands within the areas burned by the Brown Road, Razorback, and Hancock Complex fires" (EA, page 4). Lastly, imazapic will be applied at a rate of 0.09375 pounds of active ingredient per acre per year, equivalent to 6 ounces per acre per year of Plateau. The direct, indirect, and cumulative effects analyses in the existing EA were based upon this rate range of 4-6 ounces per acre per year of Plateau, yet were displayed incorrectly in the EA as 0.0313 – 0.0469 pounds of active ingredient per acre per year.

2. Is the range of alternatives analyzed in the existing NEPA document(s) appropriate with respect to the new proposed action, given current environmental concerns, interests, and resource values?

Yes. The range of alternatives analyzed in the existing EA includes effects from the current proposed action. The current proposed action's project design features and similarity to the EA's proposed action ensure that the effects of the proposed action are within the range of effects analyzed in the EA. Included in the current proposed action is the additional stipulation that avoids areas of historic plant use by local tribes and "prevents potentially significant effects to Tribal members gathering of traditional plants and root crops" (EA, page 13).

3. Is the existing analysis valid in light of any new information or circumstances (such as rangeland health standard assessment, recent endangered species listings, updated lists of BLM sensitive species)? Can you reasonably conclude that all new information and new circumstances would not substantially change the analysis of the new proposed action?

Yes, the existing analyses in the EA are still valid. There have not been any new rangeland health standard assessments for this area. Additionally there have not been any new endangered species listings or new BLM sensitive species or their habitat within the areas analyzed in the EA since the creation of the EA. In WSAs, vehicle travel would not occur, thus there would not be any potentially significant effects to these areas. For lands with wilderness characteristics, applications would be done aerially, on foot, and/or via ATV using existing vehicle routes.

4. Are the direct, indirect, and cumulative effects that would result from implementation of the new proposed action similar (both quantitatively and qualitatively) to those analyzed in the existing NEPA document(s)?

Yes. The direct, indirect, and cumulative effects that would result from implementation of the proposed action are similar to those analyzed in the existing EA (pages 10-24). Based upon post treatment monitoring (which has shown that there is more Medusahead rye growth in the non-treated areas), we have decreased buffers along streams. The original buffers, as outlined in the EA, were extremely conservative and many swales and ephemeral drainages that do not carry

surface water were buffered. By including these areas, previously untreated seed sources of Medusahead rye will be treated. Also included in the Proposed Action is the Project Design Feature in the existing EA, which states that imazapic would not be applied via ground-based methods within 25 feet of riparian areas, nor aerially within 100 feet of riparian areas. Riparian areas are characterized by certain types of vegetation, soils, hydrology and fauna and require free or unbound water or conditions more moist than generally found in the area. This PDF results in a Determination of No Effects with regard to Mid-Columbia River summer steelhead and bull trout as well as Essential Fish Habitat for Chinook salmon.

5. Are the public involvement and interagency review associated with existing NEPA document(s) adequate for the current proposed action?

Yes. Public input was sought during the creation of the EA through scoping letters to interested publics before and after the creation of the EA. Additionally, the EA and subsequent decision were posted on the BLM's public web site on October 2012/January 2013 and mailed to agencies, local governments, organizations and interested public. The public involvement and interagency review associated with the existing EA is adequate for the current proposed action because there have not been any new requirements for additional public involvement. The Confederated Tribes of Warm Springs would be provided a letter and map of the current proposed treatment and would be emailed prior to the application of imazapic, per the stipulation in the EA, "maps of proposed treatment areas would be provided to the Confederated Tribes of the Warm Springs Reservation of Oregon" (EA, page 13).

E. BLM Staff Consulted

Name	Title/Resource represented
Sarah Canham	Team Leader, Botany, Weeds
Matt Shaffer	Environmental Coordinator
Terry Holtzapple	Heritage
Rick Demmer	Wildlife
Jimmy Eisner	Fisheries
Mike McKay	Hydrology
Berry Phelps	Recreation/Wilderness

Note: Refer to the EA/EIS for a complete list of the team members participating in the preparation of the original environmental analysis or planning documents.

Conclusion

Based on the review documented above, we conclude that this proposal conforms to the applicable land use plan and that the documentation fully covers the proposed action and constitutes BLM's compliance with the requirements of the NEPA.

Molly M. Brown
Field Manager, Deschutes Resource Area

9/11/14
Date

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

9/11/14
Date

Note: The signed Conclusion on this worksheet is part of an interim step in the BLM's internal decision process and does not constitute an appealable decision. However, the lease, permit, or other authorization based on this DNA is subject to protest or appeal under 43 CFR Part 4 and the program specific regulations.

Contact Person

For additional information concerning this review, contact: Sarah Canham, Natural Resource Specialist, Botany & Weeds, Prineville Field Office, 3050 NE 3rd Street, Prineville, OR 97754, telephone (541) 416-6785.

Decision

Title of Action: FY14 Brown Road, Razorback, and Hancock Complex Post-Fire Herbicide Treatments

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

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 as described in DOI-BLM-OR-P000-2014-0042-DNA. The proposed action has been reviewed by a team of resource specialists, and all associated Project Design Features, Standard Operating Procedures, and Mitigation Measures from the EA will be incorporated and may be found in Attachments A and B. We have determined that the proposed action was adequately analyzed in the Brown Road, Razorback, and Hancock Complex Post-Fire Herbicide EA (DOI-BLM-OR-P000-2012-0011-EA, 2012), Vegetation Treatments Using Herbicides on BLM Lands in Oregon FEIS (2010), and Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States FEIS (2007) and conforms with the Two Rivers Resource Management Plan (1986). We have 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* (L.) Nevski), and the invasive non-native weeds cheatgrass (*Bromus tectorum* L.), 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 will be used to apply imazapic, at a rate of 0.09375 pounds of active ingredient (a.i.) per acre per year, equivalent to 6 ounces per acre per year on portions of the following locations: Township (T) 04S Range (R) 14E, Sections 13, 14, 23, 24, 35; T04S-R15E Section 18; T06S-R13E Sections 1, 13; T05S-R13E Section 36; T05S-R14E Section 31; T06S-R14E Sections 5-10, 13-28; T07S-R14E Sections 8-10, 17, 20, 21, 28, 29; T08S-R14E Sections 10, 15, 21, 27; T05S-R20E Sections 3, 10; T04S-R20E Sections 29-21; T04S-R19E Sections 13, 24, 26, 29, 32-35; T05S-R19E Sections 1-5, 29-32; T06S-R18E Section 35; T06S-R19E Section 31; T07S-R18E Sections 1, 12-14, 24-27, 34-36; T07S-R19E Sections 5-8, 10, 15, 17-23, 28, 33; T08S-R18E Sections 1, 11-13, 24, 26, 34; T08S-R18E Sections 4-9, 17, 18, 20-22, 26, 27, 30, 32, 34, 35; T08S-R20E Section 31; T09S-R19E Sections 1, 4, 10, 12, 14, 22, 26; and T09S-R20E Section 6.

This decision constitutes our 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

9/11/14
Date

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

9.11.14
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 PDFs

- 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 PDFS

- 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 to August 31.
- 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 to August 31.
- No ground-based motorized vehicles, aircraft, or equipment disturbance would be allowed within ¼ mile of Bald Eagle roosts from November 1 to April 30.
- No ground-based motorized vehicles, aircraft or equipment disturbance would be allowed within ¾ mile of Peregrine Falcons nests from February 1 thru August 31.
- No ground-based motorized vehicles, aircraft, or equipment would be allowed within½ mile line of sight or ¼ mile non-line of sight of any raptor nest February 1 through August 1.

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://johndayboateroermit.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.

Buffer Distances for Application of Imazapic[1] (USDI 2010)

Buffer Distance (feet) from Threatened, Endangered, and Sensitive Terrestrial Plants	
Ground[2]	**25**
Aerial[3]	**300**
Buffer Distance (feet) from Threatened, Endangered, and Sensitive Aquatic Plants	
Ground[2]	**25**
Aerial[3]	**100**
Minimum Buffer Distance (feet) from Riparian Areas[4]	
Ground[2]	**25**
Aerial[3]	**100**
Minimum Buffer Distance (feet) from Private Residences	
Ground[2]	**100**
Aerial[3]	**¼ mile**

[1] At an application rate of 0.0625-0.09375 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).

[2] Includes high and low boom, 50 and 20 inches above the ground, respectively, as well as ATV, vehicle, and backpack application methods.

[3] Aerial application includes fixed and rotor-wing aircraft

[4] 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. Riparian areas are characterized by certain types of vegetation, soils, hydrology and fauna and require free or unbound water or conditions more moist than generally found in the area.

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 *B00-*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 I 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 1), 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)*