

**United States Department of the Interior
Bureau of Land Management**

Environmental Assessment DOI-BLM-MT-070-2009-00011-EA

May 2009

Butte Field Office Weed Management Plan Revision

Location: Lands administered by the BLM Butte Field Office in eight counties in southwest Montana

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CHAPTER 1 PURPOSE AND NEED

Introduction

This Environmental Assessment (EA) has been prepared to disclose and analyze the environmental consequences of revising the Butte Field Office Weed Management Plan in concert with adopting provisions of the September 2007 Record of Decision resulting from the Programmatic Environmental Impact Statement (EIS) on Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States. The EA is heavily dependent and tiered to analysis contained in this Bureauwide document.

Background

The Bureau of Land Management (BLM) proposes to revise the 1987 weed management plan providing overarching guidance on weed management for lands administered by the Butte Field Office in southwest Montana. These lands are scattered across eight counties including Beaverhead, Broadwater, Deer Lodge, Gallatin, Jefferson, Lewis and Clark, Park and Silver Bow counties. If approved, weed management operations and activities would be conducted under the revised provisions in the updated plan, as tiered to several Bureauwide Environmental Impact Statements.

Purpose and Need for the Proposed Action

Weed infestations can adversely affect soil productivity, water quality, aquatic habitat, livestock forage, wildlife habitat, and overall plant community health. An updated Integrated Weed Management Plan is needed to guide Butte Field Office activities in the management, control and prevention of noxious weeds. The new plan will replace a document approved in 1987 and amended in 1994 and 1997 to add additional herbicide and surfactant use. The 2007 approval of the *Programmatic EIS for Vegetation Treatments Using Herbicides* by the BLM addresses which chemicals may be used within each State's jurisdiction and outlines Standard Operating Procedures and other measures to guide the application of herbicides and pesticides to protect certain resource values. An update to the BFO plan is necessary in order to adopt these procedures and determine if any additional measures need to be addressed. In addition, new resource issues, advances in management tools for weed control, changes in demographics within the field office, and new and more intensive uses on public lands in the field office require review and discussion to determine appropriate management response.

Conformance with BLM Land Use Plan(s)

The Proposed Action is in conformance with provisions contained in the Approved Butte Resource Management Plan (April 2009). Noxious Weed Management is outlined on pages 28-30 of the Approved RMP.

Relationship to Statutes, Regulations, or other Plans:

Revision of the Butte Field Office Weed Management Plan is consistent with federal law and regulation. Determining appropriate weed management activities through application of operating procedures and measures outlined in the plan will assist in meeting Standards for Rangeland Health by providing avenues to treat upland and riparian areas while protecting water resources and meeting air quality and biodiversity standards.

The Butte Weed Management Plan incorporates provisions to ensure Native American Trust Resource policies are met.

Given the universal objective of weed control across the landscape, this weed management plan is unlikely to be inconsistent with other federal, state, Tribal or local government plans and policies in a general sense. However, there may be specific operating procedures or measures that differ from those contained in plans and policies of other entities that are engaged in integrated weed control and management.

This environmental assessment is tiered to several EISs, including:

- BLM Final Environmental Impact Statement for Northwest Area Noxious Weed Control Program (Record of Decision, March 1987)
- BLM Final Environmental Impact Statement for Vegetation Treatment on BLM Lands in Thirteen Western States (Record of Decision, July 1991)
- BLM Programmatic Environmental Impact Statement for Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States (PEIS) (Record of Decision, September 2007)
- Proposed Butte Resource Management Plan and Final Environmental Impact Statement, September 2008 (resulting in Record of Decision and Approved Butte Resource Management Plan, April 2009).

Analysis contained in these documents is herein incorporated by reference and is not readdressed in this EA.

Identification of Issues:

As a result of public scoping and internal review, issues to be considered during revision of the Butte Weed Management Plan are outlined below. These items were identified as a result of public scoping and internal review. While all of these issues are relevant to the proposal to revise the Weed Management Plan for the Butte Field Office, most have been addressed by the provisions outlined in the Proposed Action as Standard Operating Procedures or Protective Measures, or are comments on BLM policy that cannot be changed at the Field Office level. Each issue is addressed below with a response indicating if and how the issue has been handled in this analysis process.

Issue: Establish a simple approval process to add new pesticides as they become available.

Under the Proposed Action, approval of any new pesticides will follow Bureau procedures as outlined in the 2007 Record of Decision on Vegetation Treatment Using Herbicides. The field office does not have the resources or expertise to establish a separate process.

Issue: Incorporate a strong prevention element, including elements associated with fire suppression operations.

The Proposed Action and revised plan include a section on “Prevention” including provisions that will be implemented during project planning, project implementation, and revegetation activities.

Issue: Include biological control as a tool.

Biological control is one of the many tools that BLM uses in its multi-faceted strategy of integrated weed management.

Issue: Promote education as a key to success. Give a “State of the Weeds” update to the Elkhorns Working Group on an annual basis.

Education and awareness is also one of many tools in the Butte Weed Management Plan toolbox. BLM will continue to provide updates to the Elkhorn Working Group as requested, similar to the presentation in January 2009.

Issue: Actions need to be taken to minimize the risk of contact between domestic sheep and goats and wild sheep, both through timing and spatial considerations.

Provisions outlined in the Proposed Butte Resource Management Plan are included in the protective measures outlined for the Proposed Action and revised weed management plan. Goats and domestic sheep can be used for weed control on wild sheep winter ranges when wild sheep are absent. Use is only allowed from May 1 to July 31 unless different dates are coordinated with Montana Fish, Wildlife and Parks, and a herder is required. In addition, domestic sheep and goats used for weed control would be required to maintain a 2 mile distance from wild sheep when grazing, and a 4 mile distance if bedding, again, with a herder present.

Issue: Protect antelope bitterbrush and mountain mahogany during aerial application of pesticides/herbicides.

The Proposed Action and revised weed management plan adopts standard operating procedures, protective measures related to Terrestrial Wildlife and Rangeland Vegetation, and special aerial application provisions that address this concern. Specifically, the plan contains a provision that states “Aerial spraying in areas known to contain healthy antelope bitterbrush or mountain mahogany

would be avoided unless techniques or appropriate chemicals allow for protection of these important browse species”.

Issue: Make weed management an agency priority.

The Butte BLM strives to incorporate weed management principles across all programs, and has continued to inventory for infestations and identify resources needed to effectively manage areas of concern.

Issue: Consider a Landscape Approach in Planning and Control Efforts Rather than Focusing on Spot Treatment. Consider landscape projects of 100 acres or more.

The Proposed Action and revised weed management plan establishes Weed Management Areas across the Butte Field Office to delineate areas or “landscapes” where weed management will occur. Spot treatment will always continue to be part of the weed control strategy, especially in using a Early Detection-Rapid Response approach. However, the revised plan also outlines BLM’s commitment to partnerships and continued coordination and cooperation with local and state agencies and other entities, which when effective, can enhance a broader landscape approach, especially given the scattered nature of the BLM administered lands in the Butte Field Office.

Issue: Establish Unified weed control policies and programs covering all agencies and landowner, especially in the Urban Interface.

It is outside the scope of this revision to address policies or programs of non-BLM agencies and landowners. The Proposed Action and revised weed management plan address continued coordination and cooperation as well as focus of education and outreach and development of partnerships to both prevent and treat weed infestations.

Issue: Inventory for weed infestations prior to ground disturbance. Conduct weed inventory and control for prescribed burning/fire applications.

The Proposed Action and revised weed management plan contain standard operating procedures calling for inventory of weeds prior to ground-disturbing activities.

Issue: Plan and Implement a “Special Project” each season for sensitive or special areas (ie. WSAs, etc.).

The Proposed Action and revised weed management plan provides flexibility to be able to conduct special projects if budget and resources are available. These types of projects would best be identified during development of the Annual Operating Plan each season.

Issue: Concentrate efforts on roads, trailheads and high public use areas.

The Proposed Action and revised weed management plan as well as the Approved Butte Resource Management Plan place priority on treatment of these areas.

Issue: Conduct effectiveness monitoring.

The revised weed management plan addresses both implementation monitoring and effectiveness monitoring. The BFO conducts effectiveness monitoring as it revisits treatment areas on an annual basis, and as a result makes adjustments to types of chemicals, types of treatments, or other changes as appropriate dependent upon the response of the infestation to previous treatment regimes.

Issue: Interagency Mapping of Infestations and Treatments

The revised weed management plan addresses continued coordination and cooperation as well as a focus of education and outreach and development of partnerships to both prevent and treat weed infestations. While, it is outside the scope of this revision to address policies or programs of non-BLM agencies and landowners, BLM is open and interested in interagency mapping and treatment efforts as long as BLM standards can be met.

CHAPTER 2 DESCRIPTION OF ALTERNATIVES

Introduction

This EA focuses on a Proposed and No Action alternative. The No Action alternative is considered and analyzed to provide a baseline for comparison of the impacts of the Proposed Action.

Both alternatives would follow BLM manual guidance and regulatory requirements, which will not be reiterated in this document. Differences between the two alternatives are mainly related to the protective measures that will be applied and what chemicals are allowed under each distinct alternative.

Alternative A – No Action

Under this alternative, the Butte Field Office would continue to operate under the provisions of the 1987 Butte Weed Management Plan, which provided for an Integrated Weed Management approach tiered to the Northwest Area Noxious Weed Control Program. This decision allowed BLM to resume using six herbicide formulations: Banvel, Rodeo, Tordon 22K, Tordon2K, Esteron 99, and DMA-4. Work would also continue under provisions from the July 1991 Record of Decision issued for the EIS completed for Vegetation Treatment on BLM Lands within Thirteen Western States. The Standard Operating Procedures and Project Design Features from the 1991 EIS are outlined in Appendix A. Specific standard operating procedures and protective measures identified in the 2007 Record of Decision would not be adopted. Other than the general Standard Operating Procedures and Project Design Features contained in the 1991 ROD, no additional protective measures or mitigation measures are outlined.

New herbicides approved for use in the 2007 Record of Decision could not be used within the Butte Field Office, as a decision to adopt those provisions would not be made. Though use in the field office has not occurred recently, under the No Action alternative, the Butte Field Office could continue to use atrazine, mefluidide, and simazine as approved chemicals under the 1991 ROD. Amitrole and dalapon could not be used on public lands.

Under this alternative, variances for motorized cross-country travel or travel on closed or seasonally restricted routes in order to allow for weed spray applications for activities proposed by BLM or conducted under agreement with formal cooperators would be required on an annual basis prior to weed treatment.

Alternative B – Proposed Action

Selection of this alternative would revise the Butte Weed Management Plan to adopt goals, objectives and guidance outlined in the Approved Butte Resource Management Plan (April 2009). It would also adopt the programmatic guidance contained in the September 2007 Record of Decision approving Alternative B as analyzed in the *Programmatic Environmental Impact Statement for Vegetation Treatments Using*

Herbicides on Bureau of Land Management Lands in 17 Western States which contains much more detail than the guidance outlined in the 1991 EIS.

Herbicides approved for use in Alternative B of the Bureauwide PEIS approved in September 2007 would be available for use on BLM lands in the Butte Field Office.

The BLM Butte Field Office would no longer use the following herbicides or approve their use on public land under Butte's jurisdiction: 2,4-DP, asulam, atrazine, fosamine, mefluidide, and simazine.

Motorized cross-country travel, or travel on closed or seasonally restricted routes to conduct BLM or formal cooperator weed spray operations would be allowed under the Proposed Action except in designated Wilderness and Wilderness Study Areas.

Any Cross-country travel would occur only when the ground is dry to prevent rutting and resulting erosion. Wet areas would be avoided as well. Any additional concerns raised regarding cross-country travel issues would be addressed in the development of the Annual Operating Plan.

The Proposed Action would also adopt provisions to be applied to weed control activities in the Butte Field Office as outlined in the September 2007 Record of Decision approving Alternative B as analyzed in the Programmatic Environmental Impact Statement for Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States. These provisions include:

- Prevention Measures summarized in Appendix B of this EA would be applied to weed control activities in the Butte Field Office. These are outlined in the 2007 ROD on pages B-3 thru B-4 and as General Standard Operating Procedures in Table B-2, page B-9.
- Standard Operating Procedures summarized in Appendix C of this EA would be applied to weed control activities in the Butte Field Office. These are outlined in the 2007 Record of Decision in Table B-2, page B-9, under the General provisions.
- Protective Measures excerpted from the 2007 Record of Decision, pages 2-4 through 2-6 outlining Mitigation Measures, and Table B-2, pages B-10 through B-14 for specific resource values. These are summarized in Appendix D of this EA.

Since the Butte Field Office has no wild horse and burro herds, those provisions are not applicable within this plan.

An Annual Operating Plan would be developed by the Butte Field Office Weed Coordinator each spring with interdisciplinary input. Issues related to including but not limited to off-road travel, timing issues for wildlife, etc. would be addressed at this time if necessary.

The following modifications to address local conditions in the Butte Field Office are proposed:

- Use of weed free forage would be required rather than recommended
- The need for formal inventory of special status plants in relation to weed treatments would be determined based on review of existing inventory information and habitat potential. BLM, county, and contractor personnel participating in weed treatment activities would be provided with training to identify special status plants and locations as necessary to avoid during weed treatment activities.
- Consultation with tribes would be done on a programmatic level rather than on a project-by-project basis. Any identified issues would be brought forward by the cultural specialist during development of the Annual Operating Plan.
- Cultivation of previously disturbed sites to reduce the amount of weed seeds in the soil seedbank would be conducted where appropriate when attempting to establish revegetation. In some instances, this could exacerbate the problem, and the effectiveness of this technique would be reviewed as part of the specific project proposal.
- Herbicides could be applied by trained operators under another applicator's license as long as regulatory requirements are met, and Butte Field Office protocols are followed.
- Notification of adjacent landowners and/or affected parties of treatments would occur as needed, or if issues exist or have occurred in the past.
- All vehicles and equipment would be inspected and cleaned to remove weed seeds during field operations, rather than just OHVs.
- Local emergency personnel would not be notified for each proposed treatment. The Spill Contingency Plan for the Butte Field Office outlines what steps would be taken in the event of a hazardous substance spill. Local officials in Butte-Silver Bow County are provided an inventory on an annual basis of the chemicals stored at the Butte Field Office facility.
- Aerial spraying in areas known to contain healthy antelope bitterbrush or mountain mahogany would be avoided unless application techniques or appropriate chemicals allow for protection of these important browse species.
- Provisions regarding how domestic sheep and goats may be utilized in weed control efforts are adopted as outlined in the Butte RMP.
- Protective measures related to "Pollinators" may be waived if necessary in order to ensure effective treatment, especially of large infestations.

Localized guidance would supercede guidance in the PEIS if such conflicts are noted.

The Proposed Action would allow for aerial treatment by helicopter only, subject to the provisions outlined in Appendix E, also excerpted from the 2007 Record of Decision and amended with local provisions. Aerial application by fixed wing plane has not been analyzed and is not approved for lands within the Butte Field Office.

Buffer distances as outlined in Appendix F would be applied.

Finally, the Proposed Action would establish 15 Weed Management Areas (WMAs) in the Butte Field Office, and adopt the priorities for treatment outlined in the Proposed Butte Resource Management Plan (September 2008). These include:

- Big Belt Mountain WMA
- Big Hole WMA
- Black Sage WMA
- Blackfoot WMA
- Boulder WMA
- Clancy WMA
- Elkhorn Mountains WMA
- Gallatin County WMA
- Holter/Sleeping Giant WMA
- Humbug Spires WMA
- Lewis and Clark Trail WMA
- Marysville WMA
- Park County
- Scratchgravels WMA
- Whitetail Basin WMA

Maps of these Weed Management Areas can be found in Appendix H.

Alternatives Considered but Eliminated from Further Analysis

No other alternatives were considered in this process. The Proposed Action was developed to address issues raised during scoping, and thus additional alternatives were unnecessary to resolve issues. Other alternatives such as “No Use of Herbicides” and “No Aerial Application of Herbicides” have been analyzed and rejected by the Bureau.

Comparison of Alternatives A and B	
Alternative A—No Action	Alternative B—Proposed Action
Use a combination of cultural, physical, chemical, and biological treatments conforming to BLM guidelines and State and Federal law to control weed infestations.	Same as Alternative A.
Treatment of Existing Infestations Focus	Early Detection and Rapid Response Focus
<u>Approved Chemicals</u> Those outlined under Northwest Area Noxious Weed Control Program and 1991 ROD	<u>Approved Chemicals</u> Those outlined under Northwest Area Noxious Weed Control Program, 1991 ROD, and 2007 ROD
Prohibited Chemicals: <ul style="list-style-type: none"> • Amitrole • Dalapon 	Prohibited Chemicals: <ul style="list-style-type: none"> • Amitrole • Dalapon • 2,4-DP • Asulam • Atrazine

	<ul style="list-style-type: none"> • Fosamine • Mefluidide • Simazine
Standard Operating Procedures found in manual guidance would be followed.	Standard Operating Procedures found in BLM manual guidance would be followed, but provisions outlined in the Record of Decision approving Alternative B of the PEIS would also be followed.
The 1987 Weed Mgmt Plan does not project any acres of aerial application. Aerial spray applications would be subject to provisions outlined in the 1991 ROD.	Aerial spray applications would be subject to measures to ensure public health and resource protection.
Prevention and control would focus on: <ul style="list-style-type: none"> • Roads • Trails • Waterways • Recreation Sites • Disturbed Project Areas 	Prevention and control would focus on: <ul style="list-style-type: none"> • Roads* • Trails • Waterways • Recreation Sites • Disturbed Project Areas • Special Designation Areas • Weed Management Areas *Roads to be decommissioned as a result of travel management decisions would not be a high priority for weed control once rehabilitated to a weed free standard.
Cooperative efforts would continue with local governments.	Same as Alternative A.
Treat an estimated 3016 acres each year across the Butte District (which in 1987 included Butte, Dillon and Missoula Field Offices)	Treat 21,000 to 50,000 acres per decade across the Butte Field Office
--no corollary--	Develop Annual Operating Plan
No Weed Management Areas Described	Establishes Weed Management Areas

CHAPTER 3 AFFECTED ENVIRONMENT

Introduction

A description of the general setting of the Butte Field Office and discussion of BLM's Critical Elements are provided in this chapter. However details of the Affected Environment are hereby incorporated by reference from the following two recent documents:

- Final Environmental Impact Statement on Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States (June 2007)
- Proposed Butte Resource Management Plan and Final Environmental Impact Statement (September 2008)

Pages 3-1 through 3-95 of the Final PEIS dated June 2007 contain discussion on the general Affected Environment, including the 8.5% of lands administered by BLM in Montana. For a more detailed discussion of the Affected Environment within the Butte Field Office, refer to pages 219 to 321 of the Butte Proposed RMP/Final EIS (September 2008).

General Setting

The Butte Field Office administers approximately 300,000 acres of surface estate scattered across eight counties in southwest and south central Montana. These lands are spread across the Big Hole, Blackfoot, Gallatin, Jefferson, Shields, Upper Clark Fork, and Upper Missouri subbasin drainages over all or parts of Beaverhead, Broadwater, Deer Lodge, Gallatin, Jefferson, Lewis & Clark, Park, and Silver Bow counties.

Many noxious weeds are found throughout the field office. These weeds pose a threat to the productivity and health of lands within the BFO as well as to adjacent public and private lands because they have the potential to be sources for the spread of noxious weeds to these adjacent land parcels.

A variety of land uses are authorized across these landscapes, including but not limited to mineral development, guided recreation, livestock grazing, and rights-of-ways for access, transmission lines, and communication sites. Public use of BLM lands is varied, with some areas receiving intense use and others seeing little to no activity. Noxious weed infestations can have significant negative ecological impacts on soils, water, habitat, wildlife, and fire cycles as well as impacting local economies with regard to recreation, grazing, forestry, and mining activities.

The problem of weed invasion on public lands has been of notable concern within the Butte Field Office for over twenty years. Bio-control agents began to be used in this area in the early 1980's when hawk moths were released on leafy spurge. Then in 1990, BFO

received their first knapweed biocontrol releases from the USDA-ARS. Aerial herbicide spraying was used as early as 1983, on an extensive area of locoweed. There has also been a continuous, systematic program of herbicide application on road systems in the Field Office since 1986.

The degree of susceptibility of a site to weed invasion in the Butte Field Office is usually a function of low precipitation and site disturbance. Several grassland sites that occupy valley floors, alluvial benches, and foothills at lower elevations are infested with one or more weed species. Fourteen species of weeds listed as noxious by the State of Montana are known to occur on BLM lands in the Butte Field Office. Currently (May 2009), these include:

- Canada Thistle (*Cirsium arvense*)
- Houndstongue (*Cynoglossum officinale*)
- Russian Knapweed (*Acropilon repens*)
- Spotted Knapweed (*Centaurea maculosa*)
- Common Tansy (*Tanacetum vulgare*)
- Dyer’s Woad (*Isatis tinctoria*)
- Leafy Spurge (*Euphorbia esula*)
- Dalmatian Toadflax (*Linaria dalmatica*)
- Yellow Toadflax (*Linaria vulgaris*)
- Diffuse Knapweed (*Centaurea diffusa*)
- Field Bindweed (*Convolvulus arvensis*)
- Hoary Alyssum (*Berteroa incana*)
- Oxeye Daisy (*Leucanthemum vulgare*)
- Whitetop (*Cardaria draba*)

Critical Elements of the Human Environment

Certain resources are protected by specific laws, regulations, or policies (e.g., Executive Orders). BLM refers to these resources as “Critical Elements of the Human Environment” and addresses them in all EAs. Any Critical Elements that are identified below as being present and potentially affected will be analyzed further in this chapter.

Determination*	Resource	Rationale for Determination*
CRITICAL ELEMENTS		
NI	Air Quality	Management and control of weeds does not have potential to impact air quality to a degree needing detailed analysis, though temporary dust and engine exhaust would be expected during ground applications by vehicle.
NI	Areas of Critical Environmental Concern	Weed control activities will occur within designated ACECs located in the Butte Field Office, but outlined design features, especially of the Proposed Action, should serve to prevent impacts to relevant and important values which resulted in ACEC designation.
NI	Cultural Resources	Design features should prevent/avoid impacts to Cultural Resources.

Determination*	Resource	Rationale for Determination*
CRITICAL ELEMENTS		
NI	Environmental Justice	No alternative considered in the course of this analysis resulted in any identifiable effects or issues specific to any minority or low income population or community as defined in Executive Order 12898. The agency has considered all input from persons or groups regardless of age, race, income status, or other social and economic characteristics.
NI	Farmlands (Prime or Unique)	The Butte Field Office contains a limited amount of Prime or Unique Farmland. Design features outlined to protect resource values should serve to avoid or eliminate impacts to prime or unique farmlands.
NI	Floodplains	Impacts to floodplains should be minimized given the design features contained in the Proposed Action.
PI	Invasive, Non-native Species	See impacts in Chapter 4.
NI	Native American Religious Concerns	Ongoing tribal consultation has supported vegetation community restoration regardless of the type of treatment. Implementation of a weed management plan should not result in impacts to native plant communities important for tribal religious/spiritual use given the Standard Operating Procedures and Protective Measures being applied.
NI	Threatened, Endangered or Candidate Plant Species	The project area does not contain any known occurrences of Ute ladies' tresses, the only threatened plant with potential to occur in the Butte Field Office.. Procedures to review habitat potential and conduct inventory if warranted are included in Proposed Action. Impacts to any other special status plants are minimized through application of Standard Operating Procedures and Protective Measures. See Appendix G for the list of current special status species plants occurring in the Butte Field Office.
NI	Threatened, Endangered or Candidate Animal Species	The only designated critical habitat for threatened or endangered species contained in the project area (BLM Butte Field Office lands) is approximately 80 acres of lynx critical habitat in Park County. This 80 acres is of marginal value for lynx; this species would not be affected by the proposed action. Consultation occurred on a programmatic basis with FWS/NMFS and conservation measures outlined in that Biological Assessment will be applied in order to avoid impacts to listed or candidate species.
NI	Wastes (hazardous or solid)	Application of herbicides/pesticides in accordance with label instructions, as well as application of design features would prevent impacts from use of hazardous or solid wastes.
NI	Water Quality (drinking/ground)	Application of herbicides/pesticides in accordance with label instructions, as well as application of design features would prevent significant impacts to water quality.
NI	Wetlands/Riparian Zones	Application of herbicides/pesticides in accordance with label instructions, as well as application of design features would prevent significant impacts to wetland and/or riparian zones.
NP	Wild and Scenic Rivers	There are no designated Wild and Scenic Rivers in the Butte Field Office.
NP	Wilderness	There are no designated Wilderness areas in the Butte Field Office.
<p>* NP = not present in the area impacted by the proposed or alternative actions NI = present, but not affected to a degree that detailed analysis is required PI = present with potential for impact.</p>		

CHAPTER 4 ENVIRONMENTAL IMPACTS

Introduction

This chapter discloses impacts that would occur dependent on which alternative were implemented. General discussion on the anticipated impacts is summarized below. However, implementation of the Proposed Action is expected to have no significant effects beyond those already analyzed in the PEIS. These impacts are summarized on pages ES-4 through ES-6 of the PEIS and pages 4-1 through 4-253 of Chapter 4 of the PEIS. The Butte Proposed Resource Management Plan and Final Environmental Impact Statement also provides analysis on implementing a weed management program in the Butte Field Office. This analysis is found on pages 334-515 and is hereby incorporated by reference. Specific discussion on weeds is presented for the Preferred Alternative of the RMP on pages 353-355, 360-361, and 365-366.

None of the Critical Elements of the Human Environment identified in Chapter 3—Affected Environment are expected to be affected in a significant manner as long as standard operating procedures and design features/protective measures to protect resources are implemented.

Impacts of the No Action Alternative—Alternative A

Selection of this alternative would continue implementation of integrated weed management in the Butte Field Office as currently allowed under the 1987 plan.

In the long-term, soil stability, water quality, wildlife and livestock forage availability, and range, riparian, forest, and woodland health would be expected to improve, though some short-term impacts could result given the more general operating procedures and design features. The potential for impacts to public land resources or values such as wildlife habitat, riparian values, and plant diversity is greater under Alternative A since some of the more protective provisions are not outlined.

Impacts of the Proposed Action—Alternative B

Selection of this alternative would adopt the provisions of the 2007 PEIS as well as the authorized and prohibited chemicals. In the long-term, soil stability, water quality, wildlife and livestock forage availability, and range, riparian, forest, and woodland health would be expected to improve. Implementation of some weed control efforts would require additional effort on the part of staff specialists to ensure appropriate protective measures are followed. Because of the design features outlined as part of the Proposed Action, Alternative B would result in negligible if any environmental consequences. No unacceptable impacts are expected under this proposal when chemicals are applied following label guidelines.

Additional guidance on how aerial applications would be conducted provides clear direction and would minimize the risks to resources and the public health while allowing for cost-efficient treatment under appropriate conditions and circumstances.

The Butte Field Office's commitment to Broadwater, Deer Lodge, Gallatin, Jefferson, Lewis & Clark, Madison, Park, and Silver Bow Counties, other state and federal agencies, and private land managers toward a cooperative and effective effort to fight invasive weeds would be continued.

Cumulative Impacts Analysis

Cumulative impacts are those resulting from the incremental impact of an action when added to other past, present, or reasonably foreseeable actions regardless of what agency or person undertakes such other actions. The analysis area is considered to be those lands within the eight counties where the Butte Field Office administers land.

It is anticipated that a variety of land use activities will continue to be authorized on BLM lands in the Butte Field Office. Agency generated projects, in particular for habitat restoration, fuels reduction, and forest health will continue, and may increase. On other ownerships, it is expected that development of areas along the wildland-urban interface will continue across the eight counties that contain lands administered by the Butte Field Office. Weed control efforts will continue as allowed by available resources and budgets, supplemented with partnerships where they can be built.

As a result of this reasonably foreseeable scenario as well as in consideration of past and present actions on all ownerships, it is projected that in spite of the efforts to implement a weed management plan in the Butte Field Office, noxious weed infestations and non-native invasive infestations would likely increase. This would occur regardless of which alternative is selected, especially given to the limited amount of land (an estimated 4%) that the Butte Field Office administers across the eight-county area.

Mitigation Measures

No additional mitigation measures beyond the design features of the Proposed Action are identified to avoid or minimize impacts resulting from implementation of a weed management program in the Butte Field Office.

Monitoring and/or Compliance

The Butte Field Office Weed Management Plan should be reviewed approximately every five years to determine if adjustments or updates are necessary.

Effectiveness of weed treatments conducted under the plan will be measured by the number of acres of reduced infestation, or in some instances, by the density of infestation. Monitoring will usually be conducted concurrently with the inventory and treatment activities. Implementation monitoring will also occur to identify if treatments proposed were actually implemented either through BLM or cooperator efforts.

Application of the design features such as Preventative Measures, Standard Operating Procedures, Protective Measures and Aerial Application Measures should be reviewed as part of the development of the Annual Operating Plan by the Butte Field Office Weed Coordinator and in coordination with resource specialists.

CHAPTER 5 CONSULTATION AND COORDINATION

Initial scoping to revise the Butte Weed Management Plan was initiated in March of 2008. A separate scoping notice was mailed to selected agencies, weed coordinators, and other groups showing previous interest in weed control on public lands. In addition, press releases were distributed to a number of news organizations throughout the communities surrounding the Butte Field Office in order to reach all potentially interested publics. The proposal to update the Butte Weed Management Plan was placed on the Butte Field Office NEPA Register, accessible via internet, in March 2009.

As a result of these efforts, comment letters were received from Jefferson County, Montana Fish, Wildlife and Parks (Butte District), and the Forest Service Wise River/Wisdom Ranger District. The citizen based Elkhorn Working Group also provided suggestions regarding weed management to the interagency group (Forest Service, BLM and Montana Fish, Wildlife and Parks) managing the Elkhorns Cooperative Management Area. These suggestions were also considered during development of this EA and associated revised weed management plan. Given the limited response during scoping, a formal review of the environmental assessment prior to a decision does not appear to be warranted.

Consultation with the Fish and Wildlife Service was completed as part of the Programmatic EIS process conducted for the Bureauwide proposal adopted under this EA process. Additional consultation at the local level has not been conducted. If it is determined through the Annual Operating Plan coordination that weed treatments will affect a listed or candidate species under the ESA, then consultation will be initiated at that time.

The Blackfeet, Kootenai-Salish, Shoshone-Bannock, and Rocky Boy (Chippewee-Cree) are the main tribal groups engaged in consultation efforts with the Butte Field Office. Native American and tribal consultation has occurred over time in relation to BLM proposals and projects, including implementation of vegetation treatments including weed control. Consultation will continue to discuss any special areas they may want considered either for avoidance or for treatment as Annual Operating Plans are developed each season.

List of Preparers

BLM Butte Field Office staff listed in the table below assisted in preparation of this Environmental Assessment:

Name (and agency, if other than BLM)	Title	Responsibilities
Lacy Decker	Range Tech (IWM)	Weed Plan Lead/Butte Field Office Weed Coord.
Scot Franklin	Wildlife Biologist	Wildlife/T & E Species/Fish
Sara LaMarr	Wildlife Biologist	Wildlife/T & E Species/Fish
Tanya Thrift	Range Management Specialist	Sensitive Plants/Riparian/Range
Mark Goertel	Range Management Specialist	Range
John Sandford	Natural Resource Specialist	Range

Pat Zurcher	Recreation Specialist	Recreation/Travel Management
Brad Rixford	Recreation Specialist	Recreation/Visual Resource Management
Charles Tuss	Fuels Specialist	Fire and Fuels
Corey Meir	Soil Scientist	Soil/Water/Air
Mike Small	Forester	Forestry
Mary Lou Zimmerman	Forester	Forestry
Carrie Kiely	Archeologist	Cultural Resources
Vickie Anderson	Range Technician	Range
Joan Gableman	Geologist	AML/Geology/Minerals
David Williams	Geologist	Geology/Minerals

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Appendix A

STANDARD OPERATING PROCEDURES from 1991 EIS

Safety

The safety of the general public, and employees and contractors of BLM will be a primary consideration when proposing land treatments. Proper protective clothing will be worn by employees as prescribed in manuals.

Reseeding

All seed purchased for reseeding will be tested for purity and noxious weeds. Any seed containing noxious weed seed will be rejected.

Seed mixtures will be determined after consideration is given to the multiple use objectives and biological diversity, soils and ecology of the individual site.

Prescribed Fire

A prescription for each specific site shall be developed to best meet objectives of the vegetation and to enhance or maintain the desired biological diversity.

Biological Control

The BLM Manual 9014 – Biological Pest control guidelines will be adhered to. Any introductions of biological control agents will be in compliance with USDA – Animal and Plant Health Inspection Services and the individual State Department of Agriculture’s guidelines.

Pre-Treatment Surveys

During site specific analysis and preliminary planning of weed management and vegetation treatment, a field survey will be completed prior to proposed treatment. This survey will identify target plant species as well as associated plant species, land uses of the area, soil physical and chemical characteristics, water, climatic conditions, proximity to sensitive resources such as threatened and endangered species of plants and animals, riparian habitat, areas of human use, wildlife use and migration, livestock grazing, presence of cultural resources, and any human health hazards which may exist. The project area will be mapped and flagged if appropriate.

Cost Benefit Analysis

Land treatments proposed for livestock forage improvement will be subject to a cost benefit analysis to ensure total benefits gained will equal or exceed the cost of the treatments. The economic analysis will identify the most economical treatment practice. Control of noxious weeds required by law will not be subject to a benefit-cost analysis; however, the most economical and efficient method will be analyzed along with the safety of the proposed kind of treatment.

Environmental Assessment

An environmental analysis will be conducted at the time of the pretreatment survey. An interdisciplinary team will review any analysis needed on individual projects or group of projects.

Archaeological – Historic Resources

Projects that may affect areas of historic, cultural, or archaeological values will be subject to standard cultural surveys and site clearances. Projects will be modified or altered to protect significant resources if found.

Recreation Sites or Use Areas

Sites proposed for vegetation treatment with herbicides will be treated prior to or after maximum recreation use occurs. Treatment sites with potential for public use will be posted to notify the public of any hazard that may exist.

Threatened or Endangered Species

Projects that may affect areas of threatened or endangered species of plants or animals will be postponed or site design modified to protect the presence of these species. Section 7 Consultation (as required by the Endangered Species Act) with the appropriate office of the US Fish and Wildlife Service will be initiated.

Wildlife

If herbicides are proposed, those with minimum toxicity to fish and wildlife will be used. Protective buffer zones will be provided along streams, rivers, and lakes and important riparian and xeroriparian areas along dry water courses. Treatment periods will avoid bird nesting season and other critical seasons when loss of cover or disturbance by equipment would be detrimental to wildlife.

Special Management Areas

Areas of critical environmental concern (ACEC) and other special areas will be managed in accordance with land use and activity plans specific to that area.

PROJECT DESIGN FEATURES from 1991 EIS

Minimum Width Buffer Strips

If herbicides are proposed for use, buffer strips will be provided adjacent to dwellings, domestic water sources, agriculture land, streams, lakes and ponds. A minimum buffer strip 100 feet wide will be provided for aerial application, 25 feet for vehicle application, and 10 feet for hand application. Any deviations must be in accordance with the label for the herbicide. Herbicides will be wiped on individual plants within 10 feet of water where application is critical.

When prescribed fire is used, unburned buffers will be left along streams where practical.

Herbicide Application Contract Requirements

Application contracts will contain stipulations to reduce the possibility for herbicide drift and spills. All personnel involved in pesticide application must be trained and licensed. Protective clothing and equipment, as specified on EPA-approved labels and in the BLM

H-9011-1 Handbook, will be worn by workers directly involved with herbicide applications and by employees using hazardous tools/equipment.

Soil Protection

Mechanical treatment such as chaining, plowing, roller chopping, bulldozing, and blading shall be conducted so far as practical on the contour to reduce the chance of soil erosion. Tractor operations will be limited to period of low soil moisture to reduce the chance of soil compaction. The depth of the desired soil disturbance will be site specific. This depth will ensure that any limiting soil physical and chemical properties are mitigated.

Monitoring and Evaluation

Manual and mechanical treatments will be monitored at regular intervals to determine the quality and quantity of completed work. Prescribed burns and chemical treatments will be monitored in progress for compliance with proper application technique, burn prescriptions, smoke management procedures, and safety procedures as described in the FEIS. Effectiveness of mitigating measures identified in project-specific environmental documents would be monitored through periodic inspections. Air and water quality would be monitored where appropriate.

Posttreatment surveys and evaluations will be conducted to evaluate the effectiveness of the treatment practices used. Information gained will be used to improve future project design.

Appendix B

Prevention Measures

These measures are adopted from those outlined in the September 2007 Record of Decision on the Programmatic EIS *Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States*. They focus on prevention during: Project Planning, Project Implementation, and Revegetation activities.

Project Planning

- Determine prevention and maintenance needs, including the use of herbicides, at the onset of project planning.
- Incorporate prevention measures into project layout and design, alternative evaluation, and project decisions to prevent the introduction or spread of weeds.
- Before ground-disturbing activities begin, inventory weed infestations and prioritize areas for treatment in project operating areas and along access routes.
- Remove sources of weed seed and propagules to prevent the spread of existing weeds and new weed infestations.
- Pre-treat sites at high-risk for weed establishment and spread before implementing projects.
- Post weed awareness messages and prevention practices at strategic locations such as trailheads, roads, boat launches, and public land kiosks.
- Coordinate project activities with nearby herbicide applications to maximize the cost-effectiveness of weed treatments.
- Encourage backcountry pack and saddle stock users to feed their livestock only weed-free feed for several days before entering a wilderness area.
- Encourage stock users to tie and/or hold stock in such a way as to minimize soil disturbance and loss of native vegetation.
- Provide educational materials at trailheads and other wilderness entry points to educate the public on the need to prevent the spread of weeds.

Project Implementation

- Minimize soil disturbance to the extent practical, consistent with project objectives.
- Avoid creating soil conditions that promote weed germination and establishment.
- To prevent weed germination and establishment, retain native vegetation in and around project activity areas and keep soil disturbance to a minimum, consistent with project objectives.
- Locate and use weed-free project staging areas.
- Avoid or minimize all types of travel through weed-infested areas, or restrict travel to periods when the spread of seeds or propagules is least likely.
- Prevent the introduction and spread of weeds caused by moving weed-infested sand, gravel, borrow, and fill material.
- Inspect material sources on site, and ensure that they are weed-free before use and transport.
- Treat weed-infested sources to eradicate weed seed and plant parts, and strip and stockpile contaminated material before any use of pit material.

- Survey the area where material from treated weed-infested sources is used for at least 3 years after project completion to ensure that any weeds transported to the site are promptly detected and controlled.
- Inspect and document weed establishment at access roads, cleaning sites, and all disturbed areas; control infestations to prevent weed spread within the project area.
- Avoid acquiring water for dust abatement where access to the water is through weed-infested sites.
- Identify sites where equipment can be cleaned. Clean equipment before entering public lands.
- Clean all equipment before leaving the project site if operating in areas infested with weeds.
- Inspect and treat weeds that establish at equipment cleaning sites.
- Ensure that rental equipment is free of weed seed.
- Inspect, remove, and properly dispose of weed seed and plant parts found on workers' clothing and equipment. Proper disposal entails bagging the seeds and plant parts and incinerating them or ensuring they are properly disposed.
- Include weed prevention measures, including project inspection and documentation, in operation and reclamation plans.
- Retain bonds until reclamation requirements, including weed treatments, are completed, based on inspection and documentation.
- To prevent conditions favoring weed establishment, reestablish vegetation on bare ground caused by project disturbance as soon as possible using either natural recovery or artificial techniques.
- Where practical, stockpile weed-seed-free topsoil and replace it on disturbed areas (e.g., road embankments or landings). Maintain stockpiled, uninfested material in a weed-free condition.
- Inspect seed and straw mulch to be used for site rehabilitation (for wattles, straw bales, dams, etc.) and certify that they are free of weed seed and propagules.
- Inspect and document all limited term ground-disturbing operations in noxious weed infested areas for at least 3 growing seasons following completion of the project.
- Use native material where appropriate and feasible. Use certified weed-free or weed-seed-free hay or straw where certified materials are required and/or are reasonably available.
- Provide briefings that identify operational practices to reduce weed spread (for example, avoiding known weed infestation areas when locating fire lines).
- Evaluate options, including closure, to regulate the flow of traffic on sites where desired vegetation needs to be established. Sites could include road and trail rights-of-way (ROW), and other areas of disturbed soils.

Revegetation

When natural recovery is not feasible, revegetation projects can be used to stabilize and restore vegetation on disturbed sites and to eliminate or reduce the conditions that favor invasive species. Reseeding or replanting may be required when there is insufficient vegetation or seed stores to naturally revegetate the site.

To ensure revegetation success, there must be adequate soil for root development and moisture storage, which provides moisture to support the new plants. Chances for revegetation success are improved by selecting seed with high purity and percentage germination; selecting native species or cultivars adapted to the area; planting at proper depth, seeding rate, and time of the year for the region; choosing the appropriate planting method; and, where feasible, removing competing vegetation.

Planting mixtures are adapted for the treatment area and site uses. A combination of forbs, perennial grasses, and shrubs is typically used on rangeland sites, while shrubs and trees might be favored for riparian and forestland sites. A mixture of several native plant species and types or functional groups enhances the value of the site for fish and wildlife and improves the health and aesthetic character of the site. Mixtures can better take advantage of variable soil, terrain, and climatic conditions, and thus are more likely to withstand insect infestations and survive adverse climatic conditions.

The following measures will be applied when revegetation is determined to be necessary:

- Revegetate disturbed soil (except travel ways on surfaced projects) in a manner that optimizes plant establishment for each specific project site. For each project, define what constitutes disturbed soil and objectives for plant cover revegetation. Revegetation may include topsoil replacement, planting, seeding, fertilization, liming, and weed-free mulching, as necessary.
- Use native species for revegetation, unless it is determined through the NEPA process that: 1) suitable native species are not available; 2) the natural biological diversity of the proposed management area will not be diminished; 3) exotic and naturalized species can be confined within the proposed management area; 4) analysis of ecological site inventory information indicates that a site will not support reestablishment of a species that historically was part of the natural environment; or 5) resource management objectives cannot be met with native species.
- Cultivate previously disturbed sites to reduce the amount of weed seeds in the soil seedbank when appropriate and activity will serve to reduce infestations.
- Revegetate sites once work is completed or soon after a disturbance.
- When available, use native seed of known origin as labeled by state seed certification programs.
- Use seed of non-native cultivars and species only when locally adapted native seed is not available or when it is unlikely to establish quickly enough to prevent soil erosion or weed establishment.
- Use seed that is free of noxious and invasive weeds, as determined and documented by a seed inspection test by a certified seed laboratory.
- Limit nitrogen fertilizer applications that favor annual grass growth over forb growth in newly seeded areas, especially where downy brome (cheatgrass) and other invasive annuals are establishing.
- Use clean equipment, free of plants and plant parts, on revegetation projects to prevent the inadvertent introduction of weeds into the site.
- Where important pollinator resources exist, include native nectar and pollen producing plants in the seed mixes used in restoration and reclamation projects. Include non-forage plant species in seed mixes for their pollinator/host relationships as foraging, nesting, or shelter species. Choose native plant species

over manipulated cultivars, especially of forbs and shrubs, since natives tend to have more valuable pollen and nectar resources than cultivars. Ensure that bloom times for the flowers of the species chosen match the activity times for the pollinators. Maintain sufficient litter on the soil surfaces of native plant communities for ground-nesting bees.

- Where feasible, avoid grazing by domestic and wild animals on treatment sites until vegetation is well established. Where total rest from grazing is not feasible, efforts should be made to modify the amount and/or season of grazing to promote vegetation recovery within the treatment area. Reductions in grazing animal numbers, permanent or temporary fencing, changes in grazing rotation, and identification of alternative forage sources are examples of methods that could be used to remove, reduce or modify grazing impacts during vegetation recovery.
- Revegetate disturbed sites with native species if there is no reasonable expectation of natural regeneration.

Appendix C

Standard Operating Procedures

Prevent or minimize the need for vegetation control when and where feasible, considering the management objectives of the site.

Use effective nonchemical methods of vegetation control when and where feasible. Use herbicides after considering the effectiveness of all potential methods or in combination with other methods or controls.

Develop plans to thoroughly evaluate the need for chemical treatments and their potential for impact on the environment.

Reseed or plant disturbed areas with desirable vegetation when the native plant community cannot recover and occupy the site sufficiently.

Prepare operational and spill contingency plan in advance of treatment. Contain and clean up spills and request help as needed.

Conduct a pretreatment survey before applying herbicides.

Select herbicide that is least damaging to the environment while providing the desired results.

Select herbicide products carefully to minimize additional impacts from degradates, adjuvants, inert ingredients, and tank mixtures.

Apply the least amount of herbicide needed to achieve the desired result.

Follow herbicide product label for use and storage. Use protective equipment as directly by the label.

Use protective equipment

Secure containers during transport.

Dispose of unwanted herbicides promptly and correctly.

Application of herbicides will be done in accordance with the licensing and certification process outlined in the Butte Weed Management Plan. Application will be done by licensed applicators, or by those appropriately training and acting under another's license in accordance with regulatory requirements.

Use only USEPA-approved herbicides and follow product label directions and "advisory" statements.

Review, understand, and conform to the “Environmental Hazards” section on the herbicide product label. This section warns of known pesticide risks to the environment and provides practical ways to avoid harm to organisms or to the environment.

Minimize the size of application area, when feasible.

Comply with herbicide-free buffer zones to ensure that drift will not affect crops or nearby residents/landowners.

Post treated areas and specify reentry or rest times, if appropriate.

Notify adjacent landowners prior to treatment when possible or if issues exist.

Keep a copy of Material Safety Data Sheets (MSDSs) at work sites. MSDSs are available for review at <http://www.cdms.net/>.

Keep records of each application, including the active ingredient, formulation, application rate, date, time, and location.

Avoid accidental direct spray and spill conditions to minimize risks to resources.

Conduct pre-treatment surveys for sensitive habitat and special status species within or adjacent to proposed treatment areas when determined necessary based on prior inventory information and habitat potential.

Consider site characteristics, environmental conditions, and application equipment in order to minimize damage to non-target vegetation. Use drift control agents and low volatile formulations.

Use drift reduction agents, as appropriate, to reduce the drift hazard to non-target species.

Turn off applied treatments at the completion of spray runs and during turns to start another spray run.

Clean vehicles, OHVs and other equipment to remove seeds.

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.

Notification of local emergency personnel will be conducted through a spill contingency plan.

Post treated areas with appropriate signs at common public access areas.

Observe restricted entry intervals specified by the herbicide product label.

Provide public notification in newspapers or other media where the potential exists for public exposure.

Refer to the herbicide product label when planning revegetation to ensure that subsequent vegetation would not be injured following application of the herbicide.

Appendix D

Protective Measures Identified for Public Land Resources/Values

While the measures below are grouped by category, many serve to address concerns of multiple resource programs or values. This list includes measures adjusted or added as a result of local concerns identified during development of the Butte Weed Management Plan, or as included in the Butte Resource Management Plan.

Special Status Species, Including Threatened and Endangered
Consider effects to special status species when designing herbicide treatment programs. Conduct pre-treatment surveys for sensitive habitat and special status species within or adjacent to proposed treatment areas when determined necessary based on prior inventory information and habitat potential.
To protect special status wildlife species, implement all conservation measures for terrestrial animals presented in the Vegetation Treatments on Bureau of Land Management Lands in 17 Western States Programmatic Biological Assessment as applicable to the Butte Field Office.
Survey the project site for species listed or proposed for listing, or special status species. If a proposed project may affect a proposed or listed species or its critical habitat, the BLM will consult with the U.S. Fish and Wildlife Service (USFWS) and/or National Marine Fisheries Service (NMFS).
Use a selective herbicide and a wick or backpack sprayer to minimize risks to special status plants.
Avoid treating vegetation during time-sensitive periods (e.g., nesting and migration, sensitive life stages) for special status species in area to be treated.
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 as applicable to the Butte Field Office.
Wetlands/Riparian Areas/Fish/Aquatics
Use a selective herbicide and a wick or backpack sprayer.
Use appropriate herbicide-free buffer zones for herbicides not labeled for aquatic use based on risk assessment guidance, with minimum widths of 100 feet for aerial, 25 feet for vehicle, and 10 feet for hand spray applications.
Minimize the use of terrestrial herbicides (especially bromacil, diuron, and sulfometuron methyl) in watersheds with downgradient ponds and streams if potential impacts to aquatic plants are identified.
Limit the use of diquat in water bodies that have native fish and aquatic resources.
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 lifestages most sensitive to the herbicide(s) used.
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.
Establish appropriate herbicide-specific buffer zones for water bodies, habitats, or fish or

other aquatic species of interest (see Final PEIS Appendix C, Table C-16, and recommendations in individual ERAs).
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 (see Appendix C, Table C-16, of the Final PEIS, and recommendations in the individual ERAs).
Avoid using the adjuvant R-11® in aquatic environments, and either avoid using glyphosate formulations containing polyoxyethyleneamine (POEA), or seek to use formulations with the least amount of POEA, to reduce risks to amphibians and other aquatic organisms.
At the local level, consider effects to special status fish and other aquatic organisms when designing treatment programs.
Use appropriate buffer zones based on label and risk assessment guidance.
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.
Use appropriate application equipment/method near water bodies if the potential for off-site drift exists.
For treatment of aquatic vegetation, 1) treat only that portion of the aquatic system necessary to achieve acceptable vegetation management, 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.
Establish appropriate (herbicide-specific) buffer zones (see Tables 4-12 and 4-14 in Chapter 4 of the Final PEIS) 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.
Pollinators*
*Protective Measures for pollinators may be waived if necessary in order to ensure effective treatment, especially of large infestations.
Complete vegetation treatments seasonally before pollinator foraging plants bloom.
Time vegetation treatments to take place when foraging pollinators are least active both seasonally and daily.
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.
Minimize herbicide application rates. Use typical rather than maximum rates where there are important pollinator resources.
Maintain herbicide free buffer zones around patches of important pollinator nectar and pollen sources.
Maintain herbicide free buffer zones around patches of important pollinator nesting habitat and hibernacula.
Make special note of pollinators that have single host plant species, and minimize herbicide spraying on those plants (if invasive species) and in their habitats.
Rangeland Vegetation
Refer to the herbicide label when planning revegetation to ensure that subsequent vegetation would not be injured following application of the herbicide.

Use native or sterile species for revegetation and restoration projects to compete with invasive species until desired vegetation establishes.
Use weed-free feed for horses and pack animals. Use weed-free straw and mulch for revegetation and other activities.
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.
Where feasible, limit glyphosate and hexazinone to spot applications in rangeland.
Do not apply bromacil or diuron in rangelands, and use appropriate buffer zones (see Tables 4-12 and 4-14 in Chapter 4 of the Final PEIS) to limit contamination of off-site rangeland vegetation.
Terrestrial Wildlife
Use herbicides of low toxicity to wildlife, where feasible.
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.
Use timing restrictions (e.g., do not treat during critical wildlife breeding or staging periods) to minimize impacts to wildlife.
To minimize risks to terrestrial wildlife, do not exceed the typical application rate for applications of dicamba, diuron, glyphosate, hexazinone, tebuthiuron, or triclopyr, where feasible.
Minimize the size of application areas, where practical, when applying 2,4-D, bromacil, diuron, and Overdrive® to limit impacts to wildlife, particularly through contamination of food items.
Where practical, limit glyphosate and hexazinone to spot applications in rangeland and wildlife habitat areas to avoid contamination of wildlife food items.
Avoid using the adjuvant R-11® in aquatic environments, and either avoid using glyphosate formulations containing POEA, or seek to use formulations with the least amount of POEA, to reduce risks to amphibians.
Do not apply bromacil or diuron in rangelands, and use appropriate buffer zones (see Tables 4-12 and 4-14 in Chapter 4 of the Final PEIS) to limit contamination of off-site vegetation, which may serve as forage for wildlife.
Allow for use of domestic goats and/or sheep for weed control on winter ranges used by wild bighorn sheep when wild sheep are absent.
Allow for the use of domestic goats and/or sheep for weed control near occupied wild bighorn sheep habitat if the following conditions can be met to minimize the risk for contact: <ul style="list-style-type: none"> • Maintain a buffer of 2 miles between domestic sheep/goats and wild sheep • Maintain a minimum distance of 4 miles between known locations of wild sheep and domestic sheep bedding grounds. • Domestic sheep/goat grazing would only occur for 1 month between May 1 and July 31, unless coordinated with Montana Fish, Wildlife and Parks • A herder would be onsite at all times and be able to communicate with the herd owner, BLM and Montana Fish, Wildlife and Park.

<ul style="list-style-type: none"> • BLM and Montana Fish, Wildlife and Parks would be contacted immediately if domestic sheep and goats come into contact with wild sheep.
Livestock
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.
As directed by the herbicide product label, remove livestock from treatment sites prior to herbicide application, where applicable.
Use herbicides of low toxicity to livestock, where feasible.
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.
Avoid use of diquat in riparian pasture while pasture is being used by livestock.
Notify permittees of the herbicide treatment project to improve coordination and avoid potential conflicts and safety concerns during implementation of the treatment.
Notify permittees of livestock grazing, feeding, or slaughter restrictions, if necessary.
Provide alternative forage sites for livestock if possible, when necessary.
Minimize potential risks to livestock by applying diuron, glyphosate, hexazinone, tebuthiuron, and triclopyr at the typical application rate, where feasible.
Do not apply 2,4-D, bromacil, dicamba, diuron, Overdrive®, picloram, or triclopyr across large application areas, where feasible, to limit impacts to livestock, particularly through the contamination of food items.
Cultural Resources and Native American Values
Meet responsibilities for consultation and government-to-government relationships with Native American tribes by consulting with appropriate tribal representatives prior to taking actions that affect tribal interests. Consider requests for treatment or avoidance during development of Annual Operating Plan.
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.
Follow BLM Handbook H-8270-1 (General Procedural Guidance for Paleontological and 8270 (Paleontological Resource Management) to determine known Condition 1 and Condition 2 Paleontological areas, Resource Management) 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.
Consult with Native American tribes to locate any areas of vegetation that are of significance to the tribes or native groups that might be affected by herbicide treatments. Work with tribes to minimize impacts to these resources.
Follow guidance under Human Health and Safety in the PEIS in areas that may be visited by native peoples after treatments.
Do not exceed the typical application rate when applying 2,4-D, bromacil, diquat, diuron, fluridone, hexazinone, tebuthiuron, and triclopyr in known traditional use areas.

Limit diquat applications to areas away from high residential and traditional use areas to reduce risks to Native Americans and Alaska Natives.
Other Herbicide Application Limitations
Use the typical application rate, where feasible, when applying 2,4-D, bromacil, diquat, diuron, fluridone, hexazinone, tebuthiuron, and triclopyr to reduce risk to occupational and public receptors.
Limit application of chlorsulfuron via ground broadcast applications at the maximum application rate.
Limit diquat application to ATV, truck spraying, and boat applications to reduce risks to occupational receptors; limit diquat applications to areas away from high residential and subsistence use to reduce risks to public receptors.
Evaluate diuron applications on a site-by-site basis to avoid risks to humans. There appear to be few scenarios where diuron can be applied without risk to occupational receptors.
Do not apply hexazinone with an over-the-shoulder broadcast applicator.
Air Quality
Consider the effects of wind, humidity, temperature inversions, and heavy rainfall on herbicide effectiveness and risks.
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.
Use drift reduction agents, as appropriate, to reduce the drift hazard.
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]).
Select proper application methods (e.g., set maximum spray heights, use appropriate buffer distances between spray sites and non-target resources).
Soils
Minimize treatments in areas where herbicide runoff is likely, such as steep slopes when heavy rainfall is expected.
Minimize use of herbicides that have high soil mobility, particularly in areas where soil properties increase the potential for mobility.
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.
Water
Consider climate, soil type, slope, and vegetation type when developing herbicide treatment programs.
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.
Use local historical weather data to choose the month of treatment. Considering the phenology of the target species, schedule treatments based on the condition of the water body and existing water quality conditions.
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.
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.
Conduct mixing and loading operations in an area where an accidental spill would not contaminate an aquatic body.
Do not rinse spray tanks in or near water bodies. Do not broadcast pellets where there is danger of contaminating water supplies.
Maintain buffers between treatment areas and water bodies. Buffer widths should be developed based on herbicide- and site-specific criteria to minimize impacts to water bodies.
Minimize the potential effects to surface water quality and quantity by stabilizing terrestrial areas as quickly as possible following treatment.
Establish appropriate (herbicide-specific) buffer zones to downstream water bodies, habitats, and species/populations of interest (see Appendix C of PEIS, Table C-16).
Areas with potential for groundwater for domestic or municipal water use shall be evaluated through the appropriate, validated USEPA 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-chemical methods.
Visual Resources
Minimize the use of broadcast foliar applications in sensitive watersheds to avoid creating large areas of browned vegetation.
Consider the surrounding land use before assigning aerial spraying as an application method.
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.
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).
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.
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.
Wilderness and Special Areas
Encourage backcountry pack and saddle stock users to feed their livestock only weed-free feed for several days before entering a wilderness area.
Encourage stock users to tie and/or hold stock in such a way as to minimize soil disturbance and loss of native vegetation.
Revegetate disturbed sites with native species if there is no reasonable expectation of natural regeneration.
Provide educational materials at trailheads and other wilderness entry points to educate the public on the need to prevent the spread of weeds.

Use the “minimum tool” to treat noxious and invasive vegetation, relying primarily on the use of ground-based tools, including backpack pumps, hand sprayers, and pumps mounted on pack and saddle stock.
Avoid using tools and equipment for vegetation management in wilderness areas unless they are necessary for the protection of the wilderness resource.
Use chemicals only when they are the minimum method necessary to control weeds that are spreading within the wilderness or threaten lands outside the wilderness.
Give preference to herbicides that have the least impact on non-target species and the wilderness environment.
Implement herbicide treatments during periods of low human use, where feasible.
Address wilderness and special areas in management plans.
Maintain adequate buffers for Wild and Scenic Rivers (¼ mile on either side of river, ½ mile in Alaska).
Recreation
Schedule treatments to avoid peak recreational use times, while taking into account the optimum management period for the targeted species.
Post signs noting exclusion areas and the duration of exclusion, if necessary.
Use herbicides during periods of low human use, where feasible.
Notify the public of treatment methods, hazards, times, and nearby alternative recreation areas.
Adhere to entry restrictions identified on the herbicide product label for public and worker access.
Social and Economic Values
Post treated areas and specify reentry or rest times, if appropriate.
Notify potentially affected parties of treatment activities that occur on public lands, as needed, or if issues exist.
Ensure that the public is allowed input into vegetation management actions on public lands under the NEPA process.
Post treated areas and specify reentry or rest times, if appropriate.
Notify grazing permittees of livestock feeding restrictions in treated areas, if necessary, as per herbicide product label instructions.
Notify the public of the project to improve coordination and avoid potential conflicts and safety concerns during implementation of the treatment.
Control public access until potential treatment hazards no longer exist, per herbicide product label instructions.
Observe restricted entry intervals specified by the herbicide product label.
Use spot applications or low-boom broadcast applications where possible to limit the probability of contaminating non-target food and water sources, especially vegetation over areas larger than the treatment area.
To the degree possible within the law, hire local contractors and workers to assist with herbicide application projects and purchase materials and supplies, including chemicals, for herbicide treatment projects through local suppliers.
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 pest management program for projects proposing local use of herbicides.
Rights-of-Way

Coordinate vegetation management activities where joint or multiple use of a ROW exists.
Notify other public land users within or adjacent to the ROW proposed for treatment.
Use only herbicides that are approved for use in ROW areas.
Outreach
Outreach/education on noxious weeds would be provided to the public at campgrounds and trailheads.

Appendix E

Aerial Application Measures

Consider surrounding land use before assigning aerial spraying as a treatment method and avoid aerial spraying near agricultural or densely populated areas.

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, unless a written waiver is granted.

Aerial spraying of herbicides or pesticides would not occur within a minimum of 100 feet from streams or wetlands.

Aerial spraying of herbicides or pesticides would not occur within a minimum of 100 feet of occupied or high value habitat for sensitive plant or animal species.

Do not apply sulfometuron methyl aerially.

Avoid aerial application of bromacil, chlorsulfuron, diuron, and metsulfuron methyl.

Especially avoid applying bromacil or tebuthiuron aerially in known traditional use areas.

Limit the aerial application of chlorsulfuron and metsulfuron methyl to areas with difficult land access, where no other means of application are possible.

Do not aerially apply diquat directly to wetlands or riparian areas.

Avoid applying bromacil and diuron aerially.

Avoid aerial spraying during periods of adverse weather conditions (snow or rain imminent, fog, or air turbulence).

Make helicopter applications at a target airspeed of 40 to 50 miles per hour (mph), and at about 30 to 45 feet above ground.

Take precautions to minimize drift by not applying herbicides when eye level winds exceed 6 mph for aerial applications, or a serious rainfall event is imminent.

Use drift control agents and low volatile formulations.

Aerial spraying would be conducted in a way that minimizes the effects on native forbs, grasses, and shrubs.

Aerial spraying in areas known to contain healthy antelope bitterbrush or mountain mahogany would be avoided unless application techniques or appropriate chemicals allow for protection of these important browse species.

Aerial application of herbicides/pesticides that negatively affect sagebrush would not be used in sensitive sagebrush habitats.

Appendix F

Buffer Distances by Type of Herbicide

TABLE C-16
Buffer Distances (feet) to Minimize Risk from Off-site Drift of Herbicides

Application Scenario	BROM	CHLR	DIFLU	DIQT	DIUR	FLUR	IMAZ	OVER	SULF	TEBU
<i>Buffer Distance from Non-target Aquatic Plants</i>										
Typical Application Rate										
Aerial	NA	0	NA	NE	NA	NE	0	NA	1,300	NE
Low Boom	100	0	100	NE	900	NE	0	100	900	0
High Boom	900	0	900	NE	1,000	NE	0	900	900	0
Maximum Application Rate										
Aerial	NA	300	NA	NE	NA	NE	300	NA	1,500	NE
Low Boom	900	0	900	NE	1,000	NE	0	900	900	0
High Boom	900	0	900	NE	1,000	NE	0	900	900	0
<i>Buffer Distance from Non-target Terrestrial Plants</i>										
Typical Application Rate										
Aerial	NA	1,350	NA	1,200	NA	NE	0	NA	0	NE
Low Boom	950	900	100	100	0	NE	0	0	0	0
High Boom	950	900	100	900	100	NE	0	100	0	0
Maximum Application Rate										
Aerial	NA	1,350	NA	1,200	NA	NE	900	NA	0	NE
Low Boom	1,000	1,000	100	900	200	NE	0	100	0	50
High Boom	1,000	1,000	100	900	500	NE	0	100	0	50
<i>Buffer Distance from Rare, Threatened, and Endangered Terrestrial Plants</i>										
Typical Application Rate										
Aerial	NA	1,400	NA	1,200	NA	NE	300	NA	1,500	NE
Low Boom	1,200	1,000	100	900	1,000	NE	0	100	1,100	0
High Boom	1,200	1,000	900	900	1,000	NE	0	900	1,100	50
Maximum Application Rate										
Aerial	NA	1,400	NA	1,200	NA	NE	900	NA	1,500	NE
Low Boom	1,200	1,050	900	1,000	1,000	NE	0	900	1,100	100
High Boom	1,200	1,000	900	1,000	1,000	NE	0	900	1,100	500

Buffer distances are the smallest modeled distance at which no risk was predicted. In some cases, buffer distances were extrapolated (if the largest distance modeled still resulted in risk) or interpolated (if greater precision was required).
 NA = Not applicable; NE = Not evaluated; BROM = Bromacil; CHLR = Chlorsulfuron; DIFLU = Diflufenzopyr; DIQT = Diquat;
 DIUR = Diuron; FLUR = Fluridone; IMAZ = Imazapic; OVER = Overdrive®; SULF = Sulfometuron methyl; and TEBU = Tebuthiuron.

Appendix G Butte Field Office Special Status Plants

BUTTE FIELD OFFICE SPECIAL STATUS PLANTS		
June 23, 2009		
Species	BLM Status	USFWS Status
<i>Adoxa moschatellina</i> (Muskroot)	S	None
<i>Aquilegia Formosa</i> (Sitka columbine)*	S	None
<i>Arabis fecunda</i> (Sapphire rockcress)	S	None
<i>Astragalus convallarius</i> var. <i>convallarius</i> (Lesser rushy milkvetch)	S	None
<i>Carex idaho</i> (Idaho sedge)	S	None
<i>Cypripedium parviflorum</i> (small yellow lady's slipper)	S	None
<i>Erigeron linearis</i> (linearleaf fleabane)	S	None
<i>Hutchinsia procumbens</i> (prostrate hutchensia)	S	None
<i>Mimulus nanus</i> (dwarf purple monkeyflower)	S	None
<i>Penstemon lemhiensis</i> (Lemhi beardtongue)	S	None
<i>Primula incana</i> (Jones primrose)**	S	None
<i>Spiranthes diluvialis</i> (Ute ladies' tresses)***	None	LT

S = Sensitive; The sensitive species designation is used to provide conservation actions for species to preclude the need for listing and to improve the status of species to the point where special status recognition is no longer warranted. Sensitive species are afforded the same protection as that provided for federal candidate species.

LT = Listed Threatened; Species for which a final rule has been published in the Federal Register to list the species as threatened. Species is legally protected by the Endangered Species Act.

* = No recorded sightings on Butte Field Office managed lands, but suspected to occur on public lands.

** = No recorded sightings on Butte Field Office managed lands, but may occur on public lands.

*** = No recorded sightings on Butte Field Office managed lands.

Source: 2005 Montana/Dakotas Special Status Plant Species Policy

Appendix H Weed Management Area (WMA) Maps

Big Belt Mountain WMA

Big Hole WMA

Black Sage WMA

Blackfoot WMA

Boulder WMA

Clancy WMA

Elkhorn Mountains WMA

Gallatin County WMA

Holter/Sleeping Giant WMA

Humbug Spires WMA

Lewis and Clark Trail WMA

Marysville WMA

Park County

Scratchgravel WMA

Whitetail Basin WMA